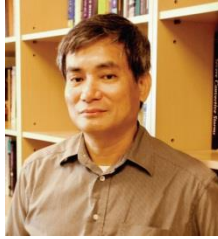


Hung-Chi Kuo



Title Chair Professor

Affiliation Department of
Atmospheric Sciences, National
Taiwan University

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Biography

Hung-Chi Kuo received his Ph.D. degree from the Department of Atmospheric Science, Colorado State University in 1987. He worked at Naval Research Laboratory from 1988 to 1990. He is currently the Chair Professor with the Department of Atmospheric Sciences, National Taiwan University (NTU). His research interest is in atmospheric dynamics, tropical cyclone, mathematical modeling and scientific computation. He is a member of American Meteorology Society and fellow of Meteorological Society of Republic of China. He is the author and co-author of more than 60 publications. He is the 2007 recipient of the prestigious award of the National Chair Professor from Taiwan Ministry of Education, and the 2012 recipient of Naval Research Laboratory Alan Berman Research Publication Award.

Education

BS, Department of Atmospheric Sciences, National Taiwan University, 1979

MS, Department of Atmospheric Science, Colorado State University, 1983

PhD, Department of Atmospheric Science, Colorado State University, 1987

Work Experience

Deputy Vice President for Academic Affairs, 2014-

Associate Director of Center for General Education, 2013-

Chair Professor, National Taiwan University, 2010-

Chair Professor, National Chung-Hsing University, 2008-

Professor, National Taiwan University, 1993-

Visiting Professor, UCLA, 1994, Purdue University, 2002-2003

Associate Professor, National Taiwan University, 1990-1993

Research Scientist, Naval Research Laboratory, 1988-1990

Post-doc, Colorado State University, 1987-1988

Awards

Merit NSC Research Fellow Award, 2014

U.S. Naval Research Laboratory Alan Berman Research Publication Award, 2012

11th National Chair Professor (Ministry of Education), 2007

Member of the Meteorology Society of Republic of China, 2012

Distinguished Research Award (NSC) three times, 1996-1998, 1999-2005

Faculty Exchange Award of University of California, 1994

Research Interests

- ♦ Atmospheric and oceanic fluid dynamics
 - ♦ Typhoon dynamics
 - ♦ Mathematical modeling and scientific computation
-

Publications in the last 5 years

1. Fovell, R. G., Y. P. Bu, K. L. Corbosiero, W.-w. Tung, Y. Cao, H.-C. Kuo, L.-H. Hsu, and H. Su, 2015: Influence of cloud microphysics and radiation on tropical cyclone structure and motion: A review, in *Multiscale Convection-Coupled Systems in the Tropics, AMS Monograph Tribute to Michio Yanai*, in press.
2. Wang, C.-C., H.-C. Kuo*, R. H. Johnson, C.-Y. Lee, S.-Y. Huang, and Y.-H. Chen, 2015: A numerical study of convection in rainbands of Typhoon Morakot (2009) with extreme rainfall: roles of pressure perturbations with low-level wind maxima. *Atmos. Chem. Phys. Discuss.*, **15**, 1–45. doi:10.5194/acpd-15-1-2015 **SCI**
3. Yu, H., P. E. Ciesielski, J. Wang, H.-C. Kuo*, H. Vömel, and R. Dirksen, 2015: Evaluation of Humidity Correction Methods for Vaisala RS92 Tropical Sounding Data. *J. Atmos. Oceanic Technol.*, **32**, 397–411. doi: 10.1175/JTECH-D-14-00166.1 **SCI**
4. Yang, Y. T., H. C. Kuo*, E. Hendrick, and M. Peng, 2015: Relationship between Typhoons with Concentric Eyewalls and ENSO in the Western North Pacific Basin. *J. Climate*, **28**, 3612–3623. doi: 10.1175/JCLI-D-14-00541.1 **SCI**
5. Yang, Y. T., E. Hendrick, H. C. Kuo*, and M. Peng, 2014: Long-lived Concentric Eyewalls in Typhoon Soulik (2013). *Mon. Wea. Rev.*, **142**, 3365–3371. doi: 10.1175/MWR-D-14-00085.1 **SCI**
6. Hendricks, E. A.*, W. H. Schubert, Y.-H. Chen, H.-C. Kuo, and M. S. Peng, 2014: Hurricane Eyewall Evolution and Instability in a Forced Shallow Water Model. *J. Atmos. Sci.*, **71**, 1623–1643. doi: 10.1175/JAS-D-13-0303.1 **SCI**
7. Chang, C.-P., H.-C. Kuo, and C.-H. Sui, 2014: Climate Change: Multidecadal and Beyond. Chapter 20: Record-Breaking Increase of Tropical Cyclone Heavy Rainfall in Taiwan in the First Decade of 21st Century, C.-P. Chang, et al., Ed., World Scientific Publishing Co. Inc., USA, in press. (Book Chapter)
8. Chang, C.-P.*, M. Ghil, H.-C. Kuo, M. Latif, C.-H. Sui, and J. M. Wallace, 2014: Understanding multidecadal climate changes. *Bull. Amer. Meteor. Soc.*, **1**, 293–296. doi: 10.1175/BAMS-D-13-00015. **SCI**
9. Wang, C.-C.*, H.-C. Kuo, T.-C. Yeh, C.-H. Chung, Y.-H. Chen, S.-Y. Huang, Y.-W. Wang, and C.-H. Liu, 2013: High-resolution quantitative precipitation forecasts and simulations by the Cloud-Resolving Storm Simulator (CReSS) for Typhoon Morakot (2009). *J. Hydrol.*, **506**, 26–41. doi: 10.1016/j.jhdrol.2013.02.018 **SCI**
10. Hsiao, L.-F., M.-J. Yang*, C.-S. Lee, H.-C. Kuo, D.-S. Shih, C.-C. Tsai, C.-J. Wang, L.-Y. Chang, D. Y.-C. Chen, L. Feng, J.-S. Hong, C.-T. Fong, D.-S. Chen, T.-C. Yeh, C.-Y. Huang, W.-D. Guo, and G.-F. Lin,

- 2013: Ensemble forecasting of typhoon rainfall and floods over a mountainous watershed in Taiwan. *J. Hydrol.*, **506**, 55-68. doi: 10.1016/j.jhydrol.2013.08.046 **SCI**
11. Pan, T.-Y., Y.-T. Yang*, H.-C. Kuo, Y.-C. Tan, J.-S. Lai, T.-J. Chang, C.-S. Lee, and K. Hsu, 2013: Improvement of watershed flood forecasting by typhoon rainfall climate model with an ANN-based southwest monsoon rainfall enhancement. *J. Hydrol.*, **506**, 90-100. doi: 10.1016/j.jhydrol.2013.08.018 **SCI**
 12. Lee, C.-S., H.-Y. Ho, K.-T. Lee*, Y.-C. Wang, W.-D. Guo, Delia Y.-C. Chen, L.-F. Hsiao, C.-H. Chen, C.-C. Chiang, M.-J. Yang, and H.-C. Kuo, 2013: Assessment of sewer flooding model based on ensemble quantitative precipitation forecast. *J. Hydrol.*, **506**, 101-113. doi:10.1016/j.jhydrol.2012.09.053 **SCI**
 13. Hsu, L.-H., H.-C. Kuo, and R. G. Fovell*, 2013: On the geographic asymmetry of typhoon translation speed across the mountainous island of Taiwan. *J. Atmos. Sci.*, **70**, 1006-1022. doi: 10.1175/JAS-D-12-0173.1 **SCI**
 14. Yang, Y.-T., H.-C. Kuo*, E. A. Hendricks, M. S. Peng, 2013: Structural and Intensity Changes of Concentric Eyewall Typhoons in the Western North Pacific Basin. *Mon. Wea. Rev.*, **141**, 2632-2648. doi: 10.1175/MWR-D-12-00251.1 **SCI**
 15. Wang, C.-C.* , Y. H. Chen, H.-C. Kuo, and S.Y. Huang, 2013: Sensitivity of typhoon track to asymmetric latent heating/rainfall induced by Taiwan topography: A numerical study of Typhoon Fanapi (2010). *J. Geophys. Res.*, **118**, 3292-3308. doi: 10.1002/jgrd.50351 **SCI**
 16. Chang, C.-P.* , Y.-T. Yang, and H.-C. Kuo, 2013: Large Increasing Trend of Tropical Cyclone Rainfall in Taiwan and the Roles of Terrain. *J. Climate*, **26**, 4138-4147. doi: 10.1175/JCLI-D-12-00463.1 **SCI**
 17. Kuo, H.-C.*, C.-P. Chang, and C.-H. Liu, 2012: Convection and rapid filamentation in Typhoon Sinlaku during TCS-08/T-PARC. *Mon. Wea. Rev.*, **140**, 2806-2817. doi: 10.1175/MWR-D-11-00314.1 **SCI**
 18. Cheng, T.-W.* , Y.-H. Chang, S.-L. Tang, C.-H. Tseng, P.-W. Chiang, K.-T. Chang, C.-H. Sun., Y.-G. Chen, H.-C. Kuo, C.-H. Wang, P.-H. Chu, S.-R. Song, P.-L. Wang*, and L.-H. Lin*, 2012: Metabolic stratification driven by surface and subsurface interactions in a terrestrial mud volcano. *ISMEJ.*, **6**, 2280-2290. doi:10.1038/ismej.2012.61 **SCI**
 19. Su.-S. H., H.-C. Kuo*, L.-H. Hsu, and Y.-T. Yang, 2012: Temporal and Spatial Characteristics of Typhoon Extreme Rainfall in Taiwan. *J. Meteor. Soc. Japan.*, **90**, No. 5, 721-736, doi: 10.2151/jmsj.2012-510 **SCI**
 20. Wang, C.-C.* , H.-C. Kuo, Y.-H. Chen, H.-L. Huang, C.-H. Chung, and K. Tsuboki, 2012: Effects of Asymmetric Latent Heating on Typhoon Movement Crossing Taiwan: The Case of Morakot (2009) with Extreme Rainfall. *J. Atmos. Sci.*, **69**, 3172-3196. doi: 10.1175/JAS-D-11-0346.1 **SCI**

21. Tsai, Y.-M., H.-C. Kuo*, Y.-C. Chang, and Y.-H. Tseng, 2012: A new parallel domain-decomposed Chebyshev collocation method for atmospheric and oceanic modeling. *TAO*, **23**, 439-450, doi: 10.3319/TAO.2012.03.28.02(A) **SCI**
22. E. A. Hendricks, H.-C. Kuo, M. S. Peng, and D. Hodyss, 2011: Barotropic aspects of hurricane structural and intensity variability. *In-Tech, Vienna, Austria*, **26pp**. (Book Chapter)
23. Pan, T.-Y., Y.-T. Yang, H.-C. Kuo*, Y.-C. Tan, J.-S. Lai, T.-J. Chang, C.-S. Lee, and K. H. Hsu, 2011: Improvement of Statistical Typhoon Rainfall Forecasting with ANN-Based Southwest Monsoon Enhancement. *TAO*, **22**, 633-645 **SCI**
24. Chien, F.-C.*, and H.-C. Kuo, 2011: On the extreme rainfall of Typhoon Morakot (2009). *J. Geophys. Res.*, **116**, D05104, doi: 10.1029/2010JD015092. **SCI**
25. Tsai, Y.-M*., H.-C. Kuo, and W. H. Schubert, 2010: Filamentation time diagnosis of thinning troughs and cutoff lows. *Mon. Wea. Rev.*, **138**, 2327-2335. doi: 10.1175/2010MWR3102.1 **SCI**
26. Fovell, R. G.*, K. L. Corbosiero and H.-C. Kuo, 2009: Cloud microphysics impact on hurricane track as revealed in idealized experiments. *J. Atmos. Sci.*, **66**, 1764-1778. doi: 10.1175/2008JAS2874.1 **SCI**
27. Kuo, H.-C.*, C.-P. Chang, Y.-T Yang, and H.-J. Jiang, 2009: Western North Pacific typhoons with concentric eyewalls. *Mon. Wea. Rev.*, **137**, 3758-3770. doi: 10.1175/2009MWR2850.1 **SCI**

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