

THE THIRD INTERNATIONAL WORKSHOP OF THE TYPHOON SCIENCE AND TECHNOLOGY RESEARCH CENTER, YOKOHAMA NATIONAL UNIVERSITY

HAMAGIN HALL
OCTOBER 21–22

PROGRAM

DAY 1: TUESDAY, OCTOBER 21

09:00–10:00 OPENING CEREMONY

CHAIR: JUN MATSUMOTO

ADDRESS BY YNU PRESIDENT, PROF. UMEHARA

ADDRESS BY TRC DIRECTOR, PROF. FUDEYASU

AWARD CEREMONY, INTRODUCTION TO TRC, INTRODUCTION TO YOKOHAMA CITY,

GROUP PHOTO

10:00–10:10 BREAK

10:10–11:10 KEYNOTE LECTURE I: BY PROF. ROBERT RODGERS (ASIA-PACIFIC TYPHOON COLLABORATIVE RESEARCH CENTER (AP-TCRC), SHANGHAI, CHINA)

CHAIR: KAZUHISA TSUBOKI

A Global Perspective on the Use of Airborne Observations to Advance the Understanding
and Prediction of Tropical Cyclones

11:10–11:40 POSTER SESSION FLASH TALKS, CHAIR: JUN MATSUMOTO

11:40–13:00 LUNCH BREAK

13:00–14:00 POSTER SESSION CORE TIME (ODD NUMBERS)

14:00–14:15 BREAK

14:15–15:50 SESSION I: CHAIR: MASUO NAKANO

14:15–14:35 Yuqing Wang (University of Hawaii at Manoa) et al. Eyewall Replacement
Cycles as a Structural Driver of the Bimodal Distribution of Tropical Cyclone Lifetime
Maximum Intensity

14:35–14:50 Kosuke Ito (Kyoto University / Yokohama National University) et al. Limited
Influence of Pre-Existing Tropical Cyclones on Subsequent Cyclogenesis in the Western
North Pacific

14:50–15:05 Masashi Minamide (The University of Tokyo) et al. Convective “butterflies”
lead to tropical cyclone rapid intensification

15:05–15:20 Yanluan Lin (Tsinghua University) et al. A Horizontal Turbulent Diffusion-
Controlled Lower Bound of Tropical Cyclone Radius of Maximum Wind

15:20–15:35 Daehyun Kim (Seoul National University) et al. Shallow Convection Suppresses Tropical Cyclone Formation in a Global Storm-Resolving Model

15:35–15:50 Jian-Feng Gu (Nanjing University) et al. Reconciling the Discrepancies of Equivalent Potential Temperatures in Atmosphere: A General Pathway Rooted in Entropy Conservation

15:50–16:05 BREAK

16:05–17:50 SESSION II : CHAIR: KOSUKE ITO

16:05–16:25 Chun-Chieh Wu (Department of Atmospheric Sciences, National Taiwan University) et al. On Tropical Cyclone Genesis Types and Their Intensification Rate

16:25–16:40 Nasreen Akter (Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh) et al. Tornadogenesis Associated with Mesovortices in Tropical Cyclone Yaas (2021) over the Bay of Bengal

16:40–16:55 Ryuji Yoshida (Yokohama National University) et al. Scientific Collaborations on Typhoon Studies Enabled by HPC and AI

16:55–17:10 Leia Pauline S. TONGA (Tohoku University) et al. Spectral analysis of LES During Tropical Cyclone Development

17:10–17:25 Michael T. Montgomery (Naval Postgraduate School) et al. Application of the rotating convection paradigm to the problem of the evolution of a tropical cyclone in a uniform environmental flow

17:25–17:45 Roger Keith Smith (Ludwig-Maximilians University, Munich) et al. Boundary layer control of tropical cyclones

18:15–20:00 WELCOME RECEPTION

CHAIR: NOBUHITO MORI

20:00 END OF DAY 1

DAY 2: WEDNESDAY, OCTOBER 22

9:00–10:00 KEYNOTE LECTURE II: BY PROF. SUZANA CAMARGO

**(COLUMBIA CLIMATE SCHOOL, COLUMBIA UNIVERSITY,
NEW YORK, NY, USA)**

CHAIR: MASAKI SATOH

Recent Results on Tropical Cyclones and Climate Change

10:00–11:00 SESSION III: CHAIR: NOBUHITO MORI

10:00–10:15 Hironori Fudeyasu (YNU) Suppression of Tropical Cyclone Development by Lower-Tropospheric Diabatic Heating outside the Eyewall

10:15–10:30 Tomoe Nasuno (Japan Agency for Marine-Earth Science and Technology (JAMSTEC)) et al. Tropical cyclone intensity modification by putting small cloud droplets outside the eye wall

10:30–10:45 Junbeom Jo (Kyoto University) et al. Impacts of Typhoon Intensity Variations on Surge-Induced Flooding and Economic Losses in Tokyo Bay

10:45–11:00 Kotaro YONEMURA (Rikkyo University) et al. Navigating Moral Uncertainty in Typhoon Control: A Philosophical Perspective

11:00–11:30 POSTER SESSION FLASH TALKS (EVEN NUMBERS), CHAIR: JUN MATSUMOTO

11:30–12:45 LUNCH BREAK

12:45–13:45 POSTER SESSION CORE TIME (EVEN NUMBERS)

13:45–14:00 BREAK

14:00–15:50 SESSION IV: CHAIR: MUNEHICO YAMAGUCHI

14:00–14:20 Johnny Chung Leung Chan (Asia-Pacific Typhoon Collaborative Research Center) et al. Has track prediction reached its predictability limit for landfalling tropical cyclones?

14:20–14:35 Eun Jeong CHA (Korea Meteorological Administration) et al. Paradigm shift from Human Forecaster to AI Forecaster

14:35–14:50 Xiaohao Qin (Institute of Atmospheric Physics, Chinese Academy of Sciences) et al. Target observations and ensemble forecasts of tropical cyclones based on the nonlinear optimal methods

14:50–15:05 Hsiao-Chung Tsai (Tamkang University (New Taipei City, Taiwan)) et al. Improving Subseasonal Typhoon Forecasts Using Global Ensemble Models and a Probabilistic Formation Index from Deep Learning

15:05–15:20 Gerry Bagtasa (University of the Philippines - Institute of Environmental Science and Meteorology) et al. Trends and variability of late season (October-November) successive landfalling tropical cyclones in the Philippine

15:20–15:35 Yohei Yamada (Japan Meteorological Business Support Center) et al. Diverse response of tropical cyclogenesis to different pattern of future change in sea surface temperature

15:35–15:50 Yi-Peng Guo (Nanjing University) et al. Changes in tropical cyclone translation speed: Multidecadal variability and long-term trends

15:50–16:05 BREAK

16:05–18:05 SESSION V: CHAIR: RYUJI YOSHIDA

16:05–16:20 Hugo Bellenger (LMD CNRS) et al. The Aeroclipper, an instrument to look into typhoons' eye

16:20–16:35 Qian Wang (National Meteorological Centre) et al. Observational fine-scale evolutionary characteristics of concentric eyewall Typhoon Doksuri (2023)

16:35–16:50 Hélène GONTHIER (Laboratoire d'aérodynamique (LAERO), CNRS) et al. The Role of Pristine Ice Crystal Shape in Cloud–Radiation Feedbacks : A Case Study of TC Idai (2019, Indian Ocean)

16:50–17:05 Md. Rafi Uddin (Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh) et al. Climatological Characteristics of Depressions over the Bay of Bengal during Monsoon and Post-Monsoon Seasons

17:05–17:20 Md. Rezuhanul Islam Fahim (The University of Tokyo) et al. Defining Multi-Hazard Worst-Case Scenarios: Insights from Large Ensemble Tropical Cyclone Forecasts

17:20–17:35 Tao, Li (Nanjing University of Information Science and Technology) et al. Bridging System between “21·7” Predecessor Rain Event in Henan and Typhoon In-Fa (2106)

17:35–17:50 Enoch Yan Lok Tsui (Atmosphere and Ocean Research Institute, The University of Tokyo) et al. Re-intensification of sea-falling tropical cyclones

17:50–18:05 Kazuo Saito (Atmosphere and Ocean Research Institute, University of Tokyo) et al. Effect of northward ageostrophic wind on PRE enhancement: Secondary circulation

18:05–18:15 DISCUSSION & CLOSING CEREMONY, CHAIR: MASAKI SATOH

18:15 END OF DAY 2