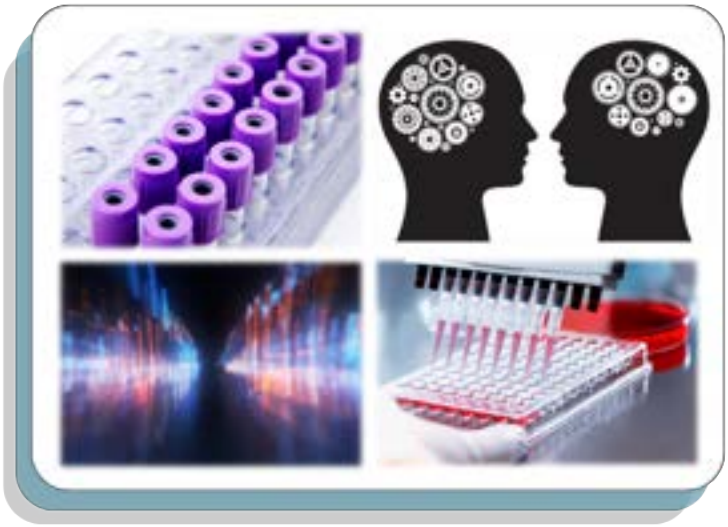


NIH REPLICATION PRIZE

Awards Ceremony Program

May 13, 2026 · 1:00 PM – 2:45 PM ET · Virtual Ceremony

Sponsored by the National Institutes of Health (NIH)

Administered by Floor23 Digital

ABOUT THE NIH REPLICATION PRIZE

The NIH Replication Prize is a landmark open innovation initiative designed to strengthen the foundation of biomedical science. Launched by the National Institutes of Health and administered by Floor23 Digital through the Innobear challenge platform, the competition invites researchers, clinicians, and innovators to propose, conduct, and celebrate the replication of impactful scientific findings.

Reproducibility is the cornerstone of trustworthy science. Yet, across biomedical research, a growing body of evidence reveals that many published findings — even high-profile, highly cited results — cannot be reliably replicated. The NIH Replication Prize was created to turn that challenge into an opportunity: to recognize those who lead the way in making science more transparent, rigorous, and reliable.

Track 1 recognizes the best Replication Ideas — proposals for rigorous, methodologically sound studies designed to test whether landmark findings hold up. Track 2 recognizes Replication Exemplars — completed replication studies that demonstrate excellence in scientific rigor and reproducibility. Together, these tracks celebrate a new generation of scientific leaders committed to getting the science right.

THE NIH REPLICATION PRIZE LEADERSHIP

The NIH Replication Prize is led by a dedicated team within the NIH Office of Strategic Coordination – The Common Fund, whose commitment to advancing scientific rigor and reproducibility made this competition possible. Their vision and leadership have been instrumental in bringing this initiative to life.
From competition design to winner selection, this team has championed the integrity and impact of the Replication Prize at every stage — and it is their dedication that makes today's celebration possible.

Dr. Sahana N. Kukke
Program Leader

Dr. Sahana Kukke is a Program Leader in the Catalytic Data Resources Team at the NIH Office of Strategic Coordination (OSC) – The Common Fund. She leads initiatives in the Replication to Enhance Research Impact Initiative (Replication Initiative), Precision Medicine with AI: Integrating Imaging with Multimodal Data (PRIMED-AI), and the Common Fund Data Ecosystem (CFDE).

Before joining OSC, she served as a Program Director for research and training in neural engineering and neurotechnology at the National Institute of Neurological Disorders and Stroke (NINDS) and the NIH BRAIN Initiative. Prior to joining NIH, Dr. Kukke was an Assistant Professor of Biomedical Engineering at the Catholic University of America. In her faculty position, she investigated how the human sensorimotor system uses tactile sensory feedback to control movement, and taught undergraduate and graduate courses in engineering design, research methods, and neural control of movement.

She earned a B.S. in Biomedical Engineering at Northwestern University, an M.S. in Biomedical Engineering at Case Western Reserve University, and a Ph.D. in Bioengineering at Stanford University. She conducted her postdoctoral work, studying characteristics and mechanisms of childhood-onset hemidystonia, at the NIH jointly in the Rehabilitation Medicine Department of the Clinical Center and at NINDS.

Dr. Michelle R. Hamlet
Program Leader

Dr. Hamlet began her career at the National Institutes of Health as a Training Program Coordinator at the National Human Genome Research Institute, where she developed several training and outreach initiatives, including NIH Community College Day. She later became a Program Director at the National Institute of General Medical Sciences, overseeing basic research portfolios in cell cycle regulation and student development programs.

She went on to the National Institute of Nursing Research, where she managed clinical and pre-clinical research portfolios in symptom science, before joining the NIH All of Us Research Program as a Branch Director in the Division of Cohort Development. In that role, she led a team responsible for participant enrollment and retention.

Dr. Hamlet currently serves as a Program Leader in the NIH Office of Strategic Planning within the Common Fund, where she oversees programs spanning multiple scientific disciplines.

Dr. Hamlet earned a B.S.L.A. in French, Georgetown University; an MS in zoology, Howard University; and a Ph.D. in cell and developmental, Harvard University. She conducted postdoctoral research at St. Jude Children's Research Hospital.

Dr. Alicia C. Cavanaugh
Scientific Program Analyst

Dr. Alicia Cavanaugh joined the Office of Strategic Coordination (OSC) as a Scientific Program Analyst in November 2023. She has worked on several Common Fund initiatives including Replication to Enhance Research Impact Initiative (Replication Initiative) and Transformative Research to Address Health Disparities (THD) program.

Prior to joining NIH, she was a Post-Doctoral Fellow at McGill University as a member of the Pathways to Equitable Healthy Cities Consortium working on questions of multi-dimensional poverty, inequality, and well-being in Ghana, Canada, Bangladesh, the United Kingdom, and China, with a focus on transferability and generalizability of commonly used methods, metrics, and models in data scarce environments. In that role, she led small area estimation efforts to impute missing data, harmonized datasets and outcome measures, and trained researchers to adapt these methods in various contexts.

She earned her B.A. in Geography and M.Sc. in Environmental Science & Policy from Clark University. She earned her Ph.D. in Economic Geography from McGill University using econometrics to study the causes of income inequality across US metropolitan areas.

A Note from the NIH Replication Prize Leadership

"Sincere thanks to the Replication Initiative Team, Floor23, and you, the participants, for making this important event possible!"

— Dr. Sahana N. Kukke, Dr. Michelle R. Hamlet, and Dr. Alicia C. Cavanaugh
NIH Office of Strategic Coordination – The Common Fund

PROGRAM OF EVENTS

TIME (ET)	SESSION	SPEAKER
1:00 – 1:05 PM	**Welcome & Acknowledgments**	Candace Spears
1:05 – 1:10 PM	**Opening Remarks**	Dr. Vivian Ota Wang
1:10 – 1:15 PM	**Prize Overview & Keynote Introduction**	Dr. Alicia C. Cavanaugh
1:15 – 1:35 PM	**Keynote Address**	Dr. Tim Errington
1:35 – 1:55 PM	**Track 1: Replication Ideas Winners**	Candace Spears
1:55 – 2:40 PM	**Track 2: Replication Exemplars Winners**	Video Presentation
2:40 – 2:45 PM	**Closing Remarks**	Dr. Sahana N. Kukke

SPEAKERS & PROGRAM TEAM

OPENING REMARKS

Dr. Vivian Ota Wang
Program Officer, National Institutes of Health

Vivian Ota Wang, Ph.D., FACMG, CGC currently serves as the deputy director of the Office of Research on Women's Health (ORWH). She provides scientific leadership and oversight within ORWH.

As a genetic counselor, genomicist, and psychologist, her domestic and global experiences in research, education, science policy, and ethics span the psychological, genomic, nanoscale, and data sciences.

Prior to joining NIH, Dr. Ota Wang served the Bush and Obama administrations in the Executive Office of the President's National Science and Technology Council. During this time, she developed public engagement and ethical, legal, and social implications guidance for nanoscience and nanotechnology.

She is a fellow of the American Medical Association (American College of Medical Genetics) and American Psychological Association (Divisions 17 & 45), a diplomate of the American Board of Medical Genetics and American Board of Genetic Counseling, as well as a clinical laboratory specialist in cytogenetics and a licensed psychologist.

KEYNOTE SPEAKER

Dr. Tim Errington
Director of Research, Center for Open Science

Dr. Tim Errington is the Senior Director of Research at the Center for Open Science (COS) that aims to increase openness, integrity, and trustworthiness of scientific research..

In that position he conducts and collaborates with researchers and stakeholders across scientific disciplines and organizations on metascience projects aimed to understand the current research process and evaluate initiatives designed to increase reproducibility and openness of scientific research. These include large scale reproducibility projects such as the Reproducibility Project: Cancer Biology and the DARPA supported Systematizing Confidence in Open Research and Evidence (SCORE), and evaluation projects of new initiatives such as open science badges, Registered Reports, automated confidence assessment, and pilot programs to increase rigor and openness of research.

Errington received his PhD in Microbiology, Immunology, and Cancer Biology from the University of Virginia, MA in Molecular and Cell Biology at University of California Berkeley, and earned a BS in Biology and Chemistry at St. Lawrence University.

CEREMONY PRESENTERS

Dr. Alicia C. Cavanaugh
Scientific Program Analyst, NIH | Leadership, NIH Replication Prize

Dr. Sahana N. Kukke
Program Leader, NIH | Leadership, NIH Replication Prize

Candace Spears
CEO, Floor23 Digital | Program Administration, NIH Replication Prize

PROGRAM TEAM: PLANNING AND ADMINISTRATION

National Institutes of Health (NIH)

Dr. Sahana N. Kukke

Dr. Michelle R. Hamlet

Dr. Alicia C. Cavanaugh

Katelynn Milora

Jason Shockey

Floor23 Digital

Candace Spears

Omar Fuentes

Myrafe Trazona

TRACK 1 WINNERS: REPLICATION IDEAS

Track 1 of the NIH Replication Prize recognizes the most compelling and methodologically rigorous proposals for replication studies. Each winner submitted a "Replication Idea" — a detailed plan for testing whether a significant published finding can be reproduced under rigorous conditions. The 20 winners recognized today represent a diverse cross-section of biomedical research, united by a commitment to scientific transparency and reproducibility.

INDIVIDUAL WINNER | Kuan-lin Huang

Dr. Kuan-lin Huang is an Associate Professor of Genetics and Genomic Sciences & AI in Human Health at Mount Sinai, where he leads the Precision Omics Lab. Originally from Taiwan, he is the only graduate of Wesleyan University to earn dual Honors — in Molecular Biology and Studio Art — and went on to complete his Ph.D. in Statistical Genomics at Washington University in St. Louis. Dr. Huang has authored over 90 peer-reviewed publications with more than 20,000 citations, and is the author of the best-selling book Solve It Yourself. He currently serves as co-founder of OpenBoxScience.Org and founder of Kaimen Inc. Most recently, he led the team that won the $1 Million AlzInsights AI Prize for Alzheimer's research.

Winning Idea: "The idea suggests that mandating the release of participant-level clinical endpoints and biomarkers from clinical trials could improve reproducibility, AI models, and future therapies."

TEAM WINNER | Predictive/UNC Team

Team Members: Alexander Tropsha · Eugene Muratov · Ricardo Scheufen Tieghi

Team Predictive/UNC comprises members of the Laboratory for Molecular Modeling (MML) at the UNC Eshelman School of Pharmacy and of the UNC startup Predictive, LLC, which was cofounded in 2019 by Alexander Tropsha, Eugene Muratov, Vinicius Alves (all of UNC) and Kevin Causey as CEO. Our R&D studies have focused on methodology development and the generation of experimentally testable hypotheses. MML has published over 400 peer-reviewed research papers and developed multiple software tools to support biomedical research with the emphasis on data curation, reproducibility, and rigorous model validation. Predictive, LLC was founded to promote these concepts and commercialize computational technologies and software developed at UNC as in silico NAMs. Our joint team is committed to rigor in the analysis of experimental data reproducibility and computational model validation. We are happy that this commitment is now recognized by the NIH Common Funds Replication Prize.

Winning Idea: The Predictive/UNC Team idea is to leverage AI to extract real-world human toxicity data, building a ground-truth database to validate New Approach Methodologies (NAMs). By applying a strict replicability framework, we aim to replace unreliable animal testing in Developmental and Reproductive Toxicity (DART) with human-relevant, regulatory-ready alternatives.

TEAM WINNER | LabGeeks

Team Members: Nalan Yurtsever · Imran Unal

Nalan Yurtsever, MD, and Imran Unal, MD collaborate at the intersection of laboratory medicine, endocrinology, and clinical informatics to address a central challenge in diabetes care: the reliability and reproducibility of HbA1c measurement in complex clinical settings. Their work examines how biological variability — such as altered red blood cell lifespan, hemoglobin variants, and systemic disease — interacts with assay and platform-specific factors to influence HbA1c performance in real-world practice.

Dr. Yurtsever is an Assistant Professor of Laboratory Medicine at Yale School of Medicine and Medical Director of the Clinical Laboratory at Bridgeport Hospital. She has expertise in transfusion medicine, apheresis, laboratory quality, and assay validation, with a focus on diagnostic reliability and standardization. Dr. Unal is a board-certified endocrinologist currently practicing as a virtual endocrinologist at ChristianaCare, with a professional focus on clinical informatics, diabetes care, and biomarker interpretation.

Winning Idea: "This replication idea questions the validity of using HbA1c measurements for diagnosing diabetes across different laboratory platforms in patients with altered red blood cell lifespan or hemoglobin composition."

TEAM WINNER | MitoWay Therapeutics

Team Members: Bin Jiang

MitoWay Therapeutics, founded by Northwestern's Dr. Bin Jiang, is an early-stage biotech developing engineered therapeutics to treat mitochondrial dysfunction and restore cellular bioenergetics. The company translates academic research into scalable technologies by integrating modular engineering with reproducible manufacturing workflows. By standardizing mitochondrial delivery and functional benchmarking across labs, MitoWay aims to accelerate discovery and de-risk therapeutic development for regenerative medicine and metabolic diseases.

Winning Idea: "How can we make mitochondrial transfer reproducible so scientists can understand how it restores cell function and develop reliable new therapies?"

INDIVIDUAL WINNER | Alysson Muotri

Dr. Alysson Muotri is a professor of Pediatrics and Cellular & Molecular Medicine at UC San Diego, where he holds multiple directorships across stem cell and evolutionary research centers, including ISSCOR and CARTA. With a Ph.D. in Genetics, his research focuses on brain evolution and modeling neurological diseases using human induced pluripotent stem cells and brain organoids. His work has earned him significant recognition, including the NIH Director's New Innovator and EUREKA Awards.

Winning Idea: "Making human brain organoids more reproducible and consistent."

INDIVIDUAL WINNER | Scott A. Handley

Scott A. Handley, Ph.D., is a tenured Professor of Pathology and Immunology at Washington University School of Medicine, where he directs research on microbiome and virome interactions in health and disease. With over 20 years of experience in computational biology, Dr. Handley has developed open-source bioinformatics tools including Hecatomb (viral metagenomics) and biometal (streaming bioinformatics), designed to democratize access to large-scale genomic analysis. He serves as Associate Editor for Microbiome and Gut Microbes, and has directed the international Workshop on Genomics since 2011, training hundreds of researchers from over 50 countries. His research focuses on understanding how microbial communities influence inflammatory bowel disease, HIV/AIDS, and other chronic conditions. Dr. Handley is committed to improving scientific reproducibility by lowering computational barriers to replication studies.

Winning Idea: Dr. Handley identified that the landmark 1,800-citation pediatric Crohn's disease microbiome study documented five treatment exposures including antibiotics, biologics, steroids, immunosuppressants, and mesalamine but never tested their effects, representing a critical gap in understanding how therapies reshape the gut microbiome.

INDIVIDUAL WINNER | Vicki Meadows

Vicki is a purpose-driven creative professional based in the Atlanta area, known for her authenticity, clarity, and grounded presence. She brings a thoughtful blend of storytelling, visual expression, and strategic thinking to every project she touches. Whether she's in front of the camera, collaborating on new ideas, or building meaningful connections, Vicki leads with intention and a strong sense of identity. She values honesty, emotional intelligence, and professionalism, and she protects her peace with the same care she gives to the people she supports. Guided by a belief that every experience carries purpose, she approaches her work with humility, discipline, and quiet ambition. Vicki is committed to continuous growth — personally, creatively, and professionally — and she is steadily shaping a career that reflects who she truly is.

Winning Idea: "My replication idea proposes a clear, multi-site re-test of time-restricted eating to see whether its widely claimed metabolic and weight-loss benefits truly hold up under stronger scientific scrutiny."

INDIVIDUAL WINNER | Max Zacher

Max recently completed a PhD focused on the comparative biology of aging and cancer risk in mammals of varying lifespans, with a particular focus on the long-lived bowhead whale. He has been involved in research on aging for over a decade, since he was an undergraduate. He attended Harvard for his bachelor's degree and the University of Rochester for his graduate studies. He has always been interested in the natural world and is passionate about using science and technology to solve difficult problems.

Winning Idea: "My Replication Idea is to use epigenetic editing platforms as a tool to specifically isolate the role of epigenetic modifications in aging."

INDIVIDUAL WINNER | Yi Jiang

Yi Jiang is the Inaugural Frady Whipple Professor of Mathematics at Georgia State University, with affiliate appointments at the Winship Cancer Institute of Emory University and the Emory Eye Center. Trained as a physicist, she earned her Ph.D. from the University of Notre Dame and previously served as a scientist in the Theoretical Division at Los Alamos National Laboratory. Her research develops mathematical, computational, and data-driven approaches to understand complex biomedical systems, with applications in cancer invasion, tumor-microenvironment interactions, retinal disease, mucociliary transport, biofilms, and infectious disease dynamics. She has authored more than 120 scientific publications and holds patents in biomedical image analysis.

Winning Idea: "We propose to independently replicate, across multiple sites, whether ATR-FTIR spectroscopy combined with low-complexity machine learning can detect MRSA versus MSSA within 20-30 minutes of beta-lactam exposure with >=90% balanced accuracy, while confirming that the signal reflects early cell-wall stress rather than analytic artifact."

TEAM WINNER | Functional Biomarkers in Food Allergy

Team Members: Sindy K.Y. Tang · PhD · Stephen J. Galli · MD · R. Sharon Chinthrajah · MD

The Functional Biomarkers in Food Allergy team at Stanford University brings together complementary expertise in engineering, immunology, and clinical medicine to advance the reliability of functional immune diagnostics. The team includes Sindy K. Y. Tang, PhD, who develops microfluidic and diagnostic systems; Stephen J. Galli, MD, a leading immunologist known for foundational work on mast cells and basophils; and R. Sharon Chinthrajah, MD, a clinician-scientist who leads national food allergy trials and translational research. Together, the team focuses on improving the reproducibility of functional biomarkers for food allergy, particularly the basophil activation test (BAT), by integrating engineering, immunology, and clinical perspectives to identify and control pre-analytical variables that impact assay performance.

Winning Idea: "This idea examines whether a functional blood test for food allergy can deliver consistent, reliable results in real-world clinical settings, reducing reliance on risky oral food challenges."

INDIVIDUAL WINNER | Sarah F. Ackley

Sarah F. Ackley is an assistant professor at the Brown University School of Public Health. She is a clinical epidemiologist whose research focuses on Alzheimer's disease and dementia, as well as on improving the credibility of biomedical evidence.

Winning Idea: "This project evaluates whether amyloid-plaque reduction can serve as a reliable surrogate endpoint for cognitive benefit in Alzheimer's trials by independently replicating a high-profile TRAILBLAZER-ALZ 2 analysis and comparing it with more methodologically robust alternatives."

TEAM WINNER | UF HE LAB

Team Members: Mei He · Zachary Greenberg · Brian Diaz · Samantha Ali




The UF He Lab team is leading research on extracellular vesicle (EV)-based precision medicine. Dr. Mei He is Associate Professor at the University of Florida College of Pharmacy. Dr. Zachary Greenberg is an NIH T32 postdoctoral research fellow. Samantha Ali is a fourth-year PhD student, and Brian Diaz is a third-year PhD student. The team has seen firsthand how inconsistent EV isolation and analysis confound results, hindering the therapeutic potential of extracellular vesicles. Their work focuses on how rigorous EV isolation methods and analysis can deliver high-purity and reproducible EV results, contributing meaningful evidence to the broader biomedical community.

Winning Idea: AI-based ExoQuality index (EQI) to assess extracellular vesicles in a high-quality and standardized fashion for reliable, reproducible, and biologically accurate EV measurements across laboratories, sample types, and experimental conditions.

INDIVIDUAL WINNER | Sterling Wright

Sterling Wright is a Postdoctoral Scholar at Arizona State University. He received his PhD in Anthropology from The Pennsylvania State University, where his research centered on ancient oral microbiomes to reconstruct past human health and behavior. His work integrates anthropology, biology, and data science to bridge modern and ancient microbial systems. Additionally, his research focuses on reproducibility in oral microbiome science. He investigates how methodological variations in wet lab protocols (e.g., DNA extraction) and dry lab approaches (e.g., bioinformatic pipelines) affect microbiome recovery, with the goal of improving reliability and comparability across studies.

Winning Idea: "My replication idea focuses on making oral microbiome research reproducible and robust through standardized, comprehensive metadata reporting to fully harness its scientific potential."

INDIVIDUAL WINNER | Rodrigo M. Carrillo-Larco MD, PhD

Rodrigo M. Carrillo-Larco is a physician-researcher and Assistant Professor at the Hubert Department of Global Health, Rollins School of Public Health, Emory University. He holds an MD from Universidad Peruana Cayetano Heredia and a PhD from Imperial College London, complemented by advanced training in data science and AI. His research sits at the intersection of epidemiology, machine learning, and global cardiometabolic health, with over 200 peer-reviewed publications. He founded the Cohorts Consortium of Latin America and the Caribbean (CC-LAC) and has served as a contractor for the World Health Organization. His work has been supported by the Wellcome Trust, and he was recognized with an NIH Early-Stage Investigator Lecture in 2023 and Peru's Science Award in 2025.

Winning Idea: "Establish an independent replication team to externally validate published risk prediction models across diverse populations, transforming them from academic exercises into trustworthy tools for clinical practice."

INDIVIDUAL WINNER | T.J. Sego

Dr. T.J. Sego is Assistant Professor of Medicine at the University of Florida. He earned a PhD from Purdue University in 2019 for his work on modeling multicellular systems in biofabrication settings and was a postdoctoral fellow at the Indiana University Biocomplexity Institute, where he studied the immune response to influenza using multiscale modeling approaches. Since 2025, Dr. Sego has led BioModels, the world's largest database of findable, accessible, interoperable, and reusable (FAIR) computational biological models, and is a current editor of the Systems Biology Markup Language (SBML). He is a trained engineer with research interests in digital twin development, stochastic and multiscale modeling approaches, and standards in biomedical modeling.

Winning Idea: "To assess the replicability of published epidemiological models, including stochastic models, by independently re-implementing them and quantitatively comparing their outputs to published results."

TEAM WINNER | Replicability by Default (RbD)

Team Members: Michael White · Mosalam Ebrahimi · Berkan Hoke

Replicability by Default (RbD) is a team applying industry-grade ML engineering to the reproducibility challenges of modern behavioral science. Michael White, CEO of Point Ref Inc., is a U.S. Army veteran with 27 years at Intel in fraud-detection AI. Dr. Mosalam Ebrahimi, CTO, holds a PhD from the University of Bristol and has led computer-vision research at Meta, Amazon Prime Air, and Trueface. Berkan Hoke, Senior CV Engineer, specializes in deep neural networks for production systems across various industries. Together, they leverage expertise in deep-learning pose estimation and behavioral phenotyping to make high-dimensional behavioral research replicable by default.

Winning Idea: "A systematic, multi-lab replication effort to determine whether the AI-driven animal behavior measurements now central to preclinical mental-health, pain, and neurodegeneration research produce the same answers when the hardware, software, and analysis pipelines vary."

INDIVIDUAL WINNER | Sean Mann

Sean Mann, a senior policy analyst at RAND, is leading an effort to understand an overlooked threat to clinical trial validity: spillover due to care delivery constraints. If an intervention increases the use of limited resources, it can negatively affect care availability for the control group, leading to overestimated benefits and hidden downstream costs. This structural issue affects trials evaluating diverse medical technologies that shift how clinician time and resources are allocated. He holds an M.S. in foreign service from Georgetown University and a B.A. in anthropology from Dartmouth College.

Winning Idea: "Replicate the ARRIVE trial to test whether elective labor induction worsens childbirth outcomes by increasing strain on labor and delivery wards — an unintended spillover effect the original trial could not detect."

TEAM WINNER | Drs. Thompson and Henrich

Team Members: Dr. Amanda J. Thompson · Dr. Christopher C. Henrich

Dr. Amanda Thompson is a postdoctoral researcher at the Center for Suicide Prevention and Research at Nationwide Children's Hospital, where her work focuses on identifying early risk profiles and developmental pathways of youth suicide and self-harm. Her research integrates longitudinal and clinical data to improve early detection and inform prevention strategies for children at highest risk.

Dr. Christopher Henrich is a Professor and the Chair of Psychology at the University of Alabama at Birmingham with expertise in developmental psychopathology and quantitative methods. His research examines how social, environmental, and individual factors interact to shape mental health trajectories across childhood and adolescence

Winning Idea: "This project uses replication of mixture modeling to identify robust developmental trajectories of self-injurious thoughts and behaviors and their early predictors, advancing more precise early detection and prevention of youth suicide risk."

INDIVIDUAL WINNER | John Worthley

Driven by the alarming 2.9x increase in suicide rates among rural workers, John advocates for a shift toward "Infrastructure Substitution" in behavioral health. He leads the Joliet Nebraska Replication Hub, where he tests the scalability of peer-to-peer gatekeeper models in the absence of professional clinical support.

Winning Idea: Testing whether training trusted community leaders in evidence-based mental health protocols can substitute for missing rural clinical infrastructure, leveraging social capital networks to replicate traditional provider outcomes.

INDIVIDUAL WINNER | Riccardo Barrile

Riccardo Barrile, PhD, is an Assistant Professor of Biomedical Engineering at the University of Cincinnati and a researcher at CuSTOM. Integrating stem cell biology and tissue engineering, his work bridges experimental research and clinical practice through standardized New Approach Methodologies (NAMs). Leveraging his preclinical experience at Emulate Inc., his current research focuses on validating blood-brain barrier models and establishing vascular function standards for glioblastoma and Alzheimer's disease. As an Executive Board Member of the International Microphysiological Systems Society, he strongly advocates for reproducible models to accelerate drug development.

Winning Idea: We aim to establish a standardized benchmark for blood-brain barrier function using an iPSc-derived organ-on-chip model to precisely distinguish healthy physiological signals from pathological markers of disease.

TRACK 2 WINNERS: REPLICATION EXEMPLARS

Track 2 of the NIH Replication Prize recognizes completed replication studies that demonstrate the highest standards of scientific rigor and transparency. The Replication Exemplar winners recognized today have not just proposed to replicate — they have done it, producing rigorous, methodologically sound studies that advance the field of reproducible science. Each winner delivered a video presentation showcasing their completed replication work.

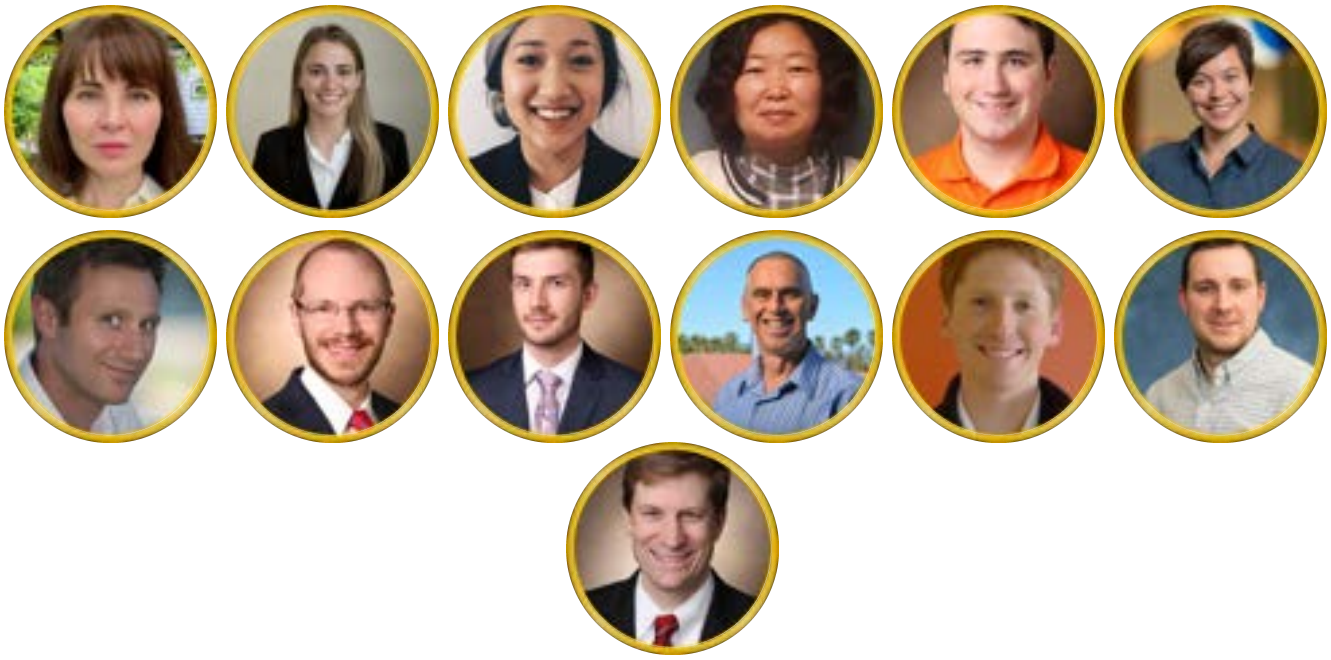
INDIVIDUAL WINNER | John Worthley

John Worthley is a researcher investigating a critical gap in cardiovascular pharmacology: the "environmental neutrality" of drug action. His work challenges the assumption that ACE inhibitors, developed in sea-level laboratories, maintain consistent efficacy at high altitudes. By utilizing "natural laboratories" like the Donner Lake Basin, John studies how physiological adaptations to hypoxiaâ€"such as the stabilization of Hypoxia-Inducible Factors (HIFs)â€"alter how these medications function in the body.

Presentation: Video presentation delivered at ceremony

TEAM WINNER | Team PGRM

Team Members: Lisa Bastarache · Sarah Delozier · Anita Pandit · Jing He · Adam Lewis · Aubrey C. Annis · Jonathon LeFaive · Joshua C. Denny · Robert J. Carroll · Russ B. Altman · Jacob J. Hughey · Matthew Zawistowski · Josh F. Peterson



We are a team of researchers based in Vanderbilt University Medical Center and the University of Michigan. Our work centers on leveraging electronic health records (EHRs) and biobanks to address clinically meaningful questions and develop tools to improve healthcare outcomes. Drawing on our collective expertise in computer science, informatics, and biomedical research, we focus on devising methods to better represent phenotypes using EHR data.

Presentation: Video presentation delivered at ceremony

TEAM WINNER | Antibody Team

Team Members: Valérie Allamand · Jeffery Bajramovic · Hannah Cable · Pierre Cosson · Doris Lou Demy · Stefan Dübel · Mark Fowler · Katherine Groff · Michael Hust · Ravindran Kumaran · Jens Kurreck · Raphael Munoz Ruiz · Samera Rafiq · Ouarda Saib · Esther Wenzel · Kilian Zilkens

This cross-sector consortium of academic, industry, and non-profit experts advances biomedical research reproducibility through the adoption of sequence-defined recombinant antibodies. Leveraging deep expertise in antibody engineering, open science infrastructure, and regulatory science, the team develops fully human recombinant antibodies and curates comprehensive sequence repositories. Their collaborative work delivers practical solutions to improve scientific rigor, drive large-scale transitions away from animal-derived reagents, and integrate standardized recombinant tools into university curricula.

Presentation: Video presentation delivered at ceremony

TEAM WINNER | The RESI Team

Team Members: Megan Jones · Kaidi Kang · Xinyu Zhang · Simon Vandekar

The RESI Team consists of four biostatisticians using the robust effect size index to improve effect size reporting and study replicability. Megan Jones recently earned her PhD in Biostatistics at Vanderbilt and is starting a postdoc at Queen's University. Kaidi Kang is an Assistant Professor of Biostatistics and Data Science at Wake Forest School of Medicine. Xinyu Zhang is a fourth-year Biostatistics PhD student at Vanderbilt. Simon Vandekar is an Associate Professor of Biostatistics at Vanderbilt Health with 15 years' experience in biomedical imaging statistics.

Presentation: Video presentation delivered at ceremony

TEAM WINNER | LATCH

Team Members: Nayoon Gim · In Gim · Cecilia S. Lee, MD · Aaron Y. Lee, MD

LATCH (LLM-Assisted Testing of Clinical Hypotheses) translates text-based study details into executable analyses, facilitating efficient replication while identifying methodological gaps. Nayoon Gim, a Bioengineering MD/PhD student at the University of Washington, leads framework development and replication analyses. In Gim, a Yale Computer Science PhD student, handles system architecture and environment setup. Cecilia S. Lee, MD, MS, is a physician-scientist and Professor of Ophthalmology & Visual Sciences at Washington University in St. Louis. Aaron Y. Lee, MD, MSCI, Chair and Professor in the same department, provides overall research oversight.

Presentation: Video presentation delivered at ceremony

TEAM WINNER | ConductScience

Team Members: Shuhan He, MD · Louise Corscadden, PhD · Boyu Peng, MS · Santosh Adhikari, MS · Yaning (Abby) Zheng, MS · Annelise Silva · Andres Diaz · Lauren Beaudin

ConductScience builds replication-grade research instruments across the life sciences. Its catalog spans behavioral apparatus, microfluidics, histology, microscopy, computer vision, automated software, and a publishing platform. Founded in 2013 with MazeEngineers, it manufactures instruments to original paper specifications, with every change tracked, dated, and citable. Tools are deployed in 1,200+ institutions across 50 countries and cited in 280+ publications.

Founder Shuhan He, MD, leads replication strategy. Louise Corscadden, PhD, directs Science & Development and the Technology Transfer Program. Boyu Peng, MS, leads the ConductVision platform. Santosh Adhikari, MS, heads computer-vision algorithms. Yaning (Abby) Zheng, MS, leads the scientometric platform translating scientific literature into a procurement layer. Fellows Annelise Silva, Andres Diaz, and Lauren Beaudin lead Scholarly Education, Research, and Open Data Standards at ConductScience.org.

Presentation: Video presentation delivered at ceremony

INDIVIDUAL WINNER | Christina Kackos Brunelle

Christina Kackos Brunelle is a Senior Consultant at Deloitte with a background in infectious disease research. Dr. Kackos received her Ph.D. in Biomedical Sciences in 2022 at St. Jude Children's Research Hospital Graduate School of Biomedical Sciences. Dr. Kackos specializes in vaccine development, data management, and scientific communications.

Presentation: Video presentation delivered at ceremony

TEAM WINNER | C20D3-Vitamin A Replicate

Team Members: Ilyas Washington · Leonide Saad

Dr. Ilyas Washington and Dr. Leonide Saad are co-founders of Alkeus Pharmaceuticals and have led a translational research program targeting retinal degenerative diseases. Dr. Washington (PhD, UCLA; BA, Bard College) trained under Ken Houk in computational chemistry and completed an NIH-sponsored postdoctoral fellowship at Columbia University with Koji Nakanishi and Nicholas Turro. His work elucidated the role of vitamin A dimerization in lipofuscin accumulation and retinal degeneration and led to the invention of deuterated vitamin A (C20-D3 vitamin A; ALK-001/gildeuretinol) to modulate this process without disrupting the visual cycle.

Dr. Saad (PhD, MIT) has expertise in tissue engineering, drug development, and clinical translation. He has led the advancement of ALK-001 from preclinical validation through multi-center clinical trials and regulatory milestones, including FDA Breakthrough Therapy designation for Stargardt disease.

Together, the team implemented a multi-system replication strategy spanning independent laboratories, animal models, and human trials, enabling translation of a mechanistic hypothesis into a clinical-stage therapeutic program supported by the NIH, FDA, retinal foundations, and private investment.

Presentation: Video presentation delivered at ceremony

INDIVIDUAL WINNER | Magdalena Kasendra

Dr. Magdalena Kasendra is R&D Director at the Center for Stem Cell and Organoid Medicine (CuSTOM) at Cincinnati Children's Hospital. An internationally recognized leader in organoid biology, microphysiological systems (MPS), and New Approach Methodologies (NAMs), she advances human-relevant platforms for drug discovery and predictive toxicology. She directs the CuSTOM Accelerator, translating organoid and organ-on-chip technologies into standardized, deployable platforms for clinical and industrial applications. Bridging academia and industry, she has trained and led at Novartis, Harvard Medical School, the Wyss Institute, and Emulate Inc., and serves on the Executive Board of the International Microphysiological Systems Society.

Presentation: Video presentation delivered at ceremony

INDIVIDUAL WINNER | Krissandra Johnson-Nealey

Krissandra Johnson-Nealey brings 20+ years of site operations experience to metabolic, cardiovascular, and chronic condition trials. At Central Texas Clinical Research, she oversees study execution, regulatory compliance, patient coordination, and data quality. Driven by the real-world impact of clinical research, she focuses on data integrity to ensure accurate, consistent results that reflect true patient experiences. She is currently pursuing an MBA, committed to advancing credible, community-focused research.

Presentation: Video presentation delivered at ceremony

TEAM WINNER | ATCC Federal Solutions

Team Members: Rebecca Bradford · Heather Couch · Sujatha Rashid · Ashley Castens · Manasi Tamhankar · Helen Navin · Michael Parker · Danielle Williams · Deb Hendrickson · Ann Wasko










For more than 100 years, ATCC has advanced its mission to enable reproducible science by providing authenticated, high-quality biological resources and standards. Building on this legacy, the Federal Solutions team partners with U.S. government agencies to advance gold-standard science in support of public health initiatives. Anchored in robust quality systems, reproducible workflows, and responsive program management, the ATCC team enables federal researchers to generate reliable, credible data that accelerates discovery, informs sound decision-making, and enhances preparedness for emerging and ongoing health threats. ATCC is committed to the advancement and credibility of sound science by supporting initiatives for the U.S. government, academia, industry, and research foundations.

Presentation: Video presentation delivered at ceremony

TEAM WINNER | Predictive/UNC Team

Team Members: Alexander Tropsha · Eugene Muratov · Ricardo Scheufen Tieghi



Team Predictive/UNC comprises members of the Laboratory for Molecular Modeling (MML) at the UNC Eshelman School of Pharmacy and of the UNC startup Predictive, LLC, which was cofounded in 2019 by Alexander Tropsha, Eugene Muratov, Vinicius Alves (all of UNC) and Kevin Causey as CEO. Our R&D studies have focused on methodology development and the generation of experimentally testable hypotheses. MML has published over 400 peer-reviewed research papers and developed multiple software tools to support biomedical research with the emphasis on data curation, reproducibility, and rigorous model validation. Predictive, LLC was founded to promote these concepts and commercialize computational technologies and software developed at UNC as in silico NAMs. Our joint team is committed to rigor in the analysis of experimental data reproducibility and computational model validation. We are happy that this commitment is now recognized by the NIH Common Funds Replication Prize.

Presentation: Video presentation delivered at ceremony

INDIVIDUAL WINNER | Michele Di Mascio

Michele Di Mascio is a biomedical scientist with over two decades of experience in infectious disease research, with a particular focus on HIV, viral dynamics, and in vivo imaging. He previously served at the U.S. National Institutes of Health, where he led parallel programs in AIDS imaging research and mathematical biology at NIAID, overseeing preclinical and translational studies in nonhuman primates and advancing the understanding of viral pathogenesis and treatment strategies. He has authored over 50 peer-reviewed publications and received an NIAID award for establishing a pioneering core facility for in vivo imaging of lentiviral infections in nonhuman primates. His work integrates experimental and quantitative approaches to address complex biological questions, with an emphasis on validation and reproducibility. He now works as an independent consultant, advising academic, governmental, and industry partners on biomedical research strategy, data analysis, and scientific communication.

Presentation: Video presentation delivered at ceremony

INDIVIDUAL WINNER | Jagadeesh Ramasamy

Dr. Jagadeesh Ramasamy, BSMS, MSc, PhD, is Director of Bioscience Research — Hematology/Oncology and Associate Professor (Research) at the University of Illinois, and a translational scientist recognized for advancing rigorous, reproducible discovery in red blood cell biology. He first challenged long-standing hematology dogma through his seminal demonstration of mitochondrial persistence in reticulocytes and mature red blood cells (Experimental Hematology, 2017), redefining the understanding of erythrocyte maturation. Building on this foundational discovery, his work established that retained erythrocyte mitochondria drive pathogenic release of mitochondrial DNA, excessive mitochondrial reactive oxygen species, and pro-inflammatory extracellular vesicles, accompanied by dysregulation of selective autophagy proteins. These mechanisms have broad implications for chronic inflammation and immune-mediated diseases. His current research focuses on developing natural peptide-based therapeutics to restore mitochondrial homeostasis across diseases.

Presentation: Video presentation delivered at ceremony

TEAM WINNER | SOAR (Spatial Omics Analysis Replication)

Team Members: Dr. Ka Yee Yeung-Rhee · Dr. Ling-Hong Hung · Mr. Bryce Fukuda (UW Tacoma) · Dr. Cecilia Yeung · Ms. Kimberly Smythe · Dr. Jocelyn Wright (Fred Hutch Cancer Center)

The SOAR team brings together researchers from the University of Washington Tacoma and Fred Hutch Cancer Center to advance replication in spatial omics analysis.

From Fred Hutch: Cecilia Yeung, MD, is a pathologist and medical director of the Clinical Testing Labs; she conceptualized the replication study and her lab developed the tissue microarrays (TMAs). Ms. Kimberly Smythe (BS, Biochemistry) is Head of the Translational Pathology Lab, which generated spatial proteomics images. Dr. Jocelyn Wright (PhD, experimental pathology) worked extensively with the spatial proteomics data.

From UW Tacoma: Dr. Ka Yee Yeung-Rhee (PhD, Computer Science) contributed to conceptualization and project management. Dr. Ling-Hong Hung (PhD, Biochemistry) designed and developed containerized analytical workflows supporting graphical output. Mr. Bryce Fukuda (MS, Computer Science and Systems) implemented and tested containerized software tools to reproducibly execute bioinformatics pipelines.

Presentation: Video presentation delivered at ceremony

COMING SUMMER 2026: TRACK 2 REPLICATION EXEMPLARS PUBLICATION

One of the exciting outcomes of this competition is that the replication strategies developed by our Track 2 Replication Exemplar winners will be compiled and published as a publicly available reference on the NIH website this summer — a resource that we believe will have a lasting impact on the field.

Thank You

Science advances one replication at a time.

replicationprize.com