



Volcanic Systems Modeling Workshop

Jan - May 2021
online, via Zoom

Acronyms

SZ4D: A vision of coordinated research to understand the processes that underlie subduction zone hazards.

MCS: A Modeling Collaboratory for Subduction – Integrated modeling of earthquakes and volcano systems for fundamental science and physics-based forecasting applications.

RCN: To coordinate and guide the development of the SZ4D Initiative, the National Science Foundation (NSF) funded several Research Coordination Networks (RCNs). The MCS RCN is one of these and these webinars are part of the MCS RCN.

SZ4D - www.sz4d.org

SZ4D is a new initiative in the U.S. research community to study *subduction zones* through both space and time, with a focus on the fundamental processes underlying geologic hazards such as great earthquakes, tsunamis, landslides, and volcanic eruptions.

SZ4D focuses on designing targeted experiments to make the next big leaps in understanding of the processes underlying subduction geohazards. These are envisioned to involve comprehensive suites of new measurements to study subduction processes at key locations on the planet and fully incorporate the fourth dimension of time.

The "SZ4D Vision Document" (www.sz4d.org) identified three key components to develop and phase in:

- An interdisciplinary science program
- A modeling collaboratory (MCS)
- A community infrastructure program

Modeling Collaboratory for Subduction (MCS) - www.sz4dmcs.org

The Planning for the Modeling Collaboratory for Subduction (MCS) Research Coordination Network (RCN) is a community effort that was funded by the National Science Foundation as part of the SZ4D process.

We organize workshops and webinars, and support virtual collaboration among scientists studying subduction across all spatio-temporal scales. Our goal is to pave the way for a Modeling Collaboratory for Subduction Zone Science, a new center for data-integrative modeling that will include physics-based, decadal-scale hazard assessment for earthquakes, volcanoes and tsunamis.

Defining a vision for the MCS is primarily through engagement of the science community via three workshops:

- A Fluids Workshop (www.sz4dmcs.org/fluids-workshop)
- A Megathrust Workshop (www.sz4dmcs.org/megathrust-workshop)
- A Volcanic Systems Workshop (www.sz4dmcs.org/volcano-workshop)

Volcanic Systems MCS Workshop - www.sz4dmcs.org/volcano-workshop

The Volcanic Systems workshop is fully online and is subdivided into five themes, each consisting of two webinars and one planning meeting. The webinars will be science focused, whereas the primary purpose of the planning meetings will be discussions leading to a written report that defines a vision for a MCS.

Anyone interested in contributing to this vision through discussion and/or writing is welcome to attend the planning meetings, held on Fridays 12:00-14:30 of the same week as the webinars. Planning meeting registration can be accessed under <https://www.sz4dmcs.org/volcano-workshop>. During the planning meetings we will produce a report that defines the vision for a MCS. Specifically, how a modeling collaboratory would best meet the needs and leverage the opportunities for modeling and collaboration within volcanic systems science.

Anyone unable to attend these planning meetings, but interested to contribute through suggestions, feedback, or questions can do so asynchronously at <https://forms.gle/VkZra4k7UXTzq2f29>.