

Montana Researchers Join ASCEND2.0 to Advance Antimicrobial Resistance and Drug Discovery

Through the I-RED ASCEND2.0 Program, Dr. Blair DeBuysscher and Dr. Andrea Stierle plan to advance their research in antimicrobial resistance and drug discovery.

MISSOULA, MT, UNITED STATES, January 6, 2025 /EINPresswire.com/ -- [Dr. Blair DeBuysscher](#) and Dr. Andrea Stierle from the University of Montana have been selected to join the highly competitive I-RED, [ASCEND2.0](#) 2024-2025 cohort. Funded by the National Institutes of Health (NIH) National Institute of General Medical Sciences, ASCEND2.0 provides funding, mentorship, and entrepreneurial training to accelerate the commercialization of biomedical innovations through the I-RED West Program.



Addressing Antimicrobial Resistance: Dr. Blair DeBuysscher

Dr. Blair DeBuysscher, an Assistant Research Professor in the Department of Biomedical and Pharmaceutical Sciences and a member of the Adjuvant Research Team within the Center for Translational Medicine, focuses on innovative vaccine design to tackle pressing healthcare challenges. Her research investigates how vaccines can modulate the immune system's adaptive responses, specifically targeting antimicrobial-resistant *Pseudomonas aeruginosa* infections.

Through the ASCEND2.0 program, Dr. DeBuysscher aims to prime the immune system via vaccination, facilitating the selection of effective antibodies that can be developed for clinical use. These therapeutic antibodies will provide novel solutions for high-risk patients, particularly those impacted by infections resistant to current antibiotics. The program will support critical

work aimed at publication, advance the development of her *Pseudomonas* vaccine and antibody treatments, and foster mentorship opportunities for early-career scientists in her lab.

Dr. DeBuysscher's extensive background includes a Ph.D. in Molecular Virology through Rocky Mountain Laboratories (NIAID, NIH) and a postdoctoral fellowship at the Fred Hutch Cancer Research Institute. Her research contributes to the growing field of immunology and vaccine design, pushing the boundaries of therapeutic possibilities.

Drug Discovery from Extreme Environments: Dr. Andrea Stierle
Dr. Andrea Stierle, a Natural Products Organic Chemist in the Department of Biomedical and Pharmaceutical Sciences, has spent decades uncovering life-saving compounds from some of the world's most extreme environments. Alongside her husband, Dr. Don Stierle, she has pioneered research at the [Berkeley Pit](#), an acid mine waste lake and Superfund site in Butte, Montana. This toxic environment has yielded microbes capable of producing bioactive compounds with anticancer, anti-inflammatory, and antibiotic properties.



Dr. Blair DeBuysscher



Dr. Andrea Stierle

Among their groundbreaking discoveries is a new family of antibiotics, the berkeleylactones, which possess potent activity against multi-drug-resistant *Staphylococcus aureus* (MRSA). These compounds were uncovered through co-culturing fungi isolated from the Berkeley Pit, a process that revealed otherwise inactive genes. Berkeleylactone A, in particular, has demonstrated a unique mechanism of action that differs from conventional antibiotics, offering hope in the fight against antibiotic-resistant bacteria.

Dr. Stierle's contributions to science include the discovery of *Taxomyces andreanae*, a fungus

capable of producing paclitaxel, a critical anticancer agent. Her work has been featured in Chemical & Engineering News, The Atlantic, and on YouTube: Video 1, Video 2. Through ASCEND2.0, she will continue to explore the “druggability” of the berkeleylactones in collaboration with the Priestley Lab, advancing this research for clinical applications.

About the ASCEND2.0 Program

ASCEND2.0, funded by the National Institutes of Health (NIH), is an initiative designed to accelerate the commercialization of biomedical innovations by equipping researchers with entrepreneurial skills and strategies for bringing their discoveries to market. This program is supported by the NIH's Institutional Development Award (IDeA), a congressionally mandated initiative managed by the National Institute of General Medical Sciences.

The IDeA program focuses on building research capacity in states with historically low levels of NIH funding. It supports advancements in basic, clinical, and translational research, alongside faculty development and infrastructure enhancements. By strengthening institutional capabilities in biomedical research, ASCEND2.0 enhances the competitiveness of investigators in securing research funding while enabling clinical and translational research to address the needs of medically underserved communities.

IDeA-Eligible States

The program is open to institutions in the following states and territories:

Alaska, Arkansas, Delaware, Hawaii, Idaho, Kansas, Kentucky, Louisiana, Maine, Mississippi, Montana, Nebraska, Nevada, New Hampshire, New Mexico, North Dakota, Oklahoma, Rhode Island, South Carolina, South Dakota, Vermont, West Virginia, Wyoming, and Puerto Rico.

ASCEND2.0 plays a pivotal role in empowering biomedical researchers to transform their innovations into impactful healthcare solutions, fostering excellence in underserved regions.

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