

**Dr. ARPITA NANDI**

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**EDUCATION**

- Ph.D. 2007      Engineering Geology (Conc.) Kent State University, Ohio. USA.  
with: Hydrology and Remote Sensing (Advisor: Dr. Abdul Shakoor).
- M.S. 2001      Geology. University of Akron, Ohio. USA (Advisor: Dr. Ira. D. Sasowsky)
- M.Sc. 1997      Geology. University of Calcutta, India. (Advisor: Dr. Chitta Bhattacharya)
- B.Sc. 1995      Major: Geology, and Minor: Chemistry, and Mathematics. University of  
Calcutta, West Bengal, India.

**CURRENT POSITIONS**

- 2016 – present      **Department Chair**, East Tennessee State University (ETSU),  
Dept. of Geosciences.
- 2019 – Present      **Full Professor**, ETSU, Dept. of Geosciences.
- 2017 - Present      **Honors-in-Discipline Coordinator**, ETSU, Dept. of  
Geosciences.
- 2012 – Present      **Undergraduate Student Coordinator and Advisor**, ETSU,  
Dept. of Geosciences
- 2017 – Present      **Senior Member of the Graduate Faculty**, ETSU

**PAST POSITIONS (Academic and Industry)**

**Academic**

- 2013 – 2019      **Associate Professor**, ETSU, Dept. of Geosciences.
- 2007- 2013      **Assistant Professor**, ETSU, Dept. of Geosciences
- 2007- 2016      **Member of the Graduate Faculty**, ETSU
- 2001 – 2005      **Instructor**: Geauga Campus, Kent State University. Taught undergraduate  
Geology classes including Physical Geology lecture and laboratory.
- 2001 – 2003      **Teaching Assistant**: Kent Campus, Department of Geology, Kent State  
University. Tutored graduate students in Engineering Geology, and Soil  
Mechanics, and assisted graduate students in Engineering Geology laboratory  
assignments. Taught Earth Dynamics and Earth History laboratory classes.
- 1999-2001      **Teaching Assistant**: Department of Geology, University of Akron. Taught  
Physical Geology laboratory classes, tutored students majoring in Geology.

**Industry**

- 2005-2007 Worked in the Geotechnical Engineering Unit of Michael Baker Corporation (Pittsburg, PA). Geotechnical experience encompasses reconnaissance, field testing, subsurface investigation, laboratory data analysis, interpretation and design, settlement and bearing capacity calculation for structure foundation, detailed landslide, rock fall and slope stability investigations, analyses, design and remediation, as well as technical report writing on many geotechnical engineering projects. Specialization includes GIS modeling and remote sensing data analysis.
- 1997-1999 Worked in Bengal Engineering College, Department of Mining and Geology, W.B, India. Assignments included extensive field investigation and mapping in high-grade metamorphic terrain. Thin section preparation and study, X-Ray diffraction studies, satellite images interpretation, cost estimation for mining economic mineral deposits. Proposal and technical report writing.

### **CLASSES TAUGHT**

- Geology: Exploring Geology (GEOL 1040/1041, Lecture and Lab)  
 Earth Materials (GEOL 2000, Lecture and Lab)  
 Scientific Methods in Geosciences (GEOS 2020, Lecture and Lab)  
 Engineering Geology (GEOS 4587/5587, Lecture and Lab)  
 UG and Grad Thesis (GEOL 4899, GEOS 5900, 5960)
- Geography: Landforms and Processes (GEOG 1120, Lecture and Lab)  
 Soil Geosciences (GEOG 4200, Lecture and Lab)  
 Geographic Information Systems (GEOG 3500, Lecture and Lab)

### **RESEARCH SUPERVISION (n = 32)**

- MS Samantha Farmer (Current Chair) ,Thomas O'Shea (Current Chair), Raja Das (2019 Chair), Tosin James (Current Committee), Tim Land (2018 Chair), Kingsley Fasesin (2018 Committee), Kim Blazzard (2018 Committee), Beauty Adu\_Agyemang (2017 Chair), Jana Archer (2017 Committee), Taylor Burnham (2016 Committee), Crystal Johnson (2015 Chair), Matt Marinelli (2015 Co Chair Kent State University), Richard Freeman (2014 Committee).
- BS Honors Josh Welty (Current Chair), Victoria Anderson (2018 Chair), Melissa Magno (2018 Co-Chair), Sydney Lawson (2017 Co-Chair), Rana Elgazzar (2017 Thesis reader Public Health)
- BS Senior Wil Jarvis (Current Chair), Sarah Harris (Current Co-Chair), Isaac Shockley (2019), Jamie Kincheloe (2017 Co-Chair), Nicolas Barnes (2015 Co-Chair), Zack Dinkins (2014 Chair), Tim Spiegel (2013 Co-Chair), Tim Land (2014 Chair), Lindsey Farris (2014 Co-Chair), Ellen Craig (2013 Chair).
- Ind. Research Nick McConnell (2018), Trevor Wilson (2014), Jessica Moore (2013), Tyson Litchey (2013), Rachel Conde (2012).

### PEER-REVIEWED PUBLICATIONS (\* = student co-author)

1. 2019 Das, R.\*, and **Nandi, A.**, “Debris-Flow Hazards Mitigation Application of knowledge-driven method for debris-slide susceptibility mapping in regional scale” in 7th International Conference Proceeding:  
<http://dx.doi.org/10.25676/11124/173162>
2. 2019 Magno, M.\*, **Nandi, A.**, and Luffman, I., (2019) “Using spatial regression to model Potentially Toxic Metal (PTM) mobility based on physicochemical soil properties.” Applied and Environmental Soil Science, Volume 2019 Article ID 6432571. <https://doi.org/10.1155/2019/6432571>
3. 2019 Archer, J.\*, Luffman, I., **Nandi, A.**, and Joyner, T. A. (2019) “Florida’s recycled water footprint: a geospatial analysis of distribution (2009-2015).” AIMS Environmental Sciences, 6(1): 41-58. doi: [10.3934/environsci.2019.1.41](https://doi.org/10.3934/environsci.2019.1.41).
4. 2019 Archer, J.\*, Luffman, I., Joyner, T. A., and **Nandi, A.** (2019) “Identifying untapped potential for recycled water use using geospatial analysis: A comparative study of Florida and California in 2009.” Journal of Water Reuse and Desalination, 9(2): 173-192. doi: [10.2166/wrd.2018.012](https://doi.org/10.2166/wrd.2018.012)
5. 2018 Adu Agyemang, B.\*, **Nandi, A.**, Luffman, I., and Joyner, T. A. “Groundwater nitrate concentrations and its relation to landcover, Buncombe County, NC.” International Association of Engineering Geologists 2018 Conference Proceedings Volume 2: Geotechnical and Environmental Site Characterization, Springer International Publishing XVI, 176 ISBN 978-3-319-93126-5.
6. 2018 Kincheloe, J.\*, **Nandi, A.**, and Luffman, I. (2018). “Aeolian erosion processes in humid subtropical Ultisols in Southeastern United States.” Journal of Geography and Earth Sciences, 6(1), pp. 19-30.
7. 2018 Luffman, I., **Nandi, A.**, Luffman, B.\* (2018). “Comparison of geometric and volumetric methods to a 3D solid model for measurement of gully erosion and sediment yield.” Geosciences, 8(3): 86.
8. 2018 Johnson, C.\*, **Nandi, A.**, Joyner, T. A., and Luffman, I. (2018). “Iron and manganese in groundwater: Using kriging and GIS to locate high concentrations in Buncombe County, NC.” Groundwater, 56(1), 87-95.
9. 2018 **Nandi A.** Hydrology. In: Bobrowsky P., Marker B. (eds) Encyclopedia of Engineering Geology. Encyclopedia of Earth Sciences Series. Springer International Publishing AG, part of Springer Nature.

10. 2017 **Nandi A.** Clay. In: Bobrowsky P., Marker B. (eds) Encyclopedia of Engineering Geology. Encyclopedia of Earth Sciences Series. Springer International Publishing AG, part of Springer Nature.
11. 2017 **Nandi A.** Classification of Rocks. In: Bobrowsky P., Marker B. (eds) Encyclopedia of Engineering Geology. Encyclopedia of Earth Sciences Series. Springer International Publishing AG, part of Springer Nature.
12. 2017 Land, T\*; **A. Nandi**; Luffman, I; "Channel geomorphic evolution after dam removal: is scale important?." Environmental & Engineering Geoscience. v 23 (3), 209-220.
13. 2017 A. Mandal and **A. Nandi**, 2017, Hydrological Modelling to Estimate Runoff and Infiltration in Southeastern Appalachian Debris Flow Complex, 3rd North American Symposium on Landslides, Pages 502-512.
14. 2017 **A. Nandi** and A. Shakoor, 2017, Predicting Debris Flow Initiation Zone Using Statistical and Rock Kinematic Analyses, A Case Study From West Prong Little Pigeon River, TN, 3rd North American Symposium on Landslides, Pages 912-922.
15. 2017 A.Mandal, D.Smith, **A.Nandi**, J.Sidial, A.Reid, and S.Watson. Hydro - meteorological hazards in Small Island Developing States of the Caribbean – case study from Jamaica. Proceedings from International Conference on Sustainable Development (ICSD), Columbia University, New York, USA.
16. 2016 **A. Nandi** and M. Glorioso., Report Card of Tennessee Infrastructure: Tennessee Dams Infrastructure Condition and Grade Report for ASCE (American society of Civil Engineers, Tennessee Branch).
17. 2016 N. Barnes\*, I Luffman, **A Nandi**, 2016, Gully erosion and freeze-thaw processes in clay-rich soils, northeast Tennessee, USA, GeoResJ, Volumes 9–12, Pages 67-76.
18. 2016 **A. Nandi.**, Mandal, A., Wilson, M.D. and Smith, D., Flood hazard mapping in Jamaica using principal component analysis and logistic regression. Environmental Earth Sciences. Vol. 75 Issue 6, p1-16. 16p.
19. 2016 A.Mandal, D.Smith, M.Wilson, M.Taylor, **A.Nandi** and S.Otuokon (2016) Climate Change and Flood Risk – Challenges for Jamaican towns and communities. Inside Story, Climate Development and Knowledge Network.
20. 2015 I. Luffman, **A. Nandi**, T. Spiegel\*, Gully morphology, hillslope erosion, and precipitation characteristics in the Appalachian Valley and Ridge province, Southeastern USA, Catena. Volume 133, Pages 221–232.

21. 2014 J.T. Donaldson, Z. C. Dinkins\*, F. Levy, and **A. Nandi**. Surface-soil Properties of Alder Balds with respect to Grassy and Rhododendron Balds on Roan Mountain, North Carolina–Tennessee. *Southeastern Naturalist*, Volume 13, Issue 2: 377–395.
22. 2013 **A. Nandi**, Weak Rocks as Foundation Materials: Bearing capacity estimation using GSI index and other empirical relationships. Submitted to *Transactions of the Mining, Geological and Metallurgical Institute of India (MGMI)*. Vol 108. p 77-88.
23. 2013 **A. Nandi**, (Invited book chapter) A review and comparison of statistical based models used in landslide susceptibility analysis. In the book: *Horizons in Earth Science Research*, by Nova Science Publishers, Inc., NY11788.
24. 2012 K. Nandi, **A. Nandi**, and T. Litchey\*, Effect of Heat Capacity and Physical Behavior on Strength and Durability of Shale, as Building Materials. In *Materials and Structures*. Springer Netherlands. 10.1617/s11527-012-9850-1.
25. 2012 **A. Nandi**, and I. Luffman, Erosion Related Changes to Physicochemical Properties of Ultisols Distributed on Calcareous In. *Journal of Sustainable Development*. Canadian Center of Science and Education. Vol 5, No 8, p.52-68.
26. 2011 **A. Nandi**, Comparative Bearing Capacity analysis of spread footing foundation on fractured granites. In *Environmental and Engineering Geoscience*. v. 17, issue 3, p. 281-292.
27. 2011 **A. Nandi** and R. Conde\*. Study of unconfined compressive strength, mineralogy and physical properties of Sevier Shale from eastern Tennessee. In *Journal of the Tennessee Academy of Science*, v. 86, issue 2, p 56-62.
28. 2011 **A. Nandi** and J. Moore\*, Geochemical and geotechnical features of terra rossa in karst areas of Southern Appalachians. In *Geotechnical Risk Assessment and Management (GSP 224) Proceedings of the GeoRisk 2011 Conference (American Society of Civil Engineers)*.
29. 2010 **A. Nandi**, and A. Shakoor, A GIS-based landslide susceptibility evaluation using bivariate and multivariate statistical analyses. In *Engineering Geology*. V 110, Issues 1-2, p. 11:20.
30. 2009 **A. Nandi** and M. J. Whitelaw, Effect of Physico-Chemical Factors on Calcareous Shale Weathering, in *Environmental and Engineering Geoscience*. V 15: p. 273-285.
31. 2009 **A. Nandi**, Quantitative stream profile analysis for Red River and Arkansas River. *AWRA Summer Specialty Conference Proceedings*, American Water Resource Association Publication, USA.

32. 2009 **A. Nandi**, C.M. Liutkus, and M.J. Whitelaw, Geotechnical characterization of Sevier and Rome Shale, East Tennessee. In 43rd US Rock Mechanics Symposium and 4th U.S.-Canada Rock Mechanics Symposium Proceedings, American Rock Mechanics Association Publication, USA.
33. 2008 **A. Nandi**, and A. Shakoor, Application of logistic regression model for slope instability prediction in Cuyahoga River Watershed, Ohio, USA. In Georisk, Taylor & Francis Publication, v 2; no. 1, pages 16-27.
34. 2007 **A. Nandi**, and A. Shakoor, Quantitative evaluation of landslide susceptibility for four counties of northeast Ohio. In First North American Landslide Conference Proceedings, American Society of Civil Engineers Publication, Colorado, USA.
35. 2006 **A. Nandi**, and A. Shakoor, Preparation of a landslide susceptibility map of Summit County, Ohio, using numerical models. International Association of Engineering Geologists: Geological Society Publishing House, UK.

#### **UNDER REVIEW / IN PREPARATION PUBLICATIONS**

Das, R.\*, and **Nandi, A.** "Debris slide assessment using spatial distribution of structural orientation data and kinematic properties of rock, Great Smoky Mountains National Park, TN." to Engineering Geology Journal 06-30-2019.

Das, R.\*, **Nandi, A.**, Joyner, A., and Luffman, I. "Application of GIS based knowledge-driven and data-driven method for debris-slide susceptibility mapping" in International Journal of Applied Geospatial Research (IJAGR) Special issue on: Geospatial Appalachia: multidisciplinary explorations of a region. 05-22-19.

Luffman, I. and **Nandi, A.** "Freeze-thaw induced gully erosion: a long-term high-resolution analysis." Submitted to Agronomy 07-31-2019.

Mandal, A., **Nandi, A.**, Shakoor, A., and Keeton, J., "Rainfall Runoff Simulation for Debris Flows Using Gauge and Radar Data: A Case Study from the Great Smoky Mountains National Park", in Environmental and Engineering Geology Journal.

Magno, M.\*, Luffman, I., and **Nandi, A.** "Comparison of Kriging Interpolation Methods: Potentially Toxic Metals (PTMs) in Soils Near an Abandoned Mine Site in Bumpus Cove, Tennessee." In preparation.

Luffman, I. and **Nandi, A.** "Meteorological drivers for gully erosion in ultisols of the southeastern US: impact of rain, wind, and freeze-thaw activity (2012-2017)." In preparation for submission to CATENA.

## OTHER PROFESSIONAL PUBLICATIONS/REPORTS

- 2018      **A. Nandi**, Haw Creek and French Broad Valley Overlook Slope Stability Rating, Blue Ridge Parkway, National Park Services.
- 2018      **A. Nandi**, Delineation of Wetland Boundary based on soil properties, Cutshaw Bog of the Cherokee National Forest.
- 2017      Luffman, I., Lawson, S.\*, and **Nandi, A.** Estimating groundwater flow using a bail test during water table lowering. In Proceedings of the 26th Water Resources Symposium. Burns, Tennessee (non-reviewed proceeding).
- 2012      Z. Dinkins\*, and **A. Nandi**, Alder vegetation soil impact study, to Friends of Roan Mts. newsletter.
- 2011      **A. Nandi**, Shale disintegration as function of the rock's thermo-physical behavior. In Newsletter of Mining, Geological & Metrological Institute of India (MGMI), v.36, no.3, p 38-40.
- 2009      **A. Nandi**. Climate engineering, in Encyclopedia of Global Warming, Editor: Steven I. Dutch, University of Wisconsin, Green Bay, V 1. 228- 230.
- 2009      **A. Nandi**. Lithosphere, in Encyclopedia of Global Warming, Editor: Steven I. Dutch, University of Wisconsin, Green Bay, V 1. 678-681.
- 2009      **Nandi**. Minerals and mining, in Encyclopedia of Global Warming, Editor: Steven I. Dutch, University of Wisconsin, Green Bay, V 1. 733-736.
- 1997-1998      S. Das, and **A. Nandi**, (part one and part two). Report on Sillimanite investigation in Purulia District, India. *Directorate of Mines and Minerals, Commerce and Industry Ministry, Govt. of India.*

## PROFESSIONAL PRESENTATIONS (with published abstracts) (\* = student co-author)

- 2019      Das, R\*, **Nandi, A.**, Joyner, A., and Luffman, I. 2019. A comparative study on the predictive ability of the Information Value Method (IVM), Frequency Ratio (FR), Logistic Regression (LR) and Maximum Entropy Model (Maxent) models for developing debris-slide susceptibility maps. Geological Society of America. GSA Annual Meeting in Phoenix, Arizona, USA – 2019.
- 2019      Das, R\*, and **Nandi, A.** 2019. Application of GIS-Based Kinematic Analysis to Evaluate Debris Slide Initiation Zones. Association of Environmental & Engineering Geologists (AEG) Annual Meeting in Asheville, North Carolina, USA – 2019.
- 2019      Das, R\*, and **Nandi, A.** Assessment of Debris Slides Using Kinematic Analysis

in GIS Platform - A Case Study in Great Smoky Mountains National Park, TN - International Debris Flow Hazards Mitigation Conference (DFHM), Golden, Colorado, USA - 2019.

- 2019 Das, R\*, Tollefson, W., **Nandi, A.**, and Joyner, A. Slope instability analysis and detection of volumetric change using a small unmanned aerial vehicle (sUAV) – Geological Society of America, Southeastern section, Charleston, South Carolina, USA- 2019.
- 2018 Magno, Melissa A.\*; Luffman, I; **Nandi, A.** Determination of heavy metals and spatial distribution in soils based on soil physicochemical characteristics near an abandoned mine-complex in Bumpus Cove, TN, Geological Society of America *Abstracts with Programs*. Knoxville, TN., Vol. 50, No. 3.
- 2018 Land, Timothy Warren\*; Joyner, A; **Nandi, A.**; Whitelaw, M., FM radio signal strength modeling and prediction in Blue Ridge and Valley and Ridge Physiographic Provinces, USA. Geological Society of America *Abstracts with Programs*. Knoxville, TN., Vol. 50, No. 3.
- 2018 Das, Raja\*; **Nandi, A.**: Application of data driven and knowledge driven methods for landslide susceptibility mapping. Geological Society of America *Abstracts with Programs*. Knoxville, TN., Vol. 50, No. 3.
- 2018 McConnell, Nicholas Ray\*; Luffman, I; **Nandi, A.**: Time lapse monitoring of sidewall mass-wasting events in a northeast Tennessee gully. Geological Society of America *Abstracts with Programs*. Knoxville, TN., Vol. 50, No. 3.
- 2018 Shockley, Isaac B.\*; Anderson, V\*; **Nandi, A.**; Luffman, I: Hydric soil evaluation for expansion of the Cutshaw Bog, Cherokee National Forest, Greene County, TN. Geological Society of America *Abstracts with Programs*. Knoxville, TN., Vol. 50, No. 3.
- 2018 Anderson, V\*; Shockley, Isaac B.\*; Luffman, I.; **Nandi, A.**; Delineating New Proposed Wetland Boundaries in the Cutshaw Bog of Cherokee National Forest, Tennessee. American Association of Geographers Annual Meeting 2018, New Orleans.
- 2018 Adu Agyemang, Beauty\*, **Nandi A.**, Luffman, I., Joyner, A., Groundwater nitrate concentrations and its relation to land use and depth to water table in Buncombe County, NC. 61st AEG Annual Meeting/13th IAEG Congress in San Francisco, California, 2018.
- 2018 **Nandi A.**, Mandal, A., Comparison between Radar Estimated and Rain Gauge Measured Precipitation in Debris Flow studies, Great Smoky Mountains. 61st AEG Annual Meeting/13th IAEG Congress in San Francisco, California, 2018.

- 2018 Magno, M\*., Luffman, I., **Nandi, A.**, Spatial Interpolation Of Heavy Metal Concentrations In Soils Of Bumpus Cove, TN. Appalachian Student Forum, Johnson City, TN.
- 2018 McConnell, N\*., Luffman, I., **Nandi, A.**, Time-Lapse Monitoring Of Sidewall Mass-Wasting Events In A Northeast Tennessee Gully. Appalachian Student Forum, Johnson City, TN.
- 2018 Anderson, V\*; Shockley, Isaac B.\*; **Nandi, A.**; Luffman, I Geostatistical Approach To Delineate Wetland Boundaries In The Cutshaw Bog, Tennessee. Appalachian Student Forum, Johnson City, TN.
- 2017 Magno, M\*., **Nandi, A.**, Luffman, I., 2017. Geosciences Arpita Nandi Using Spatial Analysis and Raster Math to Determine Pathways for Heavy Metal Contamination in Bumpus Cove, Northeastern Tennessee., ETSU Boland Undergraduate Research Symposium, March 28, 2017.
- 2017 Magno, M\*., Nandi, A., **Luffman, I.** Properties and distributions of heavy metals in abandoned mine-complex soils, Bumpus Cove, TN. presented at the Association of Engineering Geologists Annual Meeting in Colorado Springs CO, September 2017.
- 2016 Kincheloe, J. L\*., **Nandi, A.** and Luffman, I. Aeolian Erosion and Gully Formation in Humid Subtropical Climates; SoCon Undergraduate Research Forum SURF. Wofford College on Oct. 28-29, 2016.
- 2016 Agyemang A. B\*., **Nandi, A.**, Luffman, I., Joyner, A. Groundwater nitrate concentrations and its relation to land cover and water depth in Buncombe County, NC Geological Society of America *Abstracts with Programs*. VA, Richmond., Vol. 49, No. 3 doi: 10.1130/abs/2017SE-291271
- 2016 Lawson, S\*., Luffman, I., and **Nandi, A.** A comparative study to calculate hydraulic conductivity in ultisols on an East Tennessee hillslope, Geological Society of America *Abstracts with Programs*. Vol. 49, No. 3 doi: 10.1130/abs/2017SE-290265
- 2016 Lawson, S\*., **Luffman, I.**, and Nandi, A., “Comparing soil hydraulic conductivity estimates from different lab methods.” Presented at the Appalachian Student Research Forum, ETSU, April 2017.
- 2016 Luffman, I., Lawson, S\*., and **Nandi, A.**, “Estimating Groundwater Flow Using a Bail Test During Local Water Table Lowering.” Oral presentation presented at the Tennessee Water Resources Symposium, Burns, TN, April 5-7, 2017.
- 2016 **Nandi, A.**, Shakoor, A.. Application of GIS based logistic regression for debris flow susceptibility mapping in the Great Smoky Mountains National Park, TN.

59th Annual Meeting of The Association of Environmental & Engineering Geologists (AEG), Kona, Hawaii on September 18-24, 2016.

- 2016 Kincheloe, J. L\*., **Nandi, A** and Luffman, I, 2016, Aeolian erosion and gully formation in a humid subtropical climate, GSA Southeastern Regional meeting Southeastern Section - 65th Annual Meeting, Geological Society of America Abstracts with Programs. Vol. 48, No. 3.
- 2015 **A. Nandi**, Land. T\*, Luffman I., 2015. Channel Adjustments Associated with Dam Removal: How Important is the Scale of Study? In Association of Environmental and Engineering Geosciences, AEG Abstracts and Programs, v.58. p.75
- 2015 Marinelli, Matthew\*, **A. Nandi**, and A. Shakoor, 2015. Debris Flow Inventory and Susceptibility of West Prong Little Pigeon River Watershed, Great Smoky Mountains National Park. AEG Abstracts and Programs, v.58. p.72.
- 2015 **A. Nandi**, and A. Mandal. Debris Flow Potential Estimation using Hydrological Modelling, a Watershed Scale Case Study from Great Smoky Mountains National Park, AEG Abstracts and Programs, v.58. p.75
- 2015 C. Johnson\*, **A. Nandi**, A. Joyner, I. Luffman. Iron and Manganese in groundwater: using kriging, cokriging and GIS to visualize water quality in Buncombe County, NC, Appalachian Student Research Forum, Johnson City, TN.
- 2015 Marinelli, M.\*; **Nandi, A.**; and Shakoor, A. Landslide Inventory and Susceptibility analysis of West Prong Little Pigeon River Watershed, Great Smoky Mts. National Park. Volume 47, Number 2. GSA Southeastern Regional meeting, Chattanooga, TN, USA.
- 2015 N. Barnes\*, I. Luffman, and **A. Nandi**. Gully erosion and seasonal temperature variability in Ultisols, Northeast TN, USA. Appalachian Student Forum, Johnson City, TN.
- 2015 N. Barnes\*, I. Luffman, and **A. Nandi**. Gully Erosion and Freeze-Thaw Processes in Clay-Rich Soils, Northeast Tennessee, USA, Geological Society of America, Volume 47, Number 2. GSA Southeastern Regional meeting, Chattanooga, TN, USA.
- 2015 L. Farris\*, **A. Nandi**, and C. Gregg., 2015 Effects of Soil Properties, Climate, and Topography on Aroma and Taste in Kona and Ka'u Coffee, Hawai'i. Appalachian Student Forum, Johnson City, TN.
- 2015 L. Farris\*, C. Gregg, and **A. Nandi**, 2015 Terroir: Effect of soils properties, climate, and topography on aroma and taste in Kona and Ka'u coffee, Hawai'i,

Boland Symposium, Johnson City, TN.

- 2015 T. Land\*, **A. Nandi**, and I. Luffman, 2015. Is post dam-removal stream channel adjustment a scale independent process? Geological Society of America, Volume 47, Number 2. GSA Southeastern Regional meeting, Chattanooga, TN, USA.
- 2015 A. Mandal, **A. Nandi**, Matthew Wilson and David Smith. "Flood Hazard mapping in Jamaica using Principal Component and Logistic Regression." Oral Presentation. Annual Meeting of the Association of American Geographers, Chicago, 21st–25th April 2015.
- 2014 A.Mandal, M.Wilson, M.Taylor, **A. Nandi**, T.Stephenson, C.Burgess., J. Campbell, S. Otuokon Flood Hazards In Jamaica With Special Emphasis On The Yallahs River Watershed: Climate Change , Future Flood Risk And Community Awareness. WCRP VAMOS/CORDEX Workshop on Latin-America and Caribbean CORDEX LAC: Phase II - The Caribbean, 7th-9th April 2014, Santo Domingo, Dominican Republic. <http://www.cima.fcen.uba.ar/LACII-CORDEX/>
- 2014 A. Mandal, R. Richards, **A. Nandi** and M. Codling. "Flood Hazards in Jamaica: The impact of hurricanes, tropical storms, and the development of a Parish Based Disaster Risk Information Platform (DRIP)". Oral Presentation. Annual Conference of the Jamaica Institute of Engineers, 22nd September, 2014, Pegasus, Kingston, Jamaica.
- 2014 **A. Nandi**, 2014. Assessment of Hazard and Vulnerability of River Floods in the island of Jamaica, in "Climate Change and inland flooding in Jamaica, risk and adaptation measures for vulnerable communities" workshop. Department of Geography and Geology, Mona Campus, University of the West Indies, *May 2014*. <http://intasave-caribsavae.org/management-of-caribbean-climate-change-research-projects/>
- 2014 T. Spiegel\*, I. Luffman, and **A. Nandi**, Relating hillslope gully erosion with selected precipitation parameters, *Geological Society of North America Southeastern Regional Meeting*, Blacksburg, VA.
- 2013 T. Spiegel\*, **A. Nandi** and I. Luffman, 2013. Relationship of gully erosion on east Tennessee hillslopes to precipitation. *Appalachian Student Research Forum*.
- 2013 **A. Nandi**, 2013. Weak Rocks as Foundation Materials: Bearing Capacity Estimation Using GSI Index and Other Empirical Relationships. *At Geo3 T2 Conference of Exploring the challenges and advances in Geotechnical, Geophysical, and Geoenvironmental Engineering Technology Transfer*, North Carolina.

- 2012 Z. Dinkins\*, **A. Nandi**, F. Levy, J. Donaldson, Surface soil property changes in alder Bald with respect to Grassy Bald and Rhododendron vegetation on roan Mountain, TN/NC. *Geological Society of North America Southeastern Regional Meeting*, Asheville, NC. Abstracts and Programs. V. 44, no. 4.
- 2012 **A. Nandi**, and I. Luffman. Does soil hydrogeochemistry matter? Comparing eroding and non-eroding Terra Rossa in Eastern Tennessee. *Geological Society of North America Southeastern Regional Meeting*, Asheville, NC. Abstracts and Programs. V. 44, no. 4.
- 2012 E. Craig\*, **A. Nandi**, B. Dubey, and B. Evanshen. Mineralogical, statistical, and chemical analysis concerning the emplacement of Iron ore in the Cranberry Granite formation. In Appalachian Student Research Forum, Millennium Park, Johnson City, TN.
- 2011 E. Craig\*, **A. Nandi**, B. Dubey, and M. Whitelaw. Mineralogy and geochemistry of the magnetite ore and granitoid host rock in the Cranberry Iron Mine, Western North Carolina. In *Geological Society of North America Annual Meeting*, Minniapolis, MN. Abstracts and Programs Vol. 43, No. 5, p. 588.
- 2011 **A. Nandi**, A Comparative study to estimate bearing capacity for spread footing in weathered granites, a case study from eastern Tennessee. General Meeting of The Mining, Geological and Metallurgical Institute of India, Kolkata, India.
- 2011 **A. Nandi** and J. Moore\*, Geochemical and geotechnical features of Terra Rossa in karst area of southern Appalachians. In *Geotechnical Risk Assessment and management (GEORISK 2011)*, Geotechnical Special Publication, no. 224, Atlanta, GA.
- 2010 **A. Nandi**. A comparative study on bearing capacity estimation of spread footing using diverse empirical relationships. In Association of Environmental and Engineering Geosciences, AEG Abstracts and Programs, v.53. p.85.
- 2010 J. Moore\*, **A. Nandi**, and Z. Mongan\*, Evaluating Hydraulic Conductivity from Grain-Size Distribution Analysis and Relevant Soil Properties. In Association of Environmental and Engineering Geosciences, AEG Abstracts and Programs, v. 53, p. 84.
- 2010 R. Conde\*, and **A. Nandi**, 2010, Field and Laboratory Based Investigation of Shale: An Anisotropic, Reservoir Rock Mass. In Association of Environmental and Engineering Geosciences, AEG Abstracts and Programs, v. 53, p. 67.
- 2010 **A. Nandi**, Shale disintegration as a function of physical and thermal behavior, in Geological Society of America (GSA) Abstracts with Programs, v. 42, No. 1, p. 169, Northeastern Section (45th Annual) and Southeastern Section (59th Annual) Joint Meeting, Baltimore, Maryland.

- 2010 R. Conde\*, and **A. Nandi**, Thermal and Physical behavior pattern in weak shale rock-mass: A study from Sevier Shale TN. In Appalachian Student Research Forum, Millennium Park, Johnson City, TN.
- 2010 R. Conde\*, and **A. Nandi**, 2010, Estimation of shale petrophysical properties; a study from Sevier Shale Tennessee. in Geological Society of America (GSA) Abstracts with Programs, v. 42, No. 1, p. 121, Northeastern Section (45th Annual) and Southeastern Section (59th Annual) Joint Meeting, Baltimore, Maryland.
- 2009 **A. Nandi**, C.M. Liutkus, and M.J. Whitelaw, 2009, Geotechnical characterization of Sevier and Rome Shale, East Tennessee. In *43rd US Rock Mechanics Symposium and 4th U.S.-Canada Rock Mechanics Symposium*, American Rock Mechanics Association, USA.
- 2009 **A. Nandi**, Quantitative stream profile analysis for Red River and Arkansas River. *American Water Resources Association, Summer Specialty Conference, Adaptive Management of Water Resources II*, Snowbird, UT.
- 2008 **A. Nandi**, Ultimate Bearing Resistance Calculation in Weak, Fractured Rock Mass' in 50<sup>th</sup> Anniversary Annual Meeting of Association of Environmental & Engineering Geologists, Los Angeles CA.
- 2008 **A. Nandi**, Design and construction limitations in weak rock mass' in ETSU, Physics, Astronomy and Geology Department seminar.
- 2007 **A. Nandi**, and A. Shakoor, Quantitative evaluation of landslide susceptibility for four counties of northeast Ohio. In *First North American Landslide Conference*, American Society of Civil Engineers, Colorado, USA.
- 2006 **A. Nandi**, and D. Gaffney, Risk assessment and remediation of landslides along a stream in Southwestern Pennsylvania, AEG (Association of Environmental and Engineering Geologists) Program with Abstracts, 49<sup>th</sup> Annual Meeting, Boston, Massachusetts.
- 2006 **A. Nandi**, and A. Shakoor, Preparation of a landslide susceptibility map of Summit County, Ohio, using numerical models. *International Association of Engineering Geologists*: Geological Society, UK.
- 2006 **A. Nandi**, and A. Shakoor, Landslide susceptibility evaluation of Summit County, Northeast Ohio, using GIS techniques: in Geological Society of America (GSA) Abstracts with Programs, v. 38, n. 4, p. 60, North Central Annual Meeting, Akron, Ohio.

- 2005 **A.Nandi**, and A. Shakoor, Landslide susceptibility assessment based on spatial data analysis techniques: A case study from Northeast Ohio: in GSA Abstracts with programs, v.37, n. 7, p.294, 2005 Annual Meeting, SaltLake City, Utah.
- 2005 **A. Nandi**, and A. Shakoor, Use of numerical models for preparation of a susceptibility map of Summit County, Ohio, AEG Program with Abstracts, 48<sup>th</sup> Annual Meeting, Las Vegas, Nevada.
- 2004 A. Dalqamouni, **A. Nandi**, and A. Shakoor, An example of GIS based approach to evaluate landslide susceptibility and hazard potential for a portion of Summit County, northeast Ohio, AEG Program with Abstracts, 47<sup>th</sup> Annual Meeting, Dearborn, Michigan.
- 2000 **A. Nandi**, I. D. Sasowsky, D. Steer, J.P.Szabo, and L.K. Gross, Evaluation of the cycloid as a function for describing longitudinal stream profiles: in GSA Abstracts with programs, v.32, n. 7, p. A-24, 2000 Annual Meeting, Reno, Nevada.
- 2000 J. Brown, A. Chanda, R. Dutta., A. Foos, **A. Nandi**., T. Quick, S. Visocky and S. Walko, 2000, Hydrogeochemistry of springs in the Sharon Sandstone, Cuyahoga Falls, Ohio. GSA Abstracts with Programs, v 32, no.4, p.A6

## **GUEST LECTURES**

- 2019 ETSU Woman Studies Guest Lecture Series: Student Success in Profession
- 2019 ETSU Upward Bound program: Career in Geosciences
- 2018 ETSU Upward Bound program: Career in Geosciences
- 2018 ETSU Exploring Geology class: Career in Geosciences
- 2017 ETSU Geosciences Research Methods class: Soil – Rock Mechanics and Slope Stability
- 2017 Landslide risk: What we need to know, and why we care? CARIUSA 2017, Kingston, Jamaica March 13 – 15, 2017
- 2017 GIS based Debris flow potential mapping in West Prong Little Pigeon River Watershed, Great Smoky Mountains National Park. Great Smoky Mountains National Park Science Colloquium. Thursday, March 23, 2017, The Glenstone Lodge, Gatlinburg
- 2016 ETSU Geosciences Research Methods class: Soil Erosion and Hydrology research at Valleybrook, East Tennessee
- 2015 Landslide inventory and susceptibility mapping approach MGMI Bldg., GN-38/4, Sector – V, Salt Lake, Kolkata, India.
- 2015 Foundation Load Bearing Capacity of Fractured Granites. Department of Geology, University of Calcutta, 35 Ballygunge Circular Road, Kolkata- 700 019, India.
- 2011 Statistical approach in landslide mapping in regional scale in Mining, Geological and Metallurgical Institute of India (MGMI).

## **SERVICE TO PROFESSION**

- **Reviewer for professional journals (n=30)**

- Environmental and Engineering Geosciences, **GSA** Publication
  - Georisk, **Taylor and Francis**
  - Cartography and Geographic Information Science, **Taylor and Francis**
  - Environmental Earth Sciences, **Springer**
  - Engineering Geology, **Elsevier**
  - Natural Hazards, **Springer**
  - North American Symposium on Landslides Proceeding
- **Planning Committee** : Association of Environmental and Engineering Geologist (AEG 2019) Annual Meeting at Ashville, NC
  - **Planning Committee**: 3rd North American Symposium on Landslides (NASL) 2017. June 4-8, 2017 | Roanoke, VA
  - **Technical and symposium committee member**: Worked in the Planning Committee of Technical and Symposium Session; Association of Environmental and Engineering Geologist (AEG 2010) 53<sup>rd</sup> Annual Meeting at Charleston, NC
  - **Technical Chair/Moderator** for ‘Soil and Rock Mechanics’ session, Association of Environmental and Engineering Geologist (AEG 2010) 53<sup>rd</sup> Annual Meeting at Charleston, NC.
  - **Technical Session Chair/Moderator** of ‘Economic and Engineering’ Session, Geological Society of America, Geological Society of America, Northeastern/Southeastern Section Meeting, 2010, Baltimore, MD.
  - **Webinar team member**: Mandal, M. Wilson, D. Smith, A. Nandi, S. Otuokon, 2015 by Climate Development Knowledge Network (CDKN) Webinar on Flooding and Climate Change in Jamaica, risk to Vulnerable Communities.
  - **TEMA Co-Instructor of Earth Science** Program 2018: Tennessee Emergency Management Basic Academy designed for newly appointed emergency managers including State, local, county emergency services programs.
  - **Landslide Technical Working Group Member**, Association of Environmental and Engineering Geologist (Ongoing).
  - **External Reviewer and prepared External Examiner Report: PhD Thesis** Candidate: V. Ramesh, PERIYAR UNIVERSITY, SALEM, INDIA, 2016. Geoinformatics in Landslide Hazard Mapping and Slope Stability Analyses in Ghat Road Section of Kolli Hills, Tamil Nadu, India
  - **Judge** of Graduate and Undergraduate posters in **Geological Society of America**, Northeastern/Southeastern Section Meeting, 2010, Baltimore, MD.

## **PROFESSIONAL SOCIETY MEMBERSHIPS**

|              |   |
|--------------|---|
| 2001-present | Association of Environmental and Engineering Geologists |
| 1999-present | Geological Society of America                           |
| 1998-present | Indian Science Congress Association                     |
| 1997-present | Mining, Geological and Metallurgical Institute of India |
| 2010-present | Holston Branch American Society of Civil Engineers      |
| 1999-2001    | American Association of Petroleum Geologists            |
| 2003-2005    | Water Resource Research Institute                       |

## **PROFESSIONAL/TECHNICAL ADVANCEMENT COURSES/WORKSHOPS**

- 2019 Obtained training in Unstable Slope Management Program (USMP) from US Dept. of Transportation Federal Highway Administration (FHWA) June and September 2019.
- 2019 Obtained Certification and License for Remote Pilot using Unmanned Aircraft pilot from Federal Aviation Administration (FAA) December 2018.
- 2018 Critical Zone Science: A transdisciplinary approach to environmental science, Interdisciplinary teaching about earth for a sustainable future, May 17, 2018
- 2018 Addressing Landslide Hazards in Introductory Undergraduate Courses, Interdisciplinary teaching about earth for a sustainable future, April 18, 2018
- 2018 Integrating Hazards and Societal Impact into Your Course, Interdisciplinary teaching about earth for a sustainable future, April 7, 2018
- 2018 ETSU STEM Conference, May 31 and June 1, 2018
- 2018 X-Ray Fluorescence Material Identification Training, May 22, 2018.
- 2018 ETSU Learning community workshop Part II, June 12, 2018
- 2018 Council of College of Arts and Sciences Seminar for Department Chairs & Heads in Nashville, TN, July 5 -7, 2018.
- 2018 Webinar wetlands hydrology May 7, 2018
- 2017 Unstable Slope Management Program training workshop, at Great Smoky Mountains National Park, April 25-26, 2017
- 2017 X-Ray Diffraction Training at ETSU July, 10-11, 2017
- 2017 Overview of the mathematical theory behind the FLO-2D engine March 15, 2017
- 2017 ETSU Learning community workshop Part I, July 20-21, 2017
- 2017 Hydrological Modelling Workshop (HEC-HMS), Aug 14-16, 2017
- 2016 SoCon leadership development "LEAD" for department chairs, faculty/staff dedicated to teaching and learning and associate provosts/academic administrators at The Citadel, July 20-21, 2016.
- 2016 Environmental and Engineering Geology Spring Symposium, Radford University, April 8 -10, 2016.

- 2015 Midwest GeoSciences Group online course: Rock Core Logging for Hydrogeologic Projects (online, one day)
- 2015 Midwest GeoSciences Group online course: Soil Boring Logs (online, one day)
- 2015 Midwest GeoSciences Group online course: The Meaning of Soil and Sediment Color, Part I and II. (online, one day)
- 2014 Faculty Technology Leadership program (Part II GRAD-7810) Spring 2014
- 2013 Faculty Technology Leadership program (Part II GRAD-7810) Fall 2013
- 2012 Mentoring Research Students ETSU (GRAD 7850): Spring Semester, 2012
- 2012 NSF TUES Facilitating Classroom Innovation in the Geosciences: by NSF; Cosponsored by National Association of Geoscience Teachers Southeastern Section; Council on Undergraduate Research, April 14-15, 2012.
- 2011 Advanced Lidar Data Processing and Applications, ISPRS, Fayetteville State University, SC
- 2009 Research Grant Development II ETSU (Part II GRAD 7830) Spring 2009
- 2008 Research Grant Development I ETSU (Part I GRAD 7820) Fall 2008
- 2006 MicroStation Basics for Civil Engineering, Michael Baker Jr., Inc., Moon Township, Pennsylvania.
- 2005 Stability of Rock Slope sponsored by AEG, ASCE, GEO Institute, Pittsburgh, PA.
- 2005 5th Annual Technical Forum Geohazards in Transportation in the Appalachian Region, Charleston, WV.
- 2004 4th Annual Technical Forum Geohazards in Transportation in the Appalachian Region, Columbus, OH.

#### **TELEVISION OR PRESS INTERVIEWS**

- Interviewed with Johnson City press about washouts in Local School Construction Zone. April 2019.
- Interviewed with Chanel 11 News about the difference between washouts and sinkholes in Local School Construction Zone, March 2019.
- Interviewed with TVA and Johnson City Press about field trip to Boone Dam, TN, March 3, 2018.
- Interviewed with Chanel 11 News about sinkholes in I-26 June, 2015.
- Interviewed with Chanel 11 News about Southern Appalachian Karst features and sinkholes, 2013.
- Interviewed with Chanel 11 News about Southern Appalachian hillslopes those that are prone to landslides, Feb 3, 2010.
- Interviewed with Chanel 5 News about a major Rock Slide on I-40 along the border of TN and NC, Feb 26, 2010.

- Interviewed with N.C DOT Communications on I-40 Rock Slide along the border of TN and NC, Feb 26, 2010.

### **SERVICE TO COMMUNITY**

- Dobbins Bennett High School, May 16 2018 (~10 High School AP Chemistry students + 1 teacher)
- Fairmont Elementary School Super Kids Program for homeless and at risk kids, June 4 2018 (~90 elementary school students + 12 teacher/staff)
- Sullivan County Public Library guest lecture. July 19, 2018 (~40 participants).
- Coalition 4 Kids (C4K) group presentation to 4th-6th grade (118 students + 16 teacher/chaperone) on June 7, 2018.
- Coalition 4 Kids (C4K) group presentation to 7<sup>th</sup>-9<sup>th</sup> grade (35 students + 4 teacher/chaperone), June 13, 2018.
- Unicoi County Middle School, Geosciences Career, Feb 23, 2017 ( ~ 150 students + parents + teachers)
- Lake Ridge Elementary School, Rocks and Mineral and Natural Resources presentations, March 21, 2017 (~45 students + 3 teachers )
- Indian Trail Intermediate School, Rocks and Mineral and Natural Resources presentations, May 2016 (~ 80 students + 4 teachers).
- 2012 ETSU Science Olympiad: Proctor and judge for (i) Oceanography and (ii) Rocks and Minerals
- Geoconclave (2010) in Camp Sky-Wa-Mo: Proctor and judge for Rocks and Minerals competition.
- 2008 ETSU Science Olympiad: Proctor and judge for Rocks and Minerals
- ETSU Junior Day, 2008, Geosciences Booth
- Lake Ridge Elementary School, 2012: Rock and Minerals show and tell
- Ridgeview Elementary School, 2011: Rock and Minerals show and tell

### **SERVICE TO UNIVERSITY**

- Senior Member of the Graduate Faculty, ETSU (2017 – present)
- ETSU Undergraduate Curriculum Committee Member (2017- 2020)
- University Judicial Board (Title IX case) (2018-present)
- ETSU Geosciences Undergraduate and Graduate Geospatial Curriculum Committee (2010 – Present)
- Undergraduate Coordinator, Department of Geosciences, ETSU (2012-present)
- Honors-in-Discipline Coordinator, Department of Geosciences, ETSU (2017-present)

- Internal Review Committee Member for ETSU Chemistry Graduate Program (2018)
- Member, Appalachian Student Forum, Graduate and Undergraduate Poster Presentation judge or at reserve judge (2008 to present)
- Member, ETSU Grant proposal reviewer, RDC Major and Small Grant (2010, 2011, 2015)
- Member, College of Arts and Sciences Award review committee (2010 and 2011)
- Member, Faculty Council (2013- 2014)
- Speaker organizer in partnership with Carolina's AEG Visiting Professional Program for 'Careers in Geosciences' (every spring 2009 to 2018)
- Invited Richard H. Jahns Distinguished Lecturer Eldon Gath: (Sponsored by Geological Society of America, and Association of Engineering Geologists: 2014-15).
- Invited Richard H. Jahns Lecturer" Dr. Paul Marinos, Professor, School of Civil Engineering, National Technical University of Athens, Greece, "Geology in Dam Engineering"(Sponsored by Geological Society of America, and Association of Engineering Geologists: 2010-11).
- Organized Earth Day Event: Liquid Asset: Story of our water infrastructure, in Culp Center Ballroom. Speakers: Mr. Tom Witherspoon, director of Water and Sewer Services for the City of Johnson City (2011).
- Organized lecture on Kingston ash Facility Failure what caused the Kingston failure, and why it matters? Lecturer Barry Thacker, P.E, Geo/Environmental Associates, Inc. Mr.
- External examiner for MS Thesis and PhD Dissertation defenses (~ three in past five years).
- Search committee member for three assistant professor search, Geosciences
- Search committee Chair for two lecturer positions (2009, 2018)
- Member, Review Committee of Penn Virginia Scholarships and Internships (2008 to 2015)
- Advisor for Department of Geosciences Homepage development.

## **REFERENCES**

Upon request