

Sen Chiao, Ph.D.

Professor

Department of Meteorology and Climate Science
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EDUCATION

Postdoctoral (2004) School of Engineering and Applied Sciences, Harvard University
Ph.D. (2003) Marine, Earth and Atmospheric Sciences, North Carolina State University
M.S. (1996) Atmospheric Physics, National Central University, Jhungli, Taiwan
B.S. (1994) Atmospheric Science, Chinese Culture University, Taipei, Taiwan

PROFESSIONAL EXPERIENCE

2017 - present Professor of Meteorology, San José State University
2014 – 2017 Associate Professor of Meteorology, San José State University
2011 – 2014 Assistant Professor of Meteorology, San José State University
2011 – 2014 Adjunct Associate Professor of Meteorology, Florida Institute of Technology
2010 – 2011 Associate Professor of Meteorology, Florida Institute of Technology
2005 – 2010 Assistant Professor of Meteorology, Florida Institute of Technology
2008 summer Visiting Professor, NCAR/ASP/RAL
2004 – 2005 Research Associate, NOAA Center for Atmospheric Sciences, Howard University
2003 – 2004 Postdoctoral Fellow, Harvard University
2000 – 2002 Teaching Assistant, North Carolina State University
1999 – 2002 Graduate Research Assistant, North Carolina State University
1998 – 1999 Graduate Research Assistant, University of Hawaii at Manoa
1996 – 1998 Military Service, Lieutenant Meteorologist, ARMY Aviation, Taiwan
1994 – 1996 Graduate Research Assistant, National Central University, Taiwan

HONORS AND AWARDS

Release Time award, College of Science, San Jose State University, July, 2015, 2016, 2017
Fellowship, NSF GEO Research Experiences for Undergraduates (REU) workshop, Boulder, CO, September 2016
Fellowship, Geo for Higher Ed Summit 2013, Google Inc., July 2013
Fellowship, Geoscience and the 21th Century Workforce workshop, NSF/InTeGrate, Penn State, June 2013
Fellowship, Pan American Advanced Studies Institute (PASI) on Atmospheric Processes in Latin America and the Caribbean: Observations, Analysis, and Impacts, May 2013

Extreme Science and Engineering Discovery Environment (XSEDE) Computing Award, 2013-2015.
Fellowship, UCAR/COMET Integrating Satellite Data and Products into Geoscience, August 2011
Fellowship, NCAR/ECSA Junior Faculty Forum 2009, July 2009
NCAR Computational & Information Systems Laboratory Classroom Grant Award, Feb 2009
Fellowship, NCAR/Advanced Study Program Faculty Fellowship Award, May – August 2008
Fellowship, The 2008 Early Career Geosciences Faculty Workshop, June 2008
NCEP High Performance Computing Resources Award, EMC, 2007 - present
Fellowship, Applications of Multimedia to Teaching in Atmospheric Science, COMET, June 2006
NCAR/SCD Computing Resources Award, 2005 - 2014
Postdoctoral Fellowship, Harvard University, February 2003 – February 2004
Fellowship, Summer School on Mountain Meteorology, University de Trento, Italy, August 2002
Student Travel Award, The 10th Conference on Mountain Meteorology, AMS, June 2002
Outstanding Research Award, The 4th Annual Research Exposition, NC State Univ., March 2002
Student Travel Award, The 9th Conference on Mesoscale Processes, AMS, May 2001
Student Travel Award, The 9th Conference on Mountain Meteorology, AMS, June 2000

CONTRACTS AND GRANTS

PI, “Detailed Quantitative Precipitation Forecasts for Santa Clara Valley Water District”, 2017-2018, 25K.
PI, “Weekly Ozonesonde Measurements at Half Moon Bay”, BAAQMD, 2017-2018, 39K
PI, “A Real-Time Big Data Based Decision Support System for Water Use in California”. NSF/I-Corps, 2017, 50K.
PI, “Atmospheric Boundary Layer Responses of the 2017 North America Total Solar Eclipse”, CA Space Grant Consortium, 2017-2018, 8K.
PI, “NOAA Center for Atmospheric Sciences and Meteorology” NOAA, 2016-2021, 500K.
PI, “QPF Forecasting for Santa Clara Valley Water District”, SCVWD, 2016-2017, 25K.
PI, “Ozonesonde Measurements in the Bay Area”, BAAQMD, 2016-2017, 30K.
PI, “Ozonesonde Measurements during CABOTS”, EPA, 2016, 75K.
PI, “MRI: Acquisition of Hybrid CPU/GPU High Performance Computing and Storage for STEM Research and Education at San Jose State University”, NSF, 2016-2019, 900K
PI, “Acquisition of Hybrid CPU/GPU High-Performance Computing and Storage for STEM Research and Education at San Jose State University”, DoD, 2016-2019, \$498K
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, 2016-2019, 374K
PI, “Improved Understanding of the Magnitude of Trans-Pacific Long Range Transported Ozone Aloft at California’s Coast”, The California Air Resources Board, 2016-2019, \$281K.
PI, “Center for Applied Atmospheric Research and Education (CAARE)”, NASA/MIRO, 2015-2020, \$4630K.
Co-I, “Weather Support for Unmanned Vehicle Systems Traffic Flow Management”, NASA, 2015-2016, 98K.
PI, “Improved Understanding of the Magnitude of Trans-Pacific Long Range Transported Ozone Aloft at California’s Coast”, RSCA/SJSU, 2015-2016, \$5K.

PI, "Implementation of Urbanized Weather Research and Forecasting Model (uWRF) for Bay Area Air Quality Forecast", RSCA/SJSU, 2014-2015, \$5K.

PI, "Acquisition of AWIPS II EDEX Server and CAVE Client in a Synoptic Weather and Analysis Classroom", UCAR/Unidata, 2014-2015, \$11K.

PI, "Implementation of Urbanized Weather Research and Forecasting Model (uWRF) for Bay Area Air Quality Forecast", XSEDE, computing facilities, 2013-2014.

PI, "Improving High-Resolution Fire Weather Forecasting over Complex Terrain", SJSU RSCA grant, 2012-2013, \$5K

PI, "Evaluating HWRF Forecasts of Tropical Cyclone Intensity and Structure in the North Atlantic Basin", UCAR/COMET, 2011-2012, \$12K

PI, "Improving Severe Downslope Winds and Lee Wave Rotors Forecasts using GOES-R Proving Ground Products and High-Resolution Modeling", UCAR/COMET, 2011-2012, \$15K

PI, "Understanding Oceanic/Continental Transition of Mesoscale Convective Systems and Tropical cyclogenesis during the African Monsoon Multidisciplinary Analysis Experiment (AMMA)", NSF, 2012-2014, \$196K

PI, "Numerical Simulations of Stable Boundary Layer Evolution over the Owens Valley during the Terrain-Induced Rotor Experiment (T-REX)", DOD/ARO, 2009-2014, 221K

Co-PI, "Acquisition of a Computational Science and Engineering Parallel Cluster", NSF, MRI, 2009-2012, \$258K

PI, "Quantifying uncertainties of high-resolution WRF modeling on downslope wind forecasts in the Las Vegas valley", UCAR/COMET, 2009-2010, \$11.9K

PI, "Minimum Temperatures and Diurnal Temperature Ranges in the Melbourne Area", Florida Tech, Professional Development Grant, 2009-2010, \$2.5K

Co-PI, "A real-time coupled wave/atmospheric regional forecast and analysis system: CWARFS", NOAA/CSTAR, 2007-2010, \$360K

PI, "Mobile environmental and weather observing network in Central Florida", Florida Tech, Professional Development Grant, 2007-2008, \$2.5K

Co-PI, "A multidisciplinary computer lab for meteorological and oceanographic applications at the Florida Institute of Technology", NCAR/Unidata Equipment Award, 2007-2008, \$20K

PI, "Improving the meso-gamma scale prediction in Puerto Rico region: Observation analyses and numerical experiments of streamers", UCAR/COMET, 2006-2007, \$11.5K

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)

PENDING PROJECTS

PI, "Characterization of Surface Energy Budget over the Natural and Built Environment", DOD/ARL, 2018-2021, 500K.

TEACHING EXPERIENCE

Undergraduate level courses:

Tropical Meteorology (METR 160), Fall 2017

Regional Climate Modeling (METR 173), fall 2016

Global Climate Change (METR 112, online), summer 2015

Remote Sensing (METR 155), fall 2015
Computer in Meteorology III (METR 150), spring 2015, 2016
Atmospheric Dynamics (METR 121A, B), fall and spring semesters, 2012-2015
Weather Analysis and Forecasting (METR 171A, B), fall and spring semesters
Weather Briefing (METR 170A, 170B), fall and spring semesters
Senior Thesis (METR 179), fall and spring semesters
Marine Meteorology (MET 4407), fall 2010
Intro. Environmental Flow Modeling (OCE 4601), fall 2008
Mesoscale Meteorology (MET 4410), spring 2007, 2008, 2011
Remote Sensing for Meteorology (MET 4233), 2005-2011
Marine Field Project, summer 2006, 2007, 2009
Special Topics in Environmental Science (ENS 5903), 2005-2011

Graduate level courses:

Mesoscale Modeling (METR 245), fall 2014
Colloquium (METR 285), 2011-2012, 2013-2014
Numerical Weather Prediction (MET 5310), fall 2006, 2007, spring 2009, 2010
Planetary Boundary Layer (MET 5301), spring 2008, 2009, 2010, 2011
Atmospheric Remote Sensing (MET 5233), 2005-2011
Marine Meteorology (OCN 5407), spring 2006, 2007, fall 2009, 2010
Graduate Seminar (ENS 5000), 2006-2007

GRADUATE STUDENT ADVISING

Catherine Liu (Meteorology, M.S., in progress)
Alrick Green (Meteorology, M.S., in progress)
Amy Ip (Meteorology, M.S., in progress)
Jodie Clark (Meteorology, M.S., in progress)
Steven Boring (Meteorology, M.S., in progress; part time student)
Sam Curley (Meteorology, M.S., in progress)
Rie Onodera (Meteorology, M.S., in progress; part time student)
Dany Tran (Meteorology, M.S., in progress; part time student)
Angela Reside (Meteorology, M.S., Dec 2016)
Diana Centeno (Meteorology, M.S., May 2014)
Arthur J. Eiserloh (Meteorology, M.S., May 2014; adjunct lecturer at SJSU)
Travis Washington (Meteorology, M.S., Summer 2011, NWS/WFO)
Keren I. Rosado (Meteorology, M.S., Fall 2011; NCEP)
William Ulrich (Meteorology, M.S., May 2011; NWS/Key West)
Andre K. Pattantyus (Meteorology, M.S., July 2010; Ph.D. U. Hawaii Manoa)
C. Forbes Tompkins (Meteorology, M.S., May 2010; World Resources Institute)
Megan Cox (M.S., Summer 2008; Texas Commission on Environmental Quality)
Hector De Lima (Meteorology, M.S., May 2008; Windlogics Inc., Minneapolis)
Melissa Sheffer (Meteorology, M.S., Summer 2008; Minnesota Pollution Control Agency)
Who Y. Kim (Phys. Oceanography, M.S., Summer 2007; Ph.D. TAMU)
Danielle Carpenter (Environmental Science, M.S., May 2007; NDBC/Mississippi)
Evelyn Rivera (Meteorology, M.S., December 2006; NWS/Miami)

Member of thesis committee:

Keren Rosado (Ph.D., Atmospheric Science, Howard University, May 2017)
Jonathan Contezac (M.S. Meteorology, SJSU, in progress)
Naeem Sadig (Ph.D., Hydrometeorology, University of Karachi, August 2014)
Johnathan Clark (M.S., Atmospheric Sci., Howard University, May 2013)
Daisuki Seto (M.S., Meteorology, SJSU, Spring 2012)
Allison Charland (M.S., Meteorology, SJSU, Summer 2012)
Gaelle Coppin (M.S., Earth Remote Sensing, Fall 2011)
Florian Levaux (M.S., Earth Remote Sensing, Fall 2011)
Steve Levine (Meteorology, M.S., Fall 2010)
Luce Bassetti (Phys. Oceanography, Ph.D. 2009)

UNDERGRADUATE STUDENT ADVISING

Arianna Jordan (2016 – present)
Courtney Keene (2017 – present)
Erica Burrows (2016 – 2017, M.S. student at UAH)
Jodie Clark (2014 – 2015, M.S. student at SJSU)
Jeff Forgeron (2013 – 2014, Meteorologist, CBSL2 FOX11)
James Kiernan (2013 – 2014)
Jane Taifane (2013 – 2014, NWS/WFO)
Scott Yasuhara (2012 – 2013, Piccaro Inc.)
Christopher Mitchell (2012 – 2013, M.S. student at U. Kansas)
Jonathon Pelissero (2011-2012, AccuWeather)
Andrew Chiuppi (2011-2012, NWS/WFO)
Ashley M. Takeuchi (2009-2010, Covance Inc.)
Javier Rosa (2008-2009, Texas Commission on Environmental Quality)
Ellen Ramirez (2007-2008, NOAA/NESDIS)
Sarah Starke (2005-2009, Columbia University)
Katy Shontz (2006-2007, NCEP, Ph.D. student at U. Maryland)

SERVICES

Program Chair, 2017 IEEE Smart World Congress
Editorial Board member of the Open Atmospheric Science Journal (2017 – present)
Director, High Performance Computing Center, SJSU (2016 – present)
Chair, Joint Council of the NCAA Mountain West Conference (2016 – 2017)
Chair, Faculty Athletics Representatives of the NCAA Mountain West Conference (2016 – 2017)
Search committee for new coaches, San Jose State Athletics (2016 – 2017)
Faculty Athletics Representative, SJSU (2016 – present)
SJSU Athletics Board (2016 – present)
International Advisory Council member of the Institute of Urban Meteorology, Beijing, China (2015 – present)
University Corporation for Atmospheric Research Members Representative (2015 – present)
University Corporation for Atmospheric Research/Unidata Users Committee (2013 – 2016)

California State University Water Resources and Policy Initiatives (WRPI) annual conference planning committee (2015 – present)
SJSU International Programs and Students Committee (2015 – 2017)
SJSU University Library Board (2015 – 2016)
Review Editor, Editorial Board of Atmospheric Science, Frontiers in Earth Science (2015 - present)
Guest Editor of the Open Journal of Cloud Computing (OJCC) (2015 – 2016)
Program committee on the International Workshop on Sustainable High Performance Computing (SHPC 2015), Liverpool, UK.
College of Science: Sabbatical Committee (2013 – 2016)
Department colloquium coordinator (2011 – present)
Department new faculty search committee (2014 – present)
Student Recruitment and Curriculum committee (2011 – present)
College of Science: Research Committee (2011 – 2013)
College of Science: IT Advisory Committee (2011 – present)

SYNERGISTIC ACTIVITIES

2016 August – present: High Performance Computing Center, SJSU
2016 May – present: Center for Smart Technology, Computing, and Complex Systems, SJSU
2015 May – present: NASA MIRO Center for Applied Atmospheric Research and Education, SJSU
2015 May - December: eCampus Summer iPad Program, SJSU
2015 NASA EPSCoR Panel
2015 March: Instructor, WRF-Solar mini-workshop, University of Hawaii at Manoa, Honolulu, HI
2014 Dec: NSFCloud Workshop 2014, Washington DC.
2013 Oct: NSF EarthCube Domain End-User Workshop at George Mason University, Fairfax, VA.
2013 NSF Unidata Panel
2013 July: Unidata Software Training Workshop, UCAR/Unidata, Boulder, CO.
2013 March: Convener of the 2013 Unidata Regional Workshop, San Jose State University
2012 July: Navigating Earth System Science Data, UCAR/Unidata
2013 – present: Digital Technologies: Teaching with iPads, San Jose State University
2012 - 2013: Affordable Learning Solutions, Center for Faculty Development, SJSU
2012 NASA Wildland Fires Panel
2012 May: Coastal West Africa and Cape Verde weather hazards, climate change and air quality initiative
2011 August: COMET Summer Course for Faculty on Integrating Satellite Data and Products into Geoscience Courses with Emphasis on Advances in Geostationary Satellite Systems.
2010 July: Regional Conference for Marine Forecasting, Research and Applications, Dakar, Senegal.
2009 September: Panel for the Cloud Computing and Collaborative Technologies in the Geosciences workshop.
2008- 2012: Collaborating with the National Central University in Taiwan on TiMREX project.
2007 August: The NSF TeraGrid future planning workshop.
2006 - present: Collaborating with the U.S. Army Research Lab on the Defense Threat Reduction Agency (DTRA) stable boundary layer program.
2006 Summer: UCAR/COMET faculty multimedia workshop

2006 - present: Collaborating with the NWS in San Juan, and the University of Puerto Rico at Mayaguez on island-induced convective activity and regional climate research.

2005 - present: Consulting and collaboration with the NOAA Center for Atmospheric Sciences (NCAS) at the Howard University.

COLLABORATORS (past 48 months)

Frank Freedman (SJSU), Craig Clements (SJSU), Robert Dumais (DOD/ARL), Gregory Jenkins (PSU), Mark Jury (UPRM), Everette Joseph (SUNY Albany), Duane Stevens (U. Hawaii), Lipyew Lim (U. Hawaii), Robert Pasken (Saint Louis University), Michael Folmer (NOAA), Jason Dunion (NHC), Jeff Halverson (UMBC), Jerry Gao (SJSU), Yangbo Chen (Sun Yat-sen University).

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

PROPOSAL REVIEWS

National Science Foundation (NSF)
National Aeronautics and Space Administration (NASA)
National Oceanic and Atmospheric Administration (NOAA)
The UK's Natural Environment Research Council (NERC)
Georgia National Science Foundation (GNSF)

PROFESSIONAL AFFILIATIONS

Member, International Association of Hydrological Sciences
Member, American Meteorological Society
Member, American Geophysical Union
Member, Florida Academy of Sciences
Member, International Association for Urban Climate

REFEREED PUBLICATIONS (* denote names of advised students)

Eiserloh, A. J., and S. **Chiao**, 2017: Updated Trends of Warm Season Free Tropospheric Background and Surface Ozone in California, to be submitted to Atmospheric Environment.

Li, J., Y. Chen, H. Wang, J. Qin, J. Li, and S. **Chiao**, 2017: Extending flood forecasting lead time in a large watershed by coupling WRF QPF with a distributed hydrological model, Hydrol. Earth Syst. Sci., 21, 1279-1294, doi:10.5194/hess-21-1279-2017.

Chiao, S., and D. Centeno, 2017: Numerical Study of Tropical Cyclogenesis: A Look at the Interactions of the Saharan Air Layer Dust Particles, JGR-Atmospheres, in preparation.

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).

Eiserloh*, A. J, and S. **Chiao**, 2015: Modeling studies of landfalling atmospheric rivers and orographic precipitation over northern California, Meteorology and Atmospheric Physics, 127, 1-16.

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.

Jury, M., and S. **Chiao**, 2014: Representation of Ethiopian wet spells in global and nested models, *Advances in Meteorology*, vol. 2014, Article ID 237374, doi:10.1155/2014/237374

Chiao, S., and R. Dumais, 2013: Investigations of a down-valley flow event during T-REX 2006, *Meteorology and Atmospheric Physics*, 122, 75-90. doi: 10.1007/s00703-013-0279-z.

Whitehall*, K., S. **Chiao**, M. Mayers-Als, 2013: Numerical Investigations of Convective Initiation in Barbados, *Advances in Meteorology*, vol. 2013, doi:10.1155/2013/630263.

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

Jury, M., and S. **Chiao**, 2013: Leaside boundary layer confluence and afternoon thunderstorms over Mayaguez, Puerto Rico. *J. Appl. Meteor. Climatol.*, 52, 429-454.

Yasuhara* S., J. Forgeron*, C. Rella, P. Franz, G. Jacobson, and S. **Chiao**, 2013: Measurements of Carbon Dioxide, Methane, and Other Related Tracers at High Spatial and Temporal Resolution in an Urban Environment. *Geophysical Research Abstracts*. 15, EGU2013-13200-2.

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.

Jury, M. and S. **Chiao**, 2011: Meso-Climat of the Central Antilles. *Earth Interactions*, 15, 1-19. doi: 10.1175/2011EI391.1.

Pattantyus*, A., S. **Chiao**, and S. Czyzyk, 2011: Improving high-resolution model forecasts of downslope winds in the Las Vegas Valley. *J. Applied Meteorology and Climatology*, 50, 1324-1340.

Weldegaber*, M., B. Demoz, L. Sparling, and S. **Chiao**, 2011: Observational analysis of moisture evolution and variability in the boundary layer during the dryline on 22 May 2002 (IHOP 2002), *Meteorology and Atmospheric Physics*, 110, 87-102.

Pattantyus*, A., S. **Chiao**, and S. Czyzyk, 2010: Numerical model forecasting of downslope winds in the Las Vegas Valley. *Proceedings of the 5th International Symposium on Computational Wind Engineering*, Chapel Hill, NC, May 23-27, 2010.

Pattantyus*, A., and S. **Chiao**, 2010: Numerical studies of convective and stable boundary layer evolution in mountainous regions. Proceedings of the International Symposium for the Advancement of Boundary Layer Remote Sensing (ISARS), Paris, France, June 28-30, 2010.

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

Carpenter*, D. D. and S. **Chiao**, 2010: Modeling study of 2006 Central Florida wildfires using Fire Area Simulator. *Florida Scientist*, 73, 103-119.

Jury, M., **S. Chiao**, and E. W. Harmsen, 2009: Mesoscale structure of trade wind convection over Puerto Rico: Composite observations and numerical simulation. *Boundary Layer Meteorology*. 132, 289-313.

Chiao, S. and A. P. Barros, 2007: A numerical study of the hydrometeorological drylines in Northwest India during the monsoon. *J. of the Meteorological Society of Japan*, 85, 337-361.

Chiao, S., 2006: Performance of planetary boundary layer schemes in the WRF model. Proceedings of the 25th Army Science Conference, Orlando, FL November 2006, 8 p.

Barros, A. P., **S. Chiao**, T. Lang, J. Putkonen, and D. Burbank, 2006: From weather to climate-- Seasonal to interannual variability of storms in the Himalayas. Tectonics, Climate and Landscape Evolution, *GSA special paper 398*, 17-38. doi:10.1130/2006.2398(02).

Richard, E., A. Buzzi, G. Zangl, N. Asencio, R. Benoit, **S. Chiao** and co-others, 2005: Quantitative precipitation forecasting in mountains regions - Pushed ahead by MAP. *Croatian Meteorological Journal*, 40, 65 – 69.

Lin, Y.-L., S.-Y. Chen, and **S. Chiao**, 2005: Synoptic and mesoscale environments associated with MAP IOP-8 and the formation mechanisms of orographic rain. *Mon. Wea. Rev.*, 133, 2227-2245.

Chiao, S., Y.-L. Lin, and M. L. Kaplan, 2004: Numerical study of the orographic forcing of heavy precipitation during MAP IOP-2B. *Mon. Wea. Rev.*, 132, 2184-2203.

Chiao, S., 2003: The dynamics of orographic precipitation: A mesoscale modeling perspective. Ph.D. dissertation, North Carolina State University, 211 pp.

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.

Lin, Y.-L., D. B. Ensley, **S. Chiao**, and C.-Y. Huang, 2002: Orographic influence on rainfall and track deflection associated with the passage of a tropical cyclone. *Mon. Wea. Rev.*, 130, 2929-2950.

Lin, Y.-L., **S. Chiao**, T.-A. Wang, M. L. Kaplan, 2001: Some common ingredients for orographic flooding and heavy rainfall. *Wea. and Forecasting*. 15, 633-660.

Lin, Y.-L., J. A. Thurman and S. **Chiao**, 2001: Influence of synoptic and mesoscale environments on heavy orographic rainfall associated with MAP IOP-2B and IOP-8. MAP newsletter, 15, 242-245.

Lin, Y.-L., S. **Chiao**, J. A. Thurman, M. L. Kaplan and T.-A. Wang, 2001: Essential ingredients for heavy orographic rainfall and their potential application for orographic rainfall prediction. MAP newsletter, 15, 72-75.

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)

CONFERENCE PRESENTATIONS (* denote names of advised students)

Pasken, R., and S. **Chiao**, 2017: An Analysis of the Relationship between High Ozone Concentrations and the Urban Heat Island in the Saint Louis Metropolitan Area, The 13th Symposium of the Urban Environment, AMS annual meeting, 22-26 January, 2017.

Freedman, F., and S. **Chiao**, 2017: HYSPLIT-STILT to Identify Source Regions of CO₂ Affecting Monitored Levels in San Jose, California, The 13th Symposium of the Urban Environment, AMS annual meeting, 22-26 January, 2017.

Chiao, S., A. J. Eiserloh, 2017: An Investigation of High-Ozone Episodes during the California Baseline Ozone Transport Study (CABOTS), The 13th Symposium of the Urban Environment, AMS annual meeting, 22-26 January, 2017.

Senff, C. J., A. O. Langford, R. J. Alvarez II, G. Kirgis, A. M. Weickmann, W. A. Brewer, T. A. Bonin, R. D. Marchbanks, S. P. Sandberg, M. Holloway, S. **Chiao**, I. Faloona, and L. T. Iraci, 2017: Investigation of the Sources of High Ozone in California's San Joaquin Valley Using Lidar, Aircraft, and Balloon-borne Observations from the 2016 California Baseline Ozone Transport Study, The 8th Symposium of Lidar Atmospheric Applications, AMS annual meeting, 22-26 January, 2017.

Faloona I., S. Conley, E. Asher, D. Caputi, J. Trousdell, S. Chiao, and co-authors, 2016: Laminae and Their Entrainment Into a Valley Boundary Layer, as Observed From a Mountaintop Monitoring Station, Ozonesondes, and Aircraft Over California's San Joaquin Valley. AGU Fall Meeting, San Francisco, 12-16 December 2016.

Estes, M., S. Estes, R. Griffin, M. Alhammdan, S. **Chiao**, 2016: Enhancing STEM Education at Minority and Underrepresented Institutions through the Center for Applied Atmospheric Research and Education (CAARE), AGU Fall Meeting, San Francisco, 12-16 December 2016.

Eiserloh, A., S. **Chiao**, J. Clark, S. Cauley, J. Spitze, M. Roberts, 2016: California Baseline Ozone Transport Study (CABOTS): Ozonesonde Measurements, AGU Fall Meeting, San Francisco, 12-16 December 2016.

Jenkins, G., E. Brito, E. Soare, S. **Chiao**, J. P. Lima, F. Evora, B. Tavares, A. Cardoso, and M. R. Monteiro, 2016: Cape Verde's First Hurricane in Modern Times: Preparation, Observations, WRF Model Forecasts and Recommendations. 32nd Conference on Hurricanes and Tropical Meteorology, Puerto Rico, April 17-22, 2016.

Bosco*, P., A. Thomas*, K. Alagupackiam*, K. Mannava*, J. Gao, S. **Chiao**, 2016: Big data analytics - California drought prediction system, CSU WRPI-COAST Student Research Poster Reception, March 8, Long Beach, CA.

Ip*, A., and S. **Chiao**, 2016: Quantifying SAL Aerosol Concentrations During Tropical Cyclogenesis, The 15th Annual Berkeley Atmospheric Sciences Symposium, Berkeley, Feb 8-9, 2016.

Chiao, S., G. Jenkins, Z. Ulanowski, and H. Smith, 2016: Improved Understanding of the Vertical Distribution of Simulated Dust Distribution in the Saharan Air Layer During the ICE-D Field Campaign with the WRF-CHEM Model, 8th Symposium on Aerosol-Cloud-Climate Interactions, New Orleans, LA, Jan 10-14, 2016.

Chiao, S., 2016: Center for Applied Atmospheric Research and Education (CAARE), 25th symposium on Education, New Orleans, LA, Jan 10-14, 2016.

Boring*, S., and S. **Chiao**, 2016: A Sustainable High Performance Computing System for Teaching and Research, 2nd Symposium on High Performance Computing for Weather, Water, and Climate, New Orleans, LA, Jan 10-14, 2016.

Eiserloh, A.J., and S. **Chiao**, 2016: Summer Seasonal Variation of Baseline Ozone and Source Analysis for California, 19th Joint Conference on the Applications of Air Pollution Meteorology with the A&WMA, New Orleans, LA, Jan 10-14, 2016.

Ip*, A., and S. **Chiao**, 2016: Quantifying SAL Aerosol Concentrations During Tropical Cyclogenesis, 8th Symposium on Aerosol-Cloud-Climate Interactions, New Orleans, LA, Jan 10-14, 2016.

Clark*, J., and S. **Chiao**, 2016: Cloud Seeding Experiments: A New Perspective on Utilizing Aerial Drones, 18th symposium on Meteorological Observation and Instrumentation, New Orleans, LA, Jan 10-14, 2016.

Lim, L., D. E. Stevens, S. **Chiao**, 2015: Data Analytics for Solar Energy Management, The 3rd International Conference Energy and Meteorology (ICEM), Boulder, CO, June 22-26, 2015.

Rosado*, K., and S. **Chiao**, 2015: Assimilation of GPS Radio Occultation data for Tropical Cyclogenesis: A Case Study in the Eastern Atlantic, The 95th AMS Annual Meeting, Phoenix, AZ, Jan 4-9, 2015.

Chiao, S., 2014: The Application of HPC in Cloud for Atmospheric Modeling, NSFCloud Workshop on Experimental Support for Cloud Computing, Arlington, VA, December 11-12, 2014

Freedman, F., and S. **Chiao**, 2014: Atmospheric Residual Layers: WRF/HYSPLIT Modeling for Better Understanding in Complex Terrain, AGU Fall meeting, San Francisco, CA, December 15-19.

Eiserloh*, A. J, and S. Chiao, 2014: Modeling Studies of Landfalling Atmospheric Rivers and Orographic Precipitation over Northern California, 16th Conference on Mountain Meteorology, San Diego, CA August 17-22, 2014.

Tran*, D., and S. **Chiao**, 2014: Evaluating HWRF Modeling of Landfalling Tropical Cyclones over Florida, The 31st Conference on Hurricanes and Tropical Meteorology, San Diego, CA March 31 – April 4, 2014.

Eiserloh*, A. J, and S. **Chiao**, 2014: Modeling Studies of Landfalling Atmospheric Rivers and Orographic Precipitation over Northern California, 94th AMS Annual Meeting, Atlanta, GA, Feb 2-6, 2014.

Centeno*, D., and S. **Chiao**, 2014: Assimilating MODIS Aerosol Optical Depth using WRF-Chem on Tropical Cyclogenesis, 94th AMS Annual Meeting, Atlanta, GA, Feb 2-6, 2014.

Chiao, S., K. Whitehall*, M. Mayers-Als, 2013: Numerical Investigations of Convective Initiation in Barbados. The 2013 Pan American Advanced Studies Institute (PASI) on Atmospheric Processes in Latin America and the Caribbean: Observations, Analysis, and Impacts, Cartagena, Colombia, May 27- June 7, 2013.

Chiao, S., and D. Centeno*, 2013: The Role of Saharan Air Layer and Lightning on the Formation of Helene (2006) and Julia (2010) over the Eastern Atlantic. The 2013 Pan American Advanced Studies Institute (PASI) on Atmospheric Processes in Latin America and the Caribbean: Observations, Analysis, and Impacts, Cartagena, Colombia, May 27- June 7, 2013.

Yasuhara* S., J. Forgeron*, C. Rella, P. Franz, G. Jacobson, and S. **Chiao**, 2013: Measurements of Carbon Dioxide, Methane, and Other Related Tracers at High Spatial and Temporal Resolution in an Urban Environment. EGU General Assembly, Vienna, Austria, April 7-12, 2013.

Centeno*, D., and S. **Chiao**, 2013: Influence of SAL on Tropical Cyclogenesis: Comparative Studies of Helene (2006) and Julia (2010). The 12th Annual Berkeley Atmospheric Sciences Symposium, Berkeley, CA, Feb 7-8, 2013.

Tran*, D., and S. **Chiao**, 2013: Evaluating HWRF Modeling of landfalling Tropical Cyclones over Florida. 17th Conference on Integrated Observing and Assimilation Systems for the Atmosphere, Oceans, and Land Surface (IOAS-AOLS), Austin, TX, January 6-10, 2013.

Reside*, A., and S. **Chiao**, 2013: WRF Microphysics Performance in Forecasting Rotor Events in Las Vegas, The 12th Annual AMS student conference, Austin, TX, Jan 6-10, 2013.

Centeno*, D., and S. **Chiao**, 2013: Influence of SAL on Tropical Cyclogenesis: Comparative Studies of Helene (2006) and Julia (2010). The Special Symposium on the Next Level of

Predictions in Tropical Meteorology: Techniques, Usage, Support, and Impacts. The AMS 93rd Annual Meeting, Austin, TX, January 6-10, 2013.

Forgeron*, J., S. Yasuhara*, C. Rella, P. Franz, G. Jacobson, and S. **Chiao**, 2012: Measurements of Carbon Dioxide, Methane, and Other Related Tracers at High Spatial and Temporal Resolution in an Urban Environment. AGU Fall meeting, San Francisco, CA, December 3-7, 2012.

Chiuppi*, A. J., and S. **Chiao**, 2012: A Decadal Analysis of Snow Cover and Snow Depth in the Northern Sierra Nevada Mountain Range. Climate Change and California's Water Supply Conference, Davis, CA, May 15, 2012.

Washington*, T., and S. **Chiao**, 2012: Modeling studies of rapid intensification of tropical cyclones using HWRF. The 30th Conference on Hurricanes and Tropical Meteorology, Ponte Vedra Beach, FL, April 15-20, 2012.

Flaiz*, N., S. **Chiao**, C. Clements, 2012: Doppler Lidar Measurements of a Cold Front Passage Over Bay Area. The 11th Annual Berkeley Atmospheric Sciences Symposium, Berkeley, CA, Feb 9-10, 2012.

Onodera*, R., S. **Chiao**, C. Clements, 2012: Using WRF in the San Francisco Bay Area to predict critical fire weather. The 11th Annual Berkeley Atmospheric Sciences Symposium, Berkeley, CA, Feb 9-10, 2012.

Whitehall*, K., S. **Chiao**, and G. Jenkins, 2012: Numerical Studies of Convective Initiation in Barbados. The 11th Annual AMS student conference, New Orleans, LA, Jan 22-26, 2012.

Clark*, J., G. Jenkins, and S. **Chiao**, 2012: Assessing the Value of Coastal Stations of West Africa Through Data Assimilation Using the WRF Model During NAMMA 2006. The 16th Symposium on Integrated Observing and Assimilation Systems for the Atmosphere, Oceans, and Land Surface, New Orleans, LA, Jan 22-26, 2012.

Onodera*, R., S. **Chiao**, C. Clements, 2012: Using WRF in the San Francisco Bay Area to predict critical fire weather. The 11th Annual AMS student conference, New Orleans, LA, Jan 22-26, 2012.

Onodera*, R., K. Clifford, S. **Chiao**, C. Clements, 2011: WRF forecasts of critical fire weather conditions in the San Francisco Bay Area. The 9th Symposium on Fire and Forest Meteorology, Palm Springs, CA, Oct 18-20, 2011

Rosado*, K., and S. **Chiao**, 2011: Assimilating COSMIC GPS RO data for Investigating TC Genesis in the Eastern Atlantic Region. The 5th FORMOSAT-3 / COSMIC Data Users Workshop, the International Conference on GPS Radio Occultation (ICGPSRO), Taipei, Taiwan, April 13-15, 2011

Merritt*, A., and S. **Chiao**, 2011: A Comparative Study of Tropical Cyclones and Phytoplankton Blooms. The 1st Annual Florida Statewide Student Research Symposium, Jacksonville, FL, March 4-5, 2011.

Rosado*, K., and S. **Chiao**, 2011: Assimilating COSMIC GPS RO data for Investigating TC Genesis in the Eastern Atlantic Region. The 65th Interdepartmental Hurricane Conference (IHC) Miami, FL, February 28 - March 3, 2011.

Washington*, T., S. **Chiao**, 2011: Numerical Studies of Lower Boundary Forcing on Tropical Storm Fay (2008) over Southern Florida. The 65th Interdepartmental Hurricane Conference (IHC) Miami, FL, February 28 - March 3, 2011.

Chiao, S., and G. Jenkins, 2011: Quantifying the Impact of 0600 UTC and 1800 UTC Assimilated Upper Air Observations and COCONet Measurements in the Western Atlantic and Caribbean during the Hurricane seasons of 2011 and 2012. The COCONet Workshop: Community Science, Station Siting, and Capacity Building, San Juan, PR, Feb 2-4, 2011.

Pattantyus*, A., S. **Chiao**, S. Czyzyk, and M. Staudenmaier, 2011: Downslope Wind Forecasts in a Mountainous Region: Assessing Uncertainty in High-Resolution Modeling over the Las Vegas Forecast Zone. The 24th Conference on Weather and Forecasting/20th Conference on Numerical Weather Prediction, Seattle, WA, January 23-27, 2011.

Washington*, T., S. **Chiao**, 2011: Numerical Studies of Lower Boundary Forcing on Tropical Storm Fay (2008) over Southern Florida. The 23rd Conference on Climate Variability and Change, Seattle, WA, January 23-27, 2011.

Ulrich*, W., and S. **Chiao**, 2010: Caribbean low-level jet and island topographic impacts on trade winds and convection. Florida Academy of Sciences Annual Meeting, Ft. Pierce, FL, March 19-20, 2010.

Pattantyus*, A., and S. **Chiao**, 2010: Numerical model forecasting of downslope winds in the Las Vegas Valley. Florida Academy of Sciences Annual Meeting, Ft. Pierce, FL, March 19-20, 2010.

Baggett*, R., and S. **Chiao**, 2010: El Niño episodes and corresponding Atlantic basin and landfalling tropical cyclones (1950-2009). Florida Academy of Sciences Annual Meeting, Ft. Pierce, FL, March 19-20, 2010.

Tompkins*, C. F., and S. **Chiao**, 2009: Modeling studies of mesoscale convective systems and tropical cyclogenesis in the coast of West Africa. The 34th NWA annual meeting, Norfolk, VA, October 17-22, 2009.

Dumais, R. E., S. **Chiao**, 2009: A numerical investigation of a down-valley flow regime during EOP4 of T-REX 2006. The 10th annual WRF user's workshop, June 23-26, 2009, Boulder, CO.

Howard*, K., G. Zarillo, M. Splitt, S. Lazarus, S. **Chiao**, P. Santos, and D. Sharp, 2009: The impact of atmospheric model resolution on a coupled wind/wave forecast system. The 16th conference on air-sea interaction, Phoenix, AZ, January 11-15, 2009.

Lamberton*, N., S. Lazarus, M. Splitt, S. **Chiao**, G. Zarillo, P. Santos, and D. Sharp, 2009: Assimilation of nearshore winds into a high-resolution atmosphere/wave modeling system. The 13th conference on integrated observing and assimilation systems for atmosphere, oceans and land surface. Phoenix, AZ, January 11-15, 2009.

Jenkins, G. S., E. Joseph, P. A. Kucera, J. D. Fuentes, A. Gaye, J. Gerlach, F. Roux, D. Bouniol, A. Protat, N. Viltard, and S. **Chiao**, 2008: Coastal Observations and Model Simulations associated with African Easterly Wave Passage during the 2006 AMMA SOP-3 field Campaign. The 28th conference on Hurricanes and Tropical Meteorology, Orlando, FL, April 28 – May 2, 2008.

Lazarus, S. M., M. E. Splitt, S. **Chiao**, and co-authors, 2008: A high-resolution coupled real-time atmosphere/wave forecast system for the coastal zone. Ocean Sciences Meeting, Orlando, Florida, March 2-7, 2008.

De Lima*, H. G., and S. **Chiao**, 2008: Modeling of the Panama Canal Watershed. The 72nd Annual Meeting of the Florida Academy of Sciences, Jacksonville, Florida, March 14-15, 2008.

Ramirez*, E. M., and S. **Chiao**, 2008: AMMA rain gauge data with TRMM verification for Debby from August 19-24, 2006 and TD/8 Helene from September 11-14, 2006. The 72nd Annual Meeting of the Florida Academy of Sciences, Jacksonville, Florida, March 14-15, 2008.

Starke*, S. E., and S. **Chiao**, 2008: Evaluation of nocturnal low-level jets and drainage flows during T-REX 2006. The 72nd Annual Meeting of the Florida Academy of Sciences, Jacksonville, Florida, March 14-15, 2008.

Ulrich*, W. A., and S. **Chiao**, 2008: Evaluating the formation of tropical cyclones Debby and Helen over West Africa. The 72nd Annual Meeting of the Florida Academy of Sciences, Jacksonville, Florida, March 14-15, 2008.

Weldegaber, M., B. Demoz, S. **Chiao**, and L. Sparling, 2008: Investigation of convective initiation along a Dryline using Observation and Numerical Weather Prediction Model. The 88th AMS Annual Meeting, New Orleans, LA, January 20-24, 2008.

Jenkins, G. S., and S. **Chiao**, 2008: WRF forecasts/simulations of tropical cyclones Debby and Helene during the SOP-3 NAMMA/AMMA field campaign. Tropical meteorology special symposium, New Orleans, LA, January 20-24, 2008.

Rivera*, E., S. **Chiao**, O. Bermudez, and I. Matos, 2008: Characterization of the Streamers over the Caribbean. The 88th AMS Annual Meeting, New Orleans, LA, January 20-24, 2008.

Sheffer*, M., S. **Chiao**, and I. Matos, 2008: Modeling studies of lower topography induced convective activities in Puerto Rico. The 88th AMS annual meeting, New Orleans, LA, January 20-24, 2008.

Bond, D. K., E. Joseph, S. **Chiao**, T. Creekmore, and M. Robjhon, 2008: Evaluating the surface energy budget in the Weather Research and Forecasting Model. The 20th conference on climate variability and change, New Orleans, LA, January 20-24, 2008.

Weldegaber, M., B. Demoz, S. **Chiao**, and L. Sparling, 2007: Investigation of Convective Initiation Along a Dryline Using Observations and Numerical Weather Prediction Model. 2007 AGU Fall Meeting. San Francisco, CA, 10-14 December 10-14, 2007.

Dumais, R. E., E. Colon, S. **Chiao**, and T. Henmi, 2007: High resolution simulations of boundary layer behavior in California's Owens Valley using the WRF-ARW model during T-REX 2006. The 12th Conference on Mesoscale Processes, 6-9 August, 2007, Waterville Valley, NH.

Dumais, R. E., T. Henmi, E. Colon, and S. **Chiao**, 2007: Boundary layer behavior in California's Owens valley using the WRF-ARE model during Apr 28-30 of T-REX 2006. The 8th annual WRF user's workshop, 11-15 June 2007, Boulder, CO.

Rivera-Acevedo*, E., and S. **Chiao**, 2007: Streamers over the Caribbean. The 71st Annual Meeting of the Florida Academy of Sciences, St. Petersburg, Florida, March 16-17, 2007.

Carpenter*, D., and S. **Chiao**, 2007: Modeling study of 2006 Central Florida wildfires using Fire Area Simulator. The 71st Annual Meeting of the Florida Academy of Sciences, St. Petersburg, Florida, March 16-17, 2007.

Chiao, S. and A. P. Barros, 2007: A Numerical Study of the Hydrometeorological Drylines in Northwest India during the Monsoon. AMS Forum: Climate Aspects of Hydrometeorology, San Antonio, TX, 14-18 January 2007.

Barros, A. P., P. Shrestha, S. **Chiao**, K. Tao, 2007: Land-water management at the landscape scale: toward a science basis for integrating freshwater prospecting and water harvesting in NW India. The workshop on Monsoon Climate Variability and Change, and Their Impacts on Water, Food, and Health in Western India. Ahmedabad, India, 5-7 Feb 2007.

Clark, D. R., D. Fitzgerald, T. Baltzer, R. Ramachandran, E. Joseph, and S. **Chiao**, 2006: Early LEAD: A WRF ensemble demonstrating a data mining capability. The 22nd International Conference on Interactive Information Processing Systems for Meteorology, Oceanography, and Hydrology, Atlanta, Georgia, January 23-Feb 2, 2006.

Jenkins, G. S., and S. **Chiao**, 2005: Evaluation of real-time forecasts during the African Monsoon Multidisciplinary Analysis 2005 DRY runs. The 1st International AMMA Conference, Dakar, Senegal, November 28 – December 4, 2005.

Chiao, S., E. Joseph, B. Demoz, 2005: A modeling study of the dryline in May 22 during IHOP 2002. The 17th Conference on Numerical Weather Prediction. Washington, DC, August 1-5, 2005.

Robjhon, M. L., E. Joseph, S. **Chiao**, and J. D. Funetes, 2005: An evaluation of the land surface-atmosphere interactions over a heterogeneous landscape in numerical mesoscale model. The 17th Conference on Numerical Weather Prediction. Washington, DC, August 1-5, 2005.

Chiao, S., E. Joseph, P. Kucera, H. Laryea, 2005: Evolution of WRF with NASA/3B42 and polarimetric radar products. The 19th Conference on Hydrology, San Diego, California, January 9-13, 2005.

Chiao, S. and A. P. Barros, 2004: Investigating the role of land-atmosphere interactions and the desert feedback mechanism during the active and break phases of the monsoon using MM5 and ARPS. The 18th Conference on Hydrology. Seattle, Washington, January 11-15, 2004.

Barros, A. P., T. Lang, S. **Chiao**, J. Putkonen, G. Kim, and E. Williams, 2004: Characterizing the space-time variability of precipitation in the Himalayan range: Analysis and synthesis. The 18th Conference on Hydrology. Seattle, Washington, January 11-15, 2004.

Barros, A. P., K-C. Harm, and S. **Chiao**, 2004: Predictive reliability and the scale-bridging capacity of regional nested models. The 20th Conference on Weather Analysis and Forecasting, Seattle, Washington, January 11-15, 2004.

Chiao, S. and Y.-L. Lin, 2003: Effects of orographically-induced local circulations on the formation of heavy rainfall during MAP IOP-2B. International Conference on Alpine Meteorology and the MAP-Meeting. Zurich, Switzerland, May 19-23, 2003.

Y.-L. Lin, S.-Y. Chen, and S. **Chiao**, 2003: Numerical simulations of the orographic precipitation and mesoscale environments associated with MAP IOP-8. International Conference on Alpine Meteorology and the MAP-Meeting. Zurich, Switzerland, May 19-23, 2003.

Lin, Y.-L., N. W. Witcraft, S. **Chiao**, and Y.-H. Kuo, 2002: Orographic influence on rainfall and track deflection associated with the passage of tropical cyclones over a mesoscale mountain. International Conference on Mesoscale Convective Systems and Heavy Rainfall/Snowfall in East Asia. Tokyo, Japan, October 29-31, 2002, 351-356.

Chiao, S. and Y.-L. Lin, 2002: The relevance of instabilities with heavy orographic rainfall during MAP IOP-2B. The 10th Conference on Mountain Meteorology, Park City, Utah, June 17-21, 2002, 165-166.

Lin, Y.-L., S. **Chiao**, J. A. Thurman, and J. J. Charney 2002: Some common ingredients for heavy orographic rainfall and their potential application for prediction. Third US-Korea Joint Workshop on Storm Scale and Mesoscale Weather Analysis and Prediction. NCAR, Feb 20-22, 2002.

Chiao, S. and Y.-L. Lin, 2001: Numerical simulations of an orographic rainfall event associated with the passage of a tropical storm over a mesoscale mountain. The 9th Conference on Mesoscale Processes, Ft. Lauderdale, Florida, July 30- August 2, 2001, 529-532.

Lin, Y.-L., S. **Chiao**, T.-A. Wang, B.-W. Shen, G. Lai, M. L. Kaplan, 2000: Heavy orography rain

induced by a tropical depression over Taiwan. International Conference on Mesoscale Convective Systems and Heavy Rain in East Asia. Seoul, Korea, April 24-26, 2000.

Lin, Y.-L., S. **Chiao**, T.-A. Wang, B.-W. Shen, G. Lai, C.-P. Pu and C.-W. Lee, 2000: Heavy rainfall induced by a tropical depression over a mesoscale mountain range. The 9th Conference on Mountain Meteorology. Snowmass Village, Colorado, August 7-11, 2000.

Lin, Y.-L., S. **Chiao**, T.-A. Wang, B.-W. Shen, G. Lai, C.-P. Pu and C.-W. Lee, 2000: Interaction of A Tropical Depression with Taiwan Topography. The 24th Conference on Hurricanes and Tropical Meteorology. Ft. Lauderdale, Florida, May 29-June 2, 2000.

Stevens, D., W. Smith and S. **Chiao**, 1999: Implementation of the MM5 on the Maui High Performance Computing Center (MHPCC) IBM SP2: agony and ecstasy. The 9th Penn State/NCAR MM5 Users' Workshop, Mesa Laboratory, NCAR, June 23-24, 1999.

INVITED PRESENTATIONS

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

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

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

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

Cloud Computing: Software for Improving Scientific Data Access, Use and Sharing. Chinese Culture University, Taipei, Taiwan, June 14, 2013

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

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.

Modeling studies of African easterly waves in relation to tropical cyclogenesis along the West African coast, NC A&T, December 3, 2010.

Downslope Wind Forecasts in the Las Vegas Valley: Assessing Uncertainty in High-Resolution Modeling, NWS/WFO Las Vegas, August 2, 2010.

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.

Modeling studies of African easterly waves in relation to tropical cyclogenesis along the West African coast, The South Dakota School of Mines and Technology, April 16, 2010.

Observations and modeling studies of wind in mountainous regions, The Texas Tech University, April 7, 2010.

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

From Meso-alpha to Meso-gamma Scale Processes: A Modeling Perspective, The University of Nebraska, Lincoln, November 11, 2008.

Atmospheric modeling research on nearshore coastal zone and eastern tropical Atlantic, The US Naval Academy, September 19, 2008.

A real-time coupled wave/atmospheric regional forecasting and analysis system: CWARFS, The Central Weather Bureau, Taiwan, June 26, 2008.

Numerical Investigations of a down-valley flow regime during EOP4 of T-REX 2006, National Central University, Taiwan, June 23, 2008.

Sensitivity and verification of the diurnal variations of EOPs 4 and 5 during T-REX 2006, The U.S. Army Research Laboratory, White Sands Missile Range, NM. June 21, 2007.

Evaluation of PBL schemes in high resolution WRF-ARW: A stable case study. University of North Dakota, December 7, 2006.

Performance of PBL schemes in high resolution WRF-ARW: A stable case study, The U.S. Army Research Laboratory, White Sands Missile Range, NM. September 20, 2006.

Evaluation of the WRF Forecasts in the African Monsoon Multidisciplinary Analysis (AMMA) DRY Runs, University of Nebraska-Lincoln, February 20, 2006.

Development and implementing of the WRF modeling at the Howard University: Applications to case study and in forecast mode, University of Maryland at Baltimore County, April 13, 2005.

Numerical studies of a dryline, Florida Institute of Technology, March 2, 2005.

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.

Numerical study of the orographic forcing of heavy precipitation during MAP IOP-2B, Florida International University, March 31, 2004.

A numerical study of a permanent dryline in Northwest India. Howard University, January 7, 2004.

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.

The impact of the barrier jet in the orographic forcing of heavy precipitation. Division of Engineering and Applied Sciences, Harvard University, January 21, 2003.