OUTREACH/TRAINING
AFI faculty, Postdoctoral Fellows and students attended a total of 9 conferences this quarter, conducted a total of 6 outreach activities, conducted/participated in 6 professional development activities, and provided several training opportunities for graduate and undergraduate students.

Conference Participation
1. 256th American Chemical Society National Meeting & Exposition, August 19-23, 2018, Boston, MA.
3. Ecological Society of America Annual Meeting, August 5-10, 2018, New Orleans, LA.
5. 148th Annual Meeting of the American Fisheries Society, August 19-23, 2018, Atlantic City, NJ.
7. Southern Data Science Conference on October 18, 2018 in Orlando, FL.
9. WVU Natural Resource Economics Seminar Series, October 24, 2018, Morgantown, WV.

Outreach
10. “Climate Change and Our Changing Menu” seminar featuring Dr. Michael Hoffmann, Executive Director of the Cornell Institute for Climate Smart Solutions, April 24, 2018, West Virginia University, Morgantown, WV.
11. "Water: The Source of Life" presentation by Dr. Elliott Kellner as part of West Virginia Watersheds Speaker Series at the Ohio County Public Library, Wheeling, WV (September 4, 2018).
12. "Restoring Appalachian River Networks in a Changing Climate" presentation by Dr. Todd Petty as part of West Virginia Watersheds Speaker Series at the Ohio County Public Library, Wheeling, WV (September 18, 2018).
13. "A Role for the Citizen Scientist" presentation by Dr. Dorothy Vesper and Mr. Howdy Henritz, President of the Indian Creek Watershed Association, as part of West Virginia Watersheds Speaker Series at the Ohio County Public Library, Wheeling, WV (September 25, 2018).
14. SPOT Fall Training on September 22-23, 2018 in Greenbank, WV, to help SPOT Ambassadors learn the “Water in WV” presentation.
15. “Ecosystem Services of Water Resources in WV” by Dr. Michael Strager, October 24, 2018, as part of the WVU Natural Resource Economics Seminar Series, Morgantown, WV.

Faculty/Postdoc Professional Development
1. IWSS/AWI Project Management Team conducted an NSF Programs and Funding Opportunities workshop for a total of 18 participants including six female participants, on October 16, 2018, West Virginia University, Morgantown, WV. The breakdown of participants
includes: 15 faculty, including early-career and pre-tenured faculty (4 AFI task leaders + 1 partially funded by AFI); two postdoctoral fellows (1 partially AFI-funded by AFI), one Ph.D. student.

17. Grantsmanship 101/Proposal Basics. Sponsored by MURC, October 3, 2018, Marshall University, Huntington, WV.
18. Typical Proposal Components. Sponsored by MURC, October 10, 2018, Marshall University, Huntington, WV.
19. Workshop/Tutorial on Aquavit, August 2, 2018, Marshall University, Huntington, WV.

**Graduate and Undergraduate Student Training**

21. Graduate student (Ph.D.) received methodological and instrument (Total Organic Carbon and Total Nitrogen Analyzer (TOC)) training in the IWSS analytical chemistry lab.
22. Graduate student (Master’s) received training in streamflow estimation techniques and use of Sontek FlowTracker 2 and method training in the IWSS analytical chemistry lab.
23. Undergraduate student mentored by Dr. Jack Smith at the Gateways 2018 Conference, Austin, TX.
24. A graduate student learned chemical analysis methods in the lab for river sediment and water samples.
25. Numerous Capstone Undergraduate students and Master’s/Ph.D. students received mentoring under the AFI umbrella of research.
26. 6 Undergraduates have received research experience by using data collected by AFI related projects (microchemistry) for their capstone research requirements.
27. Ph.D. Graduate Research Assistant Pariaya Pourmohammadi also participated in the Southern Data Science Conference on October 18, 2018 in Orlando, FL.

**PRODUCTS**

A total of 30 products were produced/reported during the August 1 – October 31, 2018 quarter, including 14 publications and 16 conference presentations.

**Publications**


Conference Presentations and Posters

COLLABORATIONS
AFI researchers collaborated with a total of 18 different agencies, including:

Federal Agencies
1. US Army Corps of Engineers
2. US Geological Survey
   a. West Virginia Water Science Center
   b. Virginia Water Science Center
   c. Eastern Geology & Paleoclimatology Science Center
   d. Pennsylvania Water Science Center

State Agencies
3. WV Department of Environmental Protection
4. WV Department of Health and Human Resources

**Institutions of Higher Education**
5. Purdue University
6. University of Missouri
7. Colorado State University
8. University of Pittsburgh
9. Bucknell University
10. University of Puerto Rico at Arecibo
11. Northern Arizona University, FEWsion Institute

**Other Organizations**
12. Capstone Group, Inc.
14. JR Peters, Inc.
15. Northeast Natural Energy
16. Friends of Deckers Creek
17. Indian Creek Watershed Association
18. JR Allen Muzzleloader Club

**PROPOSALS SUBMITTED**
AFI researchers submitted a total of 11 proposals during the August 1 – October 31, 2018 quarter. Seven (7) proposals were also funded in the amount of $5,791,425 during this quarter. An eighth proposal, where an AFI researcher serves as a consultant, was also awarded in the amount of $960,622. Information on the funded proposals is included below.

1. Acquisition of a Field Emission Scanning Electron Microscope for Research and Teaching in the Fields of Chemistry, Geology, Biology, Physics, and Forensic Science
   - Submitted to: NSF MRI
   - Funded Amount: $399,000

2. Expanding the First2 STEM Success Network
   - Consultant: Norton, M.L.
   - Submitted to: NSF INCLUDES Alliance
   - Funded Amount: $960,622

3. Extensible Geospatial Data Framework towards FAIR (Findable, Accessible, Interoperable, Reusable) Science (NSF Award #1835822)
   - PI: Carol Song (Purdue), Co-PI: Jack Smith
   - Submitted to: NSF CSSI
   - Funded Amount: $4,571,811

4. Synthesis of acyl sugars and aluminum complexation agents
   - PI: Fultz, M.
   - Submitted to: WVSU PEER Award
   - Funded Amount: $5,000

5. Development of Wetland Water Quality Standards for West Virginia
   - PI/Co-PIs: Anderson, J.T., M.P. Strager, J.A. Hubbart, and R.E. Kellner
6. Developing Non-invasive Genetic and Environmental DNA Methods for Monitoring Salamander Distribution
   • PI: Anderson, J.T.
     Submitted to: The Christine Stevens Wildlife Awards
     Funded Amount: $15,000

7. Inspiring Environmental Stewardship through Citizen Science
   • PI/Co-PI: Smaldone, D., and J.T. Anderson
     Submitted to: US EPA
     Funded Amount: $100,000

8. Innovative climate change science education and communication for future Appalachian decision makers
   • PI/Co-PI: Zegre, N., and M. Caretta
     Submitted to: Appalachian Stewardship Foundation
     Funded Amount: $41,074