

Curriculum Vitae



Associate Professor Koh Tieh Yong

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Education Qualifications

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| 2001 | PhD (Atmospheric Science), Massachusetts Institute of Technology |
| 1994 | BSc Hons 1 st (Physics), Imperial College London |

Academic and Professional Experience

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| 2015 - 2016 | Associate Professor, School of Environment, Nanyang Technological University (NTU) |
| 2013 - 2015 | Associate Professor, School of Physical & Mathematical Sciences, NTU |
| 2009 - 2016 | Principal Investigator, Earth Observatory of Singapore, NTU |
| 2008 - 2017 | Co-Investigator, Center for Environmental Sensing & Modeling (CENSAM), Singapore-MIT Alliance for Research and Technology (SMART) |
| 2005 - 2014 | Principal Investigator, Temasek Laboratories, NTU |
| 2004 - 2013 | Assistant Professor, School of Physical & Mathematical Sciences, NTU |
| 2001 - 2004 | Research Scientist (A), Temasek Laboratories, National University of Singapore (NUS) |
| 2001 | Visiting Scientist, Laboratoire de Meteorologie Dynamique (LMD), Ecole Polytechnique |

Membership and Professional Activities

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| 2019 | Member, Curriculum Review Committee for Pre-University Geography, Ministry of Education, Singapore |
| 2017 - Present | Member, Stratospheric and Tropospheric Influences on Tropical Convective Systems, Stratosphere-Troposphere Processes and their Role in Climate, World Climate Research Programme, World Meteorological Organisation |
| 2016 - Present | Editor, Scientific Online Letters on the Atmosphere, Meteorological Society of Japan |
| 2016 - Present | Member, Asia-Australia Monsoon Working Group, CLIVAR/GEWEX Monsoons Panel, World Meteorological Organisation |
| 2015 | Invited Speaker, International Student Energy Summit |

2014 - Present	Member, Madden-Julian Oscillation Task Force, Working Group on Numerical Experimentation, World Meteorological Organisation
2014	Examiner, Asian Physics Olympiad
2013 - 2014	Member, Advisory Committee, Climate Change Exhibition, Singapore Science Centre
2013	Expert Reviewer, 5th Assessment Report, Inter-governmental Panel for Climate Change
2012	Editor, Advances in Geosciences, Vol. 28 - Atmospheric Science and Ocean Science
2011	Editor, Advances in Geosciences, Vol. 22 - Atmospheric Science
2010 - Present	Secretary, Atmospheric Sciences Section, Asia-Oceania Geosciences Society
2006	Examiner, International Physics Olympiad
2004 - Present	Member, Asia-Oceania Geosciences Society

Consultation and Executive Experience

2014 - 2015	DSO National Laboratories, Weather Project Consultant
2012	DSO National Laboratories, Weather Project Consultant

Research Interests

- Weather and climate of Southeast Asia
- Multi-scale interactions in the tropical atmosphere
- Predictability and complexity in atmospheric science
- Mixing and transport of tracers
- Geophysical fluid dynamics

Selected Publications

Journal Articles (Refereed):

- Fonseca, R., T.-Y. Koh and C.-K. Teo (2019), "Multi-scale interactions in a high-resolution tropical-belt experiment and observations", *Climate Dynamics*, 52(5), 3503-3532. DOI: 10.1007/s00382-018-4332-y.
- Li, X. X., T.-Y. Koh, J. Panda and L. K. Norford (2016), "Impact of urbanization patterns on the local climate of a tropical city Singapore: an ensemble study", *Journal of Geophysical Research Atmospheres*, 121(9), 4386-4403. doi: 10.1002/2015JD024452.
- Koh, T.-Y. and R. Fonseca (2016), "Subgrid-scale cloud-radiation feedback for the Betts-Miller-Janjic convection scheme", *Quarterly Journal of the Royal Meteorological Society*, 142(695), 989-1006. doi: 10.1002/qj.2702.
- Chen, H., P. Malanotte-Rizzoli, T.-Y. Koh, G. Song (2014), "The relative importance of the wind-driven and tidal circulations in Malacca Strait", *Continental Shelf Research*, 88, 92-102.
- Koseki, S., T.-Y. Koh and C.-K. Teo (2014), "Borneo vortex and meso-scale convective rainfall", *Atmos. Chem. and Phys.*, 14, 4539-4562, doi:10.5194/acp-14-4539-2014.
- Li, X. X., T.-Y. Koh, D. Entekhabi, M. Roth, J. Panda and L. K. Norford (2013), "A multi-resolution ensemble study of a tropical urban environment and its interactions with the background regional atmosphere", *J. Geophys. Res.* doi: 10.1002/jgrd.50795.

- Koseki, S., T. Y. Koh and C. K. Teo (2013), "Effects of the Cold Tongue in the South China Sea on the Monsoon, Diurnal Cycle and Rainfall in the Maritime Continent", *Quarterly Journal of the Royal Meteorological Society*, 139(675), 1566-1582. DOI: 10.1002/qj.2052.
- Koh, T. Y., S. Wang and B. C. Bhatt (2012), "A diagnostic suite to assess NWP performance", *J. Geophys. Res.*, 117, D13109, doi:10.1029/2011JD017103.
- Li, X. X., R. E. Britter, L. K. Norford, T. Y. Koh and D. Entekhabi (2012), "Flow and pollutant transport in urban street canyons of different aspect ratios with ground heating: large-eddy simulation", *Boundary-Layer Meteorology*, 142(2), 289-304.
- Teo, C. K., T. Y. Koh, C. F. Lo, B. C. Bhatt (2011), "Principal Component Analysis of observed and modelled diurnal rainfall in the Maritime Continent", *J. Clim.*, 24(17), 4662-4675.
- Koh, T. Y. and C. K. Teo (2009), "Towards a mesoscale observation network in Southeast Asia", *Bull. Amer. Meteor. Soc.*, 90(4), doi: 10.1175/2008BAMS2561.1.
- Joseph, B., B. C. Bhatt, T. Y. Koh and S. Chen (2008), "Sea breeze simulation over Malay Peninsula over an intermonsoon period", *J. Geophys. Res.*, 113, D20122, doi:10.1029/2008JD010319.
- Koh, T. Y. and R. A. Plumb (2004), "Isentropic zonal average formalism and the near-surface circulation", *Quart. J. Roy. Meteor. Soc.*, 130(600), pp. 1631-1654.
- Koh, T. Y. and B. Legras (2002), "Hyperbolic lines and the stratospheric polar vortex", *Chaos*, 12(2), pp. 382-394. [**most cited paper**]
- Koh, T. Y. and R. A. Plumb (2000), "Lobe dynamics applied to barotropic Rossby-wave breaking", *Phys. Fluids*, 12(6), pp. 1518-1528.

Book Chapters:

- Robertson, A. W., V. Moron, C.-P. Chang, F. Tangang, E. Aldrian, T. Y. Koh, L. Juneng (2011), "The Maritime Continent Monsoon" in *The Global Monsoon System - Research and Forecast*, C.-P. Chang, Y. Ding, N.-C. Lau, R. H. Johnson, B. Wang and T. Yasunari, Eds., Vol. 5, *World Scientific Series on Asia-Pacific Weather and Climate*, World Scientific Publishing Co, pp. 594. ISBN: 978-981-4343-40-4.
- Koh, T. Y. and P. Linden (2011), "Geophysical and Environmental Fluid Mechanics" in *Environmental Hazards, the Fluid Dynamics and Geophysics of Extreme Events*, H. K. Moffatt and E. Shuckburgh, Eds., Vol. 21, *Lecture Notes Series*, Institute for Mathematical Sciences, National University of Singapore, World Scientific Publishing Co, pp. 315. ISBN: 978-981-4366-99-1.

Proceeding Papers:

- T.-Y. Koh (2015), "Statistical Distributions and Climate Change", *Procedia IUTAM*, 17, 53-58, doi:10.1016/j.piutam.2015.06.009.

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