Bijan Seyednasrollah, PhD

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School of Informatics, Computing & Cyber Systems
Northern Arizona University
PO Box 5693
Flagstaff, AZ 86011

Residency Status: US Permanent Resident (Green Card Holder)

EDUCATION

Duke University, Durham, NC 2017
Ph.D. in Quantitative Environmental Science (Land-Atmosphere Interactions/Ecohydrology)
Dissertation: "Ecosystem Response to a Changing Climate: Vulnerability, Impact and Monitoring",
Advisor: Dr. Jim Clark

Duke University, Durham, NC 2017
Certificate in College Teaching

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

ACADEMIC APPOINTMENTS

Postdoctoral Research Associate / Lead Data Scientist 2017-present
Harvard University / Northern Arizona University (PhenoCam Network)

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

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

Director of Mechanical Engineering Magazine 2004-2007
Iranian Society of Mechanical Engineers (ISME)

PEER-REVIEWED PUBLICATIONS

[In Review / Revision]

26 Browning D. M., E. S. Russell, G. E. Ponce-Campos, N. Kaplan, A. D. Richardson, **B. Seyednasrollah**, S. Spiegal, N. Saliendra, J. G. Alfieri, J. M. Baker, C. Bernacchi, B. T. Bestelmeyer, D. D. Bosch, E. H. Boughton, R. Boughton, P. Clark, G. Flerchinger, N. Gomez-Casanovas, S. Goslee; N. M. Haddad, D. Hoover, A. Jaradat, M. Mauritz, G. R. Miller, J. Sadler, A. Saha, R. L. Scott, A. Suyker, C. Tweedie, J. Wood, X. Zhang, and S. Taylor, "Monitoring agroecosystem production and phenology at a continental scale: A metric assessment framework Corresponding", Ecological Indicators, in review.

25 Miller E. W. B., T. Rademacher, P. Fonti, **B. Seyednasrollah**, and A. D. Richardson, "The distribution of density anomalies throughout the stem of white pine is controlled by endogenous gradients, but triggered by dryness", American Journal of Botany, in review.

24 Rademacher, Tim; P. Fonti, J. LeMoine, M. Fonti, D. Basler, Y. Chen, A. Friend, **B. Seyednasrollah**, A. Eckes-Shephard, and A. D. Richardson, "Wood formation in an evergreen conifer is controlled by phloem transport of labile carbon, but nonstructural carbon concentrations are not", New Phytologist, in review.

23 Helbig, M., …, **B. Seyednasrollah**, …, and A. D. Richardson, "Understanding land-atmosphere interactions through tower-based flux and continuous atmospheric boundary layer measurements" Agricultural and Forest Meteorology, in review.

22 Young, A. M., M. A. Friedl, **B. Seyednasrollah**, …, and A. D. Richardson, "Impacts of vegetation phenology on aerodynamic resistance and sensible heat flux: A continental-scale synthesis using data from AmeriFlux and PhenoCam", Agricultural and Forest Meteorology, in review.

21 Moon, Minkyu , **B. Seyednasrollah,** A. D. Richardson, and M. Friedl, "Photoperiod compensates for decreased temperature sensitivity in deciduous forest greenup", in review.

20. Li, X., E. Melaas, C. M. Carrillo, T. Ault, A. D. Richardson, P. Lawrence, M. Friedl, **B. Seyednasrollah**, D. Lawrence, and A. Young, "Indicators of land surface phenology from remote sensing and the Community Land model", Journal of Hydrometeorology, in revision.

[Published]

19 **Seyednasrollah B.**, D. R. Bowling, R. Cheng, B. A. Logan, T. S. Magney, C. Frankenberg, J. C. Yang, A. M. Young, K. Hufkens, M. A. Arain, T. A. Black, P. D. Blanken, R. Bracho, R. Jassal, D. Y. Hollinger, B. E. Law, Z. Nesic, and A. D. Richardson, "Temperature drives seasonal changes in pigments, photosynthetic capacity, and color of evergreen conifer canopies", New Phytologist, in press.

18 Qiu T, C. Song, J. S. Clark, **B. Seyednasrollah**, N. Rathnayaka, and J. Li (2020) "Understanding the continuous phenological development at daily time step with a Bayesian hierarchical space-time model: impacts of climate change and extreme weather events", Remote Sensing of Environment, 247, 111956. doi:10.1016/j.rse.2020.111956

17 **Seyednasrollah, B.** and J. S. Clark (2020), "Where resource-acquisitive species are located: The role of habitat heterogeneity", Geophysical Research Letters. e2020GL087626. doi:10.1029/2020GL087626.

16 **Seyednasrollah, B.**, A. M. Young, X. Li, T. Milliman, T. Ault, S. Frolking, M. Friedl, A. D. Richardson (2020) "Sensitivity of deciduous forest phenology to environmental drivers: Implications for climate change impacts across North America", Geophysical Research Letters, 47, e2019GL086788. doi:10.1029/2019GL086788.

15 **Seyednasrollah, B.**, A. M. Young, K. Hufkens, T. Milliman, M. A. Friedl, S. Frolking and A. D. Richardson (2019), "Tracking vegetation phenology across diverse biomes using PhenoCam imagery: The PhenoCam dataset v2.0", Scientific Data, Volume 6, 22, doi:10.1038/s41597-019-0229-9.

14 **Seyednasrollah, B.**, A.M. Young, K. Hufkens, T. Milliman, M.A. Friedl, S. Frolking, A.D. Richardson, … [116 co-authors] 2019. PhenoCam Dataset v2.0: Vegetation Phenology from Digital Camera Imagery, 2000-2018. ORNL DAAC, Oak Ridge, Tennessee, USA. doi:10.3334/ORNLDAAC/1674 [Dataset].

13 Milliman, T., **B. Seyednasrollah**, A.M. Young, K. Hufkens, M.A. Friedl, S. Frolking, A.D. Richardson, … [116 co-authors]. 2019. PhenoCam Dataset v2.0: Digital Camera Imagery from the PhenoCam Network, 2000-2018. ORNL DAAC, Oak Ridge, Tennessee, USA. doi:10.3334/ORNLDAAC/1689 [Dataset].

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

11 **Seyednasrollah, B.**, T. Milliman and A. D. Richardson (2019), "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.

10 Carbone M. S., **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.

9 **Seyednasrollah, B.**, 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.

8 C. Schadel, A. D. Richardson, K. Hufkens, T. Milliman, **B. Seyednasrollah**, W. R. Nettles, M. B. Krassovski, and P. J. Hanson (2019), "SPRUCE vegetation phenology in experimental plots from PhenoCam imagery, 2015-2018", United States: N. p., 2019. Web. doi:10.25581/spruce.071/1556082 [Dataset].

7 Richardson A. D., 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.

6 Richardson A. D., 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", Oak Ridge National Laboratory, TES SFA, Department of Energy, Oak Ridge, TN, US. doi:10.3334/CDIAC/SPRUCE.045 [Dataset].

5 **Seyednasrollah, B.**, 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 Clark J. S., 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 **Seyednasrollah, B.** 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 **Seyednasrollah, B.** 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 **Seyednasrollah, B.**, 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 OPEN-SOURCE SOFTWARE APPLICATIONS

8. **Seyednasrollah, B.**, 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.

7. **Seyednasrollah, B.**, 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. **Seyednasrollah, B.**, 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. **Seyednasrollah, B.** (2017), "drawROI: An interactive toolkit to extract phenological time series data from digital repeat photography", Zenodo. http://doi.org/10.5281/zenodo.1066588.

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

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

2. **Seyednasrollah, B.** (2014), "GaRM: A forest gap radiation model", Zenodo. http://doi.org/10.5281/zenodo.840998.

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

TALKS, CONFERENCE PRESENTATIONS AND OTHER PUBLICATIONS

40. **Seyednasrollah, B.**, A. M. Young, T. E. Milliman, D. R. Bowling, & A.D. Richardson (2019). A simple model to simulate the seasonal changes in the canopy color of northern evergreen forests. American Geophysical Union Fall Meeting, 2019, San Francisco, USA, B53P-2624.

39. Bowling, D. R., T. S. Magney, **B. Seyednasrollah**, R. Cheng, C. Frankenberg, B. A. Logan, ... & Jassal, R. (2019). Seasonal Pigment Changes Allow Detection of Activity and Dormancy of Evergreen Photosynthesis in Cold-Climate Conifer Forests. American Geophysical Union Fall Meeting, 2019, San Francisco, USA, B11G-2343.

38. Moon, M., **B. Seyednasrollah**, A. D. Richardson, J. Gray & M. A. Friedl (2019). Climate controls on springtime phenology in Eastern Temperate Forests of North America. American Geophysical Union Fall Meeting, 2019, San Francisco, USA, B33K-2629.

37. Qiu, T., C. Song, **B. Seyednasrollah**, & N. Rathnayaka (2019). A Bayesian hierarchical space-time model in characterizing the impacts of climate change and extreme weather events on land surface phenology. American Geophysical Union Fall Meeting, 2019, San Francisco, USA, B33K-2637.

36. Belmonte, A., T. Sankey, **B. Seyednasrollah** & J. A. Biederman (2019). Quantifying snow cover and persistence in a post restoration environment: UAV-derived forest structure data and forest gap radiation modeling. American Geophysical Union Fall Meeting, 2019, San Francisco, USA, EP11C-2146.

35. **Seyednasrollah, B.**, A. M. Young, T. E. Milliman, M. A. Friedl, A. D. Richardson, "Real time monitoring of surface waters using digital repeat photography by a large network of cameras", CUAHSI Conference on Hydroinformatics, Provo, Utah, July 2019.

34. **Seyednasrollah, B.**, 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, Flagstaff, AZ, USA, June 2019.

33. M. S. Carbone, **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 measurements of CO2 and H2O fluxes", 12th North American Forest Ecology Workshop, Flagstaff, AZ, USA, June 2019.

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

31. **Seyednasrollah, B. (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. **Seyednasrollah, B.**, 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. **Seyednasrollah, B.**, 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. **Seyednasrollah, B. (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. **Seyednasrollah, B.**, 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. **Seyednasrollah, B. (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. **Seyednasrollah, B.**, 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**, B. 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. **Seyednasrollah, B.**, "Dynamics of forest green-up across different ecosystems", Joint Ecology / Marine Lab (JEM) Symposium 2015, Duke University, Beaufort, NC, USA, November 2015.

19. **Seyednasrollah, B.**, 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. Hille Ris Lambers, 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. **Seyednasrollah, B. (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. **Seyednasrollah, B.**, "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. **Seyednasrollah, B.**, 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. **Seyednasrollah, B.**, M. Kumar, "Understanding the role of canopy coverage and tree morphometry on net snow cover radiation using Forest Radiation Model (FoRM)", CUAHSI Hydroinformatics 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. **Seyednasrollah, B.**, 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. **Seyednasrollah, B.**, 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. **Seyednasrollah, B.**, 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. Khorasani, **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. **Seyednasrollah, B.**, 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.

TEACHING EXPERIENCE

Certificate in College Teaching, Duke University 2017

- Training on "Fundamentals of College Teaching"
- Training on "College Teaching and Visual Communications"
- Teaching experience
- Peer observation of teaching

Co-founder, SciCademy: An Interactive Science Academy (https://scicademy.github.io) 2018-present

Workshop and Panel Organizer / Instructor

- Combining PhenoCam with Flux Observations, AmeriFlux Early Career Workshop Overview (Boulder, Colorado) 2019
- Panelist at "Beyond Data: Navigating NEON Resources" Workshop, Ecological Society of America Annual Meeting (Louisville, KY) 2019
- Introduction to PhenoCam Data Products and Software Tools in "New Advances in Land Carbon Cycle Modeling" Workshop (NAU) 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 (NAU) 2018
- Source Control and Reproducible Science (workshop for postdocs and graduate students, NAU) 2018

- Visual Basic Programming for Engineering, Research Institute of Petroleum Industry (20 senior engineers, designing the course, teaching, troubleshooting sessions) 2010

Guest Lecturer

- Advanced Ecoinformatics, Northern Arizona University (course taught by Dr. Ben Ruddell) 2020
- 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, leading problem-solving sessions) 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 (5 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) 2012-2014
- 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 Students / Visiting Scholars

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

Undergraduate Students

- Kevyn Sisante (Deep learning project, Northern Arizona University) 2019
- Shawna Greyeyes (Image classification project, Northern Arizona University) 2019
- Angelina Valenzuela (Image classification project, Northern Arizona University) 2019
- Kevyn Sisante (Work-study program, Northern Arizona University) 2018
- Amberlee Pavey (Work-study program, Northern Arizona University) 2018
- Jasque Saydyk (Open-source software, Northern Arizona University) 2018
- Evan Russell (Open-source software, Northern Arizona University) 2018
- Ryan Ladwig (Open-source software, Northern Arizona University) 2018
- Yuxuan Zhu (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", J. Swenson (PI), **B. Seyednasrollah (Co-I)**, $574,926 — 2020-2022

ESA Early Career Scholar Award, 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, "Ecosystem response to a changing climate: Vulnerability, impact and monitoring", $22,470 — 2016-2017

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

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, "Long term monitoring of leaf out phenology using satellite observation at large scales", $5,500 — 2015

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

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 Entrance Exam for Graduate Study in Mechanical Engineering, Iran — 2003

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

FEATURED IN THE MEDIA

- *Earth Notes: Drought Eye*
  KNAU Arizona Public Radio, https://www.knau.org/post/earth-notes-drought-eye/ — June 26, 2019
- *Keeping an eye out for drought*
  LTER Network Science Update, https://lternet.edu/stories/eye-out-for-drought/ — May 29, 2019
- *Flux Puppy: Ecological app for measuring carbon dioxide*
  PhysOrg.com, https://phys.org/news/2019-05-flux-puppy-ecological-app-carbon.html — May 21, 2019
- *Taking Flux Puppy for a walk: NAU undergraduate research team develops ecological app for measuring carbon dioxide*
  NAU News, http://news.nau.edu/flux-puppy/#.XYGEky2ZMWo — May 21, 2019
- *Maybe I could just do this: NAU Researcher Helps Develop Near Real-time Drought Monitoring Tool*
  NAU News, https://news.nau.edu/drought-monitoring-tool/ — April 2, 2019
- *El Cambio Climtico Desde Varios Frentes*

El Heraldo (Colombia), https://www.elheraldo.co/medio-ambiente/el-cambio-climatico-desde-varios-frentes-612018/ March 27, 2019

- *These new maps could tell us where in the US is most at risk from drought*

World Economic Forum (Switzerland), https://www.weforum.org/agenda/2019/03/free-drought-eye-maps-depict-thermal-stress/ March 12, 2019

- *Improving Drought Monitoring to Reduce Damage*

Technology Networks (UK), https://www.technologynetworks.com/tn/news/improving-drought-monitoring-to-reduce-damage-316294/ March 5, 2019

- *Free Drought Eye Maps Depict Thermal Stress*

Futurity, https://www.futurity.org/droughts-map-1999812/ March 5, 2019

- *Thermal Stress Measurements Sound the Alarm About Drought Conditions Sooner*

Science Daily (USA), https://www.sciencedaily.com/releases/2019/03/190304154858.htm March 4, 2019

- *A Faster and More Accurate Way to Monitor Drought*

American Farm Publications (USA), https://americanfarmpublications.com/a-faster-more-accurate-way-to-monitor-drought March 15, 2019

Weather Nation, http://www.weathernationtv.com/news/a-faster-and-more-accurate-way-to-monitor-drought/ March 13, 2019

Newswise (USA), https://www.newswise.com/articles/a-faster-more-accurate-way-to-monitor-drought/ March 5, 2019

SeedQuest (USA), https://www.seedquest.com/news.php?type=news&id_article=105009&id_region=&id_category=&id_crop March 4, 2019

National Science Foundation (USA), https://www.nsf.gov/news/news_summ.jsp?cntn_id=298064&org=NSF&from=news/ March 4, 2019

AAAS EurekAlert (USA), https://eurekalert.org/pub_releases/2019-03/du-afm030419.php March 4, 2019

Duke University, https://nicholas.duke.edu/about/news/faster-more-accurate-way-monitor-drought/ March 4, 2019

PhysOrg.com (USA), https://phys.org/news/2019-03-faster-accurate-drought.html March 3, 2019

SERVICES AND OUTREACH

Editorial Services

Reviewer: 2015-present
https://publons.com/researcher/1381772/bijan-seyednasrollah/peer-review/

Nature Climate Change (x6)
Geophysical Research Letters
Frontiers in Ecology and the Environment
Scientific Data
Journal of Geophysical Research: Atmospheres
Journal of Geophysical Research: Biogeosciences (x2)
Biogeosciences (x3)
Agricultural and Forest Meteorology (x7)
Remote Sensing of Environment (x3)
Methods in Ecology and Evolution
Solid Earth
Science of the Total Environment (x2)
ISPRS Journal of Photogrammetry and Remote Sensing (x2)

ISPRS International Journal of Geo-Information
Climate Research
Ecosphere
Remote Sensing (x5)
Water (x9)
Forests (x2)
Atmosphere (x3)
Sustainability (x5)
Forecasting (x2)
Data (x2)
Geosciences
Entropy
International Journal of Digital Earth
Applied Sciences
Asia-Pacific Journal of Chemical Engineering

Editor: Duke Science Review 2016

Session Presider: *Phenology Session*, Ecological Society of America Annual Meeting 2019 2019

Chairperson: International Conference on Advances in Mechanical Engineering 2010 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, Regional 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:

R, Python, C/C++/C#, 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, Deep Learning, Computer Vision, Image Processing, Optimization,
GIS, Geospatial Analysis, Remote Sensing, Data Elevation Model (DEM) Processing,
Numerical Methods, Finite Difference Methods, Finite Element Methods, Finite Volume Methods
ggplot2, data.table, dplyr, NumPy, SciPy, Pandas, Scikit-learn, Matplotlib, TensorFlow, Keras