

## SUMMARY

### Faculty Research Leaves (63)

2017-18

#### **Study Research Leave (16) (one-half salary for up to one year)**

College of Agriculture and Life Sciences (0)

College of Architecture and Urban Studies (2)

College of Liberal Arts and Human Sciences (2)

College of Natural Resources and Environment (0)

College of Engineering (9)

College of Science (3)

Pamplin College of Business (0)

University Libraries (0)

Virginia-Maryland Regional College of Veterinary Medicine (0)

#### **Research Assignment (47) (full salary for one semester)**

College of Agriculture and Life Sciences (5)

College of Architecture and Urban Studies (3)

College of Liberal Arts and Human Sciences (12)

College of Natural Resources and Environment (2)

College of Engineering (15)

College of Science (6)

Pamplin College of Business (4)

Virginia-Maryland Regional College of Veterinary Medicine (0)

University Libraries (0)

#### **RECOMMENDATION:**

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

April 3, 2017

## FACULTY RESEARCH LEAVES

2017-18

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 Architecture and Urban Studies (2)**

**Marcia Feuerstein**, associate professor, School of Architecture + Design, academic year 2017-18; to conduct research and writing related to two book projects, one based on current research and teaching, and the second based on the subject of women in architecture. (Alexandria, VA)

**McSherry, Laurel**, associate professor, Department of Landscape Architecture, School of Architecture + Design, academic year 2017-18; to pursue a Fulbright-Scotland Visiting Professorship at the Glasgow School of Art (GSA), organized around themes of shared interest with the Glasgow Urban Laboratory-comparative urbanism, environmental awareness, bioregionalism. (Glasgow, Scotland)

### **College of Liberal Arts & Human Sciences (2)**

**Gabriele, Matthew**, associate professor, Department of Religion & Culture, academic year 2017-18; to conduct further research and complete a book project on medieval intellectualism titled "*Prophecy, Apocalypse, and the Intellectual Transformation of the Medieval West*". (Blacksburg, VA)

**Scott, Rachel**, associate professor, Department of Religion & Culture, fall 2017; to complete a book entitled "*The Egyptian Constitution: The Modern State, Secularism, and Islamic Law*" and make progress on another book project titled "*The Golden Age and Decline: History, Tradition, and Modernity in Muslim Thought*". (Blacksburg, VA)

### **College of Engineering (9)**

**Cameron, Kirk**, professor, Department of Computer Science, academic year 2017-18; to collaborate and train with Queens University researchers to complement and expand ongoing efforts and expertise in current research, and to broaden the engagement of the international community in variability research. (Belfast, Northern Ireland)

**Canfield, Robert**, professor, Department of Aerospace and Ocean Engineering, academic year 2017-18; to initiate a collaborative research relationship with Department of Energy (DoE) at Sandia Lab and to pursue research opportunities with Air Force Research Laboratory (AFRL). (New Mexico; Ohio)

**Clancy, T. Charles**, associate professor, Department of Electrical and Computer Engineering, academic year 2017-18; to pursue two consulting opportunities, one to design and build a cybersecurity operations center for the US telecommunications sector, and a second to design technologies for a constellation of satellites for Hume Center spin-off startup company HawkEye 360. (Washington D.C.)

**Hester, Erich**, associate professor, Department of Civil and Environmental Engineering, academic year 2017-18; to pursue a Fulbright Core Scholarship to conduct research to quantify the effect of river channel-floodplain interaction on water quality in Taiwan's strong monsoon and high topographic relief. (Taipei, Taiwan)

**Marr, Linsey**, professor, Department of Civil and Environmental Engineering, academic year 2017-18; to pursue new research ideas and collaborations with experts in influenza transmission and air quality at National Taiwan University. (Taipei, Taiwan)

**Matusovich, Holly**, associate professor, Department of Engineering Education, academic year 2017-18; to examine threads that cut across prior conference publications, seminars and workshops to yield additional tangible work products that will increase standing as a national leader in motivation-related research and teacher practices within engineering. (Blacksburg, VA)

**Rodriguez-Marek, Adrian**, professor, Department of Civil and Environmental Engineering, academic year 2017-18; to collaborate with colleagues at the Politecnico di Milano on various topics on earthquake engineering, accessing the increased availability of ground motion data as a result of recent earthquakes in Italy. (Turin, Italy)

**Sandu, Adrian**, professor, Department of Computer Science, academic year 2017-18; to pursue new areas of research involving machine learning and statistical computing, and progress in the production of several monographs. (Germany; Canada)

**Sandu, Corina**, professor, Department of Mechanical Engineering, academic year 2017-18; to consolidate the cooperation with several international partners, participate in jointly-funded research projects, open new collaboration, investigate new research directions in the area of autonomous and intelligent vehicles, and make progress in the writing of a book. (Germany; the Netherlands; South Africa)

### **College of Science (3)**

**Ciupe, Stanca**, associate professor, Department of Mathematics, academic year 2017-18; to enhance research program through interactions and potential collaborations with several faculty in the mathematics, biology, immunology and biostatistics departments at Duke University, and continue ongoing collaborations with researchers from Los Alamos National Laboratory and Santa Fe Institute. (New Mexico; North Carolina)

**Foti, Roseanne**, associate professor, Department of Psychology, academic year 2017-18; to conduct research to advance scientific understanding of the process of leadership

assessment, with potential implications for the identification of factors that not only promote but hinder the identification, development and retention of leaders. (France; United Kingdom)

**Mihalcea, Constantin Leonardo**, associate professor, Department of Mathematics, academic year 2017-18; to broaden the scope of research program through collaborations with faculty at UNC Chapel Hill, and to attend a special semester in an area related to current research at Mathematical Sciences Research Institute (MSRI) in Berkeley. (California; North Carolina)

**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)**

**Benham, Brian**, professor, Department of Biological Systems Engineering, spring 2017; to obtain first-hand exposure to all aspects of the water well industry to identify additional research needs and extension programming opportunities related to private water supply systems. (Blacksburg, VA; Maryland).

**Liu, Dongmin**, professor, Department of Human Nutrition, Foods, and Exercise, fall 2017; to acquire new research skills in nutritional regulation of epigenetic process at the University of Illinois at Urbana-Champaign, which will allow an expansion of research program in this emerging biomedical research area. (Illinois)

**Peterson, Everett**, professor, Department of Agricultural and Applied Economics, fall 2017; to collaborate with Global Trade Analysis Project (GTAP) Center at Purdue University to update existing GTAP models to incorporate domestic trade and transportation models, and explore potential for introducing a travel and tourism sector into the model. (Indiana).

**Vinatzer, Boris**, professor, Department of Plant Pathology, Physiology, and Weed Science, spring 2018; to research and study microbial genomics and evolution, microbial taxonomy, microbial ecology, and analytical chemistry in order to deepen knowledge of these fields of study as related to research in these fields. (Italy; New Zealand)

**Zhang, Chenming (Mike)**, professor, Department of Biological Systems Engineering, spring 2018; to develop knowledge in cancer biology and with the cutting edge research and the grand challenges facing the field to be a significant contributor in this area of research and submit competitive research proposals to National Cancer Institute (NCI). (Blacksburg, VA)

### **College of Architecture and Urban Studies (3)**

**Buehler, Ralph**, associate professor, School of Public and International Affairs, fall 2017; to conduct significant research in the field of sustainable urban transport with a goal of submitting publications to peer-reviewed journals and presenting at international conferences. (Blacksburg, VA)

**Galloway, William**, associate professor, School of Architecture + Design, spring 2018; to complete a book proposal and manuscript for "*Ruskin's Road*", an investigation of the

influence of the teachings of 19th century critic and theoretician of art and architecture John Ruskin on the development of specific movements in architectural education in the 20th century.(United Kingdom)

**Hall, Ralph**, associate professor, Department of Urban Affairs and Planning, spring 2018; to initiate an international research agenda focused on advancing the theory of binary economics, with a goal of hosting an international meeting focused on binary economics in 2018. (Blacksburg, VA)

### **College of Liberal Arts and Human Sciences (13)**

**Arditti, Joyce**, professor, Department of Human Development, fall 2017; to collaborate with colleagues at the Griffith Criminology Institute on generative scholarship that involves international and interdisciplinary collaborations related to parental incarceration research. (Brisbane, Australia)

**Chen-Yu, Jessie**, associate professor, Department of Apparel, Housing, and Resource Management, spring 2018; to complete analysis of data and submit for publication three manuscripts from to refereed journals. (Blacksburg, VA)

**Cline, David**, assistant professor, Department of History, fall 2017; to complete the writing and editing of the manuscript for a book entitled "*Twice Forgotten: African Americans in the Korean War*". (Blacksburg, VA)

**Ernst, Jeremy**, associate professor, School of Education, spring 2018; to implement and research performance-based STEM Education learning tasks in New South Wales. (Australia)

**Eska, Charlene**, associate professor, Department of English, fall 2017; to complete a critical edition and translation of the early medieval Irish legal text *Anfuigell* "Wrong Judgment." For publication in 2018. (Blacksburg, VA)

**Hawdon, James**, professor, Department of Sociology, fall 2017; to further develop a new ecological theory that accounts for policing tactics, resident perceptions of police legitimacy, and, ultimately, levels of cooperation or conflict between residents and police, resulting in a book-length manuscript and grant proposal. (Blacksburg, VA)

**Hicok, Robert**, professor, Department of English, fall 2017; to work on two books of poetry, and collaborate with an Iranian writer on translating a large selection of prior work into Farsi. (Blacksburg, VA)

**Mackay, Jenn**, associate professor, Department of Communication, spring 2018; to conduct a follow-up study of how cartoonists envision their role in the media in comparison to other groups of journalists, leading to two monograph articles and the foundation for full-length scholarly book. (Blacksburg, VA)

**Rawlings, Cara**, associate professor, School of Performing Arts|Music|Theatre|Cinema, spring 2018; to conduct research on the Alexander Technique and how it and other modalities

can address the alignment and characterization challenges of today's students. (New York City, NY; Greensboro, NC)

**Sierra, Sarah**, associate professor, Department of Foreign Languages and Literatures, spring 2018; to complete a book manuscript on nineteenth- century Spanish culture and literature in the context of ritual studies. (Blacksburg, VA)

**Venkatesh, Vinodh**, associate professor, Department of Foreign Languages and Literatures, fall 2017; to make progress writing a book on Spanish cinema entitled "*Spain as Spectacle*". (Blacksburg, VA)

**Vollmer, Matthew**, associate professor, Department of English, spring 2018; to conduct research leading to a series of essays on the residents of Andrews, NC, and to make progress on two other writing projects. (Blacksburg, VA)

### **College of Natural Resources and Environment (2)**

**Holliday, Jason**, associate professor, Department of Forest Resources and Environmental Conservation, spring 2018; to collaborate with colleagues at the University of Calgary and conduct field work to collect samples for a project to understand the genomic consequences of hybridization. (Calgary, Canada)

**McGuire, Kevin**, associate professor, Department of Forest Resources and Environmental Conservation, spring 2018; to collaborate with scientists at the Luxembourg Institute of Science and Technology on hydrological processes in experimental watersheds. (Luxembourg)

### **College of Engineering (15)**

**Agah, Masoud**, professor, Department of Electrical and Computer Engineering, fall 2017; to study new areas of interest for application of Microelectromechanical Systems (MEMS)/microfluidics to healthcare and to explore the possibility of establishing a start-up company around the research effort of the Virginia Tech MEMS Lab. (Blacksburg, VA)

**Beex, A.A. (Louis)**, professor, Department of Electrical and Computer Engineering, fall 2017; to research emerging topics in digital signal processing (DSP), and prepare to write a text on DSP. (Blacksburg, VA)

**Ducker, William**, professor, Department of Chemical Engineering, spring 2018; to visit laboratories that excel at the study of bacterial behavior and learn the latest research, techniques and thoughts in this area to assist in a transition to research into this field. (California; Australia; Germany)

**Farhood, Mazen**, associate professor, Department of Aerospace and Ocean Engineering, spring 2018; to develop systematic methods and procedures for detection and mitigation of malicious attacks against unmanned aircraft systems, at both the cyber and physical layers. (Tokyo, Japan)

**Fuller, Christopher**, professor, Department of Mechanical Engineering, fall 2017; to serve as a resident at the National Institute of Aerospace and carry out seminal new research in Acoustic Meta Materials (AMM), resulting in future research proposals in this area. (Hampton, VA)

**Garvin, Michael**, associate professor, Department of Civil and Environmental Engineering, fall 2017; to develop the foundation necessary to establish a center for smart infrastructure development, and to produce two pieces of scholarship that synthesize on-going research. (Blacksburg, VA)

**Hsiao, Michael**, professor, Department of Electrical and Computer Engineering, fall 2017; to advance GameChanglineer (a platform for converting plain, logical English to computer code), and to engage more schools and making greater impact to engaging women and under-represented K-12 students to computing. (Blacksburg, VA)

**Nazhandali, Leyla**, associate professor, Department of Electrical and Computer Engineering, fall 2017; to collaborate with other VT faculty to study new areas of interest for application of Microelectromechanical Systems (MEMS)/microfluidics to healthcare and to explore the possibility of establishing a start-up company around the research effort of the Virginia Tech MEMS Lab chemistry. (Blacksburg, VA)

**Onufriev, Alexey**, associate professor, Department of Computer Science, fall 2017; to explore new directions in bio-computational research, forge an active collaboration between the institutions and run a small scale, pilot feasibility study, in addition to exploring possible funding sources and visit with possible experimental collaborators. (Washington D.C.; San Diego, CA)

**Paul, Mark**, professor, Department of Mechanical Engineering, fall 2017; to focus on the development of powerful new analytical and computational approaches to address two areas of research: the complex and chaotic dynamics of large systems driven far-from-equilibrium, and the stochastic dynamics of small nonlinear systems undergoing strong fluctuations. (Blacksburg, VA; Pasadena, CA)

**Taheri, Saied**, professor, Department of Mechanical Engineering, fall 2017; to complete a book titled *Introduction to Tire and Vehicle Dynamics*, responding to extensive interest from both the tire and automotive industries and the government, (Blacksburg, VA)

**Triantis, Konstantinos**, professor, Department of Industrial and Systems Engineering, spring 2018; to further enhance multi-disciplinary research capabilities in the domain of strategic efficiency measurement to enhance the design and operation of engineered systems. (Denmark; Netherlands)

**von Spakovsky, Michael**, professor, Department of Mechanical Engineering, fall 2017; to collaborate with colleagues at North Carolina A& T State University to address the big challenge in the growing field of non-equilibrium thermodynamics in general and in quantum thermodynamics in particular. (Blacksburg, VA; Greensboro, NC)

**West, Robert**, associate professor, Department of Mechanical Engineering, fall 2017; to extend development of a novel approach to parametric finite element models and model correlation for verification and validation of oil and gas premium connection research. (Houston, TX)

**Whittington, Abby**, associate professor, Department of Materials Science Engineering, fall 2017; to collaborate with a colleague at the university of Nottingham to submit two grant proposals focused on advances to overcome shortcomings of current medical devices that create a bridge from the body to the external environment, e.g. catheters, feeding tubes, drains. (Nottingham, England)

### **College of Science (6)**

**Link, Robert**, professor, Department of Physics, fall 2017; to write a book on experimental neutrino physics, and continue research program with the deployment of a prototype neutrino detector to the North Anna Nuclear Power Plant. (Blacksburg, VA)

**Popham, David**, professor, Department of Biological Sciences, fall 2017; to collaborate with colleagues at the Complex Carbohydrate Research Center at the University of Georgia, to improve and develop new methods for analyses of bacterial cell wall-associated polysaccharides. (Athens, GA)

**Sun, Shu-Ming**, professor, Department of Mathematics, fall 2017; to complete collaborative research projects at the University of Cincinnati and Carnegie-Mellon University related to the mathematical theory of water wave problems, in particular, the existence, uniqueness, stability of solitary surface waves on water with surface tension. (Cincinnati, OH; Pittsburgh, PA)

**Tholl, Dorothea**, associate professor, Department of Biological Sciences, fall 2017; to conduct collaborative research with colleagues in the area of plant chemical signaling at the Max Planck Institute for Chemical Ecology. (Germany)

**Vining, Geoff**, professor, Department of Statistics, spring 2018; to collaborate with colleagues on experimental designs for functional data and on experimental design and analysis to support Six Sigma and Statistical Engineering. (Denmark; Netherlands)

**Yee, Gordon**, associate professor, Department of Chemistry, fall 2017; to develop new skills and knowledge in the field of sodium ion batteries, and conduct research on the discovery of new electrode materials to allow for the replacement of sodium for lithium in ion batteries. (Berkeley, CA)

### **Pamplin College of Business (4)**

**Arthur, Jeffrey**, associate professor, Department of Management, fall 2017; to pursue multiple research projects and develop additional expertise regarding the causes of aggregate (group-and organization-level) organizational citizenship behaviors (OCBs) and their consequences for organizational effectiveness in a hospital setting. (Blacksburg, VA)



**Hiller, Janine** professor, Department of Finance, Insurance, and Business Law, spring 2018; to research cyber security, law and ethics in the internet of things, and the data driven environment in preparation for publication and submission to upcoming conferences. (Blacksburg, VA)

**James, Tabitha**, associate professor, Department of Business Information Technology, fall 2017; to further a research program in the theory of multilevel information privacy management by testing components of our larger conceptual theories, with a goal of producing multiple journal articles in targeted, elite journals. (Blacksburg, VA).

**Sirgy, M. Joseph**, professor, Department of Marketing, fall 2017; to conduct research to develop the concept and metric of "shopping-life balance", and develop a new conceptualization of "work-life balance" and developing metrics for its measure. (Blacksburg, VA)