

SUMMARY
Faculty Research Leaves (82)
2019-20

Study Research Leave (19) (one-half salary for up to one year)

College of Agriculture and Life Sciences	3
College of Architecture and Urban Studies	3
College of Engineering	3
College of Liberal Arts and Human Sciences	7
College of Natural Resources and Environment	0
College of Science	3
Pamplin College of Business	0
University Libraries	0
Virginia-Maryland Regional College of Veterinary Medicine	0

Research Assignment (63) (full salary for one semester)

College of Agriculture and Life Sciences	5
College of Architecture and Urban Studies	7
College of Engineering	10
College of Liberal Arts and Human Sciences	17
College of Natural Resources and Environment	6
College of Science	14
Pamplin College of Business	4
University Libraries	0
Virginia-Maryland Regional College of Veterinary Medicine	0

RECOMMENDATION:

That the above study-research and research assignment leaves be approved as requested.

April 1, 2019

FACULTY RESEARCH LEAVES

2019-20

Virginia Tech provides tenured faculty, and faculty on continued appointment, with opportunities that include paid leave for intensive study or research that advances the individual's profession and contributions to the university.

The following faculty members are requesting study-research leave (one-half salary for up to one year) for the purpose and period of time specified:

College of Agriculture and Life Sciences (3)

Hession, W.C., professor, Biological Systems Engineering, academic year 2019-20; to collaborate with colleagues in Germany and Austria to expand ongoing data visualization and immersive environments research, education, and outreach efforts related to stream and river monitoring and management (Virginia; Germany; Austria)

Owen, James, associate professor, School of Plant & Environmental Sciences, academic year 2019-20; to conduct innovative research and build a unique collaborative relationship with one of the only internationally recognized programs in container growing media and irrigation that yield both insight into basic scientific principles and readily available applications for industry. (Canada)

Westwood, James, professor, School of Plant & Environmental Sciences, academic year 2019-20; to collaborate with colleagues in France on research leading to greater understanding of parasitic plant interactions with host plants, focusing on understanding the exchange of molecules between parasitic plants and their hosts. (France)

College of Architecture and Urban Studies (3)

Kennedy, Brook, associate professor, School of Architecture + Design, academic year 2019-20; to undertake research on the Fog Harp water harvesting device, and focus on production of a book manuscript tentatively titled *Histovation: Looking Back to Move Forward*. (Peru; Switzerland; United Arab Emirates)

Misra, Shalini, associate professor, School of Public and International Affairs, academic year 2019-20; to initiate a book project tentatively titled *The Digital Mind: Thinking in an Age of Fleeting Attention*. (Washington, DC; Germany)

Tucker, Thomas, associate professor, School of Visual Arts, academic year 2019-20; to collaborate with cutting edge institutions based in New Zealand to learn the newest developments in Virtual and Augmented Reality methodologies. (New Zealand)

College of Engineering (3)

Dietrich, Andrea, professor, Department of Civil and Environmental Engineering, spring and fall 2020; to develop the content for textbook, tentatively titled *Water Quality and Interactions at the Water-Air Interface*, and to collaborate with colleagues in Barcelona, Spain on desalination and consumer's perception with their drinking water. (Blacksburg, VA; Barcelona, Spain)

Gabler, H. Clay, professor, School of Biomedical Engineering and Sciences, 2019-20; to conduct advanced research in the crash and injury prevention with vulnerable road users to support the development of new automated technologies to reduce the number of pedestrians, bicyclists, and motorcyclists fatally injured each year in the US. (Florence, Italy)

Gallagher, Daniel, professor, Department of Civil and Environmental Engineering, spring and fall 2020; to learn the necessary skills for reproducible research, implement the process for two USDA food safety risk assessments, and integrate the use of this method of documentation into existing courses. (Colorado; Pennsylvania; Virginia; Washington DC)

College of Liberal Arts & Human Sciences (7)

Abbate, Janet, professor, Department of Science and Technology in Society, spring 2020; to complete a monograph entitled *From Brain to Algorithm*, a cultural and policy history of computer science. (Virginia)

Allen, Barbara, professor, Department of Science and Technology in Society, fall 2019; to lead the writing and completion of 2 major peer-reviewed articles for submission and publication in key journals, and to complete a first draft of a book proposal project on the concept of "knowledge justice" and its importance for shaping policy-relevant environmental health science and citizen-driven policy change. (Virginia)

Hofer, Stefanie, associate professor, Department of Modern and Classical Languages and Literatures, spring 2020; to work on a book manuscript dedicated to trauma, memory, and healing and the ramifications of cultural texts in posttraumatic restoration from the perspective of a trauma victim. (Blacksburg, VA)

Labuski, Christine, associate professor, Department of Sociology, academic year 2019-20; to conduct collaborative research on the theorization and implementation of feminist energy systems, and to develop an edited volume organized around the Gender, Bodies, & Technology initiative. (Blacksburg, VA)

Schneider, Helen, associate professor, Department of History, academic year 2019-20; to conduct further research and further develop a monograph entitled *Chinese Women and Social Mobilization in War and Reconstruction (1937-1950)*. (Blacksburg, VA; Washington, DC; China)

Scott, Rachel, associate professor, Department of Religion and Culture, fall 2019; to edit and finalize a book manuscript currently under review entitled *Recasting Islamic Law: Islamo-Secularism and the Egyptian Constitution*, and develop course materials for two new courses. (Blacksburg, VA)

Ulrich, Catherine, associate professor, School of Education, academic year 2019-20; to test the utility of a current student learning framework in a whole-class setting through a partnership with a local high-needs high school. (Christiansburg, VA)

College of Science (3)

Chung, Matthias, associate professor, Department of Mathematics, academic year 2019-20; to develop new methods on parameter and uncertainty estimation for dynamical systems and intensify research collaborations, and to write textbook for the CMDA major on mathematical modeling and data science. (Berlin, Germany)

Kim-Spoon, Jungmeen, professor, Department of Psychology, academic year 2019-20; to generate manuscripts for publication based on grant data that have been collected and are currently being collected and to prepare and submit an Independent Scientist Award grant proposal to National Institutes of Health. (Blacksburg, VA)

Winkel, Brenda, professor, Department of Biological Sciences, academic year 2019-20; to learn new technologies for the detection of protein-DNA interactions in plant cells, related to long-standing work in laboratory on alternative functions of the enzymes involved in flavonoid metabolism. (Toulouse, France)

The following faculty members are requesting research assignments (full salary for one semester) for the purpose and period of time specified:

College of Agriculture and Life Sciences (5)

Barney, Jacob, associate professor, School of Plant and Environmental Sciences, fall 2019; to learn new modeling and statistical methods, and develop new projects in collaboration with colleagues at University of California Davis, and to conduct research contributing to a new book manuscript. (Davis, CA; Berkeley, CA).

Good, Deborah, associate professor, Department of Human Nutrition, Foods, and Exercise, fall 2019; to collaborate with Sigma XI, the Scientific Research Honor Society, to gather data from their over 30,000 members, and analyze the extent and success of undergraduate research programs that support diverse learning environments. (Research Triangle, NC)

Schmale, David, associate professor, School of Plant and Environmental Sciences, spring 2020; to collaborate, in association with the Fulbright program, with colleagues at the University of Waikato to develop new remote-sensing capabilities to sense and respond to harmful algal blooms and improve water security. (Waikato, New Zealand).

Senger, Ryan, associate professor, Biological Systems Engineering, fall 2019; to translate two inventions by applying them to human patients receiving dialysis therapy for end-stage renal disease. (Winston-Salem, VA; Salem, VA).

Stephenson, Kurt, professor, Department of Agricultural and Applied Economics, spring 2020; to work with a small team of experts to establish an economic framework for prioritizing dam removals to enhance outdoor recreational experiences, support habitat and species recovery, and reduce the risk of accidents and downstream damages. (Washington DC).

College of Architecture and Urban Studies (7)

Blanchard, Samuel, associate professor, School of Visual Arts, spring 2020; to expand and update skill-set in digital fabrication (e.g. 6 axis robotics, large format 30 printing) through personal research, project development and hands-on training during several short-term national and international residencies. (California; Massachusetts; Canada)

Edge, Kay associate professor, School of Architecture + Design, spring 2020; to identify and develop opportunities to use and publicize Virginia hardwood CL T (cross-laminated timber) through the development of a university center (the Center for Low-Carbon Structures and Systems). (Blacksburg, VA)

Lemaire, Robin, associate professor, Center for Public Administration and Policy, fall 2019; to continue the study of four organizational networks in the New River Valley by working to secure external funding to expand these research efforts to inform efforts to build and sustain networks formed to improve the health and well-being of communities. (New River Valley, VA)

Martin, Shelley, associate professor, School of Architecture + Design, fall 2019; to produce a manuscript for publication that presents design thinking programs and exercises as a primer for academic courses and organizations interested in collaborative design practices. (New York, NY; Blacksburg, VA)

McGrath, Margarita, associate professor, School of Architecture + Design, fall 2019; to develop new forms of expression aimed at broadening the audience for scholarly and creative work, including the development of an edited volume and the submission of grant proposals. (Brooklyn, NY)

Wheeler, Joseph, professor, School of Architecture + Design, spring 2020; to research of state of the art modular construction processes and full scale prototyping in an effort to advance research around Virginia Tech's FutureHAUS program. (California; Virginia; Sweden)

Zhang, Yang, associate professor, School of Public and International Affairs, spring 2020; to further a book project on disaster resilience through post-disaster recovery based on case studies accumulated that include Hurricanes Andrew, Ike, Sandy, the Indian Ocean Tsunami, and the Great Tangshan Earthquake, among others. (Blacksburg, VA)

College of Engineering (10)

Abbas, Montasir, professor, Department of Civil and Environmental Engineering, fall 2019; to study and incorporate the latest advances in machine learning and artificial intelligence techniques into current research on transportation modeling and control, and to explore novel collaboration activities with non-engineering researchers/professors. (California; Virginia; the Netherlands)

He, Zhen, professor, Department of Civil and Environmental Engineering, spring 2020; to perform intensive research with a focus on large proposals to federal agencies and center-grants for enhancing VT-industry cooperation. (Blacksburg, VA)

Hin, Celine, associate professor, Department of Mechanical Engineering/Materials Science and Engineering, fall 2019; to learn, conduct, and analyze experiments that contribute to enhancements to fuel cladding for the next generation of nuclear reactors. (Gif-sur-Yvette, France)

Kong, Zhenyu, associate professor, Department of Industrial and Systems Engineering, fall 2019; to build relationships with research partners for potential collaborations, and develop a new curriculum. (Nebraska; Texas; Virginia)

Leon, Roberto, professor, Department of Civil and Environmental Engineering, spring 2020; to develop a new manuscript for a book on composite steel-concrete construction that highlights the contributions of VT to this important field in the construction industry. (Australia; China; Italy; Japan; New Zealand; Singapore)

Lu, Kathy, professor, Department of Materials Science and Engineering, spring 2019; to build lasting and synergetic research partnerships related to nuclear materials, fuel cells, and energy storage materials. (Italy; Sweden)

North, Christopher, professor, Department of Computer Science, spring 2020; to establish new collaborations in the research area of immersive big-data analytics, and the education topic of data science. (Mānoa, Hawaii)

Vandevord, Pam, professor, School of Biomedical Engineering and Sciences, spring 2020; to explore and better understand the physical and psychological stress that influences brain health and recovery after injury. (Medicine Hat, Canada)

Wang, Linbing, professor, Department of Civil and Environmental Engineering, fall 2019; to further develop an existing collaboration to formally establish a joint center to promote faculty and student exchange, and to write a book on safety of interdependent infrastructure. (Beijing, China)

Xuan, Jason, professor, Department of Electrical and Computer Engineering, spring 2020; to conduct bioinformatics research on developing novel machine learning methods to analyze large-scale genomic data for cancer diagnosis and treatment. (Baltimore, MD)

College of Liberal Arts and Human Sciences (17)

Abeysekara, Ananda, associate professor, Department of Religion and Culture, spring 2020; to conduct research of primary and secondary sources on why the relation between temporality and tradition has often been neglected in the studies of Theravada Buddhism. (Blacksburg, VA)

Ansell, Aaron, associate professor, Department of Religion and Culture, spring 2020; to complete a draft book manuscript focusing on the rise of the "extreme right" in Brazil and its transformative effects on rural Brazilian political culture in the early 21st Century. (Blacksburg, VA)

Azano, Amy, associate professor, School of Education, spring 2020; to conduct research related to two book projects addressing the importance and value of rural communities and classrooms, and the serious issue of social justice affecting marginalized populations of geographically remote communities in our region and beyond. (Blacksburg, VA)

Barrow, Mark, professor, Department of History, fall 2019; to continue research and begin drafting a book manuscript on the cultural and environmental history of the American alligator. (Blacksburg, VA)

Bigler, Dwight associate professor, School of Performing Arts|Music|Theatre|Cinema, fall 2019; to compose an hour-long major work for choir and orchestra inspired by Barbara Wolff's work "Psalm 104: The Ten Illuminations," engaging both celebratory texts and texts addressing current environmental issues. (Montana; New Hampshire; Virginia; Wyoming)

Dickow, Alex, associate professor, Department of Modern and Classical Languages and Literatures, spring 2020; to conduct research for a book project that seeks to theorize the fundamental mechanisms of canon formation, and how these mechanisms relate to literary form. (Blacksburg, VA)

Dubinsky, Jim, associate professor, Department of English, spring 2020; to begin work on a book project that is a historical and rhetorical study of poets (in the Aristotelian sense that would include poets and playwrights), who served in combat. (Blacksburg, VA; Washington, DC)

Falco, Ed, professor, Department of English, spring 2020; to begin work on a new play, and to explore production possibilities for a prior play *The Miscreant*, as well as other earlier plays. (Blacksburg, VA)

Jantzen, Ben, associate professor, Department of Philosophy, fall 2019; to complete a series of experiments guided by the suite of previously designed automated discovery

algorithms aimed at showing that these algorithms are capable of autonomously "reimagining" a domain of science and producing entirely novel physical models. (Blacksburg, VA)

Mullen, Carol, professor, School of Education, fall 2019; to complete phase III of a longitudinal global study exploring how the educational community understands creativity in accountability-bound cultures. (Sydney, Australia)

Olson, Phil, associate professor, Department of Science and Technology in Society, fall 2019; to further develop a book manuscript on the U.S. home funeral movement, and to conduct research on coastal cemeteries in the Chesapeake Bay. (Minnesota; Virginia)

Quigley, Paul, associate professor, Department of History, fall 2019; to begin drafting a book manuscript about Preston Brooks, the South Carolina congressman who in 1856 assaulted Massachusetts Senator Charles Sumner with a cane on the floor of the U.S. Senate. The book explores Brooks as a man and a symbol to reinterpret the long-term causes of the American Civil War. (Blacksburg, VA)

Roy, Lucinda, professor, Department of English, spring 2020; to further the development of book of ekphrastic poems inspired by African/African Diasporic art, building on a prior project *Fabric*, which featured a section of ekphrastic poems inspired by African masks in the Virginia Museum of Fine Arts. (Virginia; United Kingdom; Jamaica)

Shryock, Richard, associate professor, Department of Modern and Classical Languages and Literatures, fall 2019; to create as accurate of an accounting as possible for literary works pursued by the courts during the early Third Republic in France in order to understand the impact of government censorship. (Paris, France)

Smith, Cynthia, associate professor, Department of Human Development and Family Science, fall 2019; to work towards external grant funding and producing publications in the areas of children's emotional development and aspects of parental emotion socialization. (Arizona; Pennsylvania; Virginia)

Wells, John, associate professor, School of Education, spring 2020; to conduct analysis of Design Based Learning (DBBL) data, with the intent of publishing several articles addressing the validity of DBBL for promoting critical thinking and problem solving abilities (higher order thinking skills), and for mitigating barriers to implementation through changes in teacher practices. (Blacksburg, VA)

Winling, LaDale, associate professor, Department of History, fall 2019; to conduct research and begin drafting a book manuscript, provisionally titled *Chicago and the Making of American Real Estate*. (Illinois; Virginia; Washington D.C.)

College of Natural Resources and Environment (6)

Baird, Tim, associate professor, Department of Geography, fall 2019; to conduct collaborative research with colleagues in Europe researching human/environment interactions in Sub-Saharan Africa. (Cologne, Germany)

Brunner, Amy, associate professor, Department of Forest Resources and Environmental Conservation, spring 2020; to incorporate new research methods, expand collaborations, gain knowledge of forest tree genomics research in other regions, develop grant proposals and write reviews, including forward-looking synthesis of post-genomic forest tree research. (Blacksburg, VA)

Carstensen Laurence, professor, Department of Geography, fall 2019; to learn how to develop 3D immersive environments through the Unity software used in the Cube, and to travel to New Zealand to develop and advance the field data collection techniques and locales related to enhance existing courses at Virginia Tech. (Blacksburg, VA; New Zealand)

Hammett, Tom, professor, Department of Sustainable Biomaterials, fall 2019; to organize and conduct two major conferences during the last half of 2019 related to a wood products extension/outreach program and will form the basis for a wood-based curriculum. (Blacksburg, VA; Nepal)

Orth, Donald, professor, Department of Fish and Wildlife Conservation, fall 2019; to further develop a book project on fish, fishing, and conservation targeted to nonspecialists that describes the conservation dilemmas, principles, and stories about people and organizations devoted to the conservation of fishes, locally and globally. (Blacksburg, VA)

Smith, Robert, professor, Department of Sustainable Biomaterials, fall 2019; to complete a book on the international marketing forest products and to build stronger relationships with two international wood products programs at the University of Applied Sciences in Austria and the Department of Technology at the University of Primorska in Slovenia. (Michigan; Austria; Slovenia)

College of Science (14)

Adjerid, Slimane, professor, Department of Mathematics, fall 2019; to investigate new immersed finite element methods to efficiently solve problems in science and engineering modeling the coupling of multiple physics such as fluid-structures and acoustics-elasticity wave problems. (Austin, Texas; Knoxville, Tennessee)

Diana, Rachel, associate professor, Department of Psychology, spring 2020; to develop a research paradigm, collect pilot data, and submit a grant proposal on the topic of involuntary memory retrieval. (Blacksburg, VA)

Huber, Patrick, professor, Department of Physics, spring 2020; to conduct individual and collaborative research on the science of coherent elastic neutrino nucleus scattering at

nuclear reactors and its translation this into constraints on neutrino nucleus scattering at higher energies. (Blacksburg, VA)

Long, Timothy, professor, Department of Chemistry, spring 2020; to learn complementary fields and disciplines in areas that align with macromolecules at the interface of engineering and chemistry, and specifically in additive manufacturing advances and technologies. (California; Spain)

Matson, John, associate professor, Department of Chemistry, spring 2020; to enhance knowledge of materials made using a process called self-assembly, in which small components are designed such that they mix together to give ordered structures. (Mainz, Germany)

McGlothlin, Joel, associate professor, Department of Biological Sciences, fall 2019; to develop network-based models for the evolution of social behavior, and further develop several recently initiated research collaborations. (Kentucky; Pennsylvania; Virginia)

Piilonen, Leo, professor, Department of Physics, spring 2020; to investigate data from the first year of an experiment to see if there is evidence of novel subatomic physics processes and particles. (Tsukuba, Japan)

Richey, John, associate professor, Department of Psychology, fall 2019; to develop and submit a grant proposal to the National Institutes of Health and further develop relationships with off-site collaborators. (California; Massachusetts; Rhode Island)

Sharpe, Eric, professor, Department of Physics, spring 2020; to further develop existing research collaborations, establish new collaborations, and develop skills in current disciplinary interests. (California; Switzerland; United Kingdom)

Spanos, Aris, professor, Department of Economics, spring 2020; to compete several ongoing research projects and submit the resulting papers for publication, and to prepare for publication a textbook entitled *Econometric Modeling with Cross-section and Panel Data*. (United Kingdom; Cyprus)

Stephens, Robert, professor, Department of Psychology, spring 2020; to explore new collaborations with investigators at VT and University of Washington on the causes and treatments of substance abuse, with a goal of submitting grant proposals to fund new studies. (Virginia; Washington)

Tauber, Uwe, professor, Department of Physics, fall 2019; to pursue cutting-edge theoretical/computational research in collaboration with expert faculty at the host universities, with a goal of advancing current as well as initiating new research projects aligned with grant awarded by the U.S. Army Research Office and the U.S. Department of Energy. (Germany; Italy; Portugal; United Kingdom)

Troya, Diego, associate professor, Department of Chemistry, fall 2019; to broaden skill set in chemical theory and computation by performing biomolecular simulations, and to

gain expertise in the health-related sciences and leverage Virginia Tech's growing drug discovery and medical portfolio. (La Rioja, Spain)

Tsang, Kwok Ping, associate professor, Department of Economics, spring 2020; to conduct collaborative work towards the publication of research papers related to topics including the stock price and dividend relationship, housing markets, and historical prices in China. (Massachusetts; Hong Kong; Taiwan)

Pamplin College of Business (4)

Herr, Paul, professor, Department of Marketing, fall 2019; to complete a manuscript with on sample size, statistical power, and further advance several other research publications at varying stages of development towards publications. (Blacksburg, VA)

Mansi, Sattar, professor, Department of Finance, Insurance, and Business Law, spring 2020; to develop for publication a paper that will test existing theories on the relation between the information that shareholder distraction in equity market provides to participants in the publicly traded bond market and the consequence of this distraction on the cost of borrowing. (Blacksburg, VA)

Seref, Onur, associate professor, Department of Business Information Technology, spring 2020; to conduct research and prepare papers related to two areas: one is to quantify and characterize persuasion in decision making with rhetoric mining, and the other is to introduce context maps for visualization in multiple domains and disciplines. (Blacksburg, VA)

Xiang, Zheng, associate professor, Department of Hospitality and Tourism Management, spring 2020; to complete the editorial work on the *Handbook of eTourism*, due to be published by Springer mid-2020, and to analyze several data sets to understand the business value of user-generated contents in Hospitality and Tourism Management. (Blacksburg, VA)