

Agenda 2022 UJNR Meeting, Anchorage, AK

Tuesday, 27 September 2022

Breakfast 7:30-8:45AM in Endeavor room

Registration- 8:00-9:00AM at Alcove Registration East

Plenary Session- Fore Deck room

09:00 Welcoming Remarks (UJNR Chairpersons- Dr. Gavin Hayes, Senior Science Advisor, Earthquake Hazards Program, USGS and Mr. Shoichi Oki, Deputy Director-General Geospatial Information Authority of Japan)

Session 1 National Policies, Strategies Programs, Networks, and ongoing/upcoming Projects (Chairs: Andrea Donnellan and Hiroshi Munekane)

09:20 Andrea Donnellan “NASA’s Surface Topography and Vegetation (STV) Targeted Observable for Studying Earthquake Processes”

09:40 Naoshi Hirata “Recent activities of the Earthquake Research Committee, the Headquarters for Earthquake Research Promotion, Japan (HERP)”

Session 2 Recent Earthquakes (Chairs: Hiroshi Munekane and Michael West)

10:00 Mehmet Celebi “The M7.1 November 30, 2018 Anchorage, Alaska, Earthquake: Response records from USGS instrumented buildings Preliminary Observations”

10:20 Hiroshi Munekane “Transient crustal deformations accompanied by earthquake swarms on the Noto Peninsula, Japan”

10:40 Michael West “What to expect after the 2021 Chignik earthquake?”

Break 11:00-11:20

Session 3 Episodic Tremor and Slow Slip, Real-time Monitoring and Seafloor Observations, and Probabilistic Earthquake and Tsunami Hazard Estimation including Paleoseismology and Paleotsunamis (Chair: Aaron Wech)

11:20 Bruce Jaffe “Integration of Geology and Modeling: Paleotsunami Research since the 2011 Tohoku-oki Earthquake and Tsunami”

11:40 Aaron Wech “Unsteady, uniform fault rupture growth revealed by tectonic tremors in Cascadia”

12:00 Noel Bartlow “Seafloor geodesy and slow slip events in Cascadia”

Lunch 12:20-13:50 Endeavor Room

Plenary Session- Fore Deck room

Session 4 Subduction Zone Science (Chairs: Joan Gomberg and Makoto Matsubara)

13:50 Keisuke Ariyoshi “Understanding various types of earthquake, tsunami, and volcanic eruption process toward robust monitoring and forecasting.”

(Pre-recorded)

14:10 Joan Gomberg “USGS + Subduction Zone Science”

14:30 Makoto Matsubara “Improved geometry of the subducting Philippine Sea plate from Suruga Trough beneath the Tokai region, central Japan.”

Session 5 Tsunamis, seismicity and swarms in volcanic regions (Chairs: Tomokazu Kobayashi, John Lyons)

14:50 Matthew Haney “Time-lapse seismic velocity changes coincident with dome emplacement at Great Sitkin Volcano, Alaska”

15:10 Masaya Ikeda “JMA's disaster mitigation measures against sea level changes triggered by a large eruption- Based on the lessons learned from the large eruption of Hunga Tonga-Hunga Ha'apai volcano in January 2022”

15:30 John Lyons “Infrasound tools for detecting and monitoring volcanic eruptions”

15:50 Tomokazu Kobayashi “Research on relationship between fault rupture propagation and crustal structure of volcano area: case study of the 2016 Kumamoto Earthquake”

16:10 David Shelly “Fracture mesh faulting in the swarm-like 2020 Maacama sequence revealed by high-precision earthquake detection, location, and focal mechanisms”

Break 16:30-16:50

16:50-17:10 Poster session preview (2-3 minutes each)

Eileen Evans “A dense block model representing western continental United States deformation for the 2023 update to the U.S. National Seismic Hazard Model”

Joan Gomberg “Observational opportunities and challenges on the bottom of the sea”

Lisa Grant Ludwig “GeoGateway for Higher Level Analysis and Visualization of Deformation and Rupture Data”

Takumi Hayashida “Quick estimation of V_{s30} using microtremor array measurements”

Alba Rodriguez Padilla “A probabilistic displacement hazard assessment framework for coseismic distributed fracturing from strike-slip earthquakes”

Koichiro Saitoh “The Nankai Trough Earthquake Information - an assessment of the possibility of a large earthquake based on real-time monitoring of seismicity and crustal deformation”

17:15 Group Photo

17:30 Adjourn

18:30 Reception- Quarter Deck room (10th floor)

Wednesday 28 September, 2022

Field trip - The 1964 Great Alaska Earthquake and Tsunami and the Geologic Consequences of Subduction: Anchorage to Whittier

Breakfast 7:00-8:15AM in Endeavor room

Depart 8:30 from Hotel Lobby

Return ~17:00

18:00 for those interested in group dinner, meet in hotel lobby

Thursday 29 September 2022

Breakfast 7:00-8:15AM in Endeavor room

Plenary Session- Fore Deck room

08:30 Welcome back/Announcements

Session 6 Operational Forecasting and Early Warning Systems of Earthquakes and Tsunamis (Chairs: Mitsuyuki Hoshiya, Jeanne Hardebeck)

08:40 Miho Tanaka "Recent Technical Improvements in Earthquake Early Warning operated by Japan Meteorological Agency"

09:00 Jeanne Hardebeck "Operational Aftershock Forecasting in the United States"

09:20 Keitaro Ohno “Improvement of “REGARD”: a rapid coseismic fault model estimation system based on real-time GNSS analysis”

09:40 Jessica Murray “Inclusion of real-time GNSS-based source characterization in the ShakeAlert earthquake early warning system”

10:00 Mitsuyuki Hoshihara “Wavefield based (ground motion based) method for real-time prediction of impending ground shaking: research for next-generation earthquake early warning”

Break 10:20-10:40

Session 7 Earthquake Hazard Studies and Recurrence (Chairs: Yehuda Ben Zion, Kazutoshi Imanishi)

10:40 Yehuda Ben Zion “Pre-earthquake preparation processes (natural and societal)”

11:00 Camilla Cattania “Seismic cycles and earthquake statistics on heterogeneous faults”

11:20 Kazutoshi Imanishi “Detailed stress map in Japanese islands and its application to earthquake hazard assessments”

Lunch 11:40-13:00 Endeavor room

13:00-14:00 Poster Session- Voyager room

Plenary Session- Fore Deck room

Session 8 Ground Motion Models (Chair: Grace Parker)

14:00 Morgan Moschetti “Ground-motion modeling for the 2023 U.S. NSHM and future directions”

14:20 Grace Parker “Regional NGA-Subduction Ground Motion Models for Interface and Slab Earthquakes”

14:40 Evan Hiramawa “Ground Motion Simulations in the San Francisco Bay Area”

Break 15:00-15:20**Session 9 AI and Machine Learning Techniques** (Chairs: Rob Skoumal, Clara Yoon)

15:20 Rob Skoumal “Using machine learning techniques to correct and impute polarity measurements for focal mechanism determination”

15:40 Clara Yoon “Deep learning enhanced earthquake catalog reveals the complex multiple-fault 2020-2021 Southwestern Puerto Rico earthquake sequence, with high aftershock productivity, was driven by stress transfer”

16:00 Weiqiang Zhu “Seismic arrival-time picking using deep learning: applications to seismic networks and distributed acoustic sensing”

16:20 Kelian Dascher-Cousineau “Flexible and Scalable Earthquake Forecasting”

16:40 John Rundle “Nowcasting Earthquakes with Machine Learning: The Role of Strain Hardening in the Earthquake Cycle with Implications for Slow and Silent Slip Events and Current Earthquake Hazard”

17:00 Davis Engler “Integrated Strategies for Enhanced Rapid Earthquake Shaking, Ground Failure, and Impact Estimation Employing Remotely Sensed and Ground Truth Constraints”

17:20-17:50 Drafting of Joint Resolution/Break

17:50 Presentation of the 11th UJNR Resolution (Dr. Hiroshi Munekane, Dr. Jeanne Hardebeck, Dr. Kazutoshi Imanishi)

17:55 Concluding Remarks (Dr. Gavin Hayes, Mr. Shoichi Oki)

18:05 Adjourn