

RESEARCH MATTERS

Internet of Things (IoT) Internal Planning Grant Winners

The CWRU Vice President for Research and Technology Management, in collaboration with the Case School of Engineering Dean's Office, conducted a campus-wide internal grant competition to seed research ideas around the emerging field of technology called the Internet of Things (IoT). IoT is the concept of connecting sensors and devices to the Internet (and/or to each other) for purposes of capturing and optimizing the data.

Case Western Reserve University is becoming a leader in the development of IoT applications for manufacturing, healthcare, energy, cybersecurity, municipal services, and more. Notably, we are taking a "tech-plus" approach to this initiative, by addressing the ethical, legal, and social implications of data collection and use.

This internal grant program is a way to stimulate the formation of cross-disciplinary teams to develop IoT solutions that will benefit people in Ohio and beyond.

The winning projects are:

Dr. Umut Gurken and his collaborators from Mechanical/Aerospace, EECS, SOM for Establishing a Point-of-Care Sickle Cell Disease and Malaria Screening Platform

Dr. Scott Frank and his collaborators from SOM, CSE, MSSAS, and Law for Virtual Advocate: Giving Voice to the Unheard



From left to right: Suzanne Rivera, Shanina Knighton, Mary Dolansky, Celeste Alfes, Scott Frank, Amy Sheon, Matthew Kucmanic, Claudia Hoyen, Umut Gurkan, James McGuffin-Cawley, Ya-Ting Liao, Kiju Lee

Dr. Fumiaki Takahashi and his collaborators from MAE, Applied Data Science, Mathematics, Nursing, and Biology for Smart Fire Fighting in Urban/Suburban Environments

Dr. Kiju Lee and her collaborators from MAE, BME, EECS, MSSAS, and Nursing for Building Innovation Capacity for User-Driven Elder Care Technologies through a Living Lab

Dr. Collin Drummond and his collaborators from SOM and Nursing for Clinical Theater Assistant

Dr. Kristie Ross and her collaborators from SOM and CSE for The HATCH Study: Halt Asthma exacerbations Through Connected Healthcare (HATCH)

Who is **an inventor?**

The question of how to determine inventorship comes up frequently when researchers want to submit an invention disclosure form to the Technology Transfer Office. Unlike authorship, which often gives credit to many individuals for various contributions to a published work, determining who is an inventor is a legal question with specific rules under U.S. Patent Law (35 U.S.C. 116). It is generally accepted that an inventor is a person who made an innovative contribution to the invention as defined by the claims of the patent application, and that the innovative contribution must be to the conception of the invention.

Under U.S. patent law, an invention is created via a two-step process that involves (1) the conception of the invention (idea formation and generation) and (2) the reduction of the invention to practice (showing or making the invention work in actual practice). Only those people who conceived the idea and made it work (using information or methods not commonly known in the field), are considered to be the true inventors of an invention. For example, workers in the lab who carried out the work under another's direction or by using commonly known methods in their field, are not considered to be inventors.

But if several people collaborated and jointly contributed to the conception of the invention, then more than one inventor should be named on a patent. In the case of joint inventors, multiple individuals may brainstorm together and come up with an invention. In this situation, all individuals that contributed to the conception of at least one component of the claimed invention would be awarded inventorship.

In patenting, listing the wrong inventors can nullify the invention's patent protection. Therefore, when completing an invention disclosure form, list only the individuals that contributed to the conception of the invention to avoid downstream issues should your invention become patented. If you have questions about who should or should not be an inventor, please contact the Technology Transfer Office.

For the directory of the CWRU technology transfer staff visit our website at case.edu/research/about/staff/#tto.

Dr. John "Chip" Tilton Recipient of Individual Biomedical Research Award



Dr. John "Chip" Tilton, associate professor in the Department of Nutrition at Case Western Reserve University School of Medicine, is one of just 12 researchers nationally to be recognized for a Biomedical Research Award from The Hartwell Foundation. The Memphis-based philanthropic institution invited 17 prestigious institutions to nominate individuals to compete for the award, which is given annually for early-stage, innovative and cutting-edge biomedical research with the potential to benefit children of the United States.

As a Hartwell Investigator, Dr. Tilton and his lab will receive support for three years at \$100,000 in direct costs per year for his research titled, "Enzyme Replacement Therapy for Inborn Errors of Metabolism."

"It's a really important award for me because my lab is pivoting from studying viruses to redirecting viral particles for therapeutic purposes," he said. "The goal of my Hartwell project is enzyme-replacement therapy using a new method for moving enzymes across biological membranes and into the cytoplasm, mitochondria or nucleus of a living cell. This is early-stage research and the Hartwell award will support development of the technology." [adapted from The Daily, April 18, 2018]

Faculty **Distinguished Research Awards**

Research is at the core of Case Western Reserve University, and our faculty make groundbreaking discoveries and inventions every day. Across the university, faculty members solve important problems, advance new technologies, and pave the way in emerging industries. In recognition of such contributions, the university annually bestows the Faculty Distinguished Research Award.

Dr. Susann Brady-Kalnay

Professor of Molecular Biology and Microbiology

Dr. Brady-Kalnay's research on cell adhesion, neural development and cancer imaging has made an indelible mark on the molecular biology and microbiology fields. She has helped the university secure \$65 million in grants, including \$38 million in six years as the program leader for the Case Comprehensive Cancer Center's signaling program.



Dr. Walter Lambrecht

Professor of Physics

Dr. Lambrecht is known internationally for his work in the theory of materials. His research group, the Electronic Structure Group, conducts research on such topics as ternary semiconductor nitrides, halide perovskite photovoltaics, and layered ultra-thin materials. Most recently, he was part of a research team that received a more than \$1.2 million grant from the Air Force Office of Scientific Research.



Dr. Jonathan Karn

The Reinberger Professor of Microbiology

As an internationally known virologist, Dr. Karn has built his career on conducting research on HIV.

His contributions to transcriptional control and HIV latency are widely regarded and have earned him a reputation as a top HIV cure thought leader. Dr. Karn has received many grants to support his research. In fact, through 2021, he has \$18.3 million in grant funding.



Dr. Dale A. Nance

The John Homer Kapp Professor of Law

Dr. Nance is well regarded for his scholarly contributions to evidence law. Internationally known, Dr. Nance's areas of expertise also include conflict of laws, archaeological relics and other cultural property law, and philosophy law. He has written or co-written four books, most notably *The Burdens of Proof: Discriminatory Power, Weight of Evidence, and Tenacity of Belief*.



For More Information **CONTACT**

AREA	NAME	EMAIL	PHONE
CWRU RESEARCH ADMINISTRATION			
Sponsored Projects (pre-award)	Ron Vitale	resadm@case.edu	216.368.6597
Sponsored Projects (pre-award for industry)	Peter Friedman	pbf2@case.edu	216.368.3398
Sponsored Projects (post-award)	Robin Trail	spadocs@case.edu	216.368.4516
Sponsored Projects (effort reporting)	Monica Bradley	mbb9@case.edu	216.368.5945
SCHOOL OF MEDICINE RESEARCH ADMINISTRATION			
Pre-award Grants	Robin Bissell	medres@case.edu	216.368.4432
Pre-award Contracts	Judy McBride	medresindustry@case.edu	216.368.4432
Research Compliance	Matthew DeVries	mpd35@case.edu	216.368.1266
UNIVERSITY RESEARCH COMPLIANCE PROGRAMS			
Animal Research Committee (IACUC)	Andreja Romanchik	axr130@case.edu	216.368.3815
Biosafety Committee (IBC)	Colleen Karlo	jck2@case.edu	216.368.0838
Conflict of Interest Committee (COI)	JC Scharf-Deering	caseoic@case.edu	216.368.4513
Export Controls	Lisa Palazzo	lxp66@case.edu	216.368.5791
Human Stem Cell Committee (HSCRO)	Colleen Karlo	jck2@case.edu	216.368.0838
Research Compliance Officer	Kim Volarcik	kav6@case.edu	216.368.0134
Research Integrity	Tracy Wilson-Holden	tjw18@case.edu	216.368.6131
University Compliance	Lisa Palazzo	lxp66@case.edu	216.368.5791
HUMAN SUBJECTS RESEARCH (IRBS)			
Cleveland Clinic IRB	Deb McCleave	IRB@ccf.org	216.444.2924
MetroHealth Medical Center IRB	Carey Gorden	cgorden@metrohealth.org	216.778.2021
CWRU IRB	Sue Ambro	cwru-irb@case.edu	216.368.6925
University Hospitals IRB	Beth Hagesfeld	elizabeth.hagesfeld@uhhospitals.org	216.844.7388
Veterans' Affairs IRB	Jennifer Livingston	jennifer.livingston@va.gov	216.791.3800 x4658
OTHER RESEARCH SUPPORT PROGRAMS			
Animal Resource Center (ARC)	Tami McCourt	txm9@case.edu	216.368.4972
Chief Information Security Officer	Tom Siu	tjs39@case.edu	216.368.6959
Corporate Relations	Anne Borchert	amb14@case.edu	216.368.0242
Environmental Health & Safety (EHS)	Marc Rubin	mdr6@case.edu	216.368.1518
Government & Foundation Relations	Julie Rehm	jmr193@case.edu	216.368.6070
Human Subjects Education/Training	Yovonda Rease	yxr13@case.edu	216.368.5963
ORA Information Systems	Steve Reinhardt	sparta@case.edu	216.368.0404
Technology Transfer Office (TTO)	Daniel Pendergast	djp8@case.edu	216.368.0184
Undergraduate Research (SOURCE)	Sheila Pedigo	sdp5@case.edu	216.368.8508

The Office of Research Administration provides two weekly e-newsletters; one details funding opportunities and the other provides news and updates regarding research. Join the lists at research.case.edu/spiderweb/oraSubscriptions.cfm.

To speak with someone to obtain information, offer input, or discuss problems, questions, or concerns about participation in a research study, please contact the local Institutional Review Board (IRB) or Research Compliance Officer listed above.

Visit us on the web at: case.edu/research.

