### Analytical and numerical methods 1
Chair: Tung-Cheng Ho

<table>
<thead>
<tr>
<th>Time</th>
<th>Presentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00-9:15</td>
<td><strong>The shortest travel-time tsunami ray tracing method and application to tsunamis near Japan</strong></td>
</tr>
<tr>
<td></td>
<td>Tung-Cheng Ho</td>
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<tr>
<td></td>
<td>Disaster Prevention Research Institute, Kyoto University / Earthquake Research Institute, the University of Tokyo, Tokyo, Japan</td>
</tr>
<tr>
<td>9:15-9:30</td>
<td><strong>Propagation and amplification of a strong bore with two-dimensionality in plane space</strong></td>
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<td></td>
<td>Hideo Matsutomi</td>
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<td></td>
<td>Research and Development Initiative, Chuo University</td>
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<tr>
<td>9:30-9:45</td>
<td><strong>Directivity of tsunami wave energy radiation</strong></td>
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<td></td>
<td>Andrey G. Marchuk</td>
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<tr>
<td></td>
<td>Information Technologies Department, Novosibirsk State University, Novosibirsk, Russia / Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk Russia</td>
</tr>
<tr>
<td>9:45-10:00</td>
<td><strong>The super-rapid modeling of tsunami propagation using FPGA hardware</strong></td>
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<td></td>
<td>Mikhail Lavrentiev</td>
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<tr>
<td></td>
<td>Faculty of Information Technologies, Novosibirsk State University, Novosibirsk, RF</td>
</tr>
</tbody>
</table>

### Analytical and numerical methods 2
Chair: Tung-Cheng Ho

<table>
<thead>
<tr>
<th>Time</th>
<th>Presentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:15-10:30</td>
<td><strong>A numerical simulation for tsunamis due to a landslide</strong></td>
</tr>
<tr>
<td></td>
<td>Taro Kakinuma</td>
</tr>
<tr>
<td></td>
<td>Graduate School of Science and Engineering, Kagoshima University, Kagoshima, Japan</td>
</tr>
<tr>
<td>10:30-10:45</td>
<td><strong>MPM-FEM hybrid analysis for tsunami induced by submarine landslide</strong></td>
</tr>
<tr>
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<td>Shaoyun Pan</td>
</tr>
<tr>
<td></td>
<td>Department of civil engineering, Tohoku university</td>
</tr>
</tbody>
</table>
10:45-11:00  e90094
Application of 3D slope stability analysis for simulation of historical submarine landslide tsunamis in Japan
Tsuyoshi Nagasawa
Pacific Consultants Co., Ltd.

11:00-11:15  e90076
Submarine landslide source modeling using 3D slope stability analysis method for 2018 Palu-Sulawesi tsunami
Chatuphorn Somphong
International Research Institute for Disaster Science, Tohoku University, Miyagi, Japan

Poster Presentation Viewing

11:30-12:30 Poster Presentation Viewing in front of Room2

Analytical and numerical methods 3
Chair: Utku Kanoglu

14:00-14:15  e90154
Focusing of finite-crested long waves propagating over a uniformly sloping beach
Utku Kanoglu
Department of Engineering Sciences, Middle East Technical University, Ankara, Turkey

14:15-14:30  e90155
Analytical estimation of tsunami runup
Baran Aydin
Department of Civil Engineering, Adana Alparslan Turkes Science and Technology University

14:30-14:45  e90156
Tsunami maximum runup and focusing through earthquake source parameters
Naeimeh Sharghivand
Department of Engineering Sciences, Middle East Technical University, Ankara, Turkey

14:45-15:00  e90109
Combined 3D/2D potential tsunami model (CPTM): Verification and applications
Kirill A. Sementsov
Division of Geophysics, department of physics of Sea and Inland water, Lomonosov Moscow State University
Hazard and risk assessment 1
Chair: Shaun Williams

15:15-15:30  e90183
Hazard and risk characteristics of tsunamis sourced at the Northern Tonga Trench: Insights from recent case studies of Samoa
Shaun Williams
Natural Hazards Centre, National Institute of Water and Atmospheric Research (NIWA), Christchurch, Aotearoa New Zealand

15:30-15:45  e90226
The results of numerical modelling of the 1983 and 1993 tsunamis in the sea of Japan on the Russian Coast
Elizaveta Tsukanova
Moscow Institute of Physics and Technology, Moscow, Russia

15:45-16:00  e90036
An effective method for eelgrass damage estimation using tsunami and sediment transport modeling
Hiroyuki Kimura
Department of Civil and Environmental Engineering, Graduate School of Engineering, Tohoku University, Sendai, Japan

16:00-16:15  e90195
High-resolution mapping of mangroves, siren networks and vulnerable settlements for mitigating tsunami risk in New Caledonia
Bruce Enki Oscar Thomas
Laboratoire d’Ecologie Marine Tropicale des Océans Pacifique et Indien (UMR 250 ENTROPIE), Institut de Recherche pour le Développement (IRD), Centre IRD de Nouméa, Nouvelle-Calédonie / Université Lumière Lyon 2, CNRS, UMR 5600, F-69676 Lyon Bron, Cedex 07, France / Institute of Geodesy (GIS), University of Stuttgart, Institute of Geodesy (GIS), Geschwister-Scholl-Str. 24, Stuttgart, Germany

Hazard and risk assessment 2
Chair: Shaun Williams

16:30-16:45  e90064
Probabilistic tsunami inundation assessment using mode decomposition method
Yo Fukutani
College of Science and Engineering, Kanto Gakuin University, Yokohama, Japan

16:45-17:00  e90240
Probabilistic tsunami risk assessment from incomplete intensity data
Ioanna Triantafyllou
Department of Geology and Geoenvironment, National and Kapodistrian University of Athens, Greece
17:00-17:15
**Flow characteristics influencing damage to port industries: Case study of the 2011 Tohoku Tsunami**
Constance Chua
Earth Observatory of Singapore, Nanyang Technological University, Singapore / Asian School of the Environment, Nanyang Technological University, Singapore

17:15-17:30
**Characteristics of building fragility curves for seismic and non-seismic tsunamis**
Anawat Suppasri
International Research Institute of Disaster Science, Tohoku University

**Closing**

17:30
**Alexander Rabinovich**
Russian Academy of Sciences, Shirshov Institute of Oceanology
## Education and resilience 1
**Chair: Syamsidik**

<table>
<thead>
<tr>
<th>Time</th>
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<th>Author</th>
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</tr>
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<tbody>
<tr>
<td>9:00-9:15</td>
<td>e90021</td>
<td>From urban form analysis to metrics for enhancing tsunami evacuation: Lessons from twelve Chilean cities</td>
<td>Jorge Leon</td>
<td>Architecture, UTFSM, Valparaíso, Chile / CIGIDEN, Santiago, Chile</td>
</tr>
<tr>
<td>9:15-9:30</td>
<td>e90214</td>
<td>Bosai kaizen system: Development of real-time disaster information sharing system through co-creation with citizens</td>
<td>Yusuke Oishi</td>
<td>Fujitsu LTD.</td>
</tr>
<tr>
<td>9:30-9:45</td>
<td>e90188</td>
<td>Logistic regression modeling of occurrence of tsunami-induced fire based on the case of Great East Japan Earthquake</td>
<td>Takashi Oe</td>
<td>School of Engineering Department of Civil Engineering and Architecture, Nagoya University</td>
</tr>
</tbody>
</table>

## Education and resilience 2
**Chair: Syamsidik**

<table>
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<tbody>
<tr>
<td>10:15-10:30</td>
<td>e90104</td>
<td>Complexities of a long-term disaster recovery process: A study case from tsunami preparedness in Aceh-Indonesia after 15 years of the 2004 Indian Ocean Tsunami</td>
<td>Syamsidik</td>
<td>Tsunami and Disaster Mitigation Research Center, Universitas Syiah Kuala (USK)</td>
</tr>
<tr>
<td>10:30-10:45</td>
<td>e90011</td>
<td>Sustainability of disaster prevention education for elementary school students: Difference between the coastal and inland areas of Japan</td>
<td>Mari Yasuda</td>
<td>International Research Institute of Disaster Science, Tohoku University</td>
</tr>
<tr>
<td>10:45-11:00</td>
<td>e90065</td>
<td>Effectiveness measurement of 3DCG animations for tsunami disaster prevention education</td>
<td>Ryunosuke Tawatari</td>
<td>Tohoku Branch Office, Pacific Consultants Co., LTD., Japan</td>
</tr>
</tbody>
</table>
11:00-11:15  e90239
Tsunami risk as a social reality?
Irina Rafliana
Knowledge Cooperation and Sociology, German Development Institute DIE and
University of Bonn / Indonesian Institute of Sciences LIPI Indonesia

Poster Presentation Viewing

11:30-12:30  Poster Presentation Viewing in front of Room2

Education and resilience 3
Chair: Erick Mas

14:00-14:15  e90170
Optimization of tsunami evacuation with reinforcement learning
algorithm
Erick Mas
International Research Institute of Disaster Science, Tohoku University, Sendai, Japan

14:15-14:30  e90137
Assessment of tsunami evacuation plan in Palu Bay
Taro Arikawa
Department of Civil and Environmental Engineering, Chuo University

14:30-14:45  e90062
Numerical analysis of evacuation start during the 2018 Palu
tsunami, Indonesia
Karina Aprilia Sujatmiko
Graduate School of Societal Safety Sciences, Kansai University

14:45-15:00  e90187
Effect of tsunami shelters for volcanic tsunami in Pandeglang,
Banten, Indonesia, with agent-based modelling
Han Soo Lee
Graduate School of Advanced Science and Engineering, Hiroshima University

Meteotsunamis 1
Chair: Yuichiro Tanioka

15:15-15:30  e90247
Development of quantitative evaluation method for real-time
forecast of meteorite impact tsunami
Naotaka Yamamoto Chikasada
NIED, Tsukuba, Japan
Tsunami wave height estimation along the coast based on tsunami observation and data assimilation by using oceanographic radar on the Southern Coast of Java, Indonesia
Muhammad Irham Sahana
Department of Civil and Environmental Engineering, Ehime University, Matsuyama, Japan

Enhancing great lakes coastal flooding forecasting for meteorologically-induced tsunamis
Pengfei Xue
Department of Civil and Environmental Engineering, Michigan Technological University

On the greenspan resonance of meteotsunamis in the Yellow Sea - insights from the newly discovered 2009 event
Jihwan Kim
IPMA, Portuguese Institute of Marine and Atmosphere, Lisbon, Portugal

16:30-16:45
A three-dimensional theory for meteorological tsunami generation and propagation
Tatsuhiko Saito
National Research Institute for Earth Science and Disaster Resilience, Tsukuba, Japan

16:45-17:00
The adriatic meteotsunamis in orography-free, flat bathymetry and warming climate conditions
Ivica Vilibic
Institute of Oceanography and Fisheries

17:00-17:15
Multiscale meteorological characteristics of meteotsunami with urban flood in Nagasaki on 21 March 2019
Kenji Tanaka
Department of Global Environment Studies, Hiroshima Institute of Technology

17:15-17:30
The extreme meteotsunami/storm surge event of 12-16 October 2016 on the west coast of Vancouver Island, British Columbia caused by typhoon “Songda”
Alexander Rabinovich
Russian Academy of Sciences, Shirshov Institute of Oceanology