

The Seismological Society of America (SSA) cordially invites you to a briefing on Capitol Hill

# Machine Learning in Seismology: Using AI to Improve Earthquake Monitoring

**Wednesday, February 13, 2019 from 10–11 a.m.**

Capitol Visitor Center, Room SVC 212-10

Even with all that seismologists have learned about earthquakes, new technologies show how much remains to be discovered. Recent improvements in computational capabilities and the availability of large seismic data sets have created new opportunities for the application of artificial intelligence and machine learning tools in seismological fields. The application of these new techniques can refine our understanding of Earth's structure and seismic sources from a new perspective and help improve earthquake detection, allowing for increased preparedness.

**RSVP by February 8, 2019 EST to: [policy@seismosoc.org](mailto:policy@seismosoc.org)**

*Breakfast will be served. Space is limited at this widely attended public event.*

*Please include any specific questions on the topic that you may like to have addressed at the event.*

*Enter through the general Capitol Visitor Center entrance for access to the Senate side and Room SVC 212-10.*

*Please allow 15 minutes for security check.*

## PRESENTERS:

### **Karianne Bergen**

*Harvard University*

Bergen is a Data Science Initiative Postdoctoral Fellow at Harvard University. Her research focuses on the use of artificial intelligence for pattern recognition and discovery in noisy, real-world data. For her doctoral research, she developed a new algorithm for automatically identifying weak earthquake signals in large seismic data sets. Her research has been recognized with awards from the Seismological Society of America, the American Geophysical Union and the Royal Astronomical Society. Prior to her graduate studies, Dr. Bergen worked as a staff data scientist at MIT-Lincoln Laboratory. She holds a M.Sc. and Ph.D. in computational and mathematical engineering from Stanford University and a B.Sc. in applied mathematics from Brown University.



### **Zachary Ross**

*Caltech*

Ross is a Postdoctoral Scholar in Geophysics at the California Institute of Technology. He previously received a Ph.D. in Geophysics from the University of Southern California, and a B.S. in Physics from the University of California, Davis. His research interests are include using artificial intelligence for earthquake monitoring, high-resolution imaging of fault zones, and the physics of earthquakes.

