



INTERDISCIPLINARY
STUDIES

Intellectual Community Planning Grants

2018 SUMMARY REPORT



Together **Duke** Advancing Excellence through Community

Background

[Together Duke](#), the university's 2017 academic strategic plan, outlines four goals that will bring new distinction to Duke over the next decade. One of these goals is to invest in the Duke faculty as scholars and leaders of the university's intellectual communities.

[Intellectual Community Planning Grants](#) (ICPG) are among the resources available to faculty who are interested in convening a group of colleagues to begin or test a new collaboration around a shared intellectual interest.

ICPG can be used to cover the cost of food, meeting venue, external speakers or other meeting costs, and/or exploratory research (as by an RA) into potential collaborators at Duke and elsewhere. Groups can pursue their common interests in any of a variety of venues, such as during small monthly dinner meetings, larger quarterly meetings, or workshops.

For the 2018 calendar year, a [September 2017 request for proposals](#) invited all Duke faculty, from any discipline, to propose and form a new collaborative group around disciplinary, interdisciplinary, or multidisciplinary themes. Groups of at least five participating faculty were eligible to apply.

2018 Grantees

Eight groups [received 2018 Intellectual Community Planning Grants](#). Faculty came from Trinity College of Arts & Sciences, Pratt School of Engineering, Divinity School, School of Law, School of Medicine, Nicholas School of the Environment, Sanford School of Public Policy, Franklin Humanities Institute, Nicholas Institute for Environmental Policy Solutions, Kenan Institute for Ethics, and the Duke Initiative for Science & Society. The average award was \$4,738.

Group	Key Activities and Accomplishments	Faculty Members
The Calla Project: An Art-based Initiative to Change the Narrative of Shame and Invisibility Associated with Cervical Cancer	Two art education workshops at Rubenstein Arts Center facilitated by local artists; qualitative studies to understand women's thoughts, experiences, and associations with their reproductive health; workshop on human-centered design for women's health technologies at Triangle Global Health Annual Conference; continuation of work through Calla Campaign	Lead: Nimmi Ramanujam , Pratt–Biomedical Engineering Wesley Hogan , Franklin Humanities Institute; Megan Huchko , Medicine–Obstetrics & Gynecology; Deborah Jensen , Trinity–Romance Studies; Gita Suneja , Medicine–Radiation Oncology
DEVNet (Duke Extracellular Vesicle Network)	Meetings to discuss research directions, understand resources and expertise, and plan activities in pursuit of funding; discussions about partnerships with funding agencies, leading to successful prospectus and full proposal; graduate	Leads: Christine Hendren and Claudia Gunsch , Pratt–Civil & Environmental Engineering James Andrew Alspaugh and Meta Kuehn , Medicine–Molecular Genetics & Microbiology; Rytas Vilgalys , Trinity–

Group	Key Activities and Accomplishments	Faculty Members
	student attendance at conferences to understand opportunities at the intersections of fields; large group symposium to generate shared research questions and substantive text for NSF proposal	Biology; Mark R. Wiesner , Pratt–Civil & Environmental Engineering
Duke Cancer Institute Prostate Multi-parametric MRI and Targeted Biopsy Working Group	Conversations leading to better understanding of each discipline’s strengths and limitations; monthly meetings; pathology report protocol that facilitates correlation between ex vivo whole-mount path reports and in vivo ultrasound and MR imaging data; progress toward building 3-D printed model of each man’s prostate that would allow group to section images (mpMRI and ARFI) in same planes as pathology for improved correlation; conference presentations involving ARFI+MRI data and ARFI prostate data; continuation of work through meetings and projects	Lead: Thomas J. Polascik , Medicine–Surgery Rajan T. Gupta , Medicine–Radiology; Jiaoti Huang , Medicine–Pathology; Kathy Nightingale and Mark L. Palmeri , Pratt–Biomedical Engineering
Duke Center on Risk	Four faculty and student gatherings called Risk Watering Holes; two public lectures by external speakers (Granger Morgan of Carnegie Mellon and Jean-Francois Mercure of Cambridge); three discussion events; funding for two graduate students to assist in presenting at American Statistical Association’s Section on Risk Analysis and at Society for Risk Analysis Annual Meeting; further development of series of Bass Connections teams; continuation of work will occur through new university-wide research, teaching, and engagement program with three-year budget from Science & Society Initiative	Lead: Mark Borsuk , Pratt–Civil & Environmental Engineering, and Jonathan Wiener , Law Lori Benneer , Nicholas School; Nita Farahany , Law; Tyler Felgenhauer and Christine Hendren , Pratt–Civil & Environmental Engineering; Michael “Buz” Waitzkin , Science & Society
Environmental and Economic Justice in Rural America	Conversations on environmental and economic justice in rural America; strengthened collaboration between Duke Human Rights Center at FHI, Nicholas School, and Alabama Center for Rural Enterprise (ACRE); two events with	Leads: Erika Weinthal and Betsy Albright , Nicholas School Wesley Hogan , Franklin Humanities Institute; Kay Jowers , Nicholas Institute for Environmental Policy Solutions; Megan

Group	Key Activities and Accomplishments	Faculty Members
	external speakers (Ryan Emmanuel of NC State and Peter Hotez of Baylor, who also took part in two working dinners with faculty and students); trips to campus for Catherine Flowers of ACRE	Mullin and Liz Shapiro-Garza , Nicholas School; David Schaad , Pratt–Civil & Environmental Engineering; Chris Timmins , Trinity–Economics; Norman Wirzba , Divinity
Governing the Oceans for Nutrition and Food Security	Additional co-funding; strategic partnership with Environmental Defense Fund through case studies; strengthened collaboration between faculty at Duke’s Marine Lab and on main campus through a commentary paper on elevating the role of fish in global food policy; major grant application to Belmont Forum	Coordinating center: World Food Policy Center, Sanford; Lead: Xavier Basurto , Nicholas School Lisa Campbell , Grant Murray , and Martin Smith , Nicholas School; Stephen Roady , Law; John Virdin , Nicholas Institute for Environmental Policy Solutions
Mindfulness across the Disciplines	Series of four dinners each semester to discuss work, meet with visiting speakers, read current works; meetings on such topics as the nature of members’ research on mindfulness, how they used mindfulness in the classroom, and the nature of contemplative studies programs at Brown and UVA; expanded number of members; planning for half-day symposium on mindfulness in the academy (September 6)	Lead: Richard Jaffe , Trinity–Religious Studies Denise Comer , Trinity–Thompson Writing Program; Holly Rogers , Counseling & Psychological Services; Moria Smoski and Jeffrey Brantley , Medicine–Psychiatry & Behavioral Sciences; Mark Leary , Trinity–Psychology & Neuroscience; Francesca Morfesis , Religious Life; Lesley Rink , Nursing; Thomas Szigethy , Wellness; Rebecca Vidra , Nicholas School
Race, Religion, and Volatile Political Movements	Monthly reading and discussion at lunch seminars; protocol and exemption from Duke IRB to conduct oral history interviews with political and community organizers in Durham and Raleigh; four interviews conducted; talk by Gerald Taylor	Leads: Joseph Winters , Trinity–Religious Studies, and Amber Diaz Pearson , Kenan Institute for Ethics Luke Bretherton , J. Kameron Carter , and Valerie Cooper , Divinity; James Chappel and Adriane Lentz-Smith , Trinity–History

Selected Examples

The Calla Project

Invasive cervical cancer is the second most common female cancer in developing countries and the seventh in developed countries. Current screening relies on the bivalve speculum, which many women resist because of anxiety, fear, discomfort, pain, embarrassment, and/or vulnerability during the

procedure. To address this limitation, Duke's Center for Global Women's Health Technologies developed the Callascope, an alternative to the standard speculum.

This faculty group believes that the Callascope can also be instrumental in creating an artistic platform for the cervix. Through the Center for Global Women's Health Technologies, the group created an art-based initiative to begin the process of changing the narrative of shame and invisibility, educating women on their reproductive anatomy, and empowering them to make informed decisions about their reproductive health.

Using the grant, the group planned two unique art education workshops, free and open to the public, in the Rubenstein Arts Center. Both workshops were facilitated by local artists.

For [Endogenous Zones](#), Saba Taj walked participants through a mindfulness exercise about their inner reproductive anatomy. She then taught everyone the parts of the anatomy while guiding them through a multimedia creative project to express their feelings about this part of the body. For the [Playful Vaginas](#)

workshop, Meg Stein taught participants about myths or false hygiene methods that have been perpetuated. She then guided everyone through the process of sculpting the outer reproductive anatomy with clay and leftover feminine hygiene products.



Both workshops helped participants think about the associations they have regarding their reproductive health, in ways that helped them reflect on and also feel more comfortable discussing this part of their body. One first-year student talked about how uncomfortable the topic of the workshop made her feel at first and how the process of sculpting her outer reproductive anatomy made her feel more comfortable and realize it is not a shameful thing to discuss.

This grant also helped to fund further qualitative studies to understand women's thoughts, experiences, and associations with their reproductive health, in order to better design art education interventions in the. Additionally, it funded the Calla Project team's attendance at the [Triangle Global Health Annual Conference](#), where they were able to learn more about women's

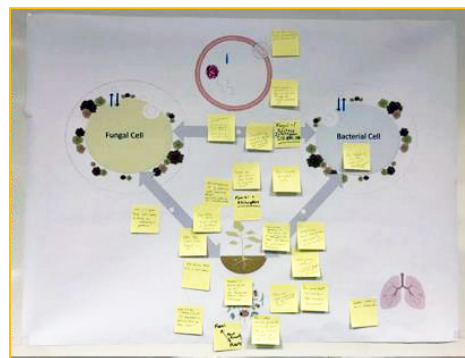
health and present another artistic workshop about human-centered design for women's health technologies.

The group will further this work through the [Calla Campaign](#). The campaign comprises a multimedia art exhibition, educational arts workshops, and a documentary film inspired by the potential that new

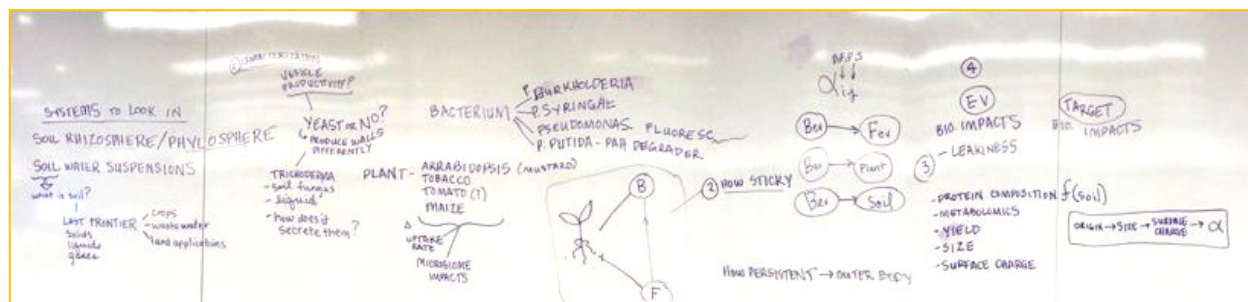
visualizations of the cervix brings to one's body's well-being. Through these self-visualizations, the Calla Campaign is aimed at creating a new space for cisgender women, trans men, and nonbinary people who have been marginalized in the medical context.

DEVNet

This working group focused on understanding and harnessing the nature and role of extracellular vesicles (EVs) in controlling intercellular communication and effects. DEVNet members met multiple times to discuss research directions, understand respective resources and expertise, and plan activities in pursuit of funding. The group included expertise in nanoscale fate and transport, colloid chemistry, environmental microbiology, molecular biology, biochemistry, soil science, mycology, biogeochemistry, data science, infectious diseases, and integration and implementation science (I2S).



DEVNet also worked to draw in partnerships with funding agencies. This work included discussions between Christine Ogilvie Hendren and NSF program officers in the area of convergence, resulting in an invitation for a prospectus submittal for a RAISE (Research Advanced by Interdisciplinary Science and Engineering) proposal on the topic of interkingdom communication. The team pulled together a successful prospectus, and was invited to submit a full proposal.



Doctoral student [Nicholas Rogers](#) selected his dissertation topic as a result of DEVNet activities. With DEVNet and leveraged funds, he attended the 2018 and 2019 International Society of EVs conferences; 10th International Water and Health Seminar, Gordon Research Conference for EVs; and International Conference on the Environmental Effects of Nanoparticles and Nanomaterials.

From the funding from my PI, my department, and DEVNet, I was able to attend a variety of conferences in the last year, focusing on topics ranging from EVs to nanomaterials to water/health. In all of these conferences, I was able to discuss DEVNet's ideas with experts in multiple fields and draw on their experiences. I expanded my network at all of these conferences and was able to ask very specific questions about methods to my colleagues. At the Gordon Research Conference in particular, I connected with a research group from UNC, who have since become my



primary collaborator for the isolation and purification of EVs from cell culture media. At all of these meetings, there were no other research groups that were even remotely close to working on topics related to those proposed in DEVNet. This was extremely encouraging to me, to have found a niche of highly interdisciplinary research that has been unexplored yet but also is highly intriguing to multiple different fields of research. These experiences and connections would not have been possible without the funding of the DEVNet community!

—Nicholas Rogers, Ph.D. student in Civil & Environmental Engineering

Duke Center on Risk

Through the Intellectual Community Planning Grant, faculty members confirmed that there is a wide array of risk-related research and teaching already happening at Duke across multiple disciplines and within most schools. At the same time, they were surprised that many people who attended the group's events did not know each other, leading to many interdisciplinary conversations. There has been a clear demand to continue building collaboration around risk research at Duke.



To that end, members of the group worked with the Science & Society Initiative to create the [Duke Center on Risk](#). Directed by Mark Borsuk and Jonathan Wiener, the new Center has a three-year budget from Science & Society, which funds a half-time program manager, website development, and future campus-wide events and activities. The overarching goal is to enhance synergies among researchers, educators, and practitioners with diverse perspectives on risk while also sparking new initiatives that enhance Duke's already significant scholarship on this topic.

By coordinating outreach, engagement, and networking with external partners, the Center will expand Duke's ability to obtain extramural funding in this growing field as well as to inform decision-makers about better ways to address risk. A launch event in Fall 2019 will include a prominent keynote speaker, faculty panel discussion, and student hack-a-thon.



Race, Religion, and Volatile Political Movements

Through monthly reading and discussion, this group began exploring questions including: How has religion/spirituality shaped and informed contemporary movements against racial injustice? How does gender factor into contemporary freedom struggles and our understanding of historic movements? Is there still a space within new movements for adherents of older spiritualities and more traditional patterns of belief? How do historical legacies of segregation in major Christian denominations have lingering social and religious effects, and how might they be addressed?

As an outgrowth of these monthly group lunch seminars, members developed a protocol and received exemption from the Duke IRB to conduct oral history interviews with political and community organizers in Durham and Raleigh. Two research assistants trained in ethnographic interviewing methods conducted oral history interviews with four individuals engaged in community organizing work linked with racial justice issues.



Following up on the stories and concerns shared in the oral history interviews, the group invited Gerald Taylor, former regional director for the Industrial Areas Foundation in the Southeast, to speak on campus about his community organizing work. Held on June 11, [this conversation brought together 30 participants](#), including faculty and students from multiple Duke departments, Religious Life organizations, and the Duke Faculty Union, along with members of local faith communities, schools, and nonprofits.

The faculty reading group plans to resume meeting regularly during the 2019-2020 academic year. The group has been a way for members to begin to bridge methodological differences across disciplines, and it will allow the group to cultivate a research program that builds on the strengths and research interests of all members. Patrick Smith (Divinity School) will join in Fall 2019. The group plans to reach out to other faculty and continue looking for ways to contribute to the Durham community.

Looking Ahead: Overview of 2019 Grantees

[Eight faculty groups](#) received Intellectual Community Planning Grants for the 2019 calendar year.

Group	Faculty Lead(s)
Big Data and Social Interactions	Jillian Grennan , Fuqua
Building Duke's Community of Theoretical Chemists via a Summer Undergraduate Research Program	David Beratan , Trinity–Chemistry
Exploring STEAM (Science, Arts, and Humanities) at Duke	Misha Angrist , Social Science Research Institute, Initiative for Science & Society; and Jory Weintraub , Science & Society
Health as an Ecosystem: Expanding Our Imaginations of Health	John Moses and Jennifer Lawson , Medicine–Pediatrics

Group	Faculty Lead(s)
Launching a Triangle-Wide Seminar in the Economics of Education	Sarah Komisarow , Sanford
Marine Medicine: Multidisciplinary Research at the Nexus of the Environment and Human Health	Andrew Read , Nicholas
Parasite-Host Evolution Network Optimization (PHENO) Working Group	James Moody , Trinity–Sociology
Social Studies of Science Working Group	Harris Solomon , Trinity–Cultural Anthropology

Learn More

For more information, please visit the [Intellectual Community Planning Grants](#) page on our website or [contact](#) the Office of the Vice Provost for Interdisciplinary Studies (216 Allen Building, 919-684-1964, interdisciplinary@duke.edu).