

The International Workshop on Mega Earthquakes and Tsunamis  
– Progress in 20 Years after the 2004 Sumatra-Andaman Earthquake  
and Future Perspectives

巨大地震・巨大津波に関する国際研究集会  
—2004年スマトラ・アンダマン地震から20年間の進歩と今後の展望—

Date : Saturday, June 1st, 2024 10:05 - 17:45 (Open: 9:40)

Sunday, June 2nd, 2024 9:15 - 17:00 (Open: 9:00)

Place : Sanjo Conference Hall, the University of Tokyo

(7-3-1, Hongo, Bunkyo-ku, Tokyo, 113-8655, Japan)

日時 : 2024 年 6 月 1 日 (土) 10 時 05 分 ~ 17 時 45 分 (9 時 40 分 開場・受付)

2024 年 6 月 2 日 (日) 9 時 15 分 ~ 17 時 00 分 (9 時 00 分 開場・受付)

場所 : 東京大学 山上会館 大会議室 (〒113-8655 東京都文京区本郷7-3-1)

主催 : 巨大地震・巨大津波に関する国際研究集会実行委員会

Program

**June 1st (Saturday)**

9:40 Registration

10:05-10:15 Opening Remarks

Yuichiro Tanioka (Hokkaido University,

Chairperson of the Organizing Committee of the International Workshop on Mega Earthquakes and  
Tsunamis)

**Session 1 Modern Earthquakes and Tsunamis in Japan and the Worldwide (I)**

Chair : Osamu Sandanbata (ERI, The University of Tokyo)

10:15-10:30 Tsunami Simulations and Tsunami Source Models: Re-examination of Slip

Distribution of the 2004 Sumatra-Andaman Earthquake (Mw 9.2)

Yushiro Fujii (Building Research Institute)

10:30-10:45 Semi-automatic Inference of Fault Configuration of the 2024 Noto Earthquake (Mw =  
7.5)

Haruo Horikawa, Takahiro Shiina, Yasunori Sawaki, Takahiko Uchide (GSJ/AIST)

10:45-11:00 Exploring Subducting Lithosphere by Seismic Waves

Keiko Kuge (Kyoto University)

11:00-11:15 Historical Earthquakes and Tsunamis in Taiwan

Kuo-Fong Ma (National Central University, Taiwan/Institute of Earth Sciences, Academia Sinica)

11:15-11:30 Earthquake Shaking Hazard and 1918 Tsunami, Puerto Rico, Caribbean Region

Roland LaForge (LaForge GeoConsulting)

11:30-11:45 Break (15 minutes)

**Session 2 Earthquakes and Tsunamis During Prehistoric Periods in Japan and the Worldwide (I)**

Chair : Masaki Yamada (Shinshu University)

11:45-12:00 Seismic Supercycles Inferred from Corals Microatolls Analysis in the Southern Ryukyus

Sophie Debaecker (Université de La Rochelle), Nathalie Feuillet (Université de Paris), Kenji Satake (ERI, The University of Tokyo), Kohki Sowa (Ministry of the Environment), Masaki Yamada (Shinshu University), Tetsuro Sato (Waseda University), Atsushi Watanabe (ERI, The University of Tokyo), Ayaka Saiki (ERI, The University of Tokyo), Jean-Marie Saurel (Université de Paris), Mamoru Nakamura (University of the Ryukyus), Giovanni Occhipinti (Université de Paris), Tsai-Luen Yu (National Taiwan University), Chuan-Chou Shen (National Taiwan University)

12:00-12:15 Exploring the Geological Record of Tsunamis in the Philippines: Current Knowledge and Research Opportunities

Noelynna Ramos (University of the Philippines Diliman), Sheinna May D. Claro (University of the Philippines Diliman, Philippine Institute of Volcanology and Seismology), Alec Benjamin G. Ramirez (University of the Philippines Diliman), Robelyn Z. Mangahas-Flores (University of the Philippines Diliman, Philippine Institute of Volcanology and Seismology), Lyndon P. Nawanao Jr. (University of the Philippines Diliman), Edrian M. Tubalado (University of the Philippines Diliman, Mines and Geosciences Bureau), Daisuke Ishimura (Tokyo Metropolitan University), Adam D. Switzer (Nanyang Technological University), Chuan-Chou Shen (National Taiwan University), Toshitaka Baba (Tokushima University), Naotaka Chikadasa (National Research Institute for Earth Science and Disaster Resilience), Kenji Satake (ERI, The University of Tokyo)

12:15-12:30 Past Tsunamis from Mega and Large Earthquakes in Indian Ocean: Records from the Last 8000 Years, Andaman Islands India

Javed N. Malik (Indian Institute of Technology Kanpur)

12:30-14:00 Lunch Break (90 minutes)

**Session 3 Earthquakes and Tsunamis During the Prehistoric Period in Japan and the Worldwide (II)**

Chair: Masanobu Shishikura (GSJ/AIST)

14:00-14:15 The initial tsunami source estimation of historical event from tsunami trace heights and tsunami deposits –application to the 2011 Tohoku-Oki and 1498 Meio Tokai earthquakes–

津波痕跡高と津波堆積物を活用した歴史津波の初期波源の推定－2011年東北沖地震と1498年明応東海地震への適用－

Satoshi Kusumoto, Kentaro Imai, Takane Hori (JAMSTEC)

楠本 聡・今井健太郎・堀 高峰 (JAMSTEC)

14:15-14:30 Was the Meiō Tsunami the Largest in History? -A Consideration from the Tsunami Deposit in the Hamamatsu Strand Plain-

明応津波は史上最大の津波か？－浜松平野の津波堆積物からの考察－

Osamu Fujiwara (GSJ/AIST)

藤原 治 (産業技術総合研究所)

14:30-14:45 Mega-tsunami Generated by the 7.3 ka Eruption of the Kikai Caldera: Geological Traces and Numerical Tsunami Calculations Revealed the Whole Picture

7.3 ka鬼界カルデラ形成噴火による巨大津波：地質痕跡と津波数値計算によって明らかになったその全体像

Masaki Yamada (Shinshu University), Shigehiro Fujino (University of Tsukuba), Daisuke

Ishimura (Tokyo Metropolitan University), Satoshi Kusumoto, Yuchen Wang (JAMSTEC), Kaho

Yamaguchi, Ryo Kaneko (Shinshu University), Kenji Satake (ERI, The University of Tokyo)

山田昌樹 (信州大学)・藤野滋弘 (筑波大学)・石村大輔 (東京都立大学)・楠本 聡・Yuchen Wang (JAMSTEC)・山口佳歩・金子 稜 (信州大学)・佐竹健治 (東京大学地震研究所)

14:45-15:00 Dating of Tsunami Boulders with a Remanent Magnetization Approach

津波巨礫の磁気記録を用いた年代測定技術の開発

Tetsuro Sato (Waseda University)

佐藤哲郎 (早稲田大学)

15:00-15:15 Break (15 minutes)

#### **Session 4 Earthquakes and Tsunamis During the Prehistoric Period in Japan and the Worldwide (III)**

Chair : Yuichi Namegaya (GSJ/AIST)

15:15-15:30 Bridging Geology and Strong Ground Motion Prediction with Dynamic Rupture Simulation

地質学と強震動予測を動力的破壊シミュレーションで結ぶ

Yuko Kase (GSJ/AIST)

加瀬祐子（産業技術総合研究所）

15:30-15:45 The 2023 Kahramanmaras Earthquake on the East Anatolian Fault System

トルコ・東アナトリア断層系と2023年カフラマンマラシュ地震

Hisao Kondo (GSJ/AIST)

近藤久雄（産業技術総合研究所）

15:45-16:00 Survey of Uplift Traces Associated with Giant Earthquakes - from the Andaman Islands to the Noto Peninsula -

巨大地震に伴う隆起の痕跡調査ーアンダマン諸島から能登半島までー

Masanobu Shishikura (GSJ/AIST)

宍倉正展（産業技術総合研究所）

16:00-16:15 Tsunami Seen from Land - Focusing on the River and Sector Collapse

陸からみた津波ー河川と山体崩壊に注目して

Toshihiko Sugai (The University of Tokyo)

須貝俊彦（東京大学）

16:15-16:25

General Discussion

Chair: TBD

16:25-16:45

Break (20 minutes)

## Session 5 Special Lecture

Chair: TBD

16:45-17:45 Giant Earthquakes and Tsunamis in the World - What We Have Learned and Unsolved Issues -

Kenji Satake (ERI, The University of Tokyo)

**June 2nd (Sunday)**

9:00 Registration

**Session 6 Modern Earthquakes and Tsunamis in Japan and the Worldwide (II)**

Chair : Yushiro Fujii (Building Research Institute)

9:15-9:30 Recent Progress in Research on Sources of Tsunami Generation

Yuichiro Tanioka (Hokkaido University)

9:30-9:45 Tsunamis in Megathrust Earthquake Science

Tatsuhiko Saito (National Research Institute for Earth Science and Disaster Resilience)

9:45-10:00 The Effect of Earthquake Fault Rupture Dynamics on Tsunami Generation: a Numerical Study of Real Events

Kirill Sementsov (Hokkaido University), Toshitaka Baba (Tokushima University), Sergey Kolesov (M.V. Lomonosov Moscow State University, Institute of Marine Geology and Geophysics), Yuichiro Tanioka (Hokkaido University), Mikhail Nosov (M.V. Lomonosov Moscow State University, Institute of Marine Geology and Geophysics)

10:00-10:15 Volcanic Tsunami Threat Level Database for New Zealand: Pilot Phase

Aditya Gusman, Xiaoming Wang (GNS Science)

10:15-10:30 Volcanic Tsunamis Originating from Submarine Calderas

Osamu Sandanbata (ERI, The University of Tokyo)

10:30-10:45

Break (15 minutes)

**Session 7 Modern Earthquakes and Tsunamis in Japan and the Worldwide (III)**

Chair : Yuchen Wang (JAMSTEC)

10:45-11:00 Progress and Application of the Synthesis of Trans-oceanic Tsunamis

Shingo Watada (ERI, The University of Tokyo)

11:00-11:15 Applying Lessons from the 2011 Japan Tsunami to the 1960 Chile Earthquake

Tung-Cheng Ho (RIKEN), Kenji Satake, Shingo Watada (ERI, The University of Tokyo), Yushiro Fujii (Building Research Institute)

11:15-11:30 Release of JAGURS Version 600: Recent Developments and Future Prospects

Toshitaka Baba (Tokushima University), Ayumu Mizutani (IRIDeS, Tohoku University), Masaaki Minami (Meteorological Research Institute), Naotaka Chikasada (National Research Institute for Earth Science and Disaster Resilience), Kentaro Imai (JAMSTEC)

11:30-11:45 Estimation of Nearshore Tsunami Dynamics Through Video Analysis and Numerical

Simulation

Yusuke Yamanaka (Hokkaido University), Yoshinao Matsuba, Takenori Shimozone,  
Yoshimitsu Tajima (The University of Tokyo)

11:45-13:00

Lunch Break (75 minutes)

**Session 8 Modern Earthquakes and Tsunamis in Japan and the Worldwide (IV)**

Chair: Tung-Cheng Ho (RIKEN)

13:00-13:15 GNSS Precise Point Positioning of Ships to Detect Tsunamis, Landslide-generated  
Waves, and Other Anomalies in Sea Surface Height

Anne Sheehan (University of Colorado, USA)

13:15-13:30 Lessons from Recent Field Surveys of Tsunamis

Mohammad Heidarzadeh (Bath University, UK),  
Takeo Ishibe (Association for the Development of Earthquake Prediction)

13:30-13:45 Estimation of the Current Tsunami Wavefield: Challenges Based on Data Assimilation  
Techniques

Takuto Maeda (Hiroshima University)

13:45-14:00 Tsunami early warning using high-frequency ocean radar system in the Kii Channel,  
Japan

Yuchen Wang (JAMSTEC)

14:00 -14:10

General Discussion

Chair: Yuichiro Tanioka (Hokkaido University)

14:10-14:30

Break (20 minutes)

**Session 9 Earthquakes and Tsunamis During Historical Periods in Japan (I)**

Chair: Akihito Nishiyama (Nara National Research Institute for Cultural Properties)

14:30-14:45 Tsunamis that Hit the Bonin Islands in 1854

小笠原諸島を襲った1854年の津波

Reiko Sugimori (Historiographical Institute, The University of Tokyo)

杉森玲子 (東京大学史料編纂所)

14:45-15:00 Chronicles as Historical Earthquake Records

歴史地震記録としての年代記

Akihiko Katagiri (Niigata University)

片桐昭彦 (新潟大学)

- 15:00-15:15 Tsunami Inundation of the 1703 Genroku Kanto Earthquake Along the Western Coast of the Sagami Bay  
相模湾西岸における1703年元禄関東地震津波の挙動  
Yuichi Namegaya (GSJ/AIST)  
行谷佑一（産業技術総合研究所）
- 15:15-15:30 Re-examination of Tsunami Source Model of the 1944 Showa Tonankai Earthquake and the Origin of the Tsunami Trace Height in Atashika, Mie Prefecture  
昭和東南海地震の波源断層モデル再検討と新鹿における津波痕跡高の励起源  
Kentaro Imai, Yasuyuki Nakamura, Toshiya Fujiwara (JAMSTEC), Hideaki Yanagisawa (Tohoku Gakuin University), Yuichiro Tanioka (Hokkaido University)  
今井健太郎・中村恭之・富士原敏也（海洋研究開発機構）・柳澤英明（東北学院大学）・谷岡勇市郎（北海道大学）
- 15:30-15:45 Break (15 minutes)
- Session 10 Earthquakes and Tsunamis During Historical Periods in Japan (II)**  
Chair : Junzo Omura (ERI, The University of Tokyo)
- 15:45-16:00 The 1861 Nishio, Central Japan, Earthquake Seems to be an Event Within the Philippine Sea Slab  
フィリピン海スラブ内の地震の可能性がある1861年西尾地震  
Tomoya Harada (NRA), Akihito Nishiyama (Nara National Research Institute for Cultural Properties), Takeo Ishibe (Association for the Development of Earthquake Prediction)  
原田智也（原子力規制庁）・西山昭仁（奈良文化財研究所）・石辺岳男（地震予知総合研究振興会）
- 16:00-16:15 Toward Homogeneous Estimates of Seismicity During Historical Periods Using Felt Reports Documented in Historical Materials  
史料中の有感記録を用いた歴史時代の地震活動復元に向けて  
Takeo Ishibe (Association for the Development of Earthquake Prediction)  
石辺岳男（地震予知総合研究振興会）
- 16:15-16:30 Disaster Prevention Effects and Issues of Disaster Monuments and Oral History - Cases of Banda Aceh and Simeulue Island  
災害伝承碑と口承伝承の防災効果と課題ーバンダ・アチェとシムル島のケース  
Megumi Sugimoto (Osaka University)  
杉本めぐみ（大阪大学）
- 16:30-16:45 Databases for Japanese Historical Earthquake Studies published by the Collaborative

Research Organization for Historical Materials on Earthquakes and Volcanoes

地震火山史料連携研究機構の設置と地震史料データベース

Yasuyuki Kano (ERI, The University of Tokyo)

加納靖之（東京大学地震研究所）

16:45-16:55      General Discussion

Chair: Yuichi Ebina (IRIDeS, Tohoku University)

16:55-17:00      Closing Remarks

Kenji Satake (ERI, The University of Tokyo)

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