EXHIBIT E

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF GEORGIA
ATLANTA DIVISION

DONNA CURLING, ET AL., Plaintiffs, v. BRAD RAFFENSPERGER, ET AL, Defendants.	CIVIL ACTION FILE NO. 1:17-cv-2989-AT

DECLARATION OF JUAN E. GILBERT, PH.D.

Pursuant to 28 U.S.C. § 1746, I, Juan E. Gilbert, make the following declaration:

1. My name is Juan E. Gilbert

2. I have been retained by Robbins Ross Alloy Belinfante Littlefield LLC and Taylor English Duma LLP on behalf of the Georgia Secretary of State and the State Election Board members (the "State Defendants"). I have been asked to offer opinions regarding the declarations and exhibits attached to Curling Plaintiffs' most-recent Motion for Preliminary Injunction.

3. On November 13, 2019, I provided a declaration in this case in support of the State Defendants' Response in Opposition to both the Curling and Coalition Plaintiffs' Preliminary Injunction Motions (the "Gilbert Nov. 2019 Declaration"). A true and accurate copy of this declaration is filed with the Court at [Doc. 658-3] and attached hereto as **Exhibit A.**[1]

4. I have reviewed the August 19, 2020 Declaration of Dr. J. Alex Halderman, [Doc. 785-2], (the "Halderman Aug. 2020 Declaration") and find very little substantive difference between it and Dr. Halderman's October 2, 2019 declaration (the "Halderman Oct. 2019 Declaration"). Similarly, I understand the relief sought now by the Curling Plaintiffs is largely identical to that sought at the

[1] Due to an oversight of counsel, my CV was not included with the filing of the Gilbert Nov. 2019 Declaration. I have included as part of Exhibit A here.

time of the Gilbert Nov. 2019 Declaration.

5. I hereby adopt and incorporate by reference the Gilbert Nov. 2019 Declaration in its entirety, subject to the additional statements provided here concerning events occurring since my November 13, 2019, execution of that declaration.

I. Additional Background

6. In the Gilbert Nov. 2019 Declaration, I explained my professional background, experience, qualifications, and training in Paragraphs 1–16. Since that time, I have endeavored in the following activities which the Court may find relevant to its consideration of my qualifications.

A. On January 9, 2020, I provided testimony, as an invited expert witness, to the United States House of Representatives, Committee on House Administration, in a hearing titled: "2020 Election Security—Perspectives from Voting System Vendors and Experts." My testimony before the Committee on House Administration is attached as **Exhibit B.**

B. In May 2020, I was elected as a member of the Academy of Science, Engineering and Medicine of Florida.

II. Regulatory Changes in Georgia since November 13, 2019.

7. Since the time I executed the Gilbert Nov. 2019 Declaration, the Georgia State Election Board ("SEB") has promulgated numerous rules and regulations concerning the conduct of elections, recounts, and risk-limiting audits ("RLA"). I offer the following commentary on the impact of those rules as it relates to the Gilbert Nov. 2019 Declaration:

A. *Reminders to voters to review their ballots*. I understand the SEB adopted rules which require a poll officer to be stationed at every ballot scanner during voting and that poll officer is required to "offer each voter a specific verbal instruction to review their printed ballot prior to scanning it." Ga. Comp. R. & Regs. r. 183-1-12-.11(8) (Conducting Elections), r. 183-1-14-.02(12) (Advance Voting). Similarly, voters are reminded throughout voting that "sample ballots" are available to "assist them in reviewing their paper ballot." *Id.* This required instruction is consistent with the reminders which have been shown to improve rates of voter verification, as discussed in Paragraphs 50–51 of the Gilbert Nov. 2019 Declaration and Paragraph 14, footnote 4 of the Halderman Oct. 2019 Declaration.

B. *Definition of a Vote*. I understand that the SEB has adopted rules regarding the definition of a vote. Specifically, I understand that if, in

conducting a recount or audit (in accordance with O.C.G.A. §§ 21-2-495 and 21-2-498) "a discrepancy is found between the voter's choice indicated by the printed text on the ballot and the result tabulated by the ballot scanner, the printed text shall control and be counted." Ga. Comp. R & Regs. r. 183-1-15-.02. This rule is consistent with my understanding at the time of the Gilbert Nov. 2019 Declaration.

C. *The SEB's Proposed Audit Rule*. I have reviewed the SEB's proposed Audit Rule, [Doc. 793-1], and understand the same principle discussed in the preceding paragraph to be present there. Specifically, proposed rule 183-1-15-.04(2)(4) provides that "[f]or ballots marked by electronic ballot markers, the auditors shall rely on the printed text on the ballot to determine the voter's selection." This again is consistent with my assumptions at the time of the Gilbert Nov. 2019 Declaration.[2]

[2] I offer no opinion as to the specific procedure of recounts and RLAs in Georgia. I do, however, offer the opinion that the proposed rule providing that the printed text controls in an RLA is consistent with both logic (i.e., if such did not control, the process is not an audit but a simple re-scan of ballots) and the recommendations of the NASEM Committee on the Future of Voting: Accessible, Reliable, Verifiable Technology's report "Securing the Vote: Protecting American Democracy." As mentioned in the Gilbert Nov. 2019 Declaration (¶ 8) I was a member of that Committee.

III. Additional Commentary

8. In the Gilbert Nov. 2019 Declaration, in response to Dr. Halderman's claim that a BMD ballot *cannot* be voter-verified, I discussed research being conducted by Dr. Michael Byrne and his colleagues. Gilbert Nov. 2019 Dec. at ¶¶ 48–51. That research has since been published.[3]

9. As that paper explains, the ability of voters to actually detect manipulation of their vote choices was quite good ("Of the 25 voters who actually examined the printout, 19 of them detected at least one anomaly."); the problem, is that many voters in the study chose *not* to examine their ballots. Notably, the aforementioned research found that reminders to review ballots—like those discussed in Paragraph 7.A, *supra*—improved the rate of review.

10. This finding is also supported by research conducted by Matthew Bernhard,[4] Dr. Halderman, and others, which Dr. Halderman cites in the Halderman Aug. 2020 Declaration. [Doc. 785-2 at ¶ 42, n.40]. That research posits that verbal reminders to voters increased verification and the authors "recommend that poll workers interrupt voters after their ballot has printed but before it is

[3] Kortum, Byrne, and Whitmore, "Voter Verification of BMD Ballots Is a Two-Part Question: Can They? Mostly, They Can. Do They? Mostly, They Don't" (Mar. 10, 2020), *available at* https://arxiv.org/abs/2003.04997 (last accessed Aug. 23, 2020).

[4] I understand that Mr. Bernhard has previously provided expert testimony for the Coalition Plaintiffs.

scanned and ask them to review it."[5]

11. Interestingly, Dr. Halderman cites both aforementioned papers in the Halderman Aug. 2020 Declaration to support his contention that "few voters carefully review BMD printouts." *Id.* However, the Aug. 2020 Declaration makes no mention of the interventions which foster higher rates of review by voters. Regardless, the Aug. 2020 Declaration provides no commentary as to the verifiability of hand-marked paper ballots and further offers no opinion as to whether voters detect changes to their BMD-marked ballot when they do review it, as the Byrne study posits.

12. The Halderman Oct. 2019 Declaration discusses a "plausible attack scenario" in which an attacker could infect BMDs with a malicious code that causes them to print barcodes which do not match the printed text of the ballot. [Doc. 619-2, ¶ 6]. In the Gilbert Nov. 2019 Declaration, I responded to this assertion. Ex. A at ¶¶ 45–46. Dr. Halderman repeats this assertion in the Halderman Aug. 2020 Declaration. [Doc. 785-2 at ¶ 7(a), ¶¶ 30–33]. However, as I discussed previously, the same type of attack could occur with hand-marked paper ballots. Ex. A at ¶ 46. I additionally noted that an RLA would detect such an attack, *id.* at ¶ 45. In any

[5] Matthew Bernhard, et. al., "Can Voters Detect Malicious Manipulation of Ballot Marking Devices?" in Proceedings of the 41st IEEE Symposium on Security and Privacy (Jan. 2020), *available at* https://jhalderm.com/pub/papers/bmd-verifiability-sp20.pdf (last accessed Aug. 23, 2020).

event, such an attack seems an unlikely avenue for a bad actor since, as other scholars have recently noted, such an attack is unlikely to go undetected in a jurisdiction conducting RLAs because an audit which recognizes a *single* inconsistent barcode/text combination would signal a significant problem.[6]

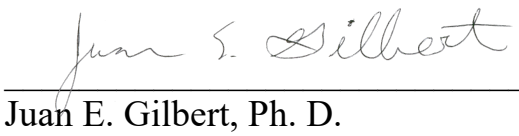
13. As to Dr. Halderman's other attack scenario, in which both the barcode and the printed text are *both* altered, Halderman Aug. 2020 Declaration [Doc. 785-2 at ¶ 7(b)], the issue again is ensuring voters review their ballots and, as discussed in Paragraphs 8–11, *supra*, research indicates that the type of interventions discussed in Paragraph 7(A), *supra*, improve voters' rates of review.

14. Finally, in Paragraph 7(c) of the Halderman Aug. 2020 Declaration, Dr. Halderman notes that the ballot scanners could theoretically be hacked. This is true, as I mentioned before any computer system can be manipulated if the attacker has sufficient time and access to it. Ex. A at ¶ 44. But as I also mentioned there, hand-marked paper ballots provide no solution to this hypothetical problem since the scanner would still be used under either Georgia's BMD system or Plaintiffs' proposed hand-marked paper ballots. *Id.* at ¶¶ 34(A–B).

[signature on next page]

[6] Wallach, "On the security of ballot marking devices" (Dec. 12, 2019), *available at* https://arxiv.org/abs/1908.01897 (last accessed Aug. 24, 2020).

I declare under penalty of perjury that the foregoing is true and correct. Executed this _25_ day of August, 2020.



Juan E. Gilbert, Ph. D.

EXHIBIT A

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF GEORGIA
ATLANTA DIVISION

DONNA CURLING, ET AL., Plaintiffs, v. BRAD RAFFENSPERGER, ET AL, Defendants.	CIVIL ACTION FILE NO. 1:17-cv-2989-AT

DECLARATION OF JUAN E. GILBERT, PH.D.

Pursuant to 28 U.S.C. § 1746, I, Juan E. Gilbert, make the following declaration:

I. BACKGROUND

1. My name is Juan E. Gilbert

2. I have been retained by Robbins Ross Alloy Belinfante Littlefield LLC and Taylor English Duma LLP on behalf of the Georgia Secretary of State and the State Election Board members. I have been asked to offer opinions regarding the declarations and exhibits attached to Plaintiffs' recent Motions for Preliminary Injunction.

3. Specifically, I have reviewed the October 2, 2019 Declaration of J. Alex Halderman, the Def Con 27 Voting Machine Hacking Village August 2019 Report, "Ballot-marking devices (BMDs) cannot assure the will of the voters" authored by Andrew Appel, Richard DeMillo, and Philip Stark (the "Appel White Paper"), the October 22, 2019 Declaration of Philip B. Stark, and the October 22, 2019 Declaration of Kevin K. Skoglund.

4. My background, experience and qualifications are set forth in my curriculum vitae, which is attached as **Exhibit A**. As demonstrated by my curriculum vitae, I have over 20 years of post-graduate experience in the field of computers generally, and since 2002 I have focused on technology in voting systems, including the development of accessible voting systems.

5. I currently hold the title of Andrew Banks Family Preeminence Endowed Professor and Chair of the Computer & Information Science & Engineering Department at the University of Florida where I also lead the Human Experience Research (HXR) Lab. I have held the title of Department Chair at the University of Florida since 2015 and joined the faculty there as Professor and Associate Chair in 2014.

6. I have earned a Bachelor of Science in Applied Science from Miami University in Oxford, Ohio (1991); a Master of Science in Computer Science from the University of Cincinnati (1995); and a Doctor of Philosophy in Computer Science from the University of Cincinnati (2000).

7. Prior to joining the University of Florida, I held the title of Presidential Endowed Professor and Chair of the Division of Human-Centered Computing at Clemson University in Clemson, South Carolina (2009-2014) and also held the position of Graduate Program Director in the Division of Human-Centered Computing (2010-2012). Additionally, I held the title of Professor (2009), Associate Professor (2005-2009), and Assistant Professor (2000-2005) at Auburn University in Auburn, Alabama. I was also a Visiting Instructor in the Miami University (OH) Systems Analysis Department.

8. I was a member of the National Academies of Science, Engineering and Medicine ("NASEM" or "National Academies") Committee on the Future of

Voting: Accessible, Reliable, Verifiable Technology which produced the report "Securing the Vote: Protecting American Democracy." Additionally, I participated on NASEM Committees regarding developing interest in and mentoring in Science, Technology, Engineering, Medicine, and Mathematics ("STEMM").

9. In 2018, I was named a Fellow of the Association for Computing Machinery, the highest honor awarded by the Association reserved for, at most, 1% of ACM members in recognition of outstanding accomplishments in computing and information technology.

10. At various times, I have also served as a reviewer for various academic journals, including: *Journal of Women and Minorities in Science and Engineering*, *Computers & Security Journal*, *Journal of STEM Education*, and the *International Journal of Artificial Intelligence in Education*. I have also served on multiple panels and committees for the National Science Foundation.

11. In 2012, I received the Presidential Award for Excellence in Science, Mathematics, and Engineering from President Barack Obama. I have also received awards from the American Association for the Advancement of Science (AAAS) (2014) and the Computer Research Association (2018)

12. In my career, I have published more than 180 articles, delivered over 250 presentations and obtained more than $27 million in grants and funding in the field of computer science, generally. Specifically, I also was selected to direct a

three-year, $4.5 million project funded by the U.S. Election Assistance Commission to increase the accessibility of new, existing, and emerging technological solutions in the design of voting systems.

13. I have provided expert testimony to the Presidential Commission on Election Administration and Technology (September 19, 2013), the U.S. Congressional Committee on Rules and Administration, Bipartisan Electronic Voting Reform Act of 2008 (July 30, 2008), and in the case *National Federation of the Blind v. Lamone*, No. RBD-14-1631, 2014 WL 4388342 (D. Md. Sep. 4, 2014).

14. My research and work is currently focused in Human-Centered Computing, Natural Interactive Systems, Artificial Intelligence, Machine Learning, and Advanced Learning Technologies. Generally, my research focuses seek to integrate people, technology, information, and policy to address real world problems. Relatedly, I focus on creating user interfaces where a user can interact with computer systems using speech and multimodality, and employing intelligent strategies to personalize instruction to users.

15. In 2003, at the Auburn University Human Centered Computing Lab, I conceived the Prime III Voting System. Prime III is an open-source paper-based Ballot-Marking Device ("BMD") Voting System which offers a secure, multimodal electronic voting system that delivers system security, integrity, and user satisfaction while accommodating all users with the same voting method, regardless

of ability. I have continued refining and developing new advancements of this voting system during my time at Clemson University and the University of Florida.

16. I created Prime III to advance the state of voting in the wake of the 2000 Presidential Election. Prime III was designed to be software independent by using a paper ballot. The Prime III Voting System has been used in federal, state, and local elections. The State of New Hampshire adopted the Prime III voting system as their statewide accessible voting system and renamed it One4All.

II. Georgia's BMD System and Plaintiffs' Requested Relief

A. Georgia's BMD Voting System

17. I have reviewed documentation regarding the Dominion BMD Voting System Georgia is implementing, I understand it to generally consist of the following:

A. Dominion Election Event Designer Election Management System ("Dominion EMS").

B. Dominion Image Cast Prime X Ballot Marking Device and a separately attached printer ("Dominion BMD").

C. Dominion ImageCast Precinct Scanner and Tabulator ("Dominion ICP").

D. Paper for printing of paper ballots by the Dominion BMD (the

"Paper Ballot").

E. Dominion ImageCast Central which includes a Dell PC and a separately attached high-speed scanner for use in elections offices to process absentee ballots ("Dominion ICC").

F. KNOWink Poll Pad Electronic Poll Book for voter check in and creation of Voter Access Cards which store only ballot combination information for voting on the Georgia BMD ("Poll Pad").

18. Precinct Voting. I understand Georgia's BMD Voting System to generally work as follows on election day: Voters will arrive and check-in with poll-workers using the Poll Pad. The Voter will then be given a Voter Access Card to take to the Dominion BMD. A Voter will then insert the Voter Access Card and be presented with their ballot on the BMD screen. Voters will then select their candidates on the BMD screen and the BMD will print a paper ballot reflecting their selections from the attached printer. The paper ballot contains a human-readable listing of voter selections and a QR Code encompassing the selections. Voters then have the opportunity to review their ballot and will be instructed to do so by posted signage. After reviewing their ballot, voters then insert the ballot into the Dominion ICP to scan and record their vote. Importantly, there is no recording of a voter's selection on the Dominion BMD and the only device tabulating and

"counting" votes is the Dominion ICP.

19. Pre-certification Audits. I understand that Georgia law requires local election superintendents to conduct precertification tabulation audits conducted by manual inspection of random samples of the official paper ballots. Importantly, under Georgia law, the paper ballot is the ballot of record and controls in such an audit.

20. Risk-Limiting Audits ("RLAs"). I understand that Georgia law also requires the Secretary of State to conduct a risk-limiting audit pilot program with a risk limit of not greater than ten percent. Upon successful completion of the Risk-Limiting Audit pilot program, Georgia law requires state-wide implementation of Pre-certification Risk-Limiting Audits. Again, the paper ballot is the ballot of record and controls in the audit.

21. As an expert in the field, I believe that the process described herein is consistent with best practices for conduct of elections and is consistent with the recommendations produced by the National Academies Committee on the Future of Voting: Accessible, Reliable, Verifiable Technology of which I was a member. Accordingly, it is also consistent with that Committee's report: "Securing the Vote: Protecting American Democracy."

22. Specifically, the Georgia BMD Voting System does not store a ballot or ballot information on the Dominion BMD, the ballot only contains a human-

readable summary and QR Code, the paper ballot is the official ballot of record, and the ballot does not pass through a printer-head when scanning.

23. Moreover, the use of RLAs was strongly recommended by the NASEM Committee on the Future of Voting. I think the pilot of an RLA system is necessary before state-wide implementation to ensure its fidelity and integrity. I understand that Georgia election officials have visited other jurisdictions to learn from those election officials about the process of, and best practices for, conducting an RLA.

24. Finally, the Dominion BMD System has been certified by the EAC pursuant to the Voluntary Voting System Guidelines ("VVSG") 1.0. I understand that Plaintiffs complain the system has not been certified pursuant to the more recent VVSG Standards (i.e. VVSG 1.1 or VVSG 2.0), but no election system in the country has been certified under those standards.

B. Plaintiffs' Requested Relief

25. I understand that there are two different sets of Plaintiffs in this case seeking similar relief that is different in some respects. I will refer to the sets of Plaintiffs as Curling Plaintiffs and Coalition Plaintiffs.

26. Curling Plaintiffs. I understand that Curling Plaintiffs ask this Court to prohibit the State of Georgia from "using any system or devices for voting . . . that does not use hand-marked paper ballots as the primary method of recording the

elector's votes" and require the State to provide a plan to the Court to comply with that relief which includes pre-certification, post-election, manual tabulation audits." [Doc. 619-1].

27. Coalition Plaintiffs. I understand that Coalition Plaintiffs seek to similarly require the State to conduct all elections using hand-marked paper ballots as the primary method of recording electors' votes. Coalition Plaintiffs further seek to permit continued use of Georgia's old optical scanners, provide expanded paper back-ups of poll books and develop an auditing plan to be submitted to the Court and Plaintiffs, among other requests.

III. THE DIFFERENCES AND SIMILARITIES OF BALLOT-MARKING DEVICES AND HAND-MARKED PAPER BALLOTS

28. I will begin by defining the specific implementation of a BMD for this Declaration. Herein, when I refer to a BMD, I am specifically referring to an implementation that has the following properties:

A. The BMD does not record any voter information;

B. The BMD does not record any of the voter's choices;

C. The BMD prints a paper ballot that contains a QR Code containing the voter's selections (unless specifically noted otherwise in this section of my Declaration) and a ballot summary reflecting the voter's selections that is human-readable; and

D. The paper ballot is fed into a separate machine or optical scanner, that is separate and apart from the BMD, for tabulation.

29. As noted previously, I understand Georgia's BMD Voting System to comply with Paragraph 28 (A–D).

30. Similarly, when I refer to hand-marked paper ballots, I am referring to a system consisting of the following properties:

A. A voter marks his or her selections with a pen or pencil on a paper ballot; and

B. The ballot is then fed into a machine or optical scanner which tabulates the votes (unless otherwise specifically noted herein).

31. There are many similarities between a BMD Voting System and a hand-marked paper ballot voting system.

32. And, in my opinion, the similarities of both systems provide a baseline confidence of security, but the advantages of a BMD system with respect to undervotes, overvotes, auditability, and accessibility weigh in favor of a BMD system.

A. The Similarities

33. Both BMD and hand-marked systems are paper based. This is very different from the Direct Recording Equipment (DRE) that I understand Georgia previously used. It is difficult, if not impossible, to effectively secure a voting system that is only electronic; therefore, the National Academies report and I agree, all elections should be paper based until the state of technology advances and undergoes a rigorous review. Both BMD Voting Systems and hand-marked paper ballot voting systems are appropriately recorded and secured by physical paper, consistent with this recommendation.

34. Both are read by optical scanners. The scanners used by both BMD and hand-marked paper ballot voting systems are the machines that actually record votes (I understand that some jurisdictions hand-count paper ballots but I do not understand Curling or Coalition Plaintiffs to seek that in this case. Accordingly, though there are obvious issues with human error or malfeasance in hand-counting election results, I will not discuss that herein).

A. Optical scanners are computers and they therefore may be

susceptible to manipulation. However, this applies with equal force to both BMD and hand-marked paper ballot voting systems. This susceptibility is why audits are recommended for both hand-marked paper ballot and BMD voting systems.

B. Additionally, optical scanners read both ballots in a similar manner. In a BMD Voting System, the scanner reads a QR Code. In a hand-marked paper ballot voting system, the scanner does not read ballot text like a human would. Instead, the scanner is translating coordinates of an oval or other mark into coordinates that are coded to mark a vote for a candidate—assuming the mark is within the specified coordinate space. As such, in both systems, a scanner is translating information in a similar manner under either system, using either coordinates or a QR Code to translate into a recorded vote.

35. Both are auditable. Both BMD and hand-marked paper ballot voting systems can be audited by an RLA or a recount to confirm the tallies of the optical scanners. Since the human-readable record controls under either system, an audit or recount can reveal any issues with the tally, whether due to a misread or malfeasance. I understand Plaintiffs' Experts dispute this, which I will address in the rebuttal portions of this Declaration.

B. The Differences

36. While there are many similarities between hand-marked paper ballot and BMD voting systems, there are also some significant differences. Again, I will continue to refer to both systems as defined above.

37. Undervotes. Generally, an undervote occurs whenever a voter (consciously or inadvertently) does not vote in a race on their ballot.

A. Hand-marked paper ballot systems provide no limitation on undervotes absent a poll-worker reviewing a voter's ballot and informing the voter of an undervote or the scanner being programmed to reject a ballot due to detecting an undervote. However, either of these remedies for hand-marked paper ballot systems are problematic because (1) Georgia protects the secrecy of the ballot and poll-worker review of individual ballots could lead to intimidation; and (2) refusing to vote in a particular race may be a conscious choice of a voter that he or she is entitled to make.

B. BMD systems on the other hand often provide a notification, by way of either an on-screen summary or the printed summary on the ballot of no selection or something similar. This provides voters a way to be privately informed of their undervote and

remedy it if they so choose. I have not personally observed this notification on the Dominion BMD but I understand Georgia's implementation of that BMD does confirm this via both an on-screen summary and human-readable text on the ballot.

C. Undervote Hack. Hand-marked paper ballot systems are subject to undervote attacks with only a pen or pencil that no scanner or audit would catch. This is a significant vulnerability from an election security perspective that is rarely discussed. In the case of a hand-marked paper ballot undervote, no mark is made on a ballot and the "oval" is left blank. In a matter of seconds an insider could fill in any undervotes with their preferred candidate and the only way to detect this attack would be to catch them in the act. It is not possible on a printed BMD ballot to interfere with an election in this simple manner.

D. Disparate Impact on Minority Voters. I have reviewed the Report of the 21st Century Voting Commission submitted to Governor Roy Barnes in December 2001.[1] Concerningly, that

[1]Report of the 21st Century Voting Commission, 18-19 (December 2001) (*available at* https://www.sos.state.co.us/pubs/elections/VotingSystems/files/2015/21stCenturyReport.pdf) (hereinafter 21st Century Report).

Commission's review of data from the 2000 Presidential Election in Georgia found that undervote rates[2] were higher in predominantly black precincts than in predominantly white precincts, both of which used systems that permit undervotes. While I have not personally conducted research on this finding or reviewed the underlying data, I have no reason to doubt the Commission's work—the finding is disturbing and should be addressed before any switch to a system that permits undervotes.

38. Overvotes. An overvote occurs when a voter selects more candidates than is permitted in an election.

A. A hand-marked paper ballot system, just as in undervoting, provides no limitation to prohibit overvoting. In theory, a scanner could be programmed to reject an overvoted ballot, but in practice this could result in long lines and delayed voting at precincts when the voter has to re-mark a new ballot. This could

[2] Due to lack of data available at the time, the Commission indicates the undervote rate it found also includes overvotes. In other words, an overvote (marking to candidates for the same race) led to a non-vote in that race and due to the way that data was collected at the time non-votes were all counted as overvotes. Accordingly, this finding may apply with equal force to overvotes, but more research would need to be conducted.

lead to voter frustration and voters choosing not to vote. Further, I am not aware of any research or data showing this is an effective method of eliminating overvotes. Poll-worker review of ballots presents the same problems discussed in Paragraph 36(A).

B. BMD voting systems, on the other hand, eliminate this problem. Again, I have not personally used a Dominion BMD as configured for Georgia, but I understand that if a voter attempts to overvote in a particular race on a Dominion BMD it will prohibit that voter from doing so. The voter must de-select their other choice before being permitted to select a new choice.

C. Overvote Hack. This is another vulnerability that is rarely discussed but is a real threat that requires only a pen or pencil and no specific training or sophistication. For example, if a voter selects Bugs Bunny for Governor of Georgia but an insider wants Daffy Duck to win, an insider can simply overvote the ballot for Daffy Duck. In such a scenario the ballot then may be either an uncounted vote that was intended to be cast for Bugs Bunny or worse, a decision regarding voter intent is later made to count the ballot for Daffy Duck. It is not

possible on a printed BMD ballot to interfere with an election in this simple manner.

39. Auditability, Recounts, and Voter Intent. While, as mentioned in the Similarities section above, both hand-marked paper and BMD voting systems can be audited, BMD voting systems provide significant advantages in this context.

A. A hand-marked paper ballot can be marked in any way a voter chooses. This results in marks that may be read by the scanner differently from the way the voter intended (e.g. a stray mark in a different bubble) or may not be read at all. This would not require criminal conduct but the effect of not recording a voter's intent accurately is the same. Moerover, this results in a situation where officials conducting an audit must interpret the voter's intent—the worst-case scenario for an audit or recount.

B. The primary goal of having a paper ballot is to enable an audit to ensure the integrity of the election; therefore, the audit or manual recount is the final say in the election outcome. If the auditability of the ballots is compromised, then the audit/recount fails. This has been seen in many elections starting with Florida's 2000 Presidential Election and later in elections that used HMPB like the 2008 Minnesota Senate Race

or the 2010 Alaska Senate Race. Some will argue that these ballots are a minority and that is true, but they exist and still could have an impact on a close election.

C. Ambiguous marks cannot occur on a BMD: the voter's intent is clear in the ballot summary and an auditor will not be asked to interpret voter intent.

D. Some will argue that the QR Code is not human-readable; therefore, this is a problem. This is only an issue if the QR Code is the ballot of record and there is no RLA and/or pre-election testing. If QR Codes are inconsistent with the human-readable portion of the ballot, this will be detected during the RLA and may signal a full manual recount.

E. A QR Code can also be examined during pre-election testing or post-election audits or recounts to confirm its validity.

F. Finally, in the future, a QR Code may provide a stronger audit trail to detect errors or malfeasance. A QR code could be programmed to contain information to trace a ballot back to a particular precinct or machine. While I understand this particular feature has not yet been approved by the Election Assistance Commission, so long as this can be done in the

future without compromising ballot secrecy, this is a significant advantage to uncovering issues by way of audits.

G. Even without this additional advancement in technology, in my opinion, a QR Code provides a significant advantage in auditing because it can unambiguously reveal malfeasance or errors. And because the ballots contain the voter's selection in human-readable format which controls in any recount or audit, an error could be remedied by a manual recount.

40. Accessibility. As mentioned elsewhere in this Declaration, a significant portion of my research and the motivation behind the Prime III voting system is the accessibility of elections systems. Simply put, a hand-marked paper ballot system is not accessible to voters with disabilities while a BMD system is. While this presents policy and legal problems, it also exacerbates security vulnerabilities in elections.

A. First, voters with certain disabilities cannot use hand-marked paper ballots without human assistance which violates their privacy. For example, a blind voter cannot use a paper ballot at all without assistance and a voter with limited motor function and coordination may also have difficulty properly marking a ballot on his or her own. The same may be true for certain

elderly voters whose motor skills are declining.

B. BMD systems however are more accessible to these voters. BMDs are easier to touch for voters with weak motor skills and/or have adaptations for use with the same device. Similarly, BMD systems can audibly dictate to a voter their choices on the same machine that the general populace uses. Again, while I have not personally used the Dominion BMD system as procured for Georgia, I understand that it has this capability. It has adaptations for a control, audible instructions and feedback, and even an adaptation for a sip-and-puff device for severely disabled voters. Even for those without a severe disability, BMDs have the capability to increase text size and change text color to enhance readability.

C. When hand-marked paper ballot systems have been recommended in other contexts, it is often due to the alleged vulnerabilities of a particular voting system. However, in many instances proponents of hand-marked paper ballots while arguing that BMDs are insecure suggest that it is OK for people

with disabilities to vote on. This is unacceptable[3] in my opinion and threatens the security of an election.

D. If individuals with disabilities vote one way and everyone else votes a different way, this provides fertile ground for an attack. When an attacker knows the specific limitation of the population using a certain system, it is easier for that attacker to tailor an attack without being detected.

E. Further, the number of disabled voters may be larger than the margin of victory in many critical jurisdictions. For example, it is estimated that disabled eligible Georgia voters numbered approximately 1.136 million, 16.1% of all eligible voters, in the 2016 elections[4] and nationwide turnout of disabled voters was estimated at 55.9%.[5] Using this rough estimate, approximately

[3] While I understand certain federal or state laws may be implicated by the scenario described here, I am not a lawyer and am not offering any opinion on the **legal** sufficiency of any system.

[4] Projecting the Number of Eligible Voters with Disabilities in the November 2016 Elections, L. Schur and D. Kruse, Rutgers University (2016) (*available at* https://smlr.rutgers.edu/sites/default/files/documents/faculty_staff_docs/Kruse%20and%20Schur_Disability%20electorate%20projections%202016_9-8-16.pdf).

[5] L. Schur, Disability, Voter Turnout, and Polling Place Accessibility, Presentation to National Academies of Sciences, Engineering, and Medicine's Committee on the Future of Voting (Jun. 2017) (*available at* https://sites.nationalacademies.org/cs/groups/pgasite/documents/webpage/pga_180931.pdf).

635,000 disabled voters cast votes in Georgia in 2016, far greater than the 211,411-vote difference between Donald Trump and Hillary Clinton in Georgia.[6]

F. Setting aside my concerns regarding voter accessibility, from a security perspective, it is better to have a diversity of voters using the same equipment rather than isolating a certain demographic of voters by type of equipment or voting process.

IV. REBUTTAL OF PLAINTIFFS' DECLARATIONS AND EXHIBITS

A. October 2, 2019 Declaration of Dr. J. Alex Halderman

41. I have reviewed the Declaration of Dr. J. Alex Halderman, dated October 2, 2019, and filed with this Court, all Paragraph references herein refer to that document, [Doc. 619-2], unless explicitly stated otherwise. I offer the following opinions in rebuttal.

42. In Paragraph 3, Dr. Halderman states "important databases, files, computers, and personnel will carry forward from the current election system (the "GEMS/DRE System"). This means that vulnerabilities in these aspects of the GEMS/DRE System will also affect the security of the [Georgia BMD Voting System]."

[6] Georgia Secretary of State, November 8, 2016 Election Results (*available at* https://results.enr.clarityelections.com/GA/63991/184321/en/summary.html).

43. As a preliminary matter, it is unclear to me what, exactly, Dr. Halderman means to say will "carry forward," but it appears contrary to the facts of Georgia's BMD Voting System. In any event, the Georgia BMD System includes a new EMS which replaces the old GEMS in its entirety and there is simply no software continuity between the two systems to transmit viruses or malware. If he is referring to the general framework of building ballot combinations and ballot data then that is a separate matter entirely for two reasons. First, I understand that Georgia law requires export files from any Voter Registration System to be scanned with anti-virus and anti-malware software before use in any other elections system along with endpoint protection and a host of other requirements regarding security of any existing voter database files.[7] Second, this assertion is irrelevant to the security of the new BMD Voting System itself since there is no software or hardware connection to infect the new equipment. I assume that some personnel will remain in the Secretary of State's Office, but I also assume Dr. Halderman is not suggesting that all personnel be removed or that the Secretary's Office has been infiltrated by attackers employed there. Simply put, the Georgia BMD system is an entirely new and separate Voting System.

44. In Paragraph 4 Dr. Halderman states that "BMDs are computers, meaning they are susceptible to hacking." I agree that generally any computer can

[7] O.C.G.A. § 45-13-20; Ga. Comp. r. & Reg. 590-8-3-.01.

be hacked, but I understand Plaintiffs' proposed systems to also utilize computers for voter registration and computerized scanners for tabulation. These can also, in theory, be hacked. Additionally, as described above, hand-marked paper ballots themselves can be "hacked" by far less sophisticated means. In sum, the general statement that computers can be hacked is no justification to remove all computers from any type of interaction with voting and elections systems.

45. In Paragraph 5, Dr. Halderman states that use of barcodes generally increases the "attack surface." I do not generally dispute this is the case. And in Paragraph 6, Dr. Halderman goes on to explain a "plausible attack scenario" where a barcode is altered to encode a vote for one candidate but the summary remains for the other.[8] As Dr. Halderman acknowledges though, an effective RLA would catch this "plausible scenario."

46. But, Dr. Halderman's "plausible attack scenario" could occur with a hand-marked paper ballot system. As previously discussed, an insider could simply mark ballots (resulting in a ballot not counting or counting differently than the view of the ballot when the voter completed it) or an attack could be made on optical scanners to re-code how the ballot reads a legitimate mark. And, again, a scanner is not reading the text of a ballot in either system, it is translating either coordinates

[8] As an aside, I do not understand "barcodes," as commonly known, to be at issue in this case. Instead, the Dominion BMD System uses QR codes. For the sake of argument and clarity, I will not correct Dr. Halderman's terminology.

(hand-marked ballot) or a QR code (BMD ballot) into a vote.

47. In Paragraphs 9-11 Dr. Halderman discusses a contemplated update to the Dominion BMD System available after certification by the United States Election Assistance Commission. First, EAC certification is a significant point, in and of itself: Certification means that a system complies with the security and fidelity requirements of the federal agency charged with this task and is necessary to provide assurance of a voting system's integrity. Importantly, the Dominion System that Georgia is deploying has been certified by the EAC. Second, I would be surprised if Dr. Halderman believes that Georgia should use a non-certified system, in which case I am unsure what his assertion is other than he prefers BMD systems which use Optical Character Recognition ("OCR") even though it has not yet been certified.

48. In Paragraphs 12–17, Dr. Halderman generally asserts that BMD systems cannot be voter-verified and therefore cannot be audited. For reasons stated previously, I believe this broad assertion is incorrect (in fact, in my opinion, BMD ballots with two forms of vote recordation may be a more reliable record for auditing). I provide the following specific points rebutting this assertion.

49. First, Dr. Halderman cites his own research at the University of Michigan which is apparently undergoing peer review now. I cannot specifically rebut the underlying data since he did not provide it.

50. Second, footnote 4 of Dr. Halderman's declaration summarily states that certain reminders improved this percentage, but Dr. Halderman chose not to include those numbers in his declaration. He further did not document the numbers regarding the interventions he says "had no effect." Surely Dr. Halderman is aware that H.B. 316 requires signage in each polling booth reminding voters to check their ballots, it is surprising to me he would not include this number. In the same footnote, he concludes further research and testing are necessary to establish whether interventions are effective. However, he certainly would also agree that further research must be done to establish the 6.5% rate of participants noticing a ballot change must be conducted to conclusively establish that assertion.[9]

51. Conversely, I am aware that Dr. Michale Byrne, Professor of Psychology at Rice University, has conducted research that shows significant gains in voters reviewing their ballots when a poll worker prompts them to do so.

52. In Paragraph 16 Dr. Halderman states "It is true that voters using hand-marked paper ballots also make errors. However, for the most part, human errors in hand-marked paper ballots tend to be random. Errors that favor a candidate

[9] Again, I cannot conclusively comment on this without any of the data backing up Dr. Halderman's assertions, but logically one would need to also control for the real impact of a *real* election in such a study. In other words, a voter's knowledge and thought about voting for a candidate leading up to an election is far different than a mock election voting for people who may not be real, or just an election which we *know* is not real.

tend to be largely canceled out by errors that disfavor that candidate. This has a tendency to equalize the effect of errors across parties or ideologies." Dr. Halderman provides no evidence or data to support either claim: that hand-marked paper ballot "errors are random;" and that they equalize or cancel each other out.

53. As to Dr. Halderman's assertion that the marks are random, there is no indication on a hand-marked paper ballot that a mark is indeed "random." Instead, the mark may be evidence of the intention of a voter to cross-out or circle a candidate, disregarding the instructions. In any event, the conclusory statement here does not establish marks as a general rule are "random" without any evidence or support.

54. Additionally, the 21st Century Report I referenced earlier tends to negate his assertion that the errors cancel each other out. There, overvotes and undervotes on hand-marked paper ballots were far more prevalent in majority-minority precincts.[10] Regardless, this conclusory statement is not supported by any peer-reviewed evidence cited by Dr. Halderman or that I am generally aware of.

55. In Paragraph 15, Dr. Halderman states that if a problem were discovered that altered *both* the ballot summary and the QR Code then the only remedy would be to rerun the election. But the same is true with hand-marked paper ballots. If a bad actor altered hand-marked paper ballots by marking them

[10] 21st Century Report, *supra* n. 1, pp. 18-20.

(completing undervotes, purposely adding overvotes, or simply attempting to spoil ballots with ambiguous marks) to influence an election (or maybe even just poor ballot design and confusion), there would be no evidence indicating which mark is the "correct" mark. Accordingly, the only corrective action that could be taken is the same: a rerun of the election.

56. Moreover, under Dr. Halderman's "plausible attack scenario," of an attacker altering the QR Code but not the summary, a hand-marked paper ballot would be worse. With a BMD system, a properly conducted RLA would detect an attack and the human readable portion is again the official ballot of record.[11] Under a hand-marked paper ballot system, if a bad actor marks ballots, an RLA could not conclusively determine malfeasance had occurred.

B. October 22, 2019 Declaration of Philip B. Stark

57. I have reviewed the Declaration of Philip B. Stark, dated October 22, 2019, and filed with this Court, all Paragraph references herein refer to that document, [Doc. 640-1, pp. 40–45], unless explicitly stated otherwise. I offer the following opinions in rebuttal.

[11] I note here that Plaintiffs' experts will presumably assert that a BMD cannot be verifiable because the QR code cannot be read by the naked eye. However, Dr. Halderman has already stated interventions which he believes increase verifiability, I have additionally pointed to Dr. Byrne's research, and Dr. Halderman has provided no evidence as to the review voters conduct on a hand-marked paper ballot.

58. Dr. Stark[12] states in Paragraph 2 that "BMDs are essentially as vulnerable as the DRE machines they would replace, despite the fact that BMDs generate a 'voter-verifiable' paper trail." I fundamentally disagree with this statement and it, in my opinion, is misleading. As an expert in the field of elections and developer of a voting system myself, paper-ballot based BMDs are more secure than DREs. Moreover, the National Academies Securing the Vote Report agrees BMDs are more secure as well. I am familiar with Dr. Stark and can only assume that the term "essentially" is being used to carry that statement.

59. In Paragraph 5, Dr. Stark states "Bugs, misconfiguration, or malicious hacking can cause the BMD to print something other than the selections the voter made on the touchscreen or accessible interface. Hand-marked paper ballots do not have that vulnerability." This is simply not true. To my knowledge, every jurisdiction using hand-marked paper ballots has processes in place to determine voter intent, because marks on a hand-marked paper ballots can be ambiguous, as previously discussed. Additionally, poor ballot design can cause voter intent to be unclear with hand-marked paper ballots, even where there is no ambiguous mark—for example, a voter may think an "oval" corresponds to a different candidate. This is the same vulnerability Dr. Stark is describing, a ballot that does not clearly reflect

[12] I understand Dr. Stark to be a statistician, but he appears to offer opinions regarding computer and elections security and not statistics. Nonetheless, I will address his contentions.

a voter's intent whether due to malfeasance or human error.

60. In Paragraph 7, Dr. Stark goes on to state: "If an audit or inspection of a BMD happens to discover a malfunction, there is in general no way to tell whether the malfunction altered electoral outcomes, nor any way to determine the correct electoral outcomes." The BMDs, however, are not recording or tallying votes, they are producing paper ballots which can be reviewed and confirmed by a voter. In essence, a BMD is nothing more than an ink pen—but one that can avoid ambiguous marks that belie voter intent.

61. In Paragraph 8, Dr. Stark states that BMDs are not "strongly software independent" and that only hand-marked paper ballots can detect whether a malfunction altered the outcome. First, I disagree with Dr. Stark that hand-marked paper ballots are "strongly software independent." For example, if undervote and overvote hacks occur with paper ballots, there's no way to recover the election other than a do over. As such, hand-marked paper ballots are not "strongly software independent" Instead, I believe that both BMDs and hand-marked paper ballots have the same property of being software independent but not *strongly* software independent.

62. Regardless of semantics, this statement simply misses the point. Take, for example, the 2018 Election to United States Senate in Florida. In that race, there was a severe undervote in the Senate race—more than 24,000 voters who voted in

the race for Governor failed to vote in the U.S. Senate race with a margin of victory of about 11,000—and a consensus has developed that this was due to poor ballot design.[13] In this instance, there is still no remedial action other than simply counting the ballot that likely contained an error, regardless of software independence.

63. In Paragraph 13, Dr. Stark references a paper titled "What Voters Are Asked to Verify Affects Ballot Verification: A Quantitative Analysis of Voters' Memories of Their Ballots" to support his claim that voters are not good at verifying their ballot summaries.[14] This is a flawed study and this paper was not subject to peer review. In that study, they asked voters to recall ballot information after they had voted and they did not conduct any comparison with hand-marked paper ballot voters. Additionally, the study was conducted by asking voters to review a ballot *outside the polling place*. Accordingly, the study did not reflect whether voters with a hand-marked paper ballot could recall their votes and further it apparently tested short-term memory—not verification in the precinct of a freshly printed ballot.

[13] *See, e.g.*, Florida Recounts Senate Votes Yet Again, and Nelson's Chances Dwindle, *New York Times*, Nov. 16, 2018 (*available at* https://www.nytimes.com/2018/11/16/us/rick-scott-bill-nelson-recount.html).

[14] Notably, Marilyn Marks, who I understand to be affiliated with the Coalition for Good Governance, a Plaintiff in this case, is listed as a contributor to this paper.

C. October 22, 2019 Declaration of Kevin K. Skoglund

64. I have reviewed the Declaration of Kevin K. Skoglund, dated October 22, 2019, and filed with this Court, all Paragraph references herein refer to that document, [Doc. 640-1, pp. 47–66], unless explicitly stated otherwise. I offer the following opinions in rebuttal.

65. In Paragraphs 23–24, Mr. Skoglund seems to offer the opinion that voting by hand-marked paper ballot is faster than voting by BMD paper ballot. He does so without any evidence or support for this proposition. However, in an internal study I conducted with others while at Clemson University we found the opposite—that voting by BMD is faster than hand-marked paper ballot.

66. In Paragraph 25, Mr. Skoglund references touchscreen miscalibration errors. However, these are exceedingly rare in modern touchscreen BMDs unlike older DRE touchscreen machines.

67. In Paragraph 30, Mr. Skoglund cites to a paper titled "How To Build an Undervoting Machine: Lessons from an Alternative Ballot Design," in support of his assertion that "[s]everal studies have shown that a significant number of voters do not verify machine-generated ballots carefully and do not detect errors." However, this cited paper doesn't discuss machine-generated paper ballots at all and instead concerns user interface design of BMDs and DREs. Mr. Skoglund also cites to the same unreliable study conducted by Richard DeMillo, Robert Kadel,

and Marilyn Marks that Dr. Stark used. For the reasons stated in Paragraph 13, I find this unpersuasive.

68. Mr. Skoglund makes several conclusory statements regarding the appearance of ballot summaries and abbreviations contained therein. However, he notably cites to no authority for his conclusions regarding the ability of voters to comprehend summaries and makes no allegations pertaining to a Georgia BMD-conducted election.

69. In Paragraph 37, Mr. Skoglund generally states that ballot summaries cannot be a reliable source for an audit because you cannot be sure it was properly verified. For the same reasons stated elsewhere in my Declaration, I find this unpersuasive.

D. Curling Plaintiffs' Exhibit 3: Def Con 27 Voting Machine Hacking Village Report

70. I have reviewed the Def Con 27 Voting Machine Hacking Village Report filed with this Court, [Doc. 619-9]. I offer the following opinions in rebuttal.

71. I am familiar with the Def Con Voting Machine Hacking Village, generally. This Report appears to assert several conclusory statements regarding hackability of voting machines with unlimited access. I do not see much to comment on in the Report largely because the Dominion Precinct Hybrid Scanner appears to be different than the system procured for Georgia. As such, I am not sure of the report's relevance.

E. Curling Plaintiffs' Exhibit 4: Paper authored by Appel, DeMillo, and Stark.

72. I have reviewed the Paper attached as Exhibit 4 to Curling Plaintiffs' Brief, filed with this Court at [Doc. 619-10], I offer the following opinions in rebuttal.

73. I find this Paper to be largely repetitive of previous assertions and will not waste the time of the Court by repeating them herein.

74. I agree with several points contained in this paper though. For example, I agree that that all-in-one devices should not generally be used in elections—but Georgia's BMD System is not an all-in-one system. Also, a BMD that separately prints a ballot with a readable ballot summary and scanned at a separate precinct based optical scanner with no printer head is not so insecure as to never be used.

75. I differ, however, with their conclusion that BMDs with separate scanners should only be used by disabled voters who cannot use a hand-marked paper ballot. As previously discussed, such a statement is inherently flawed in that it is permissible for a subset of voters to use a BMD Voting System but not the general populace, and further that segregating such voters only exacerbates concerns of manipulation.

[signature on next page]

I declare under penalty of perjury that the foregoing is true and correct. Executed this _13__ day of November, 2019.

Juan E. Gilbert, Ph. D.

EXHIBIT A

Juan E. Gilbert, Ph.D.
Andrew Banks Family Preeminence Endowed Professor & Chair

Computer & Information Science & Engineering Department
University of Florida
P.O. Box 116120
Gainesville, FL 32611

juan@ufl.edu

Research Statement

My research is in Human-Centered Computing (HCC) and Artificial Intelligence (AI). The goal of my research is to design, implement and evaluate *innovative solutions to real world problems*. *My research integrates people, technology, information, policy, culture and more to address societal issues*. In general, HCC research is highly interdisciplinary and applied. My areas of specialization within HCC and AI are Natural Interactive Systems, Bias in AI, Advanced Learning Technologies/Intelligent Tutoring Systems, Ethnocomputing/Culturally Aware Computing and Information Technology Workforce, Human-Computer Interaction, Databases and Data Mining.

In Natural Interactive Systems (NIS), I am interested in creating user interfaces where the user interacts with the system using speech or multimodality. I am researching the design, implementation and the evaluation of naturally interactive systems. One of my research projects in NIS is called *Prime III*. Prime III is a secure, multimodal electronic voting system, http://www.PrimeVotingSystem.org. Prime III provides an easy to use multimodal user interface that allows greater participation in the electoral process. Voters that can't read, hear, have visual impairments or physical impairments, can still vote using Prime III. The Prime Voting System is a *usable security* approach to electronic voting.

In Advanced Learning Technologies/Intelligent Tutoring Systems, my research aims to create and study applications that employ intelligent strategies that personalize instruction. In some implementations, this involves the use of spoken language systems and Animated Pedagogical Agents (APAs). I am researching the use and impact of culturally relevant environments that use culture in the education or training environment. This is a form of Ethnocomputing (http://en.wikipedia.org/wiki/Ethnocomputing) or culturally aware computing. In my latest research efforts, I am researching game-like interfaces that provide naturally interactive instruction using animation, artificial intelligence, and speech. Examples of this work can be seen at http://www.aadmlss.org. In Ethnocomputing or Culturally Aware Computing, I am investigating the use and impact of culture in computing. Our research suggests that culture can be used to increase interest, user satisfaction and ease of use in computing applications. I am also working on information technology workforce issues. Specifically, I am investigating pedagogies and programs that broaden participation in computing for people in underrepresented groups. I am studying effective practices that help recruit, retain and graduate people from underrepresented groups in Science, Technology, Engineering and Mathematics (STEM).

In AI, Databases and Data Mining, I am investigating data mining for human centered applications, e.g. applications where the data represents people, and tools that answer complex questions from business intelligence, education, and society. For example, I use clustering algorithms to process admissions applications in order to increase holistic diversity. This tool is called *Applications Quest*™, http://www.ApplicationsQuest.com. I am also investigating methods for identifying and eliminating bias in AI. I am interested in equitable AI.

Teaching Statement

My teaching philosophy is derived from my research in educational technology and my work experiences. I believe that technology can be used to keep students interested in the course material. My instruction style employs the use of computers and other multimedia deliverable mediums to assist in delivering instruction. Technology allows me to deliver instruction in several different styles, which meets the demands of more students.

Areas of teaching interest include, but are not limited to:

1. Human-Computer Interaction
2. Spoken Language Systems
3. Databases and Data Mining
4. Science and Technology Policy
5. Advanced Learning Technologies
6. Ethnocomputing
7. Creative Thinking and Problem Solving

Education:

2000 **University of Cincinnati**, Cincinnati, Ohio
Doctor of Philosophy in Computer Science
Title: Arthur: An Intelligent Tutoring System with Adaptive Instruction
Advisor: Chia Y. Han

1995 **University of Cincinnati**, Cincinnati, Ohio
Master of Science in Computer Science
Title: Road Map – An Intelligent Heuristic Application
Advisor: Raj Bhatnagar

1991 **Miami University**, Oxford, Ohio
Bachelor of Science in Applied Science
Major: Systems Analysis

Funding (Total Funding: $28,742,622.78 - Gilbert Share: $14,031,073.78)

1. Gilbert, J.E., **Disinformation Defense League**, New Venture Fund Media Democracy Project, 5/15/2020 – 514/2021, $145,000.

2. Gilbert, J.E., **PhDX: Talent for the 21st Century Summer Fellowship Program**, New Venture Fund Media Democracy Project, 4/15/2020 – 4/14/2021, $10,000.

3. McMullen, K., Gilbert, J.E., Gardner-McCune, C., & Waisome, J.A.M., **Collaborative Research: Human-Centered Computing Scholars: Need-based, Extensive Support Through Degree Completion**, NSF, 3/6/2019 – 4/30/2024, $922,495, UF Share: $922,495.

4. Purves, D., Jenkins, R., & Gilbert, J.E., **Collaborative Research: Standard Grant: Artificial Intelligence and Predictive Policing: An Ethical Analysis**, NSF, 9/1/2019 – 8/31/2022, $509,000, UF Share: $269,000.

5. Gilbert, J.E., **PhDX: Talent for the 21st Century Summer Fellowship Program**, New Venture Fund Media Democracy Project, 2/18/2019 – 2/17/2020, $10,000.

6. Gilbert, J.E., Eugene, W. & Daily, S.B., **Computing and Society Engagement (C.A.S.E.)**, The William R. Kenan, Jr. Charitable Trust, 1/15/2017 – 1/16/2020, $1,200,000.

7. Gilbert, J.E., **PhDX: Talent for the 21st Century Summer Fellowship Program**, New Venture Fund Media Democracy Project, 5/15/2017 – 8/15/2017, $10,000.

8. Gilbert, J.E. & Daily, S.B., **NSF INCLUDES: Consortium of Minority Doctoral Scholars (CMDS)**, NSF, 9/12/2016 – 9/11/2018, $232,512.

9. Andujar, A., Crawford, C., Jackson, F. & Gilbert, J.E., **Brain-Computer Interface Research & Development**, Intel Corp., 8/15/2015 - 8/14/2017, $300,000.

10. Gilbert, J.E., **Critical Human-Machine Interaction: Optimizing for Crisis Assessment and Stressful Environment**, Harris Corporation, 8/1/2015 – 7/31/2016, $150,000.

11. Gilbert, J.E., **Accessible Voting for Everyone**, Knight Foundation, 8/24/2015 – 8/23/2016, $35,000.

12. Gilbert, J.E. & Eugene, W., **NSF CHS: Small: Collaborative Research: Mobile Language-Based Aids for Intelligent Decisions**, NSF, 8/24/2015 – 8/23/2019, $203,284.00.

13. Gilbert, J.E. & Smith, D., **User Experiences in Automobiles**, Intel UXR, 2/1/2014 – 1/31/2015, $25,000.

14. Gilbert, J.E., **Voice Recognition Plugin Research**, BMW, 9/15/2013 – 12/31/2013, $65,000.

15. Gilbert, J.E., McMullen, K., Remy, S.L., & Eugene, W., **4D Interactions for Cable Television,** CableLabs, 7/1/2013 – 6/30/2014, $80,000.

16. Gilbert, J.E., Daily, S.B., Anderson, M., Seals, C., & Jones, E., **NSF BPC-A: Institute for African-American Mentoring in Computing Sciences (iAAMCS)**, NSF, 5/1/2013 – 4/30/2019, $5,785,735, UF Share: $2,741,809.

17. Gilbert, J.E., McMullen, K., & Martin, J., **User Experiences with Streaming Video, 3D Audio and Holistic Usability**, Intel IXR, 6/1/2013 – 5/31/2014, $50,000.

18. Gilbert, J.E., **User Experiences with Streaming Video and Holistic Usability**, Intel IXR, 1/1/2013 – 12/31/2013, $25,000.

19. Gilbert, J.E., **Juvenile Detention Alternatives Initiative (JDAI) Data Management and Reporting Website**, 1/1/2013 – 9/30/2013, $60,000.

20. Taiber, J. & Gilbert, J.E., **Sustainable Mobility in Automobiles**, Verizon, 11/28/2012 - 11/27/2013, $29,900.

21. Gilbert, J.E., **Voice Controls & Augmented Call Center**, BMW, 8/15/2012 – 12/31/2012, $40,999.

22. Martin, J. & Gilbert, J.E., **Assessing Perceived Quality of Dash-Based IPTV Broadcasts: Methods and Human Factors**, CableLabs, 8/15/2012 – 8/14/2013, $50,000.

23. Thompson, M., Gilbert, J.E., Morrison, D., **Epidemiology of Sexual Violence: A Trajectory-based Approach**, NIH, 7/1/2012 – 6/30/2013, $128,017.

24. Gilbert, J.E., **Interface and Visual Design Research**, BMW, 3/1/2012 – 2/28/2013, $32,000.

25. Gilbert, J.E., **Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring (PAESMEM)**, NSF, (2011), $25,000.

26. Venhovens, P., Brooks, J. & Gilbert, J.E., **2D vs. 2.5D in Automotive User Interfaces**, Ford Motor Company, 3/1/2012 – 2/28/2013, $40,000.

27. Gilbert, J.E., **2010 Voting Technology and Accessibility Research - Accessible Voting Technology Initiative**, U.S. Election Assistance Commission, 5/23/2011 - 5/22/2014, $4,500,000, Clemson Share: $1,188,467.

28. Gilbert, J.E., **IDEaS (Inquiry, Discovery in Engineering and Science) Professorship**, Clemson University College of Engineering and Science, 7/1/2011 – 6/30/2012, $20,000.

29. Gilbert, J.E., Hodges, L., & Woodard, D., **S-STEM: Human-Centered Computing Scholars: Fostering a New Generation of Underrepresented and Financially Disadvantaged Researchers**, NSF, 6/1/2011 – 5/31/2016, $551,998.

30. Martin, J. & Gilbert, J.E., **Correlating the Perceived Quality of Networked Games to Broadband Cable Network Design Parameters**, CableLabs, 6/1/2011 – 12/31/2011, $30,000.

31. Gilbert, J.E., **In-Vehicle Voice User Help Research**, BMW, 7/1/2011 – 7/31/2012, $46,550.

32. Gilbert, J.E., **CI Fellows Postdoc**, Computing Research Association, 9/14/2010 – 9/13/2011, $127,500.

33. Camp, T., Gilbert, J.E., Khuller, S., & Goldsmith, J. **Collaborative Research: Broader Impacts for Research and Discovery Summit**, NSF, 4/14/2010 - 4/15/2012, $510,605, Clemson Share: $137,927.

34. Gilbert, J.E., **BPC-AE: Collaborative Research: Strengthening and Expanding the Empowering Leadership Alliance**, NSF, 02/04/2010 – 01/31/2012, $923,786.00, Clemson Share: $51,998.

35. Gilbert, J.E., **CI Fellows Postdoc**, Computing Research Association, 9/7/2009 – 9/6/2010, $140,000.

36. Dozier, G., Jackson, J., Biggers, M., Gilbert, J.E., & Moore, L., **NSF BPC-AE: Collaborative Research: The Alliance for the Advancement of African-American Researcher in Computing (A4RC)**, NSF, 09/01/2009 – 08/31/2011, $1,498,076.00, Clemson Share: $154,092.

37. Gilbert, J.E. (PI), Chattaraman, V. & Kwon, W., **NSF HCC: Small: Conversational Agents in Web-Based Consumer Environments Designed for Older Users,** NSF, 08/15/2009 – 8/14/2012, $583,814, Clemson Share: $258,815.

38. Gilbert, J.E. (PI) & Seals, C.D., **NSF Collaborative Research: BPC-DP: African-American Researchers in Computing Sciences (AARCS),** NSF, 12/1/2008 – 5/1/2010, $215,952, AU Share: $128,450.

39. Gilbert, J.E., **NSF BPC-DP: Incorporating Cultural Tools for Math and Computing Concepts into the Boys and Girls Clubs of America,** NSF, 12/1/2008 – 11/30/2011, $190,516, AU Share: $198,516.

40. Gilbert, J.E. **Everyone Counts: Voice User Interface Demonstration Prototype**, Everyone Counts, Inc., 7/2008 – 8/2008, $4,088.

41. Chattaraman, V. (PI), Gilbert, J.E., & Kwon, W. **Bridging the Digital Divide to Enhance Internet Technology Use among the Elderly**, Auburn University Outreach Scholarship Grant, 5/2008 – 5/2009, $10,000.

42. Gilbert, J.E. **Accessibility in Online Electronic Voting**, Everyone Counts, Inc., 1/2008 – 7/2008, $15,000.

43. Watts, I.E. (PI) & Gilbert, J.E., **Tallapoosa Assistance Program (TAP)**, State of Alabama - Tallapoosa County, 10/1/2007 – 9/30/2008, $28,289.

44. Gilbert, J.E., **Total System Services Inc. Distinguished Professorship**, Total System Services Inc. Gift, 10/1/2007 – 10/1/2008, $100,000.

45. Hamilton, J.A., Chang, K. Dozier, G., Wang, Y. & Gilbert, J.E., **NSF #0621307 SFS: Scholarship Partnership with Alabama State University and Tuskegee University.** NSF, 9/1/2006 – 9/1/2009, $1,500,000.

46. Gilbert, J.E., **Implementation and User Evaluation of "Everyone Counts Online Electronic Voting System"**, Everyone Counts Inc., 1/1/2008 – 4/1/2008, $15,000.

47. Gilbert, J.E., **NSF IIS HCC: Prime III: Studying Usability & Security in Electronic Voting for Everyone**, NSF, 5/15/2007 – 8/15/2008, $93,056.

48. Gilbert, J.E., **Total System Services Inc. Distinguished Professorship**, Total System Services Inc. Gift, 10/1/2006 – 10/1/2007, $100,000.

49. Gilbert, J.E., **Microsoft Research External Research Fund,** Microsoft Corporation Research Gift, 6/1/2006 – 12/1/2007, $5,000.

50. Gilbert, J.E. **Auburn University Outreach Scholarship Grant**, 8/2006 – 8/2007, $14,000.

51. Gilbert, J.E. (PI), Seals, C.D., Dozier, G.V. & Jackson, J.F.L., **NSF BPC-DP: African-American Researchers in Computing Sciences (AARCS)**, NSF, 3/1/2006 – 3/1/2009, $421,288, AU Share: $330,473.

52. Dahlberg, T. (PI), Barnes, T. (CoPI), Seals, C.D., Gilbert, J.E. (Senior Personnel), et. al., **NSF BPC-A: The STARS Alliance: A Southeastern Partnership for Diverse Participation in Computing**, NSF, 3/1/2006 – 3/1/2009, $2,228,640, AU Share: $235,075.

53. Gilbert, J.E. (PI), **Producers Cattle Auction: Online Auction**, Producers Cattle Auction, 2/15/2006 – 5/15/2006, $2,909.78.

54. Gilbert, J.E. (PI), **Producers Cattle Auction: Online Auction**, Producers Cattle Auction, 1/1/2004 – 10/1/2005, $12,225.

55. Watts, I.E. (PI) & Gilbert, J.E., **Tallapoosa Assistance Program (TAP)**, State of Alabama - Tallapoosa County, 1/10/2005 – 1/10/2006, $30,273.

56. Gilbert, J.E. (PI) & Chapman, R., **E-Citation Usability Study**, University of Alabama, 6/2004 – 12/2004, $25,000.

57. Gilbert, J.E. (PI) & Dozier, G. V., **Distributed Data Mining**, Auburn University Internet2 Research, 6/2004 – 7/2005, $6,000.

58. Gilbert, J.E. (PI), Flowers, L., Moore, J.L. & Watford, B., **NSF ITWF: Scholars of the Future: An Implementation Model for Increasing Diversity in Information Technology #0420485**, NSF, 9/15/2004 - 9/15/2008, $754,983, AU Share: $549,731.

59. Gilbert, J.E. **Auburn University Competitive Research Grant**, 5/2003 – 5/2004, $3,000.

60. Gilbert, J.E. **Auburn University Internet2 Equipment Research Grant**, 6/2003 – 6/2004, $8,000.

61. Watts, I.E. (PI) & Gilbert, J.E., **Tallapoosa Assistance Program (TAP)**, State of Alabama - Tallapoosa County, 11/1/2003 – 10/1/2004, $29,572.

62. Gilbert, J.E., **Mobile and Pervasive User Interfaces for Information Retrieval**, Auburn University - Competitive Research Grant, 5/2003-5/2004**,** $3,000.

63. Chapman, R. (PI) & Gilbert, J.E., **VLETS Fieldable Phone System**, University of Alabama Subcontract, 5/2003 – 9/2003, $39,471.

64. Chang, K. (PI), Biaz, S., Chapman, R., Gilbert, J.E., & Lee, C., **Graduate Fellowships in Wireless Technologies**, U.S. Department of Education Graduate Assistance in Areas of Need (GAANN), 9/2003 – 9/2006, $393,552.

65. Gilbert, J.E. **NSF Graduate Research Fellowship**, 1/2003 – 9/2003, $18,544.

66. Gilbert, J.E. (PI), **Summer Technology Outreach Grant II**, Auburn University, 5/2004 – 9/2004, $16,000.

67. Gilbert, J.E. (PI), **Summer Technology Outreach Grant**, Auburn University, 5/2003 – 9/2003, $35,231.

68. Watts, I.E. (PI) & Gilbert, J.E., **Tallapoosa Assistance Program (TAP)**, State of Alabama - Tallapoosa County, 1/1/2003 – 10/1/2003, $60,818.

69. Brewer, J.W. (PI) & Gilbert, J.E., **Distance Learning and Outreach Technology, Auburn University Distance Learning and Outreach Office, 2/1/2002 – 8/1/2002, $10,000.**

70. Chapman, R., Chang, K., & Gilbert, J.E., **Voice Interface for Wireless Law Enforcement Systems**, University of Alabama, 10/2002 – 5/2003, $20,000.

71. York, B. (PI), Ellis, C., Gilbert, J.E., Giles, R. & Taylor, V., **NSF-ITR: New Approaches to Human Capital Development through Information Technology Research #0296169,** NSF, 9/2000 - 8/2005, $3,188,944, AU Share: $363,437.

Journal Publications

1. Williams, R.M. & Gilbert, J.E. (2020) **Perseverations of the Academy: a survey of wearable technologies applied to autism intervention**, International Journal of Human-Computer Studies, 143, pp. 1-20, DOI: https://doi.org/10.1016/j.ijhcs.2020.102485

2. Brinkley, J., Huff, E.W., Posadas, B., Woodward, J., Daily, S.B., & Gilbert, J.E., (2020) **Exploring the Needs, Preferences, and Concerns of Persons with Visual Impairments Regarding Autonomous Vehicles**, ACM Transactions on Accessible Computing, 13, 1, DOI: https://doi.org/10.1145/3372280

3. Crawford, C.S. & Gilbert, J.E. (2020) **Brains and Blocks: Introducing Novice Programmers to Brain-Computer Interface Application Development**, ACM Transactions on Computing Education, 19, 4, DOI: https://doi.org/10.1145/3335815

4. Stegman, P., Crawford, C.S., Andujar, M., Nijholt, A. & Gilbert, J.E. (2020) **Brain–Computer Interface Software: A Review and Discussion**, IEEE Transactions on Human-Machine Systems. DOI: 10.1109/THMS.2020.2968411

5. Dunbar, J., Gilbert, J. E., & Lewis, B. (2020). **Exploring differences between self-report and electrophysiological indices of drowsy driving: A usability examination of a personal brain-computer interface device**. Journal of Safety Research, DOI: https://doi.org/10.1016/j.jsr.2020.04.006

6. Brinkley, J., Posadas, B., Sherman, I., Daily, S.B. & Gilbert, J.E. (2019) **An Open Road Evaluation of a Self-Driving Vehicle Human–Machine Interface Designed for Visually Impaired Users**, International Journal of Human–Computer Interaction, DOI: 10.1080/10447318.2018.1561787

7. Brinkley, J., Daily, S. B. & Gilbert, J. E. (2019). **Implementing the ATLAS Self-Driving Vehicle Voice User Interface**. Journal on Technology and Persons with Disabilities 7, pp. 133-140.

8. Brinkley, J., Daily, S. B. & Gilbert, J. E. (2019). **A Policy Proposal to Support Self-Driving Vehicle Accessibility**. Journal on Technology and Persons with Disabilities 7, pp. 35-43.

9. Darville, G., Anderson- Lewis, C., Stellefson, M., Lee, Y., MacInnes, J., Pigg, R.M., Gilbert, J.E., and Thomas, S. (2018). **Customization of Avatars in a HPV Digital Gaming Intervention for College-Age Males: An Experimental Study, Simulation & Gaming**, Simulation & Gaming, 49(5), 515- 537. doi: 10.1177/1046878118799472

10. Chattaraman, V., Kwon, W., Gilbert, J.E., & Ross, K. (2018). **Should AI-Based, Conversational Digital Assistants Employ Social- or Task-Oriented Interaction Style? A Task-Competency and Reciprocity Perspective for Older Adults**, Computers in Human Behavior, pp. 1-16, https://doi.org/10.1016/j.chb.2018.08.048

11. Brinkley, J., Daily, S. B. & Gilbert, J. E. (2018). **A Survey Of Visually Impaired Consumers About Self-Driving Vehicles**. Journal on Technology and Persons with Disabilities. Volume 6, pp. 273-282.

12. Jackson, J.F.L., Charleston, L.J., Lewis, C.W., Gilbert, J.E., Parrish, W.P. (2017). **Arizona's Rising STEM Occupational Demands and Declining Participation in the Scientific Workforce: An Examination of Attitudes among African Americans toward STEM College Majors and Careers**, Texas Education Review, 5, 2, pp. 91-111.

13. Comedy, Y.L., Gilbert, J.E., & Pun, S.H. (2017). **Invention Is not an Option**. Technology and Innovation, Journal of the National Academy of Inventors, 18, 4, pp. 267-274.

14. Thomas, S. V. & Gilbert, J. E. (2016). **Integrating Technology to Enhance Athlete Development: A Literature Review**. Journal of Higher Education Athletics and Innovation, 1, 1, pp. 73-84.

15. Gosha, K., Gilbert, J.E., & Middlebrook, K., (2016). **A Qualitative Analysis of Using a Virtual Mentoring Program on Black Computer Science Students**, International Journal of Education and Human Developments, 2, 1, pp. 33-41.

16. Gosha, K., Gilbert, J.E., & Middlebrook, K. (2015). **Virtual Graduate School Mentoring Using Embodied Conversational Agents**, Journal of Computer Science and Information Technology, 3, 2, pp. 15-38, DOI: 10.15640/jcsit.v3n2a2.

17. Andujar, M., Crawford, C. S., Nijholt, A., Jackson, F., & Gilbert, J. E. (2015). **Artistic brain-computer interfaces: the expression and stimulation of the user's affective state**. Brain-Computer Interfaces, 2(2-3), pp. 60–69, http://dx.doi.org/10.1080/2326263X.2015.1104613.

18. Dillon, E.C., Gilbert, J.E., Jackson, J.F.L., & Charleston, L.J., (2015). **Expanding the Pipeline, The State of African-Americans in Computer Science: The Need to Increase Representation**, Computing Research News, September 2015, 27,8, pp. 2-6.

19. Alvarez, I., Alnizami, H., Dunbar, J., Jackson, F., & Gilbert, J.E., (2015) **Help on the road: Effects of vehicle manual consultation in driving performance across modalities**, International Journal of Human-Computer Studies, 73, pp. 19-29, ISSN 1071-5819, http://dx.doi.org/10.1016/j.ijhcs.2014.07.001

20. Martin-Hammond, A.M., Abegaz, T., & Gilbert, J.E., (2015). **Designing an Over-the-Counter Consumer Decision-Making Tool for Older Adults**, Journal of Biomedial Informatics, 57, pp. 113 – 123. DOI: 10.1016/j.jbi.2015.07.006

21. Gilbert, J.E., Jackson, J.F.L., Dillon, E.C. & Charleston, L.J., (2015). **Broadening Participation: African-Americans in the U.S. Computing Sciences Workforce**, Communications of the ACM, 58, 7, pp. 35-38.

22. Charleston, L.J., Jackson, J.F.L., & Gilbert, J.E. (2014). **Preparing the Next Generation of African American Computing Science Faculty: A Response to the Obama Administration's Scientific Workforce Priorities**, *in E.M. Zamani-Gallaher (ed.) The Obama Administration and Educational Reform* (Advances in Education in Diverse Communities: Research, Policy and Praxis, Volume 10) Emerald Group Publishing Limited, pp. 205 – 222. DOI: 10.1108/S1479-358X20130000010010

23. Chattaraman, V., Kwon, W.S., Gilbert, J. E., & Li, S. (2014). **Virtual Shopping Agents: Persona Effects for Older Users**. Journal of Research in Interactive Marketing, 8,2, pp. 144-162.

24. Jackson, J.F.L., Charleston, L.J., & Gilbert, J.E., (2014). **The Use of Regional Data Collection to Inform University Led Initiatives: The Case of a STEM Education SWOT Analysis**, Journal of STEM Education, 15, 1, pp. 11-19.

25. Charleston, L.J., Gilbert, J.E., Escobar, B., & Jackson, J.F.L. (2014). **Creating a Pipeline for African American Computing Science Faculty: An Innovative Faculty/Research Mentoring Program Model**, The Journal of Faculty Development, 28, 1, pp. 85-92.

26. Gilbert, J.E., Dunbar, J., Ottley, A., & Smotherman, J.M. (2013). **Anomaly detection in electronic voting systems**. Information Design Journal, 20, 3, pp. 194-206.

27. Eglash, R., Gilbert, J.E., & Foster, E., (2013). **Toward Culturally Responsive Computing Education**, Communications of the ACM, 56, 7, pp. 33-36.

28. Gilbert, J.E. & Johnson, A.E., (2013). **A Study of Admissions Software for Achieving Diversity**, Psychnology Journal, 11, 1, pp. 67-90.

29. Jackson, J.F.L., Charleston, L. J., Gilbert, J.E., & Seals, C., (2013) **Changing Attitudes About Computing Science at Historically Black Colleges and Universities: Benefits of an Intervention Program Designed for Undergraduates**, Journal of African American Studies, 17, 2, pp. 162-173.

30. Ekandem, J.I., Davis, T.A., Alvarez, I., James, M.T., & Gilbert, J.E., (2013) **Evaluating the Ergonomics of BCI Devices for Research and Experimentation**, Ergonomics, 55, 5, 592-598.

31. Chattaraman, V., Kwon, W.S., & Gilbert, J. E. (2013). **Internet use and perceived impact on quality of life among older adults: A phenomenological investigation**. The International Journal of Health, Wellness, and Society, 2 (3), 1-13.

32. Gilbert, J.E., Martin, A.M., Rogers, G., McClendon, J., & Ekandem, J. (2012) **Hey, That's Not Who I Voted For! A Study on Touchscreen Ballot Design**, *ACM Interactions*, 19, 6, pp. 34-39.

33. Shim, S., Kwon, W.-S., Chattaraman, V., & Gilbert, J. E. (2012). **Virtual sales associates for mature consumers: Technical and social support in e-retail service interactions**. Clothing and Textiles Research Journal, 30(3), 232-248, Doi: 10.1177/0887302X12456903

34. Collins, S.N., Deer, C.J., & Gilbert, J.E. (2012) **Chemistry and Hip Hop: Outreach Efforts to Attract Minority Students to the Chemical Sciences**, The Chemical Educator, ISSN: 1430-4171, 17, 12, 175-178.

35. Chattaraman, V., Kwon, W.S., & Gilbert, J. E. (2012) **Virtual agents in retail websites: Benefits of simulated social interaction for older users**, Computers in Human Behavior, Doi: 10.1016/j.chb.2012.06.009.

36. Goggin, S., Byrne, M., & Gilbert, J.E., (2012) **Post-Election Auditing: Effects of Election Procedure and Ballot Type on Manual Counting Accuracy, Efficiency, and Auditor Satisfaction and Confidence**. Election Law Journal: Rules, Politics, and Policy, 11, 1, (March 2012), pp. 36-51.

37. Chattaraman, V., Kwon, W.-S., Gilbert, J. E., & Shim, S. I. (2011). **Virtual agents in e-commerce: Representational characteristics for seniors**. Journal of Research in Interactive Marketing, 5,4, 276-297.

38. Singh, A., Johnson, A., Alnizami, H. & Gilbert, J.E., (2011) **The potential benefits of multi_modal social interaction on the web for senior users**. The Journal of Computing Sciences in Colleges, 27, 2 (December 2011), pp. 135-141.

39. Williams, P.K., Soares, C.V., & Gilbert, J.E., (2012) **A Clustering Rule Based Approach for Classification Problems**, International Journal of Data Warehousing and Mining, 8, 1, pp. 1-23, Doi: 10.4018/jdwm.2012010101.

40. Jackson, J.F.L., Charleston, L.J., Gilbert, J.E., & Seals, C., (2011) **Changing Attitudes About Computing Science at Historically Black Colleges and Universities: Benefits of an Intervention Program Designed for Undergraduates**. *Journal of African American Studies*, pp. 1-12, Doi: 10.1007/s12111-011-9189-7.

41. Thornton, D. & Gilbert, J.E. (2011) **Investigating Player Behavior and Experience in Speech-Enabled Multimodal Video Games.** *The International Journal of Technology, Knowledge and Society*, 7,1, pp. 165-178.

42. Gilbert, J.E., McMillian, Y., Rouse, K., Williams, P., Rogers, G., McClendon, J., Mitchell, W., Gupta, P., Mkpong-Ruffin, I. & Cross, E.V. (2010) **Universal Access in e-Voting for the Blind**. *Universal Access in the Information Society Journal*, 9,4, pp. 357-365.

43. Gilbert, J.E., Martin, A.M., Eugene, W., Alnizami, H., Moses, W. & Morrison, D. (2010) **Driving Transportation Policy through Technological Innovation**. *ACM Interactions*, 17, 4, pp. 42-48.

44. Dawkins, S. & Gilbert, J.E., (2010) **Accessible, Private, and Independent Voting: The Prime III Voting System**. *User Experience*, 9, 2, pp. 16.

45. George, M.S., Soares, C.V., & Gilbert, J.E., (2009) **Combating Ethical Issues in University Admissions Using Technology.** *i-manager's Journal of Educational Technology*, 6,3, pp. 58-63.

46. Gilbert, J.E., Eugene, W., Arbuthnot, K., Hood, S., Grant, M.M., West, M.L. & Swanier, C. (2009) **Culturally Relevant Game Design: A Case Study for Designing Interactive Algebra Lessons for Urban Youth**. *i-manager's Journal of Educational Technology*, 5,3, pp. 54-60.

47. Seals, C., Rouse, K., McMillian, Y., Williams, A., Gilbert, J.E., and Chapman, R. (2009) **Computer Gaming at Every Age: A Comparative Evaluation of Alice,** *i-manager's Journal of Educational Technology*., 5,3, pp. 1-8.

48. Williams, A., Rouse, K., Seals, C.D., & Gilbert, J.E. (2009) **Enhancing Reading Literacy in Elementary Children using Programming for Scientific Simulations**. *International Journal on E-Learning*, 8,1, pp. 57-69.

49. Gilbert, J.E., MacDonald, J., Hill, R., Sanders, D., Mkpong-Ruffin, I., Cross, E.V., Rouse, K., McClendon, J., & Rogers, G. (2008) **Prime III: Defense-in-Depth Approach to Electronic Voting**. *Journal of Information Security and Privacy*, 4,3, pp. 16 – 35.

50. Gilbert, J.E. & Swanier, C. (2008) **Learning Styles: How do they fluctuate?** *Institute for Learning Styles Research Journal*, Volume 1, Fall 2008, pp. 29 – 40.

51. Lodree, A.W., Moore, J.L. & Gilbert, J.E. (2008) **Using Animated Agents for Postsecondary Mathematics**. *Journal of Educational Technology*, 5,1, pp. 31 – 37.

52. Gilbert, J.E. & Lewis, C. (2008) **An Investigation of Computational Holistic Evaluation of Admissions Applications for a Minority Focused STEM Research Program**. *Journal of STEM Education: Innovations and Research*, 9,1, pp. 1-8.

53. Gilbert, J.E. (2008) **Applications Quest: A Case Study on Holistic Admissions**. *Journal of College Admission*, Spring 2008, pp. 12 – 18.

54. Gilbert, J.E., Arbuthnot, K., Hood, S., Grant, M.M., West, M.L., McMillian, Y., Cross, E. V., Williams, P. & Eugene, W. (2008) **Teaching Algebra Using Culturally Relevant Virtual Instructors**. *The International Journal of Virtual Reality*, 7,1, pp. 21-30.

55. Gilbert, J.E., Williams, A. & Seals, C.D. (2007) **Clustering for Usability Participant Selection**. *Journal of Usability Studies*, 3,1, pp. 41 – 53.

56. Gilbert, J.E. & Goss, K., (2007) **A Multiple Approach Is Best**. *Speech Technology*, 12,6, *Information Today*, pp. 40 - 41.

57. Hura, S.L., Polkosky, M.D., & Gilbert, J.E. (2006) **Point, Counterpoint: What Three Experts Say About Speech Usability.** *User Experience*, 5,3, Usability Professionals' Association, pp. 16 – 18.

58. Gilbert, J.E. (2006) **Making a Case for BPC.** *Computer*, 39,3, IEEE Computer Society, pp. 83 – 86.

59. Gilbert, J.E. (2006) **Applications Quest: Computing Diversity.** *Communications of the ACM*, 49,3, ACM, pp. 99 – 104.

60. Zhong, Y. & Gilbert, J.E. (2005) **A Context-Aware Language Model for Spoken Query Retrieval.** *International Journal of Speech Technology*, 8, 2, Springer, pp. 203-219.

61. Gilbert, J.E., Chapman, R. & Garhyan, S. (2005) **VoiceLETS Backs Up First Responders,** *IEEE Pervasive Computing* 4,3, IEEE Computer Society, pp. 92 - 96.

62. Gilbert, J.E., Wilson, D. & Gupta, P. (2005) **Learning C With Adam.** *International Journal on E-Learning*, 4,3, Association for the Advancement of Computing in Education. pp. 337-350.

63. Gilbert, J. E. (2005). **E-Commerce & Web Branding: A Use For Persuasive Technologies**. *BDPA Journal Online,* 20,9, pp. 16 – 17.

64. Lin, Y. & Gilbert, J.E. (2005) **An Effectiveness Study of Online Advertising Models.** *Entrepreneurship Policy Journal*. April 2005, volume 2, pp. 120 – 127.

65. Gilbert, J.E. & Han, C. Y. (2002) **Arthur: A Personalized Instructional System.** *Journal of Computing In Higher Education*. 14, 1. Norris Publishers, Amherst, MA, pp. 113-129.

66. Gilbert, J. E. & Han, C. Y. (1999) **Adapting Instruction in Search of "A Significant Difference"**. *Journal of Network and Computing Applications*, 22, pp. 149-160.

Edited Proceedings Appearing in Refereed Journals

67. Gilbert, J. E**.** AIED 2001 Workshop on Assessment Methods in Web-Based Learning Environments & Adaptive Hypermedia. ***International Journal of Artificial Intelligence In Education*****,** 12 (2001) pp. 1020-1029.

Commentaries Appearing in Refereed Journals

68. Gilbert, Juan E. (2020) **Improving Election Integrity.** *Issues in Science and Technology*, February 6, 2020, [Online], https://issues.org/improving-election-integrity/

69. Gilbert, J.E., (2011). **Succeeding in the Academic Job Search**. *SHPE (Society of Hispanic Professional Engineers*, 13, 3, pp. 44-45.

70. Lenear, P. E., Chandler, R., Gilbert, J., Giles, R., McMullen, W., Taylor, V. & York, B., (2002) **The Institute for African American E-Culture**. *Community Technology Review Journal Online* [Online], 7, 1. [Winter-Spring 2002 Issue].

Op-Eds

71. Gilbert, J.E., **The Vote Is Safe**, *The Philadelphia Citizen*, June 17, 2019, [Online], https://thephiladelphiacitizen.org/guest-commentary-the-vote-is-safe/

72. Gilbert, J. E., **How universal design can help every voter cast a ballot**. *The Conversation*, May 2, 2016, [Online], https://theconversation.com/how-universal-design-can-help-every-voter-cast-a-ballot-54373.

Refereed Conference Proceedings

73. Moon-Rembert, D.G. & Gilbert, J.E. (2019). **Illmatics: A Web-based Math Word Problem Generator for Students' Distal and Proximal Interests**. In S. Carliner (Ed.), Proceedings of Association for the Advancement of Computing in Education (AACE) E-Learn: World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education, New Orleans, LA, USA, pp. 737-743.

74. Sherman, I., Bowers, J., McNamara, K., Gilbert, J.E., Ruiz, J., & Traynor, P., (2020) **Are You Going to Answer That? Measuring User Responses to Anti-Robocall Application Indicators**, In Proceedings of the ISOC Network & Distributed Systems Security Symposium (NDSS).

75. (Sue Bogner Healthcare Technical Group Best Student Paper Award) Williams, R.M., Alikhademi, K., Drobina, E., Gilbert, J.E., & Sutor, T. (2019). **Augmented Reality for Rehabilitative Therapy: Patient experiences and Practitioner Perspectives**. In Proceedings of the Human Factors and Ergonomics Society (HFES) 2019 Annual Meeting. Seattle, WA, USA, pp. 748-752, October 28 – November 1, 2019.

76. Alikhademi, K., Richardson, B., Martins, J., Chattaraman, V., Kwon, W., & Gilbert, J.E. (2019). **Systematic Evaluation of a Conversational Voice User Interface for Decision-Making.** In Proceedings of the Human Factors and Ergonomics Society (HFES) 2019 Annual Meeting. Seattle, WA, USA, pp. 413-416, October 28 – November 1, 2019.

77. Posadas, B.P., Hanumappa, M. & Gibert, J.E. (2019). **Opinions Concerning Crowdsourcing Applications in Agriculture in D.C.**. In IX Latin American Conference on Human Computer Interaction (CLIHC '19), Panama City, Panama. ACM, New York, NY, USA, https://doi.org/10.1145/3358961.3358970

78. Mack, N. A., Cummings, R., Huff, E. W., Gosha, K., & Gilbert, J. E. (2019). **Exploring the Needs and Preferences of Underrepresented Minority Students for an Intelligent Virtual Mentoring System**. In International Conference on Human-Computer Interaction (pp. 213-221). Springer, Cham.

79. Huff, E.W., Mack, N.A., Cummings, R., Womack, K., Gosha, K., & Gilbert, J. E. (2019). **Evaluating the Usability of Pervasive Conversational User Interfaces for Virtual Mentoring**. In International Conference on Human-Computer Interaction (pp. 80-98). Springer, Cham.

80. Alikhademi, K., Richardson, B., Ross, K., Sung, J., Gilbert, J.E., Kwon, W.S. & Chattaraman, V., (2019), **AI-Based Technical Approach for Designing Mobile Decision Aids**. In International Conference on Human-Computer Interaction (pp. 163-169). Springer, Cham.

81. Smith, T. R., & Gilbert, J. E. (2019), **Did Math Make Me Move? The Design and Initial Evaluation of a Culturally Appropriate Gestural Educational Technology** (Research) Paper presented at 2019 ASEE Annual Conference & Exposition, Tampa, Florida. https://peer.asee.org/32176

82. Smarr, S. A., Smith, T. R., & Gilbert, J. E. (2019), **Engagement in Practice: CodeIT Day - Creating a One Day Experience to Increase Diversity Among Youth Interested in STEM** Paper presented at 2019 ASEE Annual Conference & Exposition, Tampa, Florida. https://peer.asee.org/32717

83. Waisome, J. A. M., McMullen, K., Smith, T. R., Smarr, S. A., Gilbert, J. E. (2019), **Developing Career Self-Efficacy of Researchers in Human-Centered Computing through Scholarship Support** (Experience) Paper presented at 2019 ASEE Annual Conference & Exposition, Tampa, Florida. https://peer.asee.org/32638

84. Rembert, D.M., Cummings, R. & Gilbert, J.E. (2019) **Exploring the Needs and Interests of Fifth Graders for Personalized MathWord Problem Generation**. In Proceedings of the 18th ACM International Conference on Interaction Design and Children (IDC '19). ACM, New York, NY, USA, pp. 592-597.

85. Mack, N.A., Moon Rembert, D.G., Cummings, R. & Gilbert, J.E. (2019) **Co-Designing an Intelligent Conversational History Tutor with Children**. In Proceedings of the 18th ACM International Conference on Interaction Design and Children (IDC '19). ACM, New York, NY, USA, pp. 482-487.

86. Williams, R.M. & Gilbert, J.E. (2019). **Cyborg Perspectives on Computing Research Reform**. In Extended Abstracts of the 2019 CHI Conference on Human Factors in Computing Systems – CHI '19, Glasgow, UK, pp. 1–11.

87. (Distinguished Paper Award)
Cummings, R., Huff, E., Mack, N., Womack, K., Reid, A., Ghoram, B., Gilbert, J., & Gosha, K., (2019), **Vlog Commentary YouTube Influencers as Effective Advisors in College and Career Readiness for Minorities in Computing: An Exploratory Study**, In Proceedings of the IEEE 2019 Research on Equity and Sustained Participation in Engineering, Computing, and Technology (RESPECT), Minneapolis, MN, pp. 43-50.

88. Dunbar, J., Prioleau, D., & Gilbert, J.E., (2019), **CS Motivation for Black/African American Middle School Student**, In Proceedings of the IEEE 2019 Research on Equity and Sustained Participation in Engineering, Computing, and Technology (RESPECT), Minneapolis, MN, pp. 55-59.

89. Williams, A., Posadas, B., Prioleau, D., Laurenceau, I. & Gilbert, J.E. (2018) **User perceptions of haptic fidgets on mobile devices for attention and task performance**, In Proceedings, International Conference on Applied Human Factors and Ergonomics (AHFE) Advances in Intelligent Systems and Computing, vol. 776, Springer, Cham, pp. 15–22.

90. Williams, A., Sherman, I., Smarr, S., Posadas, B., & Gilbert, J.E., (2018) **Human trust factors in image analysis**, In Proceedings, International Conference on Applied Human Factors and Ergonomics (AHFE), Advances in Intelligent Systems and Computing, vol. 778, Springer, Cham, pp. 3–12.

91. Sherman, I.N., Williams, A., Alikhademi, K., Smarr, S., Roberts, A. & Gilbert, J.E., (2018) **What's Your Password? Exploring Password Choice Conformity in Group Decision Making**. In Proceedings, International Conference on Applied Human Factors and Ergonomics (AHFE), Springer, Cham., pp. 101-107.

92. Sherman, I.N., Posadas, B., Smarr, S.A., Gilbert, J.E. (2018) **My Finger, My Face, My Choice: A Preliminary Study Exploring the Use of Biometric Authentication on Mobile Devices and the Implications for Voter Verification.** WAY Workshop, Who Are You!? The Adventures in Authentication Workshop (WAY), wayworkshop.org/papers/2018/way2018-sherman.pdf.

93. (Best Poster Award)
Kwon WS., Chattaraman V., Ross K., Alikhademi K., Gilbert J.E. (2018) **Modeling Conversational Flows for In-Store Mobile Decision Aids**. In: Stephanidis C. (eds) HCI International 2018 – Posters' Extended Abstracts. HCI 2018. Communications in Computer and Information Science, vol. 852. Springer, Cham, pp. 302-308.

94. Matthews E.A., Matthews R.A., Sheets Z., & Gilbert J.E. (2018) **CyanoHABIT: A Novel Game to Identify Harmful Freshwater Algae**. In: Stephanidis C. (eds) HCI International 2018 – Posters' Extended Abstracts. HCI 2018. Communications in Computer and Information Science, vol 852. Springer, Cham, pp. 78-84.

95. Matthews E., Matthews G., & Gilbert J.E. (2018) **A Framework for the Assessment of Enjoyment in Video Games**. In: Kurosu M. (eds) Human-Computer Interaction. Interaction Technologies. HCI 2018. Lecture Notes in Computer Science, vol 10903. Springer, Cham, pp. 460-476.

96. Smith, T.R. & Gilbert, J.E. (2018). **Dancing to design: a gesture elicitation study**. In Proceedings of the 17th ACM Conference on Interaction Design and Children (IDC '18). ACM, New York, NY, USA, pp. 638-643. DOI: https://doi.org/10.1145/3202185.3210790

97. Crawford, C.S., Gardner-McCune, C., & Gilbert, J.E. (2018). **Brain-Computer Interface for Novice Programmers.** In SIGCSE '18 Proceedings of the 49th ACM Technical Symposium on Computer Science Education. ACM, Baltimore, MD, USA, pp. 32-37, February 21-24, 2018. (35% acceptance rate)

98. Solomon, A., Moon, D., Roberts, A.L., Gilbert, J.E. (2017) **Not Just Black and Not Just a Woman: Black Women Belonging in Computing**, In Proceedings Research on Equity and Sustained Participation in Engineering, Computing, and Technology (RESPECT), IEEE 2018.

99. Crawford, C.S., Andujar, M., and Gilbert, J.E., (2017). **Neurophysiological Heat Maps for Human-Robot Interaction Evaluation**. In Proceedings of 2017 AAAI Fall Symposium Series: Artificial Intelligence for Human-Robot Interaction AAAI Technical Report FS-17-01, November 9-11, 2017, Arlington, VA, USA, pp. 90-93.

100. Smarr, S.A., Sherman, I.N., Posadas, B., and Gilbert, J.E. (2017). **Prime III: Voting for a More Accessible Future**. In Proceedings of the 19th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '17). ACM, Baltimore, MD, USA, pp. 335-336, October 30 – November 1, 2017. DOI: https://doi.org/10.1145/3132525.3134771 (26.2% acceptance rate)

101. Asaadi, S., Alikhademi, K., Eshghi, F. and Gilbert, J. E., (2017). **TQOR: Trust-based Qos-Oriented Routing in Cognitive MANETs**. In Proceedings Network Computing and Applications (NCA), 2017 IEEE 16th International Symposium, Cambridge, MA, USA, pp. 45-52, October 30 – November 1, 2017.

102. Brinkley, J., Posadas, B., Woodward, J., and Gilbert, J.E. (2017). **Opinions and Preferences of Blind and Low Vision Consumers Regarding Self-Driving Vehicles: Results of Focus Group Discussions**. In ASSETS '17 Proceedings of the 19th International ACM SIGACCESS Conference on Computers and Accessibility, Baltimore, MD, USA, pp. 290-299, October 30 - November 01, 2017.

103. Crawford, C.S., and Gilbert, J.E. (2017). **NeuroBlock: A Block-Based Programming Approach to Neurofeedback Application Development**. In Proceedings of the 2017 IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC), Raleigh, NC, USA, pp. 303-307, October 11-14, 2017. (29% acceptance rate)

104. Brinkley, J., Dunbar, J., Smith, D.J., and Gilbert, J.E. (2017). **A Usability Evaluation of the BMW Active Cruise Control System With "Stop and Go" Function**. In Proceedings of the Human Factors and Ergonomics Society (HFES) 2017 Annual Meeting. Austin, TX, USA, pp. 1536-1540, October 9-13, 2017.

105. Posadas, B., Sherman, I., Mahendran, D., Burgalia, G. and Gilbert, J.E. (2017). **A Focus Group Study of Blind Voters in Alachua County**. In Proceedings of the Human Factors and Ergonomics Society (HFES) 2017 Annual Meeting. Austin, TX, USA, pp. 1111-1113, October 9-13, 2017.

106. Chattaraman, V., Kwon, W., Eugene, W. and Gilbert, J.E. (2017). **Developing And Validating A Naturalistic Decision Model for Intelligent Language-Based Decision Aids**. In Proceedings of the Human Factors and Ergonomics Society (HFES) 2017 Annual Meeting. Austin, TX, USA, pp. 176-177, October 9-13, 2017.

107. Brinkley, J., Biswas, S., Gupta, V. and Gilbert, J.E. (2017). **A Case Study Documenting the Development of Job Assist: A Speech Based Job Search System for Individuals with Visual Impairments**. In Proceedings of the Human Factors and Ergonomics Society (HFES) 2017 Annual Meeting. Austin, TX, USA, pp. 1323-1326, October 9-13, 2017.

108. Andujar, M. and Gilbert, J.E. (2017). **A user-centered approach towards attention visualization for learning activities**. In Proceedings of the 2017 ACM International Joint Conference on Pervasive and Ubiquitous Computing and Proceedings of the 2017 ACM International Symposium on Wearable Computers (UbiComp '17). ACM, New York, NY, USA, pp. 871-876.

109. Lieblein, R., Hunter, C., Garcia, S., Andujar, M., Crawford, C. S., & Gilbert, J. E. (2017). **NeuroSnap: Expressing the User's Affective State with Facial Filters**. In Human-Computer Interaction International Conference on Augmented Cognition (pp. 345-353). Springer, Cham, Vancouver, CA, July 9 – 14, 2017.

110. Andujar, M., Nijholt, A., Gilbert, J. E. (2017). **Mobile Augmented Reality Games in Playable Cities: An Overview of Pokemon Go**. In Human-Computer Interaction International Conference on Distributed, Ambient and Pervasive Interactions (pp. 575-586). Springer, Cham, Vancouver, CA, July 9 – 14, 2017.

111. Dunbar, J., & Gilbert, J. E. (2017). **The Human Element in Autonomous Vehicles**. In Human-Computer Interaction International Conference on Engineering Psychology and Cognitive Ergonomics (pp. 339-362). Springer, Cham, Vancouver, CA, July 9 – 14, 2017.

112. Jones, J. N., Smith, T. R., Mack, N. A., Sherman, I., & Gilbert, J. E. (2017). **Engagement in Practice: The Development of and Lessons Learned from a Community Focused App Development Course**. American Society for Engineering Education. ASEE (Annual Conference) Proceedings, Columbus, OH, June 25, 2017.

113. Waisome, J.A.M., Gilbert, J.E., Roberts, S.E., McCune, D.B., and Taylor, C. (2017). **Building Communities through the Creation of Dialogue**. In American Society for Engineering Education (ASEE) Zone 2 Conference Proceedings, San Juan, Puerto Rico, March 2-5, 2017.

114. Thomas, S., Jones, J. N., Gardner-McCune, C., & Gilbert, J. E (2017). **Empowering Middle School Students to be Technical Designers Through an Intergenerational Partnership**. In American Society for Engineering Education (ASEE) Zone 2 Conference Proceedings, San Juan, Puerto Rico, March 2-5, 2017.

115. Mack, N., Smith, T., Jones, J. N., & Gilbert, J. E. (2017). **Updated AADMLSS: Design and Evaluation of a Culturally Relevant Algebra Application**. In American Society for Engineering Education (ASEE) Zone 2 Conference Proceedings, San Juan, Puerto Rico, March 2-5, 2017.

116. Chattaraman, Veena; Kwon, Wi-Suk; Gilbert, Juan E.; and Eugene, Wanda, **Human-Elaboration-Object-Construal Contingency Framework for Mobile Decision-Aids (MoDAÂ©) in In-Store Shopping** (2016). International Textile and Apparel Association (ITAA) Annual Conference Proceedings, http://lib.dr.iastate.edu/itaa_proceedings/2016/presentations/150

117. Dillon, E., Brinkley, J., Moon, D., Gilbert, J.E., Kang, S., and Williams, B. (2016). **Bridging the Safety Divide through Technology to Improve the Partnership between Students and Campus Law-Enforcement**, In the Proceedings of the International Conference on Urban Education (ICUE 2016). San Juan, PR.

118. Brown, T.M., Smith, T.R., Gabbard, J.L., & Gilbert, J.E. (2016). **Augmenting Mathematical Education for Minority Students**. In 2016 IEEE 16th International Conference on Advanced Learning Technologies, pp. 260-264, Austin, TX, July 25-28, 2016.

119. Chattaraman, V., Kwon, W.-S., Eugene, W., & Gilbert, J.E., (2016). **Simulating human decision-making through intelligent language-based aids**. In Proceedings of 7th International Conference on Applied Human Factors and Ergonomics (AHFE 2016) and the Affiliated Conferences, AHFE 2016, Orlando, FL, July 27-31, 2016.

120. Andujar, M., Morreale, P, Jimenez, J., Jimenez, L., & Gilbert, J.E., (2016). **Evaluation of User's Affective Engagement While Interacting with Educational Technologies: A Pilot Study**. In Proceedings of 7th International Conference on Applied Human Factors and Ergonomics (AHFE 2016) and the Affiliated Conferences, AHFE 2016, pp. 97-106, Orlando, FL, July 27-31, 2016.

121. Alnizami, H., Alvarez, I., & Gilbert, J.E., (2016). **Socializing Under the Influence of Distracted Driving: A Study of the Effects of in-Vehicle and Outside-of-the-Vehicle Communication While Driving**. In Proceedings of 7th International Conference on Applied Human Factors and Ergonomics (AHFE 2016) and the Affiliated Conferences, AHFE 2016, pp. 243-256, Orlando, FL, July 27-31, 2016.

122. Andujar, M., Nijholt, A., & Gilbert, J.E., (2016). **Designing a Humorous Workplace: Improving and Retaining Employee's Happiness**. In Proceedings of 7th International Conference on Applied Human Factors and Ergonomics (AHFE 2016) and the Affiliated Conferences, AHFE 2016, pp. 683-694, Orlando, FL, July 27-31, 2016.

123. Dillon, E., Macbeth, J., Kowalski, R., Whittaker, E. & Gilbert, J.E., (2016). **"Is This Cyberbullying or Not?": Intertwining Computational Detection with Human Perception (A Case Study)**. In Proceedings of 7th International Conference on Applied Human Factors and Ergonomics (AHFE 2016) and the Affiliated Conferences, AHFE 2016, pp. 337-346, Orlando, FL, July 27-31, 2016.

124. Martin-Hammond, A., & Gilbert, J.E. (2016). **Examining the Effect of Automated Health Explanations on Older Adults' Attitudes Toward Medication Information**. In *Proceedings of the 10th EAI International Conference on Pervasive Computing Technologies for Healthcare*. pp. 186-193. ACM. doi:10.4108/eai.16-5-2016.2263312

125. Crawford, C.S., Andujar, M., Jackson, F., Applyrs, I., & Gilbert, J.E., (2016), **Using a Visual Programing Language to Interact with Visualizations of Electroencephalogram Signals**. In Proceedings of the 2016 American Society for Engineering Education Southeastern Section (ASEE SE), Tuscaloosa, AL, March 13-15, 2016.

126. Crawford, C.S. & Gilbert, J.E., (2015) **Towards Analyzing Cooperative Brain-Robot Interfaces Through Affective and Subjective Data**. In Proceedings of the 10th Annual ACM/IEEE International Conference on Human-Robot Interaction Extended Abstracts pp. 231-232. 2015.

127. Abegaz, T., Dillon, E.C., & Gilbert, J.E., (2015) **Investigating Perceived Usability And Choice Satisfaction of Alternative Search Engine's Presentation for Older Adults**, In Proceedings 59th International Human Factors and Ergonomics Society (HFES) Conference, pp. 80-84, Los Angeles, CA, October 26-30, 2015.

128. Dawkins, S., Eugene, W., Abegaz, T., & Gilbert, J.E., (2015) **Toward Private and Independent Accessible Write-In Voting: A Multimodal Prediction Approach**, In Proceedings 9th International Conference Universal Access in Human-Computer Interaction: Access to the Human Environment and Culture (UAHCI), HCI International 2015, pp. 171–181, Los Angeles, CA, August 2-7, 2015, M. Antona and C. Stephanidis (Eds.): UAHCI 2015, Part IV, Springer LNCS 9178, DOI: 10.1007/978-3-319-20687-5_17.

129. Crawford, C.S., Andujar, M., Jackson, F., Remy, S., & Gilbert, J.E., (2015) **User Experience Evaluation Towards Cooperative Brain-Robot Interaction**, In Proceedings 17th International Conference Human-Computer Interaction: Design and Evaluation, HCI International 2015, pp. 184–193, Los Angeles, CA, August 2-7, 2015, M. Kurosu (Ed.): Human-Computer Interaction, Part I, HCII 2015, Springer LNCS 9169, DOI: 10.1007/978-3-319-20901-2_17.

130. Crawford, C.S., Mack, N., Eugene, W., & Gilbert, J.E., (2015) **Televoting: Secure, Overseas Voting**, In Proceedings 3rd International Conference Human Aspects of Information Security, Privacy, and Trust (HAS 2015), HCI International 2015, pp. 487–494, Los Angeles, CA, August 2-7, 2015, T. Tryfonas and I. Askoxylakis (Eds.): HAS 2015, Springer LNCS 9190, DOI: 10.1007/978-3-319-20376-8_43.

131. Jackson, F., Amin, R., Fu, Y., Gilbert, J.E., & Martin, J., (2015) **A User Study of Netflix Streaming**, In Proceedings 4th International Conference, DUXU 2015, HCI International 2015, pp. 481–489, Los Angeles, CA, August 2-7, 2015, A. Marcus (Ed.): DUXU 2015, Part I, Springer LNCS 9186, DOI: 10.1007/978-3-319-20886-2_45.

132. Eugene, W., Dunbar, J., Nolan, A., Gilbert, J.E., & Hendrix, R.L., (2015) **Designing the Naturalistic Driving Experience**, In Proceedings 4th International Conference, DUXU 2015, HCI International 2015, pp. 439–449, Los Angeles, CA, August 2-7, 2015, A. Marcus (Ed.): DUXU 2015, Part III, Springer LNCS 9188, DOI: 10.1007/978-3-319-20889-3_41.

133. Jackson, F., Solomon, A., McMullen, K., & Gilbert, J.E., (2015) **To Start Voting, Say Vote: Establishing a Threshold for Ambient Noise for a Speech Recognition Voting System**, In Proceedings of 6th International Conference on Applied Human Factors and Ergonomics (AHFE 2015) and the Affiliated Conferences, AHFE 2015, pp. 4933-4939, Las Vegas, Nevada, July 26-30, 2015.

134. Abegaz, T., Dillon, E., & Gilbert, J.E., (2015) **Exploring Affective Reaction During User Interaction With Colors And Shapes**, In Proceedings of 6th International Conference on Applied Human Factors and Ergonomics (AHFE 2015) and the Affiliated Conferences, AHFE 2015, pp. 2855-2862, Las Vegas, Nevada, July 26-30, 2015.

135. Dunbar, J., Hall, P., Moon, D., & Gilbert, J.E., (2015) **Video verification: An alternative form of identify verification**, In Proceedings of 6th International Conference on Applied Human Factors and Ergonomics (AHFE 2015) and the Affiliated Conferences, AHFE 2015, pp. 4889-4895, Las Vegas, Nevada, July 26-30, 2015.

136. Crawford, C.S., Badea, C., Bailey, S.W., & Gilbert, J.E., (2015) **Using Cr-Y Components to Detect Tongue Protrusion Gestures**. In Proceedings of the 33rd Annual ACM CHI 2015 Conference Extended Abstracts, pp. 1331-1336, Seoul, Republic of Korea, April 18-23, 2015.

137. Crawford, C.S., & Gilbert, J.E., (2015) **Towards Analyzing Cooperative Brain-Robot Interfaces Through Affective and Subjective Data**, In Proceedings of the 10th Annual ACM/IEEE International Conference on Human-Robot Interaction Extended Abstracts, pp. 231-23, Portland, Oregon, March 2-5, 2015.

138. Gilbert, J.E. & Flowers, L.A., (2015) **Human-Centered Computing Scholars: Fostering a New Generation of Underrepresented and Financially Disadvantaged Researchers**, In Proceedings of 2015 ASEE Southeast Section Conference, Gainesville, FL, April 12-14, 2015.

139. Gilbert, J.E., Moon, D., Dunbar, J., Solomon, A., & Daily, S.B. (2014) **Lab Daze: A Web-Series Aimed at Changing the Student's Perceptions of Scientist**, In Proceedings of International Conference of Urban Education, Montego Bay, Jamaica, November 6-8, 2014.

140. Crawford, C.S., Andujar, M., Remy, S. & Gilbert, J.E. (2014) **Cloud Infrastructure for Mind-Machine Interface**, In Proceedings on the International Conference on Artificial Intelligence (ICAI, Las Vegas, NV, pp. 127-133), July 21-24, 2014.

141. Mack, N., Hall, P., Gardner-McCune, C., Hodges, L. & Gilbert, J. (2014). **Designing with Students: A Participatory Approach to Creating Know Your History: An Interactive History Textbook**. In Proceedings of World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education 2014 (pp. 344-354). Chesapeake, VA: AACE.

142. Jones, J.N. & Gilbert, J.E. (2014). **SightWord Pal: An Interactive Sight Word Tutor for African-American First Grade Readers**. In Proceedings of World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education 2014 (pp. 1453-1461). Chesapeake, VA: AACE.

143. Moon, D., Solomon, A., Thomas, S. & Gilbert, J. (2014). **Special Connections: A Social Media Website for Teaching Social Skills to Individuals with Cognitive Disabilities**. In Proceedings of World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education 2014 (pp. 1349-1354). Chesapeake, VA: AACE.

144. Chattaraman, V., Kwon, W.-S., & Gilbert, J. (2013). **Interaction style of virtual shopping agents: Effects on social presence and older consumers' experience in e-tail sites**. In Proceedings of the 70th International Textile and Apparel Association Annual Conference, New Orleans, LA.

145. Kwon, W.-S., Chattaraman, V., & Gilbert, J. E. (2013). **Virtual agent locus of control: Cognitive assistance for older consumers' online shopping**. In Proceedings of the 70th International Textile and Apparel Association Annual Conference, New Orleans, LA.

146. Senior, J., Parker, V., Cason, K., Gilbert, J.E., Meehan, N., Hernandez, Y., Blanco, K., & Linton, B., (2013). **Using virtual reality to foster dietary and physical activity behaviors among minority women**. In Proceedings, 2013 International Society for Behavioral Nutrition and Physical Activity, pp. 474-475, May 24th, 2013.

147. Andujar, M., Ekandem, J.I., Gilbert, J.E., & Morreale, P. (2013). **Evaluating Engagement Physiologically and Knowledge Retention Subjectively through Two Different Learning Techniques**, 15th International Conference, HCI International 2013, Las Vegas, NV, USA, July 21-26, 2013, In Proceedings, Part II, Vol. 8005 of Lecture Notes in Computer Science, pp. 335-342.

148. Amin, R., Jackson, F., Gilbert, J.E., Martin, J., & Shaw, T. (2013). **Assessing the Impact of Latency and Jitter on the Perceived Quality of Call of Duty Modern Warfare 2**, 15th International Conference, HCI International 2013, Las Vegas, NV, USA, July 21-26, 2013, In Proceedings, Part III, Vol. 8006 of Lecture Notes in Computer Science, pp. 97-106.

149. Lola, P., Eugene, W., Hall, P., & Gilbert, J.E. (2013). **Balloting: Speeding Up the Voting Process**, 15th International Conference, HCI International 2013, Las Vegas, NV, USA, July 21-26, 2013, In Proceedings, Part II, Vol. 373 of Communications in Computer and Information Science, pp. 373-377.

150. Daily, S.B., Gilbert, J.E., Eugene, W., Gardner-Mccune, C., McMullen, K.A., Hall, P.W., Remy, S.L, Woodard, D.L., & Roy, T. (2013). **Alternate Pathways to Careers in Computing: Recruiting and Retaining Women Students**, In Proceedings of the 2013 ASEE Annual Conference, Atlanta, GA.

151. Martin-Hammond, A., Jones, J., and Gilbert, J. (2013) **A Spoonful of Sugar: Understanding the Over-the-Counter Medication Needs and Practices of Older Adults**. In proceedings of the 7th International Conference on Pervasive Computing Technologies for Healthcare, Venice, Italy, May 2013. (Acceptance Rate < 30%)

152. Andujar, M. and Gilbert, J.E. 2013. **Let's learn!: Enhancing User's Engagement Levels Through Passive Brain-Computer Interfaces**. (2013) In CHI '13 Extended Abstracts on Human Factors in Computing Systems (CHI EA '13). ACM, New York, NY, USA, pp. 703-708.

153. Chattaraman, V., Kwon, W.-S., Gilbert, J. E, & Darnell, S. (2012). **Locus of control in conversational agent design: Effects on older users' interactivity and social presence**. In Proceedings of the 12th International Conference on Intelligent Virtual Agents, Santa Cruz, CA.

154. Alvarez I., Gilbert, J.E., Lopez-de-Ipiña, K. (2012) **The Voice User Help, a smart vehicle assistant for the elderly**. In Proceedings of the 6th International Conference on Ubiquitous Computing and Ambient Intelligence, UCAmI 2012, San Sebastian, Spain,

155. Alvarez I., Lopez-de Ipiña, K., Daily, S.B., & Gilbert, J.E., (2012) **Emotional Adaptive Vehicle User Interfaces: moderating negative effects of failed technology interactions while driving**, In Proceedings of 2nd Workshop of Automotive Natural Interfaces together with 4th International Conference on Automotive User Interfaces, AutoUI'12, October 17-19, 2012, Portsmouth, NH, pp. 57-60.

156. Martin, A., Moses, W., Ekandem, J., and Gilbert, J. (2012) **An Evaluation of Three Mobile Medication Management Applications**. In Workshop on Evaluating Off-the-Shelf Technologies for Personal Health Monitoring, UbiComp, September 2012.

157. Mkpong-Ruffin, I., Gilbert, J., Hamilton J., & Umphress D. (2012) **Quantitative Risk Assessment Model for Software Security in the Design Phase of Software Development – A Case Study (PRIME III)** In Proceedings of AlaSim International 2012, May 1-3, 2012 Huntsville AL.

158. Alvarez, I., Alnizami, H., Dunbar, J., Johnson, A., Jackson, F., & Gilbert, J.E. (2011) **Designing Driver-centric Natural Voice User Interfaces**. In Adjunct Proceedings of the 3rd International Conference on Automotive User Interfaces and Interactive Vehicular Applications, Salzburg, Austria, pp. 166-169.

159. Gosha, K., James, M., Janifer, A. & Gilbert, J.E. (2011). **The Development of the Online Graduate Student Panel Experience for African American STEM Graduate Students**. In Proceedings of World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education 2011 (pp. 151-157). Chesapeake, VA: AACE.

160. Andujar, M., Ekandem, J., Alvarez, I., James, M. & Gilbert, J.E. (2011). **Are Educational Video Games All They're Cracked Up To Be?: A Physiological Approach For Measuring Engagement in Educational Video Games vs. Conventional Learning Techniques**. In Proceedings of World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education 2011 (pp. 539-544). Chesapeake, VA: AACE.

161. Kwon, W.-S., Chattaraman, V., & Gilbert, J. E. (2011). **Roles of virtual sales associates in enhancing older consumers' satisfaction and loyalty: Relational versus functional service quality**. In H. Timmermans (Ed.), Proceedings of the 18th Recent Advances in Retailing and Services Science Conference (p. 92). San Diego, CA: European Institute of Retailing and Services Studies.

162. Kwon, W.-S., Chattaraman, V., Shim, S. I., Alnizami, H., & Gilbert, J.E. (2011). **Older user-computer interaction on the Internet: How conversational agents can help**. In J.A. Jacko (Ed.), Human-Computer Interaction, Part II: Proceedings of the 14th HCI International 2011 Conference (pp. 533–536.) Berlin, Heidelberg: Springer-Verlag.

163. Wang, L., Moses, W., Ekandem, J., & Gilbert, J.E. (2011) **AADMLSS Practice: A Culturally Relevant Algebra Tutor**, In Proceedings 11th IEEE International Conference on Advanced Learning Technologies (ICALT 2011); July 7, 2011; Athens, GA, pp. 98-99.

164. Gilbert, J.E., Johnson-Stokes, W., Darnell, S.S., Ekandem, J.I., Alnizami, H., Martin, A.M., (2011) **Accessible Voting: One Machine, One Vote for Everyone.** ACM CHI '11 Video Presentation, Vancouver, CA, May 10, 2011.

165. Darnell, S.S., Alvarez, I., Ekandem, J.I., Woodard, D.L. and Gilbert, J.E. (2011), **MyDash: The Biometric Digital Dashboard**, In Proceedings of the 3rd Workshop on Multimodal Interfaces for Automotive Applications (MIAA `11) organized at the 2011 International Conference on Intelligent User Interfaces (IUI `11), February 13, 2011, Palo Alto, CA, pp. 53-56.

166. Alvarez, I., Martin, A., Dunbar, J., Taiber, J., Wilson, D., & Gilbert, J.E., (2010), **Voice Interfaced Vehicle User Help**, In Proceedings of the 2nd International Conference on Automotive User Interfaces and Interactive Vehicular Applications (AutomotiveUI 2010), pages. 42-49, Pittsburgh, PA.

167. (Paper of Distinction)
Shim, S., Chattaraman, V., Kwon, W.-S., & Gilbert, J.E. (October, 2010). **Virtual Shopping Agents for Mature Consumers: Are They Social or Technical Support?** In Proceedings of the Annaul Meeting of International Textile and Apparel Association (No. 67). Montreal, Canada.

168. Kwon, W.S., Chattaraman, V., & Gilbert, J.E. (October, 2010). **The role of virtual sales associates in enhancing aging consumers' e-Store patronage intent**. In Proceedings of the Annual Meeting of International Textile and Apparel Association (No. 67). Montreal, Canada.

169. Smotherman, J., Gosha, K. & Gilbert, J.E. (2010). **The Construction of a Multitouch Table Application for Peer Assisted Learning in Early Childhood Classrooms**. In Proceedings of World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education 2010, pages. 2719-2724, Chesapeake, VA: AACE.

170. Dawkins, S., Hamilton, L., Sullivan, T., Gilbert, J.E. (2010). **Universally Usable Privacy in Write-In Voting**. In Proceedings of the 6th Symposium on Usable Privacy and Security (SOUPS), Redmond, Washington, July 15, 2010.

171. Dawkins, S. & Gilbert, J.E. (2010) **An Approach for Anonymous Spelling for Voter Write-Ins Using Speech Interaction**. In Proceedings of the NAACL HLT 2010 Workshop on Speech and Language Processing for Assistive Technologies, pages 44-52, Los Angeles, California, June 5, 2010.

172. Gosha, K., Moses, W., Wachs, A. & Gilbert, J.E. (2010) **Creation of a Voice User Interface Survey for Dynamic Service Feedback**. ACM Southeast Conference, Oxford, MS, April 15-17, 2010.

173. Soares, C., Williams, P., Gilbert, J.E. & Dozier, G. (2010) **A Class-specific Ensemble Feature Selection Approach for Classification Problems**. ACM Southeast Conference, Oxford, MS, April 15-17, 2010.

174. Wilson, D.M., Martin, A. & Gilbert, J.E. (2010) **'How May I Help You'-Spoken Queries for Technical Assistance**. ACM Southeast Conference, Oxford, MS, April 15-17, 2010.

175. Williams, P., Soares, C., & Gilbert, J.E. (2010) **A Clustering Rule-based Approach to Predictive Modeling**. ACM Southeast Conference, Oxford, MS, April 15-17, 2010.

176. Morrison, D., Alnizami, H., Dawkins, S., Eugene, W., Martin, A., Moses, W. & Gilbert, J.E. (2010) **Supporting License Plate Queries for First Responders Using the VoiceLETS System**. ACM Southeast Conference, Oxford, MS, April 15-17, 2010.

177. Gosha, K., Moses, W., & Gilbert, J.E. (2010) **The Creation of a Service Queue Management System on Barbershop Administration**. ACM Southeast Conference, Oxford, MS, April 15-17, 2010.

178. Kwon, W., Chattaraman, V., & Gilbert, J.E., (2010), **Effects of Conversational Agents in Retail Web Sites on Aging Consumers' Interactivity and Perceived Benefits**, *In Proceedings of the 28th ACM Conference on Human Factors in Computing Systems CHI 2010 Workshop Senior-Friendly Technologies: Interaction Design for the Elderly,* April 10, 2010, Atlanta, GA, pp. 40-43.

179. Gosha, K., Billionniere, E., Gilbert, J. & Ramsey, M. (2010). **Developing a Framework for Teacher Professional Development Using Online Social Networks**. In C. Crawford et al. (Eds.), Proceedings of Society for Information Technology & Teacher Education International Conference 2010 (pp. 1449-1454). Chesapeake, VA: AACE.

180. Gosha, K., Billionniere, E. & Gilbert, J. (2010). **Towards the Creation of an Open Source Teacher Professional Development Distribution Community**. In C. Crawford et al. (Eds.), Proceedings of Society for Information Technology & Teacher Education International Conference 2010 (pp. 2977-2979). Chesapeake, VA: AACE.

181. Eugene, W. & Gilbert, J.E. (2010), **Mining for Culture: Reaching Out of Range**, *In Proceedings of iConference 2010*, February 3-6, 2010, University of Illinois at Urbana-Champaign, IL, pp. 55-59.

182. Chattaraman, V., Kwon, W.-S., Gilbert, J. E., & Johnson, O. (2009). **Older consumers, the Internet, and online shopping: A look at gender cohorts**. *In Proceedings of the 66th Annual Conference of the International Textile and Apparel Association*, October 28-31, 2009, Bellevue, WA.

183. Gosha, K., Gilbert, J. & Seals, C. (2009). **Towards the Construction of a Peer-Assisted Learning Tool using a Social Media Network**. *In Proceedings of World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education 2009,* October 26-30, 2009, Vancouver, BC, pp. 3500-3503.

184. Pham, T., Hess, R., Ju, C., Metoyer, R., & Gilbert, J.E., **What Does Diversity Look Like?** *In Proceedings of IEEE Information Visualization 2010*, Atlantic City, NJ, October 11 – 16, 2009.

185. Chattaraman, V., Kwon, W.-S., & Gilbert, J. (2009). **Social presence in online stores: Building social support and trust among older consumers** [CD-ROM]. In J. R. Evans (Ed.), Retailing 2009: Strategic Challenges and Opportunities in Uncertain Times: Special Conference Series (Vol. XII): Proceedings of the 12th Triennial Triennial National Retailing Conference. New Orleans, LA: The Academy of Marketing Science and the American Collegiate Retailing Association.

186. Cross, E. V., Dawkins, S., McClendon, J., Sullivan, T., Rogers, G., Erete, A. & Gilbert, J. E. **Everyone Counts: Voting Accessibility**. *In Stephanidis, C., editors, Proceedings of Human Computer Interaction International*, Vol. 5616 of Lecture Notes in Computer Science, pp. 324-332. Springer-Heidelberg, 2009.

187. Soares, C. & Gilbert, J.E. (2009). **Predicting cross-country results using feature selection and evolutionary computation**. *In Proceedings The Fifth Richard Tapia Celebration of Diversity in Computing Conference: Intellect, Initiatives, Insight, and Innovation*. Portland, Oregon, April 1 - 4, 2009, pp. 41-45.

188. Dawkins, S., Sullivan, T., Rogers, G., Cross, E.V., Hamilton, L., & Gilbert, J.E. (2009). **Prime III: An Innovative Electronic Voting Interface.** *In Proceeding of the 2009 International Conference on Intelligent User Interfaces*. Sanibel Island, Florida, February 8 – 11, 2009.

189. Soares, C., Montgomery, L., Hamilton, C., and Gilbert, J.E. (2008). **Improving Accuracy in the Montgomery County Corrections Program Using Case-Based Reasoning**. *In Proceedings of the 2008 Seventh International Conference on Machine Learning and Applications*. IEEE, San Diego, CA, December 11-13, 2008, pp. 318 - 323.

190. Soares, C., Montgomery, L., Rouse, K., and Gilbert, J.E. (2008). **Automating Microarray Classification using General Regression Neural Networks**. *In Proceedings of the 2008 Seventh International Conference on Machine Learning and Applications*. IEEE, San Diego, CA, December 11-13, 2008, pp. 508 - 513.

191. White, J., Chapman, R., Gilbert, J.E., & Hamilton, J.D. (2008) **A Training System for Pilot Radio Communications**. The Huntsville Simulation Conference 2008, Huntsville, AL, October 22 – 23, 2008.

192. Goggin, S.N., Byrne, M.D., Gilbert, J.E., Rogers, G. & McClendon, J. (2008) **Comparing the Auditability of Optical Scan, Voter Verified Paper Audit Trail (VVPAT) and Video (VVVAT) Ballot Systems**. 2008 USENIX/ACCURATE Electronic Voting Technology Workshop (EVT '08), San Jose, CA, July 28-29, 2008.

193. Gosha, K., Thomas, J.O. & Gilbert, J.E. (2008) **Exploring the Impact of Queue Management on Quality of Service for SMBs**. IEEE International Conference on Services Computing, Honolulu, Hawaii, July 8-11, 2008, Volume 2: pp. 551 - 553.

194. McMillian, Y. & Gilbert, J.E. (2008) **Distributed Listening: A Parallel Processing Approach to Automatic Speech Recognition**. Association for Computational Linguistics (ACL): Human Language Technology Conference (HLT), Columbus OH, June 15-20, 2008, pp. 173 – 176.

195. Eugene, W. & Gilbert, J.E. (2008) **C-PAL: Cultural-Based Programming for Adult Learners**. ACM Southeast Conference, Auburn, AL, March 28-29, 2008.

196. Cross, E.V. & Gilbert, J.E. (2008) **Effective Supervision of a Robot Team through User Interface Design**. ACM Southeast Conference, Auburn, AL, March 28-29, 2008

197. Cross, E.V., Rogers, G., McClendon, J., Mitchell, W., Rouse, K., Gupta, P., Williams, P., Mkpong-Ruffin, I., McMillian, Y., Neely, E., Lane, J., Blunt, H. & Gilbert, J.E. (2007) **Prime III: One Machine, One Vote for Everyone**. VoComp 2007, Portland, OR, July 16, 2007.

198. McMillian, Y., Williams, P., Cross, E.V., Mkpong-Ruffin, I., Nobles, K., Gupta, P. & Gilbert, J.E. (2007) **Prime III: Where Usable Security & Electronic Voting Meet**. Usable Security (USEC '07), Lowlands, Scarborough, Trinidad/Tobago, February 15-16, 2007.

199. Cross, E.V., McMillian, Y., Gupta, P., Williams, P., Nobles, K. & Gilbert, J.E., (2007) **Prime III: A User Centered Voting System.** ACM CHI '07 Extended Abstracts Works In Progress Session, San Jose, CA, May 2, 2007.

200. Gilbert, J., Cross, E.V., Grant, M.M., West, M.L., Hood, S. & Arbuthnot, K. (2006) **City Stroll: Hip Hop+Animation+Algebra = Fun+Learning.** *In Proceedings of E-Learn 2006 World Conference on E-Learning in Corporate, Government, Healthcare, & Higher Education*, CD-ROM.

201. Williams, A., Seals, C., Rouse, K., & Gilbert, J. (2006) **Visual Programming with Squeak SimBuilder: Techniques for E-Learning in the Creation of Science Frameworks.** *In Proceedings of E-Learn 2006 World Conference on E-Learning in Corporate, Government, Healthcare, & Higher Education*, pp. 1509-1514.

202. Mkpong-Ruffin, I., Murphy, A., Larkin, V. & Gilbert, J. (2006) **CAMPNAV: A Campus Navigation System For the Visually Impaired.** *In Proceedings of E-Learn 2006 World Conference on E-Learning in Corporate, Government, Healthcare, & Higher Education*, CD-ROM.

203. Seals, C.D., Zhang, L. & Gilbert, J. (2006) **Human Centered Computing Lab Web Site Redesign Effort.** *In Proceedings of E-Learn 2006 World Conference on E-Learning in Corporate, Government, Healthcare, & Higher Education*, pp. 452-458.

204. Gilbert, J. E. (2006). **A Model for Broadening Participation in Computing.** *In Proceedings of American Society of Engineering Education Southeastern Section Annual Conference***,** Tuscaloosa, AL, p. 23.

205. Gupta, P. & Gilbert, J. (2005). **Speech Usability Metric: Evaluating Spoken Language Systems**. *11th International Conference on Human-Computer Interaction*, Las Vegas, Nevada, CD-ROM.

206. Cross, E.V. & Gilbert, J. (2005). **Let's Vote: A Multimodal Electronic Voting System**. *11th International Conference on Human-Computer Interaction*, Las Vegas, Nevada CD-ROM.

207. Gilbert, J. E. (2005). **Distributed Listening Research.** *In Proceedings of AVIOS Speech Technology Track***,** San Francisco, California, SpeechTEK West, pp. 1 – 10.

208. Williams, M., Gilbert, J., & Madsen, N. (2004) **Nel: An Interactive Physics Tutor**. *World Conference on E-Learning in Corp., Govt., Health., & Higher Ed.* (1), pp. 3000-3002.

209. Parks, N., Simmons, T., Sapp, K. & Gilbert, J. E. (2003). **Culturally Influenced E-Learning: An Introduction to AADMLSS.** *In Proceedings of E-Learn World Conference on E-Learning in Corporate, Government, Healthcare & Higher Education***,** Phoenix, AZ: Association for the Advancement of Computing in Education, pp. 1960-1965.

210. Gilbert, J.E. & Zhong, Y. (2003). **Speech User Interfaces for Information Retrieval.** *In Proceedings of 12th Annual ACM Conference on Information & Knowledge Management***,** New Orleans, Louisiana, pp. 77-82.

211. Gu, Y. & Gilbert, J. E. (2004). **The Development of Voice System That Interact With a Student Information Database**. *In Proceedings of 42nd Annual ACM Southeast Conference*. Huntsville, Alabama, pp. 248 - 252.

212. Hu, W. , Zhong, Y & Gilbert, J. E. (2003). **Voice Information Retrieval for Course Resources**. *In Proceedings of ED-MEDIA 2003: World Conference on Educational Multimedia, Hypermedia & Telecommunications*, Honolulu, Hawaii: Association for the Advancement of Computing in Education. pp. 2804-2807.

213. Larson, J.A. , Gilbert, J. E. & McTear, M. (2003). **Challenges in Teaching User Interface Design for Telephone and Cell Phones**. *In Proceedings of ACM CHI 2003: New Horizons*, Ft. Lauderdale, FL. pp. 864-865.

214. Zhong, Y., Gilbert, J. E. & Hu, W. (2003). **Speech User Interface for Document Retrieval.** *In Proceedings of 41st Annual ACM Southeast Conference***,** Savannah, Georgia, pp. 130-131.

215. Jackson, E.M. & Gilbert, J. E. (2003). **Increasing physical activity through a technology mediated intervention.** *In Proceedings of Hawaii International Conference on Education***,** Honolulu, Hawaii, pp. 10.

216. Gilbert, J. E. (2002). **Playing Teacher.** *In Proceedings of E-Learn World Conference on E-Learning in Corporate, Government, Healthcare & Higher Education***,** Montreal, Canada: Association for the Advancement of Computing in Education, pp. 325-330.

217. Kolwalkar, N. & Gilbert, J. E. (2002). **Morph Chat: A Multimodal Instant Messaging System.** *In Proceedings of E-Learn World Conference on E-Learning in Corporate, Government, Healthcare & Higher Education***,** Montreal, Canada: Association for the Advancement of Computing in Education, pp. 1722-1725.

218. Qi, H., Gilbert, J. E. & Brewer, J.W. (2002). **Using Animated Pedagogical Agents To Teach Entomology.** *In Proceedings of E-Learn World Conference on E-Learning in Corporate, Government, Healthcare & Higher Education***,** Montreal, Canada: Association for the Advancement of Computing in Education, pp. 2059-2062.

219. Gilbert, J. E. (2001). **Gilbert's Usability Monitor (GUM)**. *In Proceedings of WebNet 01: World Conference on the WWW and Internet***,** Orlando, FL: Association for the Advancement of Computing in Education, pp. 420-421 .

220. Gilbert, J. E. & Wilson, D. (2001). **Building Learning Architectures: Domain Instruction Server (DIS)**. *In Proceedings of WebNet 01: World Conference on the WWW and Internet***,** Orlando, FL: Association for the Advancement of Computing in Education, pp. 422-426.

221. Gilbert, J. E & Wilson, D. (2001). **Domain Instruction Server (DIS)**. *In Proceedings of ICALT 2001: International Conference on Advanced Learning Technologies*, Madison, WI: IEEE Computer Society, pp. 439-440.

222. Gilbert, J. E. & Han, C. Y. (2000). **Researching Adaptive Instruction**. *In Brusilovsky, P., Stock, O. and Strapparava, C., editors, Proceedings of Adaptive Hypermedia and Adaptive Web-Based Systems*, Vol. 1892 of Lecture Notes in Computer Science, pp. 409-414. Springer-Verlag.

223. Gilbert, J. E. (2000). **Case Based Reasoning Applied to Instruction Method Selection for Intelligent Tutoring Systems**. *In Workshop Proceedings of ITS'2000: Fifth International Conference on Intelligent Tutoring Systems*, Montreal, CA. pp. 11-15.

224. Han, C. Y. & Gilbert, J. E. (2000). **A Smart e-School Framework**. *In Proceedings of SSGR 2000: International Conference on Advances in Infrastructure for Electronic Business, Science, and Education on the Internet*, L'Aquila, Italy.

225. (Best Paper Award)
Gilbert, J. E. & Han, C. Y. (1999). **Arthur: Adapting Instruction to Accommodate Learning Style**. *In Proceedings of WebNet 99: World Conference on the WWW and Internet*, Honolulu, HI: Association for the Advancement of Computing in Education, pp. 433-439.

226. Gilbert, J. E. & Han, C. Y. (1999). **Arthur: An Adaptive Instruction System based on Learning Styles**. *In Proceedings of ED-MEDIA 99: World Conference on Educational Multimedia, Hypermedia & Telecommunications*, Seattle, WA: Association for the Advancement of Computing in Education, pp. 1233-1234.

227. Gilbert, J. E. & Han, C. Y. (1999). **Arthur: Web Based Instruction using Learning Styles**. *In Proceedings of Syllabus 99: Educational Technology Conference*, Santa Clara, CA: Syllabus Press Inc.

228. Gilbert, J. E. & Han, C. Y. (1999). **Arthur: An Adaptive Instruction System based on Learning Styles**. *In Proceedings of M/SET 99: International Conference on Mathematics/Science Education & Technology*, San Antonio, TX: Association for the Advancement of Computing in Education, pp. 100-105.

Books & Book Chapters

229. Williams, R.M. & Gilbert, J.E. (2019). **'Nothing about Us without Us': Transforming Participatory Research and Ethics in Human Systems Engineering.** *In Roscoe, R.D., Chiou, E.K. & Wooldridge, A.R. (Eds.), Advancing Diversity, Inclusion, and Social Justice Through Human Systems Engineering*, CRC Press, pp. 113-134.

230. Jackson, F., Laurenceau, I. & Gilbert, J.E. (2019). **Inclusive Wearable Design: Developing a Set of Characteristics of Socially Acceptable BCI Devices for Women.** *In Roscoe, R.D., Chiou, E.K. & Wooldridge, A.R. (Eds.), Advancing Diversity, Inclusion, and Social Justice Through Human Systems Engineering*, CRC Press, pp. 171-190.

231. National Academies of Sciences, Engineering, and Medicine. 2019. **The Science of Effective Mentorship in STEMM**. Washington, DC: The National Academies Press. https://doi.org/10.17226/25568.

232. National Academies of Sciences, Engineering, and Medicine. 2018. **Securing the Vote: Protecting American Democracy**. Washington, DC: The National Academies Press. https://doi.org/10.17226/25120.

233. Dillon, E.C., Williams, B.N., Kang, S.C., Gilbert, J.E., Brinkley, J., & Moon, D. (2017). **Bridging the Safety Divide through Technology to Improve the Partnership between Students and Campus Law Enforcement: An "App" Opportunity.** *In J.D. Ward (Eds.), Policing and Race in America: Economic, Political, and Social Dynamics*, Lexington Books, pp. 207-219.

234. Charleston, L.J., Jackson, J.F.L., Gilbert, J.E., & Adserias, R.P. (2014). **African-American Researchers in Computing Sciences: Expanding the Pool of Participation**. *In P. Mosley & S.K. Hargrove (Eds.) Navigating Academia: A Guide for Women and Minority STEM Faculty*, Elsevier, pp. 155-168.

235. Darnell, S. S., Mack, N., Jackson, F., Alnizami, H., James, M., Ekandem, J. I., Alvarez, I., Andujar, M., Moon, D. & Gilbert, J.E. (2014). **Human-computer interfaces for speech applications**. *In T. F. Gonzalez, J. Diaz-Herrera & A. Tucker (Eds.), Computing handbook*, 3rd ed. (1) (3rd ed., pp. 92:1-92:1-15) CRC Press.

236. Wilson, D., Martin, A., & Gilbert, J.E. Ed. HongYi Sun. (2012) iTech: **An Interactive Virtual Assistant for Technical Communication. Management of Technological Innovation in Developing and Developed Countries**. InTech: 2012 InTech. March 2012. DOI: 10.5772/37455

237. Jackson, J. F. L., Charleston, L. J., George, P. L., & Gilbert, J. E. (2012) **Factors that Attract African American Males to Computer Science: A Study of Aspiring and Current Professionals**. *In M. C. Brown & T. E. Dancy (Eds.). African American Males and Education: Researching the Convergence of Race and Identity,* Information Age, pp. 189-201.

238. Jackson, J.F.L., Charleston, L.J., Lewis, C.W., Gilbert, J.E., & Middleton, L.P., (2012). **Rising STEM Occupational Demands and Low African American Participation in Arizona's Scientific Workforce: Do Attitudes Toward STEM College Majors and Careers Matter?**, In K.A. Scott (Eds.), *The State of Black Arizona*, Arizona Community Foundation and APS, Volume 3, pp. 35-44.

239. Gilbert, J.E., **Ten in 10: A Reflective Examination of How A University in the South Graduated 10 African American Computer Science Ph.D.s in 10 Years**, (2012). In W. F. Tate and H. T. Frierson (Eds.), *Beyond Stock Stories and Folktales: African Americans Paths to STEM Fields*, United Kingdom: Emerald Group Publishing Limited, Volume 11, pp. 307-322.

240. Jackson, J. F. L., Gilbert, J. E., Charleston, L. J., Gosha, K. (2009). **Differential gender effects of a STEM-based intervention: An examination of the African American researchers in computing sciences program**. In H. T. Frierson, W. Pearson, J. H. Wyche (Eds.), Black American Males in Higher Education: Research, Programs, and Academe. Bingley, UK: Emerald, Volume 7, pp. 317-330.

241. Jackson, J. F. L., Gilbert, J. E., Charleston, L. J., George, P. L., Grenell, K. D. (in press) **Using Regional Data Collection to Inform University Led Initiatives: The Case of a STEM Education SWOT Analysis**. *New Directions for Institutional Research*.

242. Gilbert, J.E., Williams, P., Cross, E.V., Mkpong-Ruffin, I., McMillian, Y., & Gupta, P. (2008). **Usability and Security in Electronic Voting**. *E-Voting: Perspectives and Experience,* Icfai University Press, pp. 74 – 80.

243. Gilbert, J.E. & Eugene, W. (2007). **Building the Future Black Faculty Pipeline**. In *AfroGEEKS: Beyond the Digital Divide*, Edited by Everett, A. and Wallace, A.J. pp. 285-293.

244. Gilbert, J. E. (2000). **Beating The Odds, African Americans in Computer Science.** Chapter 10 in Jones, L. (Ed.) *Brothers of the Academy: Up And Coming Black Scholars Earning Our Way in Higher Education*, Stylus Publishing. pp. 140-148.

Other Publications

245. Camp, T. & Gilbert, J.E. (2010) **Broader Impacts – Should You Care?** *Computing Research News: A Publication of the Computing Research Association*, 22,5, p. 2.

246. Blake, M.B. & Gilbert, J.E., (2010) **Black Computer Scientists in Academe: an Endangered Species?** *The Chronicle of Higher Education, Diversity in Academe,* September 24, 2010, pp. B35-B37.

247. Coney, L., Gilbert, J.E., Neumann, P.G., Nilsson, E., Pincus, J. & Schneier, B., (2008) **E-Deceptive Campaign Practices Report: Internet Technology & Democracy 2.0**, *Electronic Privacy Information Center*, October 20, 2008.

248. Gilbert, J.E. (2008) **Silos of Academe Thwart Diversity on Campuses**, *The Chronicle of Higher Education, Diversity in Academe*, September 26, 2008, pp. B45-B46.

249. Kaushansky, K., Gilbert, J.E., Hura, S. & Witt-Ehsani, S. (2008) **Moving the Conversation Forward**, speechTECHNOLOGY Magazine, May 2008, pp. 31- 35.

250. Gilbert, J.E., Jackson, J. & Seals, C. (2008) **African-American Researchers in Computing Sciences: A Model for Broadening Participation in Computing.** *Computing Research News: A Publication of the Computing Research Association*, 20,3, pp. 2, 23.

251. Gilbert, J.E., & Jackson, J.F.L. (2007). **M7 STEM White Paper**: Final report. Milwaukee, WI: Marquette University.

252. Bloom, J., Gilbert, J.E., Houwing, T., Hura, S., Issar, S., Kaiser, L., Larson, J.A., Leppik, D., Mailey, S., Mane, A., McTernan, F., McTear, M., Pollock, S., Shinn, P., Stifelman, L. & Wilson, D. (2005) **Ten Criteria for Measuring Effective Voice User Interfaces**, speechTECHNOLOGY Magazine, November/December 2005, pp. 31- 35.

253. Larson, J.A., Applebaum, T., Byrne, B., Giangola, J., Gilbert, J.E., Green, R.N., Hebner, T., Houwing, T., Hura, S., Issar, S., Kaiser, L., Kaushansky, K., Kilgore, R., Lai, J., Leppik, D., Mailey, S., Margulies, E., McArtor, K., McTear, M. & Sachs, R., (2005) **Ten Guidelines for Designing a Successful Voice User Interface**, speechTECHNOLOGY Magazine, January/February 2005, pp. 51 - 53.

Patents and Patent Applications

1. Gilbert, J.E. "Nominal Population Metric: Clustering of Nominal Application Attributes," US 8,612,176 B2, December 17, 2013.

Expert Testimony

1. Gilbert, J.E. *National Federation of the Blind v. Lamone*, No. 14-1631, 2014 WL 4388342, (D. Md. September 4, 2014). Voting Systems Expert Testimony.

Invited Talks/Keynotes

1. Gilbert, J.E., U.S. **Voluntary Voting Systems Guidelines (VVSG) 2.0**, U.S. Election Assistance Commission (EAC) Virtual Hearing, May 6, 2020.

2. Gilbert, J.E. **Changing Systems not Students**, American Association for the Advancement of Science (AAAS) Annual Meeting, February 15, 2020, Seattle, WA.

3. Gilbert, J.E. **Inclusive Mentoring Through Online Spaces**, American Association for the Advancement of Science (AAAS) Annual Meeting, February 14, 2020, Seattle, WA.

4. Gilbert, J.E., NSF Presidential Awards for Excellence in Mathematics and Science Teaching, **Don't Underestimate the Power of Mentoring**, NSF, January 28, 2020, Washington, DC.

5. Hall, W., Coleman, A., Keith, J.L., & Gilbert, J.E., **Beyond the Law: Exploring Policy Foundations to Advance Student-Focused Diversity and Inclusion Strategies: An Access and Diversity Collaborative Session**, College Board Higher Ed Colloquium, January 14, 2020, Dana Point, CA.

6. Gilbert, J.E., U.S. House of Representatives Congressional Testimony, Committee on House Administration, **2020 Election Security: Perspectives from Voting System Vendors and Experts**, January 9, 2020, Washington, DC.

7. (Keynote)
Gilbert, J.E., **Innovations in Elections Technology: Securing American Democracy**, Florida Tech & Innovation Summit 2019, Orlando, FL, September 25, 2019.

8. Gilbert, J.E., **A Scholar's Manifesto: Societal Impacts Through Research and Diversity**, Distinguished Research Excellence Speaker, Syracuse University, Syracuse, NY, April 24, 2019.

9. Gilbert, J.E., **Against the Odds: A Story of Mentoring, Perseverance and Excellence**, Distinguished Scientist & Engineer Seminar Series, University of Massachusetts, Amherst, Massachusetts, April 9, 2019.

10. Gilbert, J.E., **Secure Accessible Voting in the U.S.A.**, Distinguished Scientist & Engineer Seminar Series, University of Massachusetts, Amherst, Massachusetts, April 9, 2019.

11. Gilbert, J.E., **Demystifying Graduate School for Black and Latino Men: Lessons Learned and Rules of Engagement**, Black, Brown & College Bound: Empowering Black and Latino Men in College: All Hands on Deck, Tampa, FL, March 7, 2019.

12. Alberts, B., Chu, S., Gilbert, J.E., & Ward, J. (2019), **Distinguished Kavli Frontiers of Science Alumni Panel**, 30th Kavli Frontiers of Science Symposium, Beckman Center, Irvine, CA, February 27, 2019.

13. Gilbert, J.E., Hoffman, D., & Holley, C. (2019), **Government and Technology**, 2019 Future of Florida Summit: The Bob Graham Center for Public Service, University of Florida, Gainesville, FL, February 2, 2019.

14. Gilbert, J.E. (2019), **A Scholar's Imperative: Effecting Positive Change Through Research and Diversity**, University of Michigan, Ann Arbor, MI, January 23, 2019.

15. Gilbert, J.E. (2018), **Cyber Civics: Securing the Vote for 2020**, National Academy of Sciences, Science & Entertainment Exchange, New York, NY, November 30, 2018.

16. (Keynote)
Gilbert, J.E. (2018), **Increasing Faculty Diversity in STEM**, UNC-Chapel Hill Diversity in STEM Conference, Initiative for Maximizing Student Development, Chapel Hill, NC, November 7, 2018.

17. (Keynote)
Gilbert, J.E. (2018), **How to Leverage Your Diversity to Add Value Today**, 2018 Black Data Processing Associates (BDPA) National Conference, New Orleans, LA, August 10, 2018.

18. Brodley, C., Gilbert, J.E., Jessup, E., & Tullsen, D. (2018), Session Chair: Haas, L. **Booming Faculty: Opportunities and Challenges**, 2018 Computing Research Association (CRA) Conference, Snowbird, UT, July 18, 2018.

19. Franklin, M., Gilbert, J.E., Noble, B., Rexford, J. & Wills, C. (2018), Session Chairs: Shekhar, S. & Torrellas J. **Improving Faculty Recruiting in the Computing Community**, 2018 Computing Research Association (CRA) Conference, Snowbird, UT, July 17, 2018.

20. Gilbert, J.E., **Changing the World through Innovations in Academic Research**, 60th Annual University of Florida Student Science Training Program (SSTP), University of Florida, Gainesville, FL, June 26, 2018.

21. Gilbert, J.E., Goldston, D., & Weaver, G., **Implications for undergraduate STEM education of changes in societal context**, National Academies of Sciences, Engineering, Medicine (NASEM) Roundtable on Systemic Change in Undergraduate STEM Education, Washington, DC, May 15, 2018.

22. Gilbert, J.E., **A Conversation on the Importance of Mentorship**, ACM SIGCHI CHI Mentoring (CHIMe), Montreal, CA, April 21, 2018.

23. Gilbert, J.E., Roth, R., Brown, D., & Mitchell, C., **Applications Quest: A Tool for Diversity**, Southern Association for College Admission Counseling (SACAC), New Orleans, LA, April 15, 2018.

24. Gilbert, J.E., **Diversity In Tech: The Pipeline Is The Solution, Not The Problem**, University of Washington, Seattle, WA, February 8, 2018.

25. (Keynote)
Gilbert, J.E., **Take Action! Human Rights through Science and Innovation**, AAAS Science and Human Rights Coalition Meeting, Washington, DC, September 25, 2018.

26. Gilbert, J.E., **Broadening Participation in Computing: Breaking Down Barriers and Increasing Access**, Cornell University, Ithaca, NY, November 29, 2017.

27. (Keynote)
Gilbert, J.E., **Take Action: Innovating Solutions to Society's Problems**, 5th Annual 2017 Louis Stokes Midwest Center for Excellence (LSMCE) Conference, Indianapolis, IN, October 7, 2017.

28. Gilbert, J.E., **Workforce Preparedness: Graduate Degree Benefits**, Graduate Faculty-Student Forum, Tuskegee University, Tuskegee, AL, September 30, 2017.

29. (Keynote)
Gilbert, J.E., **Research, Diversity and Innovation: Changing the World**, The Leadership Alliance National Symposium, Hartford, CT, July 29, 2017.

30. (Keynote)
Gilbert, J.E., **Scholar Activism: How to Positively Impact Society through Research**, Sisters of the Academy (SOTA) Black Male Research BootCamp, Tallahassee, FL, June 6, 2017.

31. Gilbert, J.E., **Societal Impacts: Diversity in Research**, 1st Annual Diversity Graduate Research Symposium, University of Florida, Gainesville, FL, March 22, 2017.

32. Gilbert, J.E., **Changing the World through Innovation & Discovery By You, For You**, Florida A&M University, Tallahassee, FL, February 2, 2017.

33. Gilbert, J.E., **The Future of Elections Technology in the U.S.A.**, University of Missouria, Columbia, MO, January 17, 2017.

34. Gilbert, J.E., **Recruitment, Development and Retention of Faculty and Students of Color in the Academy**, University of Missouri, Columbia, MO, January 17, 2017.

35. Gilbert, J.E., **Human-Centered Computing: Inventing Solutions to Societal Problems**, Cade Museum Living Inventor Series, Cade Museum for Creativity + Invention, Gainesville, FL, November 17, 2016.

36. (Keynote)
Gilbert, J.E., **The Scholar's Imperative: Meeting the Demands of A Changing World**, 32nd Annual McKnight Fellows Meeting, Florida Education Fund, Tampa, FL, November 11, 2016.

37. (Keynote)
Gilbert, J.E., **Innovations in Research and Discovery While Increasing Diversity**, Annual Biomedical Research Conference for Minority Students (ABRCMS), Tampa, FL, November 9, 2016.

38. Gilbert, J.E. & Kurdak, C., **Institutional Leadership Workshop to Enhance STEM Faculty Diversity Panel**, Carnegie Mellon University, Pittsburgh, PA, November 7, 2016.

39. Gilbert, J.E., **The Future of Voting in the United States: Open Source, Security, and Accessibility**, University of Texas at Dallas, Dallas, TX, September 29, 2016.

40. Gilbert, J.E., **Live Discussion: Q&A with Juan Gilbert (Public Engagement in Computer Science)**, AAAS Public Engagement with Science on Trellis, [Online], July 14, 2016.

41. Gilbert, J.E., **The Future of Elections with Open Source Accessible Voting Software**, Virginia Elections Conference, Richmond, VA, June 28, 2016.

42. Gilbert, J.E., **Accessible Voting via Open Source**, 2016 State Certification Testing of Voting Systems National Conference, MIT, Cambridge, MA, June 20, 2016.

43. Gilbert, J.E., **An Examination of Speech-Enabled Technologies in the Car**, SpeechTEK 2016, Washington, DC, May 25, 2016.

44. Gilbert, J.E., **Secure, Usable and Accessible Voting: Changing the Way America Votes**, Harvey Mudd College, Claremont, CA, April 21, 2016.

45. Gilbert, J.E., **Leadership for Excellence in Research and Diversity**, NSF Geosciences Opportunities for Leadership in Diversity (GOLD) Ideas Lab, Annapolis, MD, March 21, 2016.

46. (Keynote)
Gilbert, J.E., **Changing the World Through Research and Service**, AAAS Emerging Researcher National Conference in STEM, Washington, DC, February 27, 2016.

47. Gilbert, J.E., **Inventing the Next Generation of Accessible Voting Technologies**, National Institute of Standards and Technology (NIST), Gaithersburg, MD, February 12, 2016.

48. (Keynote)
Gilbert, J.E., **The Scholar's Imperative: Effecting Positive Change in a Dynamic World**, Florida Education Foundation 31st Annual McKnight Fellows Conference, Tampa, FL, November 14, 2015.

49. Gilbert, J.E., **Building Coalitions and Collaborations**, 2015 NSF Minority Faculty Development Workshop: 21st Century Mindsets and Strategies for Career Advancement, Washington, DC, September 24, 2015.

50. (Distinguished Lecture)
Gilbert, J.E., **Reducing Driver Distraction for Young Connected Drivers with Voice Enabled Technologies**, U.S. Department of Transportation, Office of the Assistant Secretary for Research and Technology (OST-R), Washington, DC, September 16, 2015.

51. (Keynote)
Gilbert, J.E., **Diversifying the Computing Pipeline with Extraordinary Women**, Association for Women in Science, ADVANCE|GSE Workshop, Baltimore, MD, May 31, 2015.

52. Gilbert, J.E., **Research, Development, Testing and Deployment Efforts**, 2015 State Certification Testing Of Voting Systems National Conference, Seattle, WA, May 20, 2015.

53. (Distinguished Lecture)
Gilbert, J.E., **Mentoring, Research and Innovation**, National Security Agency (NSA), Fort Meade, MD, May 15, 2015.

54. Gilbert, J.E., **Innovations in Human-Centered Computing**, MIT Lincoln Labs, Lexington, MA, April 27, 2015.

55. (Distinguished Lecture)
Gilbert, J.E., **Applications Quest: Decreasing Bias and Increasing Diversity in College Admissions**, Diversity Lecture Series University of South Florida, Tampa, FL, April 15, 2015.

56. (Keynote)
Gilbert, J.E., **Prime III**, TEDxUF, Gainesville, FL, March 21, 2015.

57. (Keynote)
Gilbert, J.E., **Next Generation Voting Technologies: Changing the Way America Votes**, University of Cincinnati, Cincinnati, OH, March 9, 2015.

58. (Keynote)
Gilbert, J.E., **Societal Impacts through Research and Diversity: Who We Are and What We Do**, University of Florida College of Public Health & Health Professions Diversity Day, Gainesville, FL, October 23, 2014.

59. (Keynote)
Gilbert, J.E., **Worlds Ahead through STEM Research: Your Opportunity to Make an Impact**, Florida International University McNair Scholars Research Conference, Miami, FL, October 17, 2014.

60. (Keynote Panel)
Gilbert, J.E., **Why I Pursued a PhD and Why You Should Too**, GEM Grad Lab, University of Florida, Gainesville, FL, September 26, 2014.

61. (Keynote Panel)
Gilbert, J.E., Karasick, M. & Meisel, W., **The Evolution of Computers and Society**, SpeechTEK 2014, New York, NY, August 20, 2014.

62. Gilbert, J.E. & Eugene, W., **The VoterPass Reservation System**, SpeechTEK 2014, New York, NY, August 19, 2014.

63. Gilbert, J.E., **Applications Quest: A New Way of Exploring Diversity in College Admissions**, 2014 Diversity Leadership Retreat, Orlando, FL, July 25, 2014.

64. (Keynote)
Gilbert, J.E., **Societal Impacts through Research and Diversity: Who We Are and What We Do**, Diversity in the Computational Geosciences Workshop, National Center for Atmospheric Research, Boulder, CO, June 24, 2014.

65. Gilbert, J.E., **Reforming the Testing and Certification Process**, U.S. Election Assistance Commission (EAC) Roundtable Discussion, Silver Spring, MD, June 12, 2014.

66. (Keynote)
Gilbert, J.E., **Different Pathways, One Journey: The Many Experiences of Black Graduate Students**, National Black Graduate Student Association 26th Annual Conference, Baton Rouge, LA, May 29, 2014.

67. (Keynote)
Gilbert, J.E. **Computing Science Participation in the Age of Digital Media**, Playful Learning Summit, Clemson University, Clemson, SC, May 17, 2014.

68. Gilbert, J.E., **New Voting Technologies**, The League of Women Voters of South Carolina, State Council Meeting, Columbia, SC, April 26, 2014.

69. Gilbert, J.E., **Inspiring the Next Generation**, Congressional Black Caucus Science and Technology Brain Trust Expanding Minority Participation in Science, U.S. News and World Reports STEM Solutions Conference, Washington, DC, April 25, 2014.

70. (Keynote, Distinguished Lecture)
Gilbert, J.E., **Changing the Landscape: Voting Rights, Technology and Policy**, University of Illinois at Chicago, Chicago, IL, April 17, 2014.

71. (Keynote)
Gilbert, J.E., **Research with Societal Impacts from Voting Rights to School Violence**, Honors Convocation and 16th Annual Research Symposium, Fisk University, Nashville, TN, April 10, 2014.

72. (Keynote)
Gilbert, J.E., **Research with Societal Impacts from Voting Rights to School Violence**, 16th Annual Research Symposium, Fisk University, Nashville, TN, April 9, 2014.

73. Gilbert, J.E., **Enhancing Diversity in Technology (EDIT)**, Morgan Stanley, New York, NY, April 8, 2014.

74. Gilbert, J.E., **Making A Difference in Society Through Research and Innovation**, Virginia State University, Richmond, VA, March 21, 2014.

75. Gilbert, J.E., **Innovation in Voting Accessibility**, FCC Accessibility & Innovation Initiative, Washington, DC, March 11, 2014.

76. Gilbert, J.E., **Societal Impacts of Research, Innovation and Diversity: Changing How Voting Works**, University of the Virgin Islands, St. Thomas Campus, St. Thomas, U.S. Virgin Islands, February 12, 2014.

77. (Keynote)
Gilbert, J.E., **Can You Change the World?**, STEM Men of Color "Access to Knowledge & Empowerment" Symposium, Cornell University, Ithaca, NY, February 1, 2014.

78. Gilbert, J.E., **Prime III: Voting Accessibility and Security in the 21st Century**, University of Florida, Gainesville, FL, January 17, 2014.

79. Gilbert, J.E., **Mentoring the Next Generation of Computing Scholars**, 2014 CE21 PI and Community Meeting, Orlando, FL, January 8, 2014.

80. Gilbert, J.E., **Voiceing: A Hands-Free, Eyes-Free Approach to Texting While Driving**, InnoMobility 2013, Greenville, SC, November 6, 2013.

81. Gilbert, J.E., **Creating the Entrepreneur Pipeline**, FOCUS100 DigitalUndivided, New York, NY, October 5, 2013.

82. Gilbert, J.E., **History in the Making: Innovation, Research, and Diversity**, Auburn University Black Graduate and Professional Student Association, Auburn, AL, September 30, 2013.

83. Gilbert, J.E., **Public Intellectualism: Media Interaction, Social Branding, and Knowledge**, 2013 Conference of Ford Fellows Critical Transformations and Intersections: Knowledge, Community, and Action, Washington, DC, September 27, 2013.

84. Gilbert, J.E., **Looking Ahead: Creating Opportunities for the Future,** 2013 Congressional Black Caucus Science and Technology Brain Trust, Washington, DC, September 20, 2013.

85. Gilbert, J.E., **The Future of Voting Technology**, Presidential Commission on Election Administration Testimony, Cincinnati, OH, September 19, 2013.

86. (Keynote)
Gilbert, J.E., **Applications Quest and Strict Scrutiny in the Post Fisher Era**, 2013 Lucile Kelling Henderson Lecture, University of North Carolina at Chapel Hill, Chapel Hill, NC, September 12, 2013.

87. (Keynote)
Gilbert, J.E., **Societal Impacts Realized Through Research and Diversity**, STARS Celebration Conference, Atlanta, GA, August 16, 2013.

88. Gilbert, J.E., **Building a House for Diversity: A Case In Point Example,** Future Faculty Symposium, Purdue University, West Lafayette, IN, August 7, 2013.

89. (Keynote)
Gilbert, J.E., **The Future of Voting Accessibility & Security**, 2013 Alumni Conference Department of Computer Science and Software Engineering, Miami University, Oxford, OH, April 12, 2013.

90. Gilbert, J.E., **Mentoring Young Faculty to Stay and Excel in the Academy**, Tuskegee University Science and Technology Open House, Montgomery, AL, April 6, 2013.

91. Gilbert, J.E., **Accessibility Research and Elections: Where are we now?**, NIST/EAC Accessible Voting Technology Research Workshop, Gaithersburg, MD, April 1, 2013.

92. Gilbert, J.E., **Electronic Voting and Policy**, University of Georgia Science and Technology/Higher Education Forum, Athens, GA, March 26, 2013.

93. Gilbert, J.E., **Prime III: Accessibility, Security and Usability in Voting**, Oconee County Democratic Party, Seneca, SC, March 16, 2013.

94. (Keynote)
Gilbert, J.E., **Blacks in Higher Education and Civic Responsibility: If Not You, Then Who?**, 25th Annual National Black Graduate Student Conference, Dearborn, MI, March 8, 2013.

95. (Keynote)
Gilbert, J.E., **The Changing Face of the Academy: Mentoring**, ACM SIGCSE 2013, Denver, CO, March 7, 2013.

96. Gilbert, J.E., **Academics and Technologists Look at the Future**, NIST/EAC Future of Voting Systems Symposium, Gaithersburg, MD, February 28, 2013.

97. Gilbert, J.E., **Accessibility and Voting,** Protection and Advocacy for People with Disabilities, Inc., Columbia, SC, January 23, 2013.

98. (Keynote)
Gilbert, J.E., **Technology and It's Role in Civic Engagement**, Rho Delta Lambda Chapter of Alpha Phi Alpha Fraternity, Inc. Annual Martin Luther King, Jr. Memorial Celebration, Anderson, SC, January 19, 2013.

99. Gilbert, J.E., **Universal Design in Electronic Voting: Making Voting More Accessible and Secure**, Purdue University, West Lafayette, IN, October 29, 2012.

100. Gilbert, J.E., **Achieving Historical Diversity: Steps Toward Building a High Quality, Diverse Computing Department**, Purdue University, West Lafayette, IN, October 29, 2012.

101. Gilbert, J.E., **Human-Centered Computing**, Albany State University, Albany, GA, September 27, 2012.

102. Gilbert, J.E., **Best Practices for Veterans Voting: Examining Election Operations, Procedures and Accessibility**, U.S. Election Assistance Commission Roundtable, Washington, DC, September 13, 2012.

103. Gilbert, J.E., **Black Males and STEM,** Challenging the Status Quo: A Forum on Educational Equity and Inclusion for School-Age Black Males, The Congressional Black Caucus Foundation, The Urban Education Collaborative at UNC Charlotte and The Howard University School of Education, Charlotte, NC, September 5, 2012.

104. Gilbert, J.E., **Using Speech to Reduce Distracted Driving**, InnoMobility, Greenville, SC, July 19, 2012.

105. Gilbert, J.E., **Human Factors in Healthcare**, CableLabs Inc., Broomfield, CO, July 18, 2012.

106. (Keynote)
Gilbert, J.E., **Achieving Social Justice in Affirmative Action through Technology**, Technoscience as Activism, Rensselaer Polytechnic Institute, Troy, NY, June 27, 2012.

107. Gilbert, J.E., **Conversation Design for Spoken Language Systems**, i3 iSchool Inclusion Institute of Information Sciences, University of Pittsburgh, Pittsburgh, PA, June 7, 2012.

108. (Keynote)
Gilbert, J.E., **Trailblazers for the Next Generation,** Booker T. Washington Community Center 78th Annual Awards Dinner, Hamilton, OH, April 28, 2012.

109. Gilbert, J.E., **Advanced Learning Technologies and Culturally Relevant Computing**, University of Wisconsin-Madison, Madison, WI, April 20, 2012.

110. Gilbert, J.E., **Broadening Participation in Computing: Breaking Down Stereotypes of Underrepresented Students in the Computational Fields**, University of Wisconsin-Madison, Madison, WI, April 20, 2012.

111. Gilbert, J.E., **Applications Quest: A Data Mining Approach to Diversity in Admissions**, University of Wisconsin-Madison, Madison, WI, April 20, 2012.

112. Gilbert, J.E., **Driver Distraction for Young Connected Drivers**, University of Wisconsin-Madison, Madison, WI, April 19, 2012.

113. (Keynote)
Gilbert, J.E., **Socially Inspired Computing: How Science & Technology Can Change the World!** Benedict College, Columbia, SC, April 3, 2012.

114. Gilbert, J.E., **One Machine, One Vote for Everyone**, TEDx Greenville, Greenville, SC, March 30, 2012.

115. Gilbert, J.E., **Changing the Landscape of Voting and Voter Registration through Universal Design**, University of Maryland Baltimore County (UMBC), Baltimore, MD, March 28, 2012.

116. Gilbert, J.E., **Innovations Promoting Older Adult Use of Technology**, 8th Annual Aging Research Day Aging: From Cell to Society, Greenville Hospital System University Medical Center, Greenville, SC, March 9, 2012.

117. Gilbert, J.E., **Revolutionized Teaching**, TEDxGreenvilleSalon, Greenville, SC, February 29, 2012.

118. (Keynote)
Gilbert, J.E., **Innovation, Mentoring and Society: How One Person Can Make A Difference**, Racial Legacies & Learning XXVII: How To Talk About Race, Miami University Hamilton, Hamilton, OH, February 14, 2012.

119. Gilbert, J.E. & Martinez, D.W., **The Critical Role of Mentoring in Increasing Graduates and Faculty of Color**, Association of American Colleges & Universities Annual Meeting, Washington, DC, January 27, 2012.

120. Gilbert, J.E., **Reducing Driver Distraction for Young Connected Drivers**, Nuance Automotive Forum Detroit 2011, Detroit, MI, November 8, 2011.

121. Gilbert, J.E., **Universal Design in Electronic Voting: One Machine, One Vote for Everyone**, Iowa State University, Ames, IA, October 28, 2011.

122. Gilbert, J.E., **Effective Mentoring**, Southern Region Education Board, Institute on Teaching and Mentoring Junior Faculty Development Conference, Atlanta, GA, October 22, 2011.

123. (Franklin Visiting Scholar Lecture)
Gilbert, J.E., **Increasing the Accessibility of Voting through Universal Design**, University of Georgia, Athens, GA, October 17, 2011.

124. Gilbert, J.E., **Powering the Connected Car with Voice**, SpeechTEK 2011, New York, NY, August 8, 2011.

125. Gilbert, J.E., **Preparing for the Academic Job Market**, Empowering Leadership Alliance, Webinar, June 2, 2011.

126. (Anne Margaret Johnstone Lecture)
Gilbert, J.E., **Prime III: A Universally Designed Electronic Voting System**, University of Maine, Orono, ME, April 18, 2011.

127. Gilbert, J.E., **The African-American Distributed Multiple Learning Styles System: An Ethnocomputing Approach to Teach Algebra**, Morehouse College, Atlanta, GA, March 1, 2011.

128. (Keynote)
Gilbert, J.E., **Courageous Conservations: Taking it to the Next Level with African-American and Latino Males**, Black, Brown & College Bound: Meeting the Challenge of Higher Education, Tampa, FL, February 24, 2011.

129. (Keynote)
Gilbert, J.E., **Holistic Usability Measure: A Holistic Approach to Measuring Interface Usability**, Greenville Spartanburg Anderson Technology Council (GSATC), Greenville, SC, February 9, 2011.

130. (Keynote)
Gilbert, J.E., **African-American Distributed Multiple Learning Styles Systems: Culturally Relevant Learning**, South Carolina Council for African American Studies (SCCAAS) Conference, Columbia, SC, February 5, 2011.

131. Gilbert, J.E., **Innovations in Research through Human-Centered Computing**, Langston University, Langston, OK, November 18, 2010.

132. Gilbert, J.E., **Prime III: The Next Generation of Electronic Voting Research**, IEEE Oklahoma City Section, Oklahoma City, OK, November 17, 2010.

133. (Keynote)
Gilbert, J.E., **voiceTEXT: A Safer Alternative to Texting While Driving**, Consortium for Computing Sciences in Colleges – Southeastern Region, Spelman College, Atlanta, GA, November 12, 2010.

134. Gilbert, J.E., **The Need to Examine and Address the Current Status of Minority Males in Higher Education**, Southern Region Education Board, Institute on Teaching and Mentoring, Tampa, FL, October 29, 2010.

135. (Keynote)
Gilbert, J.E., **Creating Critical Mass: Recruiting and Mentoring a Diverse Research Group**, Colorado School of Mines, Golden, CO, October 28, 2010.

136. Gilbert, J.E., **Using Technology to Achieve Diversity: A New Strategy for Affirmative Action**, Colorado School of Mines, Golden, CO, October 28, 2010.

137. Gilbert, J.E., **Entrepreneurship & the Professoriate**, Colorado School of Mines, Golden, CO, October 28, 2010.

138. Gilbert, J.E., **Hip-Hop, Video Games and Math**. USA Science & Engineering Festival, Meet the Scientists! Washington, DC, October 23, 2010.

139. (Keynote)
Gilbert, J.E., **Pathways to Success through Innovative STEM Research in Human-Centered Computing**, Louis Stokes South Carolina Alliance for Minority Participation Annual Undergraduate Research Conference, Orangeburg, SC, October 15, 2010.

140. Gilbert, J.E., **Human-Centered Computing: People, Technology, Information and Policy**, Johnson C. Smith University Lyceum Series, Charlotte, NC, September 30, 2010.

141. Gilbert, J.E., **Universal Design in Electronic Voting: 1 Machine, 1 Vote for Everyone**, University of North Carolina at Chapel Hill, Chapel Hill, NC, September 24, 2010.

142. Gilbert, J.E., **Why Should You Go to Graduate School?**, North Carolina A&T University, Greensboro, NC, September 23, 2010.

143. (Keynote)
Gilbert, J.E., **Entrepreneurship and the Professoriate: Yes, Professors are Entrepreneurs Too**, STARS Alliance 5th Annual Celebration 2010, ChampionsGate, FL, August 8, 2010.

144. Gilbert, J.E., **Accessible Voting.** U.S. Election Assistance Commission, Washington, DC, August 5, 2010.

145. Gilbert, J.E., **Alphanumeric Recognition of License Tag Data**, SpeechTEK 2010, New York, NY, August 2, 2010.

146. Gilbert, J.E., **TeachEHR: Who's Training the Clinical Workforce?**, Usability in Health IT: Technical Strategy, Research, and Implementation Roundtable, National Institute of Standards and Technology, Gaithersburg, MD, July 13, 2010.

147. Gilbert, J.E., **VoiceTEXT vs. Voice to Text**, York One Academy, York, SC, May 25, 2010.

148. Gilbert, J.E., **Tenure and Promotion: Rules of Engagement**, South East Alliance for Graduate Education and the Professoriate, Atlanta, GA, May 18, 2010.

149. Gilbert, J.E., **Texting While Driving: Is There A Safe Alternative?**, Colorado School of Mines, Golden, CO, May 3, 2010.

150. Gilbert, J.E., **Driver Distraction**, Networked Vehicle Association Conference: Apps on Wheels, Stanford University, San Joses, CA, April 28, 2010.

151. Gilbert, J.E., **Publishing for Success,** NSF Minority Faculty Development Workshop, Massachusetts Institute of Technology, Cambridge, MA, March 23, 2010.

152. Gilbert, J.E., **Broadening Participation in Computing: Service or Research?**, University of North Carolina at Charlotte, Charlotte, NC, March 19, 2010.

153. Gilbert, J.E., **Prime III: Universal Design Research in Electronic Voting,** Georgia Institute of Technology, GVU Brownbag Lecture Series, Atlanta, GA, March 11, 2010.

154. Gilbert, J.E., **Human Centered Computing and Technology Innovation**, Norfolk State University, Norfolk, VA, January 29, 2010.

155. Gilbert, J.E., **Socially Inspired Computing and Innovation: Solving National Problems**, Hampton University, Hampton, VA, January 28, 2010.

156. Gilbert, J.E. & Jackson, J.F.L., **Broadening Participation in Computing**, 8th National Conference on Black Student Achievement, Clemson University, Clemson, SC, January 25, 2010.

157. Gilbert, J.E., **Accessible Voting with Prime III**, San Francisco Voting System Task Force, San Francisco, CA, January 15, 2010.

158. Gilbert, J.E., **Incorporating Universal Design Principles into Electronic Voting**, University of Washington, Seattle, WA, November 10, 2009.

159. Gilbert, J.E., **Diversity Redefined in the New Affirmative Action Era**, University of Washington, Seattle, WA, November 10, 2009.

160. Gilbert, J.E., **The Need to Examine and Address the Current Status of Minority Males in Higher Education**, The COMPACT for FACULTY DIVERSITY, 2009 Institute on Teaching and Mentoring, Arlington, VA, October 23, 2009.

161. Gilbert, J.E., **Why Should You Go To Graduate School?**, Tuskegee University, Tuskegee, AL, October 21, 2009.

162. Gilbert, J.E., **Navigating the Academy for Career, Leadership and Community,** 2009 Conference of Ford Fellows, Beckman Center, National Academies, October 16, 2009.

163. Gilbert, J.E., **Tradeoffs in Electronic E2E Voting Systems**, National Institute of Standards and Technology Workshop on End-to-End Voting Systems, George Washington University, Washington, DC, October 14, 2009.

164. Gilbert, J.E., **Affirmative Action Redefined through Technology**, Kean University, Union, NJ, October 5, 2009.

165. Gilbert, J.E., **Incorporating Universal Design Principles in Electronic Voting**, Lamar University, Beaumont, TX, September 25, 2009.

166. Gilbert, J.E., **Issues in STEM Competitiveness: The Impact of Underrepresentation in Computing Sciences on the African-American Community and the Nation**, Colgate University, Hamilton, NY, September 18, 2009.

167. Gilbert, J.E., **Standards, Security and Accessible Voting.** National Institute of Standards and Technology, Gaithersburg, MD, September 2, 2009.

168. Gilbert, J.E., **VUI Design for Anonymous Name Spelling in Public Environments**, SpeechTEK 2009, New York, NY, August 24, 2009.

169. Gilbert, J.E., **Achieving Diversity in the New Era of Affirmative Action with Technology**, American Association of Black in Higher Education (AABHE) Leadership Institute, Miles College, Birmingham, AL, July 24, 2009.

170. Gilbert, J.E., **Prime III: Universal Accessibility in Voting.** U.S. Election Assistance Commission, Washington, DC, June 2, 2009.

171. Gilbert, J.E., **Software for Admissions That Provides Holistic Diversity and Aheres to all Judicial Decisions on the use of Race/Ethnicity, Gender in Admissions.** 22nd Annual National Conference on Race & Ethnicity in American Higher Education, San Diego, CA, May 29, 2009.

172. Gilbert, J.E., **Security & Technology of Internet Voting**. Alabama League of Women Voters, Birmingham, AL, May 2, 2009.

173. Gilbert, J.E., **Emerging Trends and Entrepreneurship.** Association of Computer/Information Sciences and Engineering Departments at Minority Institutions (ADMI), Morgan State University, Baltimore, MD, April 17, 2009.

174. Gilbert, J.E., **Why Should You Go To Graduate School?** Albany State University, Albany, GA, April 10, 2009.

175. Gilbert, J.E., **Applications Quest: Achieving Equity and Diversity in Admissions with Data Mining.** University of Florida, Gainesville, FL, March 23, 2009.

176. Gilbert, J.E., **Broadening Participation in Computing.** Prairie View A&M University, Prairie View, TX, March 12, 2009.

177. Gilbert, J.E., **Broadening Participation in Computing: Research, Graduate School and the Professoriate.** Fort Valley State University, Fort Valley, GA, March 6, 2009.

178. Gilbert, J.E., **The Prime III Voting System Project.** University of Maryland, Baltimore County, Baltimore, MD, February 20, 2009.

179. (Keynote)
Gilbert, J.E., **Computing Diversity in Higher Education in the 21st Century.** Arizona State University, Tempe, AZ, February 18, 2009.

180. Gilbert, J.E., **Hip-Hop Music and Math**. American Association for the Advancement of Science and Science Chicago, 2009 AAAS Annual Meeting, Meet the Scientists at AAAS Family Science Days! Chicago, IL, February 15, 2009.

181. Gilbert, J.E., **Applications Quest: A Computational Solution to Affirmative Action in the 21st Century**. University of Alabama, Tuscaloosa, AL, January 30, 2009.

182. Gilbert, J.E., **The Future of Underrepresented Minority Based Programs**, Alliance for Graduate Education in Mississippi (AGEM) Winter Scholar Symposium, Jackson State University, Jackson, MS, January 23, 2009.

183. Gilbert, J.E., **Modern Day Affirmative Action: Computing Race and Gender Conscious Admissions in the 21st Century**, Princeton University, Princeton, NJ, November 17, 2008.

184. (Wes McJulien Lecture)
Gilbert, J.E., **Advancing Learning through Culture, Technology and Instruction**, 2008 Association for Educational Communications & Technology (AECT), Orlando, FL, November 7, 2008.

185. Gilbert, J.E., **Usable Security in Electronic Voting**, Columbus State University, Columbus, GA, November 5, 2008.

186. Gilbert, J.E., **Prime III: The Intersection Between Usability and Security**, Clemson University, Clemson, SC, October 10, 2008.

187. (Keynote)
Gilbert, J.E., **Excellence in Academia and Beyond**, National McNair Scholars Research Conference and Graduate School Fair, University of Delaware, Newark, Delaware, October 3, 2008.

188. Gilbert, J.E., **Computing in the 21st Century: Innovative Solutions to Real World Problems**. Rochester Institute of Technology, B. Thomas Golisano College of Computing and Information Sciences Dean's Lecture Series, September 26, 2008.

189. Gilbert, J.E., **A New Strategy for Affirmative Action**. National Academies, Washington, DC, September 17, 2008.

190. (Keynote)
Gilbert, J.E., **Changing The World Through Technology**, Spelman College, Atlanta, Georgia, September 8, 2008.

191. (Keynote)
Gilbert, J.E., **From the Classroom to the Boardroom in the Academic World**, BDPA 9th Annual Scholarship and Education Awards, BDPA Southern Minnesota Chapter, Rochester, MN, August 24, 2008.

192. Gilbert, J.E., **Prime III: A Multimodal Approach to Electronic Voting**, SpeechTEK 2008, New York, NY, August 19, 2008.

193. Gilbert, J.E. **Innovation: Where Computing and Societal Problems Meet.** 2008 STARS Celebration, Auburn, AL, August 12, 2008.

194. Gilbert, J.E. Congressional Testimony, Committee on Rules and Administration, **Bipartisan Electronic Voting Reform Act of 2008**, July 30, 2008, Washington, DC.

195. Gilbert, J.E. **Admissions Equity: Reality and Results**. Washington Duke Inn, Durham, NC, June 26, 2008.

196. Gilbert, J.E. **Prime III: Electronic Voting in the 21st Century**. Monmouth University, May 2, 2008.

197. Gilbert, J.E. **Can Holistic Admissions Replace Affirmative Action?** Education Writers Association, 61st Annual Conference, Chicago, IL, April 25, 2008.

198. Gilbert, J.E. **Achieving Diversity in the New Affirmative Action Era**. Virginia Tech, April 22, 2008.

199. Gilbert, J.E. **Shaping the Future of Voting: An Exploration of the Human Factors and HCI Challenges in the Design and Deployment of Prime III**. Virginia Tech, April 22, 2008.

200. (Keynote)
Gilbert, J.E. **Engineering Research and Innovation in the 21st Century**. 34th Annual National Society of Black Engineers Convention, Orlando, FL, March 22, 2008.

201. (Keynote)
Gilbert, J.E. **Entrepreneurship and Innovation in the Academy**. 20th National Black Graduate Student Association Conference, Chicago, IL, March 14, 2008.

202. Gilbert, J.E. **Secure, Equal Access for Everyone in Voting**. Auburn University Elderhostel, March 13, 2008.

203. Gilbert, J.E. **Prime III: A Multimodal Approach to Electronic Voting**. Voice Search Conference, San Diego, CA, March 10, 2008.

204. Gilbert, J.E. **Prime III: Innovations in Electronic Voting**. Information Technology & Innovation Forum, Capitol Hill, Washington, D.C. March 6, 2008.

205. (Keynote)
Gilbert, J.E. **Carter G. Woodson and the Origins of Multiculturalism**. USDA – Natural Resources Conservative Service Black History Observance, Auburn, AL, February 28, 2008.

206. Gilbert, J.E. **Community, Technology and Innovation in the 21st Century**. Tuskegee University, Tuskegee, AL, February 22, 2008.

207. (Keynote)
Gilbert, J.E. **Innovation, Passion and Research: Ingredients for Success**. National Association of Academies of Science and American Junior Academies of Science Banquet, Boston, MA, February 16, 2008.

208. Gilbert, J.E. **Broadening Participation in Computing: AARCS Program**. American Association for the Advancement of Science in Promoting the Success of Minority Graduate Students Session, Boston, MA, February 16, 2008.

209. Gilbert, J.E. **Achieving Diversity Without Preference in the New Affirmative Action Era.** University of Colorado-Boulder, Boulder, CO, February 6, 2008.

210. Gilbert, J.E. **Achieving Diversity Without Preference in the New Affirmative Action Era.** Wayne State University Law School, Detroit, MI, January 23, 2008.

211. Gilbert, J.E. **Community Benefits of Technological Progression and Advancement.** People of Action for Community Enrichment, Opelika, AL, January 19, 2008.

212. Gilbert, J.E. **African-American Researchers in Computing Sciences (AARCS): A Program for Broadening Participation in Computing.** IBM T. J. Watson Research Center, Hawthorne, NY, January 16, 2008.

213. Gilbert, J.E. **Electronic Voting for Senior Citizens.** Osher Lifelong Learning Institute, Auburn, AL, January 14, 2008.

214. Gilbert, J.E. **2008 Disability Services: How to Affect Change in an Election Year Symposium hosted by the Georgia Disability Vote Project at the Center for the Visually Impaired**, Atlanta, GA, January 7, 2008.

215. Gilbert, J.E. **Prime III: A Usable Security Model for Electronic Voting**, Carnegie Mellon University, Pittsburgh, PA, September 12, 2007.

216. Gilbert, J.E., **Preparation for the Professoriate: Pathways, Passion, and Purpose**, PROMISE: Maryland's Alliance for Graduate Education and the Professoriate (AGEP), Baltimore, Maryland, August 17, 2007.

217. Gilbert, J.E. **Prime III: A Multimodal Electronic Voting Platform.** National BDPA Conference, Washington, DC, August 15, 2007.

218. Gilbert, J.E. & Payton, F. **Racioethnic Imbalance in CS and IS: How Do We Change the Face of the Classroom?** National BDPA Conference, Washington, DC, August 15, 2007.

219. Gilbert, J.E. **Prime III: One Machine, One Vote for Everyone.** IBM, Charlotte, NC, June 14, 2007.

220. Gilbert, J.E. **Innovation and Diversity in the 21st Century.** Rensselaer Polytechnic Institute, Troy, NY, April 25, 2007.

221. Gilbert, J.E. **Applications Quest: A Strategy to Replace Affirmative Action & Social Justice.** Fixing the Academy: Tapping into Black Excellence on White Campuses 2007, Johns Hopkins University, Baltimore, MD, April 13, 2007.

222. Gilbert, J.E. **Applications Quest … A Holistic Solution to Application Processing.** American Bar Association Presidential Advisory Council on Diversity in the Profession Eastern Regional Pipeline Workshop, Loyola University-Chicago Law School, Chicago, IL, March 23, 2007.

223. (Keynote)
Gilbert, J. E. **Prime III & The Future of Electronic Voting.** 29th Annual Leroy Roquemore Computer Science Symposium, Southern University, Baton Rouge, LA, March 15, 2007.

224. Cross, E.V. & Gilbert, J. E. **The Prime Voting System: Multimodality & Politics.** AVIOS/SpeechTEK West 2007, San Francisco, California, February 22, 2007.

225. Gilbert, J.E. **Applications Quest: Achieving Diversity in the Proposal 2 Era System**, University of Michigan, Ann Arbor, MI, January 30, 2007.

226. Gilbert, J.E. **The Prime Voting System: A Secure, Multimodal Electronic Voting System**, Northwestern University, Evanston, IL, January 16, 2007.

227. Gilbert, J.E. **Intelligent Instruction with Computer Assisted Pedagogy**, Juxtopia Urban Learning Technology (JULT) Conference, Baltimore, MD, December 2, 2006.

228. Gilbert, J.E. **Race Conscious Policies in Education with Applications Quest**, Jackson State University, Jackson, MS, November 9, 2006.

229. Gilbert, J.E. **Barriers for Underrepresented Groups to STEM: Why Don't You Like Science, Technology, Engineering or Mathematics?**, Jackson State University, Jackson, MS, November 9, 2006.

230. (Keynote)
Gilbert, J.E. **Academic Jobs … The Professoriate**, Southern Region Education Board, Institute on Teaching and Mentoring, Miami, FL, October 27, 2006.

231. (Keynote)
Gilbert, J.E. **Research, Mentoring, Graduate School and the Professoriate**, Bring IT On!, Indiana University, Bloomington, IN, October 20, 2006.

232. Gilbert, J.E., **Applications Quest: Affirmative Action, Race Neutral Admissions, and Holistic Review ... What's Really Fair?**, Indiana University, Bloomington, IN, October 20, 2006.

233. Gilbert, J.E., **Computing Diversity: Affirmative Action and Race Neutral Policies**, Cornell University, Ithaca, NY, September 13, 2006.

234. Gilbert, J.E., **Preparation for the Professoriate: Pathways, Passion, and Purpose**, PROMISE: Maryland's Alliance for Graduate Education and the Professoriate (AGEP), Baltimore, Maryland, August 18, 2006.

235. Gilbert, J.E., **Graduate School for the Working Professional**, 28th Annual National BDPA Conference, Los Angeles, California, August 2, 2006.

236. Gilbert, J.E., Esterman, M., & Geiger, C.D. **The Academic Job Search**, 8th Annual National GEM Consortium Symposium Future Faculty and Professionals Symposium, June 29, 2006, Chicago, Illinois.

237. Gilbert, J.E. **Applications Quest: Using Diversity in Admissions ... Computationally Speaking**, University of Georgia, Athens, GA, June 23, 2006.

238. (Commencement Speaker)
Gilbert, J.E., Hamilton High School Annual Commencement Ceremony, Millett Hall, Oxford, Ohio, June 5, 2006.

239. Gilbert, J.E., **Graduate School and the Professoriate**, Association of Computer/Information Sciences and Engineering Departments at Minority Institutions (ADMI), Orlando, FL, May 19, 2006.

240. Gilbert, J.E., **Holistic Review in Admissions: Demonstrating a Computerized Tool**, American Association for the Advancement of Science, Washington DC, May 16, 2006.

241. Gilbert, J.E., Jackson, J.F.L., Sims, P. & Beachum, F. **The State of African-American Men in Milwaukee, Wisconsin: Lets Talk!**, Marquette University, Milwaukee, WI, April 21, 2006.

242. Gilbert, J.E., **Applications Quest: Computing Diversity**, University of South Carolina, Columbia, South Carolina, April 14, 2006.

243. Gilbert, J.E., **The Next Black Ph.D. It's More Than Just Research**, Benedict College, Columbia, South Carolina, April 13, 2006.

244. Gilbert, J.E., **The Next Black Ph.D. It's More Than Just Research**, The National Society of Black Engineers 32nd Annual National Convention, Pittsburgh, PA, March 31, 2006.

245. Gilbert, J.E., **Show Me the Money, Careers in STEM**, Rufus King High School, Milwaukee, WI, March 29, 2006.

246. Gilbert, J.E., **Applications Quest: Computing Diversity**, Marquette University, Milwaukee, WI, March 28, 2006.

247. Gilbert, J.E., **Prime III Ushering in a New Age of Electronic Voting**, Marquette University, Milwaukee, WI, March 27, 2006.

248. Gilbert, J.E., **Preparing for Disaster with Technology**, Alabama Association of Assessing Officials Conference, Opelika, AL, March 1, 2006.

249. Gilbert, J. E. **The Holistic Usability Measure (HUM): Evaluating Spoken Language Systems.** AVIOS/SpeechTEK West 2006, San Francisco, California, January 31, 2006.

250. Gilbert, J.E., **Is The Ph.D. Really Worth?: Transitioning To Graduate School**, Albany State University, Albany, GA, January 28, 2006.

251. Gilbert, J.E., **Broaden Participation in STEM or Else**, Morehouse College, Atlanta, GA, January 17, 2006.

252. Gilbert, J.E., **Emergency Preparedness**, Alabama Municipal Revenue Officers Association and Auburn University Center for Governmental Services, Generating Revenue for Cities Conference, Auburn, AL, December 8, 2005.

253. (Keynote)
Fun-Set Social and Charity Club Beautillion Ball 2005, Huntsville, AL, November 19, 2005.

254. Gilbert, J.E., **The Usability of Usability**, World Usability Day, Auburn University, Auburn, AL, November 3, 2005.

255. Gilbert, J.E., **Applications Quest: Computing Diversity to Address Affirmative Action.** University of North Carolina Charlotte, Charlotte, NC, October 14, 2005.

256. Gilbert, J.E., **Collaborations for Success: Industry & The Academy**, I-85 Corridor Alliance, Auburn University, Auburn University Dixon Hotel & Conference Center, Auburn, AL, September 16, 2005.

257. Gilbert, J.E., **Applications Quest: Using Technology to Address Affirmative Action**, 27th Annual National BDPA Conference, Detroit, MI, August 20, 2005.

258. Gilbert, J.E., **Distributed Listening**, Advanced Speech Technologies Symposium: Emerging Technologies, SpeechTEK Conference, August 1, 2005.

259. Gilbert, J.E., **Applications Quest: Computing Diversity to Address Affirmative Action**. Rice University, Houston, TX, July 29, 2005.

260. Gilbert, J.E., Esterman, M., & Gates, A. **The Academic Job Search and the Tenure-Track Process**, 7th Annual National GEM Consortium Symposium Future Faculty and Professionals Symposium, June 30, 2005, Boston, Massachusetts.

261. Gilbert, J.E., Barrera, E., & Marder, S. **Developing Successful Mentoring Relationships**, 7th Annual National GEM Consortium Symposium Future Faculty and Professionals Symposium, June 30, 2005, Boston, Massachusetts.

262. Gilbert, J.E., **Using Culture and Diversity to Recode the Matrix of the New Millennium Workforce**. Rensselaer Polytechnic Institute, Troy, NY, April 21, 2005.

263. Gilbert, J.E., **How to Choose A Doctoral Mentor and Why This Is Critical to Your Success**. Arizona State University, Phoenix, AZ, April 18, 2005.

264. Gilbert, J.E., **Distributed Listening: Improving Speech Recognition Accuracy**, Virginia Polytechnic Institute and State University, Blacksburg, VA, February 3, 2005.

265. Gilbert, J.E., **Application Quest: Computing Diversity**, Virginia Polytechnic Institute and State University, Blacksburg, VA, February 3, 2005.

266. Gilbert, J.E., **Application Quest: Computing Diversity**, Rensselaer Polytechnic Institute, Troy, NY, January 19, 2005.

267. Gilbert, J.E., **Application Quest: Computing Diversity**, Miami University, Oxford, OH October 29, 2004.

268. Gilbert, J.E., **Ask The Experts, Speech in Government/Public Sector**, SpeechTEK Conference, September 13, 2004.

269. Gilbert, J.E., **Applications Quest: Using Clustering Algorithms to Address Affirmative Action**, 10th Annual Conference for African-American Researchers in the Mathematical Sciences (CAARMS10), June 24, 2004, Berkeley, California.

270. Gilbert, J.E., **Spoken Language Systems Research**, University of Maryland College Park, June 17, 2004, College Park, Maryland.

271. Gilbert, J.E., **Building the Future Black Faculty Pipeline**, AfroGEEKS Conference, University of California Santa Barbara, May 7-8, 2004, Santa Barbara, California.

272. Gilbert, J.E., **Applications Quest: Using Technology to Address Affirmative Action**, Florida A&M University, April 20, 2004, Tallahassee, Florida.

273. Gilbert, J.E., **Speech User Interfaces for Information Retrieval**, University of Maryland, Baltimore County, April 6, 2004, Baltimore, Maryland.

274. Gilbert, J.E., **Global Information Technology**, The 4th Annual African American Leadership Summit, Miami University, February 21, 2004
Oxford, Ohio.

275. Gilbert, J.E. **"Using Technology to Diversify University Campuses"**, Auburn University Africana Studies Lecture Series, 208 Foy Union, January 15, 2004, Auburn University, Alabama.

276. Gilbert, J.E., **Voice LETS**, Criminal Justice Technology Symposium V , Marriott Grand Hotel, December 4, 2003, Point Clear, Alabama.

277. Gilbert, J.E., **Voice elVIAS**, Georgia Institute of Technology – Access Grid Presentation, June 17, 2003, Atlanta, Georgia.

278. Gilbert, J.E., **Going to Graduate School for Computer Science**, Tuskegee University, March 6, 2003, Tuskegee, Alabama.

279. Gilbert, J.E., **Technology for African American Survival: Tech Talk**, The 3rd Annual African American Leadership Summit, Miami University February 22, 2003, Oxford, Ohio.

280. Gilbert, J.E., **Information Verbalization**, University of Alabama-Birmingham, September 19, 2002, Birmingham, Alabama.

281. Gilbert, J.E., **An Introduction to VoiceXML: Adding Voice To Data**, BDPA 2002 24th Annual National Conference, August 9, 2002, Orlando, Florida.

282. Gilbert, J.E., **African American Distributed Multiple Learning Styles System: A Culture-specific Approach to ELearning**, BDPA 2002 24th Annual National Conference, August 9, 2002, Orlando, Florida.

283. Gilbert, J.E., **Animated Pedagogical Agents**, Southern Polytechnical State University, April 10, 2002, Marietta, Georgia.

284. Gilbert, J.E., **Making Learning Personal With Adaptive Instruction**, University of Houston Clear Lake, April 1, 2002, Houston, Texas.

285. Gilbert, J.E., **Finding Information With Your Voice (Anywhere, Anytime, Any Device)**, University of Houston Clear Lake, April 1, 2002 Houston, Texas.

286. Gilbert, J.E., **Making Learning Personal With Adaptive Instruction**, Vanderbilt University, March 24, 2002, Nashville, Tennessee.

287. Gilbert, J.E., **Technology in the Next Millennium**, The 2nd Annual African American Leadership Summit, Miami University, February 16, 2002, Hamilton, Ohio.

288. Gilbert, J.E., **Browsing the Internet with Voice Portals: A New Wave in Technology**, African American Entrepreneurship Summit, Auburn University, February 14, 2002, Auburn, Alabama.

289. Gilbert, J.E., **African American Distributed Multiple Learning Styles System: A Culture-specific Approach to ELearning**, ACM Richard Tapia Celebration of Diversity in Computing, October 20, 2001, Houston, Texas.

290. Gilbert, J.E., **E-Commerce, E-Culture and the Digital Divide … Where Are We Headed?**, Black Client Workshop, Cincinnati, Ohio, Cincinnati Convention Center, June 8, 2000, Cincinnati, Ohio.

291. Gilbert, J.E., **Selecting Instructional Technology**, Xavier University, September 10, 1999, Cincinnati, Ohio.

292. Gilbert, J.E., **Electronic Commerce**, BDPA Cincinnati Chapter, Greater Cincinnati Urban League, August 11, 1999, Cincinnati, Ohio.

293. Gilbert, J.E., **E-Commerce & Web Branding: A Use For Persuasive Technologies**, 5th Annual Conference for African-American Researchers in the Mathematical Sciences - CAARMS5, University of Michigan, June 22 - 25, 1999, Ann Arbor, Michigan.

294. Gilbert, J.E., **Teaching with Interactive Media Now & in the Future**, Interactive Media Studies Conference '98, Miami University, November 20, 1998, Oxford, Ohio.

295. Gilbert, J.E., **JavaScript**, Greater Cincinnati Library Consortium, Cincinnati State Community College, November 10, 1998, Cincinnati, Ohio.

296. Gilbert, J.E., **Java**, Association for Computing Machinery Miami University Chapter, Miami University, October 21, 1998, Oxford, Ohio.

297. Gilbert, J.E., **JavaScript as a Web-Development Tool**, University of Cincinnati, December 4, 1997, Cincinnati, Ohio.

298. Gilbert, J.E., **Web-based Instruction System for Education with Interactive Video**, Learning With Technology Conference, The Ohio State University, June 19, 1997, Columbus, Ohio

Other Presentations

1. Palmer, D. Blake, L.A., Howell, G., Albence, A., & Gilbert, J.E. (2020), **Ballot-Marking Devices and Accessibility**, U.S. Election Assistance Commission 2020 Elections Disability, Accessibility, and Security Forum, Washington, DC, February 20, 2020.

2. Dahlberg, M.L., Gilbert, J.E., Tull, R., Zavala, M.E., Byars-Winston, A., & Staussun, K. (2019), **Effective Mentoring: Strategies and Experiences**, American Association for the Advancement of Science (AAAS) Annual Meeting, Washington, DC, February 16, 2019.

3. Darville G., Anderson – Lewis, C., Stellefson, M., Lee, Y., MacInnes, J., Pigg, R. M., Gilbert, J.E., & Thomas, S. (November 5th – 8th, 2017). **Customization of Avatars in a Digital Gaming Intervention – An Experimental Study**. Abstract accepted for presentation at the 145th APHA Annual Meeting & Exposition – Atlanta, GA.

4. Frierson, H., Malcom, S., Moore, J.L., Stassun, K., Campbell, P.B. & Gilbert, J.E. **The Enduring Trek to Diversify STEM PhD Programs**. 2017 AERA, San Antonio, TX, April 28, 2017.

5. Gilbert, J.E., Munakata Marr, J., Thomas, R.C., El Maghraoui, K., & Lasich, D., **Minority Women: Diversity and Mentoring in the Research Environment**, 11th Annual Conference for the Society of Women Engineers (SWE), Chicago, IL, October 15, 2011.

6. Jackson, J.F.L., Charleston, L., & Gilbert, J.E., **Changing Attitudes about Computing Science at Historically Black Colleges and Universities: Benefits of an Intervention Program Designed for Undergraduates**, 4th Annual Conference on Understanding Interventions that Broaden Participation in Research Careers, Nashville, TN, May 28, 2011.

7. Gilbert, J.E., Burnett, M., Ladner, R., Rosson, M.B., & Davis, J., **Applying the NSF Broader Impacts Criteria to HCI Research**, ACM 2011 CHI Conference on Human Factors in Computing Systems, Vancouver, CA, May 10, 2011.

8. Bang, M., Everett, A., Gomez, K. & Gilbert, J.E., **Research and Practice in Education, Media, and People of Color**, American Education Research Association (AERA), New Orleans, LA, April 7, 2011.

9. Blake, M.B., Camp, T., Gilbert, J.E., Perez-Quinones, M., Williams, A., **Choosing the Administrative Path**, Richard Tapia Celebration of Diversity in Computing, San Francisco, CA, April 5, 2011.

10. Jackson, J.F.L., Gilbert, J.E., Charleston, L.J., & Gosha, K., **Differential Gender Effects of a STEM-Based Intervention: An Examination of the African American Researchers in Computing Sciences Program**, American Education Research Association (AERA), Denver, Colorado, May 4, 2010.

11. Jackson, J., Gilbert, J.E., Walker, J.L., & Williams, A.T., **Changing Attitudes about Computing Science: Benefits of an Intervention Program Designed for African American Undergraduates,** American Association of Blacks in Higher Education (AABHE), Atlanta, GA, March 26, 2010.

12. Burge, J., Gilbert, J.E., & Lopez, P. **Finding the Best Career Choice for You**. Academic Careers Workshops for Underrepresented Participants, Coalition to Diversity Computing (CDC), Houston, TX, March 6, 2010.

13. Gilbert, J.E. **Opportunities in Diversity Research.** Auburn University, Auburn, AL, January 28, 2008.

14. Jackson, J., George, P. & Gilbert, J.E. **Interventions that Show Great Promise for Increasing African American Computing Scientists in Higher Education: Evidence from the African American Researchers in Computing Sciences Program**. 2007 AERA, Chicago, IL, April 10, 2007.

15. Hood, S. & Gilbert, J.E., **Alternative Assessment: Using a Culturally Relevant, Computer-Based Interactive Tool (AADMLSS) to Assess Students' Eighth-Grade Algebra Knowledge**. American Education Research Association (AERA), San Francisco, CA, April 8, 2006.

16. Gilbert, J.E., **Thinking Outside the Box: Engaging Students in Creative Thought**, Auburn University Forum on College Teaching and Learning, Auburn, AL, February 4, 2006.

17. Gilbert, J.E. & York, B., **The Computer Science Academic Job Search**, 2005 Richard Tapia Celebration of Diversity in Computing Conference, Albuquerque, New Mexico, October 21, 2005.

18. Gilbert, J.E., **How to Start a Successful Research Program: A Diverse Perspective**, Texas A&M University Academic Career Workshop Focus: Underrepresented Faculty, College Station, Texas, September 9, 2005.

19. Gilbert, J.E., **How to Navigate the Tenure Process: A Diverse Perspective**, Texas A&M University Academic Career Workshop Focus: Underrepresented Faculty, College Station, Texas, September 9, 2005.

20. Gilbert, J.E., Wilson, D. & Gupta, P., **Evaluating Voice User Interfaces Workshop**, SpeechTEK Conference, August 1, 2005.

21. Jackson, J.F.L., Moore, J.L., Cole, D., McNeal, L., Gilbert, J.E., Williams, B.N., and Ford, D.Y., **The Theory of Reasoned Action: Examining Sociological Factors that Influence Education for African American Males**. American Education Research Association Annual Conference. April 12, 2005, Montreal, Canada.

22. Gilbert, J.E., **Voice User Interface Workshop**, SpeechTEK Conference, September 13, 2004.

23. Gilbert, J.E. & Others, **The Survival of African American Men In The Academy: Rules of Engagement**, Vanderbilt University, Black Culture Center, October 11, 2002, Nashville, Tennessee.

24. (Best Poster Presentation)
Rankins, J., Gilbert, J., Brown, P., Pemberton, C., Kacmar C., McDuffie, E., **I-CAN: An Interactive-Computer Assisted Network for Bridging the Chronic Disease Divide between African-Americans and Caucasians**, ACM Richard Tapia Celebration of Diversity in Computing
October 20, 2001, Houston, Texas.

Honors & Awards

2020 **Member, Academy of Science, Engineering and Medicine of Florida (ASEMFL)**

2018 **Fellow, Association of Computing Machinery (ACM)**

2018 **Computing Research Association (CRA) A. Nico Habermann Award**

2018 **Self-Advocates Becoming Empowered (SABE) Presidential Award**

2017 **Fellow, National Academy of Inventors (NAI)**

2016 **Southern Region Education Board (SREB) Faculty Mentor of the Year**

2015 **AAAS-Lemelson Foundation Invention Ambassador**

2015 **University of Cincinnati The Alta Petit Award, Presidential Medal**

2014 **American Association for the Advancement of Science (AAAS) Mentor Award**

2013 **Featured as a Black Tech Game Changer by NPR on December 12, 2013 under #NPRBlacksInTech on Twitter**

2013 **Featured in People of ACM in the ACM Bulletin on October 3, 2013**

2013 **Auburn University Black Graduate and Professional Student Association creates the Juan E. Gilbert, Ph.D. Distinguished Lecture Series**

2013 **Named an Idea Maker: Ten Tech Innovators in 2013 by the Chronicle of Higher Education**

2013 **Richard A. Tapia Achievement Award**

2013 **Clemson University Research Foundation (CURF) Inventor's Club**

2012 **Federal Communications Commission (FCC) Chairman's Awards for Advancement in Accessibility**

2012 **Named one of the 2012 The Root 100 Black Influencers and Achievers**

2012 **2012 National Center for Women in IT (NCWIT) Undergraduate Research Mentoring Award**

2012 **2012 Hamilton, Ohio Booker T. Washington Community Center Academic Excellence Award**

2012 **2012 Miami University Bishop Medal Alumni Award**

2012 **February 2012 Named "Dr. Juan Gilbert Month" by Hamilton, Ohio City Council**

2012 **Recipient of the Hamilton, Ohio City Council Key to the City**

2012 **Council for Advancement and Support of Education (CASE) District III Grand Award Winner for Audiovisual Communication, "Prime III: The world's first all-accessible, electronic voting system"**

2011 **Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring (PAESMEM)**

2011 **Minority Media and Telecommunications Council Broadband and Social Justice Blog People's Hero of the Week**

2011 **Clemson University Board of Trustees 2011 Award for Faculty Excellence**

2010 **Fellow, American Association for the Advancement of Science (AAAS)**

2010 **ACM Distinguished Scientist**

2008-2015 **Named 1 of the 50 Most Important African Americans in Technology**
(eAccess Corp of San Francisco, John William Templeton, president/executive editor)

2011 **Fellow, African Scientific Institute (ASI)**

2010 **Academic Keys Who's Who in Sciences Education**

2010 **Clemson University Board of Trustees 2010 Award for Faculty Excellence**

2009 **Clemson University Board of Trustees 2009 Award for Faculty Excellence**

2010–2012 **IEEE Computer Society Distinguished Visitors Program (DVP)**

2009 **Speech Technology Magazine Speech Luminary Award Recipient**

2009 **University of Texas at Austin IC^2 Institute Global Fellow**

2008 **IEEE Computer Society Golden Core Award**

2008 **National Associate of the National Research Council of the National Academies**

2009 **Featured as a Master of Innovation by Black Enterprise Magazine March 2009**

2009 **Black Engineer of the Year Modern Day Technology Leadership Award**

2009 **Auburn University Computer Science & Software Engineering Outstanding Engineering Faculty Award**

2009 **Information Today, Inc. Voice User Interface Design Contest Winner**

2008 **Fellow, Auburn University Center for Governmental Services**

2008 **National Society of Black Engineers Golden Torch Award for Pioneer of the Year**

2008 **BDPA Epsilon Award for Outstanding Technical Contribution**

2008 **Auburn University Distinguished Diversity Researcher Award**

2007 **Total System Services Inc. (T-SYS) Distinguished Professorship**

2007-2015 **ACM Distinguished Speaker**

2007 **Honored Member of the Premier International Who's Who Registry of Outstanding Professionals 2007-2008 Edition**

2007 **Minority Access, Inc. National Researcher Role Model Award Recipient**

2007 **Led the First Runner-Up and Best in Class Winner of the First Annual AVIOS Speech Application Contest Team**

2007 **Who's Who in Science and Engineering**

2006 **Total System Services Inc. (T-SYS) Distinguished Associate Professorship**

2006 **Elevated to Senior Membership of the IEEE Computer Society**

2006 **Microsoft Research External Research Fund Recipient**

2006 **Ralph H. Metcalfe, Sr. Chair - Marquette University**

2006 **Featured in City Year New York Martin Luther King, Jr. Mural Painting in Honor of Diversity in Technology**

2006 **Metropolitan Who's Who Registry**

2006 **Who's Who in America**

2006 **Invited as a Presenter at the 2006 National Academy Annual Meeting**

2005 **Invited to the National Academy of Engineering Frontiers of Engineering Symposia**

2005 **Named an Honorary Citizen of Huntsville, Alabama by The City Council and Mayor of Huntsville**

2005 **100 Black Men of Greater Auburn/Opelika, Inc. Superior Academic Service Award**

2005 **American Society for Engineering Education (ASEE) DuPont Minorities in Engineering Award**

2005 **United Who's Who Executive Registry**

2005 **Auburn University Outstanding Minority Service Award**

2005 **Auburn University Alumni Outstanding Minority Achievement Award**

2005 **Auburn University Computer Science & Software Engineering Outstanding Engineering Faculty Award**

2005 **Black Engineer of the Year Special Recognition Award Recipient**

2004 **Invited to the National Academy of Sciences Beckman Frontiers of Science Symposia**

2003 **Auburn University Alumni Engineering Council Junior Faculty Research Award**

2003 **The Coalition to Diversity Computing Conference Scholarship Winner**

2002 **One of 250 researchers listed on LESTER (Learning Science & Technology Repository)**

2002 Featured on
Minority Scientist Network a publication of the American Association for the Advancement of Science

2002 Featured in
Who's Who in Engineering Education (WWEE), 2002 edition

2002 (Profiled in Black Issues in Higher Education as a top scholar)
(De)Programming Stereotypes. *Black Issues In Higher Education*. 18, 23, (2002).

2002 **Georgia Institute of Technology FOCUS Fellow**

1999 **Miami University Leadership Commitment Selection**

1999 **ACM/IBM Quest for Java 99 Contest 5th Prize Winner**

1998 **International WHO'S WHO of Information Technology**

1997 **Albert C. Yates Fellowship, University of Cincinnati**

1995 **Dean's Fellowship, The Ohio State University**

1994 **Great Performance Award, NCR Corporation**

1990 **NCR Innovative Thinker's Contest Winner, Miami University**

1988 **NCR Minority Scholarship Award, Miami University**

1988 **Black Student Action Association Service Award, Miami University**

Experience

2015- Present **University of Florida (Gainesville, FL), Professor & Department Chair, Computer & Information Science & Engineering Department**

2014 – 2015 **University of Florida (Gainesville, FL), Professor & Associate Chair of Research, Computer & Information Science & Engineering Department**

2009 – 2014 **Clemson University (Clemson, SC), Professor & Chair Division of Human-Centered Computing**

2010 – 2012 **Clemson University (Clemson, SC), Graduate Program Director Division of Human-Centered Computing**

2009 **Auburn University (Auburn, AL), Professor**

2005 – 2009 **Auburn University (Auburn, AL), Associate Professor**

2007 – 2016 **President and Chief Technology Officer, Applications Quest™, LLC.**
-http://www.ApplicationsQuest.com/

2009 – 2012 **Technical Advisor to Everyone Counts Inc.**
-http://www.EveryoneCounts.com/

2006 – Present **Consultant, American Association for the Advancement of Science (AAAS) Center for Advancing Science & Engineering Capacity**
http://php.aaas.org/programs/centers/capacity/01_About/01_ConsultantRoster.php

2000 – 2005 **Auburn University (Auburn, AL), Assistant Professor**

2000 – 2016 **Brothers of the Academy Institute**
*Webmaster
-http://www.BrothersOfTheAcademy.org/

1998 - 2000 **Miami University (OH), Visiting Instructor, Systems Analysis Department**

1997 **The Ohio State University (Teaching Assistantship)**
*C++ Programming for Engineers(Spring 1997)

1996 – 1997 **Computer Science Adjunct Faculty, Columbus State Community College, Columbus, Ohio**
*Database Programming with Oracle (Summer 1996)
*PC Operating Systems DOS/Windows (Autumn 1996)
*Program Design and Development(Winter-Spring 1997)

1988 – 1995 **NCR Corporation**, Dayton, Ohio
* Application Development and Consulting
* DBA for World Wide Orders System on Teradata Database
* Application Development in Visual C++
* Managed & documented Filepro database
* Installed PC's, printers, & software
* Investigated new system software

1988 – 1991 **Applied Science Department,** Miami University, Oxford OH
*Monitor PC-Network maintenance
*Monitor computer Lab Operations
*Tutor Systems Analysis majors
* Manage Network for engineering students

Memberships

ACM (Association for Computing Machinery) (http://www.acm.org/)

American Association for the Advancement of Science (AAAS)

ACM US Technology Policy Committee (https://www.acm.org/public-policy/ustpc/)

Human Factors and Ergonomics Society (HFES)

User Experience Professional's Association (UXPA)

IEEE Computer Society

American Society for Engineering Education (ASEE)

International Artificial Intelligence in Education Society (AIED)

AACE (Association for the Advancement of Computing in Education)

American Education Research Association (AERA)

Association for Voice Interaction Design (AVIxD)

ACM SIGACCESS
Special Interest Group on Accessible Computing

ACM SIGCSE
Special Interest Group on Computer Science Education

ACM SIGCAS
Special Interest Group on Computers and Society

ACM SIGCHI
Special Interest Group on Computer-Human Interaction

National Society of Black Engineers (NSBE)

Adaptive Hypertext & Hypermedia

Upsilon Pi Epsilon

BDPA (Black Data Processing Association)

American Association of Blacks in Higher Education (AABHE)

Kappa Alpha Psi Fraternity Inc.

Service

2017 – Present	**Human Factors and Ergonomics Society (HFES) Internet Technical Group (ITG) Chair**
2019 – Present	**Sloan-AAAS-Education Counsel Advisory Committee**
2019 – Present	**ACM Diversity & Inclusion Council Member**
2016 - Present	**University of Central Florida Industrial Advisory Board Member**
2017 – Present	**University of Florida African-American Studies Advisory Board**
2017 – Present	**BDPA National Board Member**
2018 – 2021	**NSF Committee on Equal Opportunities in Science and Engineering (CEOSE) Advisory Committee**
2017 – Present	**APLU NSF Engineering Databooks Advisory Committee**
2018 - 2019	**University of Florida African-American Studies Program Director Search Committee**
2017-2019	**Human Factors and Ergonomics Society (HFES) Conference Internet Technical Group (ITG) Program Chair**
2019 - 2020	**National Academies of Sciences, Engineering and Medicine (NASEM) Committee on The Role of Authentic STEM Learning Experiences in Developing Interest and Competencies for Technology and Computing**
2017 - 2019	**National Academies of Sciences, Engineering and Medicine (NASEM) Committee on The Science of Effective Mentoring in Science, Technology, Engineering, Medicine, and Mathematics (STEMM)**
2019	**ACM SIGCHI Conference Reviewer**
2019	**Served as a Reviewer for William T. Grant Foundation**
2019 - 2022	**ACM Heidelberg Laureate Forum Selection Committee Member**
2017 – 2019	**National Academies of Sciences, Engineering and Medicine (NASEM) Committee on The Future of Voting: Accessible, Reliable, Verifiable Technology**

2018	**Served as a reviewer for the Journal of Women and Minorities in Science and Engineering**
2018	**Served as a reviewer for Automation in Construction Journal**
2017 - 2018	**Intel Corporation HBCU Diversity Initiative External Advisory Board Member**
2017	**Applied Human Factors and Ergonomics (AHFE) 2017 International Conference for the Design for Inclusion Scientific Advisory Board Member**
2017	**Served as a reviewer for Communications of the ACM**
2017	**Served as a reviewer for Computers & Security Journal**
2017	**Human Factors and Ergonomics Society (HFES) Conference User Experience (UX) Day Program Committee**
2017	**Served as NSF Panel Reviewer**
2016	**Human Factors and Ergonomics Society (HFES) Conference User Experience (UX) Day Marc Resnick Best Paper Award Judge**
2016	**Human Factors and Ergonomics Society (HFES) Conference User Experience (UX) Day Leadership Development Workshop Chair**
2016	**Served as a reviewer for Computers & Security Journal**
2015	**Human Factors and Ergonomics Society (HFES) Conference User Experience (UX) Day Contest Judge and Mentor**
2015-2017	**Applied Human Factors and Ergonomics (AHFE) Design for Inclusion 2016 Scientific Advisory Board**
2015-2017	**USACM Executive Council Member**
2015-2017	**Served on Advisory Board for the California Association of Voting Officials (CAVO)**
2015-Present	**Advisor, University of Florida National Society of Black Engineers (NSBE)**
2015-2018	**Served on Advisory Board for the Consortium Enabling Cybersecurity Opportunities and Research (CECOR)**

2015	**Served as an Internal Reviewer for the UF Pew Scholars Program in Biomedical Sciences**
2015	**Served on Program Committee for RESPECT 2015 (Research in Equity and Sustained Participation in Engineering, Computing, and Technology)**
2015	**Served as a reviewer for ACM Computing Surveys**
2014	**Served as a reviewer for Applied Ergonomics Journal**
2014	**Served as a reviewer for Morgan Kaufman Publishers for HCI book**
2014-2017	**USACM E-Voting Subcommittee Chair**
2014	**Served as a NSF Panelist**
2014	**Served as a reviewer for Cyberpsychology, Behavior, and Social Networking Journal**
2014-2016	**American Association for the Advancement of Science (AAAS) Annual Scientific Program Committee Member**
2013-2016	**Served on the Boys & Girls Clubs of American STEAM Advisory Council**
2014	**Served as a reviewer for the International Journal of Artificial Intelligence in Education (IJAIED)**
2013	**Served as a reviewer for the Journal of STEM Education**
2013	**Served as a reviewer for the NCWIT Undergraduate Research Mentoring Award**
2013	**Served as a reviewer for Communications of the ACM**
2012	**Served as a reviewer for the Center for Culturally Responsive Evaluation and Assessment (CREA) Inaugural Conference**
2012	**ACM 2013 CHI Conference Paper Reviewer**
2012	**American Association for the Advancement of Science (AAAS) Mentor Award Committee Member**

2012 - 2014	**Clemson University School of Computing Graduate Student Association, Co-Advisor**
2012 - 2014	**Anderson District 5 Career Campus, Career and Technology Advisory Council Member**
2012 - 2014	**Associate Partner on Advising Committee for AdeleRobots.com**
2011 – Present	**Advisory Board Member for AAAS-NSF Emerging Researchers National (ERN) Conference in Science, Technology, Engineering and Mathematics (STEM)**
2010 – 2014	**NSF Computer & Information Science & Engineering (CISE) Advisory Committee Member**
2010 – 2013	**Member of the American Association for the Advancement of Science (AAAS) Board appointed Committee on Opportunities in Science (COOS)**
2010 – 2013	**American Association for the Advancement of Science (AAAS) Early Career Award for Public Engagement Selection Committee Member**
2011 – 2014	**Served on Clemson University President's Commission on the Status of Black Faculty and Staff**
2012 - 2014	**BMW Steering Circle Committee, Member**
2012	**Guest Blogger for Communications of the ACM**
2012 - 2013	**Chair, Coalition to Diversity Computing (CDC), joint organization of the ACM, CRA and IEEE-CS**
2011 - 2014	**Clemson University CyberInstitute Steering Committee Chair**
2011	**Editorial Board Member for Special issue on Social Media and Mobile Marketing in Journal of Research in Interactive Marketing**
2011	**Associate Editor for the International Journal of Health, Wellness and Society**
2011	**Served as a reviewer for the Journal of STEM Education: Innovations and Research**
2011	**Ford Foundation Fellowship Panelist**

2011	**Advisory Board for DiverseBusinessNews.com**
2011	**Technical Program Committee Member for Learning Technologies for the Developing World (LT4D) Workshop for the The 11th IEEE International Conference on Advanced Learning Technologies (ICALT 2011)**
2011	**Served as a reviewer for the Personal and Ubiquitous Computing Journal Special Theme Issue on Automotive User Interfaces and Interactive Applications**
2011	**Served as a reviewer for 2012 IEEE International Electric Vehicle Conference**
2010	**Served as a reviewer for the Quality Education Forum Journal**
2011	**Served as a reviewer for Usability Professionals Association (UPA) 2011 Conference**
2010	**Computer Science Education Week Steering Committee Member**
2010	**American Association for the Advancement of Science (AAAS) Mentor Award Selection Committee Member**
2010	**Served on 3 NSF Panels**
2009 -	**Clemson University School of Computing Graduate Recruiting Committee Chair**
2010 -	**Clemson University School of Computing Graduate Affairs Committee**
2010	**Clemson University Executive Vice-President for Research Search Committee Member**
2010	**Clemson University Computing and Information Technology EPSCoR Desktop to Teragrid Search Committee member.**
2010	**Clemson University Search Committee for Director of Access and Equity**
2007 – 2009	**IEEE Computer Society Board of Governors**
2009 - 2015	**ACM U.S. Public Policy Committee (USACM) Council Member**

2006 - 2008	**IEEE Computer** **Broadening Participation in Computing Column Editor**
2009 -	**Journal of African American Males in Education** **Advisory Board Member**
2010	**Served as a review for ACM Transaction on Computing in Education**
2010	**Served as a review for IEEE Signal Processing Letters**
2009	**Served on 2 NSF Panels**
2008	**National Academy of Science France – U.S. Kavli Frontiers of Science Symposium Organizing Committee Member**
2008	**Served on the U.S. Election Assistance Commission Interdisciplinary Roundtable on Voluntary Voting Systems Guidelines (VVSG)**
2009	**IEEE International Conference on Multimedia & Expo (ICME 2009) Technical Program Committee**
2008	**College Board and NSF Advanced Placement Computer Science Commission**
2009	**Speech Technology Conference Committee**
2008	**Auburn University Center for Governmental Services Associate Director Search Committee Chair**
2008 – 2012	**CRA-W/CDC Discipline Specific Mentoring Workshop Co-Chair**
2006 – 2009	**Editorial Advisory Board – Speech Technology Magazine**
2008	**Auburn University Outreach Symposium Committee**
2008 – 2009	**Auburn University Black Graduate and Professional Student Association (BGPSA) Faculty Advisor**
2007	**Served on the U.S. Election Assistance Commission Roundtable on Voluntary Voting Systems Guidelines (VVSG)**

2007 – 2009	**Advisory Board Member for The Information Technology and Innovation Foundation's Electronic Voting Initiative**
2007 – 2014	**Advisory Board Member for Juxtopia Inc.**
2006 – 2014	**Advisory Board Member for the Center for African-American Research and Policy**
2007	**Auburn University Diversity Research Institute Planning Committee Member**
2007 – 2010	**American Education Research Association (AERA) Communications and Outreach Committee Member**
2007	**SpeechTEK 2007 Voice User Interface Workshop Co-Chair VUI Designer as a Profession: Job Qualifications & Career Tracks**
2007	**Reviewer for Journal of STEM Education**
2007	**Reviewer for INTERACT 2007**
2007	**Workshop Committee Co-Chair for the 1st NSF International Workshop on Virtual Instructors, VI-2007, Georgetown University, May 21-22, 2007.**
2007	**Program Committee Member for the 2007 "Fixing the Academy" Tapping Black Excellence on White Campuses Conference, Johns Hopkins University, April 13-14, 2007.**
2006 – 2008	**Advisory Board for the QEM INFLOW Project, a project of the Quality Education for Minorities (QEM) Network supported by the National Science Foundation's Engineering Directorate.**
2006 – 2007	**ACM Southeast Conference 2007 Program Committee**
2006 – 2007	**IEEE Computer Society Technical Committee on Learning Technology - Virtual Instructors Pilot Research Group (VIPRG) Conversational Interface Sub-Committee Chair**
2007 – 2009	**Served on the Auburn University Athletics Department Student Athlete Support Services (SASS) Advisory Board**
2007	**Auburn University Outreach Symposium Committee Member**
2007 - 2009	**Auburn University College of Engineering Graduate Student Recruitment Committee**

2007	**ACM Richard Tapia Celebration of Diversity in Computing Birds of a Feather Co-Chair**
2007	**Reviewer for ACM CHI 2007**
2007	**Fixing the Academy: Tapping Black Excellence on White Campuses Papers Co Chair**
2006	**Reviewer for the International Journal of Interactive Technology and Smart Education**
2006	**Reviewer for IEEE Computer**
2006	**Reviewer for Journal of Women and Minorities in Science and Engineering**
2006 – 2007	**Served on the 2007 Program Committee for the Association of Computer and Information Science/Engineering Departments at Minority Institutions (ADMI)**
2006	**Program Committee Member for InterSpeech Satellite Workshop titled "Dialogue on dialogues: Multidisciplinary Evaluation of Advanced Speech-based Interactive Systems "**
2006	**Chaired the organization committee for the National Academy of Sciences Kavli Frontiers of Science Symposia**
2005 - 2007	**The American Society for Engineering Education (ASEE) Minorities in Engineering Award Committee Member**
2005 – 2009	**Auburn University Title VI Committee Member.**
2006	**Reviewer for the International Journal of Human-Computer Interaction**
2005 - 2010	**Black Data Processing Association (BDPA) Information Technology Institute Academic Chair**
2005	**International Conference on Multimodal User Interfaces (ICMI) Universal Access Program Area Chair**
2005	**ACM Richard Tapia Conference Celebration of Diversity in Computing Served on the Scholarship Committee**

2005	**Served on the organization committee for the National Academy of Sciences Beckman Frontiers of Science Symposia**
October 20-21, 2004	**Served on the Computing Research Association's (CRA) Workshop on Broadening Participation in Computing.**
August 8, 2004	**Served as the High School and College IT Showcase Lead Judge at the 26th Annual National BDPA Conference.**
2004	**Served on the Editorial Review Board for International Journal on ELearning and the Journal of Interactive Learning Research.**
May 2004 - August 2004	**Abstract Selection Committee for the 2004 SACNAS Conference (Society for Advancement of Chicanos/Latinos and Native Americans in Science), Austin, Texas from October 21-24, 2004.**
February 2004 - Present	**VoiceXML University: VoiceXML Education Exchange Review Board Member (http://www.voicexml.org/resources/vxml_university/index.html)**
April 2004	**International Conference on Computing, Communications and Control Technologies: CCCT'04 Served on the External Paper Review Committee**
March 25, 2004	**The 4th International Conference on Advanced Learning Technologies (ICALT 2004) Aug. 30 - Sep. 1, 2004 Served on the External Paper Review Committee http://lttf.ieee.org/icalt2004/committees.html**
2003	**Served on 3 NSF Proposal Review Panels**
October 15-18, 2003	**ACM Richard Tapia Conference Celebration of Diversity in Computing Served on the Scholarship Committee**
October 1, 2003	**SpeechTEK 2003 Served as Moderator for the Building Brands with Speech Solutions Panel**
Fall 2003	**Served on the Africana Studies Major/Department Proposal Committee for President Walker, lead by Dr. Keenan Grenell, Interim Assistant Provost for Diversity and Multicultural Affairs**

August 22, 2003	**Served as a Review for Systemics, Cybernetics and Informatics 2003**
August 19, 2003	**Participated in the design of the VoiceXML Application Developer Exam (developed by The VoiceXML Forum)**
August 13-18, 2003	**BDPA 2003 25th National Annual Conference Workshops Deliver Manager/Chair**
August 6, 2003	**Serving as a reviewer for the Journal of Computing in Higher Education**
Spring 2003	**Advised 2 undergraduate seniors at Tuskegee University on their senior project.**
2002 – 2010	**Miami University Department of Computer Science & Systems Analysis Advisory Committee Member**
2003	**National Black Data Processing Association Conference Workshop Chair**
2002	**NSF Proposal Review Panel**
October 2002	**McGraw Hill Book Review (For the 2nd time) C++ Programming: Lessons and Applications by T. B. D'Orazio**
October 2002	**McGraw Hill Book Review C++ Program Design by Cohoon and Davidson**
June 6, 2002	**Black Data Processing Association & The Black World Today Radio Talk Show Guest**
April 2002	**ACM Crossroads Magazine HCI Issue Reviewer**
March 2002	**McGraw Hill Book Review Applied C: An Introduction and More by Alice Fischer, David Eggert & Stephen Ross**
January 2002	**McGraw Hill Book Review C++ Programming: Lessons and Applications by T. B. D'Orazio**

Summer 2001 Project NIA: **Taught summer course on computers to 7th and 8th graders from Loachapoka Junior High School.**

Doctoral Graduates (Major Professor)

	Graduate Student	Graduation Date	Position
1.	*Rua M. Williams	June 2, 2020	Assistant Professor, Purdue University
2.	*+Brianna Posadas	April 9, 2020	Media Democracy Fund Policy Fellow
3.	*+Tiffanie Smith	October 28, 2019	Assistant Professor, Lincoln University
4.	*Elizabeth A. Matthews	June 25, 2019	Assistant Professor, Washington & Lee University
5.	*+Sanethia V. Thomas	March 13, 2019	Lecturer, University of Florida
6.	+Jerone Dunbar	August 3, 2018	Honda Research & Development
7.	*+Jessica N. Jones	March 16, 2018	Human Systems Research Scientist, Future Combat Systems Branch at NSWC Dahlgren Division
8.	~+Julian Brinkley	March 16, 2018	Assistant Professor, Clemson University
9.	*+France Jackson	March 15, 2018	Intel
10.	+Marvin Andujar	July 24, 2017	Assistant Professor, University of South Florida
11.	+Chris Crawford	July 17, 2017	Assistant Professor, University of Alabama
12.	*+Andrea Johnson	June 30, 2015	Assistant Professor, Spelman College
13.	*Hanan Alnizami	December 17, 2014	Jaguar Land Rover Research
14.	+Tamirat Abegaz	November 17, 2014	Assistant Professor, University of North Georgia
15.	*+Aqueasha Martin-Hammond	July 18, 2014	Assistant Professor IUPUI
16.	+Joshua Ekandem	July 18, 2014	Intel
17.	+Kinnis Gosha	April 3, 2013	Hortenius I. Chenault Endowed Associate Professor, Morehouse College
18.	~+Ignacio Javier Álvarez Martínez	December 18, 2012	Intel
19.	*+Christin D. Shelton	May 14, 2012	Consultant
20.	*+Shanee Dawkins	August 25, 2011	Research Scientist at NIST

21.	*+Wanda Eugene	March 23, 2011	Research Scientist at University of Florida
22.	+Caio V. Soares	July 28, 2010	Intuit
23.	*+Yolanda McMillian	June 15, 2010	Teaching Specialist, Michigan State University
24.	*+Philicity K. Williams	May 21, 2010	U.S. Department of Defense
25.	Kenneth Rouse	July 21, 2009	Associate Professor, Computer Science at LeTourneau University
26.	+E. Vincent Cross, II	April 24, 2009	Senior Research Scientist, TRACLabs
27.	David Thornton	July 14, 2008	Associate Professor, Jacksonville State University
28.	*+Dale-Marie Wilson	July 12, 2006	Associate Professor, UNC-Charlotte
29.	Yapin Zhong	September 16, 2003	

Masters Graduates (Major Professor)

	Graduate Student	Graduation Date	Degree
1.	*+Isabel Laurenceau	December 2019	M.S.
2.	*Kiana Alikhademi	August 2019	M.S.
3.	*Divyalakshmi Mahendran	December 2017	M.S.
4.	*+Jessica N. Jones	December 2014	M.S.
5.	*+Naja Mack	December 2013	M.S.
6.	+Phillip Hall	December 2013	M.S.
7.	+Jerone Dunbar	December 2013	M.S.
8.	*Alison Nolan	December 2013	M.S.
9.	*+France Jackson	May 2013	M.S.
10.	John Mark Smotherman	December 2012	M.S.
11.	*Lingyan Wang	October 21, 2009	M.S.
12.	*Vasavi Chilamantula	October 21, 2009	M.S.W.E.
13.	*Anjeli Singh	October 20, 2009	M.S.
14.	*+Shanee Dawkins	October 20, 2009	M.S.
15.	*Wanda Moses	August 10, 2009	M.S.
16.	*Yueqin Lin	August 6, 2009	M.S.W.E.
17.	+Jerome McClendon	July 20, 2009	M.S.

18.	Josh Stephens	June 12, 2009	M.S.W.E.
19.	[+]Gregory Rogers	May 4, 2009	M.S.
20.	[+]Caio Soares	April 11, 2009	M.S.
21.	Jamey White	July 16, 2008	M.S.W.E.
22.	[*]Philicity K. Williams	April 9, 2008	M.S.
23.	[*]Jennifer Garmon	May 7, 2007	M.S.W.E.
24.	[*+]Andrea Williams	April 17, 2007	M.S.
25.	[*]Ashley Wachs	April 6, 2007	M.S.
26.	[*]Kathryn Nobles	April 5, 2007	M.S.
27.	Derek Anderson	April 5, 2007	M.S.W.E.
28.	[+]Kinnis Gosha	April 2, 2007	M.S.
29.	[*+]Christin Hamilton	December 6, 2006	M.S.W.E.
30.	Spencer Lee	August 4, 2006	M.S.
31.	[*+]Alexandria Williams	June 30, 2006	M.S.
32.	Chao Wang	June 9, 2006	M.S.
33.	Sanjith David	May 12, 2006	M.S.W.E.
34.	Billy T. Baker	July 13, 2005	M.S.W.E.
35.	[+]Andre Murphy	April 8, 2005	M.S.W.E.
36.	[*+]Michele Williams	April 8, 2005	M.S.W.E.
37.	[+]E. Vincent Cross, II	January 14, 2005	M.S.W.E.
38.	[+]Nicholas J. Parks	November 29, 2004	M.S.W.E.
39.	[*]Tongmin Shen	October 5, 2004	M.S.
40.	[*]Priyanka Gupta	July 7, 2004	M.S.
41.	[*+]Bettina Cornelius	July 2, 2004	M.S.
42.	[*]Kristie Goss	May 5, 2004	M.S.
43.	[*]Sangeeta Garhyan	May 4, 2004	M.S.
44.	[*]Laura McDonald	April 12, 2004	M.S.W.E.
45.	[*]Michelle Howell	November 6, 2003	M.S.W.E.
46.	[+]Adeoye O Adeyemo	July 17, 2003	M.S.W.E.
47.	[*]Yifang Gu	July 16, 2003	M.S.W.E.
48.	Yu Zhang	July 16, 2003	M.S.W.E.
49.	[*+]Tanecia K. Simmons	June 16, 2003	M.S.W.E.
50.	[*]Weihong Hu	May 21, 2003	M.S.

51.	*+Dale-Marie Wilson	December 5, 2002	M.S.
52.	*Xiaoyan Qi	October 25, 2002	M.S.W.E.
53.	*Yuehua Lin	July 26, 2002	M.S.
54.	Dackral Phillips	July 9, 2002	M.S.
55.	*Nupura Kolwalkar	June 26, 2002	M.S.W.E
56.	Haiyu Qi	May 30, 2002	M.S.W.E

Postdoctoral Researchers Advised

	Postdoc Researcher and Institution	Dates
1.	*+Jeremy A. Waisome (U. of Florida)	2017 - 2020
2.	+Edward Dillon (U. of Alabama)	2013 - 2016
3.	*+Wanda Eugene (Auburn University)	2013 - 2017
4.	+Jamie Macbeth (UCLA)	2013 - 2014
5.	*+Deidra Morrison (Northwestern University)	2009 – 2011
6.	+Shaun Gittens (U. of Maryland College-Park)	2007 – 2008

Undergraduate Honors Thesis Advised

	Researcher and Institution	Dates
1.	+Anthony Colas (U. of Florida)	12/9/2016

'*' – female; '+' – minority; '~' – co-advisor

EXHIBIT B

UF UNIVERSITY of FLORIDA

Herbert Wertheim College of Engineering
Computer & Information Science & Engineering

E301 CSE Building
PO Box 116120
Gainesville, FL 32611-6120
352-392.1200 Voice
352-392-1220 Fax

Chairperson Lofgren, Ranking Member Davis, members of the Committee,

I am honored to share with you my expertise in voting systems security, accessibility and usability. Let me begin by speaking about my background as it relates to this important topic. I am the Andrew Banks Family Preeminence Endowed Professor and Chair of the Computer & Information Science & Engineering Department at the University of Florida where I lead the Human Experience Research Lab. I have worked in elections for more than 15 years conducting research, developing innovative technologies and conducting studies with various elections stakeholders. In 2003, I developed an open source voting system called Prime III in response to the 2000 Presidential Election and the Help America Vote Act, or HAVA. To my knowledge, I am the only person to create an open source voting system that has been used in federal, state and local elections. Prime III was the first universally designed voting system, to my knowledge, meaning it was designed for all voters, independent of their ability or disability. The idea was one machine that everyone could use. This has benefits for accessibility, security and usability for voters and election administrators. For example, the margin of victory of the 2016 Presidential Election was smaller than the number of voters with disabilities that voted. If voters with disabilities are the only people voting using a specific type of technology, then adversaries could simply target that single population and impact the outcome of the election, see data from Rutgers' reports below. After HAVA was passed, each voting precinct was required to have at least 1 accessible voting machine. Although this was a good idea making progress towards increasing accessibility of our elections, there was one side effect. It setup a separate but equal experience for voters with disabilities. As such, there were unexpected issues introduced. For example, in some precincts, there were reports of the accessible voting equipment not being setup because the poll workers didn't know how to set it up. Essentially, because few voters used it, it was not something the poll workers gave much attention. Prime III has been used statewide in New Hampshire. New Hampshire adopted Prime III as their accessible voting machine and renamed it, One4All. Butler county, Ohio, which is my birth county, adopted Prime III as their remote accessible, absentee voting system in 2018. ES&S is the nation's largest voting machine manufacturer. ES&S created a machine called the Universal ExpressVote. ExpressVote was designed after Prime III. Dominion has the ImageCast Prime X machine that is very similar to Prime III as well. The research and development of Prime III was supported by the National Science Foundation

and the U.S. Election Assistance Commission. The U.S. EAC supported this research and development through a 5 year accessible voting technologies grant that created the Research Alliance for Accessible Voting, RAAV. This grant helped setup Prime III research, development and studies that have resulted in improvement in the state of the art in elections technology. It also supported research and training for election administrators. Grants such as the EAC accessible voting technologies project are crucial to achieving the necessary security, accessibility and usability in our elections. Grants from the U.S. EAC have resulted in very good findings that are improving our elections.

I would like to transition now into specific recommendations. In 2018, the National Academies of Science, Engineering and Medicine released a consensus report titled, "Securing the Vote: Protecting American Democracy" The report was the result of a 2 year study conducted by experts from elections administration and policy, cybersecurity, accessibility, and law. I was a member of this committee. Over the course of the study, the committee reviewed extensive background materials. It held five meetings where invited experts spoke to the committee about a range of topics including voter registration, voting accessibility, voting technologies and market impediments to technological innovation, cybersecurity, post-election audits, and the education and training of election workers. The committee did not access classified information but instead relied on information in the public domain, including state and federal government reports, published academic literature, testimony from congressional hearings, and presentations to the committee. Issues related to voting such as voter identification laws, gerrymandering, foreign and domestic disinformation, campaign financing, and other similar topics were outside the charge of the committee and therefore, are not included in the report.

The committee was inspired by dedicated and enlightened election officials from across the nation and all levels of government. Such individuals are working tirelessly to improve accessibility, harness new technologies, and ensure the integrity of the results of elections. Unfortunately, these same officials often lack appropriate staff and resources and are routinely hampered in their work by a patchwork of laws and regulations that make it difficult to upgrade and modernize their election systems. U.S. elections are subject to aging equipment, targeting by external actors, a lack of sustained funding, and growing expectations that voting should be more accessible, convenient, and secure. The present issues and threat environment provide an extraordinary opportunity to marshal science and technology to create more resilient and adaptive election systems that are accessible, reliable, verifiable, and secure.

The Academies' study committee recognized that the federal government has an important role to play in understanding the impact of technological changes on the conduct of elections and in evaluating possible remedies to election threats. It noted that the U.S. EAC has a vital role to play in improving election administration and that NIST and NSF also have important roles to play in advancing the state of the art in US elections. The committee stated that the designation by the U.S. Department of Homeland Security of election systems as a subsector of the existing government facilities critical infrastructure sector is correct and appropriate, and that this designation reflects appropriately the need for sophisticated technical expertise and sharing of intelligence information required to protect the nation's election infrastructure.

We must foster an environment that promotes innovation in election systems technology, provides election administrators with human resource tools to increase the professionalization of the election workforce, allocates appropriate resources for the operation of elections, and better secures elections by developing auditing tools that provide assurances that ballots cast are counted and tabulated correctly and that the results of elections are accurate.

I would like to share some key recommendations from the report with you.

Elections should be conducted with human-readable paper ballots. These may be marked by hand or by machine, using a ballot-marking device; they may be counted by hand or by machine, using an optical scanner. Recounts and audits should be conducted by human inspection of the human-readable portion of the paper ballots. Voting machines that do not provide the capacity for independent auditing, for example, machines that do not produce a voter-verifiable paper audit trail, should be removed from service as soon as possible. Currently, there's no known way to secure a digital ballot. At this time, any election that is paperless is not secure. Therefore, Internet voting, specifically, the return of ballots should not be used at this time.

Vendors and election officials should be required to report any detected efforts to probe, tamper with, or interfere with any election systems, including, voter registration systems.

Each state should require a comprehensive system of post-election audits of processes and outcomes.

A detailed set of cybersecurity best practices for state and local election officials should be continuously developed and maintained.

Congress should provide funding to help state and local governments modernize their election systems and improve their cybersecurity capabilities. Congress should also authorize and provide funding for a major research initiative on voting. In the report, recommendation 7.3 says,

"Congress should authorize and fund immediately a major initiative on voting that supports basic, applied, and translational research relevant to the administration, conduct, and performance of elections. This initiative should include academic centers to foster collaboration both across disciplines and with state and local election officials and industry."

This recommendation calls for a bold initiative to foster research and development towards the mitigation of the issues outlined in the report. Such an initiative would be managed by the relevant existing government agencies. These agencies are the U.S. EAC, NIST, U.S. Department of Homeland Security, National Science Foundation, and U.S. Department of Defense (DoD). This initiative would call for a minimum of $25 million in funding over a 5-year period to establish a national center that has the primary focus of research and development as it relates to making all aspects of elections secure, accessible, usable and trustworthy. The center would work across universities, election officials, and elections technologies companies. The proposed research center is critical to protecting our elections and advancing the state of the art in elections to mitigate all domestic and foreign threats.

I would like to speak to a recent debate in the academic research community with respect to hand-marked paper ballots and ballot marking devices (BMD). As previously mentioned, in "Securing the Vote: Protecting American Democracy," the committee was clear in their recommendation that "Elections should be conducted with human-readable paper ballots. These may be marked by hand or by machine, such as a ballot marking device (BMD)." Following the release of the report, many States are moving away from paperless voting machines to hand-marked paper ballots or BMD. At the onset, it is important for voters to understand the difference in voting processes and how their votes are cast and counted.

In most BMD implementations, the voter makes selections using the BMD and a paper ballot is produced with a QR code or some other barcode and the voters' selections. The barcode(s) represent the voters' selections and are read by a separate scanner. In this case, some are concerned that the barcode may not match the human-readable portion of the ballot. To ensure a match, the national academies report recommends that all elections should undergo an audit, for example a risk-limiting audit (RLA). This recommendation

also applies to hand-marked paper ballots as well because they are fed through a scanner for tallying. The audit would ensure that the election results are accurate and would neutralize any barcode mismatches. Furthermore, if the barcodes don't match, this provides a forensic trail to investigate the mismatch.

Hand-marked paper ballots, unlike BMD voting, are susceptible to overvoting and undervoting hacks. The undervote hack occurs when a voter decides not to make a selection in a contest, in other words, they leave the contest blank. This is a natural response when a voter doesn't want to vote for any candidates in a particular contest. An insider could then make a selection on that ballot. This will take two-to-five seconds and it's impossible to detect if the insider is not caught in the act. The overvote hack occurs when the voter makes a selection, but the insider makes an additional selection causing an overvote, which would lead to a nullified ballot. Like the undervote hack, this is undetectable unless the insider is caught in the act. These hacks require very little expertise and time.

There have been claims that voters do not review their ballots that have been produced by a BMD. Therefore, it's possible to flip votes so that what is printed on the ballot isn't what the voter selected and if the voter doesn't verify the ballot, the hack is successful. Dr. Michael Byrne at Rice University has just completed a study and his findings differ. Dr. Byrne and his colleagues have recently completed two separate studies on BMD ballot verification. One was a proper experiment and one was a field study in Los Angeles, California. For the experiment, they found that giving voters explicit reminders to verify their ballots resulted in a significant increase in verification rate. They also found a higher verification rate for a shorter ballot (5 races) than a longer one (40 races). Their results suggest that it is likely possible to improve verification rates with a little bit of instruction.

For the field study, they went out to Los Angeles to observe their mock election using their new VSAP (voting solution for all people) BMD, and found that 51% of voters verified (or appeared to verify) their printed ballots, and those that did took over 2 minutes longer to vote, which is presumably the verification time. This is a much higher verification rate than has been seen in some other studies, which is particularly surprising given that it was a mock election with nothing on the line for the voters.

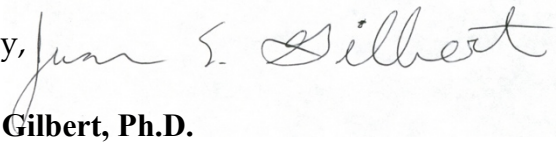
My research lab has been working on a new voting machine interface that will further advance voter verification of paper ballots produced by BMD. We will begin to run studies of this new technology in February 2020. I would be happy to report our findings to you in the spring.

In my opinion, the gold standard for securing elections should be the audit. If necessary, a full manual recount should be possible. With this in mind, the BMD has an advantage over hand-marked paper ballots. Hand-marked paper ballots will suffer from ambiguous marks that are left to the auditors to interpret. This doesn't happen with the BMD. Some may say that the number of ballots that have this issue are small, but we have seen margins of victory very small, even down to one vote. Most importantly, every vote should count and every ballot should be auditable.

Lastly, I would like to emphasize the fact that there is no current technology to secure a digital ballot. Some have suggested that ballot encryption is a safe method to secure the ballot. This is not true. An encrypted ballot protects against modification, which is a common threat model in voting system security. In other words, the common threat has been that a bad actor would change votes in favor of their preferred candidate. An additional threat that is often ignored is chaos. Instead of tipping the election in favor of a specific candidate, the goal is chaos. In this scenario, encrypted ballots are extremely vulnerable. The hack would be to simply delete all the encrypted ballots. Essentially, this would nullify the election because all ballots would be lost. Another hack would be to hold the encrypted ballots for ransom with ransomware. In either case, the result is chaos and will cause doubt in the election results. Therefore, it is important to understand that no electronic ballot, including encrypted ballots, are secure at this time.

As a nation, we have the capacity to build an elections system for the future, but doing so requires focused attention from citizens, federal, state, and local governments, election administrators, and innovators in academia and industry. It also requires a commitment of appropriate resources. Representative democracy only works if all eligible citizens can participate in elections, have their ballots accurately cast, counted, and tabulated, and be confident that their ballots have been accurately cast, counted, and tabulated.

Sincerely,



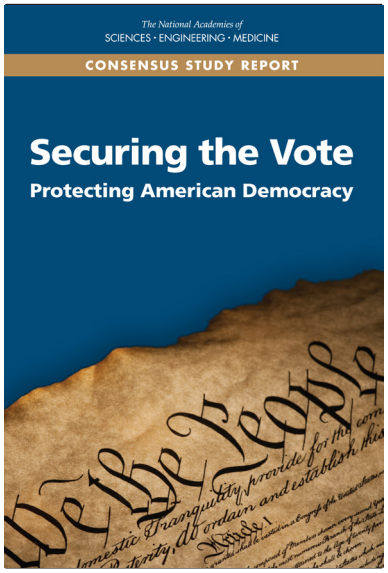
Juan E. Gilbert, Ph.D.
Andrew Banks Family Preeminence Endowed Professor & Chair
Computer & Information Science & Engineering Department (CISE)
Herbert Wertheim College of Engineering
University of Florida
P.O. Box 116120, Gainesville, FL 32611
352.392.1527 (V)
juan@ufl.edu
http://www.juangilbert.com/

Consensus Study Report

SEPTEMBER 2018 HIGHLIGHTS FOR FEDERAL POLICY MAKERS

SECURING THE VOTE

Protecting American Democracy



The 2016 presidential election made clear the vulnerability of America's election infrastructure to foreign cyberattacks. Such attacks represent a new threat to the nation's system of representative democracy. A new report from the National Academies of Sciences, Engineering, and Medicine recommends concerted action by Congress, federal agencies, and state and local governments to protect the security and integrity of U.S. elections.

Securing the Vote: Protecting American Democracy recommends that focused attention be directed at strengthening cybersecurity for election systems. In addition, the report recommends that all U.S. elections be conducted with human-readable paper ballots by the 2020 presidential election. Risk-limiting audits should be implemented for all federal and state elections within a decade. And election systems should continue to be considered as U.S. Department of Homeland Security (DHS)-designated critical infrastructure. In addition, the report states that Internet voting should not be used for the return of marked ballots at the present time, as no known technology guarantees the secrecy, security, and verifiability of a marked ballot transmitted over the Internet.

STEPS FEDERAL POLICYMAKERS SHOULD TAKE TO SECURE U.S. ELECTIONS

The report recommends that Congress:

- provide funding for state and local governments to improve their cybersecurity capabilities on an ongoing basis;
- create incentive programs for public-private partnerships to develop modern election technology; and
- authorize and fund immediately a major initiative on voting that supports research relevant to the administration, conduct, and performance of elections. This initiative should include academic centers to foster collaboration both across disciplines and with state and local election officials and industry.

The U.S. Election Assistance Commission (EAC) has a vital role to play in improving election administration, the report says. It urges the president to nominate and Congress to confirm a full commission and to ensure that the commission has sufficient members to sustain a quorum.

The report also recommends steps Congress should take to support the EAC's work, including:

- appropriating funds for distribution by the EAC for the ongoing modernization of election systems;
- authorizing and funding the EAC to develop voluntary certification standards for voter registration databases, electronic pollbooks, chain-of-custody procedures, and auditing;
- providing the funding necessary to sustain the EAC's Voluntary Funding System Guidelines standard-setting process and certification program;
- requiring state and local election officials to provide the EAC with data on voting system failures and information on other difficulties arising during elections (for example, long lines, fraudulent voting, intrusions into voter registration databases); this information should be made publicly available; and
- fully funding the EAC to carry out its existing functions, as well as additional ones articulated in the report. For example, the report recommends that the EAC and DHS continue to develop and maintain a detailed set of cybersecurity best practices for state and local election officials. And it urges the EAC to closely monitor the expenditure of federal funds made available to states for the purposes of enhancing election security.

The report also recommends that Congress take steps to support work by the National Institutes of Standards and Technology (NIST) around election systems, including:

- authorizing and appropriating funds to NIST to establish Common Data Formats for auditing, voter registration, and other election systems;
- authorizing and providing appropriate funding to NIST to carry out its current elections-related functions and to perform the additional functions articulated in the report; and
- authorizing and funding NIST, in consultation with the EAC, to develop security standards and verification and validation protocols for electronic pollbooks, in addition to those standards and protocols developed for voting systems.

COMMITTEE ON THE FUTURE OF VOTING: ACCESSIBLE, RELIABLE, VERIFIABLE TECHNOLOGY

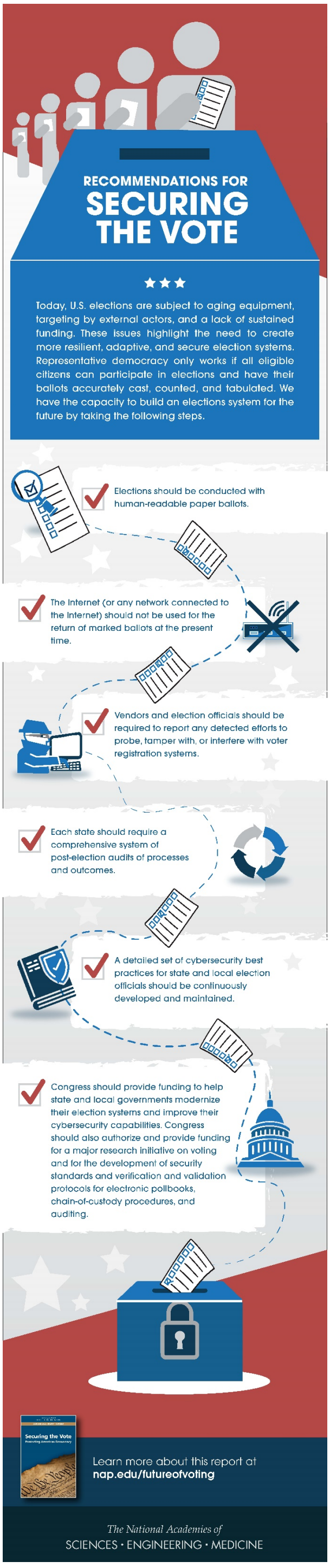
LEE C. BOLLINGER (Co-Chair), Columbia University; **MICHAEL A. McROBBIE** (Co-Chair), Indiana University; **ANDREW W. APPEL**, Princeton University; **JOSH BENALOH**, Microsoft Research; **KAREN COOK** (NAS), Stanford University; **DANA DeBEAUVOIR**, County of Travis, TX; **MOON DUCHIN**, Tufts University; **JUAN E. GILBERT**, University of Florida; **SUSAN L. GRAHAM** (NAE), University of California, Berkeley; **NEAL KELLEY**, County of Orange, CA; **KEVIN J. KENNEDY**, Wisconsin Government Accountability Board; **NATHANIEL PERSILY**, Stanford Law School; **RONALD RIVEST** (NAS/NAE), Massachusetts Institute of Technology; **CHARLES STEWART III**, Massachusetts Institute of Technology; Staff: **ANNE-MARIE MAZZA**, Study Director and Senior Director, Committee on Science, Technology, and Law (CSTL); **JON EISENBERG**, Senior Director, Computer Science and Telecommunications Board; **STEVEN KENDALL**, Program Officer, CSTL; **KAROLINA KONARZEWSKA**, Program Coordinator, CSTL; **WILLIAM J. SKANE**, Consultant Writer; **CLARA SAVAGE**, Financial Officer, CSTL.

For More Information . . . This Consensus Study Report Highlights was prepared by the National Academies of Sciences, Engineering, and Medicine based on the Report *Securing the Vote: Protecting American Democracy* (2018). The study was sponsored by the Carnegie Corporation of New York and the William and Flora Hewlett Foundation. Any opinions, findings, conclusions, or recommendations expressed in this publication do not necessarily reflect the views of any organization or agency that provided support for the project. Copies of the Report are available from the National Academies Press, (800) 624-6242; http://www.nap.edu or at www.nationalacademies.org/futureofvoting.

Committee on Science Technology and Law
Policy and Global Affairs

The National Academies of
SCIENCES • ENGINEERING • MEDICINE

The nation turns to the National Academies of Sciences, Engineering, and Medicine for independent, objective advice on issues that affect people's lives worldwide.
www.national-academies.org


RECOMMENDATIONS FOR
SECURING THE VOTE
Today, U.S. elections are subject to aging equipment, targeting by external actors, and a lack of sustained funding. These issues highlight the need to create more resilient, adaptive, and secure election systems. Representative democracy only works if all eligible citizens can participate in elections and have their ballots accurately cast, counted, and tabulated. We have the capacity to build an elections system for the future by taking the following steps.
Elections should be conducted with human-readable paper ballots.
The Internet (or any network connected to the Internet) should not be used for the return of marked ballots at the present time.
Vendors and election officials should be required to report any detected efforts to probe, tamper with, or interfere with voter registration systems.
Each state should require a comprehensive system of post-election audits of processes and outcomes.
A detailed set of cybersecurity best practices for state and local election officials should be continuously developed and maintained.
Congress should provide funding to help state and local governments modernize their election systems and improve their cybersecurity capabilities. Congress should also authorize and provide funding for a major research initiative on voting and for the development of security standards and verification and validation protocols for electronic pollbooks, chain-of-custody procedures, and auditing.
Securing the Vote
Learn more about this report at
nap.edu/futureofvoting
The National Academies of
SCIENCES • ENGINEERING • MEDICINE

RUTGERS
School of Management
and Labor Relations

Fact sheet: Disability and Voter Turnout in the 2016 Elections

Lisa Schur and Douglas Kruse[1]

Key points:

- 16.0 million people with disabilities reported voting in the November 2016 elections.
- The voter turnout rate of people with disabilities was 6 percentage points lower than that of people without disabilities.
- Employed people with disabilities, however, were just as likely as employed people without disabilities to vote, suggesting that employment helps bring people with disabilities into mainstream political life.
- The voter registration rate of people with disabilities was 2 percentage points lower than that of people without disabilities. The lower voter turnout was due both to a lower registration rate among people with disabilities, and to lower turnout among those who are registered.
- If people with disabilities voted at the same rate as people without disabilities who have the same demographic characteristics, there would be about 2.2 million more voters.

These figures are based on analysis of data from the federal government's Current Population Survey Voting Supplement for November 2016. The computations were made using six disability questions introduced on the Current Population Survey in 2008.

Voter turnout among voting eligible population

		Millions who reported:	
	Percent voting	Voting	Not voting
Overall	61.4%	137.5	86.5
People without disabilities	62.2%	121.5	73.9
People with disabilities	55.9%	16.0	12.6
Hearing impairment	62.7%	5.1	3.0
Visual impairment	53.7%	2.1	1.8
Mental or cognitive impairment	43.5%	4.0	5.2
Difficulty walking or climbing stairs	55.9%	9.7	7.7
Difficulty dressing or bathing	44.6%	2.3	2.8
Difficulty going outside alone	44.7%	4.5	5.6

[1] Professors at the School of Management and Labor Relations, Rutgers University, 50 Labor Center Way, New Brunswick, NJ, 08901, Lschur@smlr.rutgers.edu and Dkruse@smlr.rutgers.edu.

RUTGERS

As shown above, among the voting eligible population (citizens age 18 or older), 55.9% of people with disabilities reported voting, compared to 62.2% of people without disabilities. Within the disability population, the voting rate among people with hearing impairments (62.7%) was higher than the overall voting rate for people without disabilities, and the lowest rate was among those with a mental or cognitive impairment (43.5%). For each disability group except those with hearing impairments, the difference in turnout from those without disabilities is strong enough to be outside the survey's margin of error.[2]

The total of 137.5 million people who reported voting estimated from this survey is close to the total of 138.8 million ballots counted.[3] Any misreporting is unlikely to differ between the disability and non-disability populations, so the estimate of the turnout gap should be unbiased.

Some of the gap may be due to other demographic differences between people with and without disabilities. When adjusted for gender, race, age, education, and state of residence, the estimated gap expands slightly from 6.3 points to 7.8 points. This implies that if people with disabilities voted at the same rate as otherwise-similar people without disabilities, there would be an additional 2.2 million voters.

The estimated total of 16.0 million voters with disabilities compares with an estimated 17.1 million African-Americans and 12.7 million Hispanics/Latinos who voted in November 2016, based on analysis of this voting supplement. It should be noted that the disability total may be understated because these disability measures may not capture several types of disability.[4]

Some of the lower turnout of people with disabilities can be tied to difficulties getting to or using polling places.[5] A variety of states and localities have made efforts to reduce barriers and increase turnout among people with disabilities.[6] In addition, prior research has found the lower turnout is partly explained by lower levels of income, lower levels of political recruitment, and lower feelings of political efficacy.[7]

---

[2] The margins of error are based on a 95% level of confidence.

[3] http://www.electproject.org/2016g, accessed 5-22-17

[4] The disability questions measure the major sensory, mobility, and mental impairments, but may miss some learning disabilities and physical conditions that do not necessarily limit mobility, such as epilepsy and cancer.

[5] The Government Accountability Office released a report on June 10, 2009 finding that only 27% of polling places in 2008 had no potential impediments to access by people with disabilities, which was an improvement over 2000 when only 16% had no potential impediments (GAO-09-685). A 2012 household survey found that 30% of citizens with disabilities who had voted at a polling place in 2012 said they encountered difficulties in doing so, compared to only 8% of citizens without disabilities (Lisa Schur, Meera Adya, and Douglas Kruse, "Disability, Voter Turnout, and Voting Difficulties in the 2012 Elections," July 2013, http://smlr.rutgers.edu/sites/smlr.rutgers.edu/files/images/Disability%20and%20voting%20survey%20report%20for%202012%20elections.pdf).

[6] Lisa Schur, Meera Adya, and Mason Ameri. "Accessible Democracy: Reducing Voting Obstacles for People with Disabilities." Election Law Journal Vol. 14, No. 1, 2015, pp. 60-65.

[7] The prior findings are summarized in Lisa Schur, Todd Shields, and Kay Schriner, "Voting," in Gary Albrecht, ed., Encyclopedia of Disability (Thousand Oaks, CA: Sage Publications, 2005), and Lisa

RUTGERS

Disability and voter turnout in 2008, 2012, and 2016

	2008	2012	2016
People without disabilities	64.5%	62.5%	62.2%
People with disabilities	57.3%	56.8%	55.9%
Disability turnout gap	-7.2%	-5.7%	-6.3%
Hearing impairment	63.1%	63.2%	62.7%
Visual impairment	56.8%	57.3%	53.7%
Mental or cognitive impairment	46.1%	44.8%	43.5%
Difficulty walking or climbing stairs	56.8%	56.3%	55.8%
Difficulty dressing or bathing	46.4%	46.7%	44.5%
Difficulty going outside alone	45.7%	47.3%	44.7%

These results can be directly compared to the general elections in November 2008 and 2012. As can be seen above, overall turnout dropped slightly from 2008 to 2012 and 2016. The drop was slightly greater for people without disabilities from 2008 to 2012, leading to a narrowing of the disability gap from 7.2 to 5.7 points, but the disability gap widened slightly to 6.3 points in 2016. It is important to note, however, that these estimated changes in the disability gap are small enough that they are within the survey's margin of error, so we cannot be confident of a true change in the disability gap over this period.

These results cannot be directly compared to elections before 2008 because they are based on a measure of disability introduced by the Census Bureau in 2008. A national survey conducted by the Eagleton Institute of Rutgers University following the November 2000 elections is comparable because it had similar questions and estimated prevalence of disability. Based on that survey, there was a 12 percentage point gap in voter turnout between people with and without disabilities in 2000, indicating that the relative voter turnout of people with disabilities in general elections may have improved from 2000 to 2016 (perhaps due in part to increased accessibility of polling places).[8]

Schur and Meera Adya, "Sidelined or Mainstreamed? Political Participation and Attitudes of People with Disabilities in the United States, Social Science Quarterly, Vol. 94, No. 3, 2013, pp. 811-839.

[8] Based on data used in Lisa Schur, Todd Shields, and Kay Schriner, "Generational Cohorts, Group Membership, and Political Participation by People with Disabilities," Political Research Quarterly, Vol. 58, No. 3, September 2005. Surveys conducted by Louis Harris and Associates for the National Organization on Disability show disability turnout gaps of 0% to 17% over the 1992-2008 period, but the disability prevalence is not reported so it is unclear if the disability measure used in those surveys can be readily compared (*The ADA, 20 Years Later: KesslerFoundation/NOD Survey of Americans with Disabilities*, Harris Interactive, New York, NY, 2010).

RUTGERS

Breakdown by employment status and demographics

There was no gap in voter turnout between employed people with and without disabilities, indicating that employment helps provide resources and social contact that encourage voting.[9] The disability voting gap was concentrated among the non-employed, as shown in the numbers below. The disability gap was also:

- larger among women than among men, reflecting especially high voter turnout among women without disabilities;
- larger among white non-Hispanics than among other race and ethnicity groups
- larger among those age 18-34 and 35-49 than among other age groups
- largest in the Northeast and smallest in the West

Except for the comparisons among the employed and other race/ethnicity, each of these disability gaps is strong enough to be outside the survey's margin of error.

	Disability		No Disability		Disability Gap	
	2012	2016	2012	2016	2012	2016
Overall	56.8%	55.9%	62.5%	62.2%	-5.7%	-6.3%
Employed	64.6%	64.7%	64.2%	63.6%	0.4%	1.1%
Not employed	55.0%	54.0%	59.2%	59.2%	-4.2%	-5.2%
Women	56.5%	56.4%	64.8%	64.3%	-8.3%	-7.9%
Men	57.2%	55.4%	60.1%	59.9%	-2.9%	-4.5%
White non-Hispanic	57.5%	58.2%	65.2%	66.4%	-7.7%	-8.2%
African-American	62.8%	54.5%	67.2%	60.4%	-4.4%	-5.9%
Hispanic	46.8%	42.7%	48.1%	48.0%	-1.3%	-5.3%
Other race/ethnicity	47.5%	49.4%	50.2%	49.3%	-2.7%	-0.1%
Age 18-34	32.6%	33.1%	48.8%	49.7%	-16.2%	-16.5%
Age 35-49	45.4%	46.9%	63.5%	62.9%	-18.1%	-16.0%
Age 50-64	58.1%	54.5%	71.0%	69.2%	-12.9%	-14.7%
Age 65+	64.4%	63.9%	75.4%	73.8%	-11.0%	-9.9%
Northeast	54.5%	54.7%	63.3%	62.5%	-8.8%	-7.8%
Midwest	60.1%	58.7%	65.8%	65.2%	-5.7%	-6.5%
South	56.4%	54.1%	61.3%	60.9%	-4.9%	-6.8%
West	55.6%	57.3%	60.7%	61.1%	-5.1%	-3.8%

[9] This is consistent with other research on the role of employment summarized in Lisa Schur, Todd Shields, and Kay Schriner, "Voting," in Gary Albrecht, ed., Encyclopedia of Disability (Thousand Oaks, CA: Sage Publications, 2005)

RUTGERS

Whether voted by mail and on election day

Among voters with disabilities in 2016, only 53% voted at the polling place on election day, compared to 61% of voters without disabilities. They were instead more likely to vote by mail before election day (28% compared to 19%), reflecting the mobility problems faced by some people with disabilities. All of these disability gaps are strong enough to be outside the survey's margin of error.

	Disability	No Disability	Disability Gap
How voted in 2016:			
At polling place on election day	52.6%	60.9%	-8.3%
At polling place before election day	18.1%	19.2%	-1.1%
By mail before election day	28.4%	18.6%	9.8%
By mail on election day	0.9%	1.4%	0.5%

State Breakdowns in Voter Turnout

The voter turnout gap between people with and without disabilities varied by state, as shown in the breakdown below. It should be cautioned that the sample size is low in many states, which increases the margin of error and decreases the likelihood of finding a disability gap that exceeds the margin of error. The disability gap in 2016 was large enough to be outside the margin of error (indicated by an "*") in 24 states and the District of Columbia, and was within the margin of error in the remaining 26 states.

	Disability		No Disability		Disability Gap			
	2012	2016	2012	2016	2012		2016	
U.S.	56.8%	55.9%	62.5%	62.2%	-5.7%		-6.3%	
Alabama	57.8%	47.4%	62.7%	59.4%	-4.9%		-12.0%	*
Alaska	59.1%	60.1%	58.3%	61.5%	0.9%		-1.5%	
Arizona	48.1%	66.2%	56.9%	59.6%	-8.9%		6.6%	
Arkansas	46.2%	51.2%	54.7%	60.1%	-8.4%	*	-8.9%	*
California	50.4%	52.3%	58.4%	58.6%	-8.0%	*	-6.3%	*
Colorado	65.6%	69.0%	71.1%	69.5%	-5.5%		-0.6%	
Connecticut	52.7%	65.0%	63.8%	63.8%	-11.1%	*	1.3%	
Delaware	71.1%	53.0%	66.8%	63.5%	4.3%		-10.5%	*
Florida	62.0%	58.9%	60.7%	59.5%	1.3%		-0.7%	
Georgia	54.9%	57.8%	62.9%	60.6%	-8.0%	*	-2.7%	
Hawaii	51.4%	54.1%	51.7%	46.3%	-0.2%		7.7%	
Idaho	56.6%	65.1%	64.9%	61.6%	-8.3%		3.5%	
Illinois	60.4%	65.8%	61.6%	63.5%	-1.2%		2.3%	
Indiana	54.8%	49.4%	59.9%	59.7%	-5.2%		-10.3%	*

RUTGERS

Iowa	63.9%	56.1%	70.2%	64.7%	-6.3%		-8.6%	*
Kansas	63.0%	53.0%	63.3%	62.9%	-0.3%		-9.9%	*
Kentucky	48.5%	42.5%	61.4%	60.2%	-12.9%	*	-17.6%	*
Louisiana	58.7%	48.2%	67.6%	64.0%	-8.9%	*	-15.7%	*
Maine	55.9%	68.2%	71.0%	73.5%	-15.1%	*	-5.3%	
Maryland	58.3%	60.4%	66.0%	66.4%	-7.7%	*	-6.0%	
Massachusetts	59.7%	59.6%	72.3%	67.6%	-12.6%	*	-8.1%	*
Michigan	60.7%	63.7%	68.0%	64.4%	-7.3%	*	-0.7%	
Minnesota	65.7%	58.7%	74.2%	69.9%	-8.4%	*	-11.2%	*
Mississippi	67.9%	63.2%	75.9%	68.6%	-8.0%	*	-5.3%	
Missouri	53.5%	55.9%	65.8%	66.2%	-12.2%	*	-10.3%	*
Montana	64.9%	67.0%	65.8%	65.7%	-0.9%		1.3%	
Nebraska	62.2%	70.4%	61.5%	66.2%	0.7%		4.2%	
Nevada	58.5%	58.2%	57.9%	60.8%	0.7%		-2.6%	
New Hampshire	59.0%	66.0%	70.8%	69.4%	-11.9%	*	-3.4%	
New Jersey	56.8%	58.6%	62.5%	61.8%	-5.7%		-3.2%	
New Mexico	57.7%	54.4%	62.1%	54.9%	-4.5%		-0.4%	
New York	50.2%	48.8%	59.7%	58.4%	-9.5%	*	-9.6%	*
North Carolina	62.5%	64.5%	69.8%	68.0%	-7.3%	*	-3.5%	
North Dakota	57.2%	60.1%	64.7%	64.7%	-7.6%		-4.6%	
Ohio	58.3%	53.2%	63.9%	65.5%	-5.6%	*	-12.3%	*
Oklahoma	49.4%	51.7%	53.0%	57.6%	-3.6%		-5.9%	
Oregon	66.6%	53.9%	67.8%	68.8%	-1.1%		-14.9%	*
Pennsylvania	54.9%	54.1%	62.6%	64.0%	-7.7%	*	-9.9%	*
Rhode Island	61.0%	50.0%	62.7%	62.1%	-1.7%		-12.1%	*
South Carolina	59.8%	50.4%	65.5%	64.0%	-5.7%		-13.5%	*
South Dakota	64.7%	51.9%	60.4%	60.1%	4.2%		-8.1%	
Tennessee	47.9%	47.1%	57.4%	55.1%	-9.5%	*	-8.0%	*
Texas	55.8%	51.5%	53.5%	55.9%	2.3%		-4.4%	*
Utah	59.8%	63.3%	56.7%	62.6%	3.1%		0.7%	
Vermont	62.1%	57.6%	63.4%	63.2%	-1.3%		-5.6%	
Virginia	57.1%	57.4%	68.2%	69.5%	-11.1%	*	-12.0%	*
Washington	63.6%	62.5%	66.0%	66.8%	-2.4%		-4.4%	
Washington, D.C.	63.8%	60.0%	77.6%	76.1%	-13.8%	*	-16.1%	*
West Virginia	42.9%	45.9%	48.8%	52.0%	-5.8%		-6.1%	*
Wisconsin	66.5%	63.9%	74.7%	71.6%	-8.2%	*	-7.7%	*
Wyoming	59.7%	54.5%	58.7%	66.1%	1.0%		-11.6%	*

RUTGERS

Voter Registration

The disability voting gap is due in part to lower voter registration, but is due more to a lower likelihood of voting if registered. Among people with disabilities, 68% were registered to vote, only 2 points lower than the rate for people without disabilities. Among those who were registered, 82% voted, which was 6 points lower than for registered people without disabilities. People with disabilities were more likely than those without disabilities to have registered at a town hall or registration office, public assistance agency, or registration drive, and less likely to have registered at a department of motor vehicles or using the Internet.

Each of these disability gaps is strong enough to be outside the survey's margin of error, except for the gaps in registering by mail or at a polling place.

	Disability	No Disability	Disability Gap
Registered to vote	68.3%	70.6%	-2.3%
Voted if registered	82.0%	88.0%	-6.0%
How registered to vote:			
Went to a town hall or county/ government registration office	28.5%	20.1%	8.4%
At a department of motor vehicles	24.8%	32.5%	-7.7%
At a public assistance agency	2.2%	1.2%	1.0%
Registered by mail	15.4%	15.1%	0.3%
Registered at polling place	7.6%	7.2%	0.5%
Filled out form at a registration drive	6.0%	4.7%	1.3%
At a school, hospital, or on campus	5.2%	6.4%	-1.2%
Registered using the Internet or online	4.0%	8.3%	-4.4%
Other	6.4%	4.5%	1.8%

RUTGERS

Why people were not registered

The most common expressed reason for not registering to vote, among people both with and without disabilities, was a lack of interest in the election or politics. Almost one-fourth of people with disabilities (23%) gave "permanent illness or disability" as their reason for not being registered.

The disability gaps below are strong enough to be outside the survey's margin of error, except for the small disability gaps in "Not eligible to vote," "Did not know where or how to register," "Difficulty with English," and "Other reason."

If not registered to vote, why not:	Disability	No Disability	Disability Gap
Not interested in the election or not involved in politics	36.1%	45.3%	-9.3%
Permanent illness or disability	22.6%	1.6%	20.9%
Did not meet registration deadlines	6.7%	14.0%	-7.3%
Not eligible to vote	7.6%	7.8%	-0.3%
My vote would not make a difference	3.5%	5.4%	-1.9%
Did not know where or how to register	3.1%	3.5%	-0.4%
Did not meet residency requirements/did not live here long enough	1.3%	3.1%	-1.7%
Difficulty with English	2.4%	2.0%	0.5%
Other reason	16.8%	17.3%	-0.5%

RUTGERS

Why people did not vote if registered

Among those who were registered to vote but did not do so in November 2016, about one-third (36%) of people with disabilities gave "illness or disability" as the reason for not voting, compared to 7% of people without disabilities. People with disabilities were also more likely to cite transportation problems as a reason for not voting (7% compared to 2%), consistent with their higher rate of voting by mail. They were less likely than people without disabilities to say that they were not interested, too busy, out of town, or didn't like the candidates.

The disability gaps below are strong enough to be outside the survey's margin of error, except for the small disability gaps in "Forgot to vote," "Bad weather conditions," "Registration problems," and "Other."

Why didn't vote	Disability	No Disability	Disability Gap
Illness or disability (own or family's)	35.7%	6.6%	29.0%
Not interested, felt my vote wouldn't make a difference	9.6%	17.3%	-7.6%
Didn't like candidates or campaign issues	20.6%	26.5%	-6.0%
Too busy, conflicting work or school schedule	4.4%	17.0%	-12.6%
Forgot to vote (or send in absentee ballot)	3.2%	3.1%	0.1%
Transportation problems	6.8%	1.8%	5.0%
Out of town or away from home	4.0%	9.1%	-5.1%
Registration problems (i.e. didn't receive absentee ballot, not registered in current location)	3.6%	4.7%	-1.1%
Inconvenient hours, polling place or hours or lines too long	1.4%	2.4%	-1.0%
Bad weather conditions	0.1%	0.0%	0.0%
Other	10.8%	11.6%	-0.8%