

# Bhavna Arora

Energy Geosciences Division  
Lawrence Berkeley National Laboratory  
1 Cyclotron Road, MS 74A-311  
Berkeley, CA-94720  
Phone: (510) 495-2163  
E-mail: [barora@lbl.gov](mailto:barora@lbl.gov)

## Education

---

<b>Texas A&amp;M University, College Station, TX</b> Ph. D., Water Management & Hydrologic Sciences	2012
<b>Indian Institute of Technology (IIT), Kharagpur, India</b> M. Tech., Water Resources Development & Management B.Tech. (Hons), Agricultural & Food Engineering Minor, Mathematics & Computing	2006

## Professional Positions

---

Geological Research Scientist, <b>Lawrence Berkeley National Laboratory</b>	Present
Postdoctoral Fellow, <b>Lawrence Berkeley National Laboratory</b>	2017
Graduate Research & Teaching Assistant, <b>Texas A&amp;M University</b>	2012
Intern, <b>Jumbo International</b>	2004
Intern, <b>Indian Agricultural Research Institute</b>	2003

## Grants & Proposals

---

Collaborator, Small Business Technology Transfer (STTR) Phase II Grant, DOE Office of Science (\$700,000). PI: Stefan Finsterle	2019-Present
Co-I, Laboratory Directed Research and Development (LDRD) Grant, Lawrence Berkeley National Laboratory (\$280,000). Collaborators: Deb Agarwal (PI), Juliane Mueller, Charuleka Varadharajan, and Boris Faybishenko	2018-Present
Collaborator, Small Business Innovation Research (SBIR) Phase I Grant, DOE Office of Science (\$150,000). PI: Stefan Finsterle	2018-2019
PI, Laboratory Directed Research and Development (LDRD) Grant, Lawrence Berkeley National Laboratory (\$380,000). Collaborators: Sergi Molins (Co-PI), David Trebotich, Jonathan Ajo-Franklin and Carl Steefel	2015-2017
Graduate Student Research and Presentation Grant, Office of Graduate Studies, Texas A&M University (\$500)	2010
TWRI Mills Scholarship, Texas Water Resources Institute (\$1,500)	2009-2010
Graduate Student Council Travel Grant, Texas A&M University (\$500)	2009

## Honors & Awards

---

Spot Recognition Award, Earth & Environmental Sciences Area, Lawrence Berkeley National Laboratory	2020, 2019
DOE-SBR Travel Fellowship for participating in the Early Career AGU Workshop, AGU Fall Meeting	2019
AAAS/Science Program for Excellence in Science Membership Award, American Association for the Advancement of Science	2012-2014
Biological & Agricultural Engineering Graduate Scholarship, Texas A&M University	2012
Bill and Rita Stout International Graduate Student Achievement Award, Texas A&M University <i>Awarded each year to a graduate student for outstanding achievement in academics and leadership at Texas A&amp;M University</i>	2011
Outstanding Student Paper Award, AGU Fall Meeting	2010
Regents' Scholarship, Texas A&M University	2010-2011
2 <sup>nd</sup> place, Oral Session, Student Research Week, Texas A&M University <i>Also presented with Interdisciplinary Research Recognition Ribbon</i>	2009
Regents' Scholarship, Texas A&M University	2008-2009
1 <sup>st</sup> place, Poster Session, Student Research Week, Texas A&M University	2007
Institute Silver Medalist, IIT Kharagpur <i>Awarded each year to a graduating student who secures the highest grade point among peers</i>	2006
A. A. Hakim Memorial Endowment Prize, IIT Kharagpur <i>Awarded each year to a graduate student for outstanding performance in Water Resources Development and Management</i>	2006
Certificate of Recognition, Drip Irrigation Project, Government of India	2003
Vinod Gupta Leadership Award, IIT Kharagpur	2003
Certificate of Merit, National Scholarship Scheme, India	1999
Certificate of Excellence, Senior Mathematical Olympiad	1998

## Publications

---

### Peer-reviewed

- [30] Druhan, J., S. Guillon, M. Lincker, and **B. Arora** (2020), Stable and Radioactive Carbon Isotope Partitioning in Soils and Saturated Systems: A Reactive Transport Modeling Benchmark Study, *Computational Geoscience*, DOI: 10.1007/s10596-020-09937-6.
- [29] Tague, C. L., S. A. Papuga, C. Gerlein-Safdi, S. Dymond, R. R. Morrison, E. W. Boyer, D. Riveros-Iregui, E. Agee, **B. Arora**, Y. G. Dialynas, A. Hansen, S. Krause, S. Kuppel, et al.

- (2020), **Invited Perspectives:** Adding our Leaves: A community-wide perspective on research directions in ecohydrology, *Hydrological Processes*, DOI:10.1002/hyp.13693.
- [28] Tokunaga, T., J. Wan, K. Williams, W. Brown, A. Henderson, Y. Kim, A. P. Tran, M. E. Conrad, M. Bill, R. W. H. Carroll, W. Dong, Z. Xu, A. Lavy, B. Gilbert, S. Romero, J. N. Christensen, B. Faybishenko, **B. Arora**, E. Woodburn, R. Versteeg, et al. (2019), Depth- and time-resolved distributions of snowmelt-driven hillslope subsurface flow and transport, and their contributions to surface waters, *Water Resources Research*, WRCR24293, DOI: 10.1029/2019WR025093.
- [27] **Arora, B.**, D. Dwivedi, B. Faybishenko, R. Jana, and H. M. Wainwright (2019), Understanding and Predicting Vadose Zone Processes, *Reviews in Mineralogy and Geochemistry: Reactive transport in Natural and Engineered System*, 85 (1), DOI: 10.2138/rmg.2019.85.10.
- [26] Grant, R. F., Z. A. Mekonnen, W. J. Riley, **B. Arora**, and M. S. Torn (2019), Modeling climate change impacts on an Arctic polygonal tundra: 2. Changes in CO<sub>2</sub> and CH<sub>4</sub> exchange depend on rates of permafrost thaw as affected by changes in vegetation and drainage, *Journal of Geophysical Research: Biogeosciences*, DOI: 10.1029/2018JG004644.
- [25] Molins, S., D. Trebotich, **B. Arora**, C. I. Steefel, and H. Deng (2019), Multi-scale model of reactive transport in fractured media: Transport limitations on rates, *Transport in Porous Media*, DOI: 10.1007/s11242-019-01266-2.
- [24] **Arora, B.**, H. M. Wainwright, D. Dwivedi, L. J. S. Vaughn, J. B. Curtis, M. S. Torn, B. Dafflon and S. S. Hubbard (2019), Evaluating Temporal Controls on Greenhouse Gas (GHG) Fluxes in an Arctic Tundra Environment: An Entropy-Based Approach, *Science of the Total Environment*, DOI: 10.1016/j.scitotenv.2018.08.251.
- [23] Dwivedi, D., C. I. Steefel, **B. Arora**, M. Newcomer, J. D. Moulton, B. Dafflon, B. Faybishenko, P. Fox, P. Nico, N. Spycher, R. Carroll, and K. Williams (2018), Geochemical Exports to River from the Intra-Meander Hyporheic Zone under Transient Hydrologic Conditions: East River Mountainous Watershed, Colorado, *Water Resources Research*, DOI: 10.1029/2018WR023377.
- [22] Engelbrektson, A., Y. Cheng, C. G. Hubbard, Y. T. Jin, **B. Arora**, L. Tom, P. Hu, A.-L. Grauel, M. Conrad, G. L. Andersen, J. B. Ajo-Franklin, and J. D. Coates (2018), Attenuating Sulfidogenesis in a Soured Continuous Flow Column System with Perchlorate Treatment, *Frontiers in Microbiology*, DOI: 10.3389/fmicb.2018.01575.
- [21] Dwivedi, D., **B. Arora**, C. I. Steefel, B. Dafflon, and R. Versteeg (2018), Hot Spots and Hot Moments of Nitrogen in a Riparian Corridor, *Water Resources Research*, DOI: 10.1002/2017WR022346. (**Note: This publication was a featured article on the Water Resources Research website**)
- [20] Wainwright, H. M., **B. Arora**, S. Hubbard, K. Lipnikov, D. Moulton, G. Flach, C. Eddy-Dilek, and M. Denham (2018), Sustainable Remediation in Complex Geologic Systems, *The Encyclopedia of Inorganic and Bioinorganic Chemistry*, DOI: 10.1002/9781119951438.eibc2562.
- [19] **Arora, B.**, J. A. Davis, N. F. Spycher, W. Dong, and H. M. Wainwright (2018), Comparison of electrostatic and non-electrostatic models for U(VI) sorption on contaminated sediments and

the impact on reactive transport simulation, *Groundwater*, DOI: 10.1111/gwat.12551.

- [18] Cheng, Y., C. G. Hubbard, L. Zheng, **B. Arora**, L. Li, J. Ajo-Franklin, and N. Bouskill (2018), New generation modeling of microbial souring – Parameterization through genomic information, *International Biodeterioration and Biodegradation*, DOI:10.1016/j.ibiod.2017.06.014.
- [17] **Arora, B.**, Y. Cheng, E. King, N. Bouskill, and E. Brodie (2017), *Chapter 27: Modeling microbial energetics and community dynamics*, in the Handbook of Metal-Microbe Interactions and Bioremediation, CRC Taylor and Francis Group.
- [16] Grant, R. F., Z. A. Mekonnen, W. J. Riley, **B. Arora**, and M. S. Torn (2017), Microtopography determines how CO<sub>2</sub> and CH<sub>4</sub> exchange respond to changes in temperature and precipitation at an arctic polygonal tundra site: Mathematical modelling with ecosys, *Journal of Geophysical Research: Biogeosciences*, DOI: 10.1002/2017JG004037.
- [15] Yabusaki, S. B., M. J. Wilkins, Y. Fang, K. H. Williams, **B. Arora**, J. Bargar, H. Beller, et al. (2017), Water Table Dynamics and Biogeochemical Cycling in a Shallow, Variably-Saturated Floodplain, *Environmental Science and Technology*, DOI:10.1021/acs.est.6b04873.
- [14] Dwivedi, D., C. I. Steefel, **B. Arora**, and G. Bisht (2017), Impact of intra-meander hyporheic flow on nitrogen cycling, *Procedia Earth and Planetary Science*, DOI: 10.1016/j.proeps.2016.12.102.
- [13] **Arora, B.**, D. Dwivedi, N. F. Spycher, and C. I. Steefel (2017), On modeling CO<sub>2</sub> dynamics in a flood plain aquifer, *Procedia Earth and Planetary Science*, DOI: 10.1016/j.proeps.2016.12.103.
- [12] **Arora, B.**, and B. P. Mohanty (2017), Influence of spatial heterogeneity and hydrological perturbations on redox dynamics: A column study, *Procedia Earth and Planetary Science*, DOI: 10.1016/j.proeps.2017.01.046.
- [11] Dwivedi, D., B. Dafflon, **B. Arora**, H. M. Wainwright, and S. Finsterle (2016), *Chapter 20: Spatial analysis and geostatistical methods*, in the Handbook of Applied Hydrology, V. P. Singh (ed.), McGraw-Hill.
- [10] **Arora, B.**, N. F. Spycher, C. I. Steefel, S. Molins, M. Bill, M. E. Conrad, W. Dong, B. Faybishenko, T. K. Tokunaga, J. Wan, K.H. Williams and S. B. Yabusaki (2016), Influence of Hydrological, Biogeochemical and Temperature Transients on Subsurface Carbon Fluxes in a Flood Plain Environment, *Biogeochemistry*, DOI: 10.1007/s10533-016-0186-8.
- [9] **Arora, B.**, D. Dwivedi, S. S. Hubbard, C. I. Steefel, and K. H. Williams (2016), Identifying geochemical hot moments and their controls on a contaminated river floodplain system using wavelet and entropy approaches, *Environmental Modelling & Software*, DOI: 10.1016/j.envsoft.2016.08.005.
- [8] Dwivedi, D., **B. Arora**, S. Molins, and C. I. Steefel (2016), *Chapter 19: Benchmarking Reactive Transport Codes for Subsurface Environmental Problems*, in Groundwater Research on Exploration, Assessment, Modelling and Management of Groundwater Resources and Pollution, D. Thangarajan and V. P. Singh (eds.), CRC Taylor and Francis Group.
- [7] **Arora, B.**, S. S. Sengör, N. F. Spycher, and C. I. Steefel (2015), A reactive transport benchmark on heavy metal cycling in lake sediments, *Computational Geosciences*, DOI: 10.1007/s10596-014-

9445-8.

- [6] **Arora, B.**, B. P. Mohanty, and J. T. McGuire (2015), An integrated Markov Chain Monte Carlo algorithm for upscaling hydrological and geochemical parameters from column to the field scale, *Science of the Total Environment*, DOI:10.1016/j.scitotenv.2015.01.048.
- [5] Steefel, C. I., C. A. J. Appelo, **B. Arora**, D. Jacques, T. Kalbacher, O. Kolditz, V. Lagneau, P. C. Lichtner, K. U. Mayer, J. C. L. Meussen, S. Molins, D. Moulton, H. Shao, J. Simunek, N. Spycher, S. B. Yabusaki, and G. T. Yeh (2015), Reactive transport codes for subsurface environmental simulation, *Computational Geosciences*, DOI:10.1007/s10596-014-9443-x.
- [4] Mayer, K. U., P. Alt-Epping, D. Jacques, **B. Arora**, and C. I. Steefel (2015), Benchmark problems for reactive transport modeling of the generation and attenuation of acid rock drainage, *Computational Geosciences*, DOI: 10.1007/s10596-015-9476-9.
- [3] **Arora, B.**, B. P. Mohanty, J. T. McGuire, and I. M. Cozzarelli (2013), Temporal dynamics of biogeochemical processes at the Norman Landfill site, *Water Resources Research*, 49, 1-18, DOI: 10.1002/wrcr.20484.
- [2] **Arora, B.**, B. P. Mohanty, and J. T. McGuire (2012), Uncertainty in dual permeability model parameters for structured soils, *Water Resources Research*, 48, W01524, DOI: 10.1029/2011WR010500. (**Note: This publication was featured as the most accessed article for Jan-Feb 2012 in Water Resources Research**)
- [1] **Arora, B.**, B. P. Mohanty, and J. T. McGuire (2011), Inverse estimation of parameters for multidomain flow models in soil columns with different macropore densities, *Water Resources Research*, 47, W04512, DOI: 10.1029/2010WR009451. (**Note: This publication was a featured article in EOS, Transactions of the American Geophysical Union**)

### **Reports and other Non-Refereed Work**

- [6] **Arora, B.**, E. Brodie, Z. Mekonnen, T. Tokunaga, J. Wan, J. Steltzer, Y. Wu, and C. Steefel (2018), Linking Snowmelt and Nitrogen Cycling to Vegetation Community Dynamics along a Hillslope Transect, Proceedings of the Computational Methods in Water Resources XXII, pp. 1-2.
- [5] Dafflon, B., E. Léger, Y. Robert, J. Peterson, C. Ulrich, S. Biraud, A. P. Tran, **B. Arora**, H. Wainwright, V. Romanovsky, and S. Hubbard (2018), Quantifying the Interactions Between Subsurface Hydro-Thermal Characteristics, Permafrost Distribution, Soil Physical Properties and Landscape Structure in an Arctic Watershed, *Proceedings of the 5th European Conference on Permafrost, Chamonix*, 3 pp.
- [4] Wainwright, H. M., B. Faybishenko, S. Molins, J. A. Davis, **B. Arora**, G. Pau, J. Johnson, G. Flach, M. Denham, C. Eddy-Dilek, D. Moulton, K. Lipnikov, C. W. Gable, T. A. Miller, E. Baker, V. Freedman and M. Freshley (2016), Effective Long-term Monitoring Strategies by Integrating Reactive Transport Models and In situ Geochemical Measurements, *16162*.
- [3] **Arora, B.**, D. Dwivedi, N. F. Spycher, and C. I. Steefel (2015), Modeling carbon fluxes from a

biogeochemical hotspot in a floodplain aquifer, *Proceedings of the TOUGH Symposium*, Berkeley, CA, pp. 456-463.

- [2] Wainwright, H. M., S. Molins, J. A. Davis, B. Arora, B. Faybishenko, H. Krishnan, S. S. Hubbard, G. Flach, M. Denham, C. Eddy-Dilek, D. Moulton, K. Lipnikov, C. W. Gable, T. A. Miller, and M. Freshley (2015), Using ASCEM modeling and visualization to optimize remediation strategies at F-Area Savannah River site, SC, *Proceedings of MODFLOW and More* 2015, Golden, CO.
- [1] Flach, G., H. M. Wainwright, S. Molins, H. Krishnan, **B. Arora**, J. A. Davis, A. Romosan, B. Faybishenko, S. S. Hubbard, M. Denham, C. Eddy-Dilek, D. Moulton, K. Lipnikov, T. A. Miller, C. W. Gable, and M. Freshley (2015), Advanced Simulation Capability for Environmental Management, Integrated toolsets and simulator to enhance public communication, *15156*, No. SRNL-STI-2015-00027.

## **Invited Talks and First-Author Presentations Only**

---

- [26] Wavelet and entropy approaches for improved characterization of geochemical hot moments, Interagency Conference on Research in the Watersheds (ICRW7), Tifton, Mar. 30- Apr. 2, 2020. **(INVITED)**
- [25] Changes in Gross Primary Productivity and Biogeochemical Fluxes in a Mountainous Watershed as Affected by Warming in Recent Decades, AGU Fall Meeting, Washington, D.C., Dec. 9-13, 2019.
- [24] In the hot seat: When and where is biogeochemical cycling occurring in the critical zone?, Seminar, Bureau de Recherches Géologiques et Minières (BRGM), Orleans, Sep. 2, 2019. **(INVITED)**
- [23] Understanding and Predicting Vadose Zone Dynamics, Goldschmidt Workshop: Reactive Transport in Natural and Engineered Systems, Barcelona, Aug. 7-10, 2019. **(INVITED)**
- [22] A Data-Model Integration Framework for Understanding Controls on Carbon Cycling in Terrestrial Environments, 11<sup>th</sup> International Symposium on Environmental Geochemistry, Beijing, Aug. 7-10, 2019. **(INVITED KEYNOTE)**
- [21] Linking Snowmelt and Nitrogen Cycling to Vegetation Community Dynamics Along a Hillslope Transect, AGU Fall Meeting, Washington, D.C., Dec. 10-14, 2018. **(INVITED)**
- [20] Using Sensitivity Analysis as a Tool to Determine the Need for Regeneration of Hydrological and Biogeochemical Predictions, AGU Fall Meeting, Washington, D.C., Dec. 10-14, 2018.
- [19] Uncertainty-Based Data-Worth Analysis and its Application to a Watershed Management Problem, 2018 TOUGH Symposium, Berkeley, Oct. 8-10, 2018.
- [18] Spatial and Temporal Variability in Nitrate, CA Integrated Water Retreat, Berkeley, Oct. 4, 2018.
- [17] When and Where is Biogeochemical Cycling Occurring in The Critical Zone: Implications for

- the Indian Subcontinent, IIT Kanpur, Kanpur, Jan. 3, 2018. **(INVITED)**
- [16] Identifying factors causing variability in greenhouse gas (GHG) fluxes in a polygonal tundra landscape, AGU Fall Meeting, New Orleans, Dec. 11-15, 2017.
  - [15] Modeling Ecological and Hydrological Controls on Shrubification Using Ecosys, Watershed Function Science Community Outreach, Telecon, Nov. 14, 2017. **(INVITED)**
  - [14] How do perturbations to individual watershed subsystems, including early snowmelt and drought, lead to downgradient export of C, N, & P from that subsystem? A Hillslope Perspective, Watershed Function SFA Retreat, Berkeley, Nov. 9, 2017. **(INVITED)**
  - [13] Mineralogical Controls on Carbon Cycling in a Floodplain Environment, AGU Fall Meeting, San Francisco, Dec. 12-16, 2016.
  - [12] On modeling CO<sub>2</sub> dynamics in a flood plain aquifer, 15th Water-Rock Interaction International Symposium, Evora, Oct. 16-21, 2016.
  - [11] Benchmarking integrated surface-subsurface models along a hillslope transect, SeS Bench V, A Coruña, Oct. 13-15, 2016.
  - [10] Genome-informed reactive transport simulations of CO<sub>2</sub> and carbon isotope dynamics in a flood plain aquifer, Goldschmidt Conference, Yokohama, June 26 – July 1, 2016.
  - [9] Modeling the impact of biogeochemical hot spots and hot moments on carbon fluxes from a flood plain site: Implications for the River Ganges cleanup, IIT Kanpur, Kanpur, Jan. 12, 2016. **(INVITED)**
  - [8] Modeling the impact of biogeochemical hotspots and hot moments on subsurface carbon fluxes from a flood plain site, AGU Fall Meeting, San Francisco, Dec. 14-18, 2015.
  - [7] Floodplain functioning – Hotspots/hot moments identification and their utility for predicting system response to perturbations, SFA 2.0 Retreat, Bodega Bay, Oct. 15-16, 2015. **(INVITED)**
  - [6] Towards improved characterization of geochemical hot moments: A combined wavelet-entropy approach, SIAM Conference on Mathematical and Computational Issues in the Geosciences, Stanford, June 29 – July 2, 2015.
  - [5] Modeling CO<sub>2</sub> dynamics at the Rifle site: Implications of thermal-hydrological-biogeochemical processes, Rifle Science Community Outreach, Telecon, Nov. 20, 2014.
  - [4] Upscaling constructs: Approaches to identify, interrogate and model functional zones and biogeochemical reactive transport across scales, SFA 2.0 Retreat, Bodega Bay, Oct. 23-24, 2014.
  - [3] Reactive transport benchmarks on heavy metal cycling, Goldschmidt Conference, Sacramento, Jun. 8-13, 2014.
  - [2] Parameterization and modeling of preferential flow and transport in soil columns, Dept. of Biological & Agricultural Engineering Seminar, Texas A&M University, College Station, Sept. 7, 2009.
  - [1] Preferential flow and uncertainty: A hydrological perspective, Water Management &

## Society & Honorary Memberships

---

- American Geophysical Union
- Geological Society of America
- Alpha Epsilon

## Service & Synergistic Activities

---

### 1. Editorial and Reviewer Activities:

- Associate Editor, *Frontiers in Water*, Water and Hydrocomplexity Section, 2019-Present.
- Reviewed ~40 papers for a variety of journals including *Applied Geochemistry*, *Nature Communications* and *Water Resources Research*.
- Link to my Publons reviewer profile ([here](#))

### 2. Proposal Reviewer:

- Panelist, DOE Subsurface Biogeochemical Research Program, 2017 and 2019
- Panelist, GEM Fellowship Program (60 proposals), Alexandria, VA, Nov 14-16, 2018
- Ad-hoc reviewer, NSF Geosciences program
- Ad-hoc reviewer, Stanford Synchrotron Radiation Lightsource (SSRL).

### 3. Workshop and Session Organizer:

- Session Organizer, The Role of Plants in Critical Zone Hydrobiogeochemistry, Goldschmidt Conference, Jun. 21-26, 2020. Co-chair: Steve Yabusaki (PNNL).
- Session Organizer, Bedrock Flow and Reactions: Implications for Ecohydrology and Watershed Exports, Interagency Conference on Research in the Watersheds (ICRW7), Mar. 30- Apr. 2, 2020. Co-chair: Ben Gilbert (LBNL).
- Workshop Organizer, Toward an International Critical Zone Network-of-Networks for the Next Generation through Shared Science, Tools, Data and Philosophy, AGU Fall Meeting 2019. Co-conveners: James Stegen (PNNL), Jannis Groh (FZ Jülich), Andrew Ireson (USask), Genevieve Ali (U of G), Pamela Sullivan (KU), Adam Wymore (UNH), Basile Hector (UGA), and Caroline Le Bouteiller (UGA)
- Breakout Session Lead, Water and Nitrogen response to snowmelt dynamics, Watershed SFA Retreat, Nov. 13-15, 2019. Co-chairs: Nick Bouskill, Michelle Newcomer, Eoin Brodie, and Yuxin Xu.



- Session Chair, Characterizing Spatial and Temporal Variability of Hydrological and Biogeochemical Processes across Scales, AGU Fall Meeting, 2014-2019. Co-convenor: Haruko Wainwright (LBL).
- Session Co-chair, Modeling the Critical Zone: Integrating Processes and Data Across Disciplines and Scales, AGU Fall Meeting, 2017-2018. Co-convenors: Li Li (Penn State), Harry Vereecken (IBG), and Praveen Kumar (UIUC).
- Primary convenor, Near Surface Processes, 2018 TOUGH Symposium, Oct. 8-10, 2018.
- Café Topic Lead, Bedrock Controls on Eco-Hydrology and Watershed Exports, Watershed Science Collaboration Workshop, Sept. 23-25, 2018. Co-convenor: Ben Gilbert (LBL).
- Breakout Session Lead, Upscaling constructs: approaches to identify, interrogate and model functional zones and associated biogeochemical reactive transport across the genome, plot, floodplain, watershed and basin scales, SFA 2.0 Retreat, Oct. 22-24, 2014.
- Session Co-Chair, Soil organic matter dynamics in the Anthropocene, AGU Fall Meeting, Dec. 9-13, 2013. Co-convenors: Kate Lajtha (Oregon State University), Dipankar Dwivedi (LBL), and William Riley (LBL).

#### **4. Service to the Division, Area and the Laboratory:**

- Participant, ESS Cyber Infrastructure Working Groups Annual Meeting, 2018-2019.
- Early Career Representative, EESA Awards Committee, 2018-Present.
- Lead, Biogeochemical Cycling Group, Energy Geosciences Division, 2017-Present.
- Department Representative, Distinguished Scientist Seminar Series committee, Earth & Energy Sciences Area, Lawrence Berkeley National Laboratory, 2015-Present
- Working Group Member, Diversity and Inclusion Council, Earth and Environmental Sciences Area, 2015-2018.
- Search Committee Member, Watershed Hydrologist Research Scientist position, Energy Geosciences Division, 2017.
- Early Career Participant, Round table lunch discussion with the Expert Assessment Committee, Director's Review of EESA, Feb. 21, 2017.
- Poster presenter, DOE-ASCAC review of LBNL's LDRD program, Lawrence Berkeley National Laboratory, Jan. 4, 2017.

#### **5. Other Service:**

- Member at large, Executive Board, The International Soil Modeling Consortium, 2020-Present
- Member, AGU Ecohydrology Technical Committee, 2018-Present.
- Presentation Judge, Outstanding Student Paper Awards, AGU Fall Meeting, 2013-Present.
- Education and Outreach Volunteer, Lawrence Berkeley National Laboratory, 41<sup>st</sup> Annual Solano Avenue Stroll, 2015, 2014.

## News & Media

---

- 7/29/2019: Research Group Member & GEM Fellow featured on EESA Webpage ([Link](#))
- 6/3/2019: Berkeley Lab Research Spotlight on Surrogate Modeling LDRD ([Link](#))
- 12/19/2018: 5 years of convening “Biogeochemical Hot Spots and Hot Moments Research” at the AGU Fall Meeting receives mention in NGEE-Arctic Quarterly newsletter
- 12/7/2018: AGU 2018 Invited Talk on the impacts of early snowmelt on plant greening and nitrogen dynamics gets featured by DOE Science ([Link](#))
- 11/28/2018: Recently published article on greenhouse gas emissions in the Arctic receives EESA cover highlight ([Link](#))
- 10/15/2018: Berkeley Lab Research Spotlight on Watershed SFA research ([Link](#))
- 10/5/2018: News Deeply interview about the consequences of declining snowpack on the Upper Colorado ([Link](#))
- 5/14/2018: Featured on AGU Ecohydrology blog series ([Link](#))
- 8/18/2015: [Video](#) on Improving Performance and Reducing Costs at F-Basin with ASCEM lead Haruko Wainwright
- 5/1/2014: Early Career Research Spotlight in LBNL Sustainable Systems Scientific Focus Area (SFA) E-Newsletter, V. 1 (1)
- 8/23/2011: WRR article on modeling preferential flow and transport receives EOS Transactions highlight ([Link](#))