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Executive Profile

- Successful track record as a tenured professor and executive leader
- Committed to cutting-edge research, academic collaboration, and integration
- Exhibit and promote drive for vision, execution, communication, and determination as a leader
- Collaborative management style with demonstrated success at bringing multi-disciplines together to achieve common goals
- Committed to building, supporting, and sustaining a diverse community of students, faculty, and staff
- Drives strategic planning, implementing process re-engineering initiatives, and managing complex projects
- Strong budget management understanding emphasizing accountability and strategic resource management

Professional Appointments

2021 -   Director, NOAA Cooperative Science Center in Atmospheric Sciences and Meteorology
2024 -   Professor, Earth, Environment, and Equity, Howard University
2021-23 Professor, Interdisciplinary Studies, Howard University
2019-21 Chair, Meteorology and Climate Science, San Jose State University
2015-21 Director, NASA MIRO Center for Applied Atmospheric Research and Education (CAARE)
2017-21 Professor, Meteorology and Climate Science, San Jose State University
2013-17 Associate Professor, Meteorology and Climate Science, San Jose State University
2011-13 Assistant Professor, Meteorology and Climate Science, San Jose State University
2010-11 Associate Professor, Marine and Environmental Systems, Florida Institute of Technology
2008   Summer Visiting Faculty, NCAR/ASP/RAL
2005-10 Assistant Professor, Marine and Environmental Systems, Florida Institute of Technology
2004-05 Research Associate, Program in Atmospheric Science, Howard University

Education

2003-04 Postdoctoral Fellow, School of Engineering and Applied Sciences, Harvard University
2003   Ph.D., Marine, Earth and Atmospheric Sciences, North Carolina State University
1998-99 Ph.D. student, Meteorology, University of Hawaii, Manoa
1996   M.S., Atmospheric Physics, National Central University, Jhungli, Taiwan
1994   B.S., Atmospheric Science, Chinese Culture University, Taipei, Taiwan

Professional Responsibilities and Key Accomplishments

Director, NOAA Cooperative Science Center in Atmospheric Sciences and Meteorology (06/21 – present)

- Responsible for providing vision, leadership, research, training integrity, and administrative direction for over 35 faculty, researchers, staff and 100+ students based at eight locations across the US.

- Manage an annual budget of approximately 5M in support of the Center's mission, including operation of the Howard University Beltsville Campus observation field, and responsibility for major research projects with NOAA Line offices, and student training activities with eight partners.

- Engage local and federal agencies, Capitol Hill briefings at congress and senate offices, industry, non-governmental organizations and culturally diverse communities, and secure resources to advance a range of research and education programs in support of NCAS-M's long-term sustainability.

- Oversaw record increased graduate and undergraduate enrollment within the Center and the Graduate Program in Atmospheric Science at Howard University

- Established the Center's external advisory board, consisting of nationally recognized science and science policy leaders to provide advice on priorities and goals of NCAS-M.

- Secured resources and university approval to hire two tenure-track, two tenured and seven research faculty for NCAS-M at Howard University.

- Coordinated activities between NOAA Line Offices and Cooperative Science Centers as a NOAA Center Champions Working Group (CCSWG) member.

- Implemented new operational efficiencies within NCAS-M, during which external research grants increased by ~60% ($18.7M to $30M).

- Developed and coordinated online NOAA core competencies training materials.

- Improved communications by developing the NCAS-M Strategic Plan, Semi-Annual Reports, revised NCAS-M website, and instituting new monthly newsletters.

- Initiated the annual HBCUs & Friends Diversity Mixer event at the American Meteorological Society Annual Meeting to promote diversity, inclusion, and equity within geosciences.

- Provided scientific leadership to assist Howard University's competitiveness in research to reach R1 institution.

Professor of Atmospheric Sciences, Howard University (06/2021 – present)
- Founding member of the NOAA Data Assimilation Consortium: A Multi-University Consortium for Advanced Data Assimilation Research and Education (CADRE).

- Expanded climate change and climate mitigation research capacity at the Washington DC Metropolitan Resilience Center.

- Created three new courses (Weather and Climate; Global Climate Change, Earth System Sciences Data Visualization and Analytics) in the Earth, Environment and Equity (E3) department.

- Chaired NCAS-M distinguished scientist and faculty search.

- Served as the chair of the E3 department's Appointment, Promotion & Tenure (APT) committee

- APT chair for the Interdisciplinary Studies department.

- Advised seven postdocs, thesis advisor for 5 PhD, 5 MS students, and served as thesis committee for 3 grad students.

- Established the first Urban Atmospheric Boundary Observation Site in downtown Washington DC.

Department Chair, Meteorology and Climate Science, San José State University (2019 – 2021)
Professor of Meteorology, San José State University (2011 – 2021)
Professor Emeritus, San José State University (2022 – present)
- Developed two new minor programs (Broadcast Meteorology and Wildfire Sciences) and one BS (Climate Science) degree program.

- Secured resources and university approval to hire two tenure-track and nine adjunct lecturers.

- Managed online teaching and learning for students and faculty during COVID-19.

- Increased total student enrollment of total courses offered by 30% (>210 FTEs; 1FTE = 5 students).

- Obtained and managed more than 7M grant dollars for conducting research in field observations, data analysis, and numerical modeling with emphasis on precipitation with atmospheric rivers, planetary boundary layer, tropical cyclones, upper air ozone spatial and temporal variability, as well as long-range transport of aerosols and biomass burning and their impacts.

- Established the first High Performance Computing (HPC) facility at San Jose State University.

- Taught 13 different courses (Hydrometeorology, Tropical Met, Regional Climate modeling, Global Climate Change, Numerical Modeling, Remote sensing, Atmospheric Data Visualization and

Analytics, Atmospheric Dynamics, Weather Analysis and Forecasting, Mesoscale Modeling Weather Briefing, Senior Thesis, Weather seminar).

- Signed two MOUs with international institutions on student and faculty exchange programs and research collaborations.

- Served as thesis advisor for more than 15 M.S. students, 11 grad students' thesis committee, and 15 undergraduate senior theses.

- Served as the facilitator of the proposal club at SJSU that involves colleagues from science, engineering, and social sciences.

Director, NASA MIRO Center for Applied Atmospheric Research and Education (08/15 – 06/21)
- Supported over 100 students, of whom more than 50% of underrepresented students.

- More than 40% of CAARE fellows continued graduate (M.S. or Ph.D.) programs.

- Contribute to NASA Centers' research programs in urban heat islands, air quality, public health, hydrology and climate variations using in situ and remotely sensed observations, geospatial technologies and models.

- Train underrepresented STEM students with emphasis on understanding atmospheric processes using state-of-the-art atmospheric observing instruments, modeling techniques, analytical approaches and remotely sensed data.

- Inspire and engage community college students through outreach, expanded degree opportunities and summer internship experiences.

- Engage in basic research with faculty members and students at Minority Serving Institutions (MSIs) with the view that the resulting knowledge will advance weather, climate and air quality prediction through intensive and long-term field atmospheric observations and measurements.

Faculty Athletics Representative of SJSU, Mountain West Conference, NCAA (01/16-01/19)
- Ensured institutional compliance with all NCAA and MW guidelines and policies.

- Conducted annual NCAA recruiting exams for all SJSU coaches and staff.

- Ensured academic eligibility of all student athletes at SJSU.

- Member of the SJSU Athletics Board.

- Chair of the MW Joint Council

- Chair of the MW Faculty Athletics Representatives

- MW Recognition Committee.

Assistant, Associate Professor of Meteorology, Florida Institute of Technology (08/05 – 06/11)
- Conducted research projects and collaborated with colleagues in Senegal and Cape Verde.

- Developed and taught 7 courses (Marine Met, Intro. Environmental Flow Modeling, Mesoscale Met, Remote sensing for Met, Numerical Weather Prediction, Planetary Boundary layer, and Marine Field Project).

- Created and implemented various meteorology program activities.

- Served as thesis advisor for 11 M.S. and Ph.D. students, 4 grad students thesis committee, and 5 undergrads senior project.

- Served as a member of new faculty search committee, student recruitment and curriculum committee.

Research Associate, Program in Atmospheric Science, Howard University (03/04 – 08/05)

- Established the real-time WRF 4km modeling system for the Washington DC metropolitan area.

- Advised undergrad and grad students at the Howard HUPAS program.

- Conducted modeling tasks to support field projects at the Howard Beltsville campus.

Postdoctoral Fellow, Harvard University (01/03 – 03/04)
- Collaborated with colleagues in geology to investigate glacier retreat and climate change over the Himalayas.

- Conducted hydrometeorology modeling work to study drylines in the Indian subcontinent.

- Processed TRMM and other precipitation data for ground validation.

Professional Service and University Involvement

2026 - Member, Committee on Mesoscale Processes, American Meteorological Society (AMS)
2025 - Member, Academic Policy, Standards, and General Education (APSAGE) Committee, College of Arts and Sciences, Howard University
2025 Sector Chair, ESG Intelligence Standards and QA for Global Environmental, Social and Governance, IEEE AI Standard
2025 Panelist, D.C. Commission on Climate Change and Resiliency Knowledge Forum
2025 Panelist, Breaking the Cycle: Transforming diversity, outreach, and employment methods, and WCH
2024 - Chair, Appointment, Promotion, and Tenure Committee, Earth, Environment and Equity Department
2024 - Member, Inspiring Academic Excellence and Innovation Award Committee, Office of Research, Howard University
2023 - Member, NOAA Center Champions Sub-Working Group Committee, the National Oceanic and Atmospheric Administration, Washington, DC
2024-25 NOAA Forum Planning Executive Committee, the 11th Biennial NOAA EPP/MSI Education and Science Forum, University of Maryland Eastern Shore
2024 Panelist, National Academies, Panels on Increasing Diversity in Ocean Studies
2024 Panelist, Grants Academy, College of Arts and Sciences, Howard University
2024 Chair, NCAS-M Distinguished Scientist search committee, the Graduate School, Howard University
2024 Planning Committee and host, NOAA HFIP HAFS Summer Colloquium, NOAA/NWS Office of Science and Technology Integration
2022-25 Member, Biological and Environmental Research Advisory Committee (BERAC), Office of Science, Department of Energy (DOE)
2022-25 University Corporation for Atmospheric Research/Unidata Strategic Advisory Committee
2022 Annual Assessment Academy, Howard University
2022 Chair, new faculty search committee, Interdisciplinary Studies, Howard University
2022 Convener of the US Climate Variability and Predictability Program (US CLIVAR) Panel meeting at Howard University
2022 Member, NSF STEM Content Matters (SCM), Morgan State University
2022 Search Committee, National Center for Atmospheric Research (NCAR) Program Spec. DEI & MSI
2021 - Chair, Appointment, Promotion, and Tenure Committee, Interdisciplinary Studies Department
2021 Panelist, Faculty Perspectives: Open Textbooks in the Classroom and Funding Opportunities, Washington DC Library
2015-21 University Corporation for Atmospheric Research Members Representative
2015-21 California State University Water Resources and Policy Initiatives (WRPI) annual conference planning committee
2015-17 SJSU International Programs and Students Committee
2015-16 SJSU University Library Board
2015 Program committee on the International Workshop on Sustainable High-Performance Computing
2014-21 Meteorology and Climate Science Department new faculty search committee
2013-16 University Corporation for Atmospheric Research/Unidata Users Committee
2013 Convener of the 2013 Unidata Regional Workshop, San Jose State University
2013-16 College of Science: Sabbatical Committee
2017-18 College of Science: Safety Committee
2011-21 Department colloquium coordinator
2011-21 Student Recruitment and Curriculum committee

2011-21 College of Science: IT Advisory Committee
2011-13 College of Science: Research Committee
2020   Search Committee, VP IESA, SJSU
2019-21 Executive Committee, CSU Council on Ocean Affairs, Science & Technology (COAST)
2019-21 Research Consultation Board, Central IT, SJSU
2019   Search Committee, Senior Director of Customer Service, SJSU
2018   Convener, 2018 Unidata Regional Workshop, SJSU
2018-21 College of Science: Retention, Tenure, Promotion Committee, SJSU
2018   Search Committee, VP for student affairs, SJSU
2018-21 XSEDE Campus Champion, NSF
2018-19 NCAA Mountain West Conference Recognition Committee
2017   Program Chair, 2017 IEEE Smart World Congress
2016-21 Director, High Performance Computing Center, SJSU
2016-17 Chair, Joint Council of the NCAA Mountain West Conference
2016-17 Chair, Faculty Athletics Representatives of the NCAA Mountain West Conference
2016-17 Search committee for new coaches, San Jose State Athletics
2016-19 Faculty Athletics Representative, SJSU
2016-19 SJSU Athletics Board member

International Appointments
2021 -   Taiwan Central Weather Bureau (CWB) Research and Development Advisory Committee
2021   NWP Instructor, WMO Technical Assistance for the Modernization of the Myanmar Department of Meteorology and Hydrology (DMH)
2017   NWP Instructor, Thailand Meteorological Division, Bangkok, Thailand
2015-16 International Advisory Council member of the Institute of Urban Meteorology, Beijing, China

Editorships
2021-24 Guest Editor, Atmosphere, Special Issue "Urban Heat Islands and Global Warming"
2017-21 Editorial Board member of the Open Atmospheric Science Journal
2015 -   Review Editor, Editorial Board of Atmospheric Science, Frontiers in Earth Science
2015-16 Guest Editor of the Open Journal of Cloud Computing (OJCC)

Journal Reviews
Atmosphere, Atmospheric Research, Bulletin of American Meteorological Society, Open Geosciences, Climate Dynamics, Continental Shelf Research, Earth Interactions, Estuaries and Coasts, Journal of Atmospheric Sciences, Journal of Atmospheric Chemistry, Journal of Applied Meteorology and Climatology, International Journal of Climatology, Journal of Geophysical Research-Atmosphere, Journal of Geophysical Research-Ocean, Meteorology and Atmospheric Physics, Monthly Weather Review, Journal of Hydrology, Journal of Hydrometeorology, Journal of Mountain Science, Hydrological Sciences Journal, Nature Hazards Journal of Marine Geodesy, Natural Hazards and Earth System Sciences, Geophysical Research Letters, Weather and Forecasting, International Journal of Physical Sciences, International Society of Offshore and, Polar Engineers, International Journal of Remote Sensing, Weather and Climate Extremes, SpringerPlus, Int. J. of Environmental Technology and Management, Climate Dynamics, Terrestrial, Atmospheric and Oceanic Sciences

Proposal Reviews
National Science Foundation (NSF), National Aeronautics and Space Administration (NASA), National Oceanic and Atmospheric Administration (NOAA), Department of Energy (DOE), The UK's Natural Environment Research Council (NERC), Georgia National Science Foundation (GNSF)

Fellowships and Awards
2025   Senior Researcher of the Year Award, Office of Research, Howard University
2025   Outstanding Research Award, the College of Arts and Sciences, Howard University
2025   Faculty Fellow, Yale National Initiative, Yale University
2024   Certificate, Faculty Leadership Institute, Howard University
2023   Nominee, Institutional Member of the UCAR Board of Trustees
2023   Honorable mention by NASA ARC during President Biden's visit to California in 2023
2022   Professor Emeritus, San Jose State University

2022   Certificate, Howard University Assessment Academy
2022   Fellow, The American Meteorological Society Summer Policy Colloquium
2018-19 Certificate, SJSU Deans' Leadership Academy
2018-23 Faculty RSCA Assigned Time Program Award, San Jose State University
2015-18 Release Time Award, College of Science, San Jose State University
2019   Outstanding Alumni Award, Department of Atmospheric Physics, National Central University, Taiwan
2016   Honoree, 2016 Faculty Athletics Representative of the National Football Foundation
2016   Fellowship, NSF GEO Research Experiences for Undergraduates (REU) workshop, Boulder, CO
2013   Fellowship, Geo for Higher Ed Summit 2013, Google Inc
2013   Fellowship, Geoscience and the 21th Century Workforce workshop, NSF/InTeGrate, Penn State
2013   Fellowship, Pan American Advanced Studies Institute (PASI) on Atmospheric Processes in Latin
         America and the Caribbean: Observations, Analysis, and Impacts
2013-15 Extreme Science and Engineering Discovery Environment (XSEDE) Computing Award
2011   Fellowship, UCAR/COMET Integrating Satellite Data and Products into Geoscience
2009   Fellowship, NCAR/ECSA Junior Faculty Forum 2009
2009   NCAR Computational & Information Systems Laboratory Classroom Grant Award
2008   Fellowship, NCAR/Advanced Study Program Faculty Fellowship Award
2008   Fellowship, The 2008 Early Career Geosciences Faculty Workshop
2007-11 NCEP High Performance Computing Resources Award
2006   Fellowship, Applications of Multimedia to Teaching in Atmospheric Science, COMET
2005-14 NCAR/SCD Computing Resources Award
2004   Postdoctoral Fellowship, Harvard University
2002   Fellowship, Summer School on Mountain Meteorology, University de Trento, Italy
2002   Student Travel Award, The 10th Conference on Mountain Meteorology, AMS
2002   Outstanding Research Award, The 4th Annual Research Exposition, NC State Univ
2001   Student Travel Award, The 9th Conference on Mesoscale Processes, AMS
2000   Student Travel Award, The 9th Conference on Mountain Meteorology, AMS

Research Funding Record

2022-27 PI," NOAA Cooperative Science Center in Atmospheric Sciences and Meteorology II", NOAA/EPP, 30M.

2024-27 PI, "A Multi-University Consortium for Advanced Data Assimilation Research and Education (CADRE)", NOAA/WPO, 1.4M

2022-25 Co-PI, "Towards a NU-WRF based Mega Wildfire Digital Twin: Smoke Transport Impact Scenarios on Air Quality, Cardiopulmonary Disease and Regional Deforestation", NASA (via UMBC), 200K.

2021-25 Co-PI, "GP-UP: Strengthening Pathways to Geoscience Degrees for Underrepresented Pre-College and Introductory Students Through Experiential Learning and Career-informed Research ", NSF, 204K.

2016-22 PI, "NOAA Cooperative Science Center in Atmospheric Sciences and Meteorology", NOAA/EPP,18.7M.

2023-25 Co-PI, "An HPC Platform for Real-Time Environment Monitoring Using Machine Learning", DOE (via SJSU), 102K.

2019-22 PI, "Detailed Quantitative Precipitation Forecasts for Santa Clara Valley Water District", 85K.

2017-18 Co-PI, "RAPID: The Diablo Wind and Extreme Fire Behavior during the 2017 Wine Country Fires", NSF, 120K.

2017-18 PI, "Weekly Ozonesonde Measurements at Half Moon Bay", BAAQMD, 39K

2017-19 PI, "Detailed Quantitative Precipitation Forecasts for Santa Clara Valley Water District", 50K.

2017-18 PI, "A Real-Time Big Data Based Decision Support System for Water Use in California". NSF/I-Corps, 50K.

2017-18 PI," Atmospheric Boundary Layer Responses of the 2017 North America Total Solar Eclipse", CA

Space Grant Consortium, 8K.

2016-21 PI, "NOAA Center for Atmospheric Sciences and Meteorology (NCAS-M)" NOAA/EPP, SJSU, 500K.

2016-17 PI, "QPF Forecasting for Santa Clara Valley Water District", SCVWD, 25K.

2016-17 PI, "Ozonesonde Measurements in the Bay Area", BAAQMD, 30K.

2017-17 PI, "Ozonesonde Measurements during CABOTS", EPA, 75K.

2016-19 PI, "MRI: Acquisition of Hybrid CPU/GPU High Performance Computing and Storage for STEM Research and Education at San Jose State University", NSF, 900K

2016-19 PI, "Acquisition of Hybrid CPU/GPU High-Performance Computing and Storage for STEM Research and Education at San Jose State University", DoD, $498K

2016-19 Co-PI, "Satellite-Derived PM2.5 Grids with Dispersion Model Downscaling: PM2.5 Data to Support Community-Scale Air Quality Health Research and Policy Development", NASA, 374K

2016-19 PI, "Improved Understanding of the Magnitude of Trans-Pacific Long Range Transported Ozone Aloft at California's Coast", The California Air Resources Board, $281K.

2015-20 PI, "Center for Applied Atmospheric Research and Education (CAARE)", NASA/MIRO, $4.63M.

2015-16 Co-I, "Weather Support for Unmanned Vehicle Systems Traffic Flow Management", NASA, 98K.

2015-16 PI, "Improved Understanding of the Magnitude of Trans-Pacific Long Range Transported Ozone Aloft at California's Coast", RSCA/SJSU, $5K.

2014-15 PI, "Implementation of Urbanized Weather Research and Forecasting Model (uWRF) for Bay Area Air Quality Forecast", RSCA/SJSU, $5K.

2014-15 PI, "Acquisition of AWIPS II EDEX Server and CAVE Client in a Synoptic Weather and Analysis Classroom", UCAR/Unidata, $11K.

2013-14 PI, "Implementation of Urbanized Weather Research and Forecasting Model (uWRF) for Bay Area Air Quality Forecast", XSEDE, computing facilities.

2012-13 PI," Improving High-Resolution Fire Weather Forecasting over Complex Terrain", SJSU RSCA, $5K

2011-12 PI, "Evaluating HWRF Forecasts of Tropical Cyclone Intensity and Structure in the North Atlantic Basin", UCAR/COMET, $12K

2011-12 PI, "Improving Severe Downslope Winds and Lee Wave Rotors Forecasts using GOES-R Proving Ground Products and High-Resolution Modeling", UCAR/COMET, $15K

2012-14 PI, "Understanding Oceanic/Continental Transition of Mesoscale Convective Systems and Tropical cyclogenesis during the African Monsoon Multidisciplinary Analysis Experiment (AMMA)", NSF, $196K

2009-14 PI, "Numerical Simulations of Stable Boundary Layer Evolution over the Owens Valley during the Terrain-Induced Rotor Experiment (T-REX)", DOD/ARO, 221K

2009-12 Co-PI, "Acquisition of a Computational Science and Engineering Parallel Cluster", NSF, MRI, $258K

2009-10 PI, "Quantifying uncertainties of high-resolution WRF modeling on downslope wind forecasts in the Las Vegas valley", UCAR/COMET, $11.9K

2009-10 PI, "Minimum Temperatures and Diurnal Temperature Ranges in the Melbourne Area", Florida Tech, Professional Development Grant, $2.5K

2007-10 Co-PI, "A real-time coupled wave/atmospheric regional forecast and analysis system: CWARFS", NOAA/CSTAR, $360K

2007-08 PI, "Mobile environmental and weather observing network in Central Florida", Florida Tech, Professional Development Grant, $2.5K

2007-08 Co-PI, "A multidisciplinary computer lab for meteorological and oceanographic applications at the

Florida Institute of Technology", NCAR/Unidata Equipment Award, $20K

2006-07 PI, "Improving the meso-gamma scale prediction in Puerto Rico region: Observation analyses and numerical experiments of streamers", UCAR/COMET, $11.5K

2005-06 Co-PI, "Evaluation of boundary layer parameterizations in the Weather Research and Forecasting (WRF) model using in situ measurements", ARMY/ARL, 2005-2006, $100K (with Howard University)

Teaching Experience

Undergraduate level courses:
2025   Introduction to Atmospheric Science (EEED103)
2022   Global Climate Change (IDSD 180)
2020   Mesoscale Meteorology (METR 172)
2020   Atmospheric Dynamics
2019   Intro to Hydrometerology (METR 180)
2011-21 Senior Thesis (METR 179), Fall and spring semesters
2018   Tropical Meteorology (METR 160)
2016   Regional Climate Modeling (METR 173)
2015   Global Climate Change (METR 112, online)
2015   Remote Sensing (METR 155)
2015-16 Computer in Meteorology III (METR 150)
2012-15 Atmospheric Dynamics (METR 121A, B)
2011-14 Weather Analysis and Forecasting (METR 171A, B)
2011-14 Weather Briefing (METR 170A, 170B)
2010   Marine Meteorology (MET 4407)
2008   Intro. Environmental Flow Modeling (OCE 4601)
2007-11 Mesoscale Meteorology (MET 4410)
2005-11 Remote Sensing for Meteorology (MET 4233)
2006-09 Marine Field Project, summer
2005-11 Special Topics in Environmental Science (ENS 5903)

Graduate level courses:
2025-26 Geophysical Fluid Dynamics (ATMS 340,341)
2025   Current Topics in Atmospheric Science (ATM301)
2025   Synoptic Meteorology (ATMS 523)
2024,26 Numerical Weather Prediction (ATMS 571)
2023   Remote Sensing (ATMS 523)
2014   Mesoscale Modeling (METR 245)
2011-14 Colloquium (METR 285)
2006-10 Numerical Weather Prediction (MET 5310)
2008-11 Planetary Boundary Layer (MET 5301)
2005-11 Atmospheric Remote Sensing (MET 5233)
2006-10 Marine Meteorology (OCN 5407)
2006-07 Graduate Seminar (ENS 5000)

Professional Affiliations

2024 -   Member, Meteorological Society of the Republic of China, Taiwan
2018 -   Member, International Association of Hydrological Sciences
2016 -   Member, International Association for Urban Climate
2005 -   Member, Florida Academy of Sciences
2001 -   Member, American Geophysical Union
1998 -   Member, American Meteorological Society

Peer-Reviewed Publications (* denote names of advised students)
Tropical Cyclones
Das*, D., S. **Chiao**, C. Roychoudhury, F. Khan, S. Chaudhuri, S. Mukherjee, 2023: Tropical Cyclonic Energy Variability in North Indian Ocean: Insights from ENSO, Climate 2023, 11, 232.
https://doi.org/10.3390/cli11120232

Curriculum Vitae: Sen Chiao

Patel*, M., S. **Chiao**, and Q. Tan., 2021: An Observational Study of Aerosols and Tropical Cyclones over the Eastern Atlantic Ocean Basin for Recent Hurricane Seasons, *Atmosphere* 12, no. 8: 1036. https://doi.org/10.3390/atmos12081036

Green*, A., S. Gopalakrishnan, G. Alaka, S. **Chiao**, 2021: Understanding the Role of Mean and Eddy Momentum Transport in the Rapid Intensification of Hurricane Irma (2017) and Hurricane Michael (2018), Atmosphere, https://doi.org/10.3390/atmos12040492

Jury, M. and S. **Chiao,** R. Cécé, 2019: The intensification of hurricane Maria 2017 in the Antilles, Atmosphere, 10, 590. doi:/10.3390/atmos10100590

Rosado*, K., and S. **Chiao**, 2018: Assimilation of GPS Radio Occultation data for Tropical Cyclogenesis: A Case Study in the Eastern Atlantic, The Open Atmospheric Science Journal, 12, 33-47, DOI: 10.2174/1874282301812010033.

Jenkins, G., E. A. Brito, E. F. Soares, S. **Chiao** and co-authors, 2017: Hurricane Fred: Cape Verde's First Hurricane in Modern Times, preparation, observations, impacts and lessons learned, Bulletin of American Meteorological Society, DOI: http://dx.doi.org/10.1175/BAMS-D-16-0222.1

Chiao, S., and M. Jury, 2016: Southern Caribbean Hurricane Regional Observations and WRF Model Simulations, International Journal of Marine Science, doi:10.5376/ijms.2016.06.0039.

Folmer, M., R. Pasken, S. **Chiao**, J. Dunion, and J. Halverson, 2016: The Effect of GPS Dropwindsondes from the NAMMA 2006 Field Campaign on the Simulations of Hurricane Helene, Meteorology and Atmospheric Physics, DOI 10.1007/s00703-016-0452-2.

Chih* C.-H., K-H. Chou, and S. **Chiao**, 2015: The influence of Tropical cyclone structure on eyewall evolution simulation of Typhoon Sinlaku (2008) crossing Taiwan. Terr. Atmos. Ocean. Sci. DOI: 10.3319/TAO.2015.05.08.01(A).

Centeno*, D., and S. **Chiao**, 2015: The Footprints of Saharan Air Layer and Lightning on the Formation of Tropical Depressions over the Eastern Atlantic Ocean, Meteorology and Atmospheric Physics, 127, 17-32.

Pelissero*, J., and S. **Chiao**, 2013: The Impacts of Extratropical Reintensification on North Atlantic Shipping Routes*,* Met. Apps. doi: 10.1002/met.1410.

Takeuchi*, A., and S. **Chiao**, 2013: Comparative Case Studies of Tropical Cyclones and Phytoplankton Blooms over Atlantic and Pacific Regions, Earth Interactions, 17, 1-19. doi:_10.1175/2013EI000517.1

Tompkins*, C., and S. **Chiao**, 2012: Modeling studies of impacts from the Guinea Highlands in relation to tropical cyclogenesis along the West African coast, *Meteorology and Atmospheric Physics*, 115, 51-72.

Chiao, S., and G. Jenkins, 2010: Numerical investigations on the formation of tropical storm Debby during NAMMA-06. *Wea and Forecasting*, 25, 866-884.

Chiao, S. and Y.-L. Lin, 2003: Numerical modeling of an orographically induced precipitation event associated with tropical storm Rachel over Taiwan. *Wea. and Forecasting*, 18, 325-344.

Chiao, S., C.-Y. Huang and Y.- H. Kuo, 1996: MM5 numerical simulation of Typhoon Dot (1990). Atmospheric Sciences, 24, 123-144. (In Chinese with English abstract)

Upper air ozone and Air Quality
Karle, N.N., R. K. Sakai, S. **Chiao**, R. M. Fitzgerald, and W. R. Stockwell. 2024: Reinterpreting Trends: The Impact of Methodological Changes on Reported Sea Salt Aerosol Levels, Atmosphere 15, no. 7: 740. https://doi.org/10.3390/atmos15070740

Gore*, C., and S. **Chiao**, 2020: Comparisons of Upper Air Ozone at a Coastal and Urban Site and the Impact of Local Surface Urban Emissions, Atmospheric Environment, doi.org/10.1016/j.aeaoa.2020.100085

Faloona, I.C., S. **Chiao**, and co-authors, 2020: The California Baseline Ozone Transport Study (CABOTS). *Bull. Amer. Meteor. Soc.,* https://doi.org/10.1175/BAMS-D-18-0302.1

Clark*, J., and S. **Chiao**, 2019: Stratospheric Intrusions in relation to Surface Ozone over Northern California during CABOTS, Journal of Applied Meteorology and Climatology, doi.org/10.1175/JAMC-D-18-0322.1.

Jung, C.H., Y.J. Yoon, J. Um, S.S. Lee, J.Y. Lee, S. **Chiao**, and Y. P. Kim, 2019: Approximation of most penetrating particle size for fibrous filters considering Cunningham slip correction factor. Environmental Eng. Res., doi.org/10.4491/eer.2019.058

Atmospheric Rivers and Orographic Precipitation
Quinn*, N., and S. **Chiao**, 2023: Characterization of Raindrop Size Distribution over Santa Clara Valley. Atmosphere, 14, 1029, https://doi.org/10.3390/atmos14061029.

Liner*, S., J. Ryoo, and S. **Chiao**, 2022: On the relationship of arctic oscillation with atmospheric rivers and snowpack in the western United States using long-term multi-platform dataset, Water, 14(15), 2392.

Zechiel*, P.R., and S. **Chiao**, 2021: Climate Variability of Atmospheric Rivers and Droughts over the West Coast of the United States from 2006 to 2019. Atmosphere, 12, 201. doi.org/10.3390/atmos12020201

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Professional Meeting Presentations and Abstracts

- Over 250 professional presentations and abstracts that address a variety of audiences and topics, including atmospheric science research, education, and partnership opportunities. Details available on request.

Invited Presentations

2025
Two Decades of Partnership with NOAA Line Offices: Challenges and Opportunities for the NOAA Center for Atmospheric Sciences and Meteorology, UIFCW Annual Meeting, NOAA/EPIC, Boulder, CO, Sep 2025
The 2025 Joint Center Research and Development Project (JCRDP) - Training, Dry Run & Intensive Observation Period, City College of New York, Sep 2025.

2024
Success of the HFIP/NCAS-M HAFS Summer Colloquium, NOAA/HFIP Annual Meeting, Nov 2024
Your Friendly Neighborhood: Howard University Graduate Program in Atmospheric Science and NOAA Center for Atmospheric Sciences and Meteorology, University of Maryland, College Park, Nov 2024
NCAS-M: Challenges, Priorities and Opportunities, National Central University, Taiwan, June 2024

2022
Collaboration Opportunities within the NWS Science and Technology Portfolio, Central Weather Bureau, Taiwan, Nov 2022
From Weather to Climate Variability of Atmospheric Rivers in Northern California, Central Weather Bureau, Taiwan, Nov 2022

2020
Validation of WRF PBL Schemes in Northern California Using Ceilometer Testbed Observations, ARL BED Virtual Technical Exchange, Army Research Lab White Sands Missile Range, NM, August 25, 2020

2019
Stratospheric Intrusions in relation to Surface Ozone over Northern California during the California Baseline Ozone Transport Study, National Taiwan University, March 22, 2019
Asian Long-Range Transport in Relation to Atmospheric Rivers in Northern California, Taiwan Geosciences Assembly, May 14-17, 2019

2017
California Baseline Ozone Study (CABOTS), Hampton University, VA, October 25, 2017

2016
WRF QPF forecasting for Pearl River Delta and its application on a hydrological model, Guangzhou, Sun Yat-Sen University, China. November 20, 2016
California Baseline Ozone Study-Coordination and Activities with USDA Forest Service, California Air Resources Board, Sacramento, CA, October, 20, 2016

2015
Bridging Research and Education: Center for Applied Atmospheric Research and Education, NASA Ames, Sunnyvale, CA. December 3, 2015.
California Baseline Ozone Transport Study (CABOTS): Project Planning and Management, Institute of Urban Meteorology, China Meteorological Administration, Beijing, China, October 21, 2015
Introducing the Center for Applied Atmospheric Research and Education, NASA Headquarters, DC, Sep 10, 2015
Modeling Studies of Atmospheric Rivers and Orographic Precipitation over Northern California, Lawrence Berkeley National Laboratory, UC Berkeley, Feb 9, 2015

2014

The Application of HPC in Cloud for Atmospheric Modeling, NSFCloud Workshop on Experimental Support for Cloud Computing, Arlington, VA, December 11-12, 2014
Cloud Computing: Software for Improving Scientific Data Access, Use and Sharing. National Central University, Jungli, Taiwan, July 11, 2014
Modeling Studies of Atmospheric Rivers and Orographic Precipitation over Northern California, National Central University, Jungli, Taiwan, July 17, 2014

2013
The Footprints of Saharan Air Layer and Lightning on Tropical Cyclone Formation over the Eastern Atlantic Ocean, Chinese Culture University, Taipei, Taiwan, June 13, 2013
The Influences of Asian Aerosols on Orographic Precipitation over Northern California during the Wet Season of 2008-2009, Chinese Culture University, Taipei, Taiwan, June 13, 2013
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2012
Improving severe downslope winds and lee wave rotors forecasts using GOES-R Proving Ground products and high-resolution modeling, NWS/WFO Las Vegas, December 7, 2012

2011
Understanding Oceanic/Continental Transition of African Easterly Waves and Tropical Cyclone Genesis in the Eastern Atlantic Region, San Jose State University, May 9, 2011.
Modeling Studies of Impacts from the Guinea Highlands in Relation to Tropical Cyclogenesis Along the West African Coast, U. Mass Lowell, February 14, 2011.

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Modeling studies of African easterly waves in relation to tropical cyclogenesis along the West African coast, NC AT, December 3, 2010.
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Numerical Investigations of Severe Downslope Winds in Las Vegas, National Central University, Taiwan, July 8, 2010.
Stratified Flow over Infinitely Long Ridge, National Central University, Taiwan, July 8, 2010.
Modeling studies of African easterly waves in relation to tropical cyclogenesis along the West African coast, National Central University, Taiwan, July 7, 2010.
The Low-Level Jet and the Nocturnal Boundary Layer Wind Maximum, National Central University, Taiwan, July 6, 2010.
The Caribbean Low-level Jet and Island Topographic Impacts on Trade Winds and Convection, National Central University, Taiwan, July 6, 2010.
Modeling studies of African easterly waves in relation to tropical cyclogenesis along the West African coast, Taiwan Typhoon and Flood Research Institute, Taiwan, June 24, 2010.
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Observations and modeling studies of wind in mountainous regions, The Texas Tech University, April 7, 2010.

2009
Numerical Investigations of a down-valley flow regime during EOP4 of T-REX 2006, The University of North Carolina at Charlotte, March 30, 2009.

2008
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A real-time coupled wave/atmospheric regional forecasting and analysis system: CWARFS, The Central Weather Bureau, Taiwan, June 26, 2008.
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2005
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Numerical studies of a dryline, Florida Institute of Technology, March 2, 2005.

2004
Orographic forcing of heavy precipitation during MAP IOP-2B, NASA/GSFC, August 10, 2004.
Numerical study of the orographic forcing of heavy precipitation during MAP IOP-2B, San Jose State University, April 27, 2004.
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A numerical study of a permanent dryline in Northwest India. Howard University, January 7, 2004.

2003
A study of a quasi-permanent dryline in Northwest India. Harvard University, November 24, 2003.
The impact of the barrier jet in the orographic forcing of heavy precipitation. CIMMS, University of Oklahoma, January 8, 2003.
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