



TOP STORY

## Hongkai Yu Leads New NSF Major Research Instrumentation Grant



Dr. Hongkai [Yu](#), an assistant professor in the Department of Electrical Engineering and Computer Science ([EECS](#)), will lead a new National Science Foundation ([NSF](#)) Major Research Instrumentation (MRI) grant that will support the acquisition and implementation of new computing equipment for a wide range of Smart City research. The \$434,431 [grant](#) is titled, "Acquisition of a GPU-based High Performance Computing

Instrumentation for Smart City Research at Cleveland State University." Co-PIs on the award include Dr. Sathish [Kumar](#), Dr. Wenbing [Zhao](#), Dr. Zicheng [Chi](#), and Dr. Mehdi [Rahmati](#), all of whom are EECS faculty.

NSF's MRI program catalyzes new knowledge and discoveries by empowering scientists and engineers with state-of-the-art research instrumentation, in turn promoting the development of a diverse workforce and facilitating academic/private sector partnerships.

Dr. Yu's project will establish a Graphics Processing Unit (GPU)-based high performance computer cluster to facilitate and promote Smart City research. While there are a wide range of uses for this new computing resource, the researchers plan to pursue specific projects that will help transform Cleveland to a modern smart city with shorter commute times, reduced crime rates, and a highly robust and secure electric power grid. The researchers also intend to develop new computer vision methods to recognize and evaluate fine-grained activities of athletes to improve training and evaluation of players, leading to Cleveland's professional sports teams contending for more championships.

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MEET CSU'S FACULTY

## Becky Odom-Bartel, Teacher Education

Dr. Rebecca (Becky) [Odom-Bartel](#) is an assistant professor in the Department of [Teacher Education](#). Her research focuses on Computer Science (CS) Education. She is a graduate of the University of Alabama and has spent the last eight years working to advance computer science education in K-12 and college level settings. Her experience is in both college classrooms and secondary education classrooms teaching programming, web-design, CS methods, and robotics.

Becky's research is tied closely to her passion for CS education and has worked on multiple NSF Computer Science for All (CS4ALL) and DOE Education Innovation and Research (EIR) grants focusing on building pathways for pre-service and in-service teachers to become confident and strong CS teachers. Additionally, Becky works closely with several organizations and educational institutions to assist in the development of equitable and inclusive methods of teaching and sharing CS curriculum to high school and college students.



## FEATURED RESEARCHER

## Sandra Hurtado Rúa Receives Fulbright Award



Dr. Sandra [Hurtado Rúa](#), an associate professor in the Department of [Mathematics and Statistics](#), has been named a 2022-2023 [Fulbright U.S. Scholar](#). Fulbright Scholar Awards are prestigious and competitive

fellowships that provide unique opportunities for scholars to teach and conduct research abroad. Cleveland State has a history of successful Fulbright Scholars, and a list of CSU recipients can be found [here](#).

Dr. Hurtado Rúa's research includes Bayesian Inference and statistical analysis, with an emphasis on biostatistics. She will travel to Colombia for the spring 2023 semester to study approaches to statistical analyses of structural brain magnetic resonance images with collaborators at the University of Antioquia.

## RESEARCH POLICY NEWS

## NSF to Waive Cost Sharing for MRI and Noyce programs

As part of the [CHIPS and Science Act](#) aimed at improving U.S. competitiveness with China, Congress has instructed the National Science Foundation (NSF) to waive cost sharing for the Major Research Instrumentation ([MRI](#)) program and the [Robert Noyce](#) Teacher Scholarship Program for the next five years. As reported in [Science Insider](#), the intent of the move is to broaden participation in these programs.

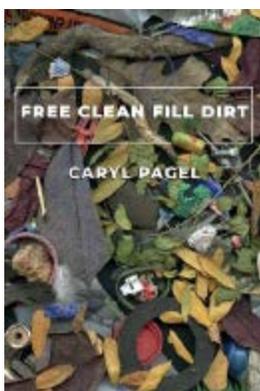


While cost sharing for these programs was intended to stretch federal funds and ensure commitment by recipient institutions, it has also created a barrier to institutions without access to cost sharing resources. During the five-year waiver period, NSF will evaluate the effects of the policy change on the demographics of the applicant pools for the programs as well as the quality of the funded research, and will provide a recommendation to Congress whether the change should be made permanent.

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## INSPIRED CREATIVITY

## Caryl Pagel's *Free Clean Fill Dirt*



Caryl [Pagel](#), an associate professor in the Department of [English](#) and director of the Cleveland State University [Poetry Center](#), has published her latest book of poetry with the University of Akron Press. Professor Pagel is also a co-founder and editor at Rescue Press. She previously published two books of poetry, *Twice Told* and *Experiments I Should Like Tried at My Own Death*, as well as a collection of essays, *Out of Nowhere Into Nothing*.

*Free Clean Fill Dirt* is a study in disruption, interruption, and ruin, tracing geological and historical palimpsests via caesura, fragmentation, echo, and humor. Using a blend of eco-poetic, visual, and archival modes, *Free Clean Fill Dirt* is a collection of poems making intimacy of deep time and vanitas of vision.

Purchase a copy at [bookshop.org](#).

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## NEWS FROM THE TECHNOLOGY TRANSFER OFFICE

## UPDATE: U.S. Patent Filing

## Industry Collaboration via



UNITED STATES  
PATENT AND TRADEMARK OFFICE  
**uspto**

Provisional patent application Ser. No. 63/420,875 was filed on October 31 on behalf of inventors Dr.

Anthony [Berdis](#), a professor in the Department of [Chemistry](#), and Mark Sutton and Brian Tsuji from the University at Buffalo, titled “*Artificial nucleosides that combat antibiotic resistance.*” Antibiotic resistant bacteria are an urgent, global health threat. In the United States alone, approximately 3 million antibiotic-resistant infections occur. More than 35,000 individuals die as a result of these infections.

The invention discloses that combining artificial nucleosides with existing antibiotics produces a strong cytotoxic effect against drug-resistant bacteria. This combination also adversely affects the viability of bacterial persisters. Collectively, this unique drug combination provides a novel approach to combat drug resistance in highly infectious microbial species.

Contact Jack [Kraszewski](#) for assistance with a [disclosure](#) to begin the process of protecting your invention or intellectual property.

## Open Innovation



[Strategic Allies Ltd.](#) is a global technology broker with tremendous experience in the global search for innovative technologies, solutions, products, strategic alliances and other new business generating opportunities. They connect technology rich companies, research institutions or individuals with global manufacturing brands, actively searching for such partners to an identified need.

Embracing all aspects of Open Innovation and often looking in places our manufacturing clients do not even know exist, Strategic Allies also understands the issues of confidentiality and sensitivity required to bring the right opportunities in what can often be disguised or complex situations.

Strategic Allies' current opportunities can be viewed [here](#).

Contact Jack [Kraszewski](#) if you'd like an introduction to the Strategic Allies team.

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### RESEARCH FUNDING

## New RAPIDS Funding to Support Cybersecurity Training



Cleveland State University has been awarded \$227,318 by the Department of Higher Education's ([ODHE](#)) Regionally Aligned Priorities in Delivering Skills ([RAPIDS](#)) program to purchase equipment to improve CSU's cybersecurity training capabilities in our business and engineering colleges.

Dr. Charles [McElroy](#), an assistant professor in the Department of [Information Systems](#), will lead the use of RAPIDS funds to create a new Security Operations Center (SOC) simulator training facility in the Monte Ahuja College of Business to improve training capabilities and tie

into state-wide resources like the Ohio Cyber Range Institute (OCRI). Dr. Sathish [Kumar](#), an associate professor in the Department of Electrical Engineering and Computer Science ([EECS](#)), will lead CSU's acquisition of advanced networking hardware that will be used to teach students about cyber attack threats and methods used to compromise hardware.

Cuyahoga Community College (Tri-C) and Lorain County Community College (LCCC) proposed jointly with CSU, and both received funds to make similar investments that will support regional workforce development for cybersecurity, a rapidly expanding job market and a subset of one of the three key industries identified for the region in the Ohio Means Jobs Northeast Ohio Workforce Regional Plan.

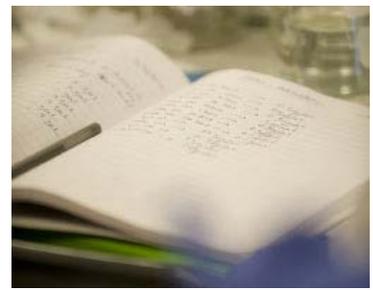
**Mark your Calendar! Internal Funding Proposals Due February 1**

The Office of Research is pleased to announce the call for proposals for these 2022-2023 internal funding programs:

[Undergraduate Summer Research Award \(USRA\)](#)  
[Graduate Student Research Award \(GSRA\)](#)  
[Faculty Research and Development \(FRD\)](#)  
[Faculty Scholarship Initiative \(FSI\)](#)

The deadline for applications is Wednesday, February 1. To assist in the preparation of successful applications, the forms that will be used to evaluate the proposals are included at the above web sites.

For more information, please contact Joy [Yard](#), 687-9364, or Roman [Kondratov](#), 687-5171.



#### Reminder: URA Deadline is November 28

The deadline to apply for Spring 2023 funding through the Undergraduate Research Award ([URA](#)) program is November 28. The purpose of the URA program is to allow undergraduate students to obtain funding to offset the costs associated with doing research undertaken in a CSU credit-bearing course.

Additional information on the URA program and the Office of Research's other internal funding programs can be found [here](#).



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Please share with us important news or updates on your research, scholarly, or creative activities. Updates may be related to a paper that has been accepted for publication in a high-impact journal, a book you've just published, your work that will be exhibited at a prominent institution, or other updates you wish to share with our office. Send details to [j.yard@csuohio.edu](mailto:j.yard@csuohio.edu) and [b.j.ward@csuohio.edu](mailto:b.j.ward@csuohio.edu).

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