ALTERNATIVES
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FOUNDATION

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Alternatives Research & Development Foundation Awards $400,000 in Grants for Biomedical Research without Animals

Jenkintown, Pennsylvania—The Alternatives Research & Development Foundation (ARDF) is proud to announce the awardees for its 2025 Annual Open Grant program. ARDF's flagship grant program funds researchers who are developing or implementing innovative alternative methods to reduce or replace the use of animals in research, testing, and education.

"This year's awards highlight the value of applying alternative methods in exciting and promising research areas," commented ARDF President Sue Leary. "I have seen stunning progress in this field and have no doubt that our support of new non-animal, human-relevant approaches is contributing to advances in biomedical research."

In response to an unprecedented number of applications last year, ARDF revised its submission process for 2025, requiring a letter of intent in a preliminary stage. This decision proved wise, as 173 such application letters were received, toppling last year's record of 74 proposals. The Foundation was also able to increase the amount of each award to $50,000 (over the previous $40,000 maximum).

"While we are thrilled by the increased interest in our program and the broad diversity of applications received, we are also aware of the current funding climate and the challenges faced by researchers, especially those at the forefront of advancing non-animal methods," said ARDF Director Dr. Angela Hvitved. "We were pleased that we could increase the award amount this year and will continue to do what we can to support our researchers in this uncertain funding environment."

The Foundation awarded eight grants, totaling almost $400,000. The research projects covered a broad range of topics, with many focused on developing human-based models to answer key questions of human health and disease. Several projects are aimed at gaining insight into disease and improving drug development and testing.

Dr. Aitor Aguirre at Michigan State University will use human-based heart organoids that closely resemble embryonic hearts to study the effects of FDA-approved medications that could be taken during early pregnancy and assess whether they might contribute to the development of congenital heart defects. This work could help enhance safety assessments for drugs and serve as a physiologically relevant model for cardiac toxicity testing. Dr. James Hagood at the University of North Carolina at Chapel Hill will use precision-cut lung slices (PCLS) to study idiopathic pulmonary fibrosis (IPF), a progressive and fatal lung disease that currently can only be treated by a lung transplant. Once optimized, this model will be used to study new therapies and could lead to new and better treatments for patients with IPF.

At the University of Arizona, Dr. Jian Gu will develop a model to study how a new method of focused ultrasound creates temporary openings in the blood-brain barrier to deliver drugs to targeted locations in the brain, allowing for new treatment options for neurological diseases.

Dr. Jason Tchieu at the Cincinnati Children's Hospital Medical Center will create a human-based model to study olfactory sensory neurons to understand the role of olfactory dysfunction in neurodegenerative diseases, and whether the loss of smell is an important marker for diseases such as Alzheimer's and Parkinson's disease.

Dr. Aranzazu Villasante at the Institute for Bioengineering of Catalonia in Spain will refine a "neuroblastoma-on-a-chip" model that allows for real-time monitoring of tumor migration in order to examine the efficacy of three anti-metastatic therapies. Neuroblastoma is the most common extracranial solid tumor in children, and this model could improve drug screening and accelerate development of treatment for pediatric cancers. Dr. Maria Karlgren at Uppsala University in Sweden will continue an ongoing project to benchmark methods for growing different types of cells used in pharmaceutical testing without fetal bovine serum (FBS), a common additive obtained from fetal calves. These standardized methods will contribute to more reliable, animal-free drug development studies.

Two projects at Johns Hopkins University will use cutting-edge research with brain organoids to study brain development and learning. Dr. Fenna Sillé will examine chemicals known as developmental immunotoxicants to understand how neuroinflammation might alter brain development. These studies could provide insights into a range of neurodevelopmental disorders, such as autism spectrum disorder. Dr. Lena Smirnova will create organoids that integrate two different brain regions and use electrical readouts to observe neural activity related to learning and memory. This work has the potential to advance our fundamental understanding of neuroscience and reduce the need for animals in this critical area of research.

Dr. Hvitved stressed that these grants would not be possible without the incredible support and hard work of ARDF's expert reviewers: "We are so grateful to our external scientific reviewers who generously share their expertise with us. They are crucial for this program's success." Learn more about ARDF's Annual Open Grant program and this year's funded projects at: https://ardf-online.org/ardf-grants.html.

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