

# Making Sure...



by Emily Velasco

To test the integrity of the election process, Caltech political science professor Michael Alvarez started locally.



The hotly anticipated 2018 midterm elections are just around the corner, and when the flurry of Election Day activity dies down, it is likely, if the past is any indication, that countless questions will be raised about the integrity of the voting process.

Experts generally agree that voter fraud is almost nonexistent in the United States, but elections in recent years have been plagued by long lines at polling stations, polling places that were unexpectedly closed, glitchy voting machines, and recount after recount of disputed ballots. There have also been allegations of hacking by foreign powers, conspiracy theories about noncitizens being bused to polling places, and claims that the names of deceased people are being used to cast illegal votes.

Into that environment comes a new partnership between Caltech and Orange County that is offering the county's voters an unprecedented ability to assess the integrity of their own elections.

Beginning with the primaries in June, the partnership began collecting and analyzing massive amounts of election data to look for any sign of untoward activity. The project's organizers also made available an online election-integrity dashboard that presents users with statistics and analytics related to voter rolls, large-scale changes in voting behavior, and firsthand reports about problems and wait times at polling places.

The project is led by Michael Alvarez, a professor of political science at Caltech, and Neal Kelley, Orange County's registrar of voters. It is an outgrowth of research conducted by the Caltech/MIT Voting Technology Project, which was formed in the aftermath of the controversial 2000 presidential election with the aim of improving the voting process in the U.S. and abroad. Assistance with the project is coming from social science doctoral students Nick Adams-Cohen, Silvia Kim, and Yimeng Li, along with Caltech SURF student Spencer Schneider, a sophomore majoring in computer science and business, economics, and management.

"We're developing and applying a wide array of techniques that we've been studying since the origins of the Voting Technology Project," Alvarez says. "The idea is to

determine which combination of these tools work well to help us understand the election process, and the goal is to scale up the tools to use across California and maybe the nation in 2020."

The project is making its debut at a time of increasingly strident partisan rancor over how elections throughout the country are conducted. Cases of double voting have been cited as evidence of widespread voter fraud, and officials have faced controversies over the location of polling places, the forms of ID that they require, and how they choose to remove voters from the voting rolls.

"Questions about the integrity of elections arise in periods of history when elections are close," Alvarez says. "We are now in one of those periods. I think everyone anticipates that this fall we are going to see a number of very close elections for the House and Senate."

## Test bed OC

Many close elections, both national and local, are going to take place in Orange County, and that fact, along with Kelley's eagerness to be innovative, makes the county a good test bed for the project, Alvarez says. The June primaries worked as an excellent trial run.

"Things went very well," Alvarez says. "We were able to collect a great deal of really useful data, analyze that data quickly, and produce reports that went to the OC registrar."

Before the primaries, Alvarez predicted that they would not find any evidence of malfeasance during voting, and they did not. He was surprised, however, by how smoothly everything went across the county.

"To be honest, I expected to see that there might be more issues on Election Day," he says. "My experience in the past is that we often see lots of little problems arising that can inadvertently disenfranchise people. We saw none of that on Election Day. The fact that there were no serious problems was surprising in a really positive way."

Alvarez credits Kelley for that.

"I think what we saw largely has to do with the fact that Orange County has a truly fantastic registrar," Alvarez says. "He's very forward-looking, and he's put together a wonderful administrative team."

Kelley says he has been looking for a way to check the “health” of Orange County’s elections systems for some time, and he is pleased to be partnering with Caltech.

“We will continue to look for ways to improve our services and how we conduct elections in Orange County,” Kelley says. “There is no finish line to this process and Caltech’s expertise—and third-party review—aids us in this endeavor.”

## The monitoring process

The project collected information about Orange County’s voting system and elections in several ways:

- **Voter-registration analysis:** The team took periodic snapshots of voter-registration files and analyzed them

## Lessons learned

Alvarez says his team learned lessons during the June primaries that they are carrying forward with them to the upcoming midterms. One improvement includes streamlining and further automating their data-collection processes to help them develop their analyses more quickly.

Besides helping voters to be informed, the real goal of the project, Alvarez says, is to serve as an example of transparency for election officials across the country. He hopes that as they prove their system works, they will be able to expand it to other Southern California counties and eventually to other states.

For now, though, he is looking forward to the excitement

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to look for changes that could indicate that voters are being purged from the rolls or that multiple voters are being fraudulently added at single addresses.

- **Voter fraud:** The team ran a near real-time analysis of election returns in search of statistical anomalies that might be caused by administrative issues, procedural glitches, or fraud.
- **Social media:** The team looked at social media data in search of complaints from voters about problems such as excessively long lines at their polling place or absentee ballots that never showed up in the mail. They have developed a tool that collects tweets and classifies them according to geography, positive or negative sentiment, political orientation of the poster, and the nature of the problem the poster experienced.
- **Observers:** Caltech students were trained to serve as election observers, report problems, to look for and report unusual activity. They did this on Election Day and during early voting as well.

The data collected, along with analysis, was made available to the public through a dashboard hosted on the project’s website, Monitoring the Election ([www.monitoringtheelection.us](http://www.monitoringtheelection.us)).

he is expecting to see during the midterms.

“We’re seeing nationally that there’s a high level of voter engagement on both sides, and I think there is going to be a lot of interest and engagement by voters this fall,” he says. “I think the congressional districts up for grabs in Orange County are going to continue to be some of the most competitive in the country.” 🗳️

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