



April 2, 2012

Robert H. Gardner  
Appalachian Laboratory  
University of Maryland Center for Environmental Science  
301 Braddock Road  
Frostburg, MD 21532

Dear Dr. Gardner:

I am pleased to endorse the enclosed application from the University of Richmond for consideration of partnership with the Chesapeake Watershed Cooperative Ecosystems Studies Unit.

The University of Richmond is a distinctive institution that provides the depth and expertise found at larger universities yet offers the flexibility and individualized contact among students and faculty that are the hallmarks of the nation's best small liberal arts colleges. We believe that several of our faculty, as noted in the enclosed overview, have the knowledge and experience to make significant contributions to the Ecosystems Studies Unit. I am pleased to note that we include representatives from each of our five schools, signaling our involvement in the interdisciplinarity of environmental studies.

Richmond further supports study and protection of the environment with, for example, a full time Director of Sustainability (<http://sustainability.richmond.edu>), several LEED-certified buildings, and President Ed Ayers' signature on the American College and University Presidents' Climate Commitment. Therefore, Richmond's participation in the CW CESU is an excellent next step for our faculty and students.

We are grateful for your consideration of our application, and urge you to contact Dr. Todd Lookingbill, [tlooking@richmond.edu](mailto:tlooking@richmond.edu), 804-289-8265 should you have any questions or need clarification on any aspect of our application.

Sincerely,

A handwritten signature in black ink, appearing to read "S. Allred".

Stephen Allred  
Provost and Vice President for Academic Affairs

**Provost and Vice President for Academic Affairs**  
28 Westhampton Way  
University of Richmond, VA 23173  
(804) 289-8153 Fax: (804) 287-1296

richmond.edu



## **Application to Join the Chesapeake Watershed Cooperative Ecosystem Studies Unit (CW CESU)**

### **Who we are.....**

The University of Richmond is a private, nonsectarian, liberal arts university located on the border of the city of Richmond and Henrico County, Virginia. The University of Richmond is a primarily undergraduate, residential university with approximately 4,500 undergraduate and graduate students in five schools: the school of Arts and Sciences, the E. Claiborne Robins School of Business, the Jepson School of Leadership Studies, the School of Law, and the School of Professional & Continuing Studies. See [www.richmond.edu](http://www.richmond.edu).

### **Our Mission.....**

The University of Richmond is committed to developing a diverse workforce and student body and to modeling an inclusive campus community which values the expression of differences in ways that promote excellence in teaching, learning, personal development, and institutional success. The five tenets of our strategic plan, the *Richmond Promise* include:

- *A learning environment unlike any other in higher education*, offering students an extraordinary combination of traditional strengths in the liberal arts with law, business, leadership studies, and continuing education.
- *A distinctly integrated student experience*, coordinating a rich and innovative life for students inside and outside of the classroom, with excellent programs as varied as international study, arts, and athletics.
- *A defining spirit of opportunity and welcome to excellent students, faculty, and staff of all means and backgrounds*, sustained through a bold program of financial aid, a dedication to fairness in all that we do, and an authentic culture of inclusivity that seeks and prizes diversity of experience, belief, and thought.
- *A determination to engage as a meaningful part of the Richmond community*, of the nation, and of the world, drawing on our long commitment and well-established foundations for such work.
- *A commitment to operate as a model institution of higher education*, sustaining a superb faculty and staff and administering the institution with the highest standards of innovation and professionalism.

## **Where we are located.....**

*University of Richmond*  
28 Westhampton Way  
University of Richmond, Virginia 23173  
[www.richmond.edu](http://www.richmond.edu)

**The individuals and their expertise our University can contribute to the CW CESU** (in the School of Arts and Sciences unless otherwise noted):

**Jory Brinkerhoff**, *Assistant Professor of Biology*: Dr. Brinkerhoff is a disease ecologist, interested in the epidemiology of vector-borne diseases and host-parasite relationships. His recent studies include the investigation of the regional variation in tick parasitism and its implications for the spread of Lyme disease.

**Donelson Forsyth**, *Professor, Colonel Leo K. & Gaylee Thorsness Endowed Chair in Ethical Leadership, School of Leadership Studies*: Dr. Forsyth is a social psychologist who studies environmental ethics and the determinants of pro-environmental action. He has experience working with interdisciplinary teams in the study of urban watersheds, identifying factors that can promote community engagement in environmental issues.

**John Hayden**, *Professor of Biology*: Dr. Hayden's areas of expertise include anatomy, morphology, and systematics of vascular plants, in the context of elucidating phylogeny, producing systematic monographs, and contributing to floristic inventories.

**Malcolm Hill**, *Associate Dean and Associate Professor of Biology*: Dr. Hill's projects focus on the evolutionary ecology of sponges (and other invertebrates) in temperate and tropical marine systems. Using molecular and field-based techniques, he studies factors that influence population characteristics and community structure and function (e.g., symbiosis, predator-prey dynamics, morphological plasticity and anti-predator defenses).

**David Kitchen**, *Associate Dean and Director of Summer Programs in the School of Professional and Continuing Studies*: A geologist by training, Dr. Kitchen is an active participant in NASA's Climate Education Program and is just completing a book for Pearson/Prentice Hall on climate change science and policy. He has been teaching climate related courses for eight years at the University.

**Kimberley Klinker**, *Professor of Practice of Geography, and Director of the Spatial Analysis Lab*: Ms. Klinker has over ten years of experience applying Geographic Information Systems to practical problem solving. Recently, she has been focusing her work on geospatial questions of change within the James River Watershed.

**Andy Litteral**, *Associate Professor and Chair, Department of Management, Robins School of Business*: Dr. Litteral's interest in water policy issues is long-standing, but was heightened recently in the teaching of a First-Year Seminar, "Water: Economics, Politics and Policy," in which he and students explored the tension between the economic benefits and potential environmental impacts of controversial issues related to watershed management.

**Todd Lookingbill**, *Assistant Professor of Geography and the Environment, Assistant Professor of Biology*: Dr. Lookingbill's primary research interests are related to landscape ecology, specializing in the study of movement of wildlife and water through fragmented ecosystems. He has worked extensively with the U.S. National Park Service (I&M, NNL, and NRCA programs among others) on their landscape monitoring and environmental assessment methodologies.

**Rafael de Sà**, *Professor of Biology*: Dr. de Sà conducts systematics and phylogenetic reconstruction using morphological molecular approaches. His primary research focuses on systematics, evolution, and development of amphibians and reptiles. He also researches sexual selection and evolution in freshwater fishes.

**Noah Sachs**, *Associate Professor and Director, Robert R. Merhige, Jr. Center for Environmental Studies, School of Law*. His research interests are environmental law, climate change, hazardous waste, and land use.

**Peter Smallwood**, *Associate Professor of Biology*: Dr. Smallwood's research focuses in behavioral ecology: foraging and storing strategies of small mammals; interactions between squirrels, mice, and other small animals and the oaks they depend upon for their winter food supply; foraging and mating strategies of spiders. In recent years, he has become more involved in science policy and conservation at the state, national, and international level.

**Christopher Stevenson**, *Associate Professor of Chemistry, Program Coordinator for Environmental Studies*: Dr. Stevenson's research is concentrated into two main areas: 1) the analysis of complex mixtures using novel spectroscopic methods and modern data processing methods; and 2) the analysis of samples in a turbid medium. The primary application of Dr. Stevenson's research is in the screening of environmental samples "in-field."

**Amy Treonis**, *Associate Professor of Biology*: Dr. Treonis studies the organisms that live below ground (bacteria, fungi, protozoa, and nematodes), interacting with plants, each other, and their environment. She uses molecular, microscopic, and stable isotope techniques to study the important role that microscopic soil organisms play in decomposition and nutrient cycling. Dr. Treonis currently is studying nematode and microbial ecology in arid ecosystems and at regional field sites (granite rock outcrops of the Piedmont region).

**Carrie Wu, Assistant Professor of Biology:** Dr. Wu's research investigates the mechanisms of adaptive differentiation and speciation. She is especially interested in how plants respond to their local environments, and the role those adaptations play in diversification at the genomic, population, and species levels. Her research combines observations of natural populations and experimental manipulations in the field and greenhouse with tools from quantitative genetics and physiological ecology.

### **How we can contribute to the CW CESU Mission and Vision.....**

The CW CESU promotes stewardship and integrated ecosystem management of natural and cultural resources within the Chesapeake Bay watershed through collaborative research, technical assistance and education. Our faculty have expertise and experience across disciplines ranging from the social to physical sciences to law. Through our strategic plan, the *Richmond Promise*, we are committed to providing a distinct research experience to a diverse student body that includes significant interaction with our community neighbors. This includes ample opportunities to engage in community-based learning where classes are taught with significant field components and/or interactions with community partners. The University's Bonner Center for Civic Engagement was established in 2004 to help facilitate these interactions and helps place multiple students a year in internships with the James River Park System among others in the local community.

Located within the Chesapeake Bay watershed and within walking distance to the James River, the University of Richmond is an urban campus, grappling first-hand with the challenges of land management within a highly developed landscape. The University's leadership has recently increased its commitment to environmental protection and preservation, and has launched a series of practical and educational initiatives that are consistent with good environmental practice (e.g., on-campus composting, environmentally themed dorms, community gardens, local produce programs for faculty and staff, hiring of a sustainability coordinator, residence hall energy monitoring). As evidenced by the large student, faculty, and staff participation in these initiatives, interest in natural resource stewardship is high at all levels of the University.

In addition to traditional departments such as Biology, Chemistry, and Geography, resources can be drawn from the University's Program in Environment Studies. The Environmental Studies program is an integrated, cross-school, interdisciplinary program consisting of courses in environmental science, policy, economics, and related fields. The program was initiated in 2001 and currently graduates 10-15 majors and 5-7 minors per year. Our proposal also includes faculty from the University's School of Leadership Studies, School of Law, and School of Professional & Continuing Studies. The University has 57 majors and is ranked in the top 35 nationally for undergraduate research by *U.S. News & World Report*.

Faculty members at the University routinely integrate their research into teaching and engage students as research assistants, collaborators, co-authors and co-presenters at national conferences. Each year, Richmond faculty members make invaluable contributions to society through their research, and have attracted more than \$10.4 million in research grants over the past five years, in addition to more than \$28.4 million in grants for other non-research projects.

Prior engagement with Federal agency partners include:

- 15 to 20 active National Science Foundation (NSF) grants at any given time, in Biology, Chemistry, Neuroscience, Mathematics, Computer Science, Economics, and Physics, for research and acquisition of instrumentation.
- Ongoing support for nuclear physics research for two faculty from the US Department of Energy.
- Other federal funding agencies include the National Institutes of Health, US Dept of Education, National Endowment for the Humanities, NASA, US Dept. of Defense, and National Park Service.
- In addition, we administer a number of awards in a variety of disciplines from private and state funding agencies.

The *Science Initiative* was one of the highest priorities in the University's previous strategic plan, and included a curriculum revision and comprehensive upgrade of the science facilities involving more than \$60 million in program enhancements and a \$35 million renovation of the Gottwald Center for the Sciences. Renovations were completed in spring 2006. The results provide increased opportunities for faculty-student research; addition of 18 new science faculty, bringing the total to 44; greater emphasis on interdisciplinary studies such as new majors in biochemistry and molecular biology and a 3-2 engineering program; state-of-the-art instrumentation in every laboratory; and the development of innovative science experiences for non-science majors. A second round of *Science Initiative* funding is scheduled to commence next year. Through these efforts, the University has developed working relationships for faculty and students to participate in research at sites locally and around the world.

The University is committed to encouraging women and minority students toward careers in the sciences, through active recruiting of high school students interested in the sciences, by offering merit scholarships and need-blind admissions, by nurturing them through peer mentoring for academic progress and socialization, and through faculty advising and guided research experiences. Efforts are ongoing to increase the number of American minority students. An increasing number of female students are electing to major in the sciences, and the University is committed to their success. The Women Involved in Living and Learning (WILL) Program is a University program, replicated elsewhere, that strengthens and expands the leadership qualities, analytical skills, and self-esteem of undergraduate women through

Women's Studies coursework and women/gender-focused programming experiences, often including the sciences. The University has increased the number of female science faculty members, and at present 32% of the full time science faculty are women, as are many of the science lab managers and adjunct professors.

**Administrative Point of Contact:**

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