BIJAN SEYED-NASROLLAH

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ACADEMIC APPOINTMENTS

Harvard University, Department of Organismic and Evolutionary Biology/ 2017 - present
Northern Arizona University, School of Informatics, Computing, and Cyber Systems
Postdoctoral Research Associate / Data Scientist

Duke University, Nicholas School of the Environment 2011 - 2017
Doctoral Research and Teaching Assistant

Research Institute of Petroleum Industry (Iran), Department of Energy and Environment 2006 - 2011
Senior Researcher

EDUCATION

Duke University, Durham, NC 2017
Ph.D. in Quantitative Environmental Science
Dissertation: "Ecosystem response to a changing climate: vulnerability, impact and monitoring"
Advisors: Dr. Jim Clark (Chair), Dr. Jean-Christophe Domec, Dr. Alan Gelfand and Dr. Jennifer Swenson.

Sharif University of Technology, Tehran, Iran 2006
M.Sc. in Mechanical Engineering, Energy Conversion
Thesis: "Modeling of multi-phase flow in porous media"
Advisor: Dr. Mehrdad T. Manzari

University of Semnan, Semnan, Iran 2003
B.Sc. in Mechanical Engineering, Heat and Fluid Flow
Thesis: "Numerical modeling of conductive heat transfer"
Advisor: Dr. Farhad Talebi

SELECTED PEER-REVIEWED JOURNAL PUBLICATIONS

12. **B. Seyednasrollah**, A. M. Young, K. Hufkens, T. Milliman, M. A. Friedl, S. Frolking and A. D. Richardson, "Tracking vegetation phenology across diverse biomes using PhenoCam imagery: The PhenoCam Dataset v2.0", Scientific Data, in review.

11. **B. Seyednasrollah** and J. S. Clark, "Nutrient-demanding species and drought vulnerability: the role of habitat heterogeneity", in review.

10. **B. Seyednasrollah** and M. Kumar (2019), "How surface radiation on forested snowpack changes across a latitudinal gradient", Hydrology 2019, 6(3), 62; doi:10.3390/hydrology6030062.

9. **B. Seyednasrollah**, T. Milliman and A. D. Richardson, "Data extraction from digital repeat photography using xROI: An interactive framework to facilitate the process", ISPRS Journal of Photogrammetry and Remote Sensing, Volume 152, June 2019, Pages 132-144, doi:10.1016/j.isprsjprs.2019.04.009.

8. M. S. Carbone, **B. Seyednasrollah**, T. T. Rademacher, D. Basler, J. Le Moine, S. Beals, J. Beasley, A. Greene, J. Kelroy and A. D. Richardson (2019), "Flux Puppy an open source software application and portable system design for low-cost manual measurements of CO2 and H2O fluxes", Agricultural and Forest Meteorology, Volume 274, 15 August 2019, Pages 1-6, doi:10.1016/j.agrformet.2019.04.012.

7. **B. Seyednasrollah**, J. C. Domec and J. S. Clark (2019) “Spatiotemporal sensitivity of thermal stress for monitoring canopy hydrological stress in near real-time”, Agricultural and Forest Meteorology, Volumes 269270, 15 May 2019, Pages 220-230, doi:10.1016/j.agrformet.2019.02.016.

6. A. D. Richardson, K. Hufkens, T. Milliman, D. M. Aubrecht, M. E. Furze, **B. Seyednasrollah**, M. B. Krassovski, J. M. Latimer, W. R. Nettles, R. R. Heiderman, J. M. Warren and P. J. Hanson (2018) “Ecosystem warming extends vegetation activity but heightens cold temperature vulnerability”, Nature, Volume 560, pages368371 (2018), doi:10.1038/s41586-018-0399-1.

5. **B. Seyednasrollah**, J. J. Swenson, J. C. Domec and J. S. Clark (2018) “Leaf phenology paradox: why warming matters most where it is already warm”, Remote Sensing of Environment, Volume 209, May 2018, Pages 446-455, ISSN 0034-4257, doi:10.1016/j.rse.2018.02.059.

4. J. S. Clark, D. Nemergut, **B. Seyednasrollah**, P. Turner and S. Zhang (2017). “Generalized joint attribute modeling for biodiversity analysis: Median-zero, multivariate, multifarious data”, Ecological Monographs, 87(1), 34-56. doi:10.1002/ecm.1241.

3. **B. Seyednasrollah** and M. Kumar (2014). “Net radiation in a snow-covered discontinuous forest gap for a range of gap sizes and topographic configurations”, J Geophys Res-Atmos, 119, 10,32310,342. doi:10.1002/2014JD021809.

2. **B. Seyednasrollah** and M. Kumar (2013). “Effects of tree morphometry on net snowcover radiation on forest floor for varying forest densities”, J Geophys Res-Atmos, 118, 12,50812,521, doi:10.1002/2012JD019378.

1. **B. Seyednasrollah**, M. Kumar and T. E. Link (2013). “On the role of vegetation density on net snow cover radiation at the forest floor”, J. Geophys. Res. Atmos, 118, 83598374, doi:10.1002/jgrd.50575.

Peer-reviewed Datasets and Open-source Software Applications

11. **B. Seyednasrollah**, et al. (2019) “PhenoCam Dataset v2.0: Vegetation Phenology from Digital Camera Imagery, 2000-2018”. ORNL Distributed Active Archive Center https://doi.org/10.3334/ORNLDAAC/1674.

10. T. Milliman, **B. Seyednasrollah**, et al. (2019) “PhenoCam Dataset v2.0: Digital Camera Imagery from the PhenoCam Network, 2000-2018”. ORNL Distributed Active Archive Center https://doi.org/10.3334/ORNLDAAC/1689.

9. **B. Seyednasrollah**, D. Basler, S. Beals, J. Beasley, A. Greene, J. Kelroy, M. S. Carbone, and A. D. Richardson (2018), “FluxPuppy: Android Interface to Licor LI-820 and LI-840 gas analyzers”. Zenodo. http://doi.org/10.5281/zenodo.1438548

8. A. D. Richardson, K. Hufkens, T. Milliman, D. M. Aubrecht, M. E. Furze, **B. Seyednasrollah**, M. B. Krassovski, and P. J. Hanson (2018), “SPRUCE Vegetation Phenology in Experimental Plots from Phenocam Imagery, 2015-2016.” ORNLTESSFA (Oak Ridge National Lab’s Terrestrial Ecosystem Science Scientific Focus Area (ORNL TES SFA)); Oak Ridge National Lab.(ORNL), Oak Ridge, TN (United States)

7. **B. Seyednasrollah**, T. Milliman and A. D. Richardson (2018), “xROI: A Toolkit to Delineate Region of Interests (ROI’s) and Extract Time-series Data from Digital Repeat Photography Images”. Zenodo. http://doi.org/10.5281/zenodo.1202273

6. **B. Seyednasrollah**, J. J. Swenson, J. C. Domec, J. S. Clark (2018), “phenoCDM: Continuous Development Models for Incremental Time-Series Analysis”. Zenodo. http://doi.org/10.5281/zenodo.1204614

5. **B. Seyednasrollah**, “drawROI: An interactive toolkit to extract phenological time series data from digital repeat photography”. Zenodo. http://doi.org/10.5281/zenodo.1066588

4. **B. Seyednasrollah**, “hazer: Quantifying haze factor for RGB images to identify cloudy and foggy weather”, Zenodo. http://doi.org/10.5281/zenodo.1008568, 2017.

3. **B. Seyednasrollah**, “solrad: To calculate solar radiation and related variables based on location, time and topographical conditions”, Zenodo. http://doi.org/10.5281/zenodo.1249673, 2016.

2. **B. Seyednasrollah**, “GaRM: A Forest Gap Radiation Model”, Zenodo. http://doi.org/10.5281/zenodo.840998, 2014.

1. **B. Seyednasrollah**, “FoRM: A physically based forest radiation model”, Zenodo. http://doi.org/10.5281/zenodo.841001, 2014.

Invited Talks, Conference Presentations and Other Publications

34. **B. Seyednasrollah**, T. E. Milliman, M. A. Friedl, A. D. Richardson, “How Do Deciduous Forests of North America Respond to Climate Change?”, 12th North American Forest Ecology Workshop 2019 Flagstaff AZ, USA, June 2019.

33. Carbone, M.S., **B. Seyednasrollah**, T.T. Rademacher, D. Basler, J.M. Le Moine, S. Beals, J. Beasley, A. Greene, J. Kelroy, and A.D. Richardson, “Flux Puppy - an open-source software application and portable system design for low-cost manual mea- surements of CO2 and H2O fluxes”, 12th North American Forest Ecology Workshop 2019 Flagstaff AZ, USA, June 2019.

32. **B. Seyednasrollah (invited)**, A. D. Richardson, “PhenoCam data and validation of remotely sensed vegetation indices”, NASA CEOS LPV Workshop 2018, Washington DC, USA, December 2018.

31. **B. Seyednasrollah (invited)**, K. Duffy, A. M. Young, A. D. Richardson, “Flux-PhenoCam Data Fusion to Understand Surface Energy Balance”, NEON Surface Atmosphere Exchange Workshop 2018, Washington DC, USA, December 2018.

30. **B. Seyednasrollah**, T. E. Milliman, M. A. Friedl, A. D. Richardson, “Phenology of temperate deciduous forests: Roles of energy and moisture”, American Geophysical Union Fall Meeting 2018, Washington, DC, USA, December 2018.

29. E. K. Melaas, **B. Seyednasrollah**, A. D. Richardson, K. Hufkens, M. A. Friedl, “Using PhenoCams and Landsat to improve understanding of photoperiod control on spring phenology of deciduous forests in the Eastern US”, American Geophysical Union Fall Meeting 2018, Washington, DC, USA, December 2018.

28. M. Kumar, X Chen, **B. Seyednasrollah**,T. Zi, T. E. Link, B. L. McGlynn, J. D. Albertson, “ Improving process representations in models: An exercise in scientific exploration or a societal need?”, American Geophysical Union Fall Meeting 2018, Washington, DC, USA, December 2018.

27. **B. Seyednasrollah**, T. Milliman, A. D. Richardson, “Tackling challenges of extracting time-series data from digital repeat photography”, Early Career Researcher Symposium 2018, Computing Community Consortium, Washington, DC, USA, August 2018.

26. **B. Seyednasrollah (invited)**, A. Young, K. Duffy, T. Milliman, A. D. Richardson, “Phenocams: Tracking vegetation activity from digital cameras”, Data Institute 2018, National Ecological Observatory Network, Boulder, CO, USA, July 2018.

25. **B. Seyednasrollah**, T. E. Milliman, K. Hufkens, M. Kosmala, A. D. Richardson, “An interactive toolkit to extract phenological time series data from digital repeat photography”, American Geophysical Union Fall Meeting 2017, New Orleans, LA, USA, December 2017.

24. **B. Seyednasrollah (invited)**, J. Clark, “Understanding Phenology across Scales and Improving Linkages to Ecosystem Functions”, American Geophysical Union Fall Meeting 2015, San Francisco, CA, USA, December 2015.

23. **B. Seyednasrollah**, J. Clark, “Attributing the effects of climate on phenology change suggests high sensitivity in coastal zones”, American Geophysical Union Fall Meeting 2015, San Francisco, CA, USA, December 2015.

22. J. Clark, A. Berdanier, **B. Seyednasrollah**, Brad Tomasek, “Forecasting the forest and the trees: consequences of drought in competitive forests”, American Geophysical Union Fall Meeting 2015, San Francisco, CA, USA, December 2015.

21. J. Clark, **B. Seyednasrollah**, B. Tomasek, “Forecasting the forest and the trees: climate impacts from individuals to communities to traits” , Coweeta LTER Summer Symposium and Meeting Agenda, Coweeta, NC, USA, June 2015.

20. **B. Seyednasrollah**, “Dynamics of forest green-up across different ecosystems”, Joint Ecology / Marine Lab (JEM) Symposium 2015, Duke University, Beaufort, NC, USA, November 2015.
19. **B. Seyednasrollah**, J. S. Clark, J.C. Domec, “Drought-induced stomatal closure rising canopy temperature observed from space”, Ecological Society of America Annual Meeting 2015, Baltimore, MD, USA, August 2015.
18. J. S. Clark, B. Beckage, A. Berdanier, M. Dietze, C. M. Gough, B. Hardiman, M. Kwit, J. Mohan, S. M. Pearson, W. J. Platt, A. Schwantes, **B. Seyednasrollah**, B. J. Tomasek, C. W. Woodall, P. H. Wyckoff, K. Zhu, “Forecasting the forest and the trees: Consequences of competition and climate for biodiversity change”, Ecological Society of America Annual Meeting 2015, Baltimore, MD, USA, August 2015.
17. J HilleRisLambers, I. K. Breckheimer, **B. Seyednasrollah**, J. S. Clark, J. F. Franklin, A. J. Larson, J. A. Freund, “Competitive interactions between tree species will slow compositional turnover with climate change”, Ecological Society of America Annual Meeting 2015, Baltimore, MD, USA, August 2015.
16. **B. Seyednasrollah (invited)**, A. Latimer, L. Johnson, J. Hille Ris Lambers, “Applications of Joint Species Distribution Modeling with Case Studies”, The Statistical and Applied Mathematical Sciences Institute (SAMSI), ECOL: Transition Workshop 2015, Durham, NC, USA, May 2015.
15. **B. Seyednasrollah**, “How fast do forests green up in different habitats?”, Duke University Ecology Symposium 2015, Beaufort, NC, USA, April 2015.
14. A. Latimer, I. Breckheimer, **B. Seyednasrollah**, N. Johnson, D. Wilson, J. Hille Ris Lambers, M. Harsch, M. Short, L. Johnson and C. Davis, “Joint Species Distribution Modeling in the Pacific Northwest”, The Statistical and Applied Mathematical Sciences Institute (SAMSI), ECOL: Transition Workshop 2015, Durham, NC, USA, March 2015.
13. M. Kumar, X. Chen, **B. Seyednasrollah**, A. Winstral, M. Reba, D. Marks, “Assessment of Hydrologic Impacts of Snowdrift in a Snow Dominated Watershed”, American Geophysical Union Fall Meeting 2014, San Francisco, CA, USA, December 2014.
12. M. Kumar, **B. Seyednasrollah**, T. E. Link, “In search of radiation minima for balancing the needs of forest and water management in snow dominated watersheds”, American Geophysical Union Fall Meeting 2013, San Francisco, CA, USA, December 2013.
11. **B. Seyednasrollah**, M. Kumar, “Using Forest Radiation Model (FoRM) to Quantify the Role of Canopy Coverage on Net Snow Cover Radiation”, American Geophysical Union Fall Meeting 2013, San Francisco, CA, USA, December 2013.
10. **B. Seyednasrollah**, M. Kumar, “Understanding the Role of Canopy Coverage and Tree Morphometry on Net Snow Cover Radiation Using Forest Radiation Model (FoRM)”, CUAHSI Hydroinformatic 2013, Logan, UT, USA, July 2013.
9. T. E. Link, M. Kumar, J. Pomeroy, **B. Seyednasrollah**, C. Ellis, R. Lawler, and R. Essery, “Opportunities and challenges to conserve water on the landscape in snow-dominated forests: The quest for the radiative minima and more...”, American Geophysical Union Fall Meeting 2012, San Francisco, CA, USA, December 2012.
8. **B. Seyednasrollah**, M. Kumar, T. E. Link, “Looking for Radiation Optimality on Snow Covered Forest Floor”, American Geophysical Union Fall Meeting 2012, San Francisco, CA, USA, December 2012.
7. **B. Seyednasrollah**, M.Khosravy-el-Hossani, “Exergy Analysis of excess air variation in boilers”, International Conference on Advances in Mechanical Engineering (ICAME) 2010, Kuala Lumpur, Malaysia, December 2010.
6. **B. Seyednasrollah**, M.Khosravy-el-Hossani, “Investigation of Excess Air Variations Effects on Dry Flue Gas Loss”, International Conference on Advances in Mechanical Engineering (ICAME) 2010, Kuala Lumpur, Malaysia, December 2010.
5. R. M. Khorsani, **B. Seyednasrollah**, M. T. Manzari and S. K. Hannani. “Dimensional numerical simulation of hydrocarbon reservoirs using a black oil model implicit finite difference method”, in Sharif Journal of Mechanical Engineering, 2010, Vol. 26, No. 1. (In Persian)

4. F. Talebi, **B. Seyednasrollah** and F. Yousefi. “Analysis and optimization of reducing steady state time for heating systems”, in International Journal Of Advanced Design And Manufacturing Technology, 2009, Vol. 2 No. 2. (In Persian)

3. F. Yousefi, **B. Seyednasrollah**, F. Talebi, “Global Analysis for Two Effective Method to Reduction of Control Time in Steady State of Thermal Systems”, The Annual Conference (International) on Mechanical Engineering (ISME) 2008, Kerman, Iran, July 2008.

2. **B. Seyednasrollah**, S.E. Hossein. , F. Talebi, “An Effective Method to Reduction of Control Time in Steady State of Thermal Systems”, The Annual Conference (International) on Mechanical Engineering (ISME) 2007, Tehran, Iran, July 2007

1. F. Talebi., **B. Seyednasrollah**, “An Effective Method to Reduction of Control Time in Steady State Convectional Heat Transfer”, The Annual International Conference of Mechanical Engineering (ISME) 2005, Isfahan, Iran, July 2005.

Featured in the Media

KNAU Arizona Public Radio:Earth Notes: Drought Eye, https://www.knau.org/post/earth-notes-drought-eye/, June 26, 2019.

LTER Network Science Update: Keeping an eye out for drought, https://lternet.edu/stories/eye-out-for-drought/, May 29, 2019.

KNAU Radio: Interview on monitoring drought in near real-time and ”open-data, open-source science”, April 11, 2019.

NAU News: Maybe I could just do this: NAU Researcher Helps Develop Near Real-time Drought Monitoring Tool, https://news.nau.edu/drought-monitoring-tool/, April 2, 2019.

El Heraldo: El Cambio Climtico Desde Varios Frentes, https://www.elheraldo.co/medio-ambiente/el-cambio-climatico-desde-varios-frentes-612018, March 27, 2019.

Weather Nation: A Faster and More Accurate Way to Monitor Drought, http://www.weathernationtv.com/news/a-faster-and-more-accurate-way-to-monitor-drought/, March 13, 2019.

Futurity: Free Drought Eye Maps Depict Thermal Stress, https://www.futurity.org/droughts-map-1999812/, March 5, 2019.

Science Daily: Thermal Stress Measurements Sound the Alarm About Drought Conditions Sooner, https://www.sciencedaily.com/releases/2019/03/190304154858.htm, March 4, 2019.

AAAS EurekAlert: A faster, more accurate way to monitor drought, https://www.eurekalert.org/pub_releases/2019-03/du-afm030419.php, March 4, 2019.

Duke University: A Faster, More Accurate Way to Monitor Drought, https://nicholas.duke.edu/about/news/faster-more-accurate-way-monitor-drought, March 4, 2019.

Teaching Experience

Co-founder, SciCademy: A Science Academy for Teaching Quantitative Science 2018-present

Workshop Organizer / **Instructor**

- Introduction to PhenoCam Data Products and Software Tools in “New Advances in Land Carbon Cycle Modeling” Workshop: (Northern Arizona University) 2019
- Studying Biological Impacts of Environmental Change Using Repeat Photography: Introduction to PhenoCam Data Products and Software Tools (AGU Fall Meeting) 2018
- Studying Biological Impacts of Environmental Change Using Repeat Photography: Introduction to PhenoCam Data Products and Software Tools (Northern Arizona University) 2018
- Source Control and Reprdocible Science (workshop for postdocs and graduate students, Northern Arizona University) 2018

Certificate in College Teaching (CCT), Duke University 2017

- Training on “Fundamentals of College Teaching”
- Training on “College Teaching and Visual Communications”
- Teaching Experience
- Peer Observation of Teaching

Instructor

- Ecohydrology using Mathematica and MATLAB, Duke University (5 PhD students, teaching, holding office hours) 2016
- Visual Basic Programming for Engineering, Research Institute of Petroleum Industry (20 senior engineers, designing the course, teaching, troubleshooting sessions) 2010

Guest Lecturer

- Machine Learning Applications, Northern Arizona University (course taught by Dr. Paul Beier) 2019
- Environmental Science and Policy, Duke University (course taught by Dr. Joel Meyer) 2017
- Ecohydrology, Duke University (course taught by Dr. Amilcare Porporato) 2016
- Watershed Hydrology, Duke University (course taught by Dr. Gaby Katul) 2014
- Hydrology Modeling, Duke University (course taught by Dr. Mukesh Kumar) 2012,2013

Teaching Assistant

- Introduction to Environmental Science and Policy, Duke University (85 undergraduates, leading discussion groups, grading, holding office hours) 2016
- Ecohydrology, Duke University (15 undergraduates/graduates, holding office hours) 2015
- California Water Crises, Duke University (12 graduates, organizing course materials, holding office hours) 2015
- Watershed Hydrology, Duke University (15 graduates, holding office hours, leading problem solving sessions, grading) 2014
- Hydrology Modeling, Duke University (4+ graduates, co-teaching, grading, holding office hours) 2012, 2013
- GIS for Water Quantity and Quality Assessment, Duke University (20+ graduates, leading problem solving sessions, lab assistant, grading, holding office hours) 2012, 2013, 2014
- Heat Transfer, University of Semnan (20+ undergraduates, leading problem solving sessions) 2003
- Fluid Mechanics, University of Semnan (20+ undergraduates, leading problem solving sessions) 2003
- Dynamics and Statics, University of Semnan (2 undergraduates, private tutoring) 2002, 2003
- Thermodynamics, University of Semnan (3 undergraduates, private tutoring) 2002, 2003

MENTORING AND ADVISING

Graduate Student / Visting Scholars

- Minkyu Moon (PhD student, Continuous Development Phenology Model, Boston University) 2019 -
- Tong Qiu (PhD student, State-Space Phenology Model, University of North Carolina at Chapel Hill) 2018 -
- Stephanie Arcusa (PhD student, CLM Project, Northern Arizona University) 2018 -
- Shaokang Zhang (Visiting Scholar, PhenoCam Image Processing, South China Botanical Garden) 2018

Undergraduate Students

- Kevyn Sisante (Undergraduate student, machine learning project, Northern Arizona University) 2019
- Kevyn Sisante (Undergraduate student, work-study program, Northern Arizona University) 2018
- Amberlee Pavey (Undergraduate student, work-study program, Northern Arizona University) 2018
- Jasque Saydyk (Undergraduate student, Open-source software, Northern Arizona University) 2018
- Evan Russell (Undergraduate student, Open-source software, Northern Arizona University) 2018
- Ryan Ladwig (Undergraduate student, Open-source software, Northern Arizona University) 2018
- Yuxuan Zhu (Undergraduate student, Open-source software, Northern Arizona University) 2018

AWARDS, FUNDING, FELLOWSHIPS AND RECOGNITIONS

NASA Advanced Information Systems Technology, "The bridge from canopy condition to continental scale biodiversity forecasts, including the rare species of greatest conservation concern", Jennifer Swenson (PI), James Clark (Co-PI), Alan Gelfand (Co-I), Amanda Schwantes (Co-I) and Bijan Seyednasrollah (Co-I). Pending

NEON-ESA Early Career Scholars, Ecological Society of America 2019

CUAHSI Travel Award, CUAHSI Conference on Hydroinformatics, Provo, UT 2019

SAMSI Travel Award, Deep Learning, Statistical & Applied Mathematical Sciences Inst., Durham, NC 2019

NEON Data Institute Fellowship, National Ecological Observatory Network 2018

SAMSI Travel Award, Quasi-Monte Carlo, Statistical & Applied Mathematical Sciences Inst., Durham, NC 2017

Outstanding Accomplishments Fellowship, The Duke University Graduate School 2016 - 2017
Ecosystem response to a changing climate: vulnerability, impact and monitoring, $22,470

The Summer Research Fellowship, The Duke University Graduate School 2016
Remotely sensed canopy thermal stress to monitor droughts in near real-time, $5,500

Bass Online Apprentice Fellowship, Duke University, $11,235 2016

Bass Instructional Teaching Assistant Fellowship, Duke University, $11,235 2015

Summer Research Award, Nicholas School of the Environment, Duke University 2015
Long term monitoring of leaf out phenology using satellite observation at large scales, $5,500

Pathfinder Fellowship, The Consortium for the Advancement of Hydrologic Science Inc. (CUAHSI) 2014
Role of vegetation density and pattern on net snow cover radiation at the forest floor, $4,996

NASA Snow School Travel Award, NASA Snow School for Practitioners and Modelers, Fraser, CO 2014

CUAHSI Travel Award, CUAHSI Conference on Hydroinformatics and Modeling, Logan, UT 2013

NSF Travel Award, EarthCube Modeling Workshop for the Geosciences, Boulder, CO 2013

National Elite, The National Association of Elites (Iran) 2008

1st Departmental Rank, Mechanical Engineering Department, University of Semnan, Iran 2003

34th National Rank, Nationwide (Iran) Entrance Exam for Graduate Study in Mechanical Engineering 2003

56th National Rank, Nationwide (Iran) Entrance Exam for Graduate Study in Aerospace Engineering 2003

SERVICES AND OUTREACH

Editorial Services:

Reviewer (since 2015):

- Agricultural and Forest Meteorology (x3) 2019
- Biogeosciences
- Forests
- Geosciences
- Science of the Total Environment
- Scientific Data
- Sustainability
- Water (x4)

- Atmosphere 2018
- Climate Research
- Data (x2)
- Frontiers in Ecology and the Environment
- International Journal of Digital Earth
- ISPRS International Journal of Geo-Information
- Methods in Ecology and Evolution

- Remote Sensing
- Remote Sensing of Environment (x3)
- Science of the Total Environment

- Agricultural and Forest Meteorology 2017

- Asia-Pacific Journal of Chemical Engineering 2016
- Ecosphere
- Soild Earth

- Journal of Geophysical Research: Atmospheres 2015

Editor: Duke Science Review 2016

Chairperson: International Conference on Advances in Mechanical Engineering 2010 (ICAME2010) 2010

Editorial Board: Mechanical Engineering Magazine, Iranian Society of Mechanical Engineers 2004-2007

Professional and Volunteer Services:

Science in the Classroom, 6th Grade Students of the Sinagua Middle School, Flagstaff, AZ 2019
Judge, Virtual Poster Showcase, American Geophysical Union (AGU) 2018
Judge, Outstanding Student Presentation Award, American Geophysical Union, New Orleans, LA 2017
VIP Consultant in Modeling, American Statistical Association, DataFest Competition, Durham, NC 2016
Statistician, United Nations Human Settlements Programme, UN-Habitat 2016 - 2017
Competition Judge, Student Academy of Science, State Science and Engineering Fair, Raleigh, NC 2016
Competition Judge, Student Academy of Science, Reg. Science and Engineering Fair, Durham, NC 2015
Collaborator, Working group on "Ecology: Multivariate Models, Climate and Biodiversity", Statistical and Applied Mathematical Sciences Institute (SAMSI) 2014 - 2015
Member of the Diversity & Inclusion Committee, Nicholas School, Duke University 2013 - 2015
Member of the Software Council, Research Institute of Petroleum Industry, Iran 2010 - 2011
Member of the Undergraduate Scientific Committee, University of Semnan, Iran 2000 - 2001

SKILLS

Programming and Scripting:

C/C++/C#, R, Python, Markdown, MATLAB, Mathematica, Java, VBA, Fortran, Pascal, Shell, HTML/CSS, Object Oriented Programming (OOP), High Performance Computing (HPC), Multithreaded Programming, OpenMP and MPI, Socket programming, programming on Unix and Windows based platforms.

Quantitative, Geospatial and Visualizations:

Hierarchical Modeling, Bayesian Statistics, Markov Chain Monte Carlo (MCMC), Machine Learning, GIS, Geospatial Analysis, Remote Sensing, Data Elevation Model (DEM) Processing, Image Processing, Optimization, Numerical Methods, Finite Difference Methods, Finite Element Methods, Finite Volume Methods