



SSA 
**Seismological
Society of America**

2022
**One community.
One mission.**

SSA Board

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*Yuexin Li assisting with a UC Berkeley
 Active Tectonics Research Group creepmeter
 installation on the San Andreas fault at
 Nyland Ranch, San Juan Bautista, California.*

©Heather Shaddox



Message from the President

Growing Connections that Advance Seismology



The Hunga Tonga Hunga Ha'apai eruption and the M7.8 earthquake sequence in Southern Turkey are forceful reminders of the importance of strong connections and collaborations that span geographic borders, but also scientific disciplines and the entire range of career stages that make up our global community.

As we highlight in these pages, SSA's contributions to improving connections that advance seismology are growing. The most recent additions to our activities include organizing topical conferences in the fall to encourage new collaborations and the exchange of ideas and expertise; offering community grants to groups that need a little help hosting their own meeting or workshop; and two new opportunities in the form of government relations fellowships, in which budding seismologists can grow into advocates by experiencing interactions with U.S. policymakers while helping them to understand the importance of supporting seismology.

Each of these new developments and accomplishments is only possible because the Society's members include many volunteers and donors, who generously give their time, talents and financial gifts to support the Society's mission.

Inspiration is another important way our community connects. SSA's 2023 honorees, whose professional accomplishments and contributions we celebrate on the very first pages of this report, are outstanding inspirations to us all.

It was especially rewarding to me to step into the role of president at last year's Annual Meeting, the Society's first in-person gathering since the pandemic started. Both informally in encounters in the meeting halls, as well as formally in your responses to the post-meeting survey, I heard from many of you that you were also excited to at last be able to reconnect with each other outside of Zoom.

Understanding the needs of our community and how they may better be served by SSA is a central focus of the Society's Board of Directors. A new standing committee on diversity, equity and inclusion will work to strengthen and support an atmosphere of collegial interaction across all SSA activities, and ensure that the Society embraces the diversity of people, perspectives and ideas that lead to scientific progress.

The occasional surveys that we ask you to participate in are part of this effort. Your feedback about yourself, your background and your experience with SSA's activities helps us continue to grow as a society, and strengthen our connections as individual researchers across the 83 countries we call home.

I have enjoyed leading this incredible community during the past year and look forward with excitement to the things we will accomplish together in the coming chapter.

Thank you for all you do for SSA!

Peggy Hellweg
 SSA President 2022–23

→ SSA recognizes the following members for their innovative research and collaboration, impressive early-career contributions to the field of seismology and exemplary service both to the public and SSA.

These honorees have made a positive difference in the global seismological community and helped SSA continue to advance earthquake science worldwide.

2023 Honors

Brian L. N. Kennett

HARRY FIELDING REID MEDALIST

SSA's highest honor, this medal recognizes outstanding contributions to seismology or earthquake engineering.

Brian L. N. Kennett, emeritus professor of seismology at the Australian National University, is recognized for innovative research spanning almost all areas of seismology, especially wave propagation, portable network deployments, seismic tomography and distributed acoustic sensing.

He is perhaps best known for his role in developing two spherically symmetric reference Earth models, IASP91 and AK135, which markedly improved body wave travel time calculations compared to earlier models and led to a better characterization of the deep Earth, especially the core.

These two models “have become standard reference models for global body wave tomography and are now used in major international agencies for earthquake location,” said Thorne Lay, Distinguished Professor of Earth and Planetary Sciences at the University of California, Santa Cruz, who nominated Kennett for the Reid Medal.

Kennett also led a multi-decade effort of seismic array studies of the Australian continent, developing detailed, increasingly higher-resolution 3D models of the crust and mantle velocity structure in this unique tectonic environment. These large-scale transportable seismic array experiments, including the SKIPPY and WOMBAT deployments, were one of the inspirations for the



USArray project in North America. He has also long been engaged in understanding the complex wave propagation processes in the subduction zones of the Northwest Pacific.

Kennett has been active in international seismological organizations, including as president of the International Association of Seismology and Physics of the Earth's Interior. One of the hallmarks of Kennett's career is his collaboration with researchers from numerous countries, noted Lay. Kennett has been a visiting scholar at institutions in France, Germany, Japan, Norway and the United States, as well as developing collaborations in India, Indonesia and South Korea.

In their commendations of Kennett, his colleagues noted his exceptional commitment to mentoring the next generation of seismologists. Kennett's publication record also testifies to a substantial impact on his field throughout his career. He has co-authored more than 340 peer-reviewed papers and published 10 first-authored technical books in seismology. He has received numerous honors and awards throughout his career, including the European Geophysical Union's Gutenberg Medal, the Gold Medal for Geophysics from the Royal Astronomical Society, the Australian Academy of Sciences' Matthew Flinders Medal and the Inge Lehmann Medal of the American Geophysical Union.

2023 Honors

Daniel Trugman

CHARLES F. RICHTER EARLY-CAREER AWARD RECIPIENT

This award honors early-career members' outstanding contributions to the SSA mission.



Daniel Trugman, an assistant professor at the Nevada Seismological Laboratory at the University of Nevada, Reno, is honored for his scientific productivity, as well as his contributions to open-source community software, to outreach and to teaching.

Trugman's research focuses on developing and applying new techniques to analyze large seismic datasets to better understand earthquake rupture processes and how those processes relate to earthquake hazard. Nominator Steven G. Wesnousky, University of Nevada, Reno Foundation Professor of Geology and Seismology, describes this work as “creative and integral to leveraging emerging opportunities in data science to better understand earthquake physics and earthquake ground motion.”

Other colleagues noted Trugman's dedication to outreach and communication, pointing to his work as lead developer of GrowClust, a publicly available software package to optimize the relative locations of earthquake hypocenters as well as his efforts to promote diversity, equity and inclusion in the field of geophysics.

As the Richard P. Feynman Distinguished Postdoctoral Research Fellow at Los Alamos National Laboratory, Trugman traveled the state

2023 Honors

of New Mexico on behalf of the lab’s Employee Scholarship Fund, visiting high schools to encourage the pursuit of college degrees and advising scholarship winners on internship opportunities. As an assistant professor at the University of Texas, Austin, he was a postdoc mentor and taught summer classes focused on developing scientific computing skills that enabled new research experience opportunities for students in Texas and at Historically Black Colleges and Universities.

The Joyner Fund provides the financial support for the Richter honorarium.

Susan Hough

FRANK PRESS PUBLIC SERVICE AWARD RECIPIENT



This award honors outstanding contributions to the advancement of public safety or public information relating to seismology.

Susan Hough, a geophysicist and ground motions task leader at the U.S. Geological Survey (USGS), is honored for her effective communication of science to the public and her work to establish and improve earthquake monitoring and hazard assessment worldwide.

In her nomination of Hough for the award, USGS research geophysicist Morgan Page noted the multiple channels of communication that Hough has used during her career to share science, including her Twitter account (@SeismoSue) which is known for providing context for earthquakes as they happen worldwide.

“In her books, not only does Sue distill complex scientific information in a clear and intelligible form

for the general public, she layers it with history, context and color — and her excitement for the scientific enterprise is contagious throughout,” said Page, adding that “because of her expertise and ability to simply explain complex concepts, the media routinely specifically requests her for interviews.”

In addition to her work within the United States, Hough has also spent her career leading projects responding to earthquakes around the world supported by the Office of Foreign Disaster—now part of the Bureau for Humanitarian Assistance—and the U.S. Agency for International Development. She has helped to rapidly deploy post-earthquake seismic monitoring equipment and to train the next generation of earthquake scientists and build scientific capacity in developing countries such as Haiti, Nepal and Burma (Myanmar).

In support of the award, many of her colleagues spoke of Hough’s dedication to on-the-ground organizing and direct engagement with government and public officials in earthquake zones, winning the trust of the public and providing a roadmap for both immediate and future hazard assessment and resiliency.

Mitch Withers

DISTINGUISHED SERVICE TO SSA AWARD RECIPIENT



This award honors individuals for their outstanding service to SSA.

Mitch Withers, an associate research professor at the University of Memphis and the Center for Earthquake Research and Information (CERI), is recognized for his outstanding service as SSA treasurer for 15 years.

From 2007 to 2022, Withers monitored the Society’s monthly financial progress, provided management counsel, and served on several key committees, including the Investment Committee, Management Committee, Audit Committee and as chair of the Budget Committee.

Among his projects as treasurer, Withers worked with others to update the SSA Bylaws and Board Policy Manual; established a reserves policy and ensured steady growth of those reserves for SSA; established a quasi-endowment to supply permanent funding of SSA’s popular grant programs; and participated in developing two strategic plans for the Society.

“I enjoyed working with Mitch for several years when I was SSA’s secretary,” said 2022–23 SSA President Peggy Hellweg. “He was a great resource for institutional knowledge, and his suggestions were always thoughtful and pertinent.”

In his nomination of Withers for the award, USGS earthquake hazards geologist Keith Knudsen said Withers’ “conscientious oversight, creative ideas and unwavering commitment to his role have helped keep SSA on strong financial and ethical footing.”

As is fitting for a seismological society headquartered in the Bay Area, “Mitch has been a key component of our business continuity plan for disaster recovery,” added Knudsen. “He was trained on all financial aspects so that he could step in to run the organization if necessary, should there be a large damaging earthquake in California.”

2023 Honors

José Martinez-Cruzado



BRUCE BOLT MEDALIST

Honoring the legacy of Bruce Alan Bolt, a pioneer at the intersection of earthquake science and earthquake engineering, this medal is awarded jointly by SSA, the Earthquake Engineering Research Institute and the Consortium of Strong Motion Observations Systems to recognize individuals working at the intersection of seismology and engineering whose accomplishments include the promotion and use of earthquake measurements, and whose leadership in the transfer of scientific and engineering knowledge into practice or policy has led to improved seismic safety.

José Martinez-Cruzado, professor of the civil engineering and surveying department of the University of Puerto Rico at Mayagüez, has been a leader in earthquake engineering in Puerto Rico and the Caribbean region for three decades. As the director of the Puerto Rico Strong Motion Program, he has focused on the development of a strong motion program in Puerto Rico, the British Virgin Islands, the U.S. Virgin Islands and the Dominican Republic, and on seismic arrays on dams, buildings and bridges. He has also worked on the design and rehabilitation of reinforced concrete structures in regions with high seismic risk.

A Ph.D. student of Bruce Bolt at the University of California, Berkeley, Martinez-Cruzado returned to Puerto Rico after receiving his degree to help expand and modernize its strong motion network and to promote seismic safety in the Caribbean region.

2023 Honors

Jack Baker

WILLIAM B. JOYNER MEMORIAL LECTURER

Awarded by the Earthquake Engineering Research Institute and SSA, this lectureship honors William B. Joyner's career at the USGS and his commitment to continuing communication and education at the interface between research findings of earthquake science and the practical realities of earthquake engineering.



Jack Baker's research is at the forefront of the interface between earthquake seismology and earthquake engineering, focusing on the use of probabilistic and statistical tools for modeling of extreme loads on structures.

At Stanford, he has worked on projects involving risk to spatially distributed systems, earthquake ground motion characterization, and predictions of soil failure from earthquakes, among other topics. He is the director of the Stanford Urban Resilience Initiative, which applies engineering analyses to social impact and human behavior in the context of disasters and extreme events. Baker also has industry experience in seismic hazard assessment, construction management, and modeling of catastrophic losses for insurance companies, in part as co-founder of Haselton Baker Risk Group.

His recent textbook, *Seismic Hazard and Risk Analysis*, was named a PROSE Awards finalist by the Association of American Publishers in 2022. Other honors include the Helmut Krawinkler Award in 2019 from the Structural Engineers Association of Northern California, and the 2018 Walter L. Huber Civil Engineering Research Prize from the American Society of Civil Engineering.



→ **Know a colleague who deserves an SSA honor?**
Nomination deadlines are **30 September** with the exception of Bolt and Joyner, which are due **30 June**.
Learn more: seismosoc.org/awards

One Community. One Mission.

→ SSA is a global community of members united by a shared mission: advancing earthquake science worldwide.

To achieve this mission, SSA encourages scientists and engineers at every career stage to join the Society for access to its many networking, learning and information-sharing opportunities.

During the past year, SSA expanded these offerings to include a second annual scientific meeting in the fall, a new Community Grants Program to help members host their own meetings and workshops, and a Government Relations Policy Fellowship Program that supports the Society’s ongoing advocacy efforts on Capitol Hill.

SSA in 2022



2,748
Members worldwide
60 % in U.S.
40% outside U.S.



83
Countries our members
call home

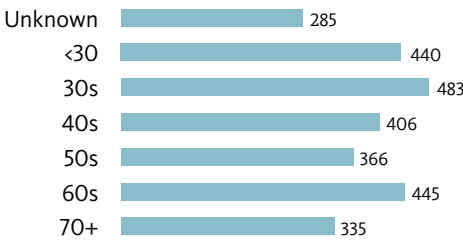


2
Important policies:
The Code of Conduct
and the Professional
Ethics Policy

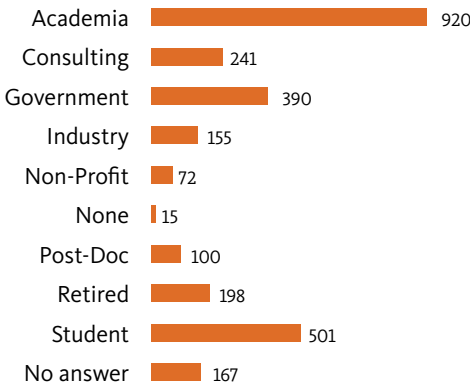


3
Leading peer-reviewed
journals in seismology:
BSSA, SRL and TSR

Member Age



Member Employment



More Time Together

The Society now offers two yearly gatherings for members to share information and make new connections worldwide.

SSA Annual Meeting

The 2022 SSA Annual Meeting in Bellevue, Washington (19–23 April) was more than a dynamic week of networking and learning for our global community, it was also the Society’s first in-person gathering since the beginning of the COVID-19 pandemic. As news of the upcoming event spread, members expressed excitement about stepping away from their computer screens and reconnecting with their colleagues and friends in 3-D.

Presenters were encouraged to convene a diverse set of sessions by teaming with colleagues at every career stage, including those outside their institutions and home countries. A new Welcome Dinner connected first-time attendees with Society ambassadors, who provided tips for navigating the week’s events and spread awareness of SSA’s many grant, publishing and training opportunities.

The meeting drew 748 attendees from 26 countries, including : 293 early-career and student participants who enjoyed discounted registration, part of SSA’s continued focus on supporting the development of future seismologists. A total of 711 scientists presented their research among the 48 sessions.



With the aid of Annual Meeting Travel Grants, 21 student and early-career members participated in SSA’s flagship event. These grants include childcare support to help parents participate in this important scientific conversation.



“The meeting was so globally diversified. That made it really interesting to learn about how research is done in different countries.”
—Annual Meeting attendee

New Fall Topical Conferences

Seismic Tomography–Past, Present, Future
In October, SSA members again met face to face when the Society welcomed attendees to its first and much-anticipated fall topical conference in Toronto, Ontario, Canada.

Among the topics explored:

- » The difficulty of dealing with differences between tomographic models
- » The need to quantify uncertainties and the nullspace more carefully
- » Challenges and opportunities for improving data coverage from the oceans
- » Complexity of the Earth at all scales
- » Potential of machine learning and artificial intelligence in seismic tomography
- » Bridging the gap between global Earth structure and local details.

Two attendees participated with the aid of SSA financial support.

Most of the students interviewed in the poster rooms said that they had come for the latest information on new techniques in the field and feedback on their own research. Many praised the small size of the meeting, with 16 oral and 67 poster presentations and only one session running at a time, for bringing both early-career and long-time seismologists into the same discussions.



Above: Barbara Romanowicz of the University of California, Berkeley and Collège de France provided the keynote address at SSA’s first topical conference.



Right: Co-chairs Andreas Fichtner and Clifford Thurber at the Seismic Tomography conference.

To keep these conversations going, SSA established a Listserv for members to stay connected following the meeting and to share news related to tomography about upcoming events, open positions (especially for junior scientists), recently published papers on the topic and opportunities for collaborative research.

Since then we have started the planning for the next fall topical conference, “Future Directions: Physics-based ground-motion modeling,” (10–13 October 2023) in Vancouver, British Columbia, Canada.

SSA is grateful to every member who helped steer these science-advancing conversations, especially the meeting co-chairs: Jackie Caplan-Auerbach and David Schmidt (Annual Meeting); and Andreas Fichtner and Clifford Thurber (Seismic Tomography).

→ Explore SSA’s selection of recorded presentations: seismosoc.org/meetings/ssa-2022-recordings

More Connections Worldwide

SSA continues to strengthen its connections with friends around the globe who share our mission. The Latin American and Caribbean Seismological Commission (LACSC), part of the International Association of Seismology and Physics of the Earth's Interior, is among these important partners.



Seismology in Latin America and the Caribbean

Like SSA, LACSC hosts biannual gatherings that seek to unite researchers focused on the study of earthquakes and other seismic sources in an effort to protect public safety. In October 2022, SSA was delighted to co-sponsor LACSC's fourth assembly in Quito, Ecuador.

Thanks to the aid of an SSA Global Travel Grant, Cristina Lorenzo-Velázquez, a Ph.D. student at North Carolina University, was among the 2022 attendees. "This event was a great place to learn from other scientists and engage in discussions about my research and how I could collaborate with other colleagues in an international setting for the first time," she told SSA.

At the conference, Lorenzo-Velázquez met scientists interested in her work on the integration of the effects of local soil conditions into probabilistic seismic hazard assessments of water supply distribution systems. After listening to other presentations, she returned inspired to explore new research methods, reporting back to SSA that the event exceeded every expectation she had for learning and networking.

“The experiences I had and all the knowledge I acquired during this conference would not have been possible without this grant.”

--Cristina Lorenzo-Velázquez,
2022 Global Travel Grant recipient

Lorenzo-Velázquez was especially grateful for the opportunity to connect with other scientists focused on hazard reduction. "My homeland, Puerto Rico, is susceptible to multiple natural hazards," she told SSA, "and I want to contribute in the near future to the reduction of the adverse consequences Puerto Ricans have to deal with due to the seismicity on the island."

New Contacts and Career Opportunities

Marc Garcia, a Ph.D. student at the University of Texas at El Paso, explored Puerto Rico last fall when he used his SSA Global Travel Grant to attend the SACNAS 2022 National Diversity in STEM Conference. At the conference Garcia not only learned more about proposal writing, academic publishing and finding a postdoc, he also explored a Graduate and Career Fair Expo Hall, with hundreds of companies and universities actively recruiting for grants and internships.

Other highlights included attending "Conversation with Scientists," a session that linked students with professionals in their specific research disciplines. "As a predoctoral seismologist, it was helpful making these much-needed connections, allowing me to build contacts for future collaborations with fellow researchers interested in machine learning seismology," he told SSA.

Both of the 2022 recipients expressed gratitude for their Global Travel Grants. "It was a fantastic experience," Garcia told SSA, adding that he is encouraging all of his colleagues to apply for the next round of grants in July.



“As a predoctoral seismologist, it was helpful making these much-needed connections, allowing me to build contacts for future collaborations with fellow researchers interested in machine learning seismology.”

--Marc Garcia, 2022 Global Travel
Grant recipient

SSA's Global Travel Grant program offers early-career and student members financial support to participate in scientific conferences worldwide.

→ **Learn more:**
seismosoc.org/awards/global-travel-grant

More Grant Opportunities

SSA's newest grant program offers financial support to any member regardless of their career stage.

Community Grants Program

Launched in 2022, the Society's new and aptly named Community Grants Program welcomes applications from any SSA member in need of funding to help create a small conference, workshop or any other seismology-advancing event.

The first recipients, Joan Gomberg (USGS research geophysicist and University of Washington affiliate professor), Debi Kilb (project scientist, Scripps Institution of Oceanography) and Valerie Sahakian (assistant professor, University of Oregon), used their \$5,000 Community Grant to create "Advancing the use of turbidite observations in understanding offshore tectonic processes and seismic hazards," a January 2023 workshop that they said would not have been possible without the grant.

The trio wisely planned their workshop at the University of Washington, Seattle, just one day before a larger USGS Subduction Zone Science was scheduled to take place at the same location. This allowed them to catch a group of interdisciplinary scientists together in one place and extend their interactions. The SSA members kicked off their workshop with breakout sessions that connected seismologists, sedimentologists, engineers and oceanographers in various pairings with one another, which Sahakian said helped encourage discussion later on in the workshop.

"We are so grateful for SSA's support," she said. "I heard positive feedback from the subsequent Subduction Zone Science meeting that small focused workshops like the one we held are ideal for more cross-disciplinary studies, of great import for subduction zone science."

Community Grant Committee Chair Karen Fischer, the Louis and Elizabeth Scherck Distinguished Professor of the Geological Sciences at Brown University, described the SSA-funded workshop as innovative and important, adding that the committee "looks forward to the next round of proposals, and particularly encourages proposals for workshops and events that bring researchers together around innovative topics and that support the participation of students and other early-career scientists, especially those who are from underrepresented communities."

→ Community Grant applications are invited every February and July.
Learn more:
seismosoc.org/inside/the-ssa-community-grants-program



SSA Community Grant recipient Valerie Sahakian and Camilo Ponton collecting shear stress data on a newly collected multi-core during the OC2006A Cascadia H.O.P.S. expedition. © Brendan Reilly

Three Journals. One Mission.

The SSA journals program is key to the Society’s core purpose of advancing seismology and the understanding of earthquakes for the benefit of society.

With three diverse editorial boards, volunteers who help recruit authors worldwide and discounts offered to authors in developing countries, SSA encourages scientific voices from around the globe to contribute to our peer-reviewed journals. These publications are one of the most important ways that SSA advances earthquake science and seismology.

The journals are the beating heart of the Society. Library subscription and author fees not only help cover the cost of producing and maintaining these publications, SSA also depends on journal revenue to produce its Annual Meeting; conduct public policy programs on Capitol Hill; and provide travel grants, professional-development opportunities and discounted registration fees for student and early-career members.

Without these journal subscription and author fees, our small, nonprofit Society would not be able to financially support and expand these vital programs for our community.

→ Learn more about SSA's publishing program or submit a paper: seismosoc.org/publications

4.288

SRL

Impact Factor

3.140

BSSA

Impact Factor



Bulletin of the Seismological Society of America
Advanced research in earthquake seismology and related disciplines

BSSA publishes original research articles in the fields of earthquake seismology, Earth structure imaging, seismic hazard assessment and related disciplines. Regular BSSA papers advance theory, present new methods and show novel applications. Periodic special sections cover major earthquakes and technological advances with broad impact for the field. BSSA’s format allows papers to fully explore research topics in detail.

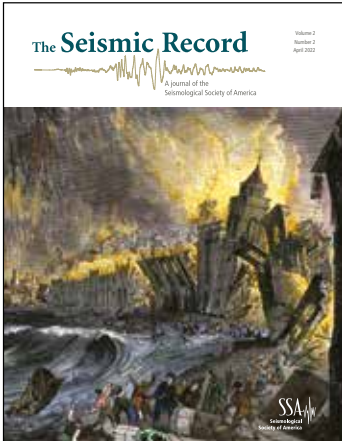
Editor-in-Chief:
P. Martin Mai



Seismological Research Letters
A research journal for a broad geoscience audience that includes seismologists, engineers and natural hazards professionals

SRL publishes articles on seismology and related topics, with the goal of bridging the gaps between subspecialties within the broad geoscience audience. Periodic Focus Sections cover topics of special and timely interest to the global seismological community. Regular columns focus on topics including emerging research, historical seismology and special data collections.

Editor-in-Chief:
Allison Bent



The Seismic Record
SSA's first open-access journal

Rapid publication of short papers on the latest seismological developments and events. TSR’s original research articles cover all aspects of seismology and earthquake science, but they do not exceed 3,500 words (about six printed pages). This approach brings a laser focus to TSR papers that not only helps them stand out in the scientific community, but also makes them easier to publicize with the media and general public.

Editor-in-Chief:
Keith Koper



Christopher DuRoss,
USGS



Adam Ringler, USGS



Vaclav Vavrycuk,
Institute of Geophysics

Outstanding Reviewers

SSA volunteers help our peer-reviewed journals remain a trusted source for the latest developments in seismology and earthquake science.

Christopher DuRoss of the U.S. Geological Survey (USGS), Golden, Adam Ringler of the USGS, Albuquerque, and Vaclav Vavrycuk of the Institute of Geophysics in the Czech Republic received SSA Outstanding Reviewer Awards at the 2022 Annual Meeting. The awards are given to acknowledge the important role that reviewers play in ensuring that SSA publishes only the highest quality research.

All three volunteers agreed that reviewing is an essential part of their careers, and that the process has given them a better sense of the state of research across a variety of topics in seismology.

Vavrycuk was chosen as the outstanding reviewer for *BSSA* by Editor-in-Chief P. Martin Mai for pouring his “knowledge and experience into the work of others to help them improve... in a sign of true collaborative spirit.”

Ringler was recognized by *SRL* Editor-in-Chief Allison Bent for his “insightful, constructive and thoughtful suggestions to authors,” as well as his willingness to take on a heavy workload for the journal. His time as a reviewer has made Ringler more conscious of how he presents his own research and which journals would be the best to reach his target audience, he says. “When you’re doing the research and writing the article, you think more about how this is going to be communicated to the audience you’re trying to reach, in a way that will be efficient for everyone.”

DuRoss helped *TSR* get off to a good start in its inaugural year, with Editor-in-Chief Keith Koper commending him for “promptly delivering comprehensive and cogent advice in a professional manner.” Similar to Ringler and Vavrycuk, DuRoss sees reviewing “as a critical part of the research process, the dissemination and communication of results. Having somebody who can critically review that work is really essential,” he says.

→ Interested in becoming a reviewer for an SSA journal? Email our editorial offices to express your interest. For contact information, visit seismosoc.org/publications

SSA Journal Highlights in 2022

71,000+

Page views of
TSR papers

3

SRL Focus Sections

93-6 Deformation Models for the U.S. Seismic Hazard Model (Guest Editors: Fred F. Pollitz; Alexandra E. Hatem; Kaj M. Johnson)

93-5 Big Data Problems in Seismology (Guest Editors: Daniel T. Trugman; Lihua Fang; Jonathan Ajo-Franklin; Avinash Nayak; Zefeng Li)

93-2A Puerto Rico Seismicity, Tectonics and the 2020 M 6.4 Earthquake Sequence (Guest Editors: Elizabeth Vanacore, Christa von Hillebrandt Andrade, Daniel Edward McNamara)

918

Volunteer reviewers for
all journals

64

Volunteer Associate Editors
for all journals



©NASA

The NASA Martian lander *InSight*, dedicated to investigating the deep interior of Mars, has a dome-shaped seismometer attached. In 2022, researchers from *InSight*'s Marsquake Service (MQS) reported in *The Seismic Record* that the seismometer has recorded its two largest seismic events to date.

500+

Authors surveyed by SSA in an effort to better understand and improve their experience from submission to publication

12

New “Seismic History: A Look Back” e-newsletters highlighting past journal coverage about important seismic events

43

Countries our *BSSA* authors call home

The SSA Support System

SSA exists to provide career development and training opportunities to members at every stage of their professional journeys.

Every workshop and mentoring session is part of SSA's ongoing effort to build a culture of support that can have a ripple effect across the wider scientific community.

Online Training

SSA has continued to expand its virtual professional development opportunities to help members fine tune the skills they need to succeed as researchers, employers and colleagues and also assist other scientists and engineers in classrooms, laboratories and other workplaces worldwide.

Among SSA's recent complimentary educational offerings for members in 2022:

- » A Conversation with Congressional Staff on Reauthorizing NEHRP and NVEWS
- » Writing Land Acknowledgment Statements
- » Improving Workplace Climate: Empowering Individuals to Become Active Bystanders
- » Implicit Biases: Why We Have Them and How They Impact STEM
- » How to Apply for Jobs
- » Virtual Interviewing: Champion Yourself Through Storytelling
- » Networking for Scientists

→ Explore SSA's career development and training opportunities at: seismosoc.org/jobs

Thank You, Mentors

SSA Connects, a complimentary mentoring program for members, links those who are just beginning their professional journeys with senior scientists, who provide general career advice as well as specific guidance on topics including proposal and grant writing, research and work-life balance.

Throughout 2022 members logged on for mentoring sessions, including:

- » Advice from Early-Career Mentors
- » Career Paths in Seismology
- » How to Grow a Career
- » Proposal and Grant Writing
- » Networking for Careers in Industry
- » Academic Career Planning

2022 LAND ACKNOWLEDGMENT WORKSHOP LEADERS

- » Camille Louis
- » Jenny Nakai
- » Mario Ruiz
- » Ericka Alinne Solano
- » John Townend
- » Carlos Alberto Vargas



SSA Connects Mentor Ashley Streig (left) with colleagues (front to back) Alison Horst, Maddie Blair, Erin Murphy, Andrew Dunning and Scott Bennett.

2022 SSA CONNECTS MENTORS

- » Luciana Astiz
- » Laurie Baise
- » Natalie Balfour
- » Angela Chung
- » Cynthia Ebinger
- » Delphine Fitzenz
- » Megan Flanagan
- » William Frank
- » Emily Kleber
- » Qingkai Kong
- » Gabi Laske
- » Will Levandowski
- » Maureen Long
- » Sarah E. Minson
- » Delaine Reiter
- » Lisa Schleicher
- » Seth A. Stein
- » Ashley Streig
- » John Vidale
- » Max Wyss

A Voice for Seismology

Growing Our Advocacy Network

In 2022 the Society launched a new Government Relations Policy Fellowship to provide student and early-career members with the opportunity to participate in the policy processes that impact seismology. The first fellows, Alexander Fozkos, a graduate student at the University of Alaska Fairbanks, and Heather Shaddox, a postdoctoral fellow at the Berkeley Seismology Lab, served on SSA's Government Relations Committee (GRC), participating in its meetings throughout the year to identify key legislative goals and issues.

They enjoyed financial support to attend the 2022 Geoscience Congressional Visits Day in Washington, D.C., where they met with members of U.S. Congress and staff from key congressional offices and committees. The fellowship also funded their travel to the 2023 SSA Annual Meeting in San Juan, Puerto Rico. Both of the inaugural fellows expressed a desire to learn more about communicating with policymakers in an effort to support communities that are vulnerable to seismic activity.



“I want to engage with policymakers and the community and be an advocate for seismology.”
— Heather Shaddox, Berkeley Seismology Lab

Heather is passionate about communicating with policymakers, interested in understanding how earthquakes impact communities and individuals, and enthusiastic about the development of enhanced geothermal and carbon sequestration.

“Earthquake early warning interacts directly with the public and is intrinsically a public policy issue.”
— Alex Fozkos, University of Alaska Fairbanks

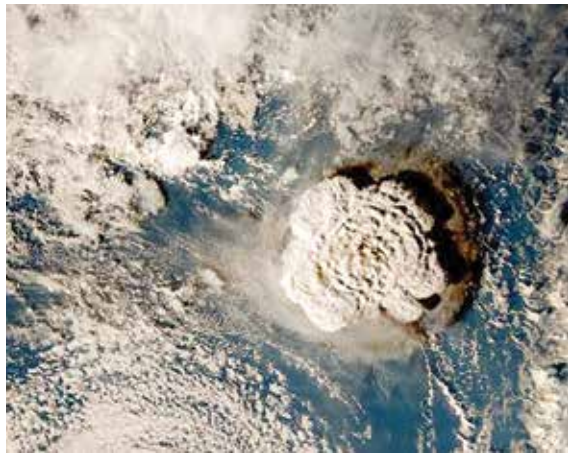
Alex is interested in raising awareness of an early warning system that takes into account the unique tectonic environment of Alaska and committed to using better warning systems to support the communities most vulnerable to seismic activity.



Connecting With Capitol Hill

Throughout the past year the Government Relations Committee helped the Society maintain a close connection with Capitol Hill to ensure that U.S. policymakers understand the need for ongoing federal support of seismology. The committee collaborated with its partners to educate and inform members of Congress and relevant House and Senate Appropriations Committee staff on the importance of federal earthquake programs within government agencies. Through targeted Hill meetings and joint letters, SSA combined outreach efforts with other geoscience organizations to successfully advocate for robust budgets for both the USGS and National Science Foundation.

In April 2022, the GRC worked with the American Geophysical Union (AGU) to reaffirm the joint SSA/AGU position statement, “The Capability to Monitor the Comprehensive Nuclear Test-Ban Treaty (CTBT) should be Expanded, Completed, and Sustained.” The CTBT, an international agreement to ban all nuclear explosions, is intended to impede the development of nuclear weapons as part of the international nonproliferation regime. The treaty is not yet in effect because it has not been ratified by all the requisite countries, including the United States.



A global detection network is needed to improve earthquake and tsunami monitoring and early warning systems.

“A high-quality and well-maintained global network of seismometers and other geophysical instrumentation is vital for detecting and characterizing both open and clandestine nuclear explosions, as well as earthquakes and other natural hazards, such as the explosion of the volcano Hunga Tonga-Hunga Ha’apai,” said SSA President Peggy Hellweg.

Through policy statements like this one and a new statement on the National Volcano Early Warning System that is currently being developed by SSA, the Society provides ongoing scientific expertise to U.S. policymakers to help ensure that their decisions are in the best interest of science and public safety.

→ Learn more about SSA's policy work: seismosoc.org/us-government-relations



To better understand the geophysical characteristics and seismic history of the Cascadia Subduction Zone, USGS researchers conduct fieldwork at sea to collect evidence of turbidity currents from underwater landslides likely caused by earthquake shaking. ©USGS

Thank You for Supporting Seismology

Your gifts in 2022 helped SSA members overcome obstacles, make new connections and advance science. We are grateful for your continued partnership in the SSA mission.

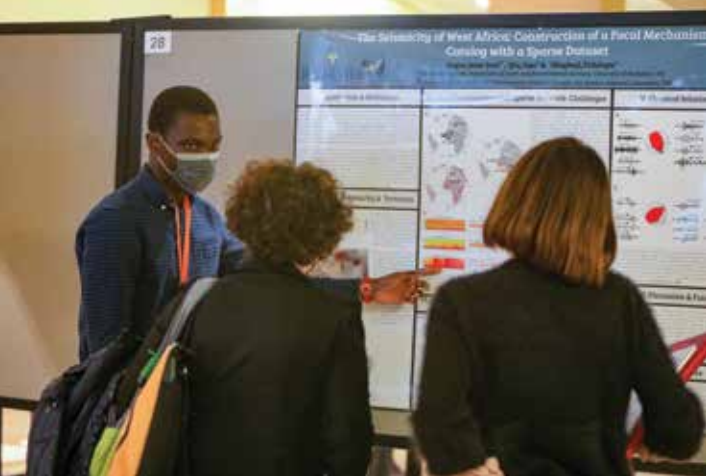
Anonymous (23)	Joanne Chan
Tanner Acquisto	Emmy Chang
Sean Ahdi	Wu-Cheng Chi
Charles Ammon	John Collins
Douglas Anderson	Vernon Cormier
Rasool Anooshehpour	Timothy Dawson
David Applegate	Lori Dengler
Marcelo Assumpção	Luis Donoso
Richard Aster	Douglas Dreger
Noel Barstow	John Ebel
Allison Bent	John Egan
Gregory Beroza	William Ellsworth
Glenn Biasi	Eric Engdahl
Susan Bilek	Delphine Fitzenz
DelWayne Bohnenstiehl	Megan Flanagan
Andrew Bolton	Bill Foxall
Oliver Boyd	James Gaherty
Rich Briggs	Lind Gee
Emily Brodsky	Hafidh Ghalib
Roland Burgmann	Jeffrey Given
Rhett Butler	Chris Goldfinger
Ashly Cabas	Tania Gonzalez
Eric Chael	Harvey Goodman

A Community You Can Count On

In early December President Peggy Hellweg teamed with SSA members Rick Aster, Thorne Lay and Bill Walter to issue a fundraising challenge to the SSA community: if you can raise \$3,500 for Annual Meeting Travel Grants before the end of 2022, we will match that total in donations, dollar for dollar, with our own money!

Just two weeks later, SSA met that goal and exceeded it, as additional funds to support travel grants continued to arrive into the new year. Including the matching funds, the total contributed reached \$10,256.

Thanks to members who gave so generously, SSA was able to fully fund at more than \$40,000 the 2023 Annual Meeting Travel Grants for 21 student and early-career members.



Jean-Joel Legre, an Annual Meeting Travel Grant recipient, presented his work on West Africa's Intraplate Seismicity at the 2022 Annual Meeting.

- Nick Gregor
- Christie Hale
- Kathryn Hanson
- Jeanne Hardebeck
- James Harris
- Renate Hartog
- Manabu Hashimoto
- Margaret Hellweg
- Austin Holland
- Leigh House
- Ayhan Irfanoglu
- Miaki Ishii
- Margaret Jordan
- James Kaklamanos
- Jerome Kutliroff
- Charles Langston
- Carene Larmat
- Thorne Lay
- Ronan Le Bras
- William Leith
- Alan Levander
- Vadim Levin
- Guoqing Lin
- Yen-Yu Lin
- Joe Litehiser
- John Louie
- Kenneth Macpherson
- Raul Madariaga

- Philip Maechling
- Harold Magistrale
- Stephen Malone
- Basil Margaris
- Takanori Matsuzawa
- Timothy McCrink
- Marcia McLaren
- Keith McLaughlin
- Stephen McNutt
- Mark Meremonte
- Andrew Michael
- Sheri Molnar
- James Mori
- Morgan Moschetti
- John Nabelek
- Shin-ichi Noguchi
- Robert Nowack
- Summer Ohlendorf
- Kristine Pankow
- Stefano Parolai
- Michael Pasyanos
- James Pechmann
- Gilles Peltzer
- Eugenio Polanco Rivera
- Robert Powell
- John Power
- William Prescott
- Richard Quittmeyer

- Mircea Radulian
- Robert Reinke
- Paul Richards
- Adrian Rodriguez-Marek
- Jorge Roman-Nieves
- Larry Ruff
- Charles Scharnberger
- Nicholas Schmerr
- David Schwartz
- Johannes Schweitzer
- Craig Scrivner
- Anjana Shah
- Peter Shearer
- Anne Sheehan
- Monika Sobiesiak
- David Springer
- Simon Stahler
- Yuri Starovoit
- Seth Stein
- Jonathan Stewart
- Lynn Sykes
- Fumiko Tajima
- Tetsuo Takanami
- Uri ten Brink
- Vlad Toader
- M Nafi Toksoz
- Daniel Trugman
- Michael Tsesarsky

- Martitia Tuttle
- Elizabeth Vanacore
- José Vidal-Villegas
- Christa von Hillebrandt-Andrade
- Marianne Walck
- David Wald
- Terry Wallace
- William Walter
- Dun Wang
- Joachim Wassermann
- Ray Wells
- Mitchell Withers
- Lorraine Wolf
- Mark Woods
- Francis Wu
- Yih-Min Wu
- Xiao-Bi Xie
- Lingling Ye
- Kazuo Yoshimoto



Funding Our Mission

The SSA General Fund

This unrestricted fund supports the Society’s programs in publishing, meetings and communications, including our newest journal, *The Seismic Record*, and the Global Travel Grant program, which sends student and early-career members to conferences worldwide.

The Kanamori Fund

Named in honor of Caltech Professor Emeritus Hiroo Kanamori, this fund supports the professional development of the seismological community. A few examples: the SSA Connects mentoring program, Annual Meeting workshops and travel grants to SSA meetings from countries that are members of the European Seismological Commission.

The Annual Meeting Travel Grant Fund

Provides students and early-career members with travel grants to attend the SSA Annual Meeting, an opportunity to network, present research and receive valuable feedback from the international seismological community.

The William B. Joyner Memorial Fund

Makes possible the William B. Joyner Lecture Series and the Charles F. Richter Early-Career Award. The lecture series fosters the exchange of information at the interface of earthquake science and earthquake engineering. The Richter Award inspires students to aim high in their seismological endeavors.

SSA’s Planned Giving Program

Allows donors to support our mission beyond their lifetime with a larger gift than they might be able to make through their current income alone.

→ Make a gift that supports seismology and SSA members worldwide at seismosoc.org/give



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SSA members Alex Hatem, Jessie Jobe and Nadine Reitman make observations in a trench across Idaho’s Sawtooth fault.

Connect with SSA in 2023

- » **Join our community:**
[seismosoc.org/membership/
individual-membership](https://seismosoc.org/membership/individual-membership)
- » **Share your ideas for increasing
diversity, inclusion and equity:**
DEI@seismosoc.org
- » **Submit a paper to SSA's
peer-reviewed journals:**
seismosoc.org/publications
- » **Help SSA tell policymakers
why seismology matters:**
policy@seismosoc.org
- » **All other questions and
comments about SSA:**
info@seismosoc.org

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