

SARA A. RAUSCHER
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EDUCATION

Ph.D., Geography, University of Wisconsin, Madison, Wisconsin, 2004
M.S., Geography, University of Wisconsin, Madison, Wisconsin, 1994
B.S. cum laude, Physical Geography, University of Massachusetts, Amherst, Massachusetts, 1991

PROFESSIONAL HISTORY

University of Delaware, Newark, Delaware
Assistant Professor, 2013-present

Los Alamos National Laboratory, Los Alamos, New Mexico
Scientist 2, 2010-2013
Postdoctoral Research Associate, 2009-2010

Earth System Physics Section, The Abdus Salam International Centre for Theoretical Physics, Trieste, Italy
Visiting Scientist, 2005-2009

International Research Institute for Climate and Society, Earth Institute of Columbia University, Palisades, New York
Staff Associate (equivalent to a Postdoctoral Research Associate), 2003-2005

University of Wisconsin, Madison, Wisconsin
Project Assistant, Center for Climatic Research, 1997-2003
Lecturer, 1995-1997

FELLOWSHIPS AND GRANTS

- **Rauscher, S. A.** (lead PI), T. A. O'Brien, A. Seth, and M. Snyder: A Novel Regional Detection and Attribution Framework for the Western U.S., DOE, UDel budget \$403K, Oct 2014-Sep 2017, unfunded.
- Williams, A. P., E. R. Cook, R. Seager, J. E. Smerdon, N. Henderson, D. E. Lee, J. O. Kaplan, **S. A. Rauscher** (collaborator), N. Pederson, Collaborative Research: Empirically Constrained Reconstructions of Continental Vegetation and Carbon Dynamics over the Last Millennium, and Projections into the Future, NSF, UDel budget \$72K, Feb 2015-2018, unfunded.
- NASA Earth System Science Fellowship, 1998-2001
- NCAR Computing Seed Grant, 2000
- Ruth Dickie Scholarship/Grant in Aid, Graduate Women in Science, 1999
- University of Massachusetts Chancellor's Talent Award (full tuition scholarship), 1987-1991

REFEREED PUBLICATIONS (mentees are underlined>)

Published/In Press

- McDowell, N. G., A. P. Williams, C. Xu, W. T. Pockman, T. Dickman, S. Sevanto, R. Pangle, J. Limousin, J. Plaut, D. Scott Mackay, J. Ogee, J. C. Domec, C. D. Allen, R. A. Fisher, X. Jiang, J. Muss, D. D. Breshears, **S. A. Rauscher**, and C. Koven (2015): Convergent predictions of massive conifer mortality due to chronic temperature rise. *Nature Climate Change*, in press.
- **Rauscher, S. A.**, X. Jiang, A. S. Steiner, P. Williams, M. Cai, and N. G. McDowell (2015): SST warming patterns and vegetation change. *Journal of Climate*, *J. Climate*, **28**, 7943–7961.
- Sakaguchi, K., L. Ruby Leung, C. Zhao, Q. Yang, J. Lu, S. Hagos, **S. A. Rauscher**, L. Dong, T. D. Ringler, and P. H. Lauritzen (2015) Exploring a multiresolution approach using AMIP simulations. *Journal of Climate*, *J. Climate*, **28**, 5549–5574.
- **Rauscher, S. A.** and T. D. Ringler (2014): Impact of variable-resolution meshes on midlatitude baroclinic eddies using CAM-MPAS-A. *Monthly Weather Review*, **142**, 4256–4268.
- T. A. O'Brien, W. D. Collins, **S. A. Rauscher**, and T. D. Ringler (2014): Reducing the computational cost of the ECF using a nuFFT: A fast and objective density estimation method. *Computational Statistics and Data Analysis*, **79**, 222-234.
- Yang, Q., L. R. Leung, **S. A. Rauscher**, T. D. Ringler, and M. A. Taylor (2014): Atmospheric moisture budget and spatial resolution dependence of precipitation extremes in aqua-planet simulations. *Journal of Climate*, **27**, 3565–3581.
- Landu K., L.-Y. R. Leung, S. Hagos, V. Vinoj, **S. A. Rauscher**, T. D. Ringler, and M. Taylor (2014) The dependence of ITCZ structure on model resolution and dynamical core in aqua-planet simulations. *Journal of Climate*, **27**, 2375–2385.
- Ashfaq, M. S. Gosh, Shih-Chieh Kao, L. C. Bowling, P. Mote, **S. A. Rauscher**, and N. S. Diffenbaugh (2013): Near-term acceleration of hydroclimatic change in the western U.S. *Journal of Geophysical Research*, **118**, 10,676–10,693.
- Adams, H. D., A. P. Williams, C. Xu, **S. A. Rauscher**, X. Jiang, and N. McDowell, (2013) Empirical and process-based approaches to forest mortality models. *Frontiers in Functional Plant Ecology*, **4**, 438.
- O'Brien, T. A., F. Li, W. D. Collins, **S. A. Rauscher**, T. D. Ringler, M. Taylor, S. M. Hagos, and L. R. Leung (2013): Observational constraints on scale awareness: Scale incognizance in CAM and WRF. *Journal of Climate*, <http://dx.doi.org/10.1175/JCLI-D-13-00005.1>.
- Seth, A., **S. A. Rauscher**, M. Biasutti, A. Giannini, S. J. Camargo, and M. Rojas (2013): CMIP5 projected changes in the annual cycle of precipitation in monsoon regions. *Journal of Climate*, **26**, 7328–7351.
- Hagos, Samson, Ruby Leung, **S. A. Rauscher**, Todd Ringler (2013): Error characteristics of two grid refinement approaches in aquaplanet simulations: MPAS-A and WRF. *Monthly Weather Review*, **141**, 3022–3036.
- Jiang, X., **S. A. Rauscher**, T. D. Ringler, D. Lawrence, P. Williams, M. Cai, A. S. Steiner, and N. McDowell (2013): Projected future changes in vegetation in western North America in the twenty-first century. *Journal of Climate*, **26**, 3671–3687.
- Williams, A. P., C. D. Allen, A. K. Macalady, D. Griffin, C. A. Woodhouse, D. M. Meko, T. W. Swetnam, **S. A. Rauscher**, R. Seager, H. D. Grissino-Mayer, J. S. Dean, E. R. Cook, C. Gangodagamage, M. Cai, N. G. McDowell (2013): Temperature as a potent driver of regional forest drought stress and tree mortality. *Nature Climate Change*, **3**(3), doi:10.1038/nclimate1693.
- **Rauscher, S. A.**, T. D. Ringler, W. C. Skamarock, and A. A. Mirin (2013): Exploring a global multiresolution modeling approach using aquaplanet simulations. *Journal of Climate*, **26**, 2432–2452.
- Elguindi, N., **S. A. Rauscher**, and F. Giorgi (2013): Changes in temperature records over Europe. *Climatic Change*, **117**, 415-431.

- Williams A.P., C. Funk, J. Michaelsen, **S. A. Rauscher**, W. Robertson, T. H. G. Wils, M. Koprowski, Z. Eshetu, and N. J. Loader (2012): Recent precipitation trends in the Greater Horn of Africa and the emerging role of Indian Ocean sea surface temperature. *Climate Dynamics*, 39, 2307-2328, doi: 10.1007/s00382-010-0984-y.
- Diro, G.T., **S. A. Rauscher**, F. Giorgi, and A. M. Tompkins (2012): Sensitivity of mean seasonal climate and diurnal cycle of precipitation over Central America to land surface and prognostic SST schemes in RegCM4. *Climate Research*, 52, 31-48.
- **Rauscher, S. A.**, F. Kucharski, and D. B. Enfield (2011): The role of regional SST warming variations in the drying of Meso-America in future climate projections. *Journal of Climate*, 24, 2003-2016, doi: 10.1175/2010JCLI3536.1.
- Seth, A., **S. A. Rauscher**, M. Rojas, A. Giannini, and S. J. Camargo (2011): Enhanced spring convective barrier for monsoons in a warmer world? *Climatic Change Letters*, 104, 403-414, doi: 10.1007/s10584-010-9973-8.
- Coppola, E., F. Giorgi, **S. A. Rauscher**, and C. Piani (2010): A weighting technique for reproducing the mesoscale signal using an ensemble of 13 RCMs. *Climate Research*, 44, 121-134.
- **Rauscher, S. A.**, E. Coppola, C. Piani, and F. Giorgi (2010): Resolution effects on regional climate model simulations of seasonal precipitation over Europe. *Climate Dynamics*, 35, 685-711, doi: 10.1007/s00382-009-0607-7.
- Katragkou, E., P. Zanis, I. Tegoulas, D. Melas, I. Kioutsioukis, B. C. Krüger, P. Huszar, T. Halenka, and **S. Rauscher** (2010): Decadal regional air quality simulations over Europe in present climate: near surface ozone sensitivity to external meteorological forcing. *Atmos. Chem. Phys.*, 10, 11805-11821, doi:10.5194/acp-10-11805-2010.
- Artale, V., S. Calmanti, A. Carillo, A. Dell'Aquila, M. Hermann, G. Pisacane, P. M. Ruti, G. Sannino, M. V. Striglia, F. Giorgi, X. Bi, J. S. Pal, and **S. Rauscher** (2009): An atmosphere-ocean regional climate model for the Mediterranean area: Assessment of a present climate simulation. *Climate Dynamics*, doi: 10.1007/s00382-009-0691-8.
- Seth, A., M. Rojas, and **S. A. Rauscher** (2009): CMIP3 projected changes in the annual cycle of the South American Monsoon. *Climatic Change*, doi: 10.1007/s10584-009-9736-6.
- **Rauscher, S. A.**, and T. D. Ringler (2009): Meeting report: Improving the resolution of climate models to address regional climate change. *EOS*, 90(48), doi:10.1029/2009EO480004.
- Steiner A. L., J. S. Pal, **S. A. Rauscher**, J. L. Bell, N. S. Diffenbaugh, L. C. Sloan, and F. Giorgi (2009): Land surface coupling in regional climate simulations of tropical monsoon systems. *Climate Dynamics*, 33, 869-892, doi:10.1007/s00382-009-0543-6.
- **Rauscher, S. A.**, C. Covey, A. Henderson-Sellers, and F. Giorgi (2009): Workshop report: Developing know-how on regional climate change research. *Bulletin of the American Meteorological Society*, 90, 231-234.
- Krüger, B.C., E. Katragkou, I. Tegoulas, P. Zanis, D. Melas, E. Coppola, **S. Rauscher**, P. Huszar, and T. Halenka (2008): Regional decadal photochemical model calculations for Europe concerning ozone levels in a changing climate. *Időjárás - Quarterly Journal of the Hungarian Meteorological Service*, 112, 285-300.
- Giorgi, F., N. S. Diffenbaugh, X. J. Gao, E. Coppola, S. K. Dash, O. Frumento, **S. A. Rauscher**, A. Remedio, I. Seidou Sanda, A. Steiner, B. Sylla, and A. Zakey (2008): Exploring uncertainties in regional climate change: The regional climate change hyper-matrix framework. *EOS*, 89(45): 445-446.
- **Rauscher, S. A.**, J. S. Pal, N. S. Diffenbaugh, and M. M. Benedetti (2008): Future changes in snowmelt-driven runoff timing over the western US. *Geophysical Research Letters*, 35, L16703, doi:10.1029/2008GL034424.
- Konaré, A., A. S. Zakey, F. Solmon, F. Giorgi, **S. Rauscher**, S. Ibrah, and X. Bi (2008): A regional climate modeling study of the effect of desert dust on the West African monsoon. *Journal of Geophysical Research*, 113, D12206, doi:10.1029/2007JD009322.
- **Rauscher, S. A.**, F. Giorgi, N. S. Diffenbaugh, and A. Seth (2008): Extension and intensification of the Meso-American mid-summer drought in the 21st century. *Climate Dynamics*, 31, 551-571, doi:10.1007/s00382-007-0359-1.

- Pal, J. S., F. Giorgi, X. Bi, N. Elguindi, F. Solmon, X. Gao, **S. A. Rauscher**, R. Francisco, A. Zakey, J. Winter, M. Ashfaq, F. S. Syed, J. L. Bell, N. S. Diffenbaugh, J. Karmacharya, A. Konare, D. Martinez, R. P. da Rocha, L. C. Sloan, and A. Steiner (2007): Regional climate modeling for the developing world: The ICTP RegCM3 and RegCNET. *Bulletin of the American Meteorological Society*, 88, 1395-1409.
- **Rauscher, S. A.**, A. Seth, B. Liebmann, S. J. Camargo, and J.-H. Qian (2007): Regional climate model simulated timing and character of seasonal rains in South America. *Monthly Weather Review*, 135(7), 2642-2657.
- Seth, A., **S. A. Rauscher**, S. J. Camargo, J.-H. Qian, and J. S. Pal (2006): RegCM regional climatologies for South America using reanalysis and ECHAM global model driving fields. *Climate Dynamics*, 28, 461-480.
- **Rauscher, S. A.**, A. Seth, J.-H. Qian, and S. J. Camargo (2006): Domain choice in an experimental nested modeling prediction system for South America. *Theoretical and Applied Climatology*, 86, 229-246.

In Review

- **Rauscher, S. A.**, C. Piani, T. A. O'Brien, W. Collins, E. Coppola, and F. Giorgi (2015): Resolution effects on daily precipitation statistics in an ensemble of regional climate models. *Climate Dynamics*, in revision (major).

OTHER PUBLICATIONS

- Elguindi, N., X. Bi, F. Giorgi, B. Nagarajan, J. S. Pal, F. Solmon, **S. A. Rauscher**, and A. Zakey (2007): RegCM Version 3.1 User's Guide. <http://users.ictp.it/RegCNET/regcm.pdf>.
- Rojas, M., A. Seth, and **S. A. Rauscher** (2006): Relationship between precipitation and moisture flux changes in the SRES A2 scenario for the South American Monsoon region, CLARIS (Europe-South America Network for Climate Change Assessment and Impact Studies) Newsletter. <http://www.claris-eu.org/newsletter>.
- **Rauscher, S. A.**, and E. E. Small (2000): Simulating the regional climate of tropical South America. Preprints, 10th PSU/NCAR Mesoscale Model Users' Workshop, Boulder, CO, National Center for Atmospheric Research, 155-157.

TEACHING EXPERIENCE

Advising

University of Delaware, Newark, Delaware

Graduate Committees

- PhD Students: Elizabeth (Rachel) Bernstein (graduated), Carly Buxton, Patricia Lawston, Auvi Rahman
- MS Students: Zac Suriano (graduated), Tessa Montini (graduated), Sigourney Stelma (graduated)

Los Alamos National Laboratory, Los Alamos, New Mexico

Post-doctoral Advisor: Li Dong, Xiaoyan Jiang (2011-2012)

Courses

University of Delaware, Newark, Delaware

Lecturer for Proseminar in Environmental Science, Fall 2015 (43 credits)

- Developed and taught writing-intensive senior capstone course for 18 graduating seniors in the Environmental Science program.

Lecturer for Climate and Life, Spring 2014, 2015 (4 credits)

- Developed and taught introductory climate science course with a lab section to a class of 80 undergraduate students.

Lecturer for Regional Climate Modeling, Fall 2014 (3 credits)

- Developed and taught graduate-level course on regional climate modeling with a hands-on computing component to 7 graduate students and 1 undergraduate student.

Lecturer for IPCC Seminar (1 credit)

- Co-led (with Brian Hanson and Dana Veron) a graduate seminar with 7 students on the Fifth Assessment Report of the Intergovernmental Panel on Climate Change Working Group 1 Report.

Earth System Physics Section, The Abdus Salam International Centre for Theoretical Physics, Trieste, Italy

Lab instructor for International Training Course on Usage of Regional Climate Models for Weather-related Natural Disaster Prediction (with the Turkish Meteorological Service), Antalya, Turkey, 2007

- Taught a week-long training workshop on the regional climate model RegCM3 to 25 students, mostly from Turkey and southwestern Asia.

Lab instructor for the Third, Fourth, and Fifth Workshops on the Theory and Use of Regional Climate Models, ICTP, Trieste, Italy, 2003, 2005, 2007

- Developed and taught a two-week-long training workshop on the regional climate model RegCM3 to 50 students from developing countries around the world.

University of Wisconsin, Madison, Wisconsin

Lecturer for "Quantitative Methods in Geography", 1998 (3 credits)

- Taught introductory statistics to a class of 40 graduate and undergraduate students.

Lecturer for "Our Hazardous Environment", 1997 (3 credits)

- Developed and taught mid-level natural hazards course to a class of 60 graduate and

undergraduate students.

Lecturer for “Global Physical Environments”, 1995, 1996 (3 credits)

- Taught and Team-taught (with Vance Holliday) introductory physical geography to over 200 undergraduate students.

SERVICE AND PROFESSIONAL ACTIVITIES

Affiliations: Delaware Environmental Institute, Water Science and Policy Program

Peer Reviewer: *Bulletin of the American Meteorological Society, Climatic Change, Climate Dynamics, Climate Research, Geophysical Research Letters, Global and Planetary Change, Hydrological Sciences Journal, International Journal of Climatology, Journal of Applied Meteorology and Climatology, Journal of Climate, Journal of Geophysical Research, Journal of Hydrometeorology, Monthly Weather Review, NSF Proposal Reviewer (EaSM), Tellus-A, Theoretical and Applied Climatology*

Professional Organizations: American Geophysical Union, Association of American Geographers

Session and Workshop Organizer:

- Bridging Scales in Soil-Plant-Atmosphere Interactions (with D. Levia, R. Vargas, and R. Keim), American Geophysical Union Fall Meeting Session, 2013, San Francisco, CA.
- Geographical dimensions of regional climate change (with A. Seth and N. Elguindi), Association of American Geographers Annual Meeting, 2011, Seattle, WA.
- Simulating the Spatial-Temporal Patterns of Anthropogenic Climate Change II: A Workshop in the Bridging Disciplines, Bridging Scale Series (with T. Ringler), 2011, Los Alamos Institute for Advanced Studies, LANL Center for Nonlinear Studies and New Mexico EPSCoR, Santa Fe, NM.
- Simulating the Spatial-Temporal Patterns of Anthropogenic Climate Change I: A Workshop in the Bridging Disciplines, Bridging Scale Series (with T. Ringler), 2009, Los Alamos Institute for Advanced Studies, LANL Center for Nonlinear Studies and New Mexico EPSCoR, Santa Fe, NM.
- Water Resources in Developing Countries: Planning and Management in a Climate Change Scenario (with S. Sorooshian and E. Coppola), 2009, International Centre for Theoretical Physics, Trieste, Italy.
- Workshop on Aerosol-Climate Interactions: Mechanisms, Monitoring, and Impacts in Tropical Regions (with A.S. Zakey, A. Nenes, E. Coppola, and M. Abdel-Wahab), International Centre for Theoretical Physics and University of Cairo, 2008, Hurghada, Egypt.

SKILLS

Scientific

- Climate Models: CESM, ICTP AGCM (Speedy), MM5, RegCM, WRF
- Programming Languages: Fortran, Perl, Shell Scripting
- Analysis Software: CDO, GrADS, NCL, NCO

Language: Italian

SELECTED PRESENTATIONS (S. A. Rauscher presenter)

Invited

- Rauscher, S. A. "Resolution effects on climate model simulations of precipitation," First Workshop on Climate Change, Variability, and Modeling over Mexico and Central America, Ensenada, Mexico (November 2014).
- Rauscher, S. A. "Coupled model projections of climate change over Mexico, Central America, and the Caribbean," First Workshop on Climate Change, Variability, and Modeling over Mexico and Central America, Ensenada, Mexico (November 2014).
- Rauscher, S. A., "Evaluating a multi-resolution approach to regional climate simulation," Department of Geography, University of Wisconsin, Madison, WI (January 2014).
- Rauscher, S. A., "Postdoc Confidential," Department of Geography, University of Wisconsin, Madison, WI (January 2014).
- Rauscher, S. A. "Evaluating a multi-resolution approach to regional climate simulation," Department of Geology, University of Delaware, Newark, DE (October 2013).
- Rauscher, S. A., "Exploring a global multi-resolution modeling approach using a hierarchical evaluation framework," Department of Geography, University of Delaware, Newark, DE (December 2012).
- Rauscher, S. A., F. Kucharski, and D. B. Enfield, "The role of regional SST warming variations in the drying of Meso-America in future climate projections," Workshop on Hierarchical Modeling of Climate, International Centre for Theoretical Physics, Trieste Italy, (July 2011).
- Rauscher, S. A., Todd Ringler, Bill Skamarock, Art Mirin, "Analysis of the MPAS hydrostatic dynamical core in aqua-planet mode," Workshop on Hierarchical Modeling of Climate, International Centre for Theoretical Physics, Trieste Italy, (July 2011) (invited poster).
- Rauscher, S. A. "Why dry? Understanding future climate change over Meso-America," Department of Earth Sciences, University of Southern California, Los Angeles, CA (April 2010).
- Rauscher, S. A., C. Piani, E. Coppola, and F. Giorgi, "Resolution effects on regional climate model simulations over Europe," Los Alamos National Laboratory, Los Alamos, NM (November 2008).
- Rauscher, S. A., F. Giorgi, N. S. Diffenbaugh, and A. Seth, "Extension and intensification of the meso-American mid-summer drought in the 21st century," Department of Geography, University of California-Santa Barbara, Santa Barbara, CA (January 2008).
- Rauscher, S. A., F. Giorgi, N. S. Diffenbaugh, and A. Seth, "Extension and intensification of the meso-American mid-summer drought in the 21st century," Department of Geography, University of New Hampshire-Durham, Durham, NH (January 2008).
- Rauscher, S. A., F. Giorgi, N. S. Diffenbaugh, and A. Seth, "Extension and intensification of the meso-American mid-summer drought in the 21st century," Workshop on Comprehensive Research Results, Asia-Pacific Network for Global Change Research (APN) CAPABLE project, Kathmandu, Nepal (June 2007).
- Rauscher, S. A., A. Seth, B. Liebmann, J.-H. Qian, and S. J. Camargo, "Regional climate model simulated timing and character of seasonal rains in South America," Asia-Pacific Network for Global Change Research (APN) CAPABLE project, Kathmandu, Nepal (June 2007).
- Rauscher, S. A., A. Seth, B. Liebmann, J.-H. Qian, and S. J. Camargo, "Sub-seasonal rainfall statistics from a regional climate model for South America: Does improved resolution add value?" Third Workshop on the Theory and Use of Regional Climate Models, Abdus Salam International Centre for Theoretical Physics, Trieste, Italy (June 2006).
- Rauscher, S. A., A. Seth, B. Liebmann, "Regional climate model simulated timing and character of seasonal rains in South America," Department of Earth and Atmospheric Sciences, Cornell University, Ithaca, NY (May 2005).
- Rauscher, S. A. "Modeling the effects of deforestation on Climate: Does scale matter?"

- Department of Geography, University of Florida-Gainesville, Gainesville, FL (February 2005).
- Rauscher, S. A., A. Seth, J.-H. Qian, and S. J. Camargo, "Choosing a domain for regional climate model studies over South America," Second Workshop on the Theory and Use of Regional Climate Models, Abdus Salam International Centre for Theoretical Physics, Trieste, Italy (June 2004).
- Rauscher, S. A. "Climate and deforestation: Does scale matter?" International Research Institute for Climate and Society, Columbia University, Palisades, NY (July 2003).

Contributed (S. A. Rauscher presenter)

- Rauscher, S. A., T.D. Ringler, and L. Dong, "A first look at multi-resolution AMIP simulations with CAM-MPAS," CESM Atmosphere Working Group Meeting, Boulder, CO (January 2013).
- Rauscher, S. A., T.D. Ringler, W. Skamarock, and A. A. Mirin, "Exploring a Global Multi-Resolution Modeling Approach Using Aquaplanet Simulations," The 17th Annual CESM Workshop, Breckenridge, CO (June 2012). (poster)
- Rauscher, S. A. and A. Seth "CMIP5 projected changes in precipitation over Meso-America," WCRP Workshop on Coupled Model Intercomparison Project Phase 5 (CMIP5) Model Analysis, Honolulu, HI (March 2012). (poster)
- Rauscher, S. A., Todd Ringler, Bill Skamarock, Art Mirin. "Towards testing regional methodologies within a single dynamical framework: MPAS-A in aquaplanet mode," Simulating the Spatial-Temporal Patterns of Anthropogenic Climate Change: A Workshop in the Bridging Disciplines, Bridging Scale Series, Santa Fe, NM (August 2011).
- Sara A. Rauscher, Todd Ringler, Bill Skamarock, Art Mirin. "Analysis of the MPAS hydrostatic dynamical core in aqua-planet mode," The 16th Annual CESM Workshop, Breckenridge, CO (June 2011). (poster)
- Rauscher, S. A., F. Kucharski, and D. B. Enfield, "The Role of Regional SST Warming Variations in the Drying of Meso-America in Future Climate Projections," American Geophysical Union, San Francisco, CA (December 2010).
- Rauscher, S. A., A. Seth, T. D. Ringler, M. Rojas, and B. Liebmann, "Earlier North American Onset in a warmer world?" American Geophysical Union, San Francisco (December 2009).
- Rauscher, S. A., "Impacts of climate change on water resources in western North America," Water Resources in Developing Countries: Planning and Management in a Climate Change Scenario, Abdus Salam International Centre for Theoretical Physics, Trieste, Italy (April 2009).
- Rauscher, S. A., C. Piani, E. Coppola, and F. Giorgi, "Resolution effects on regional climate model simulations over Europe," ENSEMBLES General Assembly, Santander, Spain (October 2008).
- Rauscher, S.A., F. Giorgi, and N.S. Diffenbaugh, "Regional-scale processes associated with future summer drying over Central America," European Geosciences Union General Assembly, Vienna, Austria (April 2008).
- Rojas, M., and S. A. Rauscher, "South American Monsoon onset changes," WCRP and ICTP Interpreting Climate Change Simulations: Capacity Building for Developing Nations Seminar, Abdus Salam International Centre for Theoretical Physics, Trieste, Italy (November 2007).
- Rauscher, S. A., F. Giorgi, and N. S. Diffenbaugh, "Changes in 21st century summer rainfall over Central America in the IPCC AR4 simulations," American Geophysical Union, San Francisco, CA (December 2006).
- Rauscher, S.A., A. Seth, B. Liebmann, J.-H. Qian, and S. J. Camargo, "Sub-seasonal rainfall statistics from a regional climate model for South America: Does improved resolution add value?" Eighth International Conference on Southern Hemisphere Meteorology and Oceanography, Foz do Iguacu, Paraná State, Brazil (April 2006).

- Rauscher, S. A., A. Seth, and B. Liebmann, "Regional climate model simulated timing and character of seasonal rains in South America," Association of American Geographers, Denver, CO (April 2005).
- Rauscher, S. A., and E. E. Small, "Modeling the influence of partial deforestation on regional climate," Association of American Geographers, Los Angeles, CA (March 2002).
- Rauscher, S. A., and E. E. Small, "Simulating the regional climate of tropical South America," 10th PSU/NCAR Mesoscale Model Users' Workshop, Boulder, CO (June 2000).
- Rauscher, S. A., and E. E. Small, "Modeling the regional climate of tropical South America," American Geophysical Union, San Francisco, CA (December 1999).
- Rauscher, S. A., "Scale-dependent climate change due to deforestation," Association of American Geographers, Fort Worth, TX (April 1996).
- Rauscher, S. A., "Synoptic climatology of the Northern Hemisphere during the Medieval Warm Period," Association of American Geographers, San Francisco, CA (April 1994).