

10 innovative research projects earn latest funding from VCU's Arts, Humanities and Social Sciences Fund in FY2024:

- [Daniel Cannone](#), D.O., (PI) assistant professor, pediatrics, School of Medicine; [Jenny Fox](#), M.D., (co-PI) associate professor, pediatrics, School of Medicine; [Aaron Anderson](#), Ph.D., (co-PI) professor, theatre, School of the Arts

Advancing a Clinical Communication Training Pilot Collaborative between Undergraduate Theatre Program and Pediatric Critical Care Medicine Trainees

Poor medical professional communication skills can influence patient outcome and contribute to physician compassion and empathy fatigue or burnout. Communication skills training (CST), including standardized patient (SP) simulations and debriefing, has been shown to improve learners' verbal and non-verbal skills and long-term confidence in difficult conversations. This research project will focus on simulation practice as one pillar of an overarching critical communications curriculum. Trained clinical improvisational actors as SPs have demonstrated effectiveness in simulations for medical communications training. However, professional SPs are not readily available in all training centers or utilization may be cost-prohibitive. Members of the VCU Critical Communications Task Force seek to evaluate an innovative collaboration between undergraduate theatre students and advanced medical professional trainees. The aim is to provide both theatre and medical trainees with education in communication micro-skills, proxemics and debriefing. This will be followed by simulations involving both learning groups to practice their respective skills. Pre/post-intervention simulated encounters with professional SPs will be utilized to evaluate changes in trainees' skills.

- [Caitlin Cherry](#), (PI) assistant professor, painting and printmaking, School of the Arts
Accommodations Platform for Working with Neurodivergent Artists

The project is an interactive AI website that will provide art institutions and workers (museums, galleries, universities, art schools, residencies, and independent or freelance art workers) with an online hub to understand best practices for working with neurodivergent artists. The website is influenced by efforts of the collective W.A.G.E. (<https://wageforwork.com/>), and will provide a template for accommodations for neurodivergent workers in the arts sector. With increased awareness of those who are quietly diagnosed, undiagnosed, self-diagnosed, curious and questioning neurodivergent art workers and artists, this project will define what neurodivergence is in its many variations on the spectrum and then propose ways that institutions can better facilitate, communicate and improve accommodations for these artists/workers. The main platform will require an OpenAI Chatbot system, like ChatGPT, where an institution can type in a concern regarding accommodations and the system will generate a response and direct the user to an area of the website tailored to the concern.

- [Jeannine Diego](#), (PI) assistant professor, fashion design and merchandising, School of the Arts

"A Wardrobe, An Island"

This project is a documentary film where four women present the unique challenges of dressing in subterranean Cuba, revealing the day-to-day negotiation with identity, the clandestine, consumer culture and subversion: elements that come into play when making a history of one's own, disengaged from conventional narratives. The director, in turn, weaves an itinerary marked by her father's exile and her relationship to fashion.

FILM NARRATIVE

The director embarks on a journey to the island, in search of the most subjective spaces of self-making: the mirrors and wardrobes of four women. May, Janet, Rocío and Laila begin with their selection of a personally meaningful garment that charts a map leading to other characters, situations and conversations. Second-hand clothing, gifts, bartering, black markets, clandestine shops illustrate the complex network that traverses the singular act of dressing in Cuba. The exploration of the characters attempting to forge their own story through dressing, reveals unexpected performative exercises which subvert both the push toward consumer culture and the Cuban Revolution's values of austerity and uniformity. The director's relationship with the island, and her connection to fashion and dress, punctuate the film, like a basting stitch across the main weave.

- [Rebecca Gibson](#), Ph.D., (PI) assistant professor, School of World Studies, College of Humanities and Sciences

Well Heeled: A Bioarchaeology of the Shoe

Building on a preliminary study abroad program that revealed the varied infrastructure in European cities is not fully accessible for faculty and students to navigate with ease, this project will demonstrate that a fully accessible study abroad can be performed, if approached with deliberate carefulness and intent. The research team will conduct a dual-purpose research trip to Paris, France, comprising two weeks of study abroad/research and one week of research only. The research is for an upcoming book on the bioarchaeology of shoes. The team will also finish data collection for an eventual co-authored article on accessibility for disabled students on study abroad trips. During this trip the PI will use a mobility scooter with assistance from a graduate student to collect data for the research project, and the student-focused aspects of the study abroad.

- [Richard Hammack](#), Ph.D., (PI) professor, mathematical sciences, College of Humanities and Sciences

Pop-Up Book of the Hypercube

This project will be the design and construction of several working prototypes of a pop-up book that is a visual introduction to four-dimensional geometry. This project will engage students in the process of making these books and seeking a publisher. The primary focus of the book will be the tesseract, that is, the four-dimensional analogue of the 3-dimensional cube. As pages unfold, three-dimensional models will pop up and a textual/visual narrative will guide the reader from the familiar world of three dimensions to the geometry of four dimensions.

- [Renee Lamb](#), (PI) assistant professor, fashion design and merchandising, School of the Arts; [Jacqueline Mullins](#) (co-PI) academic advisor, fashion design and merchandising ; [Jennie Cook](#) (co-PI) assistant professor, fashion design and merchandising

Swim Motifs: An Exploration of Swimwear Design Practices and Implications for Future Applications for Swimmer Confidence and Performance

This is an initial stage proposal for a research study spanning the fields of fashion design and merchandising, exploring the history and impact of motif usage in competitive swimwear with specific focus on design within the southeastern United States. This initial study will result in a historic overview and a “swim motif” exhibition to be held in the Richmond area. Additionally, the PIs’ will further publish the findings of this research to national and international peer reviewed journals and conference proceedings. Future research possibilities and implications that can come from this initial research include: 1) the use of the exhibit to gather market/psychological feedback allowing the researchers to choose approximately 6 motifs to test for performance attributes in a future study; 2) a more in-depth exploration of technical design changes or technology incorporation into swimwear; 3) a continued exploration into questions of motif and possible correlation with swimmer impacts including swimmer confidence and performance impacts; 4) an expansion of motif investigation into other athletic fields, including but not limited to diving, track and field, gymnastics, tennis and soccer; and 5) an evaluation of the evolution of color and motif in womens’ athletic apparel as it relates to the establishment of Title IX in 1975.

- [Massa Lemu](#), Ph.D., (PI) associate professor, sculpture, School of the Arts

Chewanese Cinema as Metonym of Disenclosure

This project will research Chewanese cinema as metonym of disenclosure at the intersections of cultural, political and economic exchanges and new hybridizations between Malawian and Chinese culture. Chewanese, a term which was coined by combining the words “Chinese” and “Chichewa, is the local name given to Chinese Kungfu films which are translated into the Malawian vernacular Chichewa. Shown in makeshift cinemas in townships across the country, chewanese films are one of the main sources of entertainment for the poor and working-class youth in Malawi. While Hollywood, Bollywood and even Nollywood films shown in the township cinemas are broadly labeled Chewanese, the name was mainly given to Chinese Kungfu films translated into the Malawian vernacular Chichewa. Chewanese films offer a window into the broader social transformations due in part to Malawi and China, and Africa and China relations within capitalist globalization. This project’s research and analysis will focus on Chewanese voiceover (mis)translations of the films where meanings are scrambled, superimposed, or liberated to reflect on the anti-colonialist subtexts in the films. The culminating exhibition and publication will show that the poetics of Chewanese film exemplify what Achille Mbembe, following Jean Luc Nancy, calls disenclosure or the opening of spatial, temporal, linguistic, disciplinary and epistemological boundaries.

- [Michael Jones McKean](#), associate professor, sculpture, School of the Arts

“Twelve Earths”

Since 2017, Twelve Earths, a planetary artwork that connects twelve global sites dispersed along a perfect ring encircling the Earth, has been developing. (1) The project, through its culmination in 2029, will choreograph a system of physical touch points with people, matter and event; establishing long-form encounters with energy, change, emergence, geology, technology, humans and non-humans. The twelve sites become channels through which one can view Earth's stories anew, fostering alternate ways of conceiving and understanding our human story

as it relates to our planet's past, present and future. Connected as nodes along Twelve Earths' ring path are the planet's largest wind farm in the Gobi Desert; a nearly submerged Micronesian island; a vast precious metals mine in West Papua; a 15 million year old impact crater in Bavaria; the most remote location from human life in South Pacific; and more. This study will conduct extensive fieldwork in two additional sites for twelve months. In Bavaria, Germany the ancient city of Nördlingen is improbably nested within a 15 million year old impact crater, where researchers will work with city archivists, museum officials, municipal leaders and the local music school, Nördlingen Musikschule, to develop a new composition to be played daily on a custom piano with keys sculpted from material evident of the crater—a rocky substance called suevite. Researchers will also increase involvement with research related to the Mid-Atlantic Ridge—the world's largest mountain range bisecting the Atlantic Ocean on its north-south axis—by deepening collaboration efforts with Icelandic organization Carbfix, a geo-tech startup working to store climate warming CO2 extracted from the atmosphere deep within Earth.

- [Ernesto Rodriguez Cruz](#), (PI) assistant professor, communication arts, School of the Arts

Constructing a Portable Light Stage for High-Resolution Scanning of Mesoscopic Facial Structures for Computer-Generated Digital Doubles

This project endeavors to democratize facial photometry for digital double production by developing a cost-effective and portable light stage. Traditionally reserved for Hollywood studios due to the high cost of light stages (around \$100,000), this project aims to make facial reflectance mapping accessible to universities, particularly VCU. Facial photometry involves capturing normal and specular reflection maps of an actor's face, crucial for creating accurate digital doubles. While Hollywood studios have long benefited from this technology, this project seeks to provide an affordable alternative. Unlike conventional rigid setups, this project's portable light stage can be transported between states or even countries easily. Beyond its application in digital double production, the portable light stage holds potential for medical prosthetics that ultimately be used to scan the unaffected part of the face after accidents, facilitating the precise production of prosthetics matching the exact texture and tone of the patient's skin. This hands-on experience with facial scanning and digital double production can significantly impact the education of arts students, offering a unique tool for research and experimentation.

- [Kamden Strunk](#), Ph.D., (PI) associate professor, SOE Foundations Department, School of Education

Examining Measures of Racism in Social Sciences Using Meta-Analytic Confirmatory Factor Analysis

Increasingly, researchers in the social sciences and humanities have recognized the importance of measuring the impacts and outcomes of systems of domination, oppression and marginalization. In recent years, researchers have also recognized a move away from treating demographic categories, like race, as a proxy variable for anti-Black racism, and instead directly measuring racism. Moreover, researchers have moved toward approaches that emphasize examinations of whiteness and white supremacist ideologies as the proximal cause for racist actions and experiences. As a result, several strategies have emerged to measure whiteness and white supremacist ideologies among white samples. To date, no rigorous cross-sample

examination of those measures and their psychometric properties has been conducted. In this study, researchers utilize meta-analytic confirmatory factor analysis (MA-CFA) to approximate the population level characteristics of two competing scales for whiteness and white supremacist ideologies. MA-CFA allows for an examination of structure and reliability at the population level, which provides crucial insights for researchers to guide their selection of quantitative instruments.