

**PROFESSOR JIN-YI YU, Ph.D.**

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(Updated on 2/25/2024)

**EDUCATION**

Ph.D., 1993, Department of Atmospheric Sciences, University of Washington.  
B.S., 1984, Department of Atmospheric Sciences, National Taiwan University.

**EMPLOYMENT (academic sector 30 years)**

2002 - present: Assistant Professor, Associate Professor, Full Professor, UC Irvine  
1993 - 2002: Postdoc, Assistant Researcher, Associate Researcher, UC Los Angeles

**AWARD AND HONOR**

- Ocean-Atmosphere-Atmosphere Research 2023 Excellent Editor Award, 2024.
- Advances in Atmospheric Sciences 2023 Outstanding Editor Award, 2024.
- American Geophysical Union (AGU) 2020 Editors' Citation for Excellence, 2021.
- Thomson Reuters list of the world's top 1000 climate scientists, 2021.
- Fellow, Meteorology Society of Taiwan, 2019
- Oversea Expert, Chinese Academy of Sciences, 2018.
- Outstanding Contributions Award to Undergraduate Education, School of Physical Science, University of California-Irvine, 2006-07.

**SOCIETY AND COMMITTEE SERVICE**

- Vice Chair, Department of Earth System Science, UC Irvine, 2018 - 2021.
- Faculty Advisor, Student Chapter of the American Meteorological Society at UCI, 2017 – 2019.
- Member and Vice Chair, Advisory Board, Chinese-American Oceanic and Atmospheric Association-Southern California, 1/2017 – present.
- Vice Chair, Department of Earth System Science, UC Irvine, 2006 - 2007.
- Member, External 5-year review Committee for Department of Atmospheric Sciences, National Taiwan University, May 1-2, 2024
- Member, External 5-year review Committee for International Degree Program in Climate Change and Sustainable Development, National Taiwan University, June 15-16, 2022
- Member, External 5-year review Committee for Department of Atmospheric Sciences, National Taiwan University, May 16-17, 2019.
- Member, US CLIVAR Working Group on ENSO Diversity, 2011- 2016.
- Panelist, DOE proposal review panels, 2009, 2010.
- Panelist, NOAA proposal review panel, 2013.
- Chair, Chinese-American Oceanic and Atmospheric Association-Southern California, 2009 - 2010.

**EDITORIAL SERVICE**

- International Advisory Board Member, Terrestrial, Atmospheric and Oceanic (TAO) Sciences Journal, Chinese Geoscience Union of Taiwan, 12/2021– present.
- Editorial Board Member, SPJ Ocean-Land-Atmosphere Research (OLAR), American Association for the Advancement of Science (AAAS), 5/2021 – present.
- Deputy Editor-In-Chief, Advances in Atmospheric Sciences, International Association of Meteorology and Atmospheric Sciences (IAMAS), 1/2021 – 12/2022.
- Editorial Board Member, Ocean-Land-Atmosphere Research, American Association for the Advancement of Science (AAAS), 5/2021 – present.
- Editorial Board Member, Journal of Systems Analysis Modelling Simulation, Gordon and Breach Science Publisher, 2001-2003.
- Guest Editor, Journal of System Analysis Modeling Simulation, Special Issue on “*Environmental Modeling and Simulation*”, Volume 42, Number 2, 2002.

- Co-Editor, *Environmental Modeling and Simulation* (ISBN: 1-56555-181-8), Ed. Achim Sydow and Jin- Yi Yu, published by The Society For Computer Simulation International, 2000, 146pp.
- Co-Editor, *1999 International Conference on Mission Earth* (ISBN: 1-56555-162-1), published by The Society For Computer Simulation International, 1999, 122pp.
- Co-Editor, *1998 Conference on Mission Earth: Modeling and Simulation of the Earth System* (ISBN: 1- 56555-139-7), published by The Society for Computer Simulation International, 1989, 116pp.
- Journal Article Reviewer, for Nature, Nature Communications, Science Advances, Scientific Report, npj Climate and Atmospheric Science, Journal of Atmospheric Sciences, Journal of Climate, Monthly Weather Review, Journal of Atmospheric Sciences, Journal of Advanced Modeling Earth Systems, Geophysical Research Letters, Journal of Geophysical Research-Atmosphere, Journal of Geophysical Research-Ocean, Climate Dynamics, Hydrological Science Journal, International Journal of Climatology, Terrestrial Atmospheric and Oceanic Sciences, Frontiers in Marine Science, Frontiers in Earth Science, Advances in Atmospheric Sciences, Atmospheric Research, Global and Planetary Change, Annales Geophysicae, Theoretical and Applied Climatology, Meteorology and Atmospheric Physics, Progress in Oceanography, Asia-Pacific Journal of Atmospheric Sciences, Water Resources Research, Chinese Journal of Oceanology and Limnology, Dynamics of Atmospheres and Oceans, Environmental Research Letter, Ocean Dynamics, Journal of Ocean University of China, etc.

### **RESEARCH EXPERTISE**

Dr. Yu has made remarkable scientific contributions to climate research, particularly in the realms of climate modeling, dynamics, and diagnosis. His doctoral research significantly advanced our understanding of atmospheric phenomena such as the baroclinic wave lifecycle and jet stream vacillation. Notably, he proposed a groundbreaking wave-mean flow interaction theory elucidating the north-south oscillation of the tropospheric jetstream, now recognized as the Arctic oscillation or the Annular Mode.

Moreover, Dr. Yu's seminal work with Kao in 2009 introduced the terms "Central Pacific El Niño" and "Eastern Pacific El Niño," revolutionizing our comprehension of El Niño diversity and complexity. This pioneering study, cited 1760 times as of 2/25/2024, has become widely accepted in the scientific community. Dr. Yu's contributions extend further into the realm of ENSO dynamics, where his development of a subtropical ENSO dynamics theory has provided a unique explanation for the production of Central Pacific and multi-year ENSO events. This theory diverges from conventional tropically focused theories, emphasizing subtropical Pacific coupling processes.

Additionally, Dr. Yu's research has shed light on inter-basin interactions across the Pacific, Atlantic, and Indian Oceans, enhancing our understanding of how these interactions influence various climate variability modes on interannual-to-decadal time scales. Through his multifaceted contributions, Dr. Yu has significantly advanced the field of climate research, shaping our understanding of complex atmospheric phenomena and their broader implications for global climate dynamics.

### **RESEARCH EXPERIENCE**

#### ***ENSO complexity dynamics***

- Coined the terms "Central Pacific ENSO" and "Eastern Pacific ENSO" to investigate the existence of distinct types of El Niño-Southern Oscillation (ENSO) and their complexity dynamics.
- Developed a subtropical forcing theory to elucidate the underlying dynamics of ENSO evolutions and their complexity.
- Investigated the global impacts of ENSO complexity on climate, providing insights into its effects on Earth's climate system.
- Evaluated and analyzed the performance of contemporary climate models in simulating ENSO complexity and its global impacts, contributing to advancements in climate modeling.

#### ***Cross-basin interactions***

- Examine the roles of Atlantic and Indian Oceans in modulating ENSO dynamics and activities.
- Identify the atmospheric, oceanic, and coupled processes involved in the cross-basin interactions among the Pacific, Atlantic, and Indian Oceans.
- Discover a strengthening effect of Arctic warming on Pacific-Atlantic climate connectivity.
- Study the linkages between Pacific Decadal Oscillation and Atlantic Multi-decadal Oscillation.
- Examine the cross-basin impacts of Atlantic Multi-decadal Oscillation on Pacific Climate.

- Study the cross-basin interactions during the 1970s and 1990s climate shifts.

#### ***Marine Heatwave dynamics***

- Identify two variations of North Pacific marine heatwave events.
- Develop an atmospheric wavetrain theory to elucidate the production mechanisms underlying these two variants of North Pacific marine heatwaves.
- Establish a dynamic framework to elucidate the multi-year duration characteristics of North Pacific marine heatwave events

#### ***Indian Ocean and monsoon variabilities***

- Contrast the internal and forced parts of the Indian Ocean dipole mode of SST variability.
- Study the interactions between Indian Ocean and monsoon and their contributions to Tropospheric Biennial Oscillation.
- Study the recent changes of Indian-Australian monsoon interactions.
- Study the roles of Indonesian Through Flow in modulating Pacific-Indian Ocean interactions.

#### ***Jet stream and baroclinic wave dynamics***

- Study the life cycle of baroclinic waves and its baroclinic and barotropic energy conversion.
- Study the interactions between baroclinic waves and jet stream.
- Propose a wave-mean flow interaction theory to explain the latitudinal oscillation of jet stream.
- Study the interactions among jet stream, baroclinic waves, and orographic-forced stationary waves.

#### ***Marine stratocumulus clouds and its climate roles***

- Study the impacts marine boundary layer clouds on tropical atmosphere-ocean interactions.
- Propose methodologies to improved climate model simulations of marine stratus clouds.
- Identify the impacts of Peruvian stratocumulus on the eastern Pacific cold tongue climate and variability.

#### ***Climate model developments***

- Develop from scratch an atmospheric GCM using a full Galerkin method at University of Washington.
- Couple the UCLA AGCM and LANL POP for a new global and parallel coupled atmosphere-ocean GCM.
- Develop a basin coupled/decoupled technique to study cross-basin interactions with coupled CCMs.

### **DIVERSITY, EQUALITY, AND INCLUSION**

Demonstrated commitment to Diversity, Equity, and Inclusion (DEI) by actively supporting the professional growth of early career faculty, including a female assistant professor, and mentoring a diverse group of scientists, with approximately half being women. Successfully co-led the department's application to join the AGU Bridge Program and facilitated connections with the Southern California Cal-Bridge Program.

### **OUTREACH** (selected)

Guest lectures delivered at Osher Lifelong Learning Institute, Newport Bay Conservancy, and FOCUS Summer Science Institute on Earth Science. Judged and reviewed papers at Southern California Junior Science and Humanities Symposium. Provided expert commentary to various news media outlets, including CNN News, Voice of America, LA Weekly, World Journal, and SinDao Daily News. FOCUS is a program that aims to unite scientists, students, and schools through faculty outreach collaborations.

### **PUBLICATIONS**

(136 peer-reviewed publications plus 8 under-review papers; total citation number=11655 times; annual citation of 1359 in 2023; H-index 47; i10-index=107 based on Google Scholar on 2/25/2024) (\*Corresponding author)

#### **2024**

- (xxx) Li, P.-P., F. Zheng, X. Fang, and **J.-Y. Yu**, 2024: Analysis of the Advance of El Niño Phase Locking: A Study Based on Sea Surface Temperature Growth Rate, *Environmental Research Letters*, submitted.
- (xxx) Y.-F. Lin, **J.-Y. Yu**, C.-R. Wu, Y.-S. Han, M.-H. Lo, C.-T. Terng, J.-M. Liau, T.-H. Lee, H.-M. Xiao, 2024: Impact of Shifting El Niño Patterns on California Market Squid Landings: Insights from Nearly a Century of Data, *Global Change Biology*, submitted.
- (xxx) Y.-F. Lin, C.-R. Wu, Y.-S. Han, Y.-L. Chang, and **J.-Y. Yu**, 2024: Biogeographic distribution changes of the Japanese eel (*Anguilla japonica*) under the global warming hiatus, *Fisheries Oceanography*,

submitted.

- (xxx) Li, X., **J.-Y. Yu**, R. Ding, J. Hu, and P. Tuo, 2024: Asymmetric Efficacies between Warm and Cold Pacific Meridional Modes in Inducing ENSO, *Geophysical Research Letters*, submitted.
- (xxx) Zhang, L., Y. Du, W. Cai, Y. Zhang, and **J.-Y. Yu**, 2024: More frequent hidden El Niño in a warming climate, *Nature*, under review.
- (xxx) Li, X., **J.-Y. Yu**, and R. Ding, J. Hu: El Niño-La Niña Asymmetries in the Changes of ENSO Complexities and Dynamics Since 1990, *Geophysical Research Letters*, submitted.
- (xxx) Zhu, T. and **J.-Y. Yu**, 2024: Distinguishing Impacts on Winter Temperatures in Northern Mid-to-High Latitude Continents during Multi-year and Single-year La Niña events: A Modeling Study, *Journal of Climate*, submitted.
- (xxx) Xiao, H.-M., H.-H. Hsu, T.-H. Lee, B.-T. Jong, **J.-Y. Yu**, Y.-Ch. Liang, and M.-H. Lo, 2024: The remote response in the Northern Pacific climate during winter to deforestation in the Maritime Continent, *Journal of Geophysical Research-Atmosphere*, submitted.
- (136) Ding, R., K. Ji, **J.-Y. Yu**, J. Li, Z.-Z. Hu, Y.-H. Tseng, J. Shi, Y. Zhao, and C. Sun, 2024: Enhanced North Pacific Victoria mode in a warming climate, *npj Climate and Atmospheric Science*, in press.
- (135) Li, X., R. Ding, Y.-H. Tseng, **J.-Y. Yu**, and X. Xu, 2024: Mutual Influences Between ENSO and Its Two Precursor Modes in the Extratropical South Pacific, *Climate Dynamics*, DOI:10.1007/s00382-023-07054-5.
- (134) Lin, Y.-F. and **J.-Y. Yu**, 2024: The role of Indian Ocean in controlling the formation of multi-year El Niños through subtropical ENSO dynamics, *Journal of Climate*, 37, 385-401. DOI: 10.1175/JCLI-D-23-0297.1.

## 2023

- (133) Wu, C.-R., Y.-F. Lin, I.-I. Lin, and **J.-Y. Yu**, 2023: Unleashing the Power of the Sun: The Increasing Impact of the Solar Cycle on Off-Season Super Typhoons since the 1990s, *npj Climate and Atmospheric Science*, DOI: 10.1038/s41612-023-00495-z.
- (132) Kim, J.-W., **J.-Y. Yu**, and B. Tian, 2023: Overemphasized role of preceding strong El Niño in generating multi-year La Niña events, *Nature Communications*, DOI: 10.1038/s41467-023-42373-5.
- (131) Lee, T.-H., **J.-Y. Yu**, Y.-F. Lin, M.-H. Lo, and H.-M. Xiao, 2023: The Potential Influence of Maritime Continent Deforestation on El Niño-Southern Oscillation: Insights from Idealized Modeling Experiments, *Geophysical Research Letters*, 50, e2023GL105012, DOI: 10.1029/2023GL105012.
- (130) Zhao, Y. and **J.-Y. Yu**, 2023: Two Marine Heat Wave (MHW) Variants under a Basin-wide MHW Conditioning Mode in the North Pacific and Their Atlantic Associations, *Journal of Climate*, 36, 8657-8674. DOI: 10.1175/JCLI-D-23-0156.1.
- (129) Song, W., **J.-Y. Yu**, and T. Lian 2023: The Efficacy of Tropical and Extratropical Predictors for Long-lead ENSO Prediction: A Study Using a Machine Learning Algorithm, *International Journal of Climatology*, DOI: 10.1002/joc.8241.
- (128) Lin, Y.-F., C.-T. Terng, C.-R. Wu, and **J.-Y. Yu**, 2023: Seasonally-reversed trends in the subtropical Northwestern Pacific linked to asymmetric AMO influences, *Scientific Reports*, DOI: 10.1038/s41598-023-40979-9.
- (127) Kim, J.-W., T.-H. Chang, C.-T. Lee, and **J.-Y. Yu**, 2023: Evaluating ENSO's Spatiotemporal Complexity in the CWB CFS 1-Tiered Model Hindcasts, *Journal of Geophysical Research - Atmospheres*, 128, e2022JD038200. doi:10.1029/2022JD038200.
- (126) Ding, R., H. Namchi, **J.-Y. Yu**, T. Li, C. Sun, J. Li, Y.-H. Tseng, X. Li, F. Xie, J. Feng, and X. Li, 2023: North Atlantic Oscillation controls multidecadal changes in the North Tropical Atlantic-Pacific connection, *Nature Communications*, 14, 862.

## 2022

- (125) Hu, Hsun-Ming, Valerie Trouet, Christoph Spotl, Hsien-Chen Tsai, Wei-Yi Chien, Wen-Hui Sung, Veronique Michel, **Jin-Yi Yu**, Patricia Valensi, Xiuyang Jiang, Fucai Duan, Yongjin Wang, Horng-Sheng Mii, Yu-Min Chou, Mahjoor Lone, Chung-Che Wu, Elisabetta Starnini, Marta Zunino, Takaaki Watanabe, Tsuyoshi Watanabe, Huang-Hsiung Hsu, G.W.K. Moore, Giovanni Zanchetta, Carlos Perez-Mejias, Shih-Yu Lee, and Chuan-Chou Shen\*, 2022: Tracking westerly wind directions over Europe since the middle Holocene, *Nature Communications*, 13, 7866. doi:s41467-022-34952-9.

- (124) Zhu, T. and **J.-Y. Yu\***, 2022: A shifting tripolar pattern of Antarctic sea ice concentration anomalies during multi-year La Nina events, *Geophysical Research Letters*, 49, e2022GL101217. doi:10.1029/2022GL101217.
- (123) Kim\*, J.-W. and **J.-Y. Yu**, 2022: Single- and multi-year ENSO events controlled by pantropical climate interactions, *npj Climate and Atmospheric Science*, 5, 88. doi:10.1038/s41612-022-00305-y.
- (122) Ding\*, R., Y.-H. Tseng, E. Di Lorenzo, L. Shi, J. Li, **J.-Y. Yu**, C. Wang, C. Sun, J.-J. Luo, K.-J. Ha, Z.-Z. Hu, and F. Li, 2022: Multi-year El Nino events tied to the North Pacific Oscillation, *Nature Communications*, 13, 3871 (2022). doi: [10.1038/s41467-022-31516-9](https://doi.org/10.1038/s41467-022-31516-9).
- (121) Xiao, H.-M., M.-H. Lo\*, and **J.-Y. Yu**, 2022: The Increased Frequency of Combined El Nino and Positive IOD events since 1965s and Its Impacts on Maritime Continent Hydroclimates, *Scientific Reports*, 12, 7532 (2022). doi:10.1038/s41598-022-11663-1.
- (120) Chen, J., **J.-Y. Yu**, S. Chen, X. Wang<sup>1</sup>, Z. Xiao, and S.-W. Fang, 2022: Tropical and Subtropical Pacific Sources of the Asymmetric El Nino-La Nina Decay and their Future Changes, *Geophysical Research Letters*, doi:10.1029/2022GL097751.
- (119) Chen, N., X. Fang\*, and **J.-Y. Yu**, 2022: A Multiscale Model for El Nino Complexity, *npj Climate and Atmospheric Science*, 5 (6). doi:10.1038/s41612-022-00241-x.

## 2021

- (118) Qian, W., A. Yang, J.-Y. Yu, J. Du, 2021: Opposite anomalous synoptic patterns for potential California large wildfire spread and extinguishing in 2018 cases, *Atmospheric Research*, **262**, 105804, doi: 10.1016/j.atmosres.2021.105804.
- (117) Chen, M., **J.-Y. Yu\***, X. Wang\*, and S. Chen, 2021: Distinct onset mechanisms of two subtypes of CP El Nino and their changes in future warming. *Geophysical Research Letters*, doi:10.1029/2021GL093707.
- (116) Lin\*, I.-I., R. F. Rogers, H.-C. Huang, Y.-C. Liao, D. Herndon, **J.-Y. Yu**, Y.-T. Chang, J. A. Zhang, C. M. Patricola, I.-F. Pun, C.-C. Lien, 2021: A Tale of Two Rapidly-Intensifying Supertyphoons: Hagibis (2019) and Haiyan (2013), *Bulletin of the American Meteorological Society*, **102**, 1645-1664. doi:10.1175/BAMS-D-20-0223.1.
- (115) Kim, J.-W., T.-H. Chang, C.-T. Lee, and **J.-Y. Yu\***, 2021: On the Varying Responses of East Asian Winter Monsoon to Three Types of El Nino: Observations and Model Hindcasts, *Journal of Climate*, **34**, 4089-4101. doi:10.1175/JCLI-D-20-0784.1.
- (114) Lin, Y.-F., J.-Y. Yu\*, C.-R. Wu, and F. Zheng, 2021: The footprint of the 11-year solar cycle in Northeastern Pacific SSTs and its influence on the Central Pacific El Nino, *Geophysical Research Letters*, **48**, e2020GL091369. DOI: 10.1029/2020GL091369.
- (113) Kim\*, J.-W. and **J.-Y. Yu**, 2021: Evolution of Subtropical Pacific-Onset El Nino: How its Onset Location Controls its Decay Evolution. *Geophysical Research Letters*, **48**, e2020GL091345. DOI: 10.1029/2020GL091345.
- (112) Mamalakis, A., J. Randerson, **J.-Y. Yu**, M. Pritchard, G. Magnusdottir, P. Smyth, P. A. Levine, S. Yu., and E. Foufoula-Georgiou\*, 2021: Zonally contrasting shifts of the tropical rain belt in response to climate change, *Nature Climate Change*, **11**, 143–151. DOI: 10.1038/s41558-020-00963-x.
- (111) Chen, M., T-H Chang, C-T Lee, S-W Fang, & **J-Y Yu\***, 2021: A Study of Climate Model Responses of the Western Pacific Subtropical High to El Niño Diversity, *Climate Dynamics*, **56**, 581-595. doi: 10.1007/s00382-020-05500-2.

## 2020

- (110) Zhang, L., Y. Du\*, W. Cai, Z. Chen, T. Tozuka, **J.-Y. Yu**, 2020: Triggering the Indian Ocean Dipole from the Southern Hemisphere. *Geophysical Research Letters*, **47**, e2020GL088648. DOI: 10.1029/2020GL088648.
- (109) Fang, S.-W. and **J.-Y. Yu\***, 2020: Contrasting ENSO transition complexity between El Niño and La Niña: In observations and CMIP5/6 models. *Geophysical Research Letters*, **47**, e2020GL088926. DOI: 10.1029/2020GL088926.
- (108) He, S., **J.-Y. Yu\***, S. Yang\*, and S.-W. Fang, 2020: Why does the CP El Niño less frequently evolve into La Niña than the EP El Niño? *Geophysical Research Letters*, **47**, e2020GL087876. DOI: 10.1029/2020GL087876.
- (107) Fang, S. W. and **J.-Y. Yu\***, 2020: A Control of ENSO Complexity by Tropical Pacific Mean SSTs

- through Tropical-Subtropical Interactions. *Geophysical Research Letters*, **47**, e2020GL087933. doi:10.1029/2020GL087933.
- **(106)** Kim\*, J.-W. and **J.-Y. Yu**, 2020: Understanding Re-intensified Multi-year El Niño Events. *Geophysical Research Letters*, **47**, e2020GL087933. doi:10.1029/2020GL087644.
  - **(105)** He, S., **J.-Y. Yu\***, S. Yang\*, and S.-W. Fang, 2020: ENSO's impacts on the tropical Indian and Atlantic Oceans via tropical Processes: CMIP5 simulations versus observations. *Climate Dynamics*, **54**, 4627-4640. doi: 10.1007/s00382-020-05247-w.
  - **(104)** Chen, J., **J.-Y. Yu**, X. Wang\*, L. Tao, 2020: Different influences of southeastern Indian Ocean and western Indian Ocean SST anomalies on eastern China rainfall during the decaying summer of 2015/16 extreme El Nino, *Journal of Climate*, **33**, 5427-5443. doi: 10.1175/JCLI-D-19-0777.1.
  - **(103)** Wang\*, J. K., **J.-Y. Yu**, and K. R. Johnson, 2020: Pacific and Atlantic controls of the relationship between Mainland Southeast Asian and East China interannual precipitation variability, *Climate Dynamics*, **54**, 4279-4292. doi:10.1007/s00382-020-05227-0.
  - **(102)** Hu\*, Z.-Z., M. J. McPhaden, A. Kumar, **J.-Y. Yu**, and N. C. Johnson, 2020: Uncoupled El Nino Warming, *Geophysical Research Letters*, **47**, e2020GL08762. doi: 10.1029/2020GL087621.
  - **(101)** Hu\*, Z.-Z., A. Kumar, B. Huang, J. Zhu, M. L'Heureux, M. J. McPhaden, and **J.-Y. Yu**, 2020: The Interdecadal Shift of ENSO Properties in 1999/2000: A Review, *Journal of Climate*, **33**, 4441-4462. doi: 10.1175/JCLI-D-19-0316.1.
  - **(100)** **Yu\***, **J.-Y.**, E. Campos, Y. Du, T. Eldevik, S. T. Gille, T. Losada, M. J. McPhaden, L. H. Smedsrud: Variability of the Oceans, Book Chapter in *Interacting Climates of Ocean Basins*, C. R. Mechoso (Ed.), Cambridge University Press, page 1-36. doi: 10.1017/9781108610995.
  - **(99)** Kug\*, J.-S., J. Vialard, Y.-G. Ham, **J.-Y. Yu**, and M. Lengaigne: Remote forcing: Influence of climate variability outside the tropical Pacific, Book Chapter in *El Nino Southern Oscillation in a Changing Climate*, M. J. McPhaden, A. Santoso, and W. Cai (Ed.), AGU Books, Geophysical Monograph 253, page 247-265. doi:10.1002/9781119548164.ch11.

## **2019**

- **(98)** Song\*, W. and **J.-Y. Yu\***, 2019: Identifying the complex types of atmosphere-ocean interactions in El Nino, *Environmental Research Letters*, **14**, 114030, doi:10.1088/1748-9326/ab4968.
- **(97)** Wu\*, C.-R., Y.-F. Lin, Y.-L. Wang, N. Keenlyside, and **J.-Y. Yu**, 2019: An Atlantic-driven rapid circulation change in the North Pacific Ocean during the late 1990s, *Scientific Reports*, **9**, 1-8, doi: 10.1038/s41598-019-51076-1.
- **(96)** Mamalakis, A., **J.-Y. Yu**, J. Randerson, A. AghaKouchak, and E. Foufoula-Georgiou\*, 2019: Correspondence: The New Zealand Index and its interhemispheric influence on the northwestern Pacific climate, *Nature Communications*, **10**, doi: 10.1038/s41467-019-10531-3.
- **(95)** Chen, C.-C., M.-H. Lo\*, E.-S. Im, **J.-Y. Yu**, Y.-C. Liang, W.-T. Chen, I. Tang, C.-W. Lan, R.-J. Wu, R.-Y. Chien, 2019: Thermodynamic and dynamic responses to deforestation in the Maritime Continent: A modeling study, *Journal of Climate*, **32**, 3505-3527, doi:10.1175/JCLI-D-18-0310.1.
- **(94)** Cai\*, W., L. Wu, M. Lengaigne, T. Li, S. McGregor, J. Kug, **J.-Y. Yu**, and co-authors. 2019: Pan-tropical climate interactions, *Science*, **363** (6430), eaav4236, doi: 10.1126/science.aav4236.
- **(93)** Chen, M., **J.-Y. Yu**, X. Wang\*, and W. Jiang, 2019: The changing impact mechanisms of a diverse El Nino on the Western Pacific Subtropical High, *Geophysical Research Letters*, **46**, 953-962. doi: 10.1029/2018GL.
- **(92)** Tuo, P., **J.-Y. Yu\***, and J. Hu, 2019: The changing influences of ENSO and the Pacific Meridional Mode on mesoscale eddies in the South China Sea, *Journal of Climate*, **32**, 685-700. doi:10.1175/JCLI-D-18-0187.1.
- **(91)** Xu\*, L. and **J.-Y. Yu**: An ENSO-induced aerosol dipole in the west-central Pacific and its potential feedback to ENSO evolution, *Climate Dynamics*, doi: 10.1007/s00382-018-4435-5.

## **2018**

- **(90)** **Yu\***, **J.-Y.** and S.-W. Fang: The distinct contributions of the seasonal footprinting and charged-discharged mechanisms to ENSO complexity, *Geophysical Research Letters*, **45**, 6611-6618. doi:10.1029/2018GL077664.
- **(89)** Liang\*, Y.-C., M. Mazloff, I. Rosso, S.-W. Fang, and **J.-Y. Yu**: A Multi-variate Empirical Orthogonal

Function Method to Construct Nitrate Maps in the Southern Ocean, *Journal of Atmospheric and Oceanic Technology*, **35**, 1505-1519, doi:10.1175/JTECH-D-18-0018.1.

- (88) Yang\*, S., Z. Li, **J.-Y. Yu**, X. Hu, W. Dong, and S. He: El Nino-Southern Oscillation and Its Impact in the Changing Climate, *National Science Review*, nwy046, doi: 10.1093/nsr/nwy046.
- (87) Mamalakis, A., **J.-Y. Yu**, J.T. Randerson, A. AghaKouchak, and E. Foufoula-Georgiou\*: Beyond ENSO: A new teleconnection increases predictability of winter precipitation in southwestern US, *Nature Communications*, 9, doi: 10.1038/s41467-018-04722-7.
- (86) Wang\*, L. and **J.-Y. Yu**: A recent shift in the monsoon centers associated with the Tropospheric Biennial Oscillation, *Journal of Climate*, **31**, 325-340, doi:10.1175/JCLI-D-17-0349.1.

## 2017

- (85) Liang, Y.-C., **J.-Y. Yu\***, E. Saltzman, and F. Wang: Linking the Tropical Northern Hemisphere Pattern to the Generation of the Pacific Warm Blob and Atlantic Variability, *Journal of Climate*, **30**, 9041-9057, doi: 10.1175/JCLI-D-17-0149.1.
- (84) Lyu\*, K. and **J.-Y. Yu**: Climate impacts of the Atlantic Multidecadal Oscillation simulated in the CMIP5 models: a re-evaluation based on a revised index, *Geophysical Research Letters*, **44**, doi: 10.1002/2017GL072681.
- (83) Wang\*, L., **J.-Y. Yu**, and H. Paek: Enhanced biennial variability in the Pacific due to Atlantic capacitor effect, *Nature Communications*, **8**, 14887, doi:10.1038/ncomms14887.
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- (3) **Yu\*, J.-Y.**, and C. R. Mechoso, 1997: Impact of cloud radiative effects on the simulation of Tropical

Pacific. *Research Activities in Atmospheric and Oceanic Modelling*. A. Staniforth, ed., WMO/TD-No. 792, 7.81-7.82.

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## **MENTORING**

### **Visiting Scientist Hosted**

- (11) I-I Lin, Professor, National Taiwan University, 09/2023 – 09/2024.
- (10) Ningning Liu, Associate Professor, National Academy of Sciences, 09/2023 – 09/2024.
- (9) Venugopal Vuruputur, Professor (Fulbright Visiting Scholar), Indian Institute of Science, 09/2022 – 05/2019.
- (8) Li-Shan Tseng, Associated Professor, National Taiwan Normal University, 06/2022 – 08/2022.
- (7) Wan-Jiao Song, Associated Professor, China Meteorology Administration, 05/2019 – 06/2019.
- (6) Jiepeng Chen, Associated Researcher, South China Sea Institute of Oceanography, 09/2018 – 09/2019.
- (5) Min-Hui Lo, Associate Professor, National Taiwan University, 07/2018– 06/2019.
- (4) Lei Wang, Associate Professor, Guangdong Ocean University, 03/2016 – 02/2017.
- (3) Tao Gao, Laboratory Director, Inner Mongolia Meteorological Institute of China, August 2014-January 2015
- (2) Soon-Il An, Professor, Yosei University of Korea, July 2011-August 2012.
- (1) Huang-Hsung Hsu, Professor, National Taiwan University, 2001 (at UCLA).

### **Postdoc and Research Advisee**

- (8) Yong-Fu Lin, 08/2019 - Present
- (7) Ji-Won Kim, 02/2019 – 08/2022, (now Research Fellow, NASA Jet Propulsion Laboratory)
- (6) Kewei Lyu, 01/2016 – 01/2018, (now Professor, Xiamen University, China).
- (5) Li Xu, 01/2016 – 06/2017.
- (4) Houk Paek, 04/2013- 04/2017.
- (3) Jian Ma, 12/2013-11/2014, (now Eastern Scholar Chair Professor, Shanghai Ocean University, China).
- (2) Seon-Tae Kim, 10/2009 – 08/2012 (now Team Lead, APEC Climate Center, Korea).
- (1) Shu-Ping Weng, 2001-2002, (now Associate Professor, National Taiwan Normal University).

### **Graduate Student Advisee**

- (16) Yu Zhao, Earth System Science, 09/2020-present.
- (15) Tingting Zhu, Earth System Science, 09/2019-present.
- (14) Xumin Li, visiting student from Nanjing University of Information Science & Technology, 12/2022-present
- (13) Ting-Hui Lee, visiting student from National Taiwan University, 09/2021-08/2022.
- (12) Shih-Wei Fang, Earth System Science, 09/2015- 05/2020. (now Postdoctoral Researcher at Max Planck Institute of Meteorology, Germany)
- (11) Yu-Chiao Liang, Earth System Science, 09/2013- 06/2018, (now Assistant Professor, National Taiwan University)
- (10) Yuhao Zou, Earth System Science, 09/2010-03/2015 (now Director of Loss Forecasting and Quantitative Modeling at Sallie Mae).
- (09) Mengyan Chen, visiting student from South China Sea Institute of Oceanology, 10/2017- 10/2019.
- (08) Pengfei Tuo, visiting student from Xiamen University, China, 10/2016- 12/2018.
- (07) Shan He, visiting student from Sun Yat-sen University, 11/2017- 12/2018.
- (06) Chengcheng Qian, visiting student from School of Marine Technology, Ocean University of China, 08/2013-09/2014.
- (05) Pei-Ken Kao, Visiting Graduate Student form National Taiwan University, 2012-2013.
- (04) Hsun-Ying Kao, Ph.D., Earth System Science, 2005-2009, (now researcher at Earth & Space Research).
- (03) Fengpeng Sun, Ph.D., Earth System Science, 2003-2008, (now Associate Professor at UMKC).
- (02) Ying Teng, M.S., Atmospheric and Oceanic Sciences (at UCLA), 2000-2001.
- (01) Wei-Liang Lee, Ph.D., Atmospheric and Oceanic Sciences (at UCLA), 2001-2002.

### **Undergraduate Student Advisee**

- (25) Jiahao Li, Earth System Science, Winter 2024 - present
- (24) Megan Lynn Ngo, Earth System Science, Fall, 2019
- (23) Daniel Omar Otair, Earth System Science, Fall, 2019
- (22) Amanda Angelica Aragon, Earth System Science, Spring & Fall, 2018
- (21) Wen-Shu Lin, National Taiwan University, 07/2018 – now.
- (20) Iping Tang, National Taiwan University, 07/2018 – now.
- (19) Teagan Quyen Tran, Biology, 12/2015 - 06/2016
- (18) Andy Li, Earth System Science, 01/2015 - 06/2015
- (17) William Tseng, Earth System Science, 0/2014 - 06/2015
- (16) Daniel Yeo, Earth System Science, 09/2014 - 03/2015
- (15) Chin-Chieh Chou, National Taiwan University, 06/2014 - 09/2014
- (14) Chuchun Chen, National Taiwan University, 06/2014 - 09/2014
- (13) Catherine Liu, Earth System Science, 03/2014 - 06/2014
- (12) Jane Liu, Earth System Science, 01/2013 - 06/2013
- (11) Alice Kim, Earth System Science, 01/2012 - 03/2012
- (10) Nancy Phu, Earth System Science, 09/2011 - 12/2011
- (09) Alexis Kim, Earth System Science, 09/2010 - 06/2011
- (08) Natasha Sekhon, Earth System Science, 09/2010 - 06/2011
- (07) Kevin Yuan, Earth System Science, 03/2010 - 06/2010
- (06) Matthew See, Earth System Science, 10/2/2009 - 12/2009
- (05) Shu-Hao Yu, Earth System Science, 07/2009 - 09/2009
- (04) David Woon, Earth System Science, 06/2009 - 08/2009
- (03) Matt Janiga, Earth System Science, 06/2006 - 08/2006
- (02) Adam Brody, Earth System Science, 01/2006 - 04/2006
- (01) Tavor Martinez, Earth System Science, 2003 – 2004

### **SCIENTIFIC MEETING ORGANISED**

- 2024 Member, Scientific Steering Committee, Vision Marine Conference, Kaohsiung, Taiwan.
- 2023 Member, Scientific Steering Committee, The 12th International Workshop on Tropical Marine Environmental Changes (MEC 2023), Guangzhou, China
- 2021 Member, Scientific Steering Committee, The 11th International Workshop on Tropical Marine Environmental Changes (MEC 2021), Guangzhou, China
- 2019 Member, Scientific Steering Committee, "Ocean-atmosphere interactions and climate", 10th International Workshop on Tropical Marine Environmental Changes (MEC 2019): The Oceans and Climate, Guangzhou, China.
- 2019 Session Chair, "Ocean-atmosphere interactions and climate", The Fourth Xiamen Symposium on Marine Environmental Sciences (XMAS), Xiamen, China.
- 2018 Session Co-Chair, "Intraseasonal variability and predictability", Workshop on Intraseasonal oscillations and extended-range prediction of persistent weather events, Taipei, Taiwan.
- 2018 Session Co-Chair, "Influences of WPO on regional and global climate and their predictability", The Third Open Science Symposium (OSS) on Western Pacific Ocean Circulation and Climate (WPOC), Qingdao, China.
- 2018 Session Co-Chair, "Western Pacific and Indonesian seas circulation and its environmental and climatic impacts", The 2018 Ocean Sciences Meeting, Portland, Oregon, USA.
- 2018 Session Co-Chair, "ENSO Dynamics, Diversity, Prediction, and Impacts", American Meteorological Society 98<sup>th</sup> Annual Meeting, Austin, Texas, USA.
- 2017 Session Chair, "Monsoonal and climatic effects", The 2nd International Symposium on Western Pacific Ocean Circulation -Indonesian Throughflow (WPOC-ITF) studies, Lombok, Indonesia.
- 2017 Scientific Organizing Committee, The 2nd International Symposium on Western Pacific Ocean Circulation -Indonesian Throughflow (WPOC-ITF) studies, Lombok, Indonesia.
- 2016 Session Chair, "Climate", Conference on Hurricanes and Tropical Meteorology, San Juan, Puerto Rico.

- 2016 Session Co-Chair, "Advances In Data Assimilation And Ensemble Forecast: Applications To Studies And Predictability Of Atmosphere-ocean Variability", The 13th Annual Meeting for Asia Oceania Geosciences Society, Beijing, China.
- 2016 Session Chair, "Climate", Conference on Hurricanes and Tropical Meteorology, San Juan, Puerto Rico,
- 2016 Session Co-Chair, "Advances In Data Assimilation And Ensemble Forecast: Applications To Studies And Predictability Of Atmosphere-ocean Variability", The 13th Annual Meeting for Asia Oceania Geosciences Society, Beijing, China,
- 2015 Session Co-Chair, "Monitoring, Understanding and Forecasting of the 2014/15 and 2015 El Niño and the Record warming of the North Pacific Ocean", AGU Annual Fall Meeting, San Francisco, California.
- 2015 Session Co-Chair, "Toward a better understanding of moist process feedbacks and their role in the climate system", AGU Annual Fall Meeting, San Francisco, California.
- 2015 Session Co-Chair, "Climate Variability and Predictability", International Geographic Union (IGU) Regional Conference, Moscow, Russia.
- 2014 Session Co-Chair, "Toward a better understanding of moist process feedbacks and their role in the climate system", AGU Annual Fall Meeting, San Francisco, California.
- 2014 Session Co-Chair, "Advances in Data Assimilation and Forecast Systems for ocean-atmosphere variability", AOGS 11th Annual Meeting, Sapporo, Japan.
- 2013 Session Co-Chair, "Grand challenges in moist process feedback in the climate system", AGU Annual Fall Meeting, San Francisco, California.
- 2012 Session Co-Chair, "El Niño in a Changing Climate System: Observations, Theory, and Modeling", AOGS – AGU (WPGM) Joint Assembly, Singapore.
- 2010 Session Chair, "El Niño: Recent Advances in Theory, Impact, Prediction, and Modeling", AGU Western Pacific Geophysics Meeting, Taipei, Taiwan.
- 2010 Session Co-Chair, "Atmosphere-Land Interaction", AGU Western Pacific Geophysics Meeting, Taipei, Taiwan.
- 2010 Session Co-Chair, "Climate Monitoring and Prediction", COAA 5th International Conference on Atmosphere-Ocean Interaction, Taipei, Taiwan.
- 2009 Program Chair, COAA-SC Summer Workshop, California Institute of Technology, Pasadena, California.
- 2008 Program Chair, COAA-SC Summer Workshop, Irvine, California.
- 2008 Session Co-Chair, "ENSO and Global Change: Past, Present, and Future", AGU Annual Fall Meeting, San Francisco, California.
- 2004 Session Chair, International Conference on Tropical Weather and Climate, Guangzhou, China.
- 2004 Session Chair, UCI Undergraduate Research Symposium, Session of Physical Science.
- 2000 Program Chair, International Conference on Environmental Modeling and Simulation, San Diego, California.
- 1999 Program Chair, The International Conference on Mission Earth, San Francisco, California.
- 1998 Program Chair, The 1998 Conference on Mission Earth: Modeling and Simulation of the Earth System, San Diego, California.

### **INVITED SEMINARS AND PRESENTATIONS**

- (2024) "The 21st-Century El Niño: Changing Properties, Dynamics, and Impacts", The Oceans, Sustainability, and Atmospheres Colloquium, School of Marine and Atmospheric Sciences, Stony Brook University, (virtual) January 26, 2024. (invited)
- (2023) "The 21st-Century El Niño: Changing Properties, Dynamics, and Impacts", Beijing Normal University, Beijing, China, November 24, 2023. (invited)
- (2023) "Two Marine Heat Wave (MHW) Variants under a Basin-wide MHW Conditioning Mode in the North Pacific", Institute of Atmospheric Sciences, Chinese Academy of Sciences, Beijing, China, November 23, 2023. (invited)
- (2023) "Roles of Trans-Basin Interactions in the Formation of Multi-Year ENSO and MHW Events", CLIVAR Trans-Basin Interactions Panel Meeting, Guangzhou, China, November 21, 2023. (invited)
- (2023) "Two Marine Heat Wave (MHW) Variants under a Basin-wide MHW Conditioning Mode in the North Pacific", The 12th International Workshop on Tropical Marine Environmental Changes, Guangzhou, China,

- November 19, 2023. (invited)
- **(2023)** "The 21st-Century El Niño: Changing Properties, Dynamics, and Impacts", Zhejiang University, Hangzhou, China, November 16, 2023. (invited)
  - **(2023)** "Two Marine Heat Wave (MHW) Variants under a Basin-wide MHW Conditioning Mode in the North Pacific", Second Institute of Oceanography, Hangzhou, China, November 14, 2023. (invited)
  - **(2023)** "Two Marine Heat Wave (MHW) Variants under a Basin-wide MHW Conditioning Mode in the North Pacific", School of Atmospheric Sciences, Sun-yat Sen University, Zhuhai, China, November 10, 2023. (invited)
  - **(2023)** "A Challenge to NWP: the Changing El Niño and Marine Heatwave in the Pacific", U.S.-Taiwan Science and Technology Cooperation Dialogue, Taipei, Taiwan, May 24, 2023. (invited)
  - **(2022)** "Subtropical ENSO Dynamics", The 14<sup>th</sup> Workshop on Ocean, Climate, and Environmental Change, (virtual), November 7, 2022. (invited)
  - **(2022)** "The 11-year solar cycle and its amplification through subtropical air-sea coupling", The 14<sup>th</sup> Workshop on Ocean, Climate, and Environmental Change, (virtual), November 17, 2022. (invited)
  - **(2022)** "North Pacific marine heatwave and its associated Pacific-Atlantic interactions", The 14<sup>th</sup> Workshop on Ocean, Climate, and Environmental Change, (virtual), November 17, 2022. (invited)
  - **(2022)** "The 21st-Century ENSO: Its Changing Properties, Dynamics, and Impacts", The 4th Open Science Symposium on Western Pacific Ocean Circulation and Climate, (virtual), October 24-27, 2022. (invited)
  - **(2022)** "An overlooked source of decadal variability in Western Pacific typhoon and ENSO activities: The 11-year solar cycle", The 4th NPOCE webinar on Influences of western Pacific Ocean on regional/global climate, (virtual), September 30, 2022. (invited)
  - **(2021)** "Roles of subtropical Pacific processes and inter-basin interactions in ENSO complexity dynamics", The 1st IAMES (International Association of Meteorology and Atmospheric Sciences) Conference 2021, Nanjing, China (virtual), September 26-28, 2021. (invited)
  - **(2021)** "The 21<sup>st</sup>-century El Niño: Its changing properties, dynamics, and impacts", Luncheon Seminar, State Key Laboratory of Marine Environmental Laboratory, Xiamen University, Xiamen, China (virtual), April 12, 2021. (invited)
  - **(2021)** "A new view on ENSO dynamics", Department of Earth Sciences, National Taiwan Normal University, Taipei, Taiwan, March 23, 2021. (invited)
  - **(2020)** "CWB Model Performance on Hindcasting Tropical Intraseasonal Oscillations during Boreal Winter and Summer: the MJO and BSISO", Central Weather Bureau of Taiwan, Taipei, Taiwan, December 9, 2020. (invited)
  - **(2020)** "Reversal summer and winter trends in Taiwan Strait Sea Surface Temperature", Central Weather Bureau of Taiwan, Taipei, Taiwan, December 9, 2020. (invited)
  - **(2020)** "Multi-year ENSOs: Their unique dynamics, climate impacts, and El Niño-La Niña asymmetries", Research Center for Environmental Changes, Academia Sinica, Taipei, Taiwan, December 2, 2020. (invited)
  - **(2020)** "Multi-year ENSOs: Their unique dynamics, climate impacts, and El Niño-La Niña asymmetries", National Central University, Chung-Li, Taiwan, December 1, 2020. (invited)
  - **(2020)** "Multi-year ENSOs: Their unique dynamics, climate impacts, and El Niño-La Niña asymmetries", National Taiwan University, Taipei, Taiwan, November 26, 2020. (invited)
  - **(2020)** "ENSO diversity dynamics", Winter School on Wind-driven Circulation in the World's Oceans and Global Marine Environmental Changes, Guangzhou, China, November 9-20, 2020. (invited)
  - **(2020)** "ENSO transition dynamics", Winter School on Wind-driven Circulation in the World's Oceans and Global Marine Environmental Changes, Guangzhou, China, November 9-20, 2020. (invited)
  - **(2020)** "ENSO teleconnections", Winter School on Wind-driven Circulation in the World's Oceans and Global Marine Environmental Changes, Guangzhou, China, November 9-20, 2020. (invited)
  - **(2020)** "Inter-basin interactions", Winter School on Wind-driven Circulation in the World's Oceans and Global Marine Environmental Changes, Guangzhou, China, November 9-20, 2020. (invited)
  - **(2019)** "ENSO transition complexity dynamics", The 10th International Workshop on Tropical Marine Environmental Changes (MEC 2019): The Oceans and Climate, Guangzhou, China, November 24-25, 2019. (invited)
  - **(2019)** "The Changing El Niño in the 21st Century: Properties, Dynamics, and Impact", APEC Climate

- Symposium 2019, Punta Arenas, Chile, August 20-22, 2019. (invited)
- **(2018)** "ENSO Complexity and Its Impacts on Pacific and Indian Oceans", The 3rd WPOC-ITF International Symposium on Western Boundary Currents and ENSO, Climate dynamics", Qingdao, China, October 30-31, 2018. (invited)
  - **(2018)** "The Changing Influences of ENSO and PMM on South China Sea", Workshop on Intraseasonal oscillations and extended-range prediction of persistent weather events, Taipei, Taiwan, October 18-19, 2018. (invited)
  - **(2018)** "A simple view of ENSO complexity dynamics", South China Sea Institute of Oceanology, Guangzhou, China, August 30, 2018. (invited)
  - **(2018)** "A simple view of ENSO complexity dynamics", Sun Yat-sen University, Guangzhou, China, August 31, 2018. (invited)
  - **(2018)** "The ENSO Complexity: Its Underlying Dynamics and Impacts on Western Pacific Climate", Invited Speaker for The Third Open Science Symposium on Western Pacific Ocean Circulation and Climate, Qingdao, China, May 8-10, 2018. (invited)
  - **(2018)** "Contributions of inter-basin interaction to ENSO complexity", Invited Speaker for Workshop on Tropical Inter-basin Interactions, Xiamen, Fujian, China, January 21-23, 2018. (invited)
  - **(2017)** "The Changing El Niño and Its Impacts on Indo-Pacific Climate", Invited Speaker for The 2nd International Symposium on Western Pacific Ocean Circulation -Indonesian Through flow (WPOC-ITF) studies, Lombok, Indonesia, November 27-28, 2017. (invited)
  - **(2017)** "The increased influences of the Atlantic Ocean on tropical Pacific climate and variability", Invited Speaker for International Workshop on Tropical-subtropical Weather, Climate and Oceans, Guangzhou, China. November 18-20, 2017. (invited)
  - **(2017)** "A new view on the ENSO onset dynamics", Invited Speaker for International Conference on Climate Variability and Air-Sea Interaction, Taipei, Taiwan. October 12-13, 2017. (invited)
  - **(2017)** "The recent intensification of the Pacific-Atlantic climate connectivity", Invited Speaker for International Symposium on Advances in Seasonal to Decadal Prediction, Beijing, China. September 18-20, 2017. (invited)
  - **(2017)** "Inter-Basin Interactions: Evidence and cause for the recent intensification", Invited Speaker for the Annual Institute Seminar Series, Institute of Oceanology, Chinese Academy of Sciences, Qingdao, China. July 12, 2017. (invited)
  - **(2017)** "Central Pacific El Niño: Its underlying dynamics and global impacts", Invited Speaker for the Key Laboratory of Ocean Circulation and Waves, Institute of Oceanology, Chinese Academy of Sciences, Qingdao, China. July 13, 2017. (invited)
  - **(2017)** "Pacific-Atlantic interactions heat up: Evidence from El Nino and Mid-latitude Blobs", Invited Speaker for Session on "Climate Variability and Predictability", *The 51st CMOS (Canadian Meteorological and Oceanographic Society) Congress*, Toronto, Canada, June 4-8, 2017. (invited)
  - **(2017)** "Inter-Basin Interactions: Evidence and reason for the recent intensification", Invited Speaker for *Symposium on Ocean Circulations*, Guangzhou, China. April 21-22, 2017. (invited)
  - **(2016)** "The increased Influence of Atlantic Ocean on Pacific Climate after Early 1990s", Central Weather Bureau, Taipei, Taiwan. December 26, 2016. (invited)
  - **(2016)** "Inter-Basin Interactions", *Winter School on "Oceanic circulation and climate change"*, South China Sea Institute of Oceanography, Chinese Academy of Sciences, Guangzhou, Guangdong, China. November 14-25, 2016. (invited)
  - **(2016)** "AMO and Pacific Climate Shifts", *Winter School on "Oceanic circulation and climate change"*, South China Sea Institute of Oceanography, Chinese Academy of Sciences, Guangzhou, Guangdong, China. November 14-25, 2016. (invited)
  - **(2016)** "The Central-Pacific El Nino: Dynamics, Impacts, and the Cause of Its Recent Emergence", Institute of Tropical and Marine Meteorology, Guangzhou, Guangdong, China. November 17, 2016. (invited)
  - **(2016)** "El Niño and Its Changing Impacts on Climate ", *Winter School on "The Impacts of Climate Change: Oceans"*, Osher Lifelong Learning Institute, Irvine, California. October 14, 2016. (invited)
  - **(2016)** "The increased influence of Atlantic Ocean on Pacific climate after early 1990s", CLIVAR Pacific Regional Panel Meeting, Qingdao, Shandong, China. September 17-18, 2016. (invited)
  - **(2016)** "El Nino Diversity and Its Climate Impacts on Tibetan and Surrounding Areas", *International Workshop*

*on Land Surface Multi-spheres Processes of Tibetan Plateau and their Environmental and Climate Effects Assessment*, Xining, Qinghai, China. September 9-11, 2016. (invited)

- (2016) "The Early-1990s Climate Shift in the Pacific and the ENSO Diversity", Invited Speaker for the session on "Ocean-Atmosphere Interaction in the Tropics", *Japan Geoscience Union (JpGU) Meeting 2016*, Chiba, Japan. May 22-26, 2016. (invited)
- (2016) "The journey from the Traditional El Niño to the Central-Pacific El Niño: An Overview", National Central University, Chun-Li, Taiwan. March 16, 2016. (invited)
- (2016) "The Early-1990s Climate Shift in the Pacific and the ENSO diversity", Dynamic Seminar at UCLA Department of Atmospheric and Oceanic Sciences, Los Angeles, California. February 12, 2016. (invited)
- (2016) "How Global Warming is Changing El Niño Behavior, and its Impacts on US Climate", Newport Bay Conservancy *Symposium on "Climate Change, a Godzilla El Niño, and Their Impacts on Oceans and Estuaries"*, Newport, California. January 30, 2016. (invited)
- (2015) "The Early-1990s Climate Shift in the Pacific", *2015 Weather and Climate Diagnostic Workshop*, Taipei, Taiwan. September 15-17, 2015. (invited)
- (2015) "Central-Pacific El Niño and the Early-1990s Climate Shift", *International Geographical Union (IGU) Regional Conference*, Moscow, Russia. August 16-21, 2015. (invited)
- (2015) "The Changing El Niño and Its Impacts on Western Pacific Extreme Weather", *2015 International Workshop on Typhoon and Flood (IWTF) - APEC Experience Sharing on Hazardous Weather Events and Risk Management*, Taipei, Taiwan. May 27-29, 2015. (invited)
- (2015) "Central Pacific El Niño and Early-1990s Climate Shift", Department of Atmospheric and Oceanic Sciences, University of Wisconsin-Madison, Madison, Wisconsin, March 2. (invited)
- (2014) "El Niño since the Early-1990s Climate Shift in the Pacific", in the session of *ENSO, its precursor, and their change under global warming*, *AGU Annual Fall Meeting*, San Francisco, California. December 15-19. (invited)
- (2014) "El Niño-Southern Oscillation and Its Teleconnection", Invited lecture in the *Workshop and School on Tropical ocean and Air-Sea Interaction*, organized by South China Sea Institute of Oceanography, Chinese Academy of Sciences, Guangzhou, China, November 10-21. (invited)
- (2014) "Understanding Madden-Julian Oscillation", Invited lecture in the *Workshop and School on Tropical ocean and Air-Sea Interaction*, organized by South China Sea Institute of Oceanography, Chinese Academy of Sciences, Guangzhou, China, November 10-21. (invited)
- (2014) "Linking the Emergence of Central-Pacific El Niño to the Phase Change of the Atlantic Multi-decadal Oscillation", in the session of *Dynamics of ENSO and Tropical Climate Variability*, *AOGS 11th Annual Meeting*, Sapporo, Japan. July 28-August 1. (invited)
- (2014) "Linking Emergence of the Central-Pacific El Niño to the Atlantic Multi-decadal Oscillation", *National Taiwan University*, Taipei, Taiwan. June 11. (invited)
- (2014) "Central-Pacific El Niño, Pacific Subtropical highs, and Decadal Droughts in China", *National Taiwan Normal University*, Taipei, Taiwan. June 9. (invited)
- (2014) "Relationships between Subtropical Highs and the Two Types of El Niño in the CWB AGCM", *Central Weather Bureau*, Taipei, Taiwan. June 9. (invited)
- (2013) "The Central-Pacific El Niño: Its Generation Mechanism and Interactions with the Asian Monsoon", *Asian Monsoon Years (2007-2012) Open Science Conference (AMY-OSC)*, Zhuhai, China. October 26-27.
- (2013) "CMIP5 Models and ENSO Diversity", Department of Atmospheric Sciences, University of Sun Yat-Sen University, Guangzhou, China, October 24, 2013. (invited)
- (2013) "The Central-Pacific El Niño: Dynamics, Impacts, and Causes of Its Recent Increase in Frequency", Department of Atmospheric Sciences, University of Sun Yat-Sen University, Guangzhou, China, October 24, 2013. (invited)
- (2013) "The Central-Pacific El Niño: Dynamics, Impacts, and Causes of Its Recent Increase in Frequency", by South China Sea Institute of Oceanography, Guangzhou, China, October 23, 2013. (invited)
- (2013) "Central Pacific El Niño: Dynamics and Climate Impacts", *CLIVAR International Symposium on Boundary Current Dynamics*, Lijian, China. July 8-10. (invited)
- (2013) "Extratropical Forcing and the Emergence of Central-pacific El Niño in Recent Decades", *The 10th Asian Oceania Geosciences Annual Meeting*, Brisbane, Australia. June 24-28. (invited)

- **(2013)** "Central-Pacific El Niño: Dynamics, Climate Impacts, and the Cause of Its Recent Emergence", *Workshop on the two-types of the El Niño: the aspect, coupling process, formation mechanism, and climate effects*, Nanjing, China. June 14-15. (invited)
- **(2013)** "Central-Pacific El Niño: Dynamics, Climate Impacts, and the Cause of Its Recent Emergence" Institute of Atmospheric Physics, Chinese Academy of Science, Beijing, China. June 14. (invited)
- **(2013)** "Central-Pacific El Niño: Dynamics, Climate Impacts, and the Cause of Its Recent Emergence", International Center for Climate and Environmental Sciences, Beijing, China. June 9. (invited)
- **(2013)** "Changing Impact of El Niño on US Climate: Observation and CMIP5 Simulations", *The Second CCLiCS Workshop on Climate System Modeling*, Taipei, Taiwan, April 1-3, 2013. (invited)
- **(2013)** "North Pacific Subtropical High: An Overview", *Central Weather Bureau*, Taipei, Taiwan, March 28, 2013. (invited)
- **(2013)** "A Journey from Traditional El Niño to the New Type of Central-Pacific El Niño: A Historical Overview", Fisheries Research Institute of Taiwan, Keelung, Taiwan, March 27, 2013. (invited)
- **(2013)** "Central-Pacific El Niño: Dynamics, Climate Impacts, and the Cause of Its Recent Emergence", *The Twenty-Sixth Pacific Climate Workshop*, Pacific Grove, California. March 3-6. (invited)
- **(2013)** "Central-Pacific El Niño: Dynamics, climate impacts, and the cause of its recent emergence", *ENSO Diversity Workshop*, Boulder, CO, February 6-8, 2013. (invited)
- **(2012)** "Emergence of the Central-Pacific El Niño and Its Impacts on Climate Research", National Sun-Yat-Sen University, Kaoshiung, Taiwan, December 7, 2012. (invited)
- **(2012)** "The Emerging Central-Pacific El Niño", The 2012 Summer Workshop on ENSO, Honolulu, Hawaii, June 20-22. (invited)
- **(2012)** "Identification of the Two Types of ENSO", US CLIVAR - ENSO Diversity Working Group Teleconference, May 16. (invited)
- **(2012)** "The Two Types of ENSO in CMIP5 Models and Their Different Impacts on North America Winter Temperature", NOAA MAPP Program Webminar Series, NOAA, May 2. (invited)
- **(2012)**, "The Emerging Central-Pacific El Niño", The 2012 Summer Workshop on ENSO, Honolulu, Hawaii, June 20-22, 2012. (invited)
- **(2012)** "Identification of the Two Types of ENSO", US CLIVAR - ENSO Diversity Working Group Teleconference, May 16, 2012. (invited)
- **(2012)** "The Two Types of ENSO in CMIP5 Models and Their Different Impacts on North America Winter Temperature", NOAA MAPP Program Webminar Series, NOAA, May 2, 2012. (invited)
- **(2012)** "Central-Pacific El Niño: Dynamics, Impacts, and Modeling", National Central University, Chung-Li, Taiwan, March 22, 2012. (invited)
- **(2012)** "Central-Pacific El Niño: Dynamics, Impacts, and Modeling", National Taiwan University, Taipei, Taiwan, March 21, 2012. (invited)
- **(2012)** "Impacts of the two types of ENSO on North America climate", Central Weather Bureau of Taiwan, Taipei, Taiwan, March 20, 2012. (invited)
- **(2011)** "El Niño-Southern Oscillation: A Diagnostics of the Performance of the New Coupled Model", CCLiCS Workshop on Climate System Modeling, Taipei, Taiwan, November 17-18, 2011. (invited)
- **(2011)** "The emergence of a new type of El Niño in recent decades", Department of Land, Air, and Water Resources, University of California, Davis, CA, October 18, 2011. (invited)
- **(2010)** "Understanding and Modeling the Emerging Central-Pacific ENSO", Workshop on New strategies for evaluating ENSO processes in climate models, Paris, France, November 17-19, 2010. (invited)
- **(2010)** "Central-Pacific El Niño: Evolution, Generation, and Prediction", COAA 5th International Conference on Atmosphere-Ocean Interaction, Taipei, Taiwan, June 28-30, 2010. (invited)
- **(2010)** "Transitions between Central-Pacific El Niño and Eastern-Pacific El Niño: Roles of thermocline and sea level pressure", National Taiwan Normal University, June 21, 2010. (invited)
- **(2009)** "El Niño without Southern Oscillation: A New View of Tropical Pacific Warming", National Central University, Chung-Li, Taiwan, November 23, 2009. (invited)
- **(2009)** "El Niño without Southern Oscillation: A New View of Tropical Pacific Warming", Central Weather Bureau, Taipei, Taiwan, November 19, 2009. (invited)
- **(2009)** "El Niño without Southern Oscillation: A New View of Tropical Pacific Warming", Yonsei University,

- Seoul, Korea, November 17, 2009. (invited)
- **(2009)** “El Niño without Southern Oscillation: A New View of Tropical Pacific Warming”, Seoul National University, Seoul, Korea, November 16, 2009. (invited)
  - **(2009)** “A Two-Oscillator View of ENSO”, Purdue University, September 10, 2009. (invited)
  - **(2009)** “Contrasting Central-Pacific and Eastern-Pacific Types of ENSO”, California Institute of Technology, February 10, 2009. (invited)
  - **(2008)** “Verifying ENSO modulation mechanisms with IPCC/AR4 coupled models”, National Taiwan University, November 27, 2008. (invited)
  - **(2008)** “Verifying ENSO modulation mechanisms with IPCC/AR4 coupled models”, Central Weather Bureau, November 26, 2008. (invited)
  - **(2008)** “Verifying ENSO modulation mechanisms with IPCC/AR4 coupled models”, National Central University, November 24, 2008. (invited)
  - **(2007)** “Contrasting Eastern-Pacific and Central-Pacific types of ENSO”, Research Center for Environmental Changes, Taiwan, December 3, 2007. (invited)
  - **(2007)** “Is ENSO one oscillator or two?”, National Taiwan Normal University, 12/ 4/2007. (invited)
  - **(2007)** “ENSO-basic state interactions”, National Central University, 12/5/2007. (invited)
  - **(2007)** “Why is the model ENSO too biennial?”, Central Weather Bureau, 12/6/ 2007. (invited)
  - **(2007)** “A 10-15year modulation cycle of ENSO intensity”, National Taiwan University, 12/6/2007. (invited)
  - **(2006)** “Air-sea interactions over warm oceans”, Presented at National Taiwan Normal University, Department of Earth Science, Taipei, Taiwan, May 11, 2006. (invited)
  - **(2006)** “A centennial journey toward understanding and predicting the El Niño”, Presented at National Taiwan Normal University, Department of Geography, Taipei, Taiwan, May 10, 2006. (invited)
  - **(2005)** “Monsoon-ocean interactions during tropospheric biennial oscillation”, Scripps Institute of Oceanography, February 23, 2005, San Diego, California. (invited)
  - **(2004)** “Monsoon-ocean interactions during TBO”, Central Weather Bureau, December 12, 2004, Taipei, Taiwan. (invited)
  - **(2004)** “Roles of Indian Ocean in tropical climate variability”, National Central University, December 13, 2004, Chungli, Taiwan. (invited)
  - **(2004)** “Multi-scale interactions among tropical instability wave, the ITCZ in the eastern Pacific Ocean”, Remote Sensing and radiation Symposium, December 17, 2004, Taipei, Taiwan. (invited)