SUMMARY

Faculty Research Leaves (92)

2023-24

College	Study-Research	Research Assignment	Total
College of Agriculture and Life Sciences	2	6	8
College of Architecture, Arts, and Design	1	9	10
College of Engineering	6	21	27
College of Liberal Arts and Human Sciences	8	12	20
College of Natural Resources and Environment	1	0	1
College of Science	8	14	22
Pamplin College of Business	0	4	4
University Libraries	0	0	0
Virginia-Maryland Regional College of Veterinary Medicine	0	0	0
Virginia Tech Carilion School of Medicine	0	0	0
TOTAL	26	66	92

RECOMMENDATION:

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

March 20, 2023

FACULTY RESEARCH LEAVES

2023-24

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.

Study-Research Leave

Study-research leave may be granted to faculty members for research and/or advanced study necessary to enhance the competencies of those faculty members to carry out their obligations to the university. (At other universities this program is often called "sabbatical.")

Full-time tenured faculty members with the rank of associate professor or higher, or faculty members holding continued appointment with significant responsibility for instruction and scholarly productivity, with the rank of assistant professor or higher, having accrued a minimum of six years of service, are eligible for study-research leaves. Following a period of study-research leave, an additional six years of full-time service are necessary before a faculty member is eligible for another leave. Requests may be submitted prior to completion of six years of service, but faculty members must have tenure and have completed the sixth year before the leave period begins. Study-research leave may be granted to faculty members for research and/or advanced study necessary to enhance the competencies of those faculty members to carry out their obligations to the university.

Research Assignment

Research assignment is a special category of study-research leave that is awarded to a tenured or continued-appointment academic faculty member for one semester of intensive study or research that increases the quality of the individual's professional stature and future contributions to the university. It may be taken in lieu of an ordinary yearlong study-research leave.

Full-time tenured faculty members with the rank of associate professor or higher, or holding continued appointment with the rank of assistant professor or higher, having accrued a minimum of six years of service, are eligible for research assignment leave. Following such a leave, an additional six years of full-time service is necessary before a faculty member may be considered for another research assignment. Requests may be submitted prior to completion of six years of service, but faculty members must have completed the sixth year before the leave period begins. Faculty members on calendar year appointments may take research assignment leave for up to six months.

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

College of Agriculture and Life Sciences (2)

<u>Kraak, Vivica</u>, associate professor, Human Nutrition, Foods and Exercise, academic year 2023-24, to conduct a systematic scoping review of evidence to develop a food systems governance typology grounded in the democratic principles of transparency, inclusivity, adaptiveness, responsiveness. (Virginia)

<u>Ramsey, Austin Ford</u>, assistant professor, Agricultural and Applied Economics, academic year 2023-24, to conduct research on Bayesian time series methodologies for examining the relationship between macroeconomics and the agricultural sector. (North Carolina)

College of Architecture, Arts, and Design (1)

<u>Bedford, Joseph</u>, associate professor, School of Architecture + Design, December 25, 2023 through December 24, 2024, to complete archival and oral history research for a second book. (California, Massachusetts, Illinois, New York)

College of Engineering (6)

<u>Adams, Colin</u>, associate professor, Aerospace and Ocean Engineering, academic year 2023-24, to learn about and pursue novel research investigating fusion energy, shock physics, and pulsed-power switching technology with collaborators at Los Alamos National Laboratory. (New Mexico, Virginia)

<u>Gilbert, Christine</u>, associate professor, Aerospace and Ocean Engineering, academic year 2023-24, to learn new experimental skills that are relevant to existing research areas, and to strengthen and develop existing collaborations. (Maryland, Massachusetts)

<u>Hotle, Susan</u>, associate professor, Civil and Environmental Engineering, academic year 2023-24, to help develop the Bureau of Transportation Statistics' capabilities to extract airline operational metrics from surveillance data and validation through visualization. (Washington D.C.)

<u>Lai, Jih</u>, professor, Electrical and Computer Engineering, academic year 2023-24, to collaborate with researchers and study the process and characteristics of wide bandgap semiconductor devices to be able to apply them more efficiently and effectively in switching circuits. (Taiwan)

Psiaki, Mark, professor, Aerospace and Ocean Engineering, academic year 2023-24, to finalize two textbooks for submission to publishers, and conduct research on the detection and geolocation of interference sources for GPS/GNSS signals. (Virginia)

Tilevich, Eli, professor, Computer Science, academic year 2023-24, to visit Google to learn more about the latest software development practices to inform research and teaching practices that better incorporate real-world examples into both. (North Carolina)

College of Liberal Arts and Human Sciences (8)

Calasanti, Toni, professor, Sociology, spring semester 2024, to conceive and write articles and book chapters based on analysis of data gathered from research sponsored by the National Institute on Aging. (Virginia)

Christensen, Danille, assistant professor, Religion and Culture, academic year 2023-24, to complete a book exploring who has promoted home canning since the mid-nineteenth century and why. (North Carolina, Virginia)

Gumbert, Heather, associate professor, History, academic year 2023-24, to complete a second book examining the role of period television in producing a usable past for the Berlin Republic. (California, Virginia; Germany)

Hodges, Kenneth, professor, English, academic year 2023-24, to complete a book on how England used martial traditions from the late middle ages to shape its identity as an early modern Protestant nation. (Virginia)

Ng, Su Fang, professor, English, academic year 2023-24, to begin a fourth book on how English drama from Shakespeare and Jonson to Dryden and Davenant reflect and engage diplomatic relations with non-Europeans. (Virginia)

Roy, Lucinda, professor, English, fall semester 2023, to complete the final revisions for *The Bird Tribe*, the third novel in of a speculative slave narrative trilogy. (Virginia)

Schmid, Sonja, associate professor, Science, Technology, and Society, spring semester 2024, to continue research related to an NSF-fund CAREER award project: "Globalizing Nuclear Emergency Response: Challenges for Interdisciplinary Engagement and International Expertise". (Virginia; Europe)

Stephens, Robert, associate professor, History, academic year 2023-24, to complete a book on addiction, media effects, and the ways in which audience, industries, and government work together to circumscribe the ways we can understand drug use and misuse. (Virginia)

College of Natural Resources and Environment (1)

McGee, John, professor, Forest Resources and Environmental Conservation, calendar year 2024, to extend the application of small uncrewed aircrafts (aka sUAS or drones) in support of educational outreach in the broader community. (Virginia)

College of Science (8)

Childs, Lauren, associate professor, Mathematics, academic year 2023-24, to develop, analyze, and apply trait-based models of infectious disease to further the understanding of how to monitor and control their spread. (Massachusetts)

Franck, Christopher, associate professor, Statistics, academic year 2023-24, to develop research at the interface of statistics and machine learning, focusing on the data-centric behavioral economics of addiction, trust-quantification within the human-AI partnership, and other application-oriented statistical problems pertaining to model selection and fusion and predictive analytics. (Virginia)

King, Scott, professor, Geosciences, calendar year 2024, to build new collaborations with top research groups in the world studying the planet Venus. (California, Texas; Germany)

Nesbitt, Sterling, associate professor, Geosciences, academic year 2023-24, to learn new techniques in quantitative paleobiology, learn how these programs operate at all levels, and research the early evolution of crocodilian and dinosaur relatives. (Connecticut, Illinois)

Palsson, Eyvindur, associate professor, Mathematics, academic year 2023-24, to advance the theory of mapping properties of multilinear geometric averaging operators as well as establishing abundance results for point configurations in continuous and discrete settings. (Massachusetts)

Salehi-Isfahani, Djavad, professor, Economics, academic year 2023-24, to complete a book on inequality in Iran, based on two decades of research on the evolution of inequality in the post-Islamic revolution. (Massachusetts, New Jersey; Iran)

Sarangi, Sudipta, professor, Economics, June 25, 2023 through June 24, 2024, to work with collaborators to complete a number of co-authored papers on topics including misinformation and formation of multiple networks. (France)

Stocker, Michelle, assistant professor, Geosciences, academic year 2023-24, to establish and strengthen connections with collaborators, learn new techniques in quantitative paleobiology and developmental biology, increase mentoring skills, and expand macroevolutionary research on vertebrates. (Connecticut, Illinois)

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

College of Agriculture and Life Sciences (6)

<u>Alwang, Jeffrey</u>, professor, Agricultural and Applied Economics, fall semester 2023; to advance research on the impacts of international agricultural research and development projects on the poor in collaboration with international organizations. (Ecuador; Sudan; Zimbabwe)

<u>Barone, Justin</u>, professor, Biological Systems Engineering, June 25, 2023 through December 24, 2023; to conduct a critical literature review of the several major polymer physics theories applicable to biological systems and note when they have been applied correctly. (Virginia)

<u>Colla'kova', Eva</u>, associate professor, School of Plant & Environmental Sciences, spring semester 2024; to initiate collaboration with one of the six Israeli Volcani Institutes to learn machine learning approaches that will be extremely useful in future digital agriculture and climate change-related research. (Virginia; Israel)

<u>Huang, Haibo</u>, associate professor, Food Science and Technology, fall semester 2023; to advance knowledge, experimental skill sets, and connections for sponsored research projects in the area of gut microbiome modulation using dietary fiber. (Washington D.C.)

<u>Lahne, Jacob</u>, assistant professor, Food Science and Technology, spring semester 2024; to develop expertise in new areas of data analytics and machine learning for sensory evaluation, and build new research collaborations. (France)

<u>Scherer, Hannah</u>, associate professor, Agricultural, Leadership, and Community Education, fall semester 2023; to establish future directions for integrated teaching, Extension, and research program in STEM education that supports systems thinking with an emphasis on food-energy-water-nexus. (Virginia)

College of Architecture, Arts, and Design (9)

<u>Borowski, Michael</u>, associate professor, School of Visual Arts, spring semester 2024; to continue research on the history of mineral springs by making site visits for photographing and incorporating emerging image-making technologies.. (Virginia, Oregon, West Virginia)

<u>Bukvic, Ivica</u>, professor, School of Performing Arts, spring semester 2024; to collaborate with partners in higher education and industry on developing new immersive audio platforms for cars, with a particular focus on high performance scenarios. (Croatia)

Dye, Charles, associate professor, School of Performing Arts, fall semester 2023; to collaborate other academics and Indigenous locals on identifying healthier story structures and respectful media production practices from Indigenous perspectives. (Ecuador)

Moseley-Christian, Michelle, associate professor, School of Visual Arts, fall semester 2023; to complete a book project on the art collecting practices of middle-class women in seventeenth- and eighteenth-century Netherlands. (The Netherlands)

Raun, Patricia, professor, School of Performing Arts, spring semester 2024; to research similar programs and develop several articles that build on a body of data and materials collected by the VT Center for Communicating Science. (New York, Virginia; East Africa; Europe)

Staley, Natasha, associate professor, School of Performing Arts, fall semester 2023; to reengage with research related to the intersection of dialect coaching and sociolinguistics and voice methodology after serving in an administrative role for several years. (California, Illinois, New York, Virginia)

Tural, Elif, associate professor, School of Architecture + Design, fall semester 2023; to conduct an ethnographic research project in a prominent architecture and design firm to identify how and why design practices change, and to discuss the implications of these on the current and future state of the profession and its education. (Washington D.C.)

Weinstein, Alan, associate professor, School of Performing Arts, spring semester 2024; to complete production on a documentary film and perform new commissioned works in international venues. (New York; England; Spain)

Yoo, Hyesoo, associate professor, School of Performing Arts, fall semester 2023; to study how the metaverse (a virtual society and a social network that mirrors real scenarios) is being used in music education. (Virginia)

College of Engineering (21)

Baker, Joseph, professor, Electrical and Computer Engineering, June 25, 2023 through December 24, 2023; to build relationships withing the worldwide community of scientists and engineers that partner on the Super Dual Auroral Radar Network (SuperDARN) in preparation for taking over leadership of the VT SuperDARN group. (Virginia)

Batra, Romesh, professor, Biomedical Engineering and Mechanics, December 25, 2023 through June 24, 2024; to revise a graduate-level textbook, used at universities around the globe, with research gathered since 2006. (Virginia)

Bortner, Michael, associate professor, Chemical Engineering, spring semester 2024; to explore new directions and application of rheology for the advancement of biological systems and applications, and investigate methods to design low cost, "disposable" rheometer designs. (California)

Cheng, Jiangtao, associate professor, Mechanical Engineering, spring semester 2024; to further develop research collaborations with labs across the country and write proposals for additional grant funding. (California, Illinois, Virginia)

Ellis, Michael, associate professor, Mechanical Engineering, spring semester 2024; to conduct research on lithium recovery from reverse osmosis waste effluent, submit findings for publication and secure funding to advance this research. (Virginia)

Fuller, Christopher, professor, Mechanical Engineering, spring semester 2024; to study the potential of using active noise cancellation to reduce the noise from urban air mobility vehicles during take-off and landing. (Virginia)

Isaacman-VanWertz, Gabriel, associate professor, Civil and Environmental Engineering, spring semester 2024, to establish collaborations and conduct research in the remote Amazon to better understand land-atmosphere interactions, particularly in the context of changing climate. (Ecuador)

Li, Qiang, associate professor, Electrical and Computer Engineering, fall semester 2023; to work with collaborators in power electronics and semiconductor industry identify technology transfer solutions based on current research. (Taiwan)

Lowe, Todd, professor, Aerospace and Ocean Engineering, spring semester 2024; to develop a multi-disciplinary, cross-college collaboration on turbine engine-particle interaction research. (Connecticut, Virginia; England)

Madigan, Michael, professor, Industrial and Systems Engineering, fall semester 2023; to submit a large grant proposal related to fall-induced head injuries in construction, and further develop relationships with collaborators on fall prevention among older adults. (Michigan, Virginia)

Orlowski, Marius, professor, Electrical and Computer Engineering, fall semester 2023; to develop expertise in graph theory, a part of discrete mathematics important in the fields of computer engineering and computer science. (Virginia)

Sarver, Emily, associate professor, Mining and Minerals Engineering, spring semester 2024; to develop collaborations and analytical capabilities to enable dust sample analysis in support of research on respirable dust characteristics in non-coal mines. (Virginia)

Scales, Wayne, professor, Electrical and Computer Engineering, December 25, 2023 through June 24, 2024; to develop a Quantum Information Science and Engineering (QISE) partnership with Virginia State University. (Virginia)

Shahab, Shima, associate professor, Mechanical Engineering, fall semester 2023; to launch a collaboration on ultrasound actuation of smart material-based microbots with the Max Planck Institute. (Germany)

Shealy, Earl, associate professor, Civil and Environmental Engineering, fall semester 2023; to establish new international collaborations, develop new research projects in the field of sustainable engineering design and development. (Scotland)

Shewchuk, John, associate professor, Industrial and Systems Engineering, June 25, 2023 through December 24, 2023; to develop research in sustainable manufacturing, identify thrust areas within the field, and establish collaborations and identify sources of grant funding to further this research. (Virginia)

Tafti, Danesh, professor, Mechanical Engineering, fall semester 2023; to update existing software base and review literature on use of artificial intelligence in science and engineering applications, and strengthen and develop international collaborations in these areas. (India)

Taheri, Saied, professor, Mechanical Engineering, spring semester 2024; to complete a book and journal articles based on work done with graduate students in the past two decades. (Virginia)

Woolsey, Craig, professor, Aerospace and Ocean Engineering, spring semester 2024; to develop a draft manuscript of a graduate textbook on atmospheric and ocean vehicle modeling, identification, and control. (Virginia)

Wyatt, Chris, associate professor, Electrical and Computer Engineering, fall semester 2023; to develop a quality open-source implementation of three main active inference algorithms: variations filtering, dynamic expectation maximization, and generalized filtering. (Virginia)

Zhang, Jinsuo, professor, Mechanical Engineering, fall semester 2023; to build international collaborations and draft a book on molten salt chemistry and corrosion. (Europe; Taiwan)

College of Liberal Arts and Human Sciences (12)

Bell, Shannon, professor, Sociology, fall semester 2023; to conduct an ethnographic study examining how environmental imaginaries of Appalachian forests may shape the survival of cultural traditions, customs, and lifeways tied to the forest commons. (Virginia)

Caraccioli, Mauro, associate professor, Political Science, fall semester 2023; to complete a book demonstrating that one of the central pillars of the Spanish Empire was the dynamic exchanges between religious intellectuals and indigenous, Black, and women colonial subjects. (New Jersey, Rhode Island, Virginia; Norway)

Coburn, Melissa, associate professor, Modern and Classical Languages and Literatures, fall semester 2023; to conduct research in preparation for a conference presentation and journal article submission related to protofeminist literature in Italy. (Virginia)

Collier, James, associate professor, Science, Technology, and Society, fall semester 2023; to perform research for a book analyzing the philosophical and material prospects for a collective approach to scholarship in the humanities and social sciences. (Virginia)

Eska, Charlene, professor, English, spring semester 2024; to complete a book that includes a translation and discussion of a previously unknown legal glossary based on versions of the original Irish laws before they fell into disuse, stimulating new research in the areas of history, law, medieval studies, and linguistics. (United Kingdom)

Eska, Joe, professor, English, fall semester 2023; to complete a book that provides an empirical description of the syntactic facts of the continental Celtic language, and begin drafting a second short book or article related to understanding of the phonological history of the Celtic languages. (Virginia)

Fisher, Patricia, professor, Apparel, Housing, afnd Resource Management, spring semester 2024; to conduct domestic and international research on consumers' financial behaviors and submit several journal articles related to this research. (Virginia; Morocco)

Gudmestad, Aarnes, professor, Modern and Classical Languages and Literatures, spring semester 2024; to conduct research and draft journal articles related to a large-scale replication study on variation in the interpretation of verbal moods among second-language learners of Spanish and French. (Virginia)

Heaton, Matthew, associate professor, History, fall semester 2023; to conduct archival research and further develop a book on the history of culture-bound syndromes. (Virginia)

Milly, Deborah, associate professor, Political Science, spring semester 2024; to complete a book on the politics of health work migration to Japan. (Virginia; Japan)

Phillips, Richard, associate professor, Modern and Classical Languages and Literatures, spring semester 2024; to complete a book on invisibility and transformation in the ancient Mediterranean world. (Virginia)

Watkins, Brandi, associate professor, School of Communication, fall semester 2023; to conduct research on the intersection of data analytics, social media, and strategic communication and prepare journal articles and a book prospectus for a textbook in this area. (Virginia)

College of Science (14)

Arav, Nahum, professor, Physics, spring semester 2024; to focus on projects involving the James Webb Space Telescope and Hubble Space Telescope that study effects of winds coming from the vicinity of super-massive black holes on the formation and evolution of the host galaxy. (Virginia)

Barnes, Edwin, professor, Physics, spring semester 2024; to advance knowledge in the field of quantum information science, developing existing collaborations and establishing new ones in the field. (California, Massachusetts; Denmark)

Barrett, John, professor, Biological Sciences, spring semester 2024; to develop an interdisciplinary research project to investigate how atmospheric CO_2 offsets can contribute to ecological and economic sustainability of small to medium landholding in Appalachia. (Virginia)

Caddick, Mark, associate professor, Geosciences, spring semester 2024; to develop cross-disciplinary collaborations to study the damage airborne particles do to jet engines, and how to mitigate this damage. (Virginia; England)

Calderwood, Charles, associate professor, Psychology, fall semester 2023; to develop publications from a current National Institute for Occupational Safety and Health R01 grant, work with collaborators at other institutions on existing grant research, and plan further publications from those collaborations. (Arkansas, Georgia, Texas, Virginia)

Economou, Sophia, professor, Physics, spring semester 2024; to expand domestic and international collaborations and deepen familiarity with experimental aspects of quantum information science and engineering. (California, Massachusetts; Denmark)

Friedman, Bruce, associate professor, Psychology, spring semester 2024; to facilitate collaborative research projects with international partners on non-invasive indices of autonomic nervous system activity. (Italy)

Gugercin, Serkan, professor, Mathematics, spring semester 2024; to perform research on data-driven modeling of dynamical systems and develop domestic and international collaborations to access experimental data and test theory. (Texas; Germany; Turkey)

Lin, Tao, professor, Mathematics, fall semester 2023; to study and develop high performance computing methods for solving complex interface problems modeling multi-physics. (Virginia)

Liu, Honghu, associate professor, Mathematics, fall semester 2023; to make significant progress on research projects with collaborators, and prepare a grant proposal focused on climate dynamics applications. (California, Maryland, Wisconsin)

Mariani, Camillo, professor, Physics, fall semester 2023; to conduct experimental research on three projects related to experimental particle physics with domestic and international collaborators. (Illinois, Virginia; Italy; Switzerland)

Romans, Brian, associate professor, Geosciences, fall semester 2023; to participate in in the International Ocean Discovery Program Expedition 400 to recover offshore sediment cores that will be used to reconstruct ice sheet response to past global climate change. (Greenland)

Scarpa, Angela, professor, Psychology, spring semester 2024; to advance work on three external grants with national and international collaborators focused on autism spectrum disorder and technology as an innovative tool for improving autism inclusion and service access. (Virginia)

Whitehead, Susan, associate professor, Biological Sciences, fall semester 2023; to develop an international collaboration that will result in the submission of several journal articles and a grant application related to understanding the ecological mechanisms and evolutionary consequences of plant interactions. (Argentina)

Pamplin College of Business (4)

Hunt, Richard, associate professor, Management, spring semester 2024; to complete a book tentatively titled *Knowledge Problem identification and Resolution - A Contemporary Theory of the Firm*, and prepare and revise multiple journal submissions and scholarly presentations. (Spain)

Lisic, Ling, professor, Accounting and Information Systems, fall semester 2023; to advance research and prepare journal submissions with collaborators examining the association between U.S. audit engagement partner trust and audit quality. (Virginia)

Singal, Manisha, professor, Hospitality and Tourism Management, fall semester 2023; to focus on advancing research projects related to environmental, social, and governance issues in business, and co-editing a handbook on diversity management with domestic and international collaborators. (Virginia)

Stein, Sarah, associate professor, Accounting and Information Systems, spring semester 2024; to build expertise in qualitative methods in the service of developing articles using data gathered from interviews with audit committee members of domestic publicly-traded companies. (Virginia)