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January 19, 2018

Ohio University
Office of Research & Sponsored Programs
104 Research and Technology Center
Athens, OH 45701

Dr. Eric Davidson
Dr. Rhonda Schwinabart
University of Maryland Center for Environmental Science
Appalachia Laboratory
301 Braddock Road
Frostburg, MD 21535

RE: Formal Expression of Interest to Enroll in the Chesapeake Watershed Cooperative Ecosystem Studies Unit (CESU)

Dear Drs. Davidson and Schwinabart:

Ohio University (OHIO) of Athens, Ohio formally expresses its interest in joining the Chesapeake Watershed Cooperative Ecosystem Studies Unit (CESU). We have thoroughly read the CESU cooperative and joint venture agreement (2016) and have obtained concurrence by our administration with the terms and conditions therein. We acknowledge and accept the 17.5% overhead rate as part of the CESU Network membership. Based on our conversations with Mr. Dan Filer and related internal discussions, we submit the attached application and information needed for your review process. We have been pleased to be a part of the Southern Appalachia CESU since 2016. As such, we provide this application with great excitement for joining the Chesapeake Watershed CESU to grow the research connections and partners in our geographic region. Please contact me if you require any additional information.

Sincerely yours,

P. Maureen Valentine

Assistant Vice President for Research & Sponsored Programs

RESPONSES TO CESU APPLICATION INQUIRIES

Ohio University, its mission, and the primary focus of collaborative activities to be supported through the CESU in the context of the CESU mission.

Ohio University (OHIO) is a major U.S. public research university located primarily on a 1,850-acre (7.5 km²) campus in Athens, Ohio, United States. As one of America's oldest universities, Ohio University was chartered on February 18, 1804 and opened for students in 1809. As of Fall 2016, the Athens campus had approximately 24,210 individual students; our five regional campuses had approximately 8,480 combined; and eLearning programs had approximately 6,042 individual students. In total, 36,867 (unduplicated) individuals were enrolled in classes at the University.

The University maintains a selective admission rate with further admission requirements for its schools. The Heritage College of Osteopathic Medicine maintains a separate select admissions criteria. Ohio University offers more than 250 areas of undergraduate study. On the graduate level, the OHIO grants master's degrees in many of its major academic divisions, and doctoral degrees in selected departments. Ohio University is fully accredited by the North Central Association of Colleges and Schools. The Carnegie Foundation for the Advancement of Teaching classifies OHIO as a RU/H Research University (high research activity) under the Basic Classification category.

Ohio University strives to be the best student-centered, transformative learning community in America, where more than 36,000 students realize their promise, faculty advance knowledge, staff achieves excellence, and alumni become global leaders. OHIO is committed to fostering, embracing, and celebrating diversity in all its forms. Our Athens Campus offers students a residential learning experience in one of the nation's most picturesque academic settings. Regional campuses and centers serve additional students across the state, and online programs further advance the University's commitment to providing educational access and opportunity. Please visit www.ohio.edu for more information.

Ohio University holds as its central purpose the intellectual and personal development of its students. Distinguished by its rich history, diverse campus, international community, and beautiful Appalachian setting, OHIO is known as well for its outstanding faculty of accomplished teachers whose research and creative activity advance knowledge across many disciplines. Ohio University Core Values include:

- Excellence is our hallmark: Outstanding people, ideas, and programs drive our educational mission.
- Integrity, civility, and diversity define our community: These values guide our leadership in a global society.
- Stewardship enhances our legacy: As Ohio's first institution of public higher education, we are mindful of our accountability to the public trust.

As Ohio University works to achieve its vision, a set of fundamental principles guide our decisions:

- Strong undergraduate programs with a liberal arts core are a vital and necessary foundation.
- Strong graduate and professional programs are necessary to achieve our educational, research, and creative mission.
- All forms of research, scholarship, and creative activity are vital to the intellectual life of the University, and their integration into both graduate and undergraduate curricula is a key component of student success.

- Learning at the University is enhanced by creating a community of students, faculty, and staff who come from diverse backgrounds. That community benefits from our commitment to international education and the inclusion of global perspectives in our curricula.
- Advising, mentoring, personal interaction, and active engagement among faculty, staff, students, and alumni greatly enhance the educational experience.
- Learning is derived from the totality of the college experience, including activities both inside and outside the classroom.
- Shared governance—the inclusion of input from all constituent groups is central to our decision-making processes.
- Our continuing success requires judgments about and selective investment in initiatives that will advance our mission.
- Accountability is essential to effective management and requires commitments to assessment, planning, decision making, and continual improvement.

To support our educational mission in achieving the goals outlined above, we require a well-maintained infrastructure of people and facilities. Our academic support services exist to serve the academic mission: they should be effective, efficient, and continually improving. A sense of community and an appealing environment provide a special place in which to learn, live, and work. All individuals in the University community are valued; their skills and knowledge should be cultivated, their work supported, and their leadership skills developed. Interactions among all individuals in the University community should be built on standards of civility, integrity, caring, and collaboration. Our commitment to the region is expressed through stewardship of shared resources, access to programs and services, and contribution to economic development.

Ohio University's primary programs, departments, or other institutional divisions of relevance to federal land management, environmental, and research agencies that will likely be engaged in CESU activities. Please visit www.ohio.edu/departments/programs.cfm for a full listing.

Ohio University's nine undergraduate colleges offer more than 250 programs of study. Students may select from a wide variety of majors, minors and certificates. While most undergraduate programs at the Athens Campus are designed to be completed in four years, a limited number of two-year degree programs are available as well. The majority of OHIO programs of interest to CESU agency members are found in the College of Arts and Sciences, the Heritage College of Osteopathic Medicine, the Russ College of Engineering and Technology, and the Voinovich School of Leadership and Public Affairs.

The College of Arts and Sciences is home to 19 departments, 27 majors and dozens of other special curricula. The College is committed to advancing the interrelated areas of teaching, research, and outreach in a learning-centered community. The College instructs students based on core disciplines for the entire university. Some examples of educational specialties that would be of interest to Chesapeake Watershed CESU partners include:

- Anthropology (Sociocultural, Archaeology, Biological)
- Sociology
- History
- Biological Cellular and Molecular Biology
- Marine, Freshwater, and Environmental Biology
- Microbiology
- Pre-professional Programs
- Wildlife and Conservation Biology
- Human Biology
- Environmental Biology
- Applied Plant Biology
- Environmental and Plant Biology
- Field Ecology
- Environmental Geography
- Environmental Pre-Law
- Geographic Information Science
- Geography
- Meteorology (Geography)
- Urban & Regional Planning
- Environmental Geology
- Geological Sciences
- Recreation Management

Russ College of Engineering and Technology offers degrees in civil, chemical, environmental, mechanical and electrical engineering. Departments supporting specialties of interest to Chesapeake Watershed CESU partners include:

- Avionics Engineering
- Biomedical Engineering
- Center for Advanced Systems and Transportation Logistics Engineering
- Center for Air Quality
- Chemical and Biomolecular Engineering
- Civil Engineering
- Energy Engineering
- Engineering Technology and Management
- Institute for Sustainable Energy and the Environment
- Ohio Research Institute for Transportation and the Environment
- Sustainable Energy and Advanced Materials Laboratory

The Voinovich School of Leadership and Public Affairs is a unique collaborative research unit designed around application-oriented, researched-based solutions to challenges facing communities, the economy and the environment. Its public-private partnerships encourage growth and stability and its students learn by doing as they prepare for careers serving the public interest in OHIO's rural region and beyond.

The School houses master's programs and research centers that align with the Chesapeake Watershed CESU Network's work including:

- Masters of Environmental Studies
- Environment Program
- Undergraduate Honors in Environmental Studies
- Center for Social and Public Innovation
- Masters of Public Administration
- Professional Masters of Public Administration
- Center for Entrepreneurship

The Heritage College of Osteopathic Medicine (HCOM) provides interdisciplinary medical education comprising social scientists, biological sciences, humanities scholars, and physicians. HCOM's Department of Social Medicine studies the interplay of people, culture, the environment, health and biology. Department expertise providing value to Chesapeake Watershed CESU partners includes:

- Biological Anthropology
- History of public health disasters
- Health in Appalachia
- Global warming, climate change and health
- Population Health

A list of and brief description of the staff or faculty with expertise in disciplines and subject areas of relevance to federal land management, environmental, and research agencies

Ohio University Staff and Faculty with Expertise in CESU Disciplines

Name	Research Interest
Harvey Ballard: Associate Professor, Dept. of Environmental and Plant Biology; Botanist, taxonomist	Botanical systematics, phylogenetics, molecular ecology, population genetics and conservation genetics, delving into more interdisciplinary investigations concerning species formation, hybridization and polyploidic evolution.
Gerardine Botte: University Distinguished Professor, Dept. of Chemical and Biomolecular Engineering; Founder Director, Center for Electrochemical Engineering Research	Electrochemical engineering, power sources (advanced batteries), novel electrolyzers, sensors, flow batteries, numerical methods, mathematical modeling, materials science, and electro-catalysis, electrochemical water remediation, electro-synthesis of petrochemicals, sensors, batteries, fuel cells, ammonia electrolysis and urea/urine electrolysis.
Jennifer Bowman: Director, Environmental Programs, Voinovich School	Leads the Voinovich School's Energy and Environment Team. Works with stakeholders to shape and implement programs that elevate and enhance OHIO's environmental applied research projects. Coordinates watershed research efforts of the Appalachian Watershed Research Group across campus involving staff, faculty, and students. Performs chemical water quality data analysis, interpretation and report writing for state and federal watershed partners including acid mine drainage water quality characterization and restoration projects. Leads statewide online database management system for watershed stakeholders.
Geoff Buckley: Professor, Dept. of Geography, Historical Geographer	Environmental historical geographer with research interests in environmental justice, management of public lands, mining landscapes, and urban environments. Works closely with ecologists and social scientists on the Long-Term Ecological Research - Baltimore Ecosystem Study where his most recent research focuses on challenges to urban tree canopy (UTC) expansion
Ronan Carroll: Assistant Professor, Dept. of Biological Sciences	Exploring the mechanisms that allow <i>Staphylococcus aureus</i> to cause disease in humans to aid the development of effective vaccines and treatments. Variety of microbiology and molecular biology techniques including state-of-the-art next generation DNA sequencing techniques. Genomic, transcriptomic and metagenomics research.
Kevin Crist: Professor, Dept. of Chemical and Biochemical Engineering; Director of the Air Quality Center in the Institute for Sustainable Energy & the Environment	Chemical Engineer with current research interests in urban- and regional-scale air-quality monitoring; emission inventory assessments; and photochemical, dispersion, and pesticide emission modeling. In the years following the center's creation, three research areas at the university have created separate resource bases in the environmental arena: a) clean coal technologies; b) air quality modeling and assessment; and c) water quality modeling, assessment, monitoring, characterization and remediation.
Sabrina Curran: Professor, Dept. of Sociology & Anthropology	Biological anthropology, paleoanthropology, paleoecology, ecomorphology
Geoffrey Dabelko: Director, Environmental Studies Program, Voinovich School, Environmental Peacebuilding, Climate Change, Water, Health, and Development	Current research and teaching focuses on climate change, natural resources, and security as well as environmental pathways to confidence-building and peacebuilding, with a special emphasis on water resources. Former director of the Washington-based Woodrow Wilson Center's Environmental Change and Security Program, a nonpartisan research-policy forum on environment, population, health, development, and security issues.

Name	Research Interest
Sarah Davis: Associate Professor, Voinovich School – joint appointment Dept. of Environmental and Plant Biology, Ecosystem Ecologist	Research analyzes greenhouse gas fluxes of managed landscapes, bioenergy development, and carbon sequestration by <i>Agave</i> spp., a group of obligate CAM plants, as bioenergy feedstocks in semi-arid regions, a study of the environmental and economic viability of advanced cellulosic bioenergy on abandoned agricultural land, development of a model for long-term carbon sequestration in forests that incorporate age-related physiological changes and responses to climate change, and a global analysis of bioenergy resources.
Jared DeForest: Associate Professor; Dept. of Environmental and Plant Biology; Botanist, Ecologist	Ecosystem and soil ecology, focusing on the influence of soil microorganisms mediating the cycling of carbon, nitrogen, and phosphorus. One active project involves understanding the role of soil acidity and phosphorus influencing the carbon and nitrogen cycle in acidic hardwood forests
Sebastian Diaz: Assistant Professor, Dept. of Family Medicine, Heritage College of Osteopathic Medicine	Data analytics, population health, “big data”
Mike DiBenedetto: Research Director; Avionics Engineering Center; Electrical Engineering and Computer Science	Precision approach and landing system development and analysis, giving him an in-depth understanding of the technical and operations requirements relevant to system-engineering activities. Provides direct managerial and technical supervision of the Microwave Landing System (MLS), Mobile Microwave Landing System (MMLS), and CNS Systems Office.
James Dyer: Professor and Chair; Dept. of Geography; Landscape Ecologist	Biogeographer/community ecologist focusing on forests of the eastern United States. Incorporating field work, spatial modeling, and geographic information science techniques, he is concerned with the interactions of the physical environment, biotic processes, and disturbance on biotic communities.
Ryan Fogt: Associate Professor, Dept. of Geography; Director, Scalia Lab for Atmospheric Analysis	Meteorologist specializing in climate variability and change, with a particular focus on Antarctica. Investigates the statistics and dynamics of large-scale climate in the Southern Hemisphere using observations, atmospheric reanalysis, and coupled global climate models.
Joseph Gingerich: Professor, Dept. of Sociology & Anthropology	Archaeology, spatial analysis, human-environmental interactions, Paleoindian new world colonization, Eastern North America prehistory
Douglas Green: Associate Professor, Dept. of Geological Science; Geophysicist	Regional earthquake data as well as access to data on the entire network. Other near-surface field geophysics capabilities include electrical resistivity tomography, down-hole electrical conductivity logging, and magnetic and gravimetric surveying. Theoretical research includes investigation into the mechanical fluid-solid transition of two-phase (i.e., fluid plus solid) materials.
Craig Grimes: Assistant Professor; Dept. of Geological Science; Geophysicist	Igneous and tectonic processes that lead to the formation of oceanic and continental crust. Recent projects have centered on magmatism and faulting along the Mid-Atlantic Ridge (MAR), and the petrogenesis of silicic rocks recovered from modern ocean crust and ophiolites.
Elizabeth Hermsen: Assistant Professor, Dept. of Environmental and Plant Biology; Paleobotany, Plant Systematics	Research focuses on plant evolution and systematics from the perspective of the fossil record. Currently especially interested in exploring the evolution of Southern Hemisphere floras. Research includes field collecting, documentation of newly discovered diversity through taxonomic descriptions, performing phylogenetic analyses to place fossil taxa within the plant tree of life, and exploration of other issues such as the morphological evolution and the biogeography of plants.
Joseph Johnson: Assistant Professor, Dept. of Biological Sciences	Physiological ecology and conservation biology of mammals, with an emphasis on bats. Specific research questions relate to the need to understand how individuals and populations respond to environmental challenges such as climate change, altered disturbance regimes, and human land-use patterns.

Name	Research Interest
Kelly Johnson: Associate Professor; Dept. of Biological Sciences; Aquatic Biologist, Entomologist	Insect physiological ecology, with a particular emphasis on responses to aquatic organisms to environmental stressors related to acid mine drainage (acidity, sulfate, and elevated metals). A secondary but related interest is the digestive physiology and energy expenditure of herbivorous and detritus feeding insects. Response of aquatic insects to acid mine drainage.
Derek Kauneckis: Associate Professor, Voinovich School; Resources Economist	Research focuses on community governance of environmental resources, climate change adaptation and mitigation policy, resilience planning, collaborative environmental policy, property rights theory, and science/technology, and innovation policy. He teaches in the areas of public policy analysis, quantitative and qualitative methods, and sustainability assessment. Has worked with public agencies at all levels of government and with the private and non-profit sectors on environmental resource management.
Sarah Kinkel: Assistant Professor, Dept. of History	Research focus: early modern Atlantic world, political history, imperial state formation, physical manifestations of political and religious philosophies
Natalie Kruse: Associate Professor, Voinovich School; Hydrogeochemical engineer	Mining, oil and gas and postindustrial water pollution. Has led projects on acid mine drainage, hydraulic fracturing wastewater treatment, groundwater quality characterization, and persistent organic pollutants in stream sediments funded by the US Department of Energy, Ohio Department of Natural Resources, National Energy Technology Laboratory, and the AEP Foundation.
Shawn Kuchta: Assistant Professor, Dept. of Biological Sciences; Herpetologist	Patterns of diversity and the processes that generate, maintain, or limit these patterns, particularly interaction between biogeography and diversification using phylogenetic and population genetic approaches in salamanders, and predator-mediated natural selection and the evolution of anti-predator adaptations.
Eung Seok Lee: Associate Professor, Dept. of Geological Sciences; Hydrogeologist	Contaminant hydrogeology, environmental monitoring and restoration, and carbonate-rock hydrogeology. Also interested in flow and geochemical evolution of water in carbonate terrain, climatic impact on hydrologic systems, and acid mine drainage.
James Lein: Professor; Dept. of Geography; Geospatial Modeling, Remote Sensing	Specializes in applied environmental science and geospatial analysis. Research agenda focuses on the application of geospatial methods within the context of Remote Sensing, Geographic Information System, and Geospatial Modeling, for environmental assessment, environmental monitoring/characterization, and land resource analysis.
Dina Lopez: Professor and Chair, Dept. of Geological Sciences; Geochemist and hydrogeologist	Geochemistry and hydrogeology of geothermal systems (including diffuse soil degassing and heat flow studies), and environmental problems such as acid mine drainage and arsenic contamination in water. Also interested in environmental problems associated with mining and resource exploitation, particularly the hydrological and chemical effects of acid mine drainage on aquatic organisms.
Amy Lynch: Assistant Professor, Dept. of Geography; Urban Planner	Research focuses on site- and landscape-scale green infrastructure planning and the impact of land use and environmental planning practices on natural resources and ecosystem services. Most recent work uses remote sensing and GIS analysis to assess the effectiveness of American counties in retaining, preserving, and connecting green space over time.
Glenn Matlack: Associate Professor, Dept. of Environmental and Plant Biology; Forest ecologist	Forest ecology, population biology; spatial and temporal structure of habitat strongly influences the distribution, abundance, and reproductive success of plants as directed towards forest conservation and management.
Kevin Mattson: Professor, Dept. of History	U.S. cultural and intellectual history, cultural rebellion

Name	Research Interest
Deborah McAvoy: Professor and Chair, Dept. of Civil Engineering	Highway safety, traffic engineering, traffic signal system optimization and progression, roadway design and human factors engineering. Has worked on projects for the Ohio Department of Transportation (ODOT), Michigan Department of Transportation (MDOT), the Federal Highway Administration (FHWA), the United States Department of Justice, 3M, and other industry clients. As a part of these studies, she has conducted technical analyses for signal timing, congestion, crash, gap studies and has substantial experience in corridor progression and work zone safety analyses.
Brian McCarthy: Professor, Dept. of Environmental and Plant Biology; Associate Dean for Faculty, Graduate Studies and Research, College of Arts and Sciences; Forest Ecologist	Research focuses on the ecology of mixed oak forest ecosystems. He has 138 peer-reviewed publications. Areas of expertise include stand dynamics, dendrochronology, diversity assessment, tree reproduction and regeneration, herb community ecology, invasive species, and restoration of the American chestnut.
Donald Miles: Professor, Dept. of Biological Sciences; Evolutionary biologist	Comparative methods ecomorphology, evolution of locomotor performance in Urosaurus ornatus tree lizard. Dominance and Locomotor Performance in Urosaurus ornatus. Cost of Reproduction in Uta. Hormones, Behavior and Fitness in Uta in Evolution of Sexual Size Dimorphism in Galapagos Lava Lizards genus Microlophus Squamate. Life History Evolution of Viviparity in Sceloporus
Scott Miller: Associate Dean for Industry Partnerships and Outreach, Russ College of Engineering and Technology	Serves as the college's external relations officer with industry, government and the nonprofit community to drive the Russ College's research and teaching mission and connect its world-class researchers with the broader community of practitioners. External lead for the college in the development of the Russ Center for Professional Education and Research R&D center near Dayton. Research interests include studies on the intersections between the social, cultural, and natural history of rural communities in an effort to learn from the past and accelerate the development of sustainable and resilient local economies.
Molly R. Morris: Professor, Dept. of Biological Sciences; Population biologist	Sexual selection, the evolution of alternative mating strategies, and the evolution of communication in aggressive interactions. Currently examining the evolution of a sexually selected signal (vertical bars) and the mating behaviors associated with this signal in swordtail and platyfishes (Xiphophorus).
Gregory C. Nadon: Associate Professor, Dept. of Geological Sciences; Sedimentologist	Fluvial sedimentology and sequence stratigraphy of the Pennsylvanian age strata in southeastern Ohio, high frequency eustatic sea level changes, variable tectonic subsidence rate that lead to complex and interesting patterns of terrestrial and shallow marine facies.
Pat O'Connor: Professor, Anatomy and Neuroscience, Dept. of Biomedical Sciences, WitmerLab Affiliate	Vertebrate paleontology and evolutionary morphology. Research focus on phylogenetic, comparative, and functional analyses in avian and non-avian dinosaurs seeking to characterize aspects of integrates anatomical systems. avian locomotor apparatus,
Paul Patton: Assistant Professor, Dept. of Sociology & Anthropology; Director, OHIO Archaeological Field School; Archaeologist	Archaeology, archaeobotany, paleoethnobotany, prehistoric food systems, ethnobotany, Eastern North America prehistory
Viorel Popescu: Assistant Professor, Dept. of Biological Sciences; Conservation biologist, Wildlife quantitative ecologist	Conservation biology, wildlife ecology and management (focused on carnivores, amphibians and reptiles), systematic conservation planning.

Name	Research Interest
Willem Roosenburg: Professor, Dept. of Biological Sciences; Evolutionary ecologist, population biologist	Evolution of life history traits (e.g. survivorship, reproductive rates, age of first reproduction etc.) and the conservation biology (extinction and loss of biodiversity due to anthropomorphic causes) of long-lived organisms. Modelling of ecological systems and elucidate mechanistic understandings of how environmental variation affects population dynamics of that species.
David Rosenthal: Assistant Professor, Dept. of Environmental and Plant Biology; Botanical ecologist	Physiological Ecology, global change, invasion biology, ecological genetics. Research involves plant ecophysiological responses to environmental stressors that affect plant performance or fitness.
Dorothy Sack: Professor, Dept. of Geography; Paleo Fluvial Geomorphologist	Extensive field- and lab-based experience analyzing and mapping landforms and surficial materials for the purpose of reconstructing Quaternary and historic landscape evolution, emphasizing desert paleolake basins of the Great Basin. Expertise in mapping and interpreting landscape elements from aerial photographs, including fluvial geomorphology, sedimentology, and Quaternary stratigraphy
Gaurav Sinha: Associate Professor, Dept. of Geography; GIS Specialist	Geographic Information Science and Systems includes environmental modeling, geospatial ontology and semantics, participatory GIS (PGIS), and spatial multicriteria analysis. Current research includes topographic ontologies. Recently concluded a 5 year NSF project as a Co-PI investigating the impact of climate change and local knowledge and practices on livelihoods in rural Tanzania.
Gregory S. Springer: Associate Professor, Dept. of Geological Sciences; Geomorphologist, hydrologist	Fluvial and Karst Geomorphology as effects headwater streams as aquatic habitats, impacts of acid rain and acid mine drainage, and induces land use change. Also involved in paleoclimate, geoarchaeology, geomorphic responses to climate change and erosion.
Nancy J. Stevens: Associate Professor, Dept. of Biomedical Sciences; Vertebrate morphologist and paleontologist	Exploration of interactions between organisms and their environments through time. Has conducted paleontological field research in over a dozen countries in Africa and the Arabian Peninsula, and her finds document several discoveries new to science including the first dinosaur trackways from the Arabian Peninsula, and the oldest fossil evidence of the split between Old World monkeys and apes. Her work also explores modern day extinction dynamics through research in biodiversity hotspots in Madagascar, Uganda and Vietnam, with a focus on some of the world's most critically endangered primates.
Alycia L. Stigall: Associate Professor, Dept. of Geological Sciences; Paleontology	Evolutionary paleobiology, particularly the impacts of paleobiogeographic and paleoecological controls of macroevolutionary phenomena, principally speciation and cladogenesis. Several current research projects focus on the interplay between biogeographic changes and faunal dynamics of brachiopod and bivalve species during the Late Ordovician Richmondian Invasion, the Late Devonian Biodiversity Crisis, and the Permo-Triassic Mass Extinction.
Nancy Tarek: Professor, Dept. of Sociology & Anthropology	Biological anthropology, skeletal biology, forensic anthropology, anthropometric history.
Maarten Uijt de Haag: Professor, Dept. of Electrical Engineering and Computer Science; Inertial navigation, indoor positioning, laser and vision-based navigation, hazard monitoring	Inertial Navigations Systems (INS), radio navigation systems, integrated navigation systems, GPS, target tracking, and aviation standards. Most recently, has been involved in the use of GPS for Synthetic Vision Systems, terrain referenced navigation and tracking systems, fault detection and isolation techniques, analysis and flight testing of Inertial/GPS for navigation and attitude, indoor positioning, laser- and vision-based navigation for aerial and ground vehicles, ADS-B, and hazard monitors for alerting and notification as part of flight deck systems.
Morgan Vis: Professor and Chair, Dept. of Environmental and Plant Biology; Non-vascular morphologist	Freshwater Algal Ecology and Evolution. Her research includes: Systematics of Freshwater Red Algae, Comparative Transcriptomics for Systematic Research, Biogeography/Phylogeography of Freshwater Red Algae, Structure and function of stream biofilms for understanding AMD remediation and Algae as bioindicators.

Name	Research Interest
Nathan Weyund: Assistant Professor, Dept. of Biological Sciences	Functional consequences of protein recruitment in bacterial pathogens. Development of animal models that mimic aspects of <i>Neisseria</i> -host interactions that have been refractory to <i>in vivo</i> experimentation including colonization, transmission and the spread of antimicrobial resistance.
Matthew White: Professor and Chair, Dept. of Biological Sciences; Geneticist, ichthyologist	Patterns of genetic variation within and among natural populations. His Research includes phylogeography using molecular markers to evaluate the distribution of variation among populations of freshwater fishes and assesses the relative roles of variance, dispersal, and gene flow in that distribution.
Susan Williams: Professor, Anatomy, Heritage College of Osteopathic Medicine; WitmerLab affiliate	Comparative functional morphology & biomechanics; research focus on cyclical loading on skeletal morphology, muscle coordination, and development, motor pattern evolution.
Lawrence M. Witmer: Professor, Anatomy; Chang Ying-Chien Professor of Paleontology; OU Presidential Research Scholar, Department of Biomedical Sciences and Heritage College of Osteopathic Medicine; Director of WitmerLab	Ecology and evolutionary biology, extinction, prehistory anatomy, evolutionary functional morphology.
Jaqueline Wolf: Professor, Dept. of Social Medicine, Heritage College of Osteopathic Medicine	History of public health disasters, biomedical ethics, women's health.
Michael Zimmer: Energy and Environment Executive in Residence, Joint appointment Voinovich School and Russ College of Engineering and Technology	Executive in Residence at the Voinovich School and the Russ College of Engineering since 2007 on energy policy and clean tech transactions and finance. Currently working on shale energy issues, energy efficiency and finance, and economic development issues in the Appalachian region. Led the American Bar Association's Renewables and Distributed Energy Committee from 2008 to 2010, and led the ABA Energy and Environmental Markets and Finance Committee from 2010 to 2012. Advised on the formation of the American Council on Renewable Energy ("ACORE"), the national association of the renewables industry sectors.

Additional information is available at www.ohio.edu/departments/.

Description or list of facilities, equipment, centers, or institutes that would provide support to the research, technical assistance, or educational activities of relevance to federal land management, environmental, and research agencies that will be engaged in CESU activities

Ohio University Special Facilities, Centers and Institutes Available to Assist CESU Activities

Facilities, Centers and Institutes	Web Link for Additional Information
AAALAC-accredited animal holding facilities for terrestrial and aquatic animals	https://www.ohio.edu/biosci/research/evolsys.html
The Avionics hangar provides 14,500 sq. ft. of offices, labs, and aircraft storage. Only public airport with ILS, MLS/DME, GPS/WAAS and LAAS GLS supported approaches	https://www.ohio.edu/engineering/avionics/facilities-equipment/facilities.cfm
Carl Ross Geomorphology Research Laboratory	https://www.ohio.edu/geography/departmental-facilities.cfm
Dysart Woods Land Laboratory	https://www.ohio.edu/cas/plantbio/
Geographic Information Systems Teaching Laboratory	https://www.ohio.edu/geography/departmental-facilities.cfm
Heritage College of Osteopathic Medicine, Department of Biomedical Sciences	https://www.ohio.edu/medicine/about/departments/biomedical/index.cfm
Heritage College of Osteopathic Medicine, Department of Social Medicine	https://www.ohio.edu/medicine/about/departments/social/index.cfm
Laboratory for Remote Sensing	https://www.ohio.edu/geography/departmental-facilities.cfm
Long-Term Social and Ecological Research Room	https://www.ohio.edu/geography/departmental-facilities.cfm
McFarland Avionics Building, OU Airport, Albany	https://www.ohio.edu/engineering/avionics/facilities-equipment/facilities.cfm
Ohio Center for Ecology and Evolution Studies (OCEES)	http://www.ocees.ohio.edu/
Ohio University Center for Geovisualization and Geographic Analysis	https://www.ohio.edu/geography/departmental-facilities.cfm
Ohio University Vertebrate and Insect Collection	https://www.ohio.edu/biosci/research/evolsys.html
OhioView Laboratory for Applied Geomatics Research	https://www.ohio.edu/biosci/research/genes.html
Quantitative Biology Institute	https://www.ohio.edu/qbi/
Research greenhouse	https://www.ohio.edu/cas/plantbio/
Ridges Land Lab	https://www.ohio.edu/cas/plantbio/
Scalia Laboratory for Atmospheric Analysis	http://www.scalialab.com/
Tamiami-Kendall Exec. Airport (FL). National ILS Test Facility; Operated by AEC for FAA since 1972	http://www.miami-airport.com/kendall_tamiami.asp
The Floyd Bartley Herbarium of Ohio University	https://www.ohio.edu/plantbio/herbarium/
West State Street Research Site	https://www.ohio.edu/cas/plantbio/
WitmerLab	https://people.ohio.edu/witmerl/lab.htm

A description of student demographics and the institution's status as a minority-serving institution (e.g., as defined by the U.S. Department of Education).

Ohio University Enrollment and Freshman Class Information (*Source: Ohio University Fact Book, August 2017*)

Enrollment [Fall 2016]

- Undergraduate – Athens Main Campus: 18,209
- Graduate – Athens Main Campus: 4,233
- Doctoral – 953
- Medical – Athens Main Campus: 815
- e-Learning: 6,042
- Regional campuses: 8,480

Total unduplicated enrollment, all campuses: 36,867

Enrollment breakdown by ethnicity Athens Campus [Fall 2016]

- African American 5.5% (1,337)
- Asian American 1.5% (373)
- International 6.0% (1,442)
- Hawaii/Pacific Island 0.1% (13)
- Hispanic 3.1% (745)
- American Indian/Alaskan Native 0.2% (44)
- Caucasian 78.7% (19,056)
- Two or More Races 3.5% (843)
- Unknown 1.5% (357)

92% of freshmen receive financial aid

Enrollment breakdown by gender [Fall 2016]

Athens Campus

- Male 48.7% (11,780)
- Female 51.3% (12,430)

International student enrollment [Fall 2016]

- 1,442

Incoming freshman class middle 50 percent SAT/ACT composite range [Fall 2016]

- 22–26

Incoming freshman class high school GPA [2016]

- 3.47 (4.0 scale)

Please see www.ohio.edu/institres/enrollstats/ for additional information.

Description or list of past research, technical assistance, and educational services supported through federal financial assistance awards that are of relevance to federal land management, environmental, and research agencies that will be engaged in CESU activities.

Ohio University has performed 244 research projects of relevance for CESU agency members (where funds were originating, passed-through, or direct) totaling to nearly \$16,000,000 since FY2000.

Ohio University Research Funded by Chesapeake Watershed CESU Federal Agency Partners

Agency (Originating, Pass-Through and/or Direct)	Project Title	Award Amount	Fiscal Year
Army Corp of Engineers	Terrapin Monitoring at Poplar Island	\$16,926.82	2003
Army Corp of Engineers	Long-term Diamondback Terrapin Monitoring for Poplar Island Environmental Restoration Project	\$24,971.00	2004
Army Corp of Engineers	Assessment of Uptake and Transformation of the Propellants, 2,4-Dinitrotoluene, Nitroglycerine, and Perchlorate in Grasses	\$25,018.00	2005
Army Corp of Engineers	Long-term Diamondback Terrapin Monitoring for Poplar Island Environmental Restoration Project	\$17,603.00	2005
Army Corp of Engineers	Long-term Diamondback Terrapin Monitoring for Poplar Island Environmental Restoration Project	\$24,978.00	2006
Army Corp of Engineers	Long-term Diamondback Terrapin Monitoring for Poplar Island Environmental Restoration Project	\$30,000.00	2007
Army Corp of Engineers	Long-term Diamondback Terrapin Monitoring for Paul S. Sarbanes Ecosystem Restoration Project at Poplar Island, Talbot County Maryland	\$32,525.60	2008
Army Corp of Engineers	Long-term Diamondback Terrapin Monitoring for Paul S. Sarbanes Ecosystem Restoration Project at Poplar Island, Talbot County Maryland	\$34,221.56	2009
Army Corp of Engineers	Diamondback Terrapin Monitoring Poplar Island Environmental Restoration Project	\$71,100.00	2010
Army Corp of Engineers	DISTRIBUTED POWER FROM WASTEWATER (Appropriations)	\$2,061,500.00	2010
Army Corp of Engineers	Meeting the Challenges for Engineering Design, Construction and Maintenance of Infrastructure in Post-Conflict and Developing Countries	\$84,984.92	2010
Army Corp of Engineers	DISTRIBUTED POWER FROM WASTEWATER: PHASE II	\$1,890,500.00	2011
Army Corp of Engineers	Development of low-cost remediation technologies for large, dilute, and deep plumes of chlorinated solvents in groundwater	\$19,464.00	2012
Army Corp of Engineers	Diamondback Terrapin Monitoring Poplar Island Environmental Restoration Project	\$40,891.14	2012

Army Corp of Engineers	Simulation and Analysis of Novel Anaerobic Wastewater Treatment System for Energy Generation at Contingency Operating Locations	\$70,815.00	2012
Army Corp of Engineers	FY13 Terrapin Monitoring at the Poplar Island Environmental Restoration Project	\$49,007.16	2013
Army Corp of Engineers	Simulation and Analysis of Novel Anaerobic Wastewater Treatment System for Energy Generation at Contingency Operating Locations	\$70,375.00	2013
Army Corp of Engineers	Terrapin Monitoring at the Poplar Island Environmental Restoration Project FY14	\$53,013.00	2014
Army Corp of Engineers	Simulation and Analysis of Novel Anaerobic Wastewater Treatment System for Energy Generation at Contingency Operating Locations	\$71,171.00	2015
Army Corp of Engineers	Terrapin Monitoring at the Poplar Island Environmental Restoration Project FY14	\$52,457.00	2015
Army Corp of Engineers	Terrapin Monitoring at the Poplar Island Environmental Restoration Project FY16-17	\$56,905.00	2016
Army Corp of Engineers	Ammonia Electrolysis Flow Cells	\$61,659.00	2017
Army Corp of Engineers	Terrapin Monitoring at the Poplar Island Environmental Restoration Project FY16-17	\$58,095.00	2017
Bureau of Land Management	Study of Air Emissions and BMP for Oil and Gas Sector	\$45,000.00	2017
Bureau of Land Management	Study of Air Emissions and BMP for Oil and Gas Sector	\$24,120.00	2017
Dept of Agriculture	National Study of the Consequences of Fire and Fire Surrogate Treatments: Wildlife	\$56,975.00	2000
Dept of Agriculture	National Study of the Consequences of Fire and Fire Surrogate Treatments: Wildlife - Yr. 2	\$49,448.00	2001
Dept of Agriculture	Remote Soil Moisture Monitoring Using Web Browsers for Improved Irrigation Decision Making	\$7,304.00	2001
Dept of Agriculture	Special Forest Products Cultivation Methods	\$3,600.00	2001
Dept of Agriculture	Characterization and Cloning of gps Mutants of Arabidopsis	\$80,000.00	2003
Dept of Agriculture	Ecology and Cultivation of Non-Timber Forest Products in Appalachia	\$100,000.00	2003
Dept of Agriculture	Forest Resources Survey Analysis	\$1,741.10	2006
Dept of Agriculture	Policies, Planning, and Investments in Open Space Preservation and Conservation in Urban Areas	\$11,000.00	2007
Dept of Agriculture	Biochemistry and Function of Fucosyltransferases for Glycosylation of Arabinogalactan-Proteins	\$397,000.00	2009
Dept of Agriculture	Pattern Recognition for Foods and Supplements	\$23,600.00	2009

Dept of Agriculture	Pattern Recognition for Foods and Supplements	\$60,000.00	2011
Dept of Agriculture	Rural Business Enterprise Grant (RBEG)	\$155,094.00	2011
Dept of Agriculture	Diterpene derivatives as anticancer agents	\$125,000.00	2012
Dept of Agriculture	Plant Biology Student Internship	\$11,000.00	2013
Dept of Agriculture	Internship support and microsatellite marker development	\$21,450.00	2014
Dept of Agriculture	Plant Biology Student Internship	\$15,688.00	2015
Dept of Agriculture	USDA ARS Post Doctorate	\$73,499.00	2015
Dept of Agriculture	Gasification of biocarbons produced from hydrothermal carbonization of manure	\$60,000.00	2016
Dept of Agriculture	Plant Biology Student Internship	\$16,500.00	2016
Dept of Agriculture	Plant Biology Student Internship-supplement	\$9,202.17	2016
Dept of Agriculture	Plant Biology Student Internship Scholarships	\$21,450.00	2017
Dept of Agriculture	USDA ARS Post Doctorate: Algorithm Development and Support for Chemical Profiling of Botanicals and Foods	\$33,501.00	2017
Dept of Defense	Dietary Energy Requirements in Physically Active Men & Women	\$325,196.03	2000
Dept of Defense	Development of Nitride Thin Films by Ion Beam Deposition	\$190,209.00	2001
Dept of Defense	Dietary Energy Requirements in Physically Active Men & Women	\$216,364.00	2001
Dept of Defense	Dietary Energy Requirements in Physically Active Men & Women	\$100,103.00	2001
Dept of Defense	DURIP - Acquisition of a Spectroscopic Ellipsometer	\$109,000.00	2001
Dept of Defense	Carbon Nanofiber Composites	\$100,000.00	2002
Dept of Defense	Dietary Energy Requirements in Physically Active Men & Women	\$373,927.00	2002
Dept of Defense	Survey of Environmental Background Interferences Affecting Explosives Analysis	\$46,000.00	2002
Dept of Defense	Development of Nitride Thin Films by Ion Beam Deposition	\$132,653.00	2003
Dept of Defense	Dietary Energy Requirements in Physically Active Men & Women	\$168,570.00	2003
Dept of Defense	Integrated LIDAR/IMU/GPS Navigation and Surveillance System	\$193,943.00	2003
Dept of Defense	Open Architecture Computing Environment Technical Architecture IPTs (OACE)	\$40,000.00	2003

Dept of Defense	Survey of Environmental Background Interferences Affecting Explosives Analysis (Forensic Analysis of Explosives Residue Background)	\$75,000.00	2003
Dept of Defense	Survey of Environmental Background Interferences Affecting Explosives Analysis (Forensic Analysis of Explosives Residue Background)	\$30,000.00	2003
Dept of Defense	DURIP Testing System for Fuel Cell Design and Electrokinetics Analyses	\$128,798.00	2004
Dept of Defense	Materials Based Solution for Improved Thermal Management	\$25,000.00	2004
Dept of Defense	Survey of Environmental Background Interferences Affecting Explosives Analysis (Forensic Analysis of Explosives Residue Background)	\$68,846.00	2004
Dept of Defense	Amorphous Nitride Based Solar Cell Coverglass	\$31,000.00	2005
Dept of Defense	Dietary Energy Requirements in Physically Active Men & Women	\$173,606.00	2005
Dept of Defense	Lost Cost, Conductive Fiberglass Composites with Carbon Nanofibers	\$74,706.00	2005
Dept of Defense	Technologies for Producing Sheets and Foils from Affordable and Structurally Efficient Titanium	\$8,000.00	2006
Dept of Defense	Technologies for Producing Sheets and Foils from Affordable and Structurally Efficient Titanium	\$8,000.00	2006
Dept of Defense	Technologies for Producing Sheets and Foils from Affordable and Structurally Efficient Titanium	\$4,000.00	2006
Dept of Defense	Growth, Characterization & Modeling of Monolithic Silicon Microbolometer Materials	\$109,612.00	2007
Dept of Defense	Modeling High-Energy Radiation from Supernova Remnants and Microquasars	\$8,992.00	2007
Dept of Defense	Affordable, High Conductivity Graphite Foam Heat Exchangers for Thermal Management	\$140,000.00	2009
Dept of Defense	Biomimetic Aerial Robotic Transformer	\$49,858.00	2009
Dept of Defense	Genome-wide Association Mapping for Superior Intelligence in Military Working Dogs	\$30,000.00	2009
Dept of Defense	Plasmon Enhanced Circular Dichroism of Bionanomaterials	\$30,000.00	2009
Dept of Defense	Affordable, High Conductivity Graphite Foam Heat Exchangers for thermal Management, Phase II	\$140,000.00	2010
Dept of Defense	Development of characterization techniques for Polymer Composites and Novel Materials	\$55,455.67	2010
Dept of Defense	Affordable, High Conductivity Graphite Foam Heat Exchangers Phase II	\$240,000.00	2011

Dept of Defense	Energy Harvesting Materials and Devices	\$45,000.00	2011
Dept of Defense	Innovative Approach for High Strength, High Thermal Conductivity Composite Materials	\$40,000.00	2011
Dept of Defense	Innovative Hybrid Graphitic Foam Thermal Management Materials	\$50,000.00	2012
Dept of Defense	Development of low-cost remediation technologies for large, dilute, and deep plumes of chlorinated solvents in groundwater	\$52,982.00	2013
Dept of Defense	Evaluation of Electrochemically Enhanced Oxidative Coupling of Methane using Mixed Oxide Catalysts	\$42,088.00	2013
Dept of Defense	Theoretical studies of solid electrolyte glasses	\$8,000.00	2013
Dept of Defense	AMD Mine Portal Project	\$15,000.00	2014
Dept of Defense	Nano-Enhanced CFRP with Improved Thermal Conductivity	\$14,000.00	2014
Dept of Defense	Applications of Flexible-Hybrid Electronics Technologies: Projections to 2040	\$20,000.00	2015
Dept of Defense	Emitter Geolocation Flight Testing and Data Collection	\$33,751.00	2015
Dept of Defense	Site Analysis and Survey for Proposed Instrument Landing Systems	\$40,000.00	2015
Dept of Defense	Site Analysis and Survey for Proposed Instrument Landing Systems	\$98,103.00	2015
Dept of Defense	A Emission Microscopy Study of W(100)/(110) with adsorbed Ba-Sc-O	\$87,372.00	2016
Dept of Defense	DESIGN LIFE AND PERFORMANCE MEASUREMENT OF CHP ENGINE COMPONENTS	\$34,594.01	2016
Dept of Defense	DESIGN LIFE AND PERFORMANCE MEASUREMENT OF CHP ENGINE COMPONENTS	\$183,672.18	2016
Dept of Defense	Site Analysis and Survey for Proposed Instrument Landing Systems - Option I	\$50,785.00	2016
Dept of Defense	Site Analysis and Survey for Proposed Instrument Landing Systems - Option I	\$178,406.00	2016
Dept of Defense	Site Analysis and Survey for Proposed Instrument Landing Systems - Option I	\$80,873.00	2016
Dept of Defense	A Emission Microscopy Study of W(100)/(110) with adsorbed Ba-Sc-O	\$29,125.01	2017
Dept of Defense	A Emission Microscopy Study of W(100)/(110) with adsorbed Ba-Sc-O	\$58,247.99	2017
Dept of Defense	Site Analysis and Survey for Proposed Instrument Landing Systems - Option II	\$296,656.00	2017
Dept of Defense	A Emission Microscopy Study of W(100)/(110) with adsorbed Ba-Sc-O	\$30,030.00	2018

Dept of Defense	Site Analysis and Survey for Proposed Instrument Landing Systems	\$30,000.00	2018
Dept of Defense	Site Analysis and Survey for Proposed Instrument Landing Systems	\$50,000.00	2018
Dept of the Interior	Developing a Statewide Monitoring Program for Environmental Analysis Using Landsat Data: Phase I	\$184,293.00	2000
Dept of the Interior	AMD Watershed Internship	\$2,500.00	2002
Dept of the Interior	OSM Summer Internship	\$2,500.00	2002
Dept of the Interior	Sunday Creek Acid Mine Drainage Abatement and Treatment Plan	\$9,900.00	2002
Dept of the Interior	Hope Clay Mine Restoration	\$4,800.00	2004
Dept of the Interior	Determining the Overlap between Critical Terrapin Habitat and Commercial Crab and Eel Pot Fisheries (Research Assistant Funding)	\$2,030.00	2005
Dept of the Interior	Life History of the Eastern Sand Darter, <i>Ammocrypta Pellucida</i> in the Little Muskingum River	\$750.00	2005
Dept of the Interior	Mapping and Baseline Monitoring of Invasive Species at Lake Vesuvius in Wayne National Forest, Lawrence County, Ohio	\$4,000.00	2006
Dept of the Interior	Mineland Reclamation and American Chestnut Restoration: Bringing Technologies Together	\$99,971.00	2007
Dept of the Interior	American Chestnut restoration on surface mined sites in the Appalachian region	\$25,000.00	2008
Dept of the Interior	Coal Electrolysis for the Production of Hydrogen and Liquid Fuels	\$397,301.00	2009
Dept of the Interior	Identifying Important Habitat Features for the Reproduction of Declining Bat Populations in Ohio	\$14,454.00	2017
Dept of the Interior	Mine Pool Modeling	\$196,520.00	2017
Dept of the Interior	Use of radio-frequency identification technology to monitor bats in Yellowstone National Park	\$60,000.00	2017
Dept of the Interior	Identifying Important Habitat Features for the Reproduction of Declining Bat Populations in Ohio	\$35,049.00	2018
Fish & Wildlife Service	Genetic Diversity and Microsite Characterization of the Rare "Monkeyface" Orchid	\$4,000.00	2001
Fish & Wildlife Service	Genetic Analysis of Sauger	\$215.00	2003
Fish & Wildlife Service	Burrowing Crayfish	\$261,662.00	2004
Fish & Wildlife Service	Intraspecific Phylogeography of the Wabash Pigtoe, <i>Fusconaia Flava</i>	\$1,140.00	2004
Fish & Wildlife Service	Origin of the Ouachita Map Turtle, <i>Graptemys ouachitensis</i> in the Scioto River Basin	\$5,494.00	2005

Fish & Wildlife Service	Population Ecology of the Ouachita Map Turtle in the Scioto River	\$38,811.00	2006
Fish & Wildlife Service	Genetic Analysis of Rockcastle River Walleye	\$3,000.00	2007
Fish & Wildlife Service	Genetic Analysis of Rockcastle River Walleye	\$3,000.00	2008
Fish & Wildlife Service	Population Ecology of the Ouachita Map Turtle in the Scioto River	\$25,600.00	2008
Fish & Wildlife Service	Genetic Analysis of Native Walleye in Rockcastle River	\$6,000.00	2010
Fish & Wildlife Service	EVALUATION OF DIAMONDBACK TERRAPIN (MALACLEMYS TERRAPIN) HEADSTARTING AT POPLAR ISLAND ENVIRONMENTAL RESTORATION PROJECT	\$10,725.00	2011
Fish & Wildlife Service	Genetic Analysis of Native Walleye in Rockcastle River	\$2,500.00	2011
Fish & Wildlife Service	Genetic Analysis of Rockcastle River walleye	\$2,500.00	2011
Fish & Wildlife Service	Evaluation of Diamondback Terrapin (<i>Malaclemys t. terrapin</i>) Head-starting at Poplar Island Environmental Restoration Project, Talbot County	\$10,903.00	2012
Fish & Wildlife Service	Genetic Analysis of Native walleye in Rockcastle River	\$6,000.00	2013
Fish & Wildlife Service	Evaluation of Diamondback Terrapin (<i>Malaclemys t. terrapin</i>) Head-starting at Poplar Island Environmental Restoration Project, Talbot County	\$10,903.00	2015
Fish & Wildlife Service	Genetic Analysis of Native walleye in Rockcastle River	\$3,000.00	2015
Fish & Wildlife Service	Genetic Analysis of Native walleye in Rockcastle River	\$3,000.00	2016
Fish & Wildlife Service	Using multiple data sources to develop management strategies for the recovering bobcat (<i>Lynx rufus</i>) population in Ohio	\$69,638.00	2018
Forest Service	Fire and Fire Surrogate Research	\$59,828.00	2000
Forest Service	Historical Analysis of Forest Cover in Baltimore Region	\$4,000.00	2000
Forest Service	Consequences of Fire and Fire Surrogate Treatments on Southern Flying Squirrels (<i>Glaucomys volans</i>) and Bats (Chiroptera)	\$23,145.00	2001
Forest Service	Fire and Fire Surrogate Research	\$70,057.00	2001
Forest Service	Fire and Fire Surrogate Treatments in Mixed Oak Forests	\$3,000.00	2001
Forest Service	Fire Temperature and Weevil Population Dynamics in Mixed Oak Forests	\$24,664.00	2001
Forest Service	Utility of Historical Census Data for Long Term Ecological Research and the Baltimore Ecosystem Study	\$4,817.00	2001
Forest Service	Consequences of Fire and Fire Surrogate Treatments on Southern Flying Squirrels (<i>Glaucomys volans</i>) and Bats (Chiroptera)	\$7,500.00	2002

Forest Service	Fire and Fire Surrogate Treatments in Mixed Oak Forests	\$4,600.00	2002
Forest Service	Forest Conservation in Maryland: A Proposal to Examine the Fred W. Besley Archive	\$9,000.00	2002
Forest Service	Historical Social Data Sets for Long Term Ecological Research	\$10,726.00	2002
Forest Service	National Study of the Consequences of Fire and Fire Surrogate Treatments: Wildlife - Yr. 3	\$36,407.00	2002
Forest Service	Utility of Historical Land Use Data for Long Term Ecological Research and the Baltimore Ecosystem Study	\$5,850.00	2002
Forest Service	Addis Mine Acid Drainage Project	\$20,000.00	2003
Forest Service	Digitizing Historical Data Sets for Long Term Social and Ecological Research	\$11,200.00	2003
Forest Service	Ecological Restoration of Hardwood Forest Communities Following Removal of Tree-of-Heaven	\$7,993.00	2003
Forest Service	Fire and Fire Surrogate Treatments in Mixed Oak Forests	\$5,938.00	2003
Forest Service	Fire Temperature and Weevil Population Dynamics in Mixed Oak Forests	\$5,000.00	2003
Forest Service	National Study of the Consequences of Fire and Fire Surrogate Treatments on Wildlife	\$0.00	2003
Forest Service	National Study of the Consequences of Fire and Fire Surrogate Treatments on Wildlife - Yr. 4	\$35,815.00	2003
Forest Service	Quantifying Spatial Heterogeneity of Leaf Area in Thinned and Burned Forests in SE Ohio	\$15,000.00	2003
Forest Service	Seasonal Trends in Leaf Area Production for Key Genus Groups at the USFS Ohio FFS Research Site	\$18,600.00	2003
Forest Service	Spatial and Temporal Analyses of Social Drivers in Urban Ecosystems	\$8,878.00	2003
Forest Service	Addis Mine Acid Drainage Project	\$20,000.00	2004
Forest Service	Fire and Fire Surrogate Treatments on Vegetation, Fuels and Fire Behavior	\$58,880.00	2004
Forest Service	Historical Geography of Urban Forestry and Roadside Tree Planting in Baltimore	\$14,378.00	2004
Forest Service	Monkey Hollow PPreliminary Assessment/Site Inspection	\$20,775.00	2004
Forest Service	National Study of the Consequences of Fire and Fire Surrogate Treatments on Wildlife - Yr. 5	\$31,770.00	2004
Forest Service	Population Small Area Geographies Using Historical Manuscript Data	\$12,073.00	2004

Forest Service	Using DISTRIB/SHIFT Outputs To Implement PnET-II for Assessment of Forest Carbon Consequences of Potential Global-Change Driven Shifts in Tree Species Distribution	\$11,000.00	2004
Forest Service	Addis Mine Acid Drainage Project	\$20,000.00	2005
Forest Service	Ecological Restoration of Hardwood Forest Communities Following Removal of Tree-of-Heaven	\$14,068.00	2005
Forest Service	Environmental Justice and Open Space Amenities in Baltimore	\$10,970.00	2005
Forest Service	Environmental Justice and the Human Ecology of Baltimore and Paris	\$10,970.00	2005
Forest Service	Examining Baltimore's Urban Greenspaces	\$4,410.00	2005
Forest Service	Organizing Historical Records of African American & Underground Railroad History in Southeastern Ohio	\$8,000.00	2005
Forest Service	Removal and Control of Japanese Stiltgrass (Microstegium Vimineum)	\$16,422.00	2005
Forest Service	Using DISTRIB/SHIFT Outputs To Implement PnET-II for Assessment of Forest Carbon Consequences of Potential Global-Change Driven Shifts in Tree Species Distribution	\$2,000.00	2005
Forest Service	Cradle of Conservation: State Forestry in Maryland, 1906-1960	\$5,000.00	2006
Forest Service	Injury and Mortality Risks from Wildland Fire Smoke and Heat Exposures - Smoke Particulate and Gas Concentration during Hardwood Fires and Nighttime Inversions	\$30,000.00	2006
Forest Service	Leaf Area Index in Thinned and Burned Forests in SE Ohio	\$4,500.00	2006
Forest Service	Organizing Historical Records of African American & Underground Railroad History in Southeastern Ohio	\$30,000.00	2006
Forest Service	Organizing Historical Records of African American & Underground Railroad History in Southeastern Ohio	\$5,020.00	2006
Forest Service	State Forestry In Maryland: A Historical Examination	\$6,000.00	2006
Forest Service	Using DISTRIB/SHIFT Outputs To Implement PnET-II for Assessment of Forest Carbon Consequences of Potential Global-Change Driven Shifts in Tree Species Distribution	\$2,000.00	2006
Forest Service	Injury and Mortality Risks from Wildland Fire Smoke and Heat Exposures - Smoke Particulate and Gas Concentration during Hardwood Fires and Nighttime Inversions	\$50,400.00	2007
Forest Service	Leaf Area Index in Thinned and Burned Forests in SE Ohio	\$8,240.00	2007

Forest Service	Organizing Historical Records of African American & Underground Railroad History in Southeastern Ohio	\$15,000.00	2007
Forest Service	Injury and Mortality Risks from Wildland Fire Smoke and Heat Exposures - Smoke Particulate and Gas Concentration during Hardwood Fires and Nighttime Inversions (Years 2 and 3 GIS add-on)	\$26,580.00	2008
Forest Service	Iron Furnace Cooperative Weed Management	\$27,000.00	2008
Forest Service	Organizing Historical Records of African American & Underground Railroad History in Southeastern Ohio (Mod. 3)	\$5,000.00	2008
Forest Service	Policies, Planning, and Investments in Open Space Preservation and Conservation in Urban Areas	\$10,000.00	2008
Forest Service	Policies, Planning, and Investments in Open Space Preservation and Conservation in Urban Areas	\$8,500.00	2008
Forest Service	Customer Service Survey Wayne National Forest	\$11,119.50	2009
Forest Service	Injury and Mortality Risks from Wildland Fire Smoke and Heat Exposures	\$30,889.01	2009
Forest Service	Policies, Planning, and Investments in Open Space Preservation and Conservation in Urban Areas	\$21,006.07	2009
Forest Service	Wayne National Forest Visitor Use Survey	\$11,997.00	2009
Forest Service	Characterization of Snake and Forest Floor Energy Budgets in Burned and Unburned Habitat and Land Between the Lakes National Recreation Area	\$25,000.00	2010
Forest Service	Fire Monitoring and Modeling for the Smoke and Bat Projects add-on 1	\$8,093.00	2010
Forest Service	Fire Monitoring and Modeling for the Smoke and Bat Projects add-on 3	\$13,395.00	2010
Forest Service	Fire Monitoring and Modeling for the Smoke and Bat Projects modification 2	\$8,000.00	2010
Forest Service	Injury and Mortality Risks from Wildland Fire Smoke and Heat Exposures	\$38,500.00	2010
Forest Service	Mapping of Invasive Plants and Habitat Enhancement of Properties on and Adjoining the Wayne National Forest	\$6,000.00	2010
Forest Service	Propagule Pressure and Spread Rates of Three Invasive Plants under Different Management Regimes	\$38,032.00	2010
Forest Service	Infrared Image Preparation for the 2008 RX-CADRE Field Campaign	\$14,313.00	2011
Forest Service	Pigment Recovery for Snake Hollow	\$17,321.00	2011
Forest Service	Policies, Planning, and Investments in Open Space Preservation and Conservation in Urban Areas	\$18,081.74	2011

Forest Service	The Energetic Expenditures of the Black Kingsnake (<i>Lampropeltis nigra</i>) in Habitat Altered by Frequent Prescribed Burning	\$20,000.00	2011
Forest Service	Wayne National Forest Community Engagement	\$18,950.00	2011
Forest Service	Composting, Public Health, and Urban Sustainability in Baltimore, Maryland and Washington, DC	\$3,865.02	2012
Forest Service	Composting, Public Health, and Urban Sustainability in Baltimore, Maryland and Washington, DC	\$12,750.00	2012
Forest Service	Composting, Public Health, and Urban Sustainability in Baltimore, Maryland and Washington, DC	\$12,750.00	2012
Forest Service	Propagule Pressure and Spread Rates of Three Invasive Plants under Different Management Regimes	\$14,000.00	2012
Forest Service	The Energetic Expenditures of the Black Racer (<i>Coluber constrictor</i>) in Habitat Altered by Frequent Prescribed Burning	\$20,000.00	2012
Forest Service	Composting, Public Health, and Urban Sustainability in Baltimore, Maryland and Washington, DC	\$12,750.00	2014
Forest Service	Composting, Public Health, and Urban Sustainability in Baltimore, Maryland and Washington, DC	\$12,750.00	2014
Forest Service	Long term organizational life histories and governance networks in the City of Baltimore	\$17,000.00	2016
Forest Service	Data Collection of Hemlock Woolly Adelgid Insect Developmental Stages to Raise Awareness and Manage Impact of Pests in Ohio Forests	\$2,800.00	2017
Forest Service	Long term organizational life histories and governance networks in the City of Baltimore	\$19,089.12	2017
Forest Service	Natural and Cultural Resources Experiential Learning and Career Training Surveys for the Athens Unit of the Wayne National Forest	\$38,219.61	2017
Forest Service	Long-term Organizational Life Histories and Governance Networks in Baltimore	\$24,685.00	2018
Forest Service	Wayne National Forest Sediment Samples	\$9,464.00	2018
Geological Survey	Periphyton Identification and Enumeration Sampling	\$2,600.00	2001
Geological Survey	Satellite Data Integration and Image Visualization for Low Cover Analysis in Ohio	\$479,947.00	2001
Geological Survey	Geology of the Matlin Quadrangle, Box Elder County, Utah	\$10,000.00	2002
Geological Survey	Implementing Web-based Solutions for Satellite Data Presentation, Analysis and Understanding	\$375,000.00	2002
Geological Survey	Implementing the America View Organizational Plan: Extension (Operating)	\$28,730.00	2003

Geological Survey	Implementing the America View Organizational Plan: Extension (Subcontracts)	\$92,095.00	2003
Geological Survey	Implementing the AmericaView Organizational Plan for a National Remote Sensing Data Infrastructure	\$196,491.00	2003
Geological Survey	Metadata Creation and Implementation	\$5,965.00	2003
Geological Survey	Infrastructure Support for Enhanced Remote Sensing Research and Education in Ohio	\$89,500.00	2004
Geological Survey	Satellite Data Integration and Image Visualization for Low Cover Analysis in Ohio	-\$11,114.33	2004
Geological Survey	Sustaining Land Remote Sensing Education and Research in Ohio	\$89,500.00	2005
Geological Survey	Transport and Fate of Iron Nanoparticles in Groundwater	\$19,899.00	2005
Geological Survey	Geologic Map of the Serpent Mound Impact Structure	\$16,865.00	2011
Geological Survey	Cooperative Ecosystem Studies Unit, Southern Appalachian Mountains CESU	\$41,245.00	2018
National Oceanic & Atmospheric Administration	US GLOBEC: Dormancy in Calanus Finmarchicus- Individual Variability in Morphology, Physiology, and Biochemical Composition During Overwintering in the Gulf of Maine	\$60,000.00	2000
National Oceanic & Atmospheric Administration	Developing a By-catch Reduction Device for the Commercial Eel Pot Fishery to Reduce Diamondback Terrapins Mortality	\$9,833.00	2002
National Oceanic & Atmospheric Administration	Fourth Symposium on the Ecology and Conservation of the Diamondback Terrapin	\$500.00	2007
National Oceanic & Atmospheric Administration	Fourth Symposium on the Ecology and Conservation of the Diamondback Terrapin	\$1,000.00	2007
National Oceanic & Atmospheric Administration	Fourth Symposium on the Ecology, Status and Conservation of the Diamondback Terrapin	\$1,000.00	2007
National Oceanic & Atmospheric Administration	A study of nutrient dynamics in Old Woman Creek using Neural Networks and Bayesian Inference	\$19,998.00	2008
National Park Service	Invasiveness of an Exotic Snail in the Greater Yellowstone Ecosystem: Performance	\$10,670.00	2001
National Park Service	NAGPRA Documentation Grant	\$52,010.00	2003
National Park Service	Network to Freedom	\$11,750.00	2010
National Park Service	SCORP Survey 2017	\$31,446.00	2017
National Park Service	Water Balance Analysis of National Park Units in the Eastern U.S.	\$16,576.85	2017

Description or list of current formal agreements and informal relationships with federal agencies that are of relevance to federal land management, environmental, and research agencies that will be engaged in CESU activities.

As of April 2016, Ohio University is a member to the Southern Appalachia CESU.

Confirmation of the institution's/organization's willingness to accept a limited overhead rate of 17.5% and cost items to which the rate is applicable for activities conducted through the CESU, including research, technical assistance, and educational services.

Ohio University will formally agree to and extend the 17.5% overhead rate with the Chesapeake Watershed CESU partners by signing the formal agreement once the Chesapeake Watershed CESU induction process has been completed.

Designation of a technical representative to serve on the CESU steering committee, participate in CESU annual/semi-annual partner meetings, and facilitate internal and external communication, promotion, and response to CESU correspondence and administrative actions.

The initial technical representative for Ohio University is designated as:

Laura L. Jensen, M.P.H.
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Agreement to relay agency-specific research, technical assistance, and educational needs and associated funding opportunities to other institutional/organizational members

Ohio University has a long history of cooperating with other academies institutions on research across the country and around the world. As a Chesapeake Watershed CESU member, we would intend to continue as needed to identify the most appropriate project team to solve any problem placed before our institution.

Signature (or endorsement) from an appropriate official, with authority to commit institutional resources in a binding multi-year federal cooperative and joint venture agreement (e.g., president, executive director, chief financial officer, vice president for research, director of sponsored programs)

See Cover Letter

Letter(s) of support from one or more CESU federal agency partners sponsoring the new partner's application, including a description of successful past collaborative work supported through federal financial assistance awards.

Please find attached a letter is attached from the US Forest Service regarding one avenue of support activities carried out at Ohio University.

Below is an additional note from a current project sponsor at the U.S. Army Corps of Engineers:

"18 January 2018

Dr. Willem Roosenburg of Ohio University Letter of Recommendation.

Dr. Roosenburg has worked with the U.S Army Corps of Engineers at the Poplar Island restoration project in Maryland since 2002. He has set up a monitoring and scientific study for terrapins in addition to participating in outreach activities with science teachers and school children as well as public relations and media events. He has provided a valuable educational experience for his students. His annual reports are excellent and his presentations are clear and concise.

Mark Mendelsohn
Biologist USACE
10. South Howard Street
Baltimore Maryland 21012"

Date: July 13, 2015

Dr. Brian McCarthy's collaboration with Forest Service Research

Ohio University Professor Dr. Brian McCarthy has participated with our Forest Service Research Unit on several projects. From 1995 to 1997, Dr. McCarthy documented changes in understory light before and after prescribed fire treatments in oak stands. This study was funded by the Washington Office of the Forest Service. Also, from 2000 to 2004, Dr. McCarthy was the lead scientist on the tree regeneration and fuels components of the Fire and Fire Surrogate Study, funded by the Joint Fire Science Program. In both projects, Dr. McCarthy and his graduate students were key team members in large multidisciplinary studies, led by the Forest Service. The research was done in a timely manner, and was of high quality, resulting in peer-reviewed publications.

We have continued to collaborate with Dr. McCarthy on other projects, in which Dr. McCarthy obtained funding from other sources. Currently, a graduate student of Dr. McCarthy's is studying the effects of prescribed fire on American chestnut seedlings on our Vinton Furnace Experimental Forest.

Sincerely,

/s/Todd F. Hutchinson

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