
CONTACT INFORMATION	Associate Professor Department of Civil and Environmental Engineering The Henry Samueli School of Engineering Interdisciplinary Science and Engineering Building (ISEB 3084) University of California, Irvine Irvine, CA 92697, USA Email:	+1 949-824-9230 tirthab@uci.edu
WEBPAGE	<ul style="list-style-type: none"> • Lab website: https://faculty.sites.uci.edu/banerjeelab/ • Google Scholar profile: https://scholar.google.de/citations?user=A0mngwQAAAAJhl=enoi=ao 	
RESEARCH INTERESTS	<ul style="list-style-type: none"> • Leaf to landscape scale modeling of forest - atmosphere interactions by means of coupled biophysics - fluid dynamics modeling • The science of wildland fires (wildfires and prescribed fires), fire behavior modeling, fire atmosphere interactions • Turbulent flow and associated exchange processes in the presence of vegetation - canopy heterogeneity and/or complex topography (numerical approach) • Studying ecosystem-atmosphere processes using field experiments such as eddy covariance and UAV • Phenomenological study of scaling laws of turbulence statistics in neutral and thermally stratified atmospheric surface layer and in wall bounded turbulence (analytical approach) • Modeling and simulation of fluid mechanical system using quantum computers • Wind shear induced turbulence in water-bodies (Particle Imaging Velocimetry (PIV) experiments) 	
EDUCATION	<p>Duke University, Nicholas School of the Environment and Earth Sciences, Durham, NC, USA</p> <p>Ph.D., July 2011-August 2015</p> <ul style="list-style-type: none"> • Dissertation: <i>Turbulence in Natural Environments</i> • Advisor: Prof. Gabriel Katul <p>Jadavpur University, Kolkata, West Bengal, India</p> <p>B.S., Civil Engineering, August 2007-June 2011</p>	
RESEARCH EXPERIENCE	<p>Associate Professor</p> <p>Department of Civil and Environmental Engineering, The Henry Samueli School of Engineering, University of California, Irvine, Irvine, California, USA</p>	<p>July, 2023 to present</p>

- Assistant Professor** July, 2019 to June, 2023
 Department of Civil and Environmental Engineering,
 The Henry Samueli School of Engineering,
 University of California, Irvine,
 Irvine, California, USA
- Director's Postdoctoral Fellow** January, 2018 to June, 2019
 Environmental and Earth Sciences Division,
 Applied Terrestrial, Energy and Atmospheric Modeling (ATEAM),
 Los Alamos National laboratory,
 Los Alamos, New Mexico, USA
- Chick Keller Postdoctoral Fellow in Climate Sciences** September, 2017
 to January, 2018
 Environmental and Earth Sciences Division,
 Applied Terrestrial, Energy and Atmospheric Modeling (ATEAM),
 Los Alamos National laboratory,
 Los Alamos, New Mexico, USA
- Postdoctoral Research Associate** February, 2017 to August, 2017
 Environmental and Earth Sciences Division,
 Applied Terrestrial, Energy and Atmospheric Modeling (ATEAM),
 Los Alamos National laboratory,
 Los Alamos, New Mexico, USA
- Postdoctoral Research Scientist** September, 2015 to January, 2017
 Karlsruhe Institute of Technology (KIT), Alpine campus,
 Institute of Meteorology and Climate Research, Atmospheric Environmental
 Research (IMK-IFU),
 Garmisch-Partenkirchen, Bavaria, Germany
- Graduate Research Assistant** July 2011 to August 2015
 Nicholas School of the Environment and Earth Sciences,
 Duke University,
 Durham, NC, USA
- Visiting Scholar** Summer, 2013
 Institute of Hydrosciences and Engineering (IIHR),
 The University of Iowa,
 Iowa City, IA, USA
- Research Intern** Summer, 2010
 German Aerospace Center (DLR),
 Braunschweig, Germany
- Research Intern** Summer, 2009
 National Aerospace Laboratories (NAL),
 Bangalore, India

Research Intern

Summer, 2008

West Bengal Pollution Control Board (WBPCB),
Kolkata, India

PREPRINTS AND
MANUSCRIPTS
UNDER REVIEW
(*:

STUDENT/POSTDOC)

1. Kumar, M.*, A. Jonko, W. Lassman, J. Mirocha, B. Kosovi, and **T. Banerjee**, Impact of momentum perturbation on convective boundary layer turbulence, under review.
2. Kumar, M.*, B. Kosovi, H. Nayak, W. Porter, J. T. Randerson, and **T. Banerjee**, Evaluating the performance of WRF in simulating winds and surface meteorology during a Southern California wildfire event, under review.
3. Li, S.*, J.A. Bajinath-Rodino*, R. York, L. N. Quinn-Davidson, and **T. Banerjee**, 2022, Temporal and spatial pattern analysis of escaped prescribed fires in California from 1991 to 2020, under review
4. Mrad, A*, L. Lowman, C. Zarzar, K. Luthy, **T. Banerjee**, 2022, Upscaling wildland fire behavior from lab to field: shortcomings and opportunities, under review.
5. Kumar, M*, V. Dao*, P. Nguyen and **T. Banerjee**, 2021, Mapping the Wildland-Urban Interface in California: A Novel Approach based on Linear Intersections, under review.
6. Bajinath-Rodino, J.A.* , E. Foufoula-Georgiou, and **T. Banerjee**, 2020, Reviewing the Hottest Fire Indices Worldwide, under review.

PEER REVIEWED
CONFERENCE
PROCEEDING
PUBLICATIONS (*:
STUDENT/POSTDOC)

1. T. C. Chang*, **T. Banerjee**, N. Venkatasubramanian, and R. York, 2023, QuIC-IoT: Model-Driven Short-Term IoT Deployment for Monitoring Physical Phenomena. In Proceedings of the 8th ACM/IEEE Conference on Internet of Things Design and Implementation (IoTDI 23). Association for Computing Machinery, New York, NY, USA, 424437.
2. F. Liu*, J. A. Bajinath-Rodino*, T. C. Chang, **T. Banerjee**, and N. Venkatasubramanian, 2023, DOME: Drone-assisted Monitoring of Emergent Events For Wildland Fire Resilience. In Proceedings of the ACM/IEEE 14th International Conference on Cyber-Physical Systems (with CPS-IoT Week 2023) (ICCPS 23). Association for Computing Machinery, New York, NY, USA, 5667.

2023

REFERRED
JOURNAL
PUBLICATIONS
(*:
STUDENT/POSTDOC)

44. Bajinath-Rodino, J.A.* , A. Martinez, R. York, E. Foufoula-Georgiou, A. AghaKouchak, **T. Banerjee**, 2023, Quantifying the effectiveness of fuel treatment from ground-based, aerial, and spaceborne observations, Forest Ecology and Management, 543, 1211142.

43. Desai, A*, W. Heilman, N. Skowronski, K. Clark, M. Gallagher, C. Clements, and **T. Banerjee**, 2023, Features of turbulence during wildland fires in forested and grassland environments, *Agricultural and Forest Meteorology*, 338, 109501.
 42. Chowdhuri, S.* , and **T. Banerjee**, 202, Revisiting bursts in wall-bounded turbulent flows, *Physical Review Fluids*, 8, 044606.
 41. Bajjnath-Rodino, J.A.* , P. Le, E. Foufoula-Georgiou, and **T. Banerjee**, 2023, Historical spatiotemporal changes in potential fire danger and behavior across biomes, *Science of the Total Environment*, 161954.
- 2022
40. Raghav, P.* , P Wagle, M Kumar, **T Banerjee**, and J. P.S. Neel, 2022, Vegetation index-based partitioning of evapotranspiration is deficient in disturbed systems, *Water Resources Research*, e2022WR032067.
 39. Shuman, J.K., J.K. Balch, R.T. Barnes, P.E. Higuera, C.I. Roos, D.W. Schwilk, E.N. Stavros, **T. Banerjee**, and 79 other co-authors, 2022, Reimagine fire Science for the Anthropocene, *PNAS Nexus*, pgac115.
 38. Kumar, M.* , S. Li*, P. Nguyen, and **T. Banerjee**, 2022, Examining the existing definitions of wildland-urban interface for California, *Ecosphere*, 13(12): e4306.
 37. Jong, A.* , **T. Banerjee**, D. Houston and B. Sanders, 2022, Compound post-fire flood hazards considering infrastructure sedimentation, *Earth's Future*, e2022EF002670.
 36. Ray, N., **T. Banerjee**, B. Nadiga and S. Karra, 2022, On the viability of quantum annealers to solve fluid flows, *Frontiers in Mechanical Engineering Fluid Mechanics*, 8:906696. Part of a special issue: Quantum Computing Applications in Computational Engineering.
 35. Desai, A* , S. Goodrick, and **T. Banerjee**, 2022, Investigating the turbulent dynamics of small-scale surface fires, *Scientific Reports*, 12, 10503.
 34. Chowdhuri, S.* , K. Ghannam and **T. Banerjee**, 2022, A scale-wise analysis of intermittent momentum transport in dense canopy flows, *Journal of Fluid Mechanics*, 942, A51.
 33. Bajjnath-Rodino, J.A.* , S. Li* , A. Martinez, M. Kumar* , L. Quinn-Davidson, R. York, and **T. Banerjee**, 2022, Historical Seasonal Changes in Prescribed Burn Windows in California, *Science of the Total Environment*, 155723.
 32. Li, S.* , Dao, V.* , Kumar, M.* , Nguyen, P., and **T. Banerjee**, 2022, Mapping the wildland-urban interface in CA using remote sensing data, *Scientific Reports*, 12, 5789.

2021

31. Baijnath-Rodino, J.A.*, M. Kumar*, M. Rivera*, K.D. Tran* and **T. Banerjee**, 2021, How Vulnerable are American States to Wildfires? A Livelihood Vulnerability Assessment, *Fire*, 4(3), 54.
30. Chowdhuri, S.*, G. Iacobello and **T. Banerjee**, 2021, Visibility network analysis of large-scale intermittency in convective surface layer turbulence, *Journal of Fluid Mechanics*, 925, A38.
29. Helbig, M., Gerkan, T., Beamesderger, E., Baldocchi, D.D., **Banerjee, T.**, Biraud, S.C., Brunsell, N.A., Burns, S.P., Butterworth, B., Chan, W.S., Desai, A.R., Fuentes, J.D., Hollinger, D.Y., Kljun, N., Mauder, M., Novick, K.A., Perkins, J.M., Rey-Sanchez, C., Scott, R.L., Seyednasrollah, B., Stoy, P.C., Sullivan, R.C., Vila-Guerau de Arellano, Wharton, S., Yi, C., and Richardson, A.D., 2021, Integrating continuous atmospheric boundary layer and tower-based flux measurements to advance understanding of land-atmosphere interactions, *Agricultural and Forest Meteorology*, 307, 108509.
28. Li, S.*, and **T. Banerjee**, 2021, Spatial and temporal patterns of wildfires in California, *Scientific Reports*, 11, 8779. **Selected among Top 100 articles in Ecology and as Editor's choice: Climate Change.**

2019-2020

27. Heilman, W., **T. Banerjee**, C. Clements, K. Clark, S. Zhong, X. Bian, 2020, Observations of Sweep-Ejection Dynamics for Heat and Momentum Fluxes during Wildland Fires in Forested and Grassland Environments, *Journal of Applied Meteorology and Climatology*, 60(2), 185-199.
26. Chowdhuri, S.*, Prabhakaran, T., and **T. Banerjee**, 2020, Persistence behaviour of heat and momentum fluxes in convective surface layer turbulence, *Physics of Fluids*, 32, 115107 (Invited article).
25. **Banerjee, T.**, Heilman, W., Goodrick, S., Hiers, K., Linn, R., 2020, Effects of canopy midstory management and fuel moisture on wildfire behavior, *Scientific Reports*, 10, 17312.
24. Ma, Y., Liu, H., **Banerjee, T.**, Katul, G. G., Yi, C. and Pardyjak, E. R., 2020, The effects of canopy morphology on flow over a two-dimensional isolated ridge, *Journal of Geophysical Research Atmospheres*. 125(19), p.e2020JD033027.
23. **Banerjee T.**, 2020, Impacts of forest thinning on wildland fire behavior, *Forests*, 11(9) 918.
22. **Banerjee T.**, Holland T., Solander, K., Holmes, M. and Linn, R., 2020, Identifying Characteristics of Wildfire Towers and Troughs, *Atmosphere*, Special issue on Atmospheric Turbulence Processes and Wildland Fires, 11 (8) 796. **Selected as cover story, Atmosphere, Vol 11 Issue 8 August 2020.**

21. Chowdhuri, S.*, Kumar, S., and **Banerjee T.**, 2020, Revisiting the role of intermittent heat transport towards Reynolds stress anisotropy in convective turbulence, *Journal of Fluid Mechanics*, 899, A26.
20. Chowdhuri, S.*, Kalmar-Nagy, T., and **Banerjee, T.**, 2020, Persistence analysis of velocity and temperature fluctuations in convective surface layer turbulence, *Physics of Fluids*, 32, 076601. **Selected as featured article, Physics of Fluids.**

2018-2019 (Prior to UCI)

19. **Banerjee, T.**, R. Linn, Effect of vertical canopy architecture on transpiration, thermoregulation and carbon assimilation, *Forests*. 9(4), 198, doi: 10.3390/f9040198, 2018.
18. **Banerjee, T.**, P. Brügger, F. De Roo, K. Kroeniger, D. Yakir, E. Rotenberg and M. Mauder, Turbulent transport of energy across a forest and a semi-arid shrubland, *Atmospheric Chemistry and Physics*. 18, 10025-10038, doi: 10.5194/acp-18-10025-2018, 2018.
17. Kroeniger, K., F. De Roo, P. Brügger, S. Huq, **T. Banerjee**, M. Mauder, Effect of secondary circulations on surface-atmosphere exchange of energy at an isolated semi-arid forest, *Boundary Layer Meteorology*. 1-24, doi: 10.1007/s10546-018-0370-6, 2018.
16. Brügger, P., **T. Banerjee**, F. De Roo, K. Kroeniger, E. Rotenberg, D. Yakir, M. Mauder, Effect of surface heterogeneity on the boundary layer height: a case study at a semi-arid forest, *Boundary Layer Meteorology*. 1-18, doi:10.1007/s10546-018-0371-5, 2018.

2017-2018

15. De Roo, F., **T. Banerjee**, Can a simple dynamical system describe the interplay between drag and buoyancy in terrain-induced canopy flows?, *Journal of the Atmospheric Sciences*. 75(3), 775-786, doi: 10.1175/JAS-D-17-0161.1, 2017.
14. Mauder, M,S. Genzel, J. Fu, R. Kiese, M. Soltani, R. Steinbrecher, M. Zeeman, **T. Banerjee**, F. De Roo and H. Kunstmann, Evaluation of energy balance closure adjustment methods by independent evapotranspiration estimates from lysimeters and hydrological simulations, *Hydrological Processes*. 32-39-50. doi: 10.1002/hyp.11397, 2017.
13. **Banerjee, T.**, F. De Roo and M. Mauder, Connecting the failure of K-theory inside vegetation canopies and ejection-sweep cycles by a large eddy simulation, *Journal of Applied Meteorology and Climatology*. 56(12), 3119-3131, doi: 10.1175/JAMC-D-16-0363.1, 2017.
12. **Banerjee, T.**, N. Vercauteren, M. Muste, D. Yang, Coherent structures in wind shear induced wave-turbulence-vegetation interaction in water bodies, *Agricultural and Forest Meteorology*. 255, 57-67, doi:10.1016/j.agrformet.2017.08.014, 2017.

11. Kroeniger, K., **T. Banerjee**, F. De Roo, M. Mauder, Flow adjustment inside homogeneous canopies after a leading edge - An analytical approach backed by LES, *Agricultural and Forest Meteorology*. 255, 17-30, doi: 10.1016/j.agrformet.2017.09.019, 2017.
10. **Banerjee, T.**, F. De Roo and M. Mauder, Explaining the convective effect in canopy turbulence by means of a large eddy simulation, *Hydrology and Earth System Sciences*. 21(6), 2987, doi: 10.5194/hess-2017, 2017.

2016-2017

9. Katul, G., **T. Banerjee**, D. Cava, M. Germano, A. Porporato, Generalized logarithmic scaling for high-order moments of the longitudinal velocity component explained by the Random Sweeping Decorrelation Hypothesis, *Physics of Fluids*. 28(9), 095104, doi: 10.1063/1.4961963, 2016.
8. Li, D., S. Salesky and **T. Banerjee**, Connections between the Ozmidov scale and mean velocity profile in stably stratified atmospheric surface layers, *Journal of Fluid Mechanics*. 797, doi: 10.1017/jfm.2016.311, 2016.

2015

7. **Banerjee, T.**, D. Li, J. Juang and G.G. Katul. A spectral budget model for the longitudinal turbulent velocity in the stable atmospheric surface layer. *Journal of the Atmospheric Sciences*. 73(1), 145-166, doi: http://dx.doi.org/10.1175/JAS-D-15-0066.1, 2015.
6. Majumdar, R. and **T. Banerjee**. Effect of changing source capillary radius on bulk flow parameter scaling laws for hypersonically expanding arc-ablated polycarbonate plasma for fusion and space applications. *Journal of Fusion Energy*. 34(6), 1234-1245, doi: 10.1007/s10894-015-9947-y, 2015.

2014

5. **Banerjee, T.**, M. Muste, G.G. Katul. Flume experiments on wind induced flow in static water bodies in the presence of protruding vegetation. *Advances in Water Resources*. 76, 11-28, doi: 10.1016/j.advwatres.2014.11.010, 2014.
4. **Banerjee, T.**, G.G. Katul, S. Salesky and M. Chamecki. Revisiting the formulations for the longitudinal velocity variance in the unstable atmospheric surface layer. *Quarterly Journal of the Royal Meteorological Society*. 141(690), 1699-1711, doi:10.1002/qj.2472, 2014.

2013

3. **Banerjee, T.** and G.G. Katul. Logarithmic scaling in the longitudinal velocity variance explained by a spectral budget. *Physics of Fluids*. 25, 125106, doi: 10.1063/1.4837876, 2013.
2. **Banerjee, T.**, G.G. Katul, S. Fontan, D. Poggi and M. Kumar. Mean flow near edges and within cavities situated inside dense canopies. *Boundary-Layer Meteorology*, 149:19-41, doi: 10.1007/s10546-013-9826-x, 2013.

RESEARCH
PROPOSALS
(FUNDED)

1. Sahu, A., **T. Banerjee**, A. G. Niyogi and P. Bhattacharya. Active control of radiated sound from stiffened plates using IDE-PFC actuators. *International Journal of Acoustics and Vibration*, 18(3):109-116, 2013.
1. NSF CAREER: **CONIFER: Role of canopy turbulence in wildland fire behavior**, PI, USD 600,000, 2022-2027.
2. NSF AccelNet-Design: **iFireNet: An international network of networks for prediction and management of wildland fires**, PI, USD 250,000. 2021-2023.
3. University of California Office of the President (UCOP), UC Lab Fees Research Program, **Transforming Prescribed fire practices for California**, PI, USD 3.6 Million, 2020-2023.
4. NSF CPS: **Collaborative Research:CPS:Medium:SMAC-FIRE: Closed-Loop Sensing, Modeling and Communications for WildFIRE**, Co-PI, USD 1,049,087. 2022-2025.
5. US Department of Agriculture, **SCC-IRG Track 1: Reducing the Vulnerability of Disadvantaged Communities to the Impacts of Cascading Hazards under a Changing Climate**, Co-PI, USD 553,134, 2021-2024.
6. Joint cooperative agreement with US Forest Service, Northern Research Station, Lansing, Michigan, **Development of a Micrometeorological Perspective into Wildland Fire Dynamics**, PI, USD 83,976, 2020-2025.
7. National Aeronautics and Space Administration (NASA): **Community Wildfire Vulnerability Index for Risk Assessment and Response Planning using Earth Observation (EO) Data and Modeling**, Co-PI, Total USD 124,600. UCI subaward (USD 30,000) through ImageCat Inc.
8. NSF RAPID: **Collecting critical data for advancing our understanding of wildfire impacts on soil characteristics**, Co-PI, USD 50,000, 2020-2021.
9. Joint cooperative agreement with Wake Forest University (NC, USA): **Studying wildfires from hydrological, meteorological and engineering perspectives**, PI, USD 37,572, 2021-2022.
10. Joint cooperative agreement with Los Alamos National Laboratory, **Atmosphere to Electrons Mesoscale-to-Microscale Coupling**, PI, USD 36,231, 2020-2021.
11. Joint cooperative agreement with Tall Timbers Research Station. **Modeling and Simulation of Wildland Fires**, PI, USD 10,000, 2020-2021.

12. NSF Smart and Connected Communities Planning Grant SCC-PG, **Reducing the Vulnerability of Disadvantaged Communities to the Impacts of Cascading Hazards under a Changing Climate**, unfunded senior personnel, USD 118,724, 2020-2021.
13. UCI-Multidisciplinary Engineering Research Initiative (MERI): **Developing Technology for In Situ Wildfire Experiments**, Co-PI, USD 35,000, 2020-2021.
14. UCI-Multidisciplinary Engineering Research Initiative (MERI): **The Internet of Things (IoT) for Wildfire Management**, Co-PI, USD 35,000, 2020-2021.
15. UCI ADVANCE Career Development Award to participate in the **Faculty Success Program**, USD 3,650, 2020.

Prior to UCI

16. LANL Quantum computing rapid response familiarization project, **Solving linear systems on quantum annealers**, USD 40k, 2019.
17. LANL Quantum computing rapid response project, **Towards solving turbulence on a quantum computer**, USD 100k, 2018.
18. LANL Center of Space and Earth Sciences (CSES) emerging ideas proposal, **The threshold of ignition: changes in wildfire spread tipping points under future hydrology and climate**, USD 39k.
19. LANL Center of Space and Earth Sciences (CSES) emerging ideas proposal, **Using plant physiology to advance predictions of forest carbon and water fluxes**. USD 18k.
20. Directors Fellowship proposal, **Forest ecosystems, resilience or tipping point?** 1.0 FTE, 2018, 0.67 FTE, 2019.
21. Chick Keller Fellowship proposal, **Modeling disturbance effects in tropical forests**, 0.5 FTE, 2017.
22. **Prediction and mitigation of frost damage in local fruit farms in New Mexico**; New Mexico Small Business Assistance (NMSBA) program, six individual funded proposals, USD 110k, 2017-2018.

MEDIA AND
OUTREACH

- Physics Focus: Wildfire Predictions from a Water Tank.
- Cooperative Extension fire advisor and UC graduate students gather around the fire (UC ANR blog post).
- Ph.D. student Shu Li wins OSPA award from AGU (UCI press release).
- Ph.D. student Ajinkya Desai awarded Henry Samueli Endowed Fellowship (UCI press release).
- Ph.D. student Mukesh Kumar awarded Deans Dissertation Fellowship (UCI press release).
- NASA press release on Community wildfire vulnerability project.

- NFPA Press release on Community wildfire vulnerability project.
- CBS LA: Experts say weather helped California avoid dangerous wildfires in 2022.
- New York Times: How to save a forest by burning it
- Nature Climate Change Research highlights: Combined force of fire and water
- NCAR Press release on PNAS paper: Wildfire experts provide guidance for new research directions
- UCI media feature on iFireNet summer school: International Wildfire Experts Gather for First iFireNet Summer School (Banerjee Lab)
- UCI Media feature on new NSF CPS grant: Award Supports Collaborative Wildfire Research (Banerjee)
- KTLA feature on What the drought means for this years wildfire season in California (Banerjee)
- ABC news feature on Bay area fire risk (featuring Baijnath-Rodino)
- UCI-led Research Recommends Extending Californias Prescribed Burning Season (UCI Press release)
- Orange County Register feature on coastal fire 2022 (featuring Banerjee)
- UCI HSSoE Deans Report 2021 (Team Science): Fire Fighter (Banerjee)
- UCI HSSoE Deans Report 2021 (Team Science): Climate Change Clues
- PhD student Mukesh Kumar receives Dissertation Fellowship (UCI news)
- Banerjee Receives NSF CAREER award to investigate the role of canopy turbulence in wildland fire behavior (UCI Press Release)
- Weather Channel feature: Why California Wildfires Are Particularly Destructive in Fall (Li and Banerjee)
- News on new NSF SCC/USDA funded project: MSU leads new \$1.7 million research project to help disadvantaged communities confronting wildfires and related cascading hazards (Banerjee)
- LA Times Daily Pilot feature: Recognizing Orange County warriors in the fight against climate change (Banerjee)
- OC Register article: Just how much hotter and drier is Southern Californias new normal weather? (Banerjee)
- Banerjee receives NSF funding to establish international network of networks on wildfire research (UCI news)
- Sciencenews for students article on the linkage between wildfires and air quality (Li and Banerjee)
- BYU Radio interview on the connection between drought and fire, May 2021, (Banerjee)
- Jefferson Exchange Public Radio interview on Californias wildfire season, May 2021 (Shu Li and Tirtha Banerjee)
- CBS Los Angeles interview: Most of LA, Ventura, San Bernardino Counties Are Now In ‘Severe Drought’
- Los Angeles Times article feature: ‘California is primed for a severe fire season, but just how bad is anybodys guess’
- Scientific Reports publication (Li and Banerjee) on CA wildfire season featured by several publications such as NewsWise, Science Daily, MirageNews, Yuba Net, Earth.com, Israel Times, Daily Mail India, Teknodate, Science Magazine, Sciencenewsnet, Newsaxes, Oak Mountain Chronicle, Sierra Sun Times, Homeland

Security News, FireChief.com, Preventionweb.net, Climatercrisis blog.com, Science Codex, NewYork Magazine, Mother Jones, Kordinate, The Revelator, Weather.com, Eureka Alert (AAAS), Irvine Weekly, Independent.co.UK, Phys.org. etc.

- UCI press release on Scientific Reports paper, Californias wildfire season has lengthened, and its peak is now earlier in the year, April 2021
- US Forest Service Northern Research Station research highlight on Scientific Reports paper on canopy midstory management led by Banerjee
- UCI News feature: Man on fire, April 2021
- KUCI 88.9 Radio Interview on wildfire research
- Article on grant award, **UCI-led project seeks to combat wildfires**, UCI News. January, 2020. Covered by **Sierra Sun Times** and **IndiaWest**
- Featured in Calit2s Interface Magazine, spring 2020. Story on **Data rich opportunities**

[Prior to UCI](#)

- Article on research on food security: **Data Harvesting**. 1663: The Los Alamos National Lab Science and Technology Magazine, July 2019
- Article on the **importance of food security research**, LANL science feature, question of the month, July, 2018
- Science on tap, Los Alamos, informal talk on food security, Bradbury Science Museum, Los Alamos, NM, June, 2018
- **Nipping frost in the bud**, featured science column in Albuquerque Journal, May 2018
- TEDx LANL talk on food security, August, 2017
- Selected among 25 speakers for ‘Science in 3’ event, LANL, June, 2017

AWARDS AND HONORS

- NSF CAREER Award, 2022

[Prior to UCI](#)

- Director’s Postdoctoral Fellowship, LANL (January 2018 - present)
- Chick Keller Postdoctoral Fellowship, Center of Space and Earth Science, LANL (Sept 2017 - January 2018)
- LANL Spot award for ‘high quality work under tight deadlines, added or emergency assignments in addition to regular duties’, July, 2017
- One of the top reviewers - cross field, Publons, 2018
- Certificate of outstanding contribution in reviewing from Agricultural and Forest Meteorology, Elsevier
- Sentinel of Science Award from Publons as one of the top 10 percent of researchers contributing to the peer review of the field of Earth and Planetary Sciences, 2016
- Mahatma Gandhi Award for Non Resident Indians (Pravasi Samman) ”for outstanding services, achievements and contributions for keeping the flag of India high”, given to 25 Indians globally in 2016 (**Duke University Press Release**). (**KIT Press release (Germany)**)
- Certificate in Nonlinear and Complex Systems, Duke University, 2015
- Jadavpur University Medal for Excellence in Environmental Engineering, 2011
- DAAD (German Academic Exchange Service) WISE (Working Internship in Science and Engineering) Fellowship, 2010

- National Academy of Sciences, India (NASI) award for best scientific article in India by undergraduate students, 2008
- National Merit Scholarship, India, 2005

INVITED
LECTURES

- UCI Henry Samueli School of Engineering, Deans Leadership Council meeting. November, 2022
- University of California - Agriculture and Natural Resources (UC ANR). Program Council Meeting (Virtual). November, 2022
- Conservation Biology Institute, Oregon (Virtual). November, 2022
- Department of Mechanical and Aerospace Engineering, UC Santa Barbara (Virtual). April 2022
- ISEB Double Takes seminar series, UC Irvine. March 2022
- Bridging spatial scales research workshop, Leverhulme Centre of wildfires, environment and society, London, UK (Virtual). November 2021
- Data Science Initiative workshop at UCI. November 2021
- Remote sensing and wildland fire symposium, ASPRS, CA (Virtual). October 2021
- Department of Mechanical Engineering, University of Southern California, CA. September 2021
- NSF Wildfire and the Biosphere workshop (Virtual). May 2021
- Statewide Forest Science Research Coordination Meeting, CA Natural Resources Agency and CA Strategic Growth Council (Virtual). May 2021
- Department of Mechanical Engineering, UC San Diego, CA (Virtual). May 2021.
- Department of Mechanical Engineering, UC Irvine, CA (Virtual). May, 2021
- Department of Geography, UC Santa Barbara, CA (Virtual). April, 2021
- Environmental Systems Group, UC Merced, CA (Virtual). March 2021
- CA Natural Resources Agency Seminar (Virtual). January 2021
- WIFIRE workshop, UC San Diego (Virtual). December, 2020
- California Fire Science Seminar Series, UC Berkeley, CA (Virtual). October 2020
- Calit2 Advisory Board Meeting, UC Irvine, CA (Virtual). September 2020
- Department of Mechanical Engineering, UC Riverside, CA (Virtual). April 2020
- Department of Earth System Science, UC Irvine, CA. January 2020
- American Geophysical Union Fall Meeting, Session on Boundary Layer Processes and Turbulence, San Francisco, CA. December 2019

- Pacific Southwest Research Station, US Forest Service, Riverside, CA. October 2020
- [Prior to UCI](#)
- College of Natural Resources, North Carolina State University, Raleigh, NC, USA. January, 2019
- Department of Meteorology, Texas A&M University, College Station, TX, USA. November, 2018
- Free University (FU), Berlin, Germany. July 2016
- Alpine Summer School on Land Atmosphere Interactions, Valsavarenche, Valle d'Aosta (Italy). June 2015
- Indian Institute of Technology (IIT) Bombay, Mumbai, India. Oct 2014

CONFERENCE
AND WORKSHOP
PRESENTATIONS

- American Geophysical Union (AGU) Fall meeting, Chicago, USA. Dec 2022
- Atmospheres, Oceans, Earths - Unifying perspectives on geophysical and environmental multiphase flows, UC Santa Barbara, Kavli Institute of Theoretical Physics. Nov, 2022
- American Geophysical Union (AGU) Fall meeting, New Orleans, USA. Dec 2021
- European Meteorological Society Annual Meeting, (Virtual Meeting). September 2021
- FluxNet Land -Atmosphere Interactions 2021 Workshop (Virtual Meeting). June 2021
- American Meteorological Society 34th Conference on Agricultural and Forest Meteorology/Fifth Conference on Atmospheric Biogeosciences, (Virtual Meeting). June 2021
- SoCal Fluids symposium. (Virtual Meeting). April 2021
- American Meteorological Society Annual Meeting, (Virtual Meeting). January 2021
- American Geophysical Union (AGU) Fall meeting, (Virtual Meeting). Dec 2020
- European Geosciences Union (EGU) General Assembly, (Virtual Meeting). April 2020
- American Geophysical Union (AGU) Fall meeting, San Francisco, USA. Dec 2019
- 72nd Annual Meeting of the APS Division of Fluid Dynamics (DFD), Seattle, WA, USA. Nov 2019
- 8th International Fire Ecology and Management Congress, Tucson, AZ, USA. Nov 2019

[Prior to UCI](#)

- 12th International Precipitation Conference, UC Irvine, CA, USA. June, 2019
- 6th International Fire Behavior and Fuels Conference, Albuquerque, New Mexico, USA. April 2019

- American Geophysical Union (AGU) Fall meeting,
Washington D.C., USA. Dec 2018
- 33rd Conference on Agricultural and Forest Meteorology/12th Fire and Forest
Meteorology Symposium/Fourth Conference on Biogeosciences
Boise, Idaho, USA. May 2018
- The Fire Continuum Conference,
Missoula, Montana, USA. May, 2018
- European Geosciences Union (EGU) General Assembly,
Vienna, Austria. April 2018
- Western States Section of the Combustion Institute Seminar,
Bend, Oregon, USA. March 2018
- American Geophysical Union (AGU) Fall meeting,
New Orleans, LA, USA. Dec 2017
- 70th Annual Meeting of the APS Division of Fluid Dynamics (DFD),
Denver, CO, USA. Nov 2017
- European Geosciences Union (EGU) General Assembly,
Vienna, Austria. April 2017
- American Geophysical Union (AGU) Fall meeting,
San Francisco, CA, USA. Dec 2016
- 22nd Symposium on Boundary Layers and Turbulence,
Salt Lake City, Utah, USA. June 2016
- 32nd Conference on Agricultural and Forest Meteorology,
Salt Lake City, Utah, USA. June 2016
- European Geosciences Union (EGU) General Assembly ,
Vienna, Austria. April 2016
- DACH Meteorology Meeting,
FU Berlin, Germany. March 2016
- American Geophysical Union (AGU) Fall meeting,
San Francisco, CA, USA. Dec 2015
- American Geophysical Union (AGU) Fall meeting,
San Francisco, CA, USA. Dec 2014
- 67th Annual Meeting of the APS Division of Fluid Dynamics (DFD),
San Francisco, CA, USA. Nov 2014
- American Physical Society (APS) March Meeting,
Denver, CO, USA. March 2014
- American Geophysical Union (AGU) Fall meeting,
San Francisco, CA, USA. Dec 2013
- International Workshop on Eco-hydrology of semiarid environments:
Confronting mathematical models with ecosystem complexity,
Be'er-Sheva, Israel. June 2013
- American Geophysical Union (AGU) Fall meeting,
San Francisco, CA, USA. Dec 2012
- American Geophysical Union (AGU) Fall meeting,
San Francisco, CA, USA. Dec 2011
- International Conference on Vibration Engineering and Machinery,
New Delhi, India. Jan 2010

TEACHING
EXPERIENCE

Instructor, Department of Civil and Environmental Engineering, UC Irvine

- Probability and Statistics (CEE 11 - UG) Winter
- Science and Engineering of Wildfires (CEE 298 - Graduate) Spring
- Environmental Fluid Mechanics and Turbulence
(CEE 298, CEE 268 from fall 2022 - Graduate) Fall

[Prior to UCI](#)

Teaching Assistant, Duke University Spring 2015
Environmental Fluid Mechanics
Instructor: Gabriel Katul
Nicholas School of the Environment and Earth Sciences,
Duke University

MENTORING

[Ph.D. Students](#)

- Mukesh Kumar
(**Winner, Dean's dissertation fellowship, currently postdoc at Los Alamos National Lab**) fall 2019 - fall 2022
- Shu Li
(**Winner, CEE diversity fellowship, advanced to candidacy**)
summer 2020 - present
- Margarita Rivera
(**Recipient, UC - Mexus Fellowship**) summer 2020 - present
- Ajinkya Desai
(**Winner, Henry Samueli endowed fellowship**) fall 2020 - present
- Subharthi Chowdhuri fall 2022 - present

[Postdoctoral Students](#)

- Janine Baijnath Rodino (**Joining UCLA as assistant adjunct professor, 2023**) January 2020 - present
- Assaad Mrad (scientist at STANTEC) January 2021 - October 2021
- Konstantinos Lazaridis January 2022 - present
- Alec Petersen April 2022 - present

[Prior to UCI](#)

- Supervised two doctoral students at KIT-Germany.
- Konstantin Kroeniger Sept 2015 - 2018
 - Peter Bruegger Sept 2015 - 2018

EXAMINATION
COMMITTEE
MEMBER

Served as a preliminary/qualifying/defense exam committee member for the following graduate students:

[Department of Civil and Environmental Engineering](#)

- Tanjeeb Ahmed (CEE)
- Mojtaba Sadeghi (CEE)
- Vesta Afzali Goroooh(CEE)
- Vu Dao (CEE)
- Lawrence Vulis (CEE)
- Deborah Oliveira (CEE)
- Yunxia Zhao (CEE)
- Kai Wu (CEE)
- Ariane Jong (CEE)

- Sarah Merrigan (CEE)
- Yifu Gao (CEE)
- Chufan Feng (CEE)
- Mukesh Kumar (CEE)

[Department of Mechanical and Aerospace Engineering](#)

- Octavi Obiols Sales (MAE)

[Department of Earth System Science](#)

- Tien Yiao Hsu (ESS)
- Jacob Hendrickson (ESS)
- Jinhyuk Kim (ESS)
- Ved Bhoot

[Department of Information and Computer Science](#)

- Fangqi Liu (ICS)
- Tung-Chun Chang (ICS)

[External to UCI](#)

- Masood Abdollahi (University of Mississippi)
- Jared Brzenski (SDSU)
- Anand Srinivasan (SDSU)

PROFESSIONAL
SERVICE

- Participated as **one of the 20 experts** invited Nationally. NSF - UCAR Greenhouse gas attribution workshop, Cooperative Programs for the Advancement of Earth System Science (CPAESS) and University Corporation for Atmospheric Research (UCAR), November, 2022.
- **Member, Science Advisory Panel** to the Wildfire and Forest Resilience Task Force for the State of California, (2021 to present)
- **Editorial Board Member**, Scientific Reports (Nature, August 2022 - present)
- **Guest Editor:** *Special issue on ‘Turbulent Flows’* in Scientific Reports (Nature, 2022)
- **Guest Editor:** *Special issue on ‘Advances in wildland fire-vegetation-atmosphere interactions’* in Agricultural and Forest Meteorology (Elsevier, 2022)
- **Editorial Board Member:** Agricultural and Forest Meteorology (Elsevier, July 2019 to present)
- Member of American Meteorological Society (AMS) **STAC Committee on Agricultural and Forest Meteorology**, (2020 - present)
- Representative of UCI, Consortium of Universities for the Advancement of Hydrologic Science (**CUAHSI**), (2020 - present)

[Prior to UCI](#)

- **Associate Editor:** Earth Systems and Environment (Springer, 2018 to present)

SESSION
ORGANIZER

- Organizer of iFireNet summer school at UC Irvine, July 19-21, 2022
- Organizer of special session on **Advances in Wildland Fire-Atmosphere Interactions**, American Geophysical Union (AGU) Fall meeting, San Francisco, USA. Dec 2019, 2020, 2021, 2022
- Organizer of special session at 8th International Fire Ecology and Management Congress, **Understanding the Use of Fire Disturbance in Ecosystem**

Process Modeling and Forest Change Predictions, Tucson, AZ, USA.
Nov 2019

- DEPARTMENTAL SERVICE
- Member of search committee, faculty position in Integrated Urban Design.
 - Member, committee on UCI Engineering-LANL Graduate student Fellowships
 - Organizer on climate science focused session, UCI- LANL symposium, 2022
 - Member, Teaching Quality and Class Evaluation Focus Group, Department of Civil and Environmental Engineering
 - Member of the faculty committee for the Interdisciplinary Science and Engineering Building
 - Departmental representative for high performance computing
 - Departmental representative for committee regarding Engineering school website
- PEER REVIEW RECORD
- Reviewer of proposals for NSF
 - Panelist for several NSF proposal review panels

Reviewer for the following journals (90+ reviews to date)

- Advances in Water Resources
- Agricultural and Forest Meteorology
- Atmosphere
- Atmospheric Measurement Techniques
- Boundary Layer Meteorology
- Bulletin of American Meteorological Society
- Earth Interactions
- Experiments in Fluids
- Forests
- Geophysical Research Letters
- Hydrological Processes.
- Journal of Applied Meteorology and Climatology
- Journal of Climate
- Journal of Fluid Mechanics
- Journal of Geophysical Research: Atmospheres
- Journal of Hydraulic Engineering
- Journal of Hydrometeorology
- Physics of Fluids
- Remote Sensing of Environment
- Water
- Water Resources Research