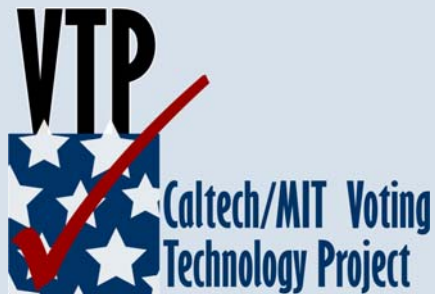


VTP Conference on Voter Authentication and Registration



Photo descriptions (clockwise from top left): Dan Greenwood during Q&A ('tossable' microphone being passed about); Tova Wang; conference hosts presenting keynote speaker Paul DeGregorio with MIT and Caltech memorabilia; Ann McGeehan; Richard Smolka; Doug Chapin; Stephen Kent, Dan Greenwood, Marc Rotenberg; Renee Free; Ben Adida, Ron Rivest, Ross Underwood testing the electronic pollbook.



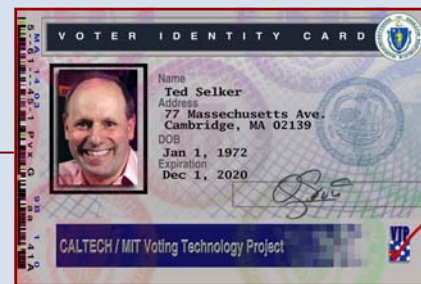
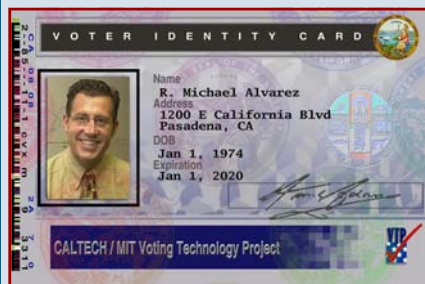
In the United States every citizen must have the opportunity to vote, and must have confidence that their vote is accurately recorded and counted. During the 2000 election cycle citizens became aware that throughout our nation, inaccuracies of various types were so numerous that these fundamental guarantees were not sound. At Caltech and MIT, we recognized an important opportunity for national service by working to understand the failures and vicissitudes of the voting system and to recommend ways of making it accurate and secure. Thus the Caltech/MIT Voting Technology Project was established.

The ongoing work of the project is conducted in constant partnership with federal, state, and local officials and others interested in solving these issues. Accurate and secure voting is not a matter of technology alone. It requires real, fraud-resistant systems of registration and voting operated by and for real people in real circumstances, and that are developed and deployed with transparency using clear standards.

We are grateful for the efforts of all participants in this conference on voter authentication and registration. The task of implementing the most fundamental right of our democracy is critical.

Charles M. Vest
President Emeritus, MIT

Conference Hosts:



This conference was supported by grants from The Carnegie Corporation of New York and the John S. and James L. Knight Foundation. We thank them for their support of our ongoing efforts.

Report produced by Melissa Slein, Project Coordinator of the Voting Technology Project at Caltech. Thanks to Peter DeMund for designing prototype Voter Identity cards above.



VTP CONFERENCE ON VOTING AUTHENTICATION AND REGISTRATION

THE GOAL OF THIS CONFERENCE WAS TO EXPLORE THE CURRENT STATE OF KNOWLEDGE ABOUT THE EFFECTS OF VOTER IDENTIFICATION AND REGISTRATION PROCEDURES ON ELECTION ADMINISTRATION AND VOTING BEHAVIOR, AND TO DISCUSS THE FUTURE DIRECTIONS OF RESEARCH, POLICY AND TECHNOLOGY.

THE CONFERENCE WAS HELD AT THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY CAMPUS IN CAMBRIDGE, MA AT THE MEDIA LAB, ON OCTOBER 5-6, 2006.

PARTICIPANTS:

- ▶ Michael Alvarez, Caltech / VTP
- ▶ Stephen Ansolabehere, MIT
- ▶ Al Ater, Louisiana Secretary of State
- ▶ Kimball Brace, Election Data Services
- ▶ Doug Chapin, electionline.org
- ▶ Paul DeGregorio, Chairman, Election Assistance Commission
- ▶ Eric Fischer, Library of Congress
- ▶ Renee Free, Louisiana Secretary of State's Office
- ▶ Thad Hall, University of Utah
- ▶ Dan Greenwood, US government consultant
- ▶ Jonathan Katz, Caltech / VTP
- ▶ Stephen Kent, BBN Technologies
- ▶ Alexander Keyssar, Harvard University
- ▶ Dean Logan, Los Angeles County Registrar-Recorder/County Clerk Office
- ▶ Michael McDonald, George Mason University
- ▶ Ann McGeehan, Director of Elections, Texas
- ▶ Jonathan Nagler, New York University
- ▶ Spencer Overton, George Washington University
- ▶ Ronald Rivest, MIT / VTP
- ▶ Marc Rotenberg, EPIC
- ▶ Ted Selker, MIT / VTP
- ▶ Michelle Shafer, Sequoia Voting Systems
- ▶ Richard Smolka, Election Administration Reports
- ▶ Daniel Tokaji, The Ohio State University
- ▶ Ross Underwood, Diebold Election Systems
- ▶ Tova Wang, Century Foundation

VISIT THE WEBSITE FOR VIDEO AND RESEARCH/PRESENTATION DOCUMENTS: [HTTP://WWW.VOTINGTECHNOLOGYPROJECT.ORG/VOTER-ID.HTM](http://www.votingtechnologyproject.org/voter-id.htm)

KEYNOTE SPEAKERS



AL ATER served as Louisiana Secretary of State July 2005-November 2006. In 1984, Mr. Ater was elected to the Louisiana House of Representatives and served on the House & Governmental Affairs, Legislative Services, House Ways and Means and Agriculture Committees. In addition, Mr. Ater served as Vice Chairman of the Transportation, Highways and Public Works Committee in 1987. Four years later, he ran unopposed and was re-elected to his House of Representatives seat. In 1992 he chose not to run for reelection. In 2001, Mr. Ater joined the Department of State as First Assistant to Secretary of State Fox McKeithen. In addition to overseeing the day-to-day operations of the Secretary of State's Office, Mr. Ater spearheaded the merger of the Department of Elections with the Department of State. Mr. Ater joined the Department of Insurance in July 2004 as Chief Deputy Commissioner. In March 2005, Mr. Ater returned to the Department of State as First Assistant Secretary of State. His duties include overseeing the operations of the Department of Elections and Commercial Division, as well as fourteen state museums and the preservation of Louisiana's historical data.



PAUL S. DEGREGORIO, Chairman of the U.S. Election Assistance Commission December 2003-February 2007, was nominated by President George W. Bush and confirmed by unanimous consent of the U.S. Senate on December 9, 2003. Mr. DeGregorio is internationally renowned in the field of elections. His areas of expertise include U.S. election administration, democracy building, and international elections. Prior to his appointment with the EAC, Mr. DeGregorio served as Executive Vice President and Chief Operating Officer of the International Foundation for Election Systems (IFES). Mr. DeGregorio also served as Director of Outreach to the University of Missouri – St. Louis and worked as a technical advisor in 15 countries. From 1985 to 1993, Mr. DeGregorio served as Director of Elections for St. Louis County, Missouri's largest election jurisdiction.



SPENCER OVERTON is a professor at The George Washington University Law School, and he specializes in voting rights and campaign finance law. Professor Overton's academic articles on election law have appeared in several leading law journals, and his forthcoming article "Voter Identification," will be published in the University of Michigan Law Review. Overton's book, "Stealing Democracy: The New Politics of Voter Suppression," was published and released by W.W. Norton in June 2006. Professor Overton formerly taught at the University of California, Davis and served as the Charles Hamilton Houston Fellow at Harvard Law School. He was also a commissioner on the Commission on Federal Election Reform, and he currently serves on the boards of Common Cause, Demos, and the Center for Responsive Politics.



Doug Chapin (electionline.org), Dean Logan (Los Angeles County Registrar-Recorder/County Clerk Office), Richard Smolka (Election Administration Reports)

Registering and authenticating voters has a long and controversial history in the United States. Procedures for registration and authentication play important roles in insuring the integrity of elections, and help maintain the confidence of stakeholders in the legitimacy of an election's outcome. But these same procedures have been used, sometimes inadvertently, to disenfranchise potential voters, or to make it difficult for certain types of otherwise eligible citizens to participate in the electoral process.¹

Our recommendations regarding current problems of voter registration and identification procedures are based on research presented at a two-day conference by high-level election officials, academics, policy-makers, advocates, and representatives from industry. The perspectives and recommendations focused on metrics for evaluating the changing technologies for verifying voters. We highlight seven areas for policymakers, researchers, and technologists to work for improvements. We call for oversight and redundancy, allowing audits of any changes insulating these systems against vulnerabilities of individual or more systematic attacks, the development of systems and interoperability standards, and additional funding for research and development efforts.



Daniel Tokaji (The Ohio State University), Michael McDonald (George Mason University)



Eric Fischer (Library of Congress)

**“What do you need a fake ID for?”
“So I can vote!”
-The Breakfast Club**

1. For general treatments of this history, see Alexander Keyssar, “The Right to Vote: The Contested History of Democracy in the United States”, Basic (2001); J. Morgan Kousser, “The Shaping of Southern Politics: Suffrage Restriction and the Establishment of the One-Party South, 1880-1910”, Yale University Press (1974).

Summary of Recommendations

DATA & METRICS:

- ▶ The EAC should develop standards for reporting election administration data and develop a data archive for long-term storage of this data.
- ▶ Additional research regarding voter registration and authentication systems in the United States and abroad is necessary, in particular historical research on these election administration systems, as well as the implications of different voter registration and authentication systems on a wide array of behavioral variables (voter registration and turnout, campaign strategy, political representation).

COMMUNICATION:

- ▶ States should continue to reach out to the academic community, and work to develop partnerships with colleges and universities. Such collaborations also will help develop more openness and transparency in the election process.
- ▶ Academic and research organizations should devote efforts to facilitating the development of an “election science” academic discipline, including sponsoring new peer-reviewed publication outlets for this multidisciplinary research area and the development of curriculum for colleges and universities.

STANDARDS:

- ▶ The EAC should begin to nurture innovation and evaluation of technology for voter authentication systems as a precursor to any standards.
- ▶ The EAC and other public and private organizations should begin to sponsor scientific research on voter authentication procedures and technologies.
- ▶ The EAC should begin the process of developing and implementing standards for statewide voter registration and voter authentication systems in 2007.

INTEROPERABILITY:

- ▶ The EAC should support innovation and evaluation of privacy, security, accuracy, transparency, and failure mode issues in interoperability approaches.
- ▶ The EAC should initiate the development of data transactions standards for election administration systems.

- ▶ Election system vendors should work to insure that all of their voting systems meet federal guidelines for data transaction, and to insure interoperability of systems within and across election jurisdictions.

TRANSPARENCY:

- ▶ Election jurisdictions should develop secure and usable systems that allow individual voters to easily verify their registration status and to correct problems. States must have systems in place to notify voters quickly and effectively when any problems arise with a voter's registration status.
- ▶ The EAC, working with state election officials, should support innovation and evaluation to develop best practices for the transparency of voter registration procedures. To insure transparency, each election jurisdiction should report the details of all voter registration and authentication practices and procedures.

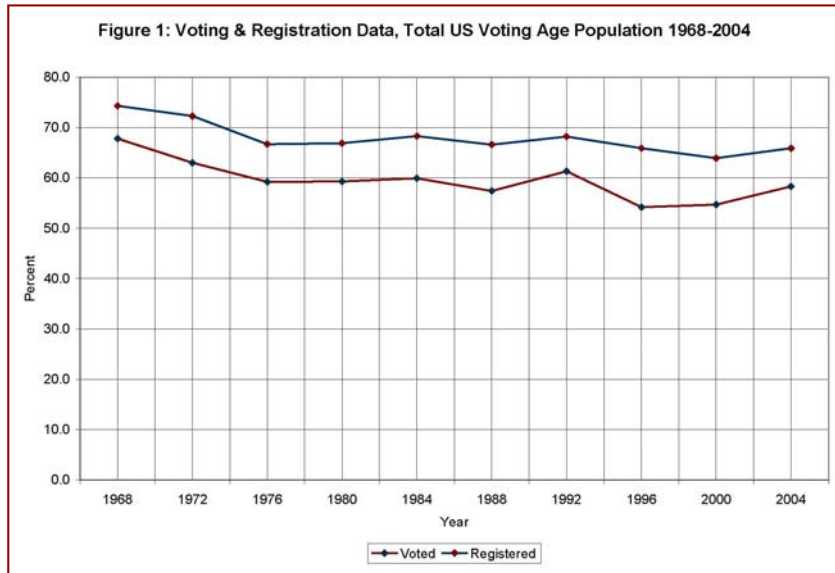
FRAUD:

- ▶ The research community should devote considerable resources to the study of election fraud, in particular on methodologies to detect, mitigate and prevent election threats. This is a key area for the funding community to target.
- ▶ It is imperative that election jurisdictions study the implications of new initiatives, and to secure their electoral process thoroughly before implementation of technological and procedural changes, including pilot tests and field experiments. This will help balance security with accessibility..
- ▶ The EAC should work to create reporting standards so that the anecdotal descriptions of fraud can be validated or discredited.

RESEARCH & DEVELOPMENT:

- ▶ An additional \$25 million annually should be budgeted by the federal government (through the EAC, NSF, or other agencies that can provide research grants) for basic research on voter registration and authentication.
- ▶ The private sector, both the philanthropic community and industry, should also devote resources for basic research and technology development, to improve voter authentication and registrations systems.

While much has been done in the United States in the past few decades to make the voter registration process easier and more efficient for eligible citizens—and to make the act of voting itself more user-friendly and convenient—reforms like the National Voter Registration Act (1996) and the Help America Vote Act (2002) may have attempted to ease the barriers of voter registration, yet may not have necessarily led to increased voter participation (see Figure 1). In fact, despite these and other reforms, some data indicate that the United States remains in a period of relatively low voter participation. There is even concern that recent efforts to make registration and voting easier might have increased the possibilities for election

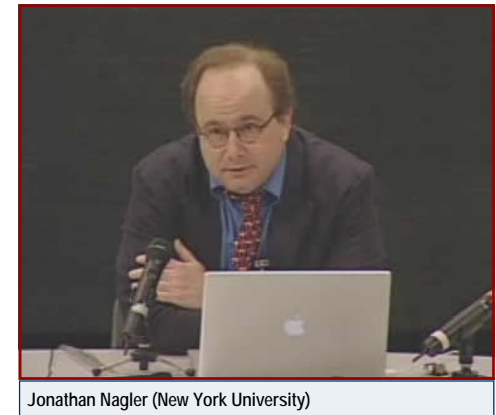


Source: US Census Bureau

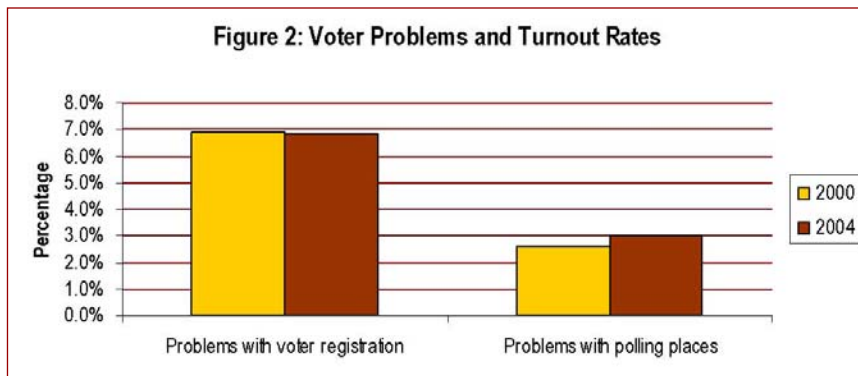
fraud.²

Some statistics bear out these concerns. The Caltech/MIT Voting Technology Project's (VTP) analysis of the 2000 presidential election estimated that between 4 and 6 million votes were lost due to problems with voting machines, voter registration and polling place practices.³ While subsequent research by Charles Stewart III of MIT has shown that the number of votes lost due to problematic voting machines fell considerably between 2000 and 2004, other data show little change in problems with voter registration and polling places.⁴ For example, data from the U.S. Census Bureau show that 6.9% of registered non-voters did not cast ballots in 2000 because of problems with their voter registration—virtually an identical percentage (6.8%) reported the same reason for not voting in 2004. Problems with polling places kept 2.6% of registered non-voters from casting ballots in 2000, and 3.0% from voting in 2004 (see Figure 2). These problems seem to have been little affected by the passage of HAVA, at least for the 2004 election cycle.⁵

As we look to the next presidential election in 2008, it is clear that voter registration and voter authentication practices across the nation are in considerable flux. While most



2. See, for example, John Fund, "Stealing Elections: How Voter Fraud Threatens Our Democracy," Encounter Books (2004).
3. Caltech/MIT Voting Technology Project, "Voting – What Is, What Could Be", July 2001. <http://www.votingtechnologyproject.org/2001report.htm>.
4. Charles Stewart III, "Residual Vote in the 2004 Election," April 2006, Election Law Journal, Volume 5, Number 2.
5. The 2000 data come from the U.S. Census Bureau publication, "Voting and Registration in the Election of November 2000," February 2002 (<http://www.census.gov/prod/2002pubs/p20-542.pdf>). The 2004 data are from the U.S. Census Bureau publication, "Voting and Registration in the Election of November 2004," March 2006 (<http://www.census.gov/prod/2006pubs/p20-556.pdf>).



Source: US Census Bureau

states have complied with HAVA mandates for statewide voter registries, many questions remain about the security, privacy, accuracy and usability of those systems. And in many states where HAVA-mandated registration and voting authentication laws are fully in place, they are in an indeterminate status, with states trying to implement different procedures for authenticating new registrants and voters, and with many of these procedures being scrutinized (and in some cases struck down) by the courts.⁶

Both our earlier voting technology forums and the many others convened since the 2000 election have focused largely on voter verification and on the reliability of voting technologies.⁷ Thus, we organized a two-day conference (October 5-6, 2006) which broadened the focus of the VTP by turning attention to the complex and difficult issues of voter registration and authentication. It is in this context that the VTP brought together high-level election officials, academics, policy makers, advocates, and representatives from industry, for analysis and discussion about voter registration and authentication. The conference included representatives from over a dozen independent research organizations involved in

voting-related research, four federal agencies, a number of election machine vendors and two foundations that have sponsored election reform research. Research faculty from eleven universities also participated in the event. For these two days, twenty-six speakers and panelists provided insight and analysis of these related concerns; the forty-two participants gave their opinions, experiences, and analysis as well.

CONFERENCE RECAP

The conference was broken into two, one-day sessions. The first day focused on voter registration issues, beginning with a morning session in which academic and policy experts focused on analyzing the historical rationale and justification for voter registration systems in the United States, and on what academic research has been done to understand how voter registration procedures influence and shape voter participation and the political process. The afternoon session then turned to the current policy situation, and to new procedures and technology developments that might in the near future improve the voter registration process, and that might make the new statewide voter registries more useful for election officials.

The second day focused on voter authentication, beginning with a morning session on the current policy environment, and on what is now known about the effects of voter authentication requirements on political participation and the political process. Discussion then moved from policy to technical issues by looking at what new technologies are now being brought into polling places to help authenticate voters, and at the new technologies on the horizon. Both policy and technology discussions brought forward the many issues of inclusion, accuracy, privacy and security that are raised with the use of new voter authentication

6. For additional information on state implementation of voter registration and authentication systems, see electionline.org's 2006 report (<http://electionline.org/Portals/1/Publications/EB15.briefing.pdf>).

7. See VTP website for information on past conferences: 2004, <http://www.votingtechnologyproject.org/VTP-symp04.htm>; 2001, <http://www.votingtechnologyproject.org/events/2001/conf01.htm>.



Ann McGeehan (Director of Elections, Texas), Thad Hall (University of Utah), Kimball Brace (Election Data Services), Ted Selker (panel moderator, MIT/VTP, conference host)

technologies.

The proceedings were enlivened by three keynote addresses. Paul DeGregorio (Chairman of the U.S. Election Assistance Commission) called eloquently for balanced and thorough research to understand the relationship between identity and voting inclusion. Al Alter (SOS of Louisiana) recounted the tremendous successes his state has

had by adding cross-agency supervision of elections. Spencer Overton (Professor, George Washington University) presented data and encouraged work aimed at improving inclusion in electoral processes.

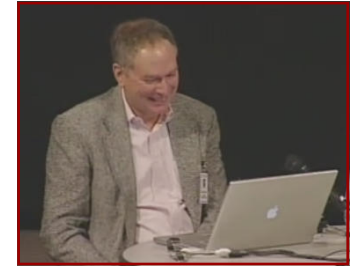
RECOMMENDATIONS

1. Data and Metrics

The need for public distribution of detailed data regarding the conduct of elections in the United States is clear: it aids in auditing elections, certification, clearing wrongdoing and in establishing best practices. Thus, there is an important need for election officials to collect, publish, and retain data on election administration and election outcomes. While some jurisdictions publish some data on the Internet quickly and easily, some seem to be unable or unwilling to realize that this public record is of value to them and to improving our democracy. Since the VTP began to study the American electoral system in 2000, our team

has found that it is often distressingly difficult to get data on even basic aspects of the election administration process, especially at the municipal or county level.⁸ Thus, data needs to be provided at the lowest level of aggregation possible (certainly at the election jurisdiction level, but if possible, at the precinct or voting station level) and, ideally, combined with standard Census Bureau geography identifiers so that they may be combined with other data. The EAC's efforts to systematically collect some of these data following the 2004 election was a step in the right direction; those efforts need to be expanded for the 2008 presidential election.⁹ The report that the VTP issued in October 2004, "Insuring the Integrity of the Electoral Process: Recommendations for Consistent and Complete Reporting of Election Data" also called for more consistent and accurate reporting of election data, and we refer readers to that report for detailed discussion of the information we think is necessary for studying election administration and for appropriate auditing of any major election.¹⁰

Furthermore, we need important data on election procedures, practices, and rules and regulations, for the past, present and future. One of the most important problems heard at the conference from researchers is the difficulty associated with obtaining data on the precise procedures election jurisdictions have used in the past for voter registration and authentication. For example, we need precise information on exactly what



Stephen Kent (BBN Technologies)

8. See, for example, R. Michael Alvarez, Stephen Ansolabehere, and Charles Stewart III, "Studying Elections: Data Quality and Pitfalls in Measuring of Effects of Voting Technologies," *Policy Studies Journal*, 2005, Volume 33, Number 1, pages 15-24.

9. In a March 2006 report, R. Michael Alvarez and Thad E. Hall called for many improvements in the Election Assistance Commission's "Election Day Survey." See "Improving the Election Day Survey", <http://www.votingtechnologyproject.org/reports/EAC-eds.pdf>.

10. The complete report is available at http://www.votingtechnologyproject.org/media/documents/auditing_elections_final.pdf.



Spencer Overton (George Washington University), Michael Alvarez (session moderator, Caltech/VTP, conference host), Ted Selker (MIT/VTP, conference host). Q&A after keynote speaker Spencer Overton's talk.

voter registration and voter authentication procedures exist today in all election jurisdictions, and how those procedures have changed in the past few decades. We also need data on how these procedures affect both election administration (for example, detailed information on the expenditures of election administrators) and voters (voter wait times in polling places, the

problems that voters encounter when they try to vote and difficulties experienced with registration or authentication, and how those problems are resolved). Such data is critical for the research that social scientists undertake to understand how policy changes influence voter behavior and the political process—research that will shape future debates about further improvements in election administration. Also, novel forms of data are necessary so that the policy and research community can more completely study voter registration and authentication systems: voter registration databases, voter history files, and the other databases that are used to verify registration status and voter identity.

Of course, these may not necessarily be public access files. However, a standard must be achieved whereby election administrators will make these data available, in usable and common formats, to researchers and policy-makers under conditions that will satisfy confidentiality and privacy concerns, but which will also allow these databases to be used in

research.

Finally, there are strong normative reasons for requiring that election officials provide detailed and accurate election administration data: making such information available to the public will serve to improve transparency, openness and accountability. We thus hope that making detailed and accurate election administration data available will in the long run insure that voters and stakeholders are confident in the integrity of the electoral process.

In the end, with more transparent, open and accountable election administration practices, we should see that voter confidence in the electoral process is maximized.

DATA AND METRICS KEY ACTION ITEMS

1. The EAC should develop standards for reporting election administration data. These standards should specify the data that election jurisdictions must retain and distribute to the public. The EAC should also develop a data archive for the storage of this data in the long-term.
2. Additional research regarding voter registration and authentication systems in the United States and abroad, in particular historical research on these election administration systems, is necessary, as well as the implications of different voter registration and authentication systems on a wide array of behavioral variables.

2. COMMUNICATION

There are many disparities between the information that the public and researchers can glean regarding the conduct of American elections, and what poll workers and election officials “in the trenches” actually witness and experience; this information is necessary not just for transparency and for effective oversight but also for improving the process. This information provides critical context for understanding how elections are conducted, and for understanding how electoral procedures may mitigate or eliminate some concerns and criticisms of election administration.

One of the important goals of the events that the VTP hosts, including this recent conference on voter registration and authentication, is to bring key stakeholders from the many different communities (i.e. election officials, academics, vendors, government officials) together to talk about their experiences, and to better understand what each community sees as important research directions, and what they feel are impediments to these research efforts. Election officials commented on the depth of analysis of the academic research; academics find themselves somewhat jealous of the insight gained from the unique experiences of election officials; vendors were delighted to raise the level of the conversation and share technical challenges that could simplify technology; and governmental officials brought up overarching issues that affect voter verification policies.

There is a pressing need for the continuation of efforts like these—the development of routine forums where election officials, researchers, policymakers and advocates can come together to talk about these issues, in ways that are mutually respectful and productive. Of course, we should continue to seek face-to-face communication, but where

possible, we all should look to new technologies for ways to facilitate the distribution of new research, and for stakeholders to be able to provide their own commentary on the research itself, and on future research directions. We need additional venues like the events the VTP hosts to continue these conversations.

Related to this, we continue to work to create an academic field that legitimizes and helps create the best voting technology democracy can use.

COMMUNICATION KEY ACTION ITEMS

1. States should continue to reach out to the academic and research community, and work to develop partnerships with colleges and universities, as has been the case in Georgia. By developing research programs and centers that allow for collaboration and the exchange of ideas and information, election administration and academic research are both enriched. Such collaborations also will help develop more openness and transparency in the election process.
2. Academic and research organizations need to devote efforts to facilitating the development of an “election science” academic discipline, including sponsoring new peer-reviewed publication outlets for this multidisciplinary research area and the development of curriculum for colleges and universities.

3. STANDARDS

States are engaged in a massive experiment in the development and deployment of new statewide voter registries and voter authentication systems. Regarding statewide voter registries, some states were early adopters of these new systems, while other



Stephen Ansolabehere (MIT)

states will be bringing their systems online sometime around the 2008 presidential election. What is the quality of the registration databases and their data? Currently, it varies. Critical databases like these must be developed transparently and be used with oversight. Even the minimum functionality of these databases is disputed.

HAVA's request for standards on statewide voter registration systems have not yet been met. While it might be that the technologies are in flux, it is time to start the process of articulating best practices.

It is clear that soon we will need standards in place for these important components of election administration, and it is time for the development of a standards-setting process for voter registration and authentication systems.¹¹ Certainly, at this point in time, we should be in a position to start a process that can determine the dimensions of performance of a statewide voter registration system; perhaps we are already in a position to articulate in more detail what the precise operating standards, relative to these performance dimensions, should be. In any case, it is time for the standards-development process to begin, and we call upon the EAC to initiate the development of a standards-setting process for statewide voter registration systems and for voter authentication systems in 2007.

STANDARDS KEY ACTION ITEMS

1. The EAC should begin to nurture innovation and evaluation of technology for voter identification systems as a precursor to any standards.
2. The EAC and other public and private organizations should begin to sponsor scientific research on voter identification procedures and technologies.
3. The EAC should begin the process of developing and implementing standards for statewide voter registration and voter authentication systems in 2007.

4. Interoperability

We also urge the EAC to take the lead on developing standards for the interoperability of statewide voter registration databases. There are a number of reasons for recommending interoperability: it will aid states in comparing their statewide voter registries against other governmental databases, it will facilitate the comparison across states of voter registration files, and it will allow for the distribution of readily-usable data for the research community. Moreover, achieving interoperable statewide voter lists will likely yield additional benefits that users of the information will no doubt identify in the future. Finally, any one data source is corruptible: more than one repository allows oversight and discovery of problems.

But much work is needed reach a point where states will have completely interoperable statewide voter registries. Data exchange standards for election administration appli-

11. On March 28, 2006 Michael Alvarez and Ted Selker (VTP) submitted a memorandum to Ron Rivest, requesting that the Technical Guidelines Development Committee's Subcommittee on Computer Security and Transparency begin the process of developing such standards (<http://electionupdates.caltech.edu/2006/03/memorandum-on-development-of-standards.html>).

cations are needed, including the development and implementation of data definitions. It is not too early for the EAC to convene stakeholders to begin a process of developing data exchange standards, and to thus start the ball rolling toward the eventual exposition of fully interoperable statewide voter registries in the near future, perhaps following the 2008 election.

INTEROPERABILITY KEY ACTION ITEMS

1. The EAC should support innovation and evaluation of privacy, security, accuracy, transparency, and failure mode issues in interoperability approaches.
2. The EAC should initiate the development of data transactions standards for election administration systems.
3. Election system vendors should work to insure that all of their voting systems meet federal guidelines for data transaction, thus insuring interoperability of systems within and across election jurisdictions.

5. Transparency

Transparency allows oversight so that problems can be discovered. It also allows all stakeholders to thoroughly understand how elections are conducted, thus increasing the likelihood that elections will be seen as legitimate. If registering online, for example, transparency would require an assurance by some means that the legitimate data and website are being used and that there is some way to confirm a voter's registration status. Access to registration data online gives voters information on whether or not they are registered, insofar as the website itself can be trusted. Some current registration procedures can cause confusion for voters, especially those that lack transparency. It

should be easy for a voter to verify his/her registration status.

TRANSPARENCY KEY ACTION ITEMS

1. Election jurisdictions should develop secure and usable systems that allow individual voters to easily verify their registration status and to correct problems. States must have systems in place to notify voters quickly and effectively when any problems arise with his/her registration status.
2. The EAC, working with state election officials, should support innovation and evaluation to develop best practices for the transparency of voter registration practices. To insure transparency, each election jurisdiction should report the details of all voter registration and authentication practices and procedures.

6. Fraud

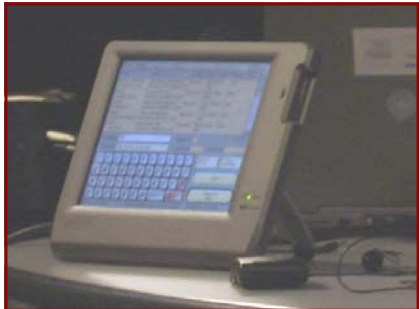
Flagrant voter intimidation and coercion have existed in many places at many times. One presenter at this voter registration and authentication conference stated that in Pakistan, falsified identity cards might account for between 5-10% of the votes in an election. Discussants were concerned that efforts like "Real-ID" could reduce voter participation or itself be used as a mechanism for coercion. Obviously, such discussions should be based on data and an understanding of the mechanisms rather than beliefs and projections of them. Questions about election fraud might be the motivation for political discussions of voter registration reform, and one of the most important rationales for stronger voter authentication



Al Ater (Secretary of State, Louisiana)

procedures and technologies.

However, other than anecdotes and allegations of election fraud, there is little research on contemporary election fraud in the United States. There is thus little available data and research to inform policy debates about voter registration and authentication, which leads to policy discussions that may be based on little factual information.



Diebold Election Systems Electronic Pollbook

While we have recently co-sponsored a workshop at the University of Utah that focused on election fraud,¹² we recommend that other researchers take up the question of developing methods and databases that can be used to study election fraud. The basic incidence rates of the various types of election fraud have yet to be established. Fraud is such a general term that even what it entails depends on the backdrop of culture and local law. Good definitions should be established so that data can separate and identify problems correctly. If it is to be addressed, more research is required regarding the documentation of how fraud and fraud enforcement changes over time and place. The EAC can take the lead in facilitating and funding this research effort, as can private foundations.

FRAUD KEY ACTION ITEMS

1. The research community should devote considerable resources to the study of election fraud, in particular on methodologies to detect, mitigate and prevent election threats. This is a key area for the funding community to target.
2. Securing our electoral process is an important goal. Voter registration and authentication systems are important components of the security process in election administration, but they can also become the focus of threats as well as barriers to participation. It is imperative that election jurisdictions study the implications of new initiatives and secure their electoral process thoroughly before implementation of technological and procedural changes, including pilot tests and field experiments. This will help balance security with accessibility.
3. The EAC should work to create reporting standards so that the anecdotal descriptions of fraud can be validated or discredited. Today, the vendors and election officials often describe situations that are not reported or logged.

7. Research and Development Agenda

Technologically, the United States lacks a coherent and well-funded effort to invest resources in the development of new technologies for our democratic process. In many ways the US is well behind other advanced democratic nations, as these nations' governmental organizations have done much to initiate and sustain research and development projects in the area of election administration (for example, work in Brazil, the United Kingdom, Estonia and Switzerland).

Obviously, the EAC should be involved in a national research and development agenda, but so should other government research agencies, for example the National Science Foundation.

12. The Voter Fraud Conference was held on Sept 29-30, 2006 at the University of Utah, and was hosted by Michael Alvarez, Thad Hall and Susan Hyde. The proceedings will be published in the form of a book due out in 2008.

Entities and organizations that are involved in science and technology policy, like the National Research Council and the National Institutes of Standards and Technology, should be involved as well in the development and analysis of new election administration technologies.

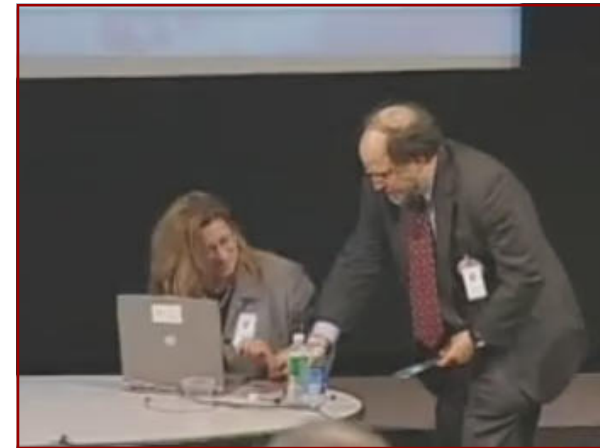
While research and development should focus on new technologies for voter registration and authentication, especially information technologies, biometrics, and data security, these efforts should be broadened to include voting technologies. Only by making a sustained, rational, and focused national investment in research and development can we insure that we will have the best technology for our electoral process required as part of the goal of a democracy.

R&D KEY ACTION ITEMS

1. The US spends perhaps \$10 per voter per year on elections. At this time of significant change in election systems and administration, and in view of the considerable public demand for better voting experiences and increased security, we recommend that spending an additional 25¢ per voter, per year, on research (approximately \$25 million per year) would be well-justified and appropriate. These research funds could come through the EAC, or through other federal agencies like the National Science Foundation.
2. The private sector—both the philanthropic community and the industry—should also devote resources for basic research and technology development.



Jonathan Katz (Caltech/VTP, conference host)



Michelle Shafer (Sequoia Voting Systems), Ron Rivest (MIT/VTP, host)

10/5: DAY ONE - TOPIC: REGISTRATION

Session One: Where Have We Been

Moderator: Michael Alvarez

9 - 9.30 am

WELCOME/INTRODUCTION

- Ted Selker, Charles Vest & Ron Rivest

9.30 - 10.30 am

VOTER REGISTRATION: PAST & PRESENT

- Alexander Keyssar (*Harvard University*): History of Voter Registration in the US
- Tova Wang (*Century Foundation*): New Barriers to Voter Registration

10.45 - 11.45 am

WHAT SOCIAL SCIENTISTS KNOW ABOUT VOTER REGISTRATION

- Jonathan Nagler (*New York University*)
- Stephen Ansolabehere (*MIT*)

12:30 pm

Moderator, Ron Rivest

- KEYNOTE SPEAKER: Paul DeGregorio (Chairman, Election Assistance Commission)

Session Two: Current and Future Environments

Moderator: Ted Selker

1.30 - 2.30 pm

CURRENT ENVIRONMENT

- Doug Chapin (*electionline.org*): Current Status of HAVA Implementation
- Dean Logan (*Los Angeles County Registrar/Recorder's Office*): State/Local Perspectives of Current Voter Registration Environment
- Richard Smolka (*Election Administration Reports*): Effects of Voter Registration Systems on Election Administration

2.50 - 4pm

THE FUTURE: DOING IT BETTER

- Ann McGeehan (*Dir. of Elections, TX*): Statewide Voter Registration System
- Kim Brace (*Election Data Services*): Matching and Cleaning Voter Registration Files
- Thad Hall (*University of Utah*): Using VR Data Across Jurisdictions and States

6.30 pm

- KEYNOTE SPEAKER: Al Ater (Secretary of State, Louisiana)

10/6: DAY TWO - TOPIC: AUTHENTICATION

Session One: Where We Are Now

Moderator: Jonathan Katz

8.30 - 9.30am

- KEYNOTE SPEAKER: Spencer Overton (George Washington University)

9.30 - 10.30 am

INTRODUCTION

- Jonathan Katz, Ron Rivest

CURRENT ENVIRONMENT I

- Renee Free (*LA Secretary of State's Office*): Electronic Pollbooks
- Doug Chapin (*electionline.org*): Current Situation
- Jonathan Katz: Impact of Voter Identification on Turnout

10.40 - 11.30 am

CURRENT ENVIRONMENT II

- Michael McDonald (*George Mason University*): Effects of Authentication On Outcome Variables, Research/Data Collection
- Eric Fischer (*Library of Congress*): US Voter Authentication Procedures Re: HAVA
- Dan Tokaji (*Ohio State University*): Legal Issues (IN, GA, MO)

Session Two: Looking Ahead

Moderator: Ron Rivest

1.00 - 2.15 pm

POLICY

- Marc Rotenberg (*EPIC*): Privacy/Voter ID Cards
- Stephen Kent (*BBN Technologies*): Voter ID cards
- Dan Greenwood (*US government consultant*): Real ID

2.15 - 3 pm

E-POLLBOOK TECHNOLOGY: ROUNDTABLE DISCUSSION

- Michelle Shafer (*Sequoia Voting Systems*): A Look to the Future: Electronic Pollbook Technology
- Ross Underwood (*Diebold Election Systems*): Electronic Pollbooks-Voter ID

Links to Video and Research

RESEARCH

- ▶ **Voter Registration Systems** (*Eric Fischer*)
[http://www.votingtechnologyproject.org/events/2006/VoterID/Fischer_Coleman-Voter_Registration_Systems-AU.pdf]
- ▶ **Voter Identification** (*Spencer Overton*)
[<http://www.votingtechnologyproject.org/events/2006/VoterID/OvertonVoterID6-7-06.pdf>]
- ▶ **The New Vote Denial: Where Election Reform Meets the Voting Rights Act** (*Daniel Tokaji*)
[<http://www.votingtechnologyproject.org/events/2006/VoterID/NewVoteDenial-Final.pdf>]
- ▶ **The Next Big Election Challenge: Developing Electronic Data Transaction Standards for Election Administration** (*Michael Alvarez, Thad Hall*)
[<http://www.votingtechnologyproject.org/media/documents/AlvarezReport.pdf>]
- ▶ **Improving Voter Participation** (*Tova Wang*)
[<http://www.votingtechnologyproject.org/events/2006/VoterID/wangsoa6-29-06.pdf>]
- ▶ **Statewide Databases of Registered Voters: Study Of Accuracy, Privacy, Usability, Security, and Reliability Issues** commissioned by the U.S. Public Policy Committee of the Association for Computing Machinery (*Association for Computing Machinery*)
[<http://www.acm.org/usacm/VRD/>]
- ▶ **Overview and Recommendations** (*Association for Computing Machinery*)
[http://www.acm.org/usacm/PDF/vrd_overview.pdf]
- ▶ **May I See Your ID, Please? Measuring the Number of Eligible Voters with Photo Identification** (*Michael McDonald*)
[<http://www.votingtechnologyproject.org/events/2006/VoterID/McDonald-Photold.pdf>]
- ▶ **Election Day Voter Registration** (*Demos*)
[<http://www.demos.org/page18.cfm>]
- ▶ **The Introduction of Voter Registration and Its Effect on Turnout** (*S. Ansolabehere, D. Konisky*)
[http://www.votingtechnologyproject.org/media/documents/ansolabehere_konisky_political_analysis.pdf]
- ▶ **Making Voting Easier: Election Day Registration in New York** (*M. Alvarez, J. Nagler, C. Wilson*)
[<http://www.votingtechnologyproject.org/media/documents/EDRNY0404.pdf>]
- ▶ **Voting in Massachusetts** (*VTP group report*)
[<http://www.votingtechnologyproject.org/media/documents/VotinginMass.pdf>]
- ▶ **California Votes: The Promise of Election Day Registration** (*M. Alvarez, S. Ansolabehere*)
[http://www.votingtechnologyproject.org/media/documents/california_votes.pdf]
- ▶ **July 2001 Report** (*VTP group report*)
[<http://www.votingtechnologyproject.org/2001report.htm>]
- ▶ **Election Fraud References** (*S. Hill*)
[http://www.votingtechnologyproject.org/media/documents/wps/vtp_wp50.pdf]
- ▶ **How Hard Can it Be: Do Citizens Think it is Difficult to Register to Vote?** (*M. Alvarez, T. Hall, M. Llewellyn*)
[http://www.votingtechnologyproject.org/media/documents/wps/vtp_wp48.pdf]
- ▶ **Election Day Voter Registration in the U.S.: How One-Step Voting Can Change the Composition of the American Electorate** (*M. Alvarez, S. Ansolabehere, C. Wilson*)
[http://www.votingtechnologyproject.org/media/documents/wps/vtp_wp5.pdf]
- ▶ **Voter Registration: Past, Present, and Future: Written Testimony Prepared for the Commission on Federal Election Reform** (*M. Alvarez*)
[http://www.votingtechnologyproject.org/media/documents/wps/vtp_wp30.pdf]
- ▶ **Potential Threats to Statewide Voter Registration Systems** (Prepared for NIST "Threats to Voting Systems" Workshop) (*M. Alvarez*)
[http://www.votingtechnologyproject.org/media/documents/wps/vtp_wp40.pdf]
- ▶ **Improving the Process of Registration and Voting** (p. 7, from *Challenges Facing the American Electoral System: Research Priorities for the Social Sciences*) (*National Research Commission on Elections and Voting*)
[<http://www.votingtechnologyproject.org/media/documents/FinalReport030105.pdf>]

CONFERENCE VIDEO

Presentations, discussions and keynote addresses can all be viewed online:

- ▶ <http://www.media.mit.edu/events/movies/video.php?id=vtp-2006-10-5-1>
- ▶ <http://www.media.mit.edu/events/movies/video.php?id=vtp-2006-10-5-2>
- ▶ <http://www.media.mit.edu/events/movies/video.php?id=vtp-2006-10-5-3>
- ▶ <http://www.media.mit.edu/events/movies/video.php?id=vtp-2006-10-5-4>
- ▶ <http://www.media.mit.edu/events/movies/video.php?id=vtp-2006-10-5-5>
- ▶ <http://www.media.mit.edu/events/movies/video.php?id=vtp-2006-10-5-6>
- ▶ <http://www.media.mit.edu/events/movies/video.php?id=vtp-2006-10-6-1>
- ▶ <http://www.media.mit.edu/events/movies/video.php?id=vtp-2006-10-6-2>
- ▶ <http://www.media.mit.edu/events/movies/video.php?id=vtp-2006-10-6-3>
- ▶ <http://www.media.mit.edu/events/movies/video.php?id=vtp-2006-10-6-4>