Duke UNIVERSITY | INTERDISCIPLINARY STUDIES

Overview of GSTEG

A key feature of Together Duke, the university's new academic strategic plan, **Graduate Student Training Enhancement Grants (GSTEG)** allow doctoral and master's students to stretch beyond their core disciplinary training and deepen preparation for academic positions and other career trajectories.

Through this internal funding mechanism coordinated by the Office of the Vice Provost for Interdisciplinary Studies, graduate students are encouraged to propose an experience outside of their core disciplinary training that would enhance or expand their disciplinary training (e.g., an internship, training workshop or hands-on learning opportunity). The goal is to expand the opportunities for graduate students to acquire additional skills, knowledge or experiences that will widen their intellectual networks and enhance their original research.

Proposals require endorsement from the student's primary faculty mentor, and a clear explanation of how the experience will contribute to broadening the student's training, and how it may impact their dissertation research or capstone project. The proposed experience may last for up to one full semester. All internships, work and services proposed must be performed outside of Duke (i.e., may not be work for Duke).

Applicant Pool

All current graduate students (including master's, professional and Ph.D. students) in any program at Duke University are eligible to apply. In response to the inaugural request for proposals in Spring 2016,

we received 51 applications from 35 doctoral students, 13 master's and professional students, and three medical students.

The first cohort of GSTEG grantees in 2016-2017 included 19 students (14 women and five men) from numerous disciplinary homes ranging from engineering, environment and biology to history, theology and medicine. Seventeen of the grantees were doctoral students, one was a master's student and one was a medical student. The average award was $3,315.

2016-2017 Grantees by School

Grantee	Program	Purpose	Faculty Mentor
Arts & Sciences			
Selcan Aydin	Ph.D. in Biology	Participate in Computational Synthetic Biology Track of Quantitative Biology Summer School, UC San Diego, to build skills for modeling and data analysis applied to research on effects of genetic variation on signaling dynamics	Nicolas Buchler
Nathan Bullock	Ph.D. in Art, Art History & Visual Studies	Spend a semester at Yale School of Architecture to inform application of architectural theory to dissertation on contemporary Singapore	Annabel Wharton
Christopher Catanese	Ph.D. in English	Intern at NC Museum of Art to contribute to exhibition on British old masters and inform his research on British poetry	Robert Mitchell
Jung E. Choi	Ph.D. in Art, Art History & Visual Studies	Travel to Singapore to nurture community self-help in deprived urban neighborhoods and inform dissertation on intersection of art, technology and space	Mark Hansen
Adela Deanova	Ph.D. in Philosophy	Complete series of online courses in digital marketing to inform contribution to Project Vox	Andrew Janiak
Daanish Faruqi	Ph.D. in History	Volunteer with relief foundations operated by Sufi networks to help Syrian refugee communities in Jordan and Turkey, to inform dissertation on Sufi spirituality and commitment to social justice	Engseng Ho
Alisha Hines	Ph.D. in History and African & African American Studies	Attend History of Capitalism Workshop at Cornell to learn about technical content areas (statistics, accounting, economic theory) to inform study of slavery and freedom in Mississippi River Valley	Thavolia Glymph
Travis Knoll	Ph.D. in History	Intern at U.S. Embassy in Brasilia to inform research on intersection of politics and religion and to gain skills for a possible career in government	John French
Stephanie Gehring Ladd	Ph.D. in Religion	Take printmaking course at UNC Chapel Hill to gain insight into process of intaglio printmaking and inform dissertation on attention to suffering in work of Simone Weil and Käthe Kollwitz	Paul J. Griffiths

Grantee	Program	Purpose	Faculty Mentor
Divinity School			
Joelle Hathaway	Th.D.	Take photography course at Durham Tech and conduct fieldwork in England to compile portfolio of high-resolution images of religious art and architecture and conduct interviews about contemporary art in Anglican cathedrals, to inform dissertation about Christian practices of engagement with architecture and built environments	Jeremy Begbie
School of Medicine			
Banafsheh Sharif-Askary	M.D.	Establish Health, Advocacy and Readiness for Teens (HART) program with partners Bull City Fit and Healthy Lifestyles, hone teaching skills and increase understanding of Durham community health needs	Sarah Armstrong
Nicholas School of the Environment			
Zoie Diana	M.E.M.	Train at Okeanos Research Lab, Clemson, to further understanding of conserved molecular mechanisms in invertebrate bioadhesive and structure, to inform thesis on decorator worm	Dan Rittschof
Brenna R. Forester	Ph.D. in Environment	Participate in workshops hosted by National Institute for Mathematical and Biological Synthesis, to inform research on landscape genomics	Dean Urban
Fateme Yousefi Lalimi	Ph.D. in Environmental Science	Visit Andrea D'Alpaos's lab at University of Padova and conduct fieldwork in Venice Lagoon, to strengthen research on coastal wetlands	Marco Marani
Tess Leuthner	Ph.D. in Environment	Attend Environmental Genomics training program at Mount Desert Island Biological Lab, to facilitate research in toxicogenomics	Rich Di Giulio
Mark River	Ph.D. in Environment	Obtain training on transmission electron microscope at National Center for Earth and Environmental Nanotechnology Infrastructure to inform research on how phosphorus is transported by particles in stormwater	Curtis J. Richardson
Danica Schaffer-Smith	Ph.D. in Environment	Participate in workshop on environmental data analytics at National Center for Atmospheric Research and National Ecological Observatory Network in Boulder, to inform dissertation on spatiotemporal variability of inland waterbodies along the Pacific flyway	Jennifer Swenson
Elizabeth Schrack Shaver	Ph.D. in Marine Science & Conservation	Work with staff at National Oceanic and Atmospheric Administration and The Nature Conservancy to assess coral reef managers' information needs regarding restoration methods, enrich research in coral reef ecology	Brian Silliman

Grantee	Program	Purpose	Faculty Mentor
Pratt School of Engineering			
Zhiqin Huang	Ph.D. in Electrical & Computer Engineering	Spend half a year at Center for Integrated Nanotechnologies, Los Alamos National Lab, to inform research on novel nanostructures that can generate extremely low-energy and ultrafast plasmonic switches	David R. Smith

Types of Grant Activities and Examples of Impact

Hands-on Training

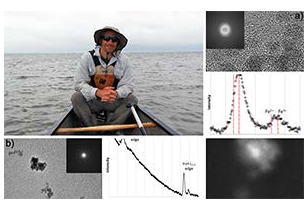
Nanotechnology at Los Alamos

The main purpose of the visit was to learn optics-related experiment techniques. Based on the rich resources, I even built a new pump-probe system independently and did a group of experiments using newly fabricated samples and obtained primary results. Furthermore, I attended several forums related to nanooptics as well as invaluable seminars. Through discussions with some talented experts in the field of my research, I gained a much better understanding on both theory and experiments. –**Zhiqin Huang** (Ph.D. in Electrical & Computer Engineering)

Coastal wetlands

I was able to extend a hydrodynamic model of coastal wetlands to larger scales with the use of robust numerical modeling techniques. Visiting and working in Venice marshes expanded my observational perspective beyond the study sites I was familiar with in North Carolina and Virginia. Besides the academic training and research aspect of this experience, I could extend my professional network and scientific collaborations with leading scientists in my field. I am currently working on a scientific paper that is the result of my trip. –**Fateme Yousefi Lalimi** (Ph.D. in Environmental Science)

A closer look at stormwater



I traveled to Virginia Tech and learned hands-on transmission electron microscopy on two different instruments, which I had no exposure to previously. Using the data I obtained in the two full days at Virginia Tech, I am working towards a nice publication that I would not otherwise have the data for. –**Mark River** (Ph.D. in Environment)

[A social science angle on coral restoration]

In the process of creating and implementing the survey, I learned valuable skills in the social sciences that I otherwise would not have obtained in my graduate work, including training on the wording of surveys, the Institutional Review Board process and pre-testing, to name a few. And the NOAA workshop I attended was a small and selective group of practitioners and scientists that I was only able to attend because of my role in this project. This workshop provided countless networking opportunities that I have since used to develop a postdoctoral proposal on coral restoration. –**Elizabeth Shaver** (Ph.D. in Marine Science & Conservation)

Internships

[Brazilian governance]

My time in Brasilia helped me connect historical debates with public policy. Both writing policy reports on affirmative action and meeting important public figures has opened up the possibility for focusing less exclusively on the push for affirmative action in Rio de Janeiro state. –**Travis Knoll** (Ph.D. in History)

[Sufi spirituality and social justice]

I did considerable work with the Syrian refugee community under the auspices of SKT Welfare, a charitable organization founded and run by the Sufi spiritual movement that is the subject of my academic research. It made painstakingly clear the intimate connection between this group's spirituality and commitment to worldly service. This experience will be crucial in helping better piece together the social and humanitarian dimensions of Islamic spirituality more broadly, and in understanding this movement that forms the basis of my dissertation in particular. –**Daanish Faruqi** (Ph.D. in History)

Workshops

[Capitalism, slavery and freedom]

The workshop was quite useful to me because I use steamboat company records in my research and I now feel more confident reading ledgers and account books, and can ask new questions about the hiring practices, for example, of steamboat captains and how they might have assessed the risk of employing enslaved men and women in river work. In addition, I was able to learn more about mapping techniques I can use to chart patterns of mobility of black women in the Mississippi River Valley. –**Alisha Hines** (Ph.D. in History and African & African American Studies)

Modeling and data analysis for biology

The group project was very helpful in gaining hands-on mathematical modeling experience where I had the chance to interact with computational biologists. This allowed me to improve my collaboration and scientific communication skills in addition to the scientific knowledge I have gained in computational and mathematical modeling. –**Selcan Aydin** (Ph.D. in Biology)

Big data and a bird migration route

Participating in the workshop assisted me in developing new modeling and computing skills, including an emphasis on big data and integrating diverse datasets in a unified analysis framework. The tutorials on Bayesian data analysis and spatiotemporal data analysis have proven to be directly applicable for my own work and I am currently using these methods in two chapters of my dissertation. –**Danica Schaffer-Smith** (Ph.D. in Environment)

Environmental genomics

I gained the knowledge to create, manage and analyze genomics datasets, but I also met new colleagues and collaborators. I continue to communicate and collaborate with scientists and peers that I met during this course. –**Tess Leuthner** (Ph.D. in Environment)

Evolutionary quantitative genetics

I learned skills that have allowed me to be a more effective collaborator, and have better prepared me for the postdoctoral position I have just started at Colorado State University. –**Brenna R. Forester** (Ph.D. in Environment)

Courses

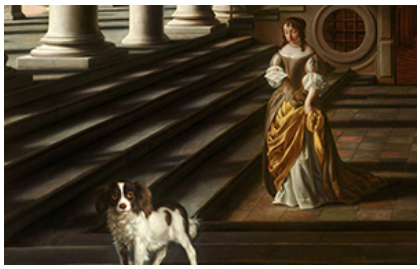
Printmaking and suffering

Professor Brian Garner [at UNC] was fantastic to work with. He let me custom-tailor a course within his Introduction to Intaglio, so that I was able to focus on the intaglio printmaking techniques most used by the artist I am studying, Käthe Kollwitz. I learned an enormous amount about how her work was done. –**Stephanie Gehring Ladd** (Ph.D. in Religion)

Singapore's urbanization

Seeing how students learn about architecture in a professional program [at Yale] was eye-opening in comparison to the approach taken by humanists in an art history department. I was most struck by how deep the divide really was between theory and practice. This experience will certainly change how I interact with and write about the architects I study in my dissertation research. –**Nathan Bullock** (Ph.D. in Art, Art History & Visual Studies)

Marketing and philosophy



The experience proved to be very valuable for me, not only because I learned about leading-edge business marketing practices in theory, but also because it allowed me to apply the theoretical insights to three practical projects: the Capstone Project for the Digital Marketing certification; the user experience strategy for Project Vox; and the Story+ project for RTI International. –**Adela Deanova** (Ph.D. in Philosophy)

Christian engagement with architecture

I presented a paper at the Southeastern Commission for the Study of Religion based on the interviews and research I did at Salisbury Cathedral. I have two other paper proposals submitted for other academic conferences, also on cathedrals from my trip. I could spend the next decade researching and unraveling the different threads I uncovered through this experience! –**Joelle A. Hathaway** (Th.D.)

Community Engagement

Empowering young people to become healthy adults

The Graduate Student Training Enhancement Grant was a crucial component of starting HART and ensuring that we had the necessary resources to serve our teens. Personally, HART has challenged us to be more flexible, thoughtful and accountable and we believe that these qualities will better equip us to be high-quality patient-oriented clinicians. –**Banafsheh Sharif-Askary** (M.D.)

Art and community self-help

I organized 12 different meet-ups among artists, community members and visitors and had opportunities to discuss various ways to enhance the understanding of the neighborhood and find better ways to engage with the environment involving art. Through this project, as a curator/scholar, I was able to understand the practical issues of curation that involve ongoing conversations among community members as well as the integrated approach to art and life. –**Jung E. Choi** (Ph.D. in Art, Art History & Visual Studies)

Looking Ahead

For the second cohort (2017-2018) we received 58 GSTEG applications from 49 doctoral students, nine master's and professional students and one medical student. Eighteen students (12 women and six men) were selected for 2017-2018 grants. There are 17 doctoral students and one master's student. The average award was $2,225.The grantees will report on their activities by June 30, 2018.

Grantee	Program	Purpose	Faculty Mentor
Arts & Sciences			
Sarah (Sally) Bornbusch	Ph.D. in Evolutionary Anthropology	Work at North Carolina Museum of Natural Sciences' Genomics & Microbiology Research Lab to learn how to assess antibiotic resistance in bacterial microbiomes of nonhuman primates, to inform dissertation on relationship between primate gut microbiomes and host health	Christine Drea
Lok Chan	Ph.D. in Philosophy	Take part in Udacity Machine Learning Program to develop skills needed to produce a web-based application for logic education and, through practice, a deeper understanding of philosophical differences between Bayesian and Frequentist statistical methods, which will inform dissertation on learning and testing through lenses of philosophy and statistics	Kevin Hoover
Emily Cherenack	Ph.D. in Clinical Psychology	Volunteer with Femme International to implement reproductive health intervention for adolescent girls in Tanzania, and receive training from Dr. Adam Carrico at University of Miami on how to use biological measures in research with women, which will further ability to conduct research on reproductive and sexual health among adolescent girls in Tanzania	Kathleen Sikkema
William Cioffi	Ph.D. in Ecology	Attend course at University of Utah on stable isotope biogeochemistry and ecology, which will support dissertation proposal to use baleen from fin whales to reconstruct individual life histories and assess changes in foraging ecology, reproduction and stress	Andrew Read
Stephanie Manning	Ph.D. in Digital Art History	Attend course at Sotheby's Art Institute on finance and art markets to deepen understanding of the art market	Sheila Dillon

Grantee	Program	Purpose	Faculty Mentor
		industry, including financial aspects behind valuing and appraising art, to prepare for career as specialized art consultant or investment analyst	
Kate Thomas	Ph.D. in Biology	Conduct coding-intensive research at Monterey Bay Aquarium Research Institute, drawing on its database of millions of deep-sea animal sightings, to inform research on vision and bioluminescence in deep-sea cephalopods	Sönke Johnsen
Jillian Wisse	Ph.D. in Ecology	Learn a novel analysis technique (liquid chromatography/tandem mass spectrometry for blubber analysis) at National Institute of Standards and Technology, to support a preliminary analysis using remote blubber biopsy samples from pilot whales	Douglas Nowacek
Divinity School			
Dustin Benac	Th.D.	Attend Qualitative Research Methods Intensive Seminar at University of North Carolina's Odum Institute for training in qualitative data collection and interpretation, to be applied to a pilot study examining patterns of connection among five church-related educational institutions in Pacific Northwest	Craig Dykstra
School of Medicine			
Bria Moore	Ph.D. in Medical Physics	Attend course on radiation emergency medicine at Oak Ridge Associated Universities to learn practical aspects of handling contaminated patients in a hospital setting, which will improve ability to communicate effectively with medical professionals in emergency situations	Terry Yoshizumi
Nicholas School of the Environment			
Amelia Meier	Ph.D. in Environment	Train at Institute for Research in Tropical Ecology in Gabon to learn genetic analysis methods necessary to identify individual forest elephants, which will inform dissertation on elephant tracking in Gabon	John Poulsen
Kirsten Overdahl	Ph.D. in Integrated Toxicology & Environmental Health	Purchase software licenses for cheminformatic programs Schrodinger and Py Mol, which are required for a UNC course on research in pharmaceutical sciences, which will inform dissertation on chemical pollutant structure/occurrence and biological effects	P. Lee Ferguson
Ryan Peabody	Ph.D. in Earth & Ocean Sciences	Take course at Bermuda Institute of Ocean Sciences on modern observational oceanography with a focus on carbon and nutrient sampling, to support research employing oceanographic data, satellite remote sensing data and models to examine linkage of large-scale ocean circulation and ocean productivity	Susan Lozier
Seth Sykora-Bodie	Ph.D. in Marine Science & Conservation	Participate in Hawaiian Islands Cetacean and Ecosystem Assessment Survey to inform dissertation on comprehensive approaches to Antarctic resource management and conservation	Lisa Campbell and Andrew Read

Grantee	Program	Purpose	Faculty Mentor
Anna Wade	Ph.D. in Environment	Train at Pacific Northwest National Laboratory in use of silicon-32, a radioisotope serving as a novel dating tool for environmental processes, which will support dissertation research on legacy sediment	Daniel Richter
School of Nursing			
Allison Lewinski	Ph.D. in Nursing	Attend course at University College London on applying principles of behavior change in behavioral research interventions, which will help in characterizing social interaction and support among individuals with type-2 diabetes who are interacting in a computer-mediated environment	Allison Vorderstrasse
Pratt School of Engineering			
William Gerhard	Ph.D. in Civil & Environmental Engineering	Intern with Danish Hydraulic Institute in Singapore to incorporate antibiotic resistance genes and pathogens into a global ballast water movement model, which will support dissertation research and potentially inform policy and regulatory decisions under debate by the United Nations	Claudia Gunsch
Sanford School of Public Policy			
Mercy DeMenno	Ph.D. in Public Policy	Gain hands-on experience interning with the Organisation for Economic Co-operation and Development conducting research related to the theory and practice of effective regulatory governance in the financial sector	Frederick Mayer
Duke Global Health Institute			
Sophie Galson	M.S. in Global Health	Take part in residential immersive Swahili course at The Training Centre for Development Cooperation in Eastern and Southern Africa in Tanzania, to support research project on hypertension in emergency department of Kilimanjaro Christian Medical Center	Catherine Staton

In early 2018 an RFP will invite all current Duke graduate students (including master's, professional and Ph.D. students) to propose graduate training enhancement activities lasting up to one semester, for use during the 2018-2019 academic year.

Questions?

Please contact us at the Office of the Vice Provost for Interdisciplinary Studies (216 Allen Building, 919-684-1964, interdisciplinary@duke.edu).