FAISAL HOSSAIN

Curriculum Vitæ

Civil and Environmental Engineering
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EDUCATIONAL HISTORY

University of Connecticut, Storrs, CT, USA
PhD Environmental Engineering,
August 2004
Dissertation: Investigating Error Propagation in Flood Prediction Based on Remotely Sensed Rainfall

National University of Singapore, Singapore
M. Eng, Civil Engineering,
May, 1999
Thesis: System-specific Statistical Modeling of SBR Bulking

Indian Institute of Technology, Varanasi, India
B.Tech, Civil Engineering,
May, 1996

EMPLOYMENT HISTORY

University of Washington, Department of Civil and Environmental Engineering
Seattle, WA, USA
Associate Professor (2014 February –present)

Tennessee Technological University, Department of Civil and Environmental Engineering
Cookeville, TN, USA
Associate Professor (2009-2014 January)

Institute of Water Modeling
Dhaka, Bangladesh
US Fulbright Faculty Scholar (December 2012- April 2013)

Tennessee Technological University, Department of Civil and Environmental Engineering
Cookeville, TN, USA
Assistant Professor (2004-2009)

University of Connecticut, Department of Civil and Environmental Engineering
Storrs, CT, USA
Graduate Research Assistant (1999-2004)

National University of Singapore, Department of Civil and Environmental Engineering
Singapore
Graduate Research Assistant (1997-1999)

AWARDS AND HONORS

AT UNIVERSITY OF WASHINGTON
8th Eco-Film Festival Selection for Short Documentary – Kuala Lumpur, Malaysia- 2015
ASCE Walter L. Huber Award - 2015
American Meteorological Society Editor's Award- 2015

Nominations
University of Oklahoma International Water Prize-2017 (one of five finalists selected by a jury)
ASCE-EWRI Nominee for White House Summit on Sustainable Water, March -2016

AT TENNESSEE TECHNOLOGICAL UNIVERSITY
Charles Falkenberg Award (A Union Award)– American Geophysical Union -2012
Graduate of the Last Decade (G.O.L.D) Award – University of Connecticut -2012
Fulbright US Faculty Award- 2012
Caplenor Award (Tennessee Tech University Highest Award) – 2012
Reviewer Award-ASCE Journal of Hydrologic Engineering- 2011
Education Excellence Award, National Association of Environmental Professionals -2010
Outstanding New Faculty Research Award, American Society of Engineering Education -2009
NASA New Investigator Program Award - 2008
Outstanding PhD Thesis Award, School of Engineering, University of Connecticut - 2005
NASA Earth System Science Fellowship - 2002

AFFILIATIONS AND OTHER APPOINTMENTS

Vice-President of Academic Affairs, American Institute of Hydrology (2017-present)

Associate Professor, Interdisciplinary Arts and Sciences, University of Washington Tacoma, 2014-2016 [33% appointment at Tacoma with 67% appointment in Seattle]

Visiting Professor, Department of Infrastructure Engineering, University of Melbourne, Australia, December 2016. [This is a position during winter break]

Visiting Scientist, International Center for Integrated Mountain Development (ICIMOD), Nepal; 2015-2017 [This is a virtual position with physical appointment during summer months]

PUBLICATIONS

Refereed archival journal publications
[IF=Impact Factor (most recent); Citations shown next to each publication based on Google Scholar (GS) as of 10/2016; H-Index=26 (GS); 18 (WoS). Citations=2450 (GS; as of 01/2017); Footnote: 1- graduate student advised as major advisor; 2- students advised for independent study or non-degree projects; 3-post-doctoral associate; 4-corresponding author]

AT UNIVERSITY OF WASHINGTON

1. Chen[1], X., F. **Hossain[4]**, R. Leung. (2017) Evaluation of an Optimal Atmospheric Numerical Modeling Framework for Extreme Storm Event Simulation *ASCE J Hydrologic Engineering*, (In press).

2. Iqbal[2], N., F. **Hossain** and M.G. Akhter. (2017). Integrated Groundwater Resource Management Using Satellite Gravimetry and Physical Modeling Tools, 189(128) (doi: 10.1007/s10661-017-5846-1)

3. Yigzaw[1], W. and F. **Hossain**[4]. (2016) Water-Sustainability Of Large Cities In The US From The Perspectives Of Population Increase, Anthropogenic Activities, And Climate Change, *Earth's Future*, vol. 4, (doi:10.1002/2016EF000393).

4. **Hossain**, F., et al. (2016). A Review of Approaches And Recommendations For Improving Resilience Of Water Management Infrastructure, *Journal of Infrastructure Systems* (ASCE), ASCE Task Committee's Final Update on Water Management Infrastructure Resilience, (doi:10.1061/(ASCE)IS.1943-555X.0000370)

5. Kansakar[2], P. and **Hossain**[4], F., (2016). A review of applications of satellite earth observation data for global societal benefit and stewardship of planet earth, *Space Policy*, vol 36, pp. 46-44 (doi:10.1016/j.spacepol.2016.05.005) [IF:0.596; Citations:1]

6. **Hossain**[4], F., A. Serrat-Capdevila, S. Granger, A. Thomas, D. Saah, D. Ganz, R. Mugo, M. S. R. Murthy, V. H. Ramos, C. Fonseca, E. Anderson, G. Schumann, R. Lewison, D. Kirschbaum, V. Escobar, M. Srinivasan, C. Lee, N. Iqbal, E. Levine, N. Searby, L. Friedl, A. Flores, D. Coulter, D. Irwin, A. Limaye, T. Stough, J. Skiles, S. Estes, W. Crosson, and A. S. Akanda (2016). A global capacity building vision for societal applications of earth observing systems and data: key questions and recommendations, *Bulletin of American Meteorological Society*, July Issue, pp. 1295-1299 (doi: 10.1175/BAMS-D-15-00198.1) [IF: 7.93; Citations: 1]

7. Sikder[1], S., and F. **Hossain**[4] (2016) Assessment of the weather research and forecasting model generalized parameterization schemes for advancement of precipitation forecasting in monsoon-driven river basins, *Journal of Advances in Modeling Earth Systems (AGU)*, vol. 8, (doi:10.1002/2016MS000678) [IF: 6.47; Citations: 0]

8. Chen[1], X and F. **Hossain**[4] (2016) Revisiting extreme storms of the past 100 years for future safety of large water management infrastructures, *Earth's Future (AGU)* (doi:10.1002/2016EF000368). [IF: 5.6; Citations: 0]

9. Miao[2], Y., X. Chen[1] and F. **Hossain**[4]. (2016) Maximizing hydropower generation with numerical modeling of the atmosphere, *J. Hydrologic Engineering* (ASCE), vol. 21(6), (doi: 10.1061/(ASCE)IR.1943-4774.0001098). [IF: 1.58; Citations: 1]

10. Durand[4], M. A, C. J. Gleason, P. A. Garambois, D. Bjerklie, L. C. Smith, H. Roux, E. Rodriguez, P. Bates, T. Pavelsky, J. Monnier, X. Chen, G. Di Baldassare, Jean-Michel Fiset, Nicolas Flipo, R. P. M. Frasson, J. Fulton, N. Goutal, F. **Hossain**, E. Humphries, J. T. Minear, M. Mulkowe, Jeffrey Neal, S. Ricci, B. Sanders, G. Schumann, and J. Shubert, (2016). 'Pepsi challenge' inter-comparison of remote sensing river discharge estimation algorithms from measurements of river height, width, and slope, *Water Resources Research,* vol. 52(6), pp. 4527–4549 (doi: 10.1002/2015WR018434). [IF: 3.79; Citations: 0]

11. Iqbal[2], N., F. **Hossain**[4], H. Lee, and M.G. Akhtar. (2016). Satellite gravimetric estimation of groundwater storage variations over Indus basin in Pakistan. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing* (JSTARS), vol. 9(8), pp. 3524 - 3534 (doi: doi:10.1109/JSTARS.2016.2574378). [IF: 2.14; Citations: 0]

12. Sikder[1], S. X. Chen[1], F. **Hossain[4]**, J. Roberts, F. Robertson, CK Shum and J. Turk (2016). Are general circulation models ready for operational streamflow forecasting at seasonal scales in South Asia? *Journal of Hydrometeorology*, vol. 17(1) (doi:10.1175/JHM-D-14-0099.1). [IF: 3.51; Citations: 2]

13. Bonnema[1], M., S. Sikder[1], Y. Miao[2], X. Chen[1], and F. **Hossain[4]** (2016). Understanding satellite-based monthly-to-seasonal reservoir outflow estimation as a function of hydrologic controls, *Water Resources Research,* vol. 52(5), pp.4095-4115 (doi: 10.1002/2015WR017830). [IF: 3.79; Citations: 0]

14. Bonnema[1], M., S. Sikder[1], F. **Hossain[4]**, M. Durand, D. Bjerklie and C. Gleason. (2016). Benchmarking Wide swath altimetry based river discharge estimation algorithms for the ganges river system, *Water Resources Research,* vol. 52(2), pp. 2439-2461 (doi:10.1002/2015WR017296). [IF: 3.79; Citations: 1]

15. Maswood[1], M. and F. **Hossain[4]** (2016). Advancing river modeling in ungauged basins using remote sensing: the case of Ganges-Brahmaputra-Meghna basins, *Int. J. River Basin Management,* vol. 14(1), pp. 103-117 (doi: 10.1080/15715124.2015.1089250). [IF: 0.759; Citations: 0]

16. Yigzaw[1], W. and F. **Hossain[4]** (2016). Land use land cover impact on probable maximum flood and sedimentation for artificial reservoirs: a case study in western US, *J. Hydrologic Engineering*, vol. 21(2) (doi:10.1061/(ASCE)HE.1943-5584.0001287). [IF: 1.58; Citations: 0]

17. **Hossain[4]**, F.J. Arnold, E. Beighley, C. Brown, S. Burian, J. Chen, S. Madadgar, A. Mitra, D. Niyogi, R.A. Pielke, V. Tidwell, D. Wegner (2015). What do experienced water managers think of water resources of our nation and its management infrastructure? Infrastructure Task Committee Report to ASCE, *PLOS ONE,* Nov 2015, (doi:10.1371/journal.pone.0142073). [IF: 3.54; Citations:0]

18. Paiva, R., M. Durand[4], F. **Hossain** (2015). Spatiotemporal interpolation of discharge across a river network in the context of the SWOT mission. *Water Resources Research*, vol .51 (1), pp.430-449 (doi: 10.1002/2014WR015618). [IF: 3.79; Citations: 9]

19**. Hossain[4],** F. Z. H. Khan and CK Shum (2015). Reply to Auerback et al. (2015) On tidal river management, *Nature Climate Change*. vol. 5, June 2015. [IF: 17.18; Citations: 0]

20. Yigzaw[1], W. and F. **Hossain[4]** (2015). Inferring anthropogenic trends from satellite data for water-sustainability of us cities near artificial reservoirs, *Global Planetary Change,* vol. 133, pp. 330-345 (doi: 10.1016/j.gloplacha.2015.09.013). [IF: 3.55; Citations: 0]

21. Houssos, E.E., T. Chronis[4], A. Fotiadi, F. **Hossain** (2015). Atmospheric circulation characteristics favoring dust storm outbreaks over the solar village, *Monthly Weather Review,* vol. 143, pp. 3263–3275, (doi:10.1175/MWR-D-14-00198.1).[IF: 3.25; Citations: 2]

22. **Hossain[4]**, F. J. Arnold, E. Beighley, C. Brown, S. Burian, J. Chen, S. Madadgar, A. Mitra, D. Niyogi, R.A. Pielke, V. Tidwell, D. Wegner. (2015) Local-to-regional landscape drivers of extreme weather and climate: implications for water infrastructure resilience, Infrastructure Task Committee Report to ASCE*, Journal of Hydrologic Engineering*, vol. 20(7), (doi:10.1061/(ASCE)HE.1943-5584.0001210). [IF: 1.58; Citations: 2]

23. Sikder[1], S. and F. **Hossain[4]** (2015). Understanding the geophysical sources of uncertainty of satellite interferometric-based discharge estimation, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 8(2) (doi:10.1109/JSTARS.2014.2326893). [IF: 2.14; Citations: 5]

24. **Hossain[4]**, F (2014). The Paradox of Peak Flows in a Changing Climate, *J. Hydrologic Engineering (ASCE)*, vol. 19(9) (doi: 10.1061/(ASCE)HE.1943-5584.0001059). [IF: 1.58; Citations: 4]

25. Durkee, J. A. M. Degu[1], F. **Hossain[4],** R. Mahmood, J. Winchester and T. Chronis. (2014). Impact of 'Land Between the Lakes' in Kentucky on mesoscale storms during growing season, *Journal of Applied Meteorology and Climatology*, vol. 53, pp. 1506–1524. (doi:10.1175/JAMC-D-13-088.1). [IF: 2.46; Citations: 1]

26.**Hossain[4]**, F., C K, Shum, F.J. Turk, S. Biancamaria, H. Lee, A. Limaye., L.C. Mazumder, M. Hossain, S. Shah-Newaz, T. Ahmed, W. Yigzaw[1], A.H.M. Siddique-E-Akbor[1] (2014). A guide for crossing the valley of death: Lessons learned from making a satellite based flood forecasting system operational and independently owned by a stakeholder agency, *Bulletin of American Meteorological Society (BAMS)*, vol. 95(8) (doi:10.1175/BAMS-D-13-00176.1). [IF: 7.93; Citations: 3]

27. Gebregiorgis[1], A.S. and F. **Hossain[4]** (2014). How well can we estimate error variance of satellite precipitation data across the world? *Atmospheric Research*, vol. 154, pp. 39-59. [IF: 3.37; Citations: 15]

28. Stratz[1], S.A. and F. **Hossain[4]** (2014). Probable maximum precipitation in a changing climate: implications for dam design, *ASCE Hydrologic Engineering*, vol. 19(12), (doi:10.1061/(ASCE)HE.1943-5584.0001021). [IF: 1.58; Citations: 8]

AT TENNESSEE TECHNOLOGICAL UNIVERSITY

29. Yigzaw[1,4], W. and F. **Hossain** (2014). Leveraging precipitation modification around large reservoirs in orographic environments for water resources management, *Journal of Civil and Environmental Engineering,* vol. 4(5), pp. 1 [IF: 2.15; Citations: 1]

30. Siddique-E-Akbor[1], A.H.M., F. **Hossain[4]**, C K Shum, F.J. Turk, Steven Tseng, and Yuchan Yi (2014). Satellite precipitation data driven hydrologic modeling for water resources management in the Ganges, Brahmaputra and Meghna Basins. *Earth Interactions*, vol. 18(17), pp. 1-25 (doi:10.1175/EI-D-14-0017.1). [IF: 1.32; Citations: 6]

31. Woldemichael[1], A.T. F. **Hossain[4]** and R.A. Pielke (2014). Evaluation of surface properties and atmospheric disturbances caused by post-dam alterations of land-use/land-cover. *Hydrol. Earth Syst. Sci.* vol. 18, pp. 3711-3732, (doi:10.5194/hess-18-3711-2014). [IF: 3.54; Citations: 1]

32. Woldemichael[1], A.T., F. **Hossain[4]**, and R. A. Pielke Sr. (2014). Impacts of post-dam land-use/land-cover changes on modification of extreme precipitation in contrasting hydro-climate and terrain features, *Journal of Hydrometeorology*, vol. 15(2), pp. 777-800 (doi: 10.1175/JHM-D-13-085.1). [IF: 3.51; Citations: 12]

33. Gebregiorgis[1], A.S. and F. **Hossain[4]** (2014). Estimation of satellite rainfall error variance using readily available geophysical features, *IEEE Transactions on Geosciences and Remote Sensing,* vol. 52(1), pp. 288-304 (doi:10.1109/TGRS.2013.2238636). [IF: 3.36; Citations: 13]

34 **Hossain[4]**, F. A.H.M. Siddique-E-Akbor[1], L. Mazumder, S. M. ShahNewaz, Sylvain Biancamaria, Hyongki Lee and C K Shum (2014). Proof-of-concept of altimeter-based forecasting of transboundary flow, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing.* vol. 7(2), pp. 587-601 (doi:10.1109/JSTARS.2013.2283402). [IF: 2.14; Citations: 14]

35. Yigzaw[1], W., F. **Hossain[4]** and A. Kalyanapu. (2013). Comparison of PMP-driven PMF with flood magnitudes from increasingly urbanized catchment: The case of American river watershed, *Earth Interactions (AGU-AMS-AAG*), vol. 17(8), pp. 1-15 (doi:10.1175/2012EI000497.1). [IF: 1.38; Citations: 10]

36. Yigzaw[1], W., F. **Hossain[4]**, and A. Kalyanapu (2013) Impact of artificial reservoir size and land use/land cover patterns on estimation of probable maximum flood: The case of Folsom dam on American river, *ASCE J. Hydrologic Engineering*, vol. 18(9), pp. 1180-1190 (doi: 10.1061/(ASCE)HE.1943-5584.0000722). [IF: 1.58; Citations: 12]

37. Yigzaw[1], W., F. **Hossain[4]** and E. Habib. (2013). A Google-Earth based education tool for place-based learning of hydrologic concepts using a campus watershed and Wi-Fi Connectivity *Computers in Education Journal (ASEE),* vol. 23(3). [Citations: 0]

38. Gebregiorgis[1], A.S. and F. **Hossain[4]** (2013). Performance evaluation of merged satellite rainfall products based on spatial and seasonal signatures of hydrologic predictability, *Atmospheric Research*, vol. 132-133, pp. 223-238 (doi:10.1016/j.atmosres.2013.05.003). [IF: 3.37; Citations: 7]

39. Gebregiorgis[1], A.S. and F. **Hossain[4]**. (2013). Understanding the dependency of satellite rainfall uncertainty on topography and climate for hydrologic model simulation, *IEEE Transactions on Geosciences and Remote Sensing,* vol. 51(1), pp. 704-718 (doi: 10.1109/TGRS.2012.2196282). [IF: 3.36; Citations: 31]

40. Gebregiorgis[1], A.S. C. Peters-Lidard, Y. Tian and F. **Hossain[4]**. (2012). Tracing hydrologic model simulation error as a function of satellite rainfall estimation bias components and land use and land cover conditions, *Water Resources Research,* vol. 48, W11509, (doi:10.1029/2011WR011643). [IF: 3.79; Citations: 20]

41. **Hossain[4],** F. (2012). Do Satellite Data Portals Today Reach Out To Diverse End Users around the World? *Bulletin of American Meteorological Society,* Nowcast Article (doi: 10.1175/BAMS D-12-00035.1). [IF: 7.93; Citations: 1]

42. Pizarro, R., P. Garcia-Chevesich[4], R. Valdez, F. Dominguez, F. **Hossain**, F. Ffolliot, C. Olivares, C. Morales and F. Balocchi (2012). Inland water bodies in Chile can locally increase Rainfall Intensity, *Journal of Hydrology*, vol. 481, pp. 56-63 (doi:10.1016/j.jhydrol.2012.12.012). [IF: 3.04; Citations: 7]

43. Degu[1], A. M. and F. **Hossain[4]** (2012). Investigating the mesoscale impact of artificial reservoirs on frequency of rain. *Water Resources* Research, vol. 48(5), W05510, (doi:10.1029/2011WR010966). [IF: 3.79; Citations: 8]

44. Tang[1], L. and F. **Hossain[4]** (2012). Investigating the climatologic similarity of error metrics for satellite rainfall products as a function of Koppen climate classification, *Atmospheric Research*, vol. 104(105), pp. 182-192 (doi:10.1016/j.atmosres.2011.10.006). [IF: 3.37; Citations: 8]

45. Gebregiorgis[1], A.S. and F. **Hossain[4]** (2012). Hydrological risk assessment of old dams: A case study on Wilson dam of Tennessee River basin, *ASCE Journal of Hydrologic Engineering,* vol. 17(1), pp. 201-212 (doi:10.1061/(ASCE)HE.1943-5584.0000410). [IF: 1.58; Citations: 16]

46. Kalyanapu, A., A.K.M.A. Hossain, J. Kim, W. Yigzaw[1], F. **Hossain[4]** and C. K. Shum (2012). Toward a Methodology to Investigating the downstream flood hazards on American river due to changes in Probable Maximum Flood, *Earth Interactions (AGU-AMS-AAG),* vol. 17(24), pp. 1-24 (doi:10.1175/2012EI000496.1). [IF: 1.38; Citations: 6]

47. Woldemichael[1], A.T., F. **Hossain[4]**, R.A. Pielke Sr., A. Beltrán-Przekurat. (2012). Understanding the impact of dam-triggered land-use/land-cover change on the modification of extreme precipitation, *Water Resources Research,* vol. 48(9), W09547 (doi:10.1029/2011WR011684). [IF: 3.79; Citations: 25]

48. Habib, E., Y. Ma, D. Williams, H. Sharif and F. **Hossain[4]** (2012). HydroViz: Evaluation of a web-based tool for improving hydrology education, *Hydrology and Earth System Sciences* (Special Issue on "*Hydrology Education in a Changing World,*" vol. 9, pp. 2569-2599. [IF: 3.54; Citations: 8]

49. Pielke, R. Sr., R. Wilby, D. Niyogi, F. **Hossain[4]**, K. Dairuku, J. Adegoke, G. Kallos, T. Seastedt and K. Suding. (2012). Dealing with complexity and extreme events using a bottom-up, resource-based vulnerability perspective. *AGU Monograph*, Series 196, pp. 345-359 (doi:10.1029/2011GM001086). [Citations: 39]

50. Pielke[4], R., Sr. A. Pitman, D. Niyogi, R. Mahmood, C. Mcalpine, F. **Hossain**, K. K. Goldewijk, U. Nair, R. Betts, S. Fall, M. Reichstein, P. Kabat, N. De Noblet (2011). Land use Land cover changes and past climate changes, *Wiley Interdisciplinary Review (WIRE)*-Invited Contribution, vol. 2, pp. 828-850 (doi: 10.1002/wcc.144). [IF: 3.31; Citations: 207]

51. Degu[1], A.M., F. **Hossain[4]**, D. Niyogi, R. Pielke Sr., J.M. Shepherd, N. Voisin and T. Chronis. (2011). Influence of large dams on surrounding climate and precipitation patterns, *Geophysical Research Letters,* vol. 38, L04405 (doi:10.1029/2010GL046482). [IF: 4.21; Citations: 53]

52. **Hossain[4]**, F. A. M. Degu[1], W. Yigzaw[1], S. J. Burian, D. Niyogi, M. Shepherd and R. Pielke, Sr. (2011). Climate feedback-based considerations to dam design, operations and water management in the 21st century. *ASCE Journal of Hydrologic Engineering,* vol. 17(8), pp. 837–850 (doi: 10.1061/(ASCE)HE.1943-5584.0000541). [IF: 1.58; Citations: 18]

53. Biancamaria, S., F. **Hossain** and D. Lettenmaier[4]. (2011). Forecasting transboundary flood with satellites, *Geophysical Research Letters,* vol. 38, L11401, (doi: 10.1029/2011GL047290). [IF: 4.21; Citations: 28]

54. Tang[1], L, and F. **Hossain[4]**. (2011). Understanding the dynamics of transfer of satellite rainfall error metrics from gauged to ungauged grid boxes using interpolation methods, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 4(4), pp. 844-856 (doi:10.1109/JSTARS.2011.2135840). [IF: 2.14; Citations: 5]

55. Siddique-E-Akbor[1], A. H., F. **Hossain[4]**, H. Lee and C. K. Shum. (2011). Inter-comparison study of water level estimates derived from hydrodynamic-hydrologic model and satellite altimetry for a complex deltaic environment. *Remote Sensing of Environment*, vol. 115, pp. 1522-1533 (doi:10.1016/j.rse.2011.02.011). [IF: 5.88; Citations: 13]

56. Gebregiorgis[1], A.S., F. **Hossain[4].** (2011). How much can *a priori* hydrologic model predictability help in optimal merging of satellite precipitation products? *Journal of Hydrometeorology*, vol. 12(6), pp. 1287-1298 (doi:10.1175/JHM-D-10-05023.1). [IF: 3.51; Citations: 13]

57. Moffit[1], C.B., F. **Hossain[4]**, R.F. Adler, K. Yilmaz and H. Pierce. (2011). Validation of TRMM flood detection system over Bangladesh, *International Journal of Applied Earth Observation and Geoinformatics,* vol. 13(2), (doi: 10.1016/j.jag.2010.11.003). [IF: 3.79; Citations: 17]

58. Tang[1], L., C.B. Moffit and F. **Hossain[4]** (2011). Understanding the capability of two contrasting satellite rainfall products for detection of localized and heavy rainfall flooding, *Environmental Forensics*, vol. 12(3), pp. 219-225 (doi:10.1080/15275922.2011.595045). [IF: 0.687; Citations: 0]

59. **Hossain[4],** F. (2010). On the empirical relationship between the presence of large dams and extreme precipitation, *Natural Hazards Review (ASCE),* (doi: 10.1061/(ASCE)NH.1527-6996.0000013). [IF: 1.14; Citations: 20]

60. **Hossain[4]**, F., I. Jeyachandran[3]. and R. Pielke Sr. (2010). Dam safety effects due to human alteration of extreme precipitation, *Water Resources Research*, vol. 46(3) (doi:10.1029/ 2009WR007704). [IF: 3.79; Citations: 20]

61. Nikolopoulos, E., E.N. Anagnostou[4], F. **Hossain**, M.G. Gebremichael and M. Borga (2010). Understanding the space-time scale relationships of uncertainty propagation in a distributed hydrologic model. *Journal of Hydrometeorology*, vol. 11(2), pp. 520-532, (doi: 10.1175/2009JHM1169.1). [IF: 3.51; Citations: 39]

62. Raj[1], P. and F. **Hossain[4]**. (2010). Forensic analysis of accumulation of error in hydrologic models, *Environmental Forensics*, vol. 11(2), pp. 168-178[IF: 0.687; Citations: 1]

63. Tang[1], L., F. **Hossain[4]**, and G.J. Huffman (2010). Transfer of satellite rainfall error from gauged to ungauged regions at regional and seasonal timescales, *Journal of Hydrometeorology*, vol. 11(6), pp. 1263-1274, (doi:10.1175/2010JHM1296.1). [IF: 3.51; Citations: 10]

64. Woldemichael[1], A., A.M. Degu[1], A.H.M. Siddique-E-Akbor[1], and F. **Hossain**[4] (2010). Role of land-water classification and Manning's roughness parameter in space-borne estimation of discharge for braided rivers: A case study of the Brahmaputra river in Bangladesh, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing.*, vol. 3(3), pp. 395-403 (doi:10.1109/JSTARS.2010.2050579). [IF: 2.14; Citations: 11]

65. Boynton[1], M. and F. **Hossain**[4] (2010). Improving engineering education outreach in rural counties through engineering risk analysis, *ASCE Journal of Professional Issues in Engineering Education and Practice*, vol. 136(4), pp. 224-232 (doi:10.1061/(ASCE)EI.1943-5541.0000026). [IF: 0.716; Citations: 7]

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AT TENNESSEE TECHNOLOGICAL UNIVERSITY

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AT UNIVERSITY OF WASHINGTON

1. Cotton Fields from the Ivory Tower– a scientific documentary showcasing the hurdles to durable application of science for societal application for earth and environmental issues.

2. Bay Of Hope – a scientific documentary showcasing how collaborative science on coastal vulnerability and engagement with local stakeholders can help result in resilience. This was selected for screening at 8th Eco-Film Festival-2015 in Malaysia [Watch online: https://www.youtube.com/watch?v=qiYFOyt0_iY]

3. South Asian Surface Water Modeling System – A "Build-it-yourself" web-GIS platform that allows any stakeholder agency on water to connect complex backend models with easy to build web interfaces using freely available tools. [http://depts.washington.edu/saswe]

4. Scholar Earth – A scalable, modular and intuitive platform for collaborative creation of modules on education, research and simulation using geospatial environmental data (including from real-time satellite data streaming and crowd sourcing). The platform currently allows multi-disciplinary collaboration on commonly researched watersheds. [http://scholarearth.cloudapp.net/]

5. **WWW.NASA.GOV** - NASA Data used to track Groundwater in Pakistan, Feb 29, 2016 (see: http://www.nasa.gov/feature/jpl/nasa-data-used-to-track-groundwater-in-pakistan)

6. **WWW.NASA.GOV** Bangladesh Announces Nationwide Use of SERVIR Satellite-based Flood Forecasting and Warning System, March 9, 2015

AT TENNESSEE TECHNOLOGICAL UNIVERSITY

1. HYDROVIZ-Tennessee – A customized Google Earth-based teaching application for implementing place-based learning of hydrology concepts using a campus watershed. The software's original architecture is developed (and later customized for Tennessee) by Dr. Emad Habib (University of Louisiana) on a NSF-funded project and is called HYDRO-VIZ.

2. STEVE version 2.0. – **S**tochastic **T**heory **E**ducation through **V**isualization **E**nvironment. An OpenGL-based Graphical User Interface (GUI) for a space-time stochastic model (called SREM2D) for improving instruction of stochastic theory at undergraduate-graduate level.

3. Live BBC interview on the "Naked Scientist Show", *Dam a River – Change the Weather,* Feb 2010.[Podcast at: http://www.thenakedscientists.com/HTML/interviews/interview/1289/]

OTHER SCHOLARLY ACTIVITY

Invited lectures and seminars

AT UNIVERSITY OF WASHINGTON

1. World Bank HQ, DC, *Building Solutions for the Water Sector using Remote Sensing: A Developing World Perspective,* March 15, 2017.
2. Asian Development Bank HQ, Manila, Philippines, *Smart Use of Satellite Remote Sensing for Water Management and Food Security,* November 14, 2016
3. University of Melbourne, Department of Infrastructure Engineering. Melbourne, Australia. *Management challenges of the world's water resources: a developing world perspective.* May 18, 2016.
4. Environmental Defense Fund (EDF)-San Francisco, Science Day Invited Speaker, *What must be done to best use satellites for social good?* February 10, 2016.
5. American Meteorological Society (AMS) 96th Annual Meeting - New Orleans, Invited Presentation on *"Perspective and plans for future observing systems in earth system science"*, January 11, 2016.
6. University of Washington, School of Forestry Sciences, *Management challenges of the world's water resources: a developing world perspective*, March 11, 2015.
7. NASA E2 Workshop Tacoma, Inaugural Speaker, *Globalizing societal application of scientific research and observations from remote sensing: The path forward*, June 23, 2015.
8. San Diego, NASA-CNES Surface Water Ocean Topography (SWOT) Mission Science Meeting – Keynote Lecture, *SWOT contributions to improved understanding of human impacts on hydrology*, January 2015.
9. University of Washington, Department of Civil and Environmental Engineering, *Advancing river modeling in ungauged basins: The case of Ganges Brahmaputra Meghna basins,* January, 2015.
10. University of Washington, Program for Climate Change (PCC) Seminar Series, *Advancing river modeling in ungauged basins: the case of Ganges Brahmaputra Meghna Basins,* December 2, 2014.
11. University of Houston, Department of Civil and Environmental Engineering, *Advancing river modeling in ungauged Basins: The case of Ganges Brahmaputra Meghna basins,* November 7, 2014.
12. WellSprings-2014 at Tacoma (WA), *Big Data, Little Water*, October 14, 2014.
13. Microsoft Research Faculty Summit for Latin America, Vina del Mar, Chile, *Delivering hydrological information for community empowerment: Opportunities and challenges for the semi-skilled consumer,* May 8, 2014.
14. University of Washington, Global Change Program, Department of Computer Science and Engineering, *Delivering hydrological information for community empowerment: opportunities and challenges for the semi-skilled consumer…and some after-thoughts on global health*, April 29, 2014.

15. University of Washington, Tacoma, *Empowering sovereign management of water resources: application of remote sensing to developing world problems,* February 24, 2014.
16. University of Washington, Freshwater Colloquium, *Empowering sovereign management of water resources: application of remote sensing to developing world problems,* Seattle, October 22, 2013.

AT TENNESSEE TECHNOLOGICAL UNIVERSITY

17. Nangyang Technological University, *Understanding infrastructure resilience of dam-reliant cities under changing patterns of extreme weather*, Singapore, December 10, 2012.
18. University of Connecticut, Alumni Association G.O.L.D Award ceremony, *crossing the valley of death: promoting environmental research for societal applications*, Storrs, October 12, 2012.
19. Western Kentucky University, *Promoting the value of water cycle remote sensing and climate studies to non-traditional consumers*, *Western Kentucky University*, March 16, 2012.
20. Jet Propulsion Laboratory-Caltech, *Promoting the value of water cycle remote sensing and climate studies to non-traditional consumers*, Pasadena, March 12, 2012.
21. University of Texas-San Antonio, Department of Civil and Environmental Engineering, *Climate-feedback based paradigm for management and design of impounded river basins*, , November 18, 2011.
22. International Geosphere-Biosphere Program (IGBP), 3rd International iLEAPS Conference, Garmisch Partenkirchen, Germany, *A Bottom-up vulnerability approach to adaptation to climate and other threats*, September 22, 2011
23. NASA Goddard Space Flight Center, Greenbelt, *Impact of artificial reservoirs on local climate*, Terrestrial Water Cycle Seminar, May 26, 2011.
24. University of Mississippi, Department of Civil and Environmental Engineering, *The 21st century civil engineering program*, April 25, 2011.
25. University of Georgia, *Impact of artificial reservoirs on local climate*, Department of Geology, April 15, 2011.
26. University of Connecticut, Department of Civil and Environmental Engineering, *Impact of artificial reservoirs on local climate*, April 8, 2011.
27. University of South Carolina, Department of Civil and Environmental Engineering, *Of dams, transboundary water and their lesser known impacts*, April 2, 2010.
28. University of California-Irvine, Center for Hydrology and Remote Sensing, *Of dams, transboundary water and their lesser known impacts*, March 12, 2010.
29. Jet Propulsion Laboratory, Caltech, *Of dams, transboundary water and their lesser known impacts*, March 11, 2010.
30. Purdue University, Department of Agricultural Engineering/Civil Engineering, *Of Dams, Transboundary water and their lesser known impacts*, November 16, 2009.
31. West Virginia University Institute of Technology, ASCE Student Chapter Invited Speaker, 46th Convention, Montgomery, *Sustainable application of satellites for water resources management: past, present and future*, West Virginia, November 20, 2008.
32. Ohio State University, SWOT Hydrology Workshop, *Potential applications of SWOT data to international water management issues,* September 16, 2008.
33. Regional Symposium on Climate Change, Food Security, Sea Level Rise and Environment in South Asia, Dhaka, Bangladesh, *Understanding surface water flow and storage changes using satellites*. August 24, 2008.
34. Georesources Institute, Mississippi State University, Starkville, *Sustainable application of water-measuring satellites for water resources management: past, present and future,* April 4, 2008.

35. University of Tennessee, Knoxville, *Sustainable application of water-measuring satellites for water resources management: Past, present and future*, March 24, 2008.
36. Institute of Water Modeling (Bangladesh), *An overview of current research on advancing overland hydrologic application of satellite rainfall data at TTU*, July 24, 2007.
37. Vanderbilt University-Environmental Seminar Series, Nashville, *A paradigm for spatial mapping of groundwater contamination in rural settings: Lessons from arsenic contamination in Bangladesh*, April 6, 2007.
38. US Army Corps of Engineers, Engineering Research and Development Center, Vicksburg, *The challenges of flood monitoring across political boundaries: Taking stock of emerging opportunities and moving ahead*, November, 16 2006.
39. University of Mississippi, Oxford, *The challenges of flood monitoring across political boundaries: taking stock of emerging opportunities and moving ahead,* November, 17, 2006.
40. University of Connecticut, *The challenges of flood monitoring across political boundaries: taking stock of emerging opportunities and moving ahead*, May 11, 2006.
41. Indian Institute of Technology, Kanpur, India, *Assessment of remotely-sensed rainfall for monitoring of floods in the 21st century,* July 19, 2005.
42. Center for Environmental and Geographic Information System, Dhaka, Bangladesh, *Satellites for monitoring surface and sub-surface hydrologic calamities in Bangladesh: an assessment of opportunities and challenges*, May 11, 2005.
43. Oak Ridge National Laboratory, Environmental Sciences Division, *Assessment of remotely-sensed rainfall for monitoring of floods in the 21st century* , May 6, 2005.
44. NASA Goddard Space Flight Center, Hydrological Sciences Branch, Greenbelt, *Assessment of satellite rainfall for flood forecasting in international river basins*, February 11, 2005.
45. Sigma Xi Tennessee Tech. Chapter, *Assessment of satellite rainfall for flood forecasting in international river basins*, January, 20, 2005.
46. Tennessee Technological University, *Satellite-based flood prediction*, May 10, 2004.
47. University of Connecticut, Environmental Scholars Colloquium, Storrs, CT, *Assessment of current passive microwave and infra-red based satellite rainfall remote sensing for flood prediction of ungauged watersheds*, March 28, 2003.
48. University of Connecticut, Environmental Scholars Colloquium, Storrs, CT, *Bayesian estimation of flood prediction uncertainty for radar rainfall: Application of a likelihood-based approach to a mountainous basin*. September, 2001.

Professional society memberships.
Professional Hydrologist. American Institute of Hydrology (License No. 14-H-6012
Full Member, American Society of Civil Engineers (ID No. 434334)
Member, American Geophysical Union.
Member, American Meteorological Society.
Member, American Society of Engineering Education.

Referee/Reviewer (last updated 10/2016)

Journal Name	**Number of reviews (approx.)**
Water Resources Research (AGU)	24
Advances in Water Resources	3
Journal of Hydrologic Engineering (ASCE)	25
Environmental Modeling and Software (Elsevier Sciences)	2
Water, Air and Soil Pollution (Kluwer)	1
Non-linear Processes in Geo-physics (EGU-AGU)	3

Journal Name	Number of reviews (approx.)
Journal of American Water Resources Association (AWRA)	14
Journal of Environmental Informatics	4
Remote Sensing of the Environment (Elsevier Sciences)	4
EOS (AGU)	4
PLOS ONE	6
Journal of Hydrometeorology (AMS)	46
Journal of Hydrology	6
Journal of Contaminant Hydrology	1
Stochastic Environmental Research and Risk Assessment	8
Science of Total Environment	1
Computers and Geosciences (IAMG)	3
Geophysical Research Letters (AGU)	4
Natural Hazards	2
Hydrology and Earth System Science (EGU)	2
International Journal of Remote Sensing	2
Atmospheric Research	2
Journal of Selected Topics in Applied Earth Observations Remote Sensing (IEEE)	4
Computers and Electronics in Agriculture	1
Biogeosciences (EGU)	4
Climatic Change	2
International Journal of Climatology	1
Marine Geodesy	1
Environmental Research Letters	6
Hydrologic Sciences Journal	4
Promotion and Tenure cases	3

GRADUATE STUDENTS

Current Doctoral Students

Student Name	Dissertation Title	Current Status	Expected Graduation Date
UNIVERSITY OF WASHINGTON			
Safat Sikder*	Extended Flood Forecasting in Monsoon River Systems	Passed qualifying exam 06/2015	Spring 2017 (started Win 14)
Xiaodong Chen	Probable Maximum Precipitation in a Changing Climate	Passed General exam on 06/16	Spring 2017 (started Spr 15)
Matthew Bonnema	Satellite Interferometric Discharge Estimation	Passed qualifying exam on 06/10/16	Winter 2018 (started Fall 14)
Asif Mahmood	Mobile Health Applications Using Satellite Remote Sensing and Modeling of Water	Qualifying exam due Spring 2017	Spring 2019 (started Fall 15)
Hisham Eldardiry	Water Management of the Nile River	Started Spring 2017	Fall 2021

***** NASA Earth and Space Fellowship Awardee

Chaired Doctoral Students

Student Name	Dissertation Title	Current Status	Expected Graduation Date
TENNESSEE TECHNOLOGICAL UNIVERSITY			
Wondmagegn Yigzaw*	Understanding water sustainability of cities and dams	February 2016	Research Scientist, Montana State University
Abel Woldemichael*	Understanding The Modification Of Regional Hydroclimatology In Impounded River Basins	June 2015	N/A
Abebe Gebregiorgis*	Hydrologically-Relevant Merging Of High Resolution Satellite Precipitation Products To Enhance Hydrologic Application	June 2013	Texas Flood Commission, Houston, TX
Ahmed Mohamed	A Comprehensive Observational Study On The Impact Of Artificial Reservoirs On Local Hydroclimatology	August 2013	Asst. Professor, Mekelle University, Ethiopia
Ling Tang*	Transfer Of Uncertainty Of Space-Borne High Resolution Rainfall Products At Ungauged Regions	August 2011	Product Engineer, ESRI, Redlands

* NASA Earth and Space Fellowship Awardee

Current Masters Degrees

Student Name	Level of Supervision	Thesis/Paper Title (if applicable)	Completed (Year)	Current Employer
UNIVERSITY OF WASHINGTON				
Nishan Biswas	Thesis	A scalable open-source web-analytic framework to improve satellite -based operational water management in developing countries Earth Observations	Spring 2017 (expected)	N/A
Shahryar K. Ahmad	Thesis	Optimizing Hydropower Dam Operations	Spring 2018 (expected)	N/A

Chaired Masters Degrees

Student Name	Level of Supervision	Thesis/Paper Title (if applicable)	Completed (Year)	Current Employer
UNIVERSITY OF WASHINGTON				
Mehedi Maswood	Thesis-UW	Advancing River Modeling Using Satellites	2014	Woolacotts Consulting Engineers, Sydney, Australia
TENNESSEE TECHNOLOGICAL UNIVERSITY				
Adam Stratz *Nuclear Forensics Graduate Fellow*	Thesis	PMP in a Changing Climate: Implications for Dam Design	2014	Department of Energy

Student Name	**Level of Supervision**	**Thesis/Paper Title** (if applicable)	**Completed (Year)**	**Current Employer**
A H M. Siddique-E-Akbor	Thesis	Hydrologic Modeling as a Decision Making Tool for Water Management in Ganges, Brahmaputra and Meghna Basin	2013	Engineering Consultants; New York
Travis Hamby	Coursework only	Flood risk assessment of lakes and reservoirs within Cumberland river basin	2011	CTI Engineers Inc.
Caitlin Moffit	Thesis	Validation of NASA Global Flood Detection System in Bangladesh	2010	Assistant Professor, Chattanooga State College, TN.
A H M. Siddique-E-Akbor	Thesis	The Surface Water and Ocean Topography Mission for Water Management in Bangladesh	2010	Institute of Water Modeling, Bangladesh (2010-2012)
Matthew Boynton	Thesis	Improving Engineering Education Outreach in Rural Counties through Risk Analysis and Hands-on Activities	2009	Engineering Coordinator, Virginia Tech.
Mohammed Chowdhury	Thesis	Improving spatial mapping of arsenic contamination in Groundwater	2009	British Petroluem
Nitin Katiyar	Thesis	Development of an Open-Book Watershed Modeling Framework for Flood Forecasting Systems in International River Basins	2007	Hydro-QUAL – New York
Amanda Harris	Thesis	Investigating Optimal Configuration of Hydrologic Models during Data Denial Situations Using Satellite Data	2007	US Army Corps of Engineers – Nashville District
Preethi Raj	Thesis	Error Budget Analyses of Hydrologic Models: Understanding Applications for Satellite Rainfall Data	2007	Returned to India

RESEARCH ACTIVITIES

Funded Research

Funding Agency	Title	Total Amount	University Matching, if any	My Amount	Role	Dates
UNIVERSITY OF WASHINGTON						
JPL	NASA Jason-2, Jason-3 Altimetry Missions Applications Activities	$50,000	$0	$50,000	PI	03/17-08/18
NASA	Building Lasting Capacity for Water Management in Vulnerable Deltas of Indo-China	$510,000 (PI from University of Houston)	$0	$280,512	Co-PI	07/16-06/19
NASA	Towards Operational Water Resources Management in South Asia Exploiting Satellite Geodetic and Remote Sensing Technologies	$ 1.48 million	$0	$914,631	PI	11/14-10/18
NASA	Tracking Water Storage in Lakes: Citizens and Satellites	Co-PI (PI – from UNC)	$700k	$231k	01/17 - 12/19	03/01/17
DoD	Effects of Global Change on Extreme Precipitation and Flooding	$850,110 (PI from UCLA)	$0	$40,000	Co-PI	5/15-4/18
USAID-DIV Stage 1	Satellite-based Flood Inundation Warning on Affordable Mobile Platforms to Empower Farmers	$175,000 (5 million & 15 million for Stage 2 and 3, respectively)	$25,000	$150,000	PI	10/15-09/17
NASA	Globalizing Societal Application of Scientific Research and Observations from Remote Sensing: The Path Forward	$93,437	$0	$93,437	PI	05/15-04/16
NASA	SWOT Science Team Preparations for Ground-truthing, Discharge Product Development and Water Management Applications in Asian River Systems	$428,437	$0	$428,437	PI	06/16-12/20
NASA	Operational Flood Forecasting in Flood-prone River Deltas of the Developing World: Setting the Path	$90,000	$0	$90,000	PI	09/16-08/19

	forward for Current and Future Satellite Water Missions					
Funding Agency	**Title**	**Total Amount**	**University Matching, if any**	**My Amount**	**Role**	**Dates**
TENNESSEE TECHNOLOGICAL UNIVERSITY						
NASA	Improving the Accuracy and Reliability of Space-Borne Discharge Estimation from SWOT for Low-lying Humid Tropical Regions of the World	$ 215,740	$0	$215,740	PI	12/12-3/16
NASA	A Satellite-based Early Warning, Mapping and Post-Disaster Visualization System for Water Resources of Low-lying Deltas of the Hindu Kush-Himalayan Region	$780,000	$0	$660,000	PI	8/14-7/16
NASA	Toolbox Development for River Height Extraction from Radar Altimeters: Facilitating Global Applications using JASON-2	$59,500	$0	$29,500	PI	08/14-07/15
NSF	Bangladesh Delta: Assessment of the Causes Of Sea-Level Rise Hazards And Integrated Development Of Predictive Modeling Towards Mitigation And Adaptation (BAND-AID)	$138,733	$0	$138,733	PI	04/14-03/17
NASA	The Future of Our Cities and Ageing Dams: Using NASA Satellites to Understand Changing Patterns of Infrastructure Safety for Resource-Hungry US Cities	$82,800	$0	$82,800	PI	08/13-07/16
NASA	Understanding Atmospheric Rivers, Terrain and Anthropogenic Land Cover Changes on Storm Modification around Large Dams using Multi-sensor Satellite Data, Cloud	$82,800	$0	$82,800	PI	08/12-07/15

	Tracking and Numerical Modeling					
Funding Agency	**Title**	**Total Amount**	**University Matching, if any**	**My Amount**	**Role**	**Dates**
NASA	Modeling the hydrologically-relevant features of uncertainty of NASA's high resolution precipitation products for advancing global applications over ungauged regions.	$82,800	$0	$82,800	PI	08/08-07/11
US Dept. of State	Strengthening Institutional Resilience of Bangladesh to Recurrent Flooding By Improving Operational Capacity For Early Detection Using Satellites	$24,000	$0	$24,000	PI	07/12-06/13
NASA	Advancing the Hydrologic potential of NASA's TRMM-based Satellite Rainfall Estimation System for Global Flood Monitoring in Anticipation of GPM	$310,000 (NASA New Investigator Program)	$0	$310,000	PI	07/08-06/12
NASA	Defining Optimality Criteria for the Effective Use of Satellite Precipitation Datasets in Land Surface Hydrology and Water Cycle Studies	$425,000 (PI from Univ. Connecticut)	$0	$156,000	Co-PI	05/07-04/11
NASA	Validating Prototype GPM Data for SERVIR System in MesoAmerica	$30,000	$0	$30,000	PI	05/07-04/08
NASA	GPM Data Integration in HEC-HMS	$64,655	$0	$64,655	PI	05/07-04/08

DOCUMENTATION OF TEACHING EFFECTIVENESS

Courses Taught & Student Evaluations

Course	Title	Qtr	Credit Hrs	Enroll -ment	Evaluations? Response	Item 1	Item 3	Item 4	Avg (1-4)
UNIVERSITY OF WASHINGTON - Seattle									
CEE 599	Quantitative Water Management	Winter 2017	3	9	On-going				
CEE 599 (future number as ENV 5XX)	Satellite Remote Sensing for Water Resources	Autum 2016	3	14	Yes, 14/14	3.8	4.2	4.5	3.9
CEE599 (future number CEE574)	Quantitative Water Management	Winter 2016	3	15	Yes, 15/15	3.6	4.1	4.3	4.0
CEE599	Satellite Remote Sensing for Water Resources	Spring 2015	3	7	Yes, 7/7	4.6	4.6	4.6	4.5
CEE599	Satellite Remote Sensing for Water Resources	Spring 2014	3	17	Yes, 12/17	3.2	3.2	3.3	3.3
UNIVERSITY OF WASHINGTON - Tacoma									
TESC 453A	Environmental Remote Sensing	Fall 2014	5	5	Yes, 5/5	2.2	3.0	2.4	2.7

Independent Study (AT UNIVERSITY OF WASHINGTON)

Course	Title or Student Name	Quarter	Total Credit Hrs
CEE600B	Yabin Mao	Autumn 2015	1
CEE600A	Wenxin Lin	Spring 2016	1

AT TENNESSEE TECHNOLOGICAL UNIVERSITY (2004-2013)

Course evaluation is on a scale of 0 -4 where students are asked to rate their level of learning on a series of syllabus topics. 0 - No Opinion; 1- Strongly Disagree; 2- Disagree; 3- Agree;4- Strongly Agree. For example, students in Engineering Mechanics are asked to rate "*I can describe forces in terms of their vector components as well as determine vector sums"* on a scale of 0-4. The score below provides the average of scores over all syllabus topics. [Note: scores for graduate level courses are not maintained by the department during 2004-2013]

Course	Title	Semesters Taught	Credit Hrs	Enrollment	Overall Score (max is 4)
TENNESSEE TECHNOLOGICAL UNIVERSITY					
CEE 4420- Undergraduate	Engineering Hydrology	Fall 2013	3	7	3.51
CEE 6440 – Graduate	Hydrometeorology	Fall 2013	3	6	N/A

Course	Title	Semesters Taught	Credit Hrs	Enrollment	Overall Score (max is 4)
CEE 6480-Graduate	Environmental Applications of Remote Sensing	Fall 2012	3	3	N/A
CEE 6910-Graduate	Seminar Series	Fall 2012	1	17	N/A
CEE 2110-Undergraduate	Engineering Mechanics	Spring 2012	3	25	3.62
CEE 4420-Undergraduate	Engineering Hydrology	Fall 2011	3	20	3.60
CEE 6430 - Graduate	Probabilistic Methods in Hydrosciences	Fall 2011	3	7	N/A
CEE 6910 - Graduate	Seminar Series	Fall 2011	1	12	N/A
CEE 3420 – Undergraduate	Engineering Hydraulics	Spring 2011	3	22	3.25
CEE 3100 – Undergraduate	Computers in Civil Engineering	Spring 2011	3	5	3.26
CEE 4420 – Undergraduate	Engineering Hydrology	Fall 2010	3	18	3.60
CEE 1020-Undergraduate	Connections to Civil Engineering	Fall 2010	1	20	N/A
CEE 6440 – Graduate	Hydrometeorology	Fall 2010	3	4	N/A
CEE 6910 - Graduate	Seminar Series	Fall 2010	1	10	N/A
CEE 3100 – Undergraduate	Computers in Civil Engineering	Spring 2010	3	8	2.77
CEE 4440 – Undergraduate	Water Resources Engineering	Spring 2010	3	14	3.32
CEE 4420 – Undergraduate	Engineering Hydrology	Fall 2009	3	8	3.67
CEE 1020 – Undergraduate	Connections to Civil Engineering	Fall 2009	1	22	3.20
CEE 6480 – Graduate	Environmental Applications of Remote Sensing	Fall 2009	3	6	N/A
CEE 3100 – Undergraduate	Computers in Civil Engineering	Spring 2009	3	12	3.33
CEE 3420 - Undergraduate	Engineering Hydraulics	Spring 2009	3	25	3.66
CEE 6430 – Graduate	Probabilistic Methods in Hydrosciences	Fall 2008	3	5	N/A
CEE 1020 – Undergraduate	Connections to Civil Engineering	Fall 2008	1	25	N/A

Course	Title	Semesters Taught	Credit Hrs	Enrollment	Overall Score (max is 4)
CEE 3420-Undergraduate	Engineering Hydraulics	Spring 2008	3	27	3.60
CEE 3100 – Undergraduate	Computers in Civil Engineering	Spring 2008	3	14	3.00
CEE 6440-Graduate	Hydrometeorology	Fall 2007	3	3	N/A
CEE 1020 – Undergraduate	Connections to Civil Engineering	Fall 2007	1	27	3.00
CEE 4420 – Graduate	Engineering Hydrology	Fall 2007	3	14	3.54
CEE 3420 – Undergraduate	Engineering Hydraulics	Spring 2007	3	30	3.50
CEE 4420 – Undergraduate	Engineering Hydrology	Fall 2006	3	11	3.53
CEE 1020 – Undergraduate	Connections to Civil Engineering	Fall 2006	1	21	3.00
CEE 6430 – Graduate	Probabilistic Methods in Hydrosciences	Fall 2006	3	4	N/A
CEE 3420 – Undergraduate	Engineering Hydraulics	Spring 2006	3	38	3.30
CEE 4420 – Undergraduate	Engineering Hydrology	Fall 2005	3	8	3.51
CEE 6440-Graduate	Hydrometeorology	Fall 2005	3	5	N/A
CEE 4440 – Undergraduate	Water Resources Engineering	Spring 2005	3	7	3.30
CEE 6430 – Graduate	Probabilistic Methods in Hydrosciences	Fall 2004	3	5	N/A

List of other teaching (education) contributions

1. Three-day short course training for Lower Mekong nations (Vietnam, Laos PDR and Cambodia) on "*Building Lasting Capacity for Water Management"* at National University of Civil Engineering, Hanoi, Vietnam, October 5-7, 2016. [Role: Instructor]

2. Two week short-course training for Vietnamese Delegation from National University of Civil Engineering (NUCE) on "*Hydrologic Modeling and Reservoir Operations"* at University of Washington, March 26-April 8, 2016. [Role: Instructor]

3. Six Month Training on "*Operationalization of GRACE Satellite for Groundwater Monitoring."* A government staff and PhD candidate (Naveed Iqbal) from Pakistan Council for Research on Water Resources (PCRWR) was on UW VISIT program. Training in the form of lectures and hands-on activities was provided to the staff to help learn satellite tools for PCRWR's decision making needs. As part of the training Mr. Iqbal published two peer-reviewed papers and

developed an operational system. May 2015 –November 2015. [Role: Instructor and UW VISIT advisor]

4. Six week short-course training on "*Satellite-based Snow and Glacier Monitoring"* for Nepal Department of Hydrology and Meteorology. Mr. Bikram Zoowa was the candidate from Nepal who received this training at UW provided as lectures, short course and hands-on activities. April 15- May 31, 2016. [Role: Instructor]

SERVICE

AT UNIVERSITY OF WASHINGTON

Departmental service
Undergraduate Affairs member, 2014-present
Mentor Committee for CEE faculty, Don Mackenzie, 2014-present
Mentor Committee for CEE faculty Amy Kim, 2014-present

College service
Faculty advisor (with Becca Neumann), *Engineers without Borders* UW Chapter, 2016-present.

University service
Faculty senate, 2015-present

Professional society service
Vice President of Academic Affairs, American Institute of Hydrology, 2017-present
Editor, Journal of Hydrometeorology 2015-present
Associate Editor, Journal of Hydrometeorology, 2014-2015

Chair of ASCE Task Committee (under Environment and Water Resource Institute of ASCE) on *"Infrastructure Impacts of Landscape-driven Weather Change"* January 2014 – present.

Voting Member, ASCE Watershed Management Technical Council, 2014-present

Award Reviewer, American Society of Engineering Education, 2014-2015
Falkenberg Award Committee, American Geophysical Union, 2015-present
Science Team member and Applications Lead, NASA-CNES SWOT mission, 2016-present

International, national or governmental service

US Fulbright Program Review Panel (South and Central Asia) – 2014

US PI support (unfunded) for NASA-USAID PEER project *Scaling up of satellite-assisted flood forecasting systems in south and southeast Asian nations*; 2015-2017.

US-PI support (unfunded) for NASA-USAID PEER project *Application of geodetic, satellite remote sensing and physical modeling tools for management of operational groundwater resource in the Red river delta*, *Vietnam*; 2015-2018.

US PI support (unfunded) for NSF-USAID PEER project *Improving adaptation against coastal vulnerability and enhancing flood forecasting skill in Bangladesh through a satellite data integrative modeling framework in a changing climate,* 2014-2017.

Point of Contact and Instigator of MOUs for UW Civil Engineering with International Center for Integrated Mountain Development (ICIMOD), Pakistan Council of Research in Water Resources (PCRWR), Nanyang Technological University- Singapore (NTU) and Institute of Water Modeling (IWM), 2014-2018.

All other service
External PhD Dissertation Committee member– University of Sherbrooke, Canada, 2016

Lead Organizer, NASA Decadal Survey E2 Workshop titled "*Globalizing Societal Application of Scientific Research and Observations from Remote Sensing: The Path Forward*" held in Tacoma Holiday Inn from June 22-25, 2015.

NASA ROSES review panelist for Interdisciplinary Sciences and Water program, 2015-2016.

Lead Organizer, CEE Student Film Contest, Spring 2017-present

Director of Student Recruitment Video for Hydrology and Hydrodynamics group of Civil and Environmental Engineering at UW. [watch online at: https://www.youtube.com/watch?v=-Kz-1M8mIzw], 2014.

AT TENNESSEE TECHNOLOGICAL UNIVERSITY

Departmental Service
Graduate Seminar Coordinator, 2006-2013

Chair, Graduate Affairs Committee 2006 – 2012 [Oversaw two graduate program reviews]

Faculty Co-Advisor, ASCE Student Chapter, TTU, 2009-2012

ABET Committee, 2006-2011
Recruitment and Retention Committee, 2006-2012
Technology Committee, 2006-2012

University Service
Task Force Leader for identifying research thrust areas for College of Engineering – Strategic Planning Initiative. 2012-2013

Professional Society Service
Associate Editor, Journal of Hydrometeorology, 2012-2013
Science Definition Team member, NASA-CNES SWOT mission, 2012-2014
Associate Editor, *Journal of American Water Resources Association* JAWRA. 2006-2010

Working Group Co-Chair, *Hydrologically Relevant Error Metrics for Satellite Rainfall Data,* International Precipitation Working Group (IPWG) – PEHRPP Workshop, World Meteorological Organization, Geneva, Switzerland, December 3-5, 2007.

Session Chair, *Hydrological Sciences for Managing Water Resources of the Asian Developing World*, Guangzhou, China, June 9, 2006.

International, national or government service

Coordinator for curriculum development of the undergraduate civil engineering program for the Kurdistan Regional Government (Iraq). 2009-2010.

Hosted visiting faculty from Koya University (Iraq) on curriculum development. 2009-2010.

Proposal review panelist, *National Science Foundation (NSF) Graduate Fellowship Program,* 2005-2007.
Proposal review panelist for NSF *TUES Program* 2012-2014.

NASA ROSES proposal review panelist on Earth Science and Applied Sciences 2010-2013.

Proposal Reviewer for *NASA-ROSES,* 2006-2012
Proposal Review for *NSF (Hydrologic Sciences Program),* 2007-2009
Proposal Reviewer for *Hong Kong Research Grants Council,* 2007
Proposal Reviewer for *Swiss National Science Foundation*, 2007
Proposal Reviewer for *Mathematics of Information Technology and Complex Systems Network of Centers of Excellence* (MITACS-NCE) 2004-2012.

Instigator of MOUs with two international water agencies and TTU (2004-2013)

All other service

Book review on "*Water Diplomacy: A Negotiated Approach to Managing Complex Water Networks*" by S. Islam and L.E. Susskind (RFF Press) – Review appeared in *EOS* (American Geophysical Union), 2013.

Lead and invited author in 2009 of chapter titled '*Reservoirs, Transboundary Issues and Human Impacts*' for Mission Science Document of the proposed NASA-CNES Surface Water and Ocean Topography (SWOT) Mission (launch date 2021).

Coordinator and lead organizer of CEE 1020 Student Film Contest, 2007-2009.