CURRICULUM VITAE

ASHISH SHARMA

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a. Professional Preparation

2012	Ph.D.	Mechanical & Aerospace Engineering; Arizona State University, AZ, United States
2009	M.S.	Mechanical & Aerospace Engineering; Arizona State University, AZ, United States
2007	B.Tech.	Electronics & Communication Engineering, Jaypee University of Info. Tech., India

b. Appointments

Aug 2016-present	Research Assistant Professor, Department of Civil & Environmental Engineering & Earth Sciences, University. of Notre Dame, IN, United States
2014-Aug 2016	Post-doctoral fellow, ND Energy, University. of Notre Dame, IN, United States
2012- Aug 2016	Post-doctoral researcher, Environmental Change Initiative (ECI), University. of Notre Dame, IN, United States
June-Aug 2016 & June-Aug 2014	Visitor, Research Applications Laboratory, National Center for Atmospheric Research (NCAR), Boulder, CO, United States

c. Products (students are marked with *)

Journal Publications

Kulkarni, P.S., Dasari, H.P, **Sharma, A.**, Bortoli, D., Salgado, R., and Silva, A.M., 2016: Nocturnal surface ozone enhancement over Portugal: Influence of different atmospheric conditions, *Atmos. Environ.*, doi: http://dx.doi.org/10.1016/j.atmosenv.2016.09.056

Sharma, A., Conry, P., Fernando, H.J.S., Hamlet, A. F., Hellmann, Chen, F., 2016: Green and cool roofs to combat urban heating in Chicago: Evaluation with WRF regional climate model. *Environ. Res. Lett.*, **11**, 064004, doi: 10.1088/1748-9326/11/6/064004.

Sharma, A., Fernando, H.J.S., Hamlet, A. F., Hellmann, J.J., Barlage, M., and Chen, F., 2016: Urban meteorological modeling using WRF: A sensitivity study. *Int. J. Climatol.* doi: 10.1002/joc.4819

*Arifin, R.R., James, S.C., De Alwis Pitts, D.A., Hamlet, A., **Sharma, A.**, Fernando, H.J.S., 2016: Simulating the Thermal Behavior in Lake Ontario using EFDC*, J. of Great Lakes Res.* doi:10.1016/j.jglr.2016.03.011

*Conry, P., **Sharma, A.**, Fernando, H. J. S., Leo, L.S., Potosnak, M., and Hellmann, J., 2015: Chicago's Heat Island and Climate Change: Bridging the Scales via Dynamical Downscaling, *J. Appl. Meteor. Climatol.,* ***54*(7)**, 1430–1448.

Sharma, A., *Bouchard, F., *Ryan, S., *Parker, D., & Hellmann, J. J., 2013: Species are the Building Blocks of Ecosystem Services and Environmental Sustainability, *Ethics, Policy & Environ.*, ***16***(1), 29-32.

Sharma, A., and H.-P. Huang, 2012: Regional climate simulation for Arizona: impact of resolution on precipitation, *Adv. Meteorology*, **vol. 2012**, doi:10.1155/2012/505726, 13 pp.

Sharma, A. (2012). *Climate Modeling & Downscaling for Semi-Arid Regions*, *ProQuest Dissertations And Theses; Thesis (Ph.D.)--Arizona State University, 2012.; Publication Number: AAT 3525717; ISBN: 9781267592309; Source: Dissertation Abstracts International, 74-01(E), Section: B.; 150 p.*

Sharma, A., *Brown, J., & Fernando, H. J., 2011. Numerical modeling of flow in the condensate polisher vessel of a nuclear reactor, with applications to PVNGS. *Nuclear technology*, ***174***(1), 18-28.

<u>In preparation:</u>

Sharma, A., Fernando, H.J.S., Hamlet, A. F., Hellmann.: Decadal hydrometeorological climate extremes for Midwest US: Comparison of regional climate models and gridded observational datasets. *J. Appl. Meteor. Climatol.,* (in prep.).

Sharma, A., Huang, H.-P., Zavialov, P., Khan, V.: Impact of climate change on Aral Sea desiccation. *J. Appl. Meteor. Climatol.,* (in prep).

Conference Proceedings

Sharma, A., *Conry, P., Fernando, H.J.S., Hamlet, A. F., Hellmann, Chen, F., 2016: Green and Cool Roofs to Mitigate Urban Heating: An Analysis with a Regional Climate Model. *96th American Meteorological Society Annual Meeting,* New Orleans.

Sharma, A., Fernando, H.J.S., Hamlet, A. F., Hellmann, J.J., Barlage, M., and Chen, F., 2015: Sensitivity of WRF model to landuse, with applications to Chicago metropolitan Urban Heat Island and lake breeze. In *AGU Fall Meeting Abstracts,* San Francisco.

Sharma, A., Kulkarni, P.S., Dasari, H.P, Bortoli, D., Salgado, R., and Silva, A.M., 2015: Nocturnal surface ozone enhancement over Portugal: Influence of different atmospheric conditions. *AGU Fall Meeting Abstracts,* San Francisco.

Hamlet, A. F., Bolster, D., Tank, J. L., Hellmann, J., Christopher, S. F., **Sharma, A.**, & Chiu, C. M., 2014: An Overview of Interdisciplinary Research at Notre Dame Addressing" Grand Challenges" in the Midwest and Great Lakes Region. In *AGU Fall Meeting Abstracts* (Vol. 1, p. 0756).

Sharma, A., Fernando, H.J.S., Hellmann, J.J., and Chen, F., 2014: Sensitivity of high-resolution regional climate model to urban parameterizations for Chicago metropolitan area, *15th Annual WRF Users*

Workshop, NCAR, Boulder, USA.

Sharma, A., Hellmann, J., Fernando, H. J. S., and Chen, F., 2014: Exploration of WRF Model Sensitivity to Urban Parameterization to Study Chicago Metropolitan Urban Heat Island, FEDSM2014 Paper No. 21291, *Proceedings of the 4th Joint US-European Fluids Engineering*, Chicago.

*Conry, P., **Sharma, A.**, Fernando, H. J. S., Leo, L.S., Potosnak, M., and Hellmann, J., 2014: Multi-scale simulations of climate-change influence on Chicago heat island, FEDSM2014 Paper No. 21581, *Proceedings of the* 4th *Joint US-European Fluids Engineering*, Chicago.

*Conry, P., **Sharma, A.**, Potosnak, M., Hellmann, J., and Fernando, H. J. S., 2014: Multi-scale Study of Chicago Heat Island and the Impacts of Climate Change, *Extended Abstracts, 11th Symposium on the Urban* Environment, American Meteorological Society, Atlanta, GA.

*Conry, P., **Sharma, A.**, Leo, L., Fernando, H. J. S., Potosnak, M., & Hellmann, J., 2013: Modeling and measuring neighborhood scale flow, turbulence, and temperature within Chicago heat island. *Bulletin of the American Physical Society*, *58*.

*Arifin, R.R., De Alwis Pitts, D.A., **Sharma, A.**, James, S.C., Fernando, H.J., And Suhardjo, A., 2013: Modeling the Formation and Propagation of Thermal Bar in Lake Ontario, *56th Annual Conference on Great Lakes Research*, West Lafayette, Indiana.

*Conry, P., **A. Sharma**, L. S. Leo, J. Hellmann, and H. J. S. Fernando, 2013: High Resolution Simulations of Chicago Heat Island & Natural Landscapes and its Response to Climate Change, *Climate Change & the Common Good*, Univ. of Notre Dame, IN.

*Arifin, R.R., De Alwis Pitts, D.A., **Sharma, A.**, James, S.C., Fernando, H.J., And Suhardjo, A., 2013: Modeling the Formation of Thermal Bar in Lake Ontario using Climatological Parameters, *Climate Change & the Common Good*, Univ. of Notre Dame, IN.

Huang, H. P., Hunt, J., **Sharma, A.**, *Tse, L., Fernando, H., *Gunawan, A., & *Thompson, M., 2011: Axially asymmetric rotating tank experiments for thermally forced stationary waves in geophysical fluids. *Bulletin of the American Physical Society*, *56*.

Sharma, A., Huang, H.-P., 2011: Impact of model resolution on rainfall for Arizona using WRF model, *12th Annual WRF Users Workshop*, NCAR, Boulder, USA.

Sharma, A., Huang, H.-P., 2010: Climate downscaling for Arizona using WRF: Dependence of precipitation on model resolution and convective parameterization,"*11th Annual WRF Users Workshop*, NCAR, Boulder, USA.

Invited Talks

Sharma, A., "Climate modeling at scales people and ecosystems live: Urban Climate Modeling", *The Urban Climate Institute*, July 13, 2016, St. Paul, MN.

Sharma, A., " Sensitivity of WRF model to landuse, with applications to Chicago metropolitan Urban Heat Island and lake breeze l", *AGU Fall Meeting*, December 16, 2015, San Francisco, CA.

Sharma, A., " Green and cool roofs to combat urban heating in Chicago: Evaluation with WRF regional climate model", *ND Energy seminar series*, Sept 16, 2015, University of Notre Dame, IN.

Sharma, A., "Climate Modeling at scales humans and ecosystems live", *Environ. Fluid Dynamics seminar series*, Nov 18, 2014, University of Notre Dame, IN.

Sharma, A., and L. S. Leo, "Impact of climate change on urban heat island", *Urban Landscapes and Climate Change: from Measurements to Modeling*, Aug 27-28, 2013, Argonne National Lab., IL.

Sharma, A., "Climate Modeling & Downscaling and interactions with Ecosystems", *Environ. Fluid Dynamics seminar series*, Sept 18, 2012, University of Notre Dame, IN.

Sharma, A., " Climate Modeling & Downscaling for Semi-Arid Regions", *Atmospheric Sciences Division seminar series*, Feb 14, 2012, Brookhaven National Lab., NY.

d. Proposals/grants

2016	NCAR travel award; PI: Ashish Sharma
2016-2017	ND Energy fellowship grant. $25,000; PI: **Ashish Sharma**.
2015-2016	ND Energy fellowship grant. $25,000; PI: **Ashish Sharma**.
2014-2016	NCAR Yellowstone supercomputing proposal "Evaluating the impact of green roofs"; PI: Ashish Sharma
2014-2015	The Great Lakes Consortium for Petascale Computation (GLCPC) computational grant, "Very high-resolution numerical modeling for climate extremes in Midwest U.S.", PI: **Ashish Sharma**, co-PI Joe Fernando, Jessica Hellmann, Rao Kotamarthi (ANL): *5.5 million core computing hours*
2013-2015	University of Notre Dame/Pontifical Catholic University of Chile internal grant, "Climatic Impacts on Environmental Quality in Urban Santiago" PI Laura Leo, Joe Fernando, **Ashish Sharma**, Reneta Dimitrova. *$40,000.*
2009	Recipient of Research Grant worth *$5,875* from National Institute of Aerospace and NASA.

e. Skills

Programming languages:	FORTRAN, NCL, MATLAB, R, Grads
Atmospheric numerical modeling tools:	Weather Research & Forecasting Model (WRF), Nested Regional Climate model (NRCM), Community Atmospheric Model (CAM)
CFD tools:	ANSYS-FLUENT, GAMBIT, ICEM-CFD
Operating systems:	UNIX, LINUX, Windows, Mac

f. Professional Services

Reviewer Services

Journal of Geophysical Research-atmospheres
Journal of Applied Meteorology & Climatology
International Journal of Climatology
Advances of Meteorology
Boundary-Layer Meteorology
Environmental Research Letters
Pure and Applied Geophysics
Meteorology and Atmospheric Physics
MDPI (Multidisciplinary Digital Publishing Institute): Sustainability
Urban Climate

Memberships

American Geophysical Union (AGU)
American Meteorological Society (AMS)
Royal Meteorological Society