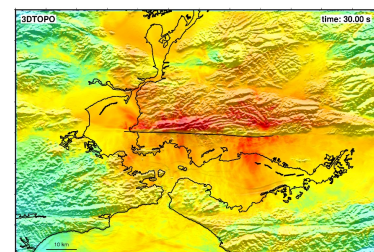


### Research Highlight

#### Broadband Ground Motions for a Hayward Fault Earthquake

A team of researchers led by Arthur Rodgers, *Lawrence Livermore National Laboratory (LLNL)*, performed fully deterministic broadband (0-4 Hz) high-performance computing ground motion simulations of a magnitude 7.0 scenario earthquake on the Hayward Fault (HF) in the San Francisco Bay Area of northern California using the HPC systems [Cori](#) and [Quartz](#) at LLNL. Simulations consider average one-dimensional (1D) and three-dimensional (3D) anelastic structure with flat and topographic free-surfaces. The 3D TOPO case models the domain utilizing the 3D USGS Bay Area geologic/seismic model, a realistic fault geometry, and a topographic free surface. The simulation included mesh refinement and required 15 billion grid points and ran on 2400 nodes (86,400 cores) for about 18 hours total for a total of 1.5 million core hours. Ground motion intensity ... [\[more\]](#)



*Peak ground velocity for high-performance computing simulation of a magnitude 7.0 earthquake Hayward Fault (black line), eastern San Francisco Bay Area, northern California*  
[link to full caption](#)

#### Rayleigh: New Geodynamo Code Launched

The CIG Dynamo Working Group has focused much of its recent energies on the development of a highly scalable, pseudo-spectral code for simulating dynamo action in rotating spherical geometries. The resulting code, *Rayleigh*, is the product of CIG-supported researcher Nick Featherstone's (*CUB*) efforts. It has been shown to scale well to one-quarter million cores (IBM BG/Q) for problems of order  $2048^3$  in size. *Rayleigh* is now open for business and is publicly available at on the CIG website [\[here\]](#)

#### JupyterHub

Jupyter notebooks using CIG codes or part of CIG tutorials are now accessible through our website: Software > [Jupyter](#). Explore ASPECT, Burnman, and ObsPy without downloading or installing software. Notebooks can also be downloaded from their home repositories for use on your desktop.

Are you a Jupyter Notebook developer? [Contact us](#) to donate your notebooks so the geodynamics community can explore more usages of community codes.

#### Elections

Congratulations to our new governing committee members: Carl Tape (EC), David Ham (SSC), Jessica Irving (SSC), and Gabriele Morra (SSC). New members will server 3 year terms ending in 2020. Many thanks to EC member Omar Ghattas and SSC members Jed Brown, David May, and Carl Tape for their contributions to the community and to the Nominations Committee - Clint Conrad, Wolfgang Bangerth, Ved Lekic, and Sabine Stanley for presenting an excellent slate of candidates.

#### WEBINARS

**February 8** - Gabriele Morra  
**March 8** - Eric Mittelstaedt  
**April 17** - Lion Krischer  
**May 10** - ASPECT Team  
[More info](#)  
[Connect to webinar](#)

#### MEETINGS

**April 25-27:** Coupling of Tectonic and Surf Processes  
**June 10-14:** CGU joint with CIG  
**June 19-23:** PyLith Hackathon  
**June 19-30:** ASPECT Hackathon  
**July 9 - Aug 3:** CIDER  
**Fall:** Rayleigh Hackathon

#### NEW RELEASES

Rayleigh 0.9.0  
SW4 2.0.1  
Virtual Quake 3.1.1

*click the icon for citation info*

#### ALLOCATIONS

Stampede2: 7,625/51,070 SUs  
Ranch: 10,000 GB  
Maverick: 14,852/ 15,000 SUs

#### QUICK LINKS

[Submit Publications](#)  
[Software](#)

[CONTACT US](#)

## New Members

Welcome to our newest CIG Member Institutions and Member Representatives: University of Louisiana Lafayette Gabriele Morra and University of Melbourne, Louis Moresi.

## Publications

The beginning of the year is an excellent time to refresh your CV, update us on your publications for listing on our website, and send us your research highlights. If you mention CIG software in your publications, chances are we have it listed on our website [\[check here\]](#). We especially appreciate images for our website and links to your movies.

## Code of Conduct

Do you know that CIG has provided a code of conduct since 2016 for all of its events? The code has recently been officially adopted by CIG as part of our Community Principles.

*CIG is an organization intended for networking and collaboration as well as learning. We value the participation every member of the community and want all participants to have an enjoyable and fulfilling experience. Accordingly, all participants are expected to show respect and courtesy to other participants throughout all activities and associate interactions online or in person. ...*

Read more about CIG's Mission, Vision, Core Values, and Code of Conduct [\[mission\]](#).

## Job Opportunities at NSF

NSF has openings for a [Division Director](#) in GEO/EAR and a [Program Director](#) for Geophysics. Consider making an impact on the national level and represent the geodynamics community in Alexandria, VA.

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