Jui-Yuan Christine Chiu, Ph.D.

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EDUCATION

Ph.D., Atmospheric Sciences, Purdue University, 2003.

PROFESSIONAL EXPERIENCE

- 2022 – present Professor, Department of Atmospheric Science, Colorado State University, US
- 2017 – 2022 Associate Professor, Department of Atmospheric Science, Colorado State University, US
- 2014 – 2017 Associate Professor, Department of Meteorology, University of Reading, UK
- 2010 – 2014 Lecturer, Department of Meteorology, University of Reading, UK
- 2007 – 2010 Research Assistant Professor, Department of Physics, University of Maryland, Baltimore County, US
- 2006 – 2007 Research Assistant Scientist, Joint Center for Earth Systems Technology, University of Maryland, Baltimore County, US
- 2003 – 2006 Research Associate, Joint Center for Earth Systems Technology, University of Maryland, Baltimore County, US

FELLOWSHIPS AND AWARDS

- Fellow of Meteorological Society of Taiwan, 2025
- CSU Art Corey Award for Outstanding International Contributions, 2025
- AMS The David and Lucille Atlas Remote Sensing Prize, 2024
- National Academy of Engineering Gilbreth Lectureship, 2010
- NASA/GSFC Climate and Radiation Branch Best Senior Author Publication, 2010
- Atmospheric Environment Reviewers Award, 2009
- DOE ARM Chief Scientist award winning poster, 2009
- UMBC JCET Annual Report Research Highlight, 2008
- DOE ARM Chief Scientist award winning poster, 2008
- DOE ARM Annual Report Research Highlight, 2007
- NASA/GSFC Laboratory for Atmospheres Best Senior Author Publication, 2006
- DOE ARM Chief Scientist award winning poster, 2006
- NASA Earth System Science Graduate Fellowship, 2000

AWARDED GRANTS

2025 Quantifying near-cloud aerosol variability and radiative effects using polarized 3D radiative transfer retrievals, PI, NASA FINESST, **$150K**.

2024 Discovering macro- and micro-physical relations in precipitation efficiency and aerosol wet scavenging in warm clouds using ARM observation-model data cubes and machine learning, PI, DOE, **$939K**.

2024 A DoD Center for Research Advances in Meteorology – Honing Operational Readiness for National Security (RAM-HORNS), co-I, DOD, **$399K** (for Chiu group)**.**
2023 Process mechanics of cloudiness transitions in subtropical marine boundary layers, CSU PI, NSF, **$533K**.
2023 Advancing Aerosol Retrievals in the Vicinity of Clouds through Remote Sensing, 3-D Radiative Transfer, and State-of-the-art Cloud Modeling, co-PI, NOAA, **$315K**.
2023 Assessing the Dependence of Aerosol-Cloud Interactions on Low-Cloud Mesoscale Morphology with ARM Observations, co-I, DOE, **$238K**.
2022 3D radiative transfer emulator for high-resolution models, PI, NOAA, **$133K**
2022 Assessing the role of near-cloud aerosols in radiation budget using retrievals from 3D radiative transfer and machine learning, PI, NASA FINESST, **$150K**.
2022 Improved retrievals of fresh and aged smoke properties from GOES, co-PI, NOAA, **$628K**.
2022 Near-cloud changes in CALIOP and MODIS/VIIRS aerosol observations, co-I, NASA, **$625K**.
2020 A 3D ensemble-based retrieval method for highly heterogeneous clouds, PI, NASA, **$438K**.
2020 Constraining microphysical processes of warm rain formation using advanced spectral separations, an ensemble retrieval framework and machine learning techniques, co-PI: V. Chandrasekaran, DOE, **$547K**.
2020 Improving understanding of near-cloud aerosol properties from A-train observations and Large Eddy simulations, PI, GSFC subcontract, **$121K**.
2018 Assessing secondary ice production in continental clouds based on AMF synergistic remote sensing observations, PI, DOE, **$665K**.
2016 TRUTHS: A small satellite mission to enable a space-based climate observing system, sole Reading investigator, Centre for Earth Observation Instrumentation, **£15K**.
2016 Advanced Training Short Course – Earth observations for weather and climate studies, PI, NERC, **£32K**.
2015 EarthCARE, PI, NERC/NCEO, **£210 K**.
2014 3D Shortwave Radiative Kernels of Marine Boundary-layer Clouds Using Scanning Radar/Lidar and Array Spectroradiometer, PI, DOE, **$747K**.
2014 Dynamics-aerosol-chemistry-cloud interactions in West Africa, Reading PI, EU FP7, **€606K**.
2012 MAGIC Cloud Properties from Zenith Radiance Data, PI, DOE, **£11K**.
2012 ITARS – Initial Training for Atmospheric Remote Sensing, Reading PI, FP7 Marie Curie Mobility Actions Initial Training Networks, **€287K**.
2011 Study of shortwave spectra in fully 3D environment: Synergy between scanning radars and spectral radiation measurements, PI, DOE, **£108K**.
2011 Use of the ARM measurements of spectral zenith radiance for better understanding of 3D cloud-radiation processes and aerosol-cloud interaction, PI, DOE, **£125K**.
2009 Howard University Beltsville Center for climate system observation, Co-I, NASA.
2006 Bridging between cloud vertical structure from GLAS and horizontal structure from MODIS using 3D radiative transfer and stochastic cloud modeling, with CGM in mind, Co-I, NASA.
2006 Studies of 3D-cloud optical depth from small to very large values, and of the radiation and remote sensing impacts of larger-drop clustering, Co-I, DOE.
2003 Understanding and coping with the effect of 3D cloud structure and ARM data, Co-I, DOE.

SERVICES

- 2025 – present Secretary General of International Radiation Commission
- 2023 – present Co-Chair of DOE/ASR Warm Boundary Layer Processes Working Group
- 2023 – 2025 Member of NASA Earth Science Advisory Committee
- 2021 – present Chair of DOE/ARM Cloud and Precipitation Measurement and Science Group
- 2021 – 2024 Member of the Hyperspectral Imaging and Sounding of the Environment Program Committee
- 2019 – 2024 Co-Chair of Radiation and Climate Gordon Research Conference
- 2017 – 2024 Member of the International Radiation Commission

- 2019 – 2021 Member of ARM Cloud and Precipitation Advisory Group
- 2017 – 2020 Member of ARM User Executive Committee
- 2015 – 2018 Chair of AMS Atmospheric Radiation Committee
- 2015 – 2017 Member of ARM Science Board
- 2015 – 2017 Member of the Reading University Board for Research & Innovation
- 2017 – 2024 Associate Editor of J. Geophysical Research–Atmosphere, Impact Factor 5.22
- 2013 – 2020 Co-Editor of Atmospheric Chemistry and Physics, Impact Factor 6.133
- Grant application review (DOE, NSF, NASA, NERC, German NSF, Swiss NSF, etc.)
- Journal article review (JGR, GRL, JAS, JAMC, JAOT, App. Optics, ACP, AMT, ERL, Atmospheric Environment, etc.)

PEER-REVIEWED PUBLICATIONS

* denotes a student I supervise(d)

\# denotes a research fellow I supervise(d)

2025

66. Johnson, T., J. C. Chiu, S. M. Kreidenweis, I. L. McCoy, et al.: Characterizing evolution of biomass burning smoke using dual-view geostationary satellite retrievals, *J. Geophys. Res. Atmos*., to be submitted.
65. De Caria, M., P. J. van Leeuwen, **C. J. Chiu**, and S. kreidenweis: The nonlinear causal structure of drizzling and non-drizzling stratocumulus clouds, Part I: Methodology, *Atmos. Chem. Phys*., to be submitted.
64. De Caria, M., P.J. van Leeuwen, S. kreidenweis, **C. J. Chiu**, and #C.-S. Hung: The nonlinear causal structure of drizzling and non-drizzling stratocumulus clouds, Part II: Results, *Atmos. Chem. Phys*., to be submitted.
63. #Hung, C.-S., **J. C. Chiu**, #Y. Blanchard, P. J. van Leeuwen, V. Chandrasekar, M. P. Cadeddu, C. Flynn, M. Fan, and J. Wang: Concurrent cloud and drizzle observations from synergistic ground-based measurements, *Remote Sensing*, to be submitted.
62. #Loveridge, J., **J. C. Chiu**, and A. Marshak: Fast retrieval of cloud optical depth from satellite polarimetry and multi-spectral imagery that accounts for cloud heterogeneity using 3D radiative transfer, *J. Geophys. Res. Atmos.*, under review.
61. van Leeuwen, P. J., **J. C. Chiu**, and *C. K. Yang, 2025: Uncertainty quantification for deep learning, *Environmental data Science*, in print.
60. Turner, J. D., S. D. Miller, Y.-J. Noh, **J. C. Chiu**, W. E. Line, C. D. Kummerow, and R. G. Smith, 2025: Coupled ocean/atmosphere impacts to the satellite detection of nocturnal maritime low clouds, *Geophysical Research Letters*, 52(14), e2025GL115366.
59. Sookdar, K., S. E. Giangrande, J. D. Rausch, L. Ma, M. Wang, D. Wang, M. P. Jensen, #C.-S. Hung, and **J. C. Chiu**, 2025: Marine and continental stratocumulus cloud microphysical properties obtained from routine ARM Cimel sunphotometer observations, *Atmos. Meas. Tech*., 18, 6271–6289, https://doi.org/10.5194/amt-18-6271-2025
58. #Cecchini, M. A., et al., 2025: A new observatory for tropical convection and gas-aerosol-cloud-precipitation interactions in the Amazon, *Bull. Amer. Meteor. Soc*., in print.
57. Patnaude, R. J., K. A. Moore, R. J. Perkins, T. C. J. Hill, P. Lawson, Q. Mo, A. Bailey, S. C. van den Heever, S. M. Saleeby, #Q. Bian, **J. C. Chiu** , P. J. DeMott, and S. M. Kreidenweis, 2025: On the role of airborne ice nucleating particles in primary and secondary ice formation processes in convective midlatitude clouds, *Journal of the Atmospheric Sciences*, 82(5), 869-892.

2024

56. Gristey, J. J., and **J. C. Chiu**, 2024: Understanding our climate system through the lens of spectral reflected solar radiation, AIP Conference Proceedings*, AIP Publishing., Vol. 2988, No. 1*.

55. Zhang, Z., D. B. Mechem, **J. C. Chiu**, and J. A. Covert, 2024: A comprehensive analysis of uncertainties in warm rain parameterizations in climate models based on in situ measurements, *Journal of the Atmospheric Sciences*, 81(7), 1251-1269.

2022

54. *Yang, C. K., **J. C. Chiu**, A. Marshak, G. Feingold, T. Várnai, G. Wen, T. Yamaguchi, and P. J. van Leeuwen, 2022: Near-cloud aerosol retrieval using machine learning techniques, and implied direct radiative effects, *Geophys. Res. Lett.*, e2022GL098274.

53. Wang, J., R. Wood, M. P. Jensen, **J. C. Chiu**, Y. Liu, K. Lamer, N. Desai, S. E. Giangrande, D. A. Knopf, P. Kollias, A. Laskin, et al., 2022: Aerosol and Cloud Experiments in the Eastern North Atlantic (ACE-ENA), *Bull. Amer. Meteor. Soc.*, 03(2), E619-E641.

2021

52. *Kedzuf, N. J., **J. C. Chiu**, V. Chandrasekar, S. Biswas, S. S. Joshil, Y. Lu, P. J. van Leeuwen, C. Westbrook, Y. Blanchard, and S. O'Shea, 2021: Retrieving microphysical properties of concurrent pristine ice and snow for mixed-phase clouds using polarimetric radar observations, *Atmos. Meas. Tech*., 14, 6885–6904

51. Bian, Q., S. Kreidenweis, **J. C. Chiu**, S. D. Miller, X. Xu, J. Wang, R. Kahn, J. A. Limbacher, L. A. Remer, and R. C. Levy, 2021: Constraining aerosol phase function using dual-view geostationary satellites, *Journal of Geophysical Research: Atmospheres,* 126(20), e2021JD035209*.*

50. **Chiu, J. C.**, *C. K. Yang, P. J. van Leeuwen, G. Feingold, R. Wood, #Y. Blanchard, F. Mei and J. Wang, 2021: Observational constraints on warm cloud microphysical processes using machine learning and optimization techniques, *Geophys. Res. Lett.*, 48, doi:10.1029/2020GL091236

49. Riihimaki, L. D., C. Flynn, A. McComiskey, D. Lubin, #Y. Blanchard, **J. C. Chiu**., et al., 2021: The Shortwave Spectral Radiometer for Atmospheric Science: Capabilities and Applications from the ARM User Facility, *Bull. Amer. Meteor. Soc*., https://doi.org/10.1175/BAMS-D-19-0227.1

2020

48. Joshil, S. S., V. Chandrasekar, **J. C. Chiu**, and #Y. Blanchard, 2020: Separating cloud and drizzle signals in radar Doppler spectra using a parametric time domain method, *J. Atmos. Ocean. Tech*., 37(9), 1669–1680.

2019

47. #Shonk, J. K. P., **J. C. Chiu**, A. Marshak, D. M. Giles, C.-H. Huang, G. G. Mace, S. Benson, I. Slutsker, and B. Holben, 2019: The impact of neglecting ice phase on cloud optical depth retrievals from AERONET cloud mode observations, *Atmos. Meas. Tech.,* https://doi.org/10.5194/amt-2019-169

46. Miller, S., et al., 2019: A tale of two dust storms: Analysis of a complex dust event in the Middle East, *Atmos. Meas. Tech*., https://doi.org/10.5194/amt-2019-82

45. *Gristey, J. J., **J. C. Chiu**, R. J. Gurney, K. P. Shine, S. Havemann, J.-C. Thelen, and #P. G. Hill, 2019: Shortwave spectral radiative signatures and their physical controls, *J. Climate*, 32, 4805–4828, https://doi.org/10.1175/JCLI-D-18-0815.1

44. Terai, C. R., Y. Zhang, S. A. Klein, M. D. Zelinka, **J. C. Chiu**, and Q. Min, 2019: Mechanisms behind the low-cloud optical depth response to temperature in ARM site observations, *J. Geophys. Res. Atmos.,* 124. https://doi.org/10.1029/2018JD029359.

2018

43. #Hill, P. G., **J. C. Chiu**, R. P. Allan, J.-D. Chern, 2018: Characterizing the radiative effect of rain using a global ensemble of cloud resolving simulations, *Journal of Advances in Modeling Earth*

Systems, 10. https://doi.org/10.1029/2018MS001415

42. #Mason, S. L., **J. C. Chiu**, R. J. Hogan, D. Moisseev, and S. Kneifei, 2018: Retrievals of riming and snow particle density from vertically-pointing Doppler radars, *J. Geophys. Res. Atmos.,* 123. https://doi.org/10.1029/2018JD028603.

41. *Young, M. P., **J. C. Chiu**, C. J. R. Williams, T. H. M. Stien, M. Stengel, M. D. Fielding, and E. Black, 2018: Spatiotemporal variability of warm rain events over southern West Africa from geostationary satellite observations for climate monitoring and model evaluation, *Quarterly Journal of the Royal Meteorological Society*, doi:10.1002/qj.3372.

40. Grosvenor, D. P., O. Sourdeval, P. Zuidema, A. Ackerman, M. D. Alexandrov, R. Bennartz, R. Boers, B. Cairns, **J. C. Chiu**, M. Christensen, H. Deneke, M. Diamond, G. Feingold, A. Fridlind, A. Hünerbein, C. Knist, P. Kollias, A. Marshak, D. McCoy, D. Merk, D. Painemal, J. Rausch, D. Rosenfeld, H. Russchenberg, P. Seifert, K. Sinclair, P. Stier, B. van Diedenhoven, M. Wendisch, F. Werner, R. Wood, Z. Zhang, and J. Quaas, 2018: Remote sensing of droplet number concentration in warm clouds: A review of the current state of knowledge and perspectives, *Reviews of Geophysics*, doi: 10.1002/2017RG000593.

39. * Gristey, J. J., **J. C. Chiu**, R. J. Gurney, C. J. Morcrette, #P. G. Hill, J. E. Russell, and H. E. Brindley, 2018: Insights into the diurnal cycle of global Earth outgoing radiation using a numerical weather prediction model, *Atmos. Chem. Phys*., 18, 5129–5145, https://doi.org/10.5194/acp-18-5129-2018.

38. #Hill, P. G., R. P. Allan, **J. C. Chiu**, A. Bodas-Salcedo, and P. Knippertz, 2018: Quantifying the contribution of different cloud types to the radiation budget in southern West Africa, *J. Climate*, 31, 5273–5291, https://doi.org/10.1175/JCLI-D-17-0586.1.

37. Flamant, C., P. Knippertz, A. Fink, A. Akpo, B. Brooks, **J. C. Chiu**, #P.G. Hill, et al., 2017: The Dynamics-Aerosol-Chemistry-Cloud Interactions in West Africa field campaigns: Overview and research highlights, *Bull. Amer. Meteor. Soc*., doi:10.1175/BAMS-D-16- 0256.1.

2017

36. #Mason, S. L., **J. C. Chiu**, R. J. Hogan, L. Tian, 2017: Improved rain-rate and drop-size retrievals from airborne and spaceborne Doppler radar, *Atmos. Chem. Phys*., 17, 11567-11589, doi:10.5194/acp-17-11567-2017.

35. Painemal, D., **J. C. Chiu**, P. Minnis, C. Yost, X. Zhou, M. Cadeddu, E. Eloranta, E. R. Lewis, R. Ferrare, P. Kollias, 2017: Aerosol and cloud microphysics co-variability in the northeast Pacific boundary layer estimated with ship-based and satellite remote sensing observations, *J. Geophys. Res. Atmos*., doi:10.1002/2016JD025771.

34. *Gristey, J. J., **J. C. Chiu**, R. Gurney, S.-C. Han and C. Morcrette, 2017: Determination of Earth Outgoing Radiation using a constellation of Satellites, *J. Geophys. Res. Atmos*., 10.1002/2016JD025514.

2016

33. #Hill, P. G., R. P. Allan, **J. C. Chiu**, T. H. M. Stein, 2016: A multi-satellite climatology of clouds, radiation and precipitation in southern West Africa and comparison to climate models, *J. Geophys. Res. Atmos*., 10.1002/2016JD025246.

32. Yang, W., A. Marshak, P. J. McBride, **J. C. Chiu**, Y. Knyazikhin, K. S. Schmidt, C. Flynn, and E. R. Lewis, 2016: Observation of the spectral-invariant properties of clouds in cloudy-to-clear transition zones during MAGIC, *Atmos. Res*., doi:10.1016/j.atmosres.2016.08.004.

31. Hogan, R. J., *S. A. K. Schafer, C. Klinger, **J. C. Chiu** and B. Mayer, 2016: Representing 3D cloud-radiation effects in two-stream schemes: 2. Matrix formulation and broadband evaluation, *J. Geophys. Res. Atmos*., 10.1002/2016JD024875.

30. *Schafer, S. A. K., R. J. Hogan, C. Klinger**, J. C. Chiu** and B. Mayer, 2016: Representing 3D cloud–

radiation effects in two-stream schemes: 1. Longwave considerations and effective cloud edge length, *J. Geophys. Res. Atmos*., 10.1002/2016JD024876.

2015

29. *Fielding, M. D., **J. C. Chiu**, R. J. Hogan, G. Feingold, E. Eloranta, E. J. O'Connor and M. P. Cadeddu, 2015: Joint retrievals of cloud and drizzle in marine boundary layer clouds using ground-based radar, lidar and zenith radiances, *Atmos. Meas. Tech.*, 8, 2663–2683, doi:10.5194/amt-8-2663-2015.
28. Knippertz, P., H. Coe, **J. C. Chiu**, M. J. Evans, A. H. Fink, N. Kalthoff, C. Liousse, C. Mari, R. Allan, B. Brooks, S. Danour, C. Flamant, O. O. Jegede, F. Lohou, and J. H. Marsham, 2015: The DACCIWA project: Dynamics-aerosol-chemistry-cloud interactions in West Africa, *Bull. Amer. Meteor. Soc*., 96, 1451-1460.
27. Wood, R., M. Wyant, C. S. Bretherton, J. Rémillard, P. Kollias, J. Fletcher, J. Stemmler, S. deSzoeke, S. Yuter, M. Miller, D. Mechem, G. Tselioudis, **J. C. Chiu**, *J. Mann, E. O'Connor, R. Hogan, X. Dong, M. Miller, V. Ghate, A. Jefferson, Q. Min, P. Minnis, R. Palinkonda, B. Albrecht, W. Wiscombe, E. Luke, C. Hannay, and Y. Lin, 2015: Clouds, Aerosol, and Precipitation in the Marine Boundary Layer: An ARM Mobile Facility Deployment, *Bull. Amer. Meteor. Soc*., 96, 419–440.

2014

26. *Fielding, M. D., **J. C. Chiu**, R. J. Hogan and G. Feingold, 2014: A novel ensemble method for retrieving properties of warm cloud in 3-D using ground-based scanning radar and zenith radiances, *J. Geophys. Res. Atmos*., 119, doi:10.1002/2014JD021742.
25. **Chiu, J. C.**, *J. A. Holmes, R. J. Hogan, and E. J. O'Connor, 2014: The interdependence of continental warm cloud properties derived from unexploited solar background signals in ground-based lidar measurements, *Atmos. Chem. Phys.*, 14, 8389-8401, doi:10.5194/acp-14-8389-2014.
24. *Young, M. P. , C. J. Williams, **J. C. Chiu**, R. I. Maidment, and S. Chen, 2014: Investigation of discrepancies in satellite rainfall estimates over Ethiopia, *J. Hydrometeor*., doi:10.1175/JHM-D-13-0111.1.
23. *Mann, J. A. L., **J. C. Chiu**, R. J. Hogan, E. J. O'Connor, T. S. L'Ecuyer, T. H. M. Stein, and A. Jefferson, 2014: Aerosol impacts on drizzle properties in warm clouds from ARM Mobile Facility maritime and continental deployments, *J. Geophys. Res. Atmos*., 119, doi:10.1002/2013JD021339.

2013

22. *Fielding, M. D., **J. C. Chiu**, R. J. Hogan and G. Feingold, 2013: 3D cloud reconstructions: Evaluation of scanning radar scan strategy with a view to surface shortwave radiation closure, *J. Geophys. Res*., 118, 9153–9167, doi:10.1002/jgrd.50614.
21. Liu, J., Z. Li, Y. Zheng, **J. C. Chiu**, F. Zhao, C. Li, M Cadeddu and M. Cribb, 2013: Cloud optical and microphysical properties derived from ground-based and satellite sensors over a site in the Yangtze Delta Region, *J. Geophys. Res*. (Special Issue on EAST-AIRC), 118, 9141–9152, doi:10.1002/jgrd.50648.

2012

20. **Chiu, J. C.**, A. Marshak, C.-H. Huang, T. Varnai, R. Hogan, D. M. Giles, B. N. Holben, E. O'Connor, Y. Knyazikhin, W. J. Wiscombe, 2012: Cloud droplet size and liquid water path retrievals from zenith radiance measurements: examples from the Atmospheric Radiation Measurement Program and the Aerosol Robotic Network, *Atmos. Chem. Phys*., 12, 10313–10329.
19. Anton, M., L. Alados-Arboledas, J. L. Guerrero-Rascado, M. J. Costa, **J. C. Chiu**, and F. J. Olmo, 2012: Experimental and modeled UV erthemal irradiance under overcast conditions: The role of cloud

optical depth, *Atmos. Chem. Phys*., 12, 11723–11732.

18. Marshak, A., Y. Knyazikhin, **J. C. Chiu**, and W. J. Wiscombe, 2012: On spectral invariance of single scattering albedo for water droplets and ice crystals at weakly absorbing wavelengths, *J. Quant. Spectrosc. Radiat. Transfer*, doi:10.1016/j.jqsrt.2012.02.021.
17. Vogelmann A. M., G. M. McFarquhar, J. A. Ogren, D. D. Turner, J. M. Comstock, G. Feingold, C. N. Long, H. H. Jonsson, A. Bucholtz, D. R. Collins, G. S. Diskin, H. Gerber, R. P. Lawson, R. K. Woods, E. Andrews, H.-J. Yang, **J. C. Chiu**, D. Hartsock, J. M. Hubbe, C. Lo, A. Marshak, J. W. Monroe, S. A. McFarlane, B. Schmid, J. M. Tomlinson, and T. Totoand, 2012: RACORO extended-term, aircraft observations of boundary-layer clouds, *Bull. Amer. Meteor. Soc*., 93, 861-878, doi:10.1175/BAMS-D-11-00189.1.

2011

16. Marshak, A., Y. Knyazikhin, **J. C. Chiu**, and W. J. Wiscombe, 2011: Spectrally-invariant approximation within atmospheric radiative transfer, *J. Atmos. Sci*., doi: 10.1175/JAS-D-11-060.1.

2010

15. **Chiu, J. C**., C. Huang, A. Marshak, I. Slutsker, D. M. Giles, B. N. Holben, Y. Knyazikhin, and W. J. Wiscombe, 2010: Cloud optical depth retrievals from the Aerosol Robotic Network (AERONET) cloud mode observations, *J. Geophys. Res*., 115, D14202, doi:10.1029/2009JD013121.
14. **Chiu, J. C**., A. Marshak, Y. Knyazikhin, and W. J. Wiscombe, 2010: Spectral invariant behavior of zenith radiance around cloud edges simulated by radiative transfer*, Atmos. Chem. Phys*., 10, 11295-11303.
13. A. Betts and **J. C. Chiu**, 2010: Idealized model for changes in equilibrium temperature, mixed layer depth and boundary layer cloud over land in a doubled CO_2 climate, *J. Geophys. Res*., 115, D19108, doi:10.1029/2009JD012888.

2009

12. A. Marshak, Y. Knyazikhin, **J. C. Chiu**, and W. J. Wiscombe, 2009: Spectral invariant behavior of zenith radiance around cloud edges, *Geophys, Res. Let.*, 36, L16802, doi:10.1029/2009GL039366.
11. **Chiu, J. C**., A. Marshak, Y. Knyazikhin, P. Pilewskie, and W. J. Wiscombe, 2009: Physical interpretation of the spectral radiative signatures in the transition zone between cloud-free and cloudy regions, *Atmos. Chem. Phys*., 9, 1419-1430.
10. McComiskey, A., G. Feingold, A. S. Frisch, D. D. Turner, M. A. Miller, **J. C. Chiu**, Q. Min, and J. A. Ogren, 2009: An assessment of aerosol-cloud interactions in marine stratus clouds based on surface remote sensing, *J. Geophys. Res*., 114, D09203, doi:10.1029/2008JD011006.
9. Hu, J. C., W. J. Chen, **J. C. Chiu**, J. L. Wang, and G. R. Liu, 2009: Quantitative precipitation estimation over ocean using Bayesian approach from microwave observations during the typhoon season, *Terr. Atmos. Oceanic Sci*., 20, 817-832.

2008

8. Yang, Y., A. Marshak, **J. C. Chiu**, W. J. Wiscombe, S. P. Palm, A. B. Davis, D. A. Spangenberg, L. Nguyen, J. D. Spinhirne, and Pl Minnis, 2008: Retrievals of cloud optical depth from the Geoscience Laser Altimeter System (GLAS) by calibration of solar background signal, *J. Atmos. Sci.*, 65, 3513–3527, doi: 10.1175/2008JAS2744.1.

2007

7. Schull, M. A., S. Ganguly, A. Samanta, D. Huang, N. V. Shabanov, J. P. Jenkins, **J. C. Chiu**, A. Marshak,

J. B. Blair, R. B. Myneni, and Y. Knyazikhin, 2007: Physical interpretation of the correlation between multi-angle spectral data and canopy height, *Geophys, Res. Let.*, 34, L18405, doi:10.1029/2007GL031143.

6. **Chiu, J. C.**, A. Marshak, W. J. Wiscombe, S. C. Valencia, and E. J. Welton, 2007: Cloud optical depth retrievals from solar background "signal" of micropulse lidars*, IEEE Geosci. Remote Sens. Lett*, 4(3), 456–460, doi:10.1109/LGRS.2007.896722.

5. Turner, D. D., A. M. Vogelmann, R. T. Austin, J. C. Barnard, K. Cady-Pereira, **J. C. Chiu**, S. A. Clough, C. Flynn, M. M. Khaiyer, J. Liljegren, K. Johnson, B. Lin, C. Long, A. Marshak, S. Y. Matrosov, S. A. McFarlane, M. Miller, Q. Min, P. Minnis, W. O'Hirok, Z. Wang, and W. Wiscombe, 2007: Optically thin liquid water clouds: Their importance and our challenge, *Bull. Amer. Meteor. Soc.*, 88(2), 177–190, doi: 10.1175/BAMS-88-2-177.

2006

4. **Chiu, J. C.**, A. Marshak, Y. Knyazikhin, W. J. Wiscombe, H. W. Barker, J. C. Barnard, and Y. Luo, 2006: Remote sensing of cloud properties using ground-based measurements of zenith radiance, *J. Geophys. Res.*, 111, D16201, doi:10.1029/2005JD006843.

3. **Chiu, J. C**. and G. W. Petty, 2006: Bayesian retrieval of complete posterior PDFs of oceanic rain rate from microwave observations, *J. Appl. Meteor. Climatol.,* 45, 1073–1095.

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SELECTED INVITED TALKS

2026 The 2026 AMS Annual Meeting, Huston
2025 Academia Sinica, Taiwan
2025 Taiwan Space Agency, Taiwan
2025 Central Weather Administration, Taiwan
2024 Micro2Macro: Origins of Climate Change Uncertainty Workshop, Laramie, Wyoming
2024 Kuo-Nan Liou Symposium in the AMS Annual Meeting, Baltimore, Maryland
2024 The International Radiation Symposium, Zhejiang
2023 NOAA Chemical Sciences Laboratory, Boulder, Colorado
2023 NASA Goddard Earth Sciences Technology and Research II, Maryland
2022 NASA AOS Radiation Working Group, US
2022 University of Wyoming, Laramie, Wyoming
2021 The AGU meeting, New Orleans, Louisiana
2021 NASA Goddard Space Flight Center, Greenbelt, Maryland
2021 University of Maryland-College Park, College Park, Maryland
2020 100 Year Celebration Symposium, Rutgers University, New Brunswick, New Jersey
2020 University of California – Davis, Davis, California
2019 The AGU meeting, San Francisco, California
2019 The ARM Hyperspectral Radiometer Workshop, Boulder, Colorado
2018 University of Michigan, Ann Arbor, Michigan

2016 Radiation Science Workshop (invitation only), Boulder, Colorado
2016 Academia Sinica, Taipei, Taiwan
2016 NCEO Staff meeting, Reading, UK
2016 Conference of High definition clouds and precipitation for advancing climate prediction, Berlin, Germany
2015 Gordon Research Conference in Radiation & Climate, Maine, US
2015 IUGG General Assembly, Prague, Czech Republic
2013 University of Oxford, Oxford, UK
2013 Ludwig-Maximilians-Universität, Munich, Germany
2013 Summer School "Remote sensing of clouds and precipitation", Meteorological Institute, University of Bonn, Bonn, Germany
2013 Max Planck Institute of Meteorology, Hamburg, Germany
2013 Lecture, ITARS Workshop, Athens, Greece
2012 National Taiwan University, Taipei, Taiwan
2012 National Central University, Chungli, Taiwan
2012 EGU, Vienna, Austria
2011 AGU, San Francisco, US
2011 COST Meeting, Switzerland
2010 Gilbreth Lecture, National Academy of Engineering Annual Meeting, Washington DC, US
2009 BNNL, Long Island, US
2008 Japan-America Frontiers of Engineering Symposium, Japan