



2020 TRANS-INSTITUTIONAL PROGRAM AWARD RECIPIENTS

Initiative for Race Research and Transformative Justice (VIA)

Participants:

Peabody College: **Rich Milner**
School of Medicine (Clinical): Wonder Drake
Divinity School: Graham Reside

This ViA initiative will work to 1) become an interdisciplinary research hub for Vanderbilt researchers conducting world-class research on race; 2) breakdown disciplinary barriers through collective impact models aimed at improving the human condition; 3) seek and secure external funding to support innovative research on race with implications for justice in Nashville and beyond; and 4) conduct research and produce a report on factors that contribute to racial injustice in and outside of education and mechanisms necessary to address those factors. The work will be done in phases. A major goal in early phases will be the production of a multidisciplinary report on race, incarceration and injustice in Nashville and beyond.

Soldier-Inspired Innovation Incubator for Discovering Research-Based Solutions (VRA)

Participants:

School of Engineering: **Douglas Adams**, Kevin Galloway, Janos Sztipanovits, Karl Zelik
College of Arts and Science: Andrew Coe, John McLean
School of Medicine (Clinical): Sean Collins, Tonia Rex, Mark Wallace
Peabody College: Laurie Cutting
Owen Graduate School of Management: David Owens

Soldiers solve difficult problems everyday but imagine the possibilities if they could access the One Vanderbilt ecosystem. This TIPs VRA will amplify collaborations underway between multi-disciplinary researchers, Soldier scholars on campus and Soldiers 1-hour north of Nashville at Ft. Campbell. Army Futures Command has launched its first Educational Partnership Agreement with Vanderbilt, positioning Vanderbilt to become the national model for Soldier-integrated research innovation. TIPs support will augment the Army's investment by fueling off-campus exploration with new shared and mobile instrumentation for Soldier measurements and rapid prototyping. The team has been working to reinvent the innovation process to rapidly discover research-based solutions and students are already having unique experiences and career opportunities as a result. The award will enable an expansion of scope and allow for planning to attract industry partners.

Vanderbilt Climate Change Prediction Market (VIA)

Participants:

Owen Graduate School of Management: **Mark Cohen**, Nicolas Bollen
College of Arts and Science: Jonathan Gilligan, Alan Wiseman

Law School: Michael Vandenberg, Yesha Yadav

Vanderbilt Climate Change Prediction Market (VCCPM) will provide a unique web-based platform to conduct research on individual beliefs on important social topics such as climate change. A typical prediction market establishes contracts that pay \$1 if an event occurs at a specified future date. Because users are free to trade, prices reflect the subjective probability that the event will occur. Existing academic-based prediction markets have proven accurate in forecasting political elections, often earlier and more accurately than polls and a robust academic literature has evolved studying prediction markets. Unlike existing prediction markets that focus almost exclusively on short-term political elections, VCCPM focuses on public beliefs about social and scientific outcomes such as climate change – and how they evolve over time. More importantly, it includes long-term predictions, allows for disaggregation of the demographics and political beliefs among participants and also has direct policy and social science research implications.

Vanderbilt LGBTQ Policy Lab (VRA)

Participants:

College of Arts and Science: **Christopher Carpenter**, Katherine Crawford, Rachel Donnelly, Cindy Kam, Gilbert Gonzales, Tara McKay

Divinity School: Ellen Armour, Stephanie Budwey

Law School: Jessica Clarke

Peabody College: Luis Leyva, Matthew Shaw

The Vanderbilt LGBT Policy Lab connects faculty, students, staff and community members who share interests on the correlates, causes and consequences of LGBT public policies. The Policy Lab team is comprised of economists, sociologists, religious studies scholars, political scientists, public health and health care researchers, legal scholars and education researchers whose scholarship addresses the role of social and policy context in the lives of LGBTQI people. Research from The Lab has been published in the Harvard Law Review and JAMA, covered by NBC News and awarded over \$3 million in external funding. They offer highly rated courses, student/faculty research collaboration opportunities and immersion tracks. The team works with campus partners (e.g., the Office of LGBTQI Life and the Program for LGBTQ Health) and community organizations (e.g., the Tennessee Equality Project) to deliver innovative programming on LGBT policy topics through events such as guest speakers, film screenings, conversations with elected officials and national conferences related to LGBT policies.

Vanderbilt Memory and Alzheimer's Center (VRA)

Participants:

School of Medicine (Clinical): **Angela Jefferson**, Paul Newhouse, Timothy Hohman, Matthew Schrag, Consuelo Wilkins

School of Medicine (Basic Sciences): Carrie Jones, Charles Sanders

School of Engineering: Bennett Landman, Ethan Lippman

College of Arts and Science: Rena Robinson

The Vanderbilt Memory and Alzheimer's Center (VMAC) was founded in 2012 to advance discovery and reduce the societal burden of Alzheimer's disease (AD). Since then, VMAC has

become a national leader in characterizing molecular factors that increase risk or promote resilience to downstream consequences of AD neuropathology. The Center established participant enrollment pipelines; developed a scalable infrastructure for multimodal data acquisition, processing and analysis; and built interdisciplinary educational opportunities. To advance VMAC to the next level, The Center must integrate AD initiatives in clinical and basic science across campus into a sustainable interdisciplinary, trans-institutional partnership and fill remaining infrastructure gaps. The TIPs award will be used to expand existing capabilities and support building new activities to position VMAC as the trans-institutional hub of all AD basic science, clinical research and educational initiatives and as a world-class translational research center.

Vanderbilt Microbial Alliance for Precision: Charting the Unseen (VRA)

Participants:

School of Medicine (Clinical): **Maria Hadjifrangiskou, Jonathan Schmitz**, Lacy Borden, Mariana Byndloss, Jane Ferguson, Ivelin Georgiev, Jill Pulley

College of Arts and Science: **Seth Bordenstein**, Brian Bachmann, Steve Townsend

School of Engineering: Audrey Bowden

The precision medicine revolution highlights the need for discoveries that reflect individual diversity, not merely the population on-the-whole. Vanderbilt stands at this paradigm's forefront, illuminating health/disease against our unique genes, traits and circumstances. Frequently overlooked, however, are the profound microbial contributions to human individuality. From vast ecosystems of commensal microbes to life-threatening infectious agents, each person's unique microbiome spans thousands of species and millions of genes. To chart this landscape, the Vanderbilt Microbial Alliance for Precision (vMAP) will strategically integrate trans-institutional assets for microbiology with our enterprise for precision medicine/genomics. In masse, vMAP will incorporate microbiome specimens from Vanderbilt's healthcare enterprise into microVU, our massive biorepository of clinical pathogens with unprecedented patient-linkage, together with powerful analyses facilitated by the world-renowned Vanderbilt Microbiome Initiative. By translating these personalized resources into multidisciplinary deliverables, vMAP will forge a pipeline for discovery, innovation and education that harnesses the paired diversity of host and microbe.