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EDUCATION:

- 1998.04-1999.03: Climate Physics Laboratory, Kyoto University, Japan.
  B.S. Majoring in diurnal variations of convection over Thailand
- 1999.04-2004.03: Center for Climate System Research, University of Tokyo, Japan.
  M.S. Majoring in three-dimensional simulations of clouds
  Ph. D. Majoring in numerical schemes on spherical hexagonal/pentagonal grids

PROFESSIONAL EXPERIENCE:

- Postdoctoral Researcher, Frontier Research Center for Global Change, Japan Agency for Marine-Earth Science and Technology, Japan. 2004.04-2008.01
- Invited Scientist, Frontier Research Center for Global Change, Japan Agency for Marine-Earth Science and Technology, Japan. 2008.02-2019.03
- Visiting Scientist, Department of Atmospheric Science, Colorado State University, USA. 2008.02-2009.09 (visited to 2010.01)
- Project Assistant Professor, Center for Climate System Research, University of Tokyo, Japan. 2009.10-2012.03
- Associate Professor, Department of Earth and Planetary Science, Graduate School of Science, University of Tokyo, Japan. 2012.04-

AWARDS:

- 2008 Yamamoto-Syono Award for Outstanding Papers, Meteorological Society of Japan (2008 年度気象学会山本・正野論文賞)
- 2016 PEPS Most Accessed Paper Award (Satoh et al. 2014)
- 2017 PEPS Most Cited Paper Award (Satoh et al. 2014)
- 2017 SOLA Award (2017 年 SOLA 論文賞)

PROFESSIONAL ACTIVITIES AND SERVICES:

Academic Society:

- Meteorological Society of Japan (2001-)
- American Meteorological Society (2014-)

- American Geophysics Union (2014-)
- Japan Geoscience Union (2016-)

Paper/proposal reviews:

- Journal of the Meteorological Society of Japan
- Monthly Weather Review
- Journal of Climate
- Geophysical Research Letters
- Atmospheric Research
- Scientific Online Letters on the Atmosphere
- Asia-Pacific Journal of Atmospheric Sciences
- Nagare (Japanese)
- National Science Foundation
- Journal of Geophysical Research Atmopshere
- Quarterly Journal of the Royal Meteorological Society
- Climate Dynamics
- Journal of the Atmospheric Sciences
- Journal of Computational Physics
- Scientific Reports
- Meteorology and Atmospheric Physics
- Atmospheric Chemistry and Physics

RESEARCH AND PUBLICATIONS:

Current interests:

- Formation mechanism of the multi-scale structure in the atmosphere
- Development of the multi-scale model of the climate system
- Numerical schemes

Published/accepted papers (author):

Miura, H., 2019: Application of the synchronized B grid staggering for solution of the shallow-water equations on the spherical icosahedral grid. *Mon. Wea. Rev.*, **147**, 2485-2509, https://doi.org/10.1175/MWR-D-18-0304.1.

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Julian Oscillation during the CINDY2011/DYNAMO field campaign and influence of seasonal variation of sea surface temperature. *J. Meteor. Soc. Japan*, **93A**, 115-137, https://doi.org/10.2151/jmsj.2015-055

Miura, H., 2013: An upwind-biased conservative transport scheme for multi-stage temporal integrations on spherical icosahedral grids. *Mon. Wea. Rev.*, **141**, 4049-4068, https://doi.org/10.1175/MWR-D-13-00083.1

Miura, H., and W. C. Skamarock, 2013: An upwind-biased transport scheme using a quadratic reconstruction on spherical icosahedral grids. *Mon. Wea. Rev.*, **141**, 832-847, https://doi.org/10.1175/MWR-D-11-00355.1

Miura, H., T. Maeda, and M. Kimoto, 2012: A comparison of the Madden-Julian Oscillation simulated by different versions of the MIROC climate model. *Sci. Online Lett. Atmos.*, **8**, 165-169. doi:10.2151/sola.2012-040.

Miura, H., M. Satoh, and M. Katsumata, 2009: Spontaneous onset of a Madden-Julian oscillation event in a cloud-system-resolving simulation. *Geophys. Res. Lett.*, **36**, L13802, doi:10.1029/2009GL039056.

Miura, H., M. Satoh, T. Nasuno, A. Noda, and K. Oouchi, 2007: A Madden-Julian oscillation event realistically simulated by a global cloud-resolving model. *Science*, **318**, 1763-1765, doi: 10.1126/science.1148443.

Miura, H., 2007: An upwind-biased conservative advection scheme for spherical hexagonal–pentagonal grids. *Mon. Wea. Rev.*, **135**, 4038-4044.

Miura, H., 2007: A fourth-order-centered finite-volume scheme for regular hexagonal grids. *Mon. Wea. Rev.*, **135**, 4030-4037.

Miura, H., M. Satoh, H. Tomita, A. Noda, T. Nasuno, and S. Iga, 2007: A short-duration global cloud-resolving simulation with a realistic land and sea distribution. *Geophys. Res. Lett.*, **34**, L02804, doi:10.1029/2006GL027448.

Miura, H., H. Tomita, T. Nasuno, S. Iga, M. Satoh, and T. Matsuno, 2005: A climate sensitivity test using a global cloud resolving model under an aqua planet condition. *Geophys. Res. Lett.*, **32**, L19717, doi:10.1029/2005GL023672.

Miura, H., and M. Kimoto, 2005: A comparison of grid quality of optimized spherical hexagonal-pentagonal geodesic grids. *Mon. Wea. Rev.*, **133**, 2817-2833.

Responses (author):

Miura, H., M. Satoh, T. Nasuno, A. Noda, and K. Oouchi, 2008: Response to "Coarse-resolution models only partly cloudy." *Science*, **320**, 613.

Book (author):

Miura, H., 2019: Difficulties in the subgrid-scale redistribution of moisture of a global cloud-resolving model. Current Trends in the Representation of Physical Processes in Weather and Climate Models, D. A. Randall, Ed., Springer, 207-215.

Published/accepted papers (coauthor):

Suematsu, T., Miura, H., Kodama, C., & Takasuka, D. (2022). Deceleration of Madden–Julian Oscillation speed in NICAM AMIP-type simulation associated with biases in the Walker circulation strength. Geophysical Research Letters, 49, e2022GL098628. https://doi.org/10.1029/2022GL098628

Ong, C. R., Koike, M., Hashino, T., & Miura, H. (2022). Modeling performance of SCALE-AMPS: Simulations of Arctic mixed-phase clouds observed during SHEBA. Journal of Advances in Modeling Earth Systems, 14, e2021MS002887. https://doi.org/10.1029/2021MS002887

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Yamazaki, K., and H. Miura, 2021: On the Formation Mechanism of Cirrus Banding: Radiosonde Observations, Numerical Simulations, and Stability Analyses, Journal of the Atmospheric Sciences, 78, 3477-3502, https://doi.org/10.1175/JAS-D-20-0356.1

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Takasuka, D., M. Satoh, T. Miyakawa, and H. Miura, 2018: Initiation process of the tropical intraseasonal variability simulated in an aqua-planet experiment, What is the intrinsic mechanism for MJO onset? *Journal of Advances in Modeling Earth Systems*, **10**, 1047–1073. https://doi.org/10.1002/2017MS001243.

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Miyakawa, T., M. Satoh, H. Miura, H. Tomita, H. Yashiro, A. T. Noda, Y. Yamada, C. Kodama, M. Kimoto, and K. Yoneyama, 2014: Madden-Julian Oscillation prediction skill of a new-generation global model demonstrated using a supercomputer. *Nature Communications*, **5**, 3769. 10.1038/ncomms4769

Yasunaga, K., T. Nasuno, H. Miura, Y. N. Takayabu, and M. Yoshizaki, 2013: Afternoon precipitation peak simulated in an aqua-planet global non-hydrostatic model (aqua-planet-NICAM). *J. Meteor. Soc. Japan*, 91A, 217-229, https://doi.org/10.2151/jmsj.2013-A07.

Kubokawa, H., M. Fujiwara, T. Nasuno, H. Miura, M. K. Yamamoto, and M. Satoh, 2012: Analysis of the tropical tropopause layer using the Nonhydrostatic Icosahedral Atmospheric Model (NICAM): 2. An experiment under the atmospheric conditions of December 2006 to January 2007. *J. Geophys. Res.*, 117, D17114,doi:10.1029/2012JD017737.

Miyakawa, T., Y. N. Takayabu, T. Nasuno, H. Miura, M. Satoh, and M. W. Moncrieff, 2012: Convective momentum transport by rainbands within a Madden-Julian oscillation in a global nonhydrostatic model with explicit deep convective processes. Part I: Methodology and general results. *J. Atmos. Sci.*, **69**, 1317-1338, https://doi.org/10.1175/JAS-D-11-024.1.

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Matsuno, T., M. Sato, H. Tomita, T. Nasuno, S. Iga, H. Miura, A. T. Noda, K. Oouchi, T. Sato, H. Fudeyasu, W. Yanase, 2011: Cloud-cluster-resolving global atmosphere modeling - A challenge for the new age of tropical meteorology. *"The Global Monsoon System, Research and Forecast"*, 2nd Edition, edited by Chih-Pei Chang, Yihui Ding, Ngar-Cheung Lau, Richard H Johnson, Bin Wang, and Tetsuzo Yasunari, World Scientific Pub Co Inc, pp. 608.

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Submitted papers (author):

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Presentations:

Hiroaki Miura: Ongoing progresses of DNA Climate Science Project, DNA (Deep Numerical Analysis) Climate Science Meeting, 2022-04-26, Tokyo, Japan/Online.*

Hiroaki Miura: A Conservative and Consistent Remapping of Moisture on the Icosahedral Mesh, JpGU-AGU Joint Meeting 2021, 2021-06-04, Online.

Hiroaki Miura, T. Miyakawa: Resolution dependencies of a global cloud/storm resolving model, 2019 American Geophysical Union Fall Meeting, 2019-12-10, San Francisco, California, USA.*

Hiroaki Miura: A global storm-resolving model NICAM and its planned update of the dynamical core, The Batsheva de Rothchild Seminar on Climate and Wave Dynamics, 2019-09-23, Eilat, Israel.*

Hiroaki Miura: A global cloud-system-resolving model and its uncertainty due to the subgrid-scale moisture transport, 2018 American Geophysical Union Fall Meeting, 2018-12-11, the Walter E. Washington Convention Center, USA.* (oral presentation & panel discussion)

Hiroaki Miura: A global cloud-system-resolving model and its uncertainty due to the subgrid-scale moisture transport, 2018 American Geophysical Union Fall Meeting, 2018-12-10, the Walter E. Washington Convention Center, USA.* (poster presentation)

Hiroaki Miura: A shallow-water model using the B-grid staggering on the spherical icosahedral grid, CASTS 2018 Fall Special Program in Applied Mathematics and Applied Mechanics, 2018-11-28, National Taiwan University, Taiwan.*

Hiroaki Miura: A B-grid shallow-water model on the spherical icosahedral grid, Workshop on Moving and Adaptive Meshes for Global Atmospheric Modelling, 2018-09-04, University of Reading, Reading, UK.*

Hiroaki Miura: Rapid seasonal migration of the heavy precipitation region in the Southeast Asia and its relation to the Madden-Julian Oscillation, JpGU-AGU Joint Meeting 2017, 2017-05-20, Makuhari Messe, Chiba, Japan.*

Hiroaki Miura: A global cloud-system-resolving model for studies of tropical meteorology and climate, International Workshop on Parameterization of Physical Processes (INTROSPECT 2017), 2017-02-13, IITM, Pune, India.*

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