

SUMMARY
Faculty Research Leaves (75)
2018-19

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

College of Agriculture and Life Sciences	0
College of Architecture and Urban Studies	1
College of Engineering	5
College of Liberal Arts and Human Sciences	7
College of Natural Resources and Environment	2
College of Science	3
Pamplin College of Business	1
University Libraries	0
Virginia-Maryland Regional College of Veterinary Medicine	0

Research Assignment (56) (full salary for one semester)

College of Agriculture and Life Sciences	4
College of Architecture and Urban Studies	3
College of Engineering	13
College of Liberal Arts and Human Sciences	21
College of Natural Resources and Environment	5
College of Science	9
Pamplin College of Business	1
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.

March 26, 2018

FACULTY RESEARCH LEAVES

2018-19

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 (1)

Ermann, Michael, professor, School of Architecture + Design, academic year 2018-19; to create an animated video book teaching math to high school students the way architects would teach math: graphically, spatially, and, where possible, immersively. (Blacksburg, VA)

College of Engineering (4)

Kochersberger, Kevin, associate professor, Department of Mechanical Engineering, academic year 2018-19; to develop research prospects and opportunities for the Unmanned Systems Lab related to unmanned aircraft standards and unmanned aerial vehicle development for public safety. (Blacksburg, VA)

Little, John, professor, Department of Civil and Environmental Engineering, academic year 2018-19; to collaborate with several scholars on research related to controlling emissions from building materials and consumer products, managing water quality in lakes and reservoirs, and solving complex societal problems using a system-of-systems approach. (Australia; China; France; United Kingdom)

Martin, Stephen, associate professor, Department of Chemical Engineering, academic year 2018-19; to serve as an American Association for the Advancement of Science (AAAS) Science & Technology Policy Fellow, a yearlong assignment in the Federal Government to develop research-related expertise and contacts in several technical policy areas. (Washington, D.C.)

Ramakrishnan, Naren, professor, Department of Computer Science, academic year 2018-19; to collaborate on research related to urban data science and to develop content for a graduate textbook on this area that would be relevant to both practitioners and researchers. (Arlington, VA)

College of Liberal Arts & Human Sciences (7)

Abbate, Janet, associate professor, Department of Science and Technology in Society, spring 2019; to conduct further research and to continue writing a book manuscript on the cultural and policy history of computational thinking. (Blacksburg, VA)

Bauer, Esther, associate professor, Department of Modern and Classical Languages and Literatures, academic year 2018-19; to conduct further research and draft several chapters of current book manuscript titled *Men of a Certain Age: Quarter and Midlife Crises in German Prose Literature since 1900*. (Blacksburg, VA)

Bixler, Jacqueline, Alumni Distinguished Professor, Department of Modern and Classical Languages and Literatures, academic year 2018-19; to make significant progress on a book devoted to contemporary Mexican theatre and the intersections with history, politics, and social issues. (Blacksburg, VA)

Hirsh, Richard, professor, Department of History, spring and fall 2019; to conduct research and begin writing a monograph that reinterprets the history of rural electrification efforts in the 1920s and 1930s. (Blacksburg, VA)

Kim, Kee Jeong, associate professor, Department of Human Development and Family Science, academic year 2018-19; to analyze data collected from past interviews, and begin writing a book manuscript on risk and resilience of Syrian refugees. (Blacksburg, VA)

Mann, Jeffrey, associate professor, Department of English, academic year 2018-19; to complete a volume of poems that focus on balancing intersectional identities, and to conduct research on the Viking Age in order to begin writing a trilogy of novels set during that period. (Blacksburg, VA)

Ni, Zhange (Nicole), associate professor, Department of Religion & Culture, academic year 2018-19; to write the initial draft of a book manuscript titled *The Child and the Sovereign: Religion and Young Adult Literature in the 21st Century* and conduct research for a book manuscript that studies the Chinese model of religion and secularism. (Blacksburg, VA)

College of Natural Resources and Environment (2)

Radtke, Philip, associate professor, Department of Forest Resources and Environmental Conservation, 2018-19; to work with multiple collaborators/co-authors to complete an academic book tentatively titled *Forest Inventory and Analysis: Applications for Research and Planning*. (Oregon; Utah; Virginia)

Wynne, Randolph, professor, Department of Forest Resources and Environmental Conservation, spring 2019; to conduct collaborative research with colleagues in forest remote sensing at NASA Goddard Space Flight Center, ensuring continued connectivity and collaboration at the highest levels of remote sensing science. (Greenbelt, MD)

College of Science (3)

Bell, Martha Ann, professor, Department of Psychology, academic year 2018-19; to further advance existing research by visiting colleagues at several institutions to collaborate on research and grant proposals related to infant and child cognitive and socioemotional development . (Pennsylvania; Tennessee; Virginia; Washington)

Dunsmore, Julie, associate professor, Department of Psychology, academic year 2018-19; to advance research and collaborative relationships in the area of socio-emotional development as it is influenced by emotional communication from parents and other caregivers, as well as friends and other peers, and how these processes are embedded within socio-cultural contexts. (Luneberg, Germany; Melbourne, Australia)

Vogelaar, Robert, professor, Department of Physics, academic year 2018-19; to develop a funded research program to advance the basic design for an accelerator-driven molten-salt reactor to produce tritium, and to advance a research program in weak-interaction physics to enable measurement of certain neutrinos from the Sun, sterile neutrinos, and dark matter. (Princeton, NJ; Honolulu, HI)

Pamplin College of Business (1)

Singal, Vijay, professor, Department of Finance, Insurance, and Business Law, 2018-19; to advance research program on market efficiency, and pursue publication of five journal articles in process individually and in collaboration with colleagues at other universities. (Blacksburg, VA; New York, NY)

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 (4)

Davy, Kevin, professor, Department of Human Nutrition, Foods, and Exercise, spring 2019; to work with colleagues to pursue funding and a program of research focused on understanding the role of endothelial dysfunction as a mechanistic link between trimethylamine *N*-oxide and increased cardiovascular disease risk. (Boulder, CO).

Pilot, Guillaume, associate professor, Department of Plant Pathology Physiology & Weed Science, fall 2018; to master new techniques related to the study of amino acid transporters in plants, and to foster collaboration with two laboratories in South America. (Talca, Chile; Quito, Ecuador)

Williams, Mark, associate professor, Department of Horticulture, fall 2018; to develop collaborative research projects with researchers at Nanjing Agricultural University related to plant-microbe interactions, soil restoration, and microbial water stress physiology. (Nanjing, China)

Xia, Kang, professor, Department of Crop and Soil Environmental Sciences, fall 2018; to collaborate with colleagues at Nanjing Agricultural University on joint projects/proposals on the occurrence, fate, environmental impact, and remediation of organic contaminants in soil and water. (Nanjing, China)

College of Architecture and Urban Studies (3)

Head, Travis, associate professor, School of Visual Arts, spring 2019; to expand skill set in digital fabrication (e.g. digital embroidery, 3D printing and long arm automated sewing) and related traditional craft methods with a goal of translating drawings into hybrid objects that bridge digital and analog processes. (Blacksburg, VA)

Knoblauch, Ann-Marie, associate professor, School of Visual Arts, fall 2018; to serve as a senior visiting research fellow at Bryn Mawr College, conducting preliminary archival research on Luigi Palma di Cesnola, a 19th century explorer of Cyprus who became the first director of the Metropolitan Museum of Art. (Bryn Mawr, PA)

Tew, Gregory, associate professor, School of Architecture + Design, spring 2019; to complete a manuscript on design appreciation that is both general interest, and suitable as a textbook for introductory courses on design and sustainability in the built environment. (Blacksburg, VA)

College of Engineering (12)

Eatherton, Matthew, associate professor, Department of Civil and Environmental Engineering, spring 2019; to collaborate on research at Polytechnique Montreal in the field of structural systems that resist earthquake loading. (Montreal, Quebec)

Ha, Dong, professor, Department of Electrical and Computer Engineering, fall 2018; to collaborate with researchers in energy harvesting for Internet of Things devices at the Center for Integrated Smart Sensors at the Korea Advanced Institute of Science and Technology. (Daejeon, South Korea)

Irish, Jennifer, professor, Department of Civil and Environmental Engineering, spring 2019; to conduct research using techniques developed for probabilistic storm surge hazard assessment to probabilistic tsunami hazard assessment, while developing collaborations to better engage the global natural hazards community. (Caesarea, Israel)

Lou, Wenjing, professor, Department of Computer Science, fall 2018; to conduct intensive research and focus on medium and large proposal development for National Science Foundation grants, and to serve as Technical Program Committee chair for the Institute of Electrical and Electronics Engineers, Inc. (IEEE) International Conference on Computer Communications. (Falls Church, VA)

Lu, Guo-Quan, professor, Department of Materials Science and Engineering, fall 2018; to advance research on magnetic materials and additive manufacturing of magnetic components for applications in power electronics systems, and to strengthen research

collaboration in power electronics integration between Virginia Tech and Tianjin University. (Tianjin, China)

Murayama, Mitsuhiro, professor, Department of Mechanical Engineering, fall 2018; to collaborate on research with one of the top research groups in the field of severe plastic deformation and fabrication of bulk ultra-fine grained structural materials. (Kyoto, Japan)

Pitchumani, Ranga, professor, Department of Mechanical Engineering, spring 2019; to explore collaborations with external organizations in multiple research areas to help pursue large-scale programs in the future related to water and its nexus with energy, and to establish relationships with the medical centers in the National Capital Region in the area of cancer and Alzheimer's research. (Berkeley, CA; Arlington, VA)

Roy, Christopher, professor, Department of Aerospace and Ocean Engineering, spring 2019; to complete work on book titled "Verification and Validation In Scientific Computing" addressing methods for assessing the reliability of computer simulations. (Blacksburg, VA)

Scales, Wayne, professor, Department of Electrical and Computer Engineering, spring 2019; to conduct research in the area of geospace science and engineering, further developing theory and computational models for both active and passive space experiments in collaboration with the three universities and the South African Space Agency. (Alaska; China; New York; South Africa; Virginia)

Seidel, Gary, associate professor, Department of Aerospace and Ocean Engineering, spring 2019; to develop multiscale multiphysics modeling techniques for magnetoelastodynamics in composite materials that will contribute to the design of smart components in intelligent structures. (Freiberg, Germany)

Sinha, Sunil, professor, Department of Civil and Environmental Engineering, fall 2018; to collaborate with several government agencies for Community Resilience National Panel activities that will focus on research and education in the areas of resilient and sustainable water infrastructure systems. (Colorado; Maryland; Washington D.C.)

Wang, Yue (Joseph), professor, Department of Electrical and Computer Engineering, fall 2018; to conduct cross-institutional collaborative research and exchange on developing novel machine learning methods for biomedical data integration. (Sydney, Australia; Shanghai and Hangzhou, China)

Williams, Christopher associate professor, Department of Mechanical Engineering, fall 2018; to complete a textbook titled *Design for Additive Manufacturing*, as well as to develop domestic and international research collaborations on behalf of the Macromolecules Innovation Institute at Virginia Tech. (Maryland; England)

Zhang, Liqing, associate professor, Department of Computer Science, fall 2018; to collaborate and develop proposals with scholars on research related to formalizing the system for generating in silico genes with very high or low expressions in human tissues,

and to develop the computational system for predicting a powerful way to control certain bacteria populations. (Illinois; Pennsylvania; Washington, D.C.)

College of Liberal Arts and Human Sciences (21)

Andrango-Walker, Catalina, associate professor, Department of Modern and Classical Languages and Literatures, spring 2019; to begin drafting a book manuscript, provisionally titled *The Influence of Religious Writings on Proto Nationalist Discourse*. (Blacksburg, VA)

Apodaca, Clair, associate professor, Department of Political Science, fall 2018; to advance current research and prepare a book manuscript on the topic of U.S. human rights policy. (Blacksburg, VA)

Billingsley, Bonnie, professor, School of Education, spring 2019; to pursue research questions related to teacher policy in special education using an extant database and develop technical skills using Structural Equation Modeling to answer these questions. (Blacksburg, VA)

Bodenhorn, Nancy, associate professor, School of Education, spring 2019; to dedicate time to a publication project on the Council for the Accreditation of Educator Preparation (CAEP) process. (Blacksburg, VA)

Britt, Brian, professor, Department of Religion and Culture, fall 2018; to continue research and begin writing a book manuscript tentatively titled *Religion Around Walter Benjamin*. (Berlin, Germany)

Cowden, Tracy, associate professor, School of Performing Arts|Music|Theatre|Cinema, fall 2018; to teach contemporary American art song and chamber music to Croatian singers and pianists at the University of Zagreb Academy of Music through the Fulbright U.S. Scholar Program, and conduct research on the Croatian art song and lyric diction. (Zagreb, Croatia)

Crist (Patzig), Eileen, associate professor, Department of Science and Technology in Society, fall 2018; to prepare future research program goals and conduct exploratory research following the publication of the manuscript *Abundant Earth: Toward an Ecological Civilization*, scheduled to be published in the fall of 2018. (Blacksburg, VA)

Dixit, Priya, associate professor, Department of Political Science, fall 2018; to conduct research to collect and analyze data on a new research project on far-right violent extremism in the United States, as part of an overall research program on the study of violent non-state actors in global security. (Blacksburg, VA)

Efird, Robert, associate professor, Department of Modern and Classical Languages and Literatures, fall 2018; to complete current book manuscript *Ivan's Childhood*, and to continue work on another manuscript, *Sergei Parajanov: The Major Films*, a culmination of extensive research conducted over the past several years. (Blacksburg, VA)

Ewing, Tom, professor and associate dean, Department of History, fall 2018; to conduct research on the history of the Russian flu epidemic from 1889-1890, resulting in three article manuscripts for peer reviewed journals, substantial progress on a book manuscript, and improved positioning to be competitive for future funding. (Blacksburg, VA)

Folkart, Jessica, professor, Department of Modern and Classical Languages and Literatures, fall 2018; to research the legal and social changes in immigration in Spain and their representation in fiction since the turn of the millennium, in addition to researching and writing a journal manuscript titled "The Incestuous Embodiment of Immigration and Identity in La filla estrangera by Najat El Hachmi." (Blacksburg, VA)

Halfon, Saul, associate professor, Department of Science and Technology in Society, fall 2018; to conduct preliminary research and gather data towards the production of a monograph on technical policy practices for food governance at the U.S. Department of Agriculture. (Blacksburg, VA; Washington, D.C.)

King, Neal, professor, Department of Sociology, fall 2018; to collect data on filmmaker activity in Los Angeles, and conduct research for the development of a monograph on the development of film history by film scholars, and the production of culture in sociology as applied to film and television. (Los Angeles, CA)

Luciak, Iija, professor, Department of Political Science, fall 2018; to conduct research and writing for the book manuscript titled *Security, Gender, and Democracy: The Transformation of the Revolutionary Left in El Salvador and Colombia*, and to develop a grant proposal to be presented to the European Research Council. (Stockholm, Sweden; Vienna, Austria)

Moehler, Michael, associate professor, Department of Philosophy, fall 2018; to prepare several journal articles within current research program, as well as to complete foundational research on a book manuscript related to a theory of minimal morality and how it lends itself to a corresponding political theory. (Blacksburg, VA)

Radcliffe, David, professor, Department of English, spring 2019; to reformat the prosopography data in the archival database "Lord Byron and his Times," published by Virginia Tech, so that the reconfigured open-access demographic information contained in the prosopography will make its linked data easier to share and to be repurposed in other projects. (Blacksburg, VA)

Shadle, Brett, professor, Department of History, spring 2019; to prepare a draft manuscript of a book titled *Ethiopians in Exile: Refugees from the Italo-Ethiopian War*. (Blacksburg, VA)

Skaggs, Gary, associate professor, School of Education, spring 2019; to work intensively on a book manuscript tentatively titled *Developing and Validating Instruments*, intended as a textbook for a graduate level test development course, but with a wider appeal to the educational and testing community. (Blacksburg, VA)

Weisband, Edward, professor, Department of Political Science, spring 2019; to participate in a residential seminar program focused on theme of theology and religious studies, and peace and conflict studies, in perspectives framed by the humanities and social sciences. (Princeton, NJ)

Welfare, Laura, associate professor, School of Education, spring 2019; to analyze and disseminate findings from a 10-year longitudinal study of clinical supervisor cognitive development and disseminate findings from collaborative National Institutes of Justice grants in top tier journals. (Blacksburg, VA)

Williams, Thomas, associate professor, School of Education, fall 2018; to update and refine research employing the National Principal and Teacher Survey (NTPS), a contractually licensed restricted-use data set from the Institute of Education Sciences that allows the researcher to perform statistical analyses on large scale data that are representative of the population of all teachers and principals in the United States. (Blacksburg, VA)

College of Natural Resources and Environment (5)

Alexander, Kathleen, professor, Department of Fish and Wildlife Conservation, fall 2018; to develop and expand research program and collaborations including the production of co-authored manuscripts and proposals for funding, and to advance program development with agencies in the area of One Health. (Paris, France)

Oliver, Robert, associate professor, Department of Geography, spring 2019; to pursue research into the 'geographies of policy failure', specifically by examining contemporary forms of urban governance as they relate to sport mega-events. (Lausanne, Switzerland; London, Ontario)

Shao, Yang, associate professor, Department of Geography, spring 2019; to establish and expand collaboration with leading geospatial researchers in top universities in China, focusing on spatio-temporal, big data analytics, and geospatial data mining. (Beijing, China)

Sorice, Michael, associate professor, Department of Forest Resources and Environmental Conservation, spring 2019; to collaborate with a scholar at the Commonwealth Scientific and Industrial Research Organisation to enhance a framework of study on social vulnerability: the capacity for rangeland producers to adapt to landscape changes driven by climate change and other factors. (Townesville, Australia)

Thomas, Valerie, associate professor, Department of Forest Resources and Environmental Conservation, spring 2019; to research the expansion of multitemporal algorithms to additional applications, and to strengthen technical skills in the area of big data computation and algorithms for remote sensing. (Blacksburg, VA; Kingston, Ontario)

College of Science (9)

Brown, Bryan, associate professor, Department of Biological Sciences, fall 2018; to synthesize empirical and theoretical components of a recently funded National Science Foundation grant in collaboration with other universities, and to conduct a natural history survey of focal organisms down the length of the New River. (California; Colorado; Maryland; Virginia)

Deng, Xinwei, associate professor, Department of Statistics, fall 2018; to develop new statistical methodology on an interface among "data—modeling--decision", to enable an integrative platform of dealing with data for efficient and effective modeling, prediction, optimization, and decision-making. (Madison, WI; Atlanta, GA)

Dominiak, Adam, associate professor, Department of Economics, spring 2019; to intensify collaborative research with colleague related to two research projects related to rationalizability and ambiguity, as well as pursuing individual research on decision-making under unawareness and ambiguity. (Davis, CA)

Lazar, Marie Iuliana, associate professor, Department of Biological Sciences, fall 2018; to pursue professional development in complementary areas to current research, focus primarily in computational fields that deal with the processing and interpretation of data generated by high-throughput technologies. (Boston, MA)

Robinson, Hans, associate professor, Department of Physics, fall 2018; to rejuvenate existing research program and to develop additional research directions in the areas of light-driven nanoassembly, microscope development, stress-tunable metasurfaces after a term of university service as faculty senate president,. (Blacksburg, VA)

Walker, Richard, associate professor, Department of Biological Sciences, fall 2018; to analyze data collected from 2013 to 2017 on active learning approach implemented for two courses, and to develop expertise in environmental DNA methods. (California; Colorado; Indiana; North Carolina)

Wawro, Megan, associate professor, Department of Mathematics, spring 2019; to edit and write to edit two manuscripts for a special issue in a top research journal, the focus of which is based on current NSF-funded research, and to analyze data and conduct further research related to linear algebra and quantum mechanics. (Orono, ME)

Weiss, Robert, associate professor, Department of Geosciences, spring 2019; to conduct research incorporating archaeological findings into tsunami and storm inundation models to extend existing data bases, which will help to improve hazard assessments for storms and tsunamis. (Caesarea, Israel)

Zhou, Ying, associate professor, Department of Geosciences, fall 2018; to advance research in seismic imaging of the Earth's lowermost mantle through intensive collaborations with observational seismologists. (Oxford, England; Beijing, China)

Pamplin College of Business (1)

Bhattacharjee, Sudip, professor, Department of Accounting and Information Systems, spring 2018; to pursue research focusing on improving how professional auditors use advice from specialists when auditing the financial statements of companies and to prepare these research findings for submission to a journal for publication. (Blacksburg, VA)