

OFFICIAL PROGRAM

**GRADUATE RESEARCH
APPRECIATION DAY 2019**



STAMP UNION. APRIL 3RD 2019. 9:00 AM TO 5:00 PM

LETTER

Welcome to Graduate Research Appreciation Day

GRAD is a campus-wide, conference-style event during which the graduate students of the University of Maryland may present their research or work and discuss it with other students, faculty, and staff from across the University. GRAD gives University of Maryland graduate students a unique professional development opportunity in providing a supportive space to develop vital communication skills and an opportunity to engage with researchers across the many disciplines studied on this campus.

GRAD endeavors to catalyze and engage graduate students to be advocates of their own work. With this in mind, we have actively sought out plenary events that will help the graduate population in addressing serious questions about the changing climate and culture, both inside and outside of academia, and the communication skills required to confront these challenges. GRAD begins with a plenary talk by Dr. Linda Macri, the director of the Writing Center in the Graduate School.

We offer 14 first place awards and second place awards at \$500 and \$300 respectively. With the spirit of participation, all presenters will receive a gift bag and all attendees have a chance to win a gift bag. In addition, we will give a \$10 gift card to the first 50 non-presenter students in attendance at the morning plenary. We are grateful for the unwavering support, of our sponsors: The Graduate School, Division of Research, Division of Student Affairs, Libraries - Public Service, Pepsi Enhancement Fund, and your graduate student fees (through the Graduate Student Government).

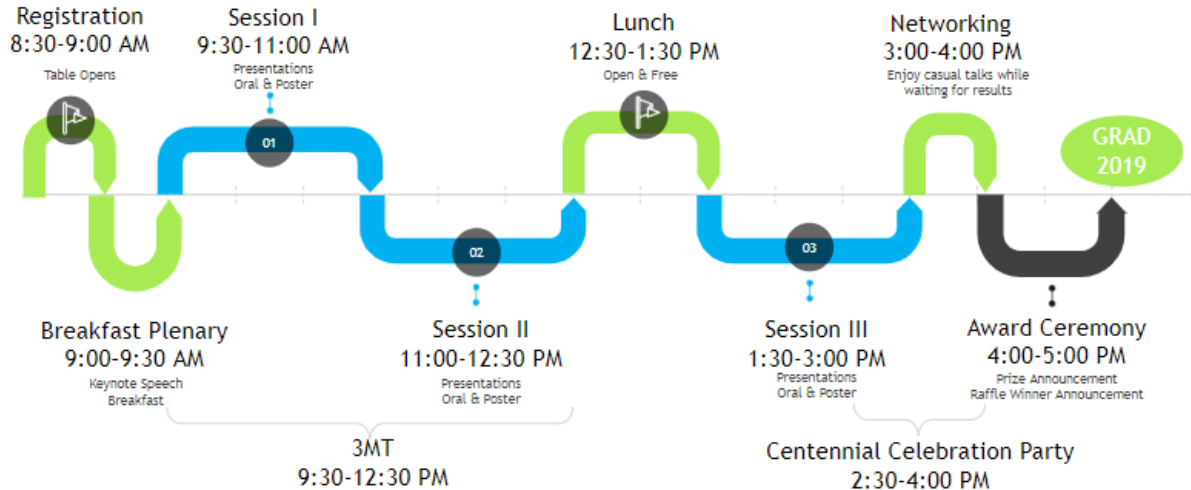
Thank you for taking part in GRAD 2019 which, we hope, is both a celebration of and catalyst for excellence at the University of Maryland.

Sincerely,
Binbin Peng

Vice President for Academic Affairs
Graduate Student Government

GRAD 2019 ROADMAP AT A GLANCE

GRAD 2019 Schedule At-A-Glance



SCHEDULE

REGISTRATION

BREAKFAST

MORNING PLENARY

KEYNOTE SPEECH

MORNING SESSIONS

POSTER

LUNCH

AFTERNOON SESSIONS

NETWORKING

AWARD CEREMONY

WINNER ANNOUNCEMENT

RAFFLE WINNER ANNOUNCEMENT

CENTENNIAL CELEBRATION

8:30 – 9:00 AM

COLONY BALLROOM 2203

9:00 – 9:30 AM

COLONY BALLROOM 2203

9:30 – 11:00 AM & 11:00 – 12:30 PM

TRACK 1& 5 & 9: BENJAMIN BANNEKER 2212

TRACK 2 & 7: THURGOOD MARSHALL 2113

TRACK 3 & 6: MARGARET BRENT 2112

TRACK 4 & 8: PYON SU ROOM 2108

ALL DAY IN JUAN RAMON JIMENEZ 2208

12:30-1:30 PM

COLONY BALLROOM 2203

1:30 - 3:00 PM

TRACK 9: BENJAMIN BANNEKER 2212

TRACK 10: CHARLES CARROLL 2203

TRACK 11: MARGARET BRENT 2112

TRACK 12: PYON SU ROOM 2108

3.00 - 4.00 PM

4.00 - 5.00 PM

COLONY BALLROOM 2203

2.30 – 4.00 PM

ATRIUM

ORAL PRESENTATIONS

Session I: 9:30 AM – 11:00 AM

TRACK 1

**Engineering and
Technology**

Benjamin Banneker Room

9:30 AM – 11:00 AM

Lanfei Shi

Pragmatic Men, Idealistic Women? Performance Feedback Design on Two-sided Matching Platforms

Paul Magoulick

Using Interdependent Infrastructure Network Models to Optimize DOD Operation and Maintenance Investment Strategies Before a Natural Disasters

Jiahao Zhan

On-chip optical add-drop multiplexer

Naila Al Hasan

Employing High Throughput Experimentation for Discovery and Development of Shape Memory Alloys for Solid State Cooling

Carmen Marie Cartisano

Optical and chemical properties of CDOM produced from mangrove leaves

David Nahmias

EEG Spectral Connectivity Analysis in a Large Clinical Population

Ankan Bansal

Zero-Shot Learning for Scene Understanding

Judges

Dr. Arefeh Nasri, Dr. Sarah Over, Dr. Michael Azarian

Moderator

Ashish Hirani

TRACK 2

Science

Thurgood Marshall Room

9:30 AM – 11:00 AM

Kätchen K. Lachmayr

Development of Nanofabrication Templates using the Stable Bicontinuous Mesophases of Sugar-Polyolefin Conjugates

Hossein Salami

Deposition of indium oxide nanostructures for modification of optical properties of spacecraft components

Anna Noreuil

*Genetic Ancestry and Host Preference in behaviorally-divergent North-American *Culex pipiens* populations*

Francisco Salces-Carcoba

Cooling down quantum gases away from degeneracy

Dina Genkina

Measuring topology of an ultracold quantum gas in a synthetic dimensions lattice

Daniel Plummer

Bitcoin, Blockchain Technology and Secure Hash Algorithms

Judges

Dr. Larry Washington, Dr. Jay Thomas

Moderator

Raviteja Boyana

TRACK 3

Biological Sciences

Margaret Brent Room

9:30 AM – 11:00 AM

Judges

Moderator

Heather Pribut

The insula ÅOS role in reward-guided decision-making and its disruption after cocaine self-administration

Anshuman Swain

Understanding Community Structure and Assembly in a Mid-Cambrian Ecosystem using Network Analysis

Dana Rushovich

Soil Tests to Predict Response of Soybeans to Sulfur Application in the Mid-Atlantic Region

Rishov Goswami

Trpv4 regulates dermal myofibroblast differentiation and is associated with scleroderma

Supriya Padmanabhan

Controlled droplet discretization, release, transport and capture using membrane displacement traps

Xiaojing Mao

Investigating the Role of Peroxisomes in Hutchinson-Gilford Progeria Syndrome

Yantenew Gete

Molecular Mechanisms of Endothelial Dysfunction in Hutchinson-Gilford Progeria Syndrome

*Dr. Margaret Udahogora, Dr. Kirsten Crase,
Dr. Nicole Mogul*

Hillary Dimig

TRACK 4

**Interdisciplinary Research
from Social Sciences**

Pyon Su Room

9:30 AM – 11:00 AM

Ashley Minner

East Baltimore's "Reservation": The Lumbee Indian Community

Paul Cheung

Guilt Moderation

Tuesday Barnes

(Black) Joy Under Surveillance: Evaluating the Role of Race, Class and Gender in the Emotional Resiliency of Incarcerated Youth

Natasha Williams

The availability of LGBT-specific mental health and substance abuse treatment in the United States: Findings from two national surveys

Diana Bowen

Prospective Teachers' Noticing and Naming of Students' Mathematical Strengths

Shubham Akshat

Addressing geographic disparity in liver transplantation

Nabila A Hijazi

Literacy narratives of Syrian Women Refugees: Motivations and Challenges in Conflict

Judges

Dr. Thomas McCloskey, Dr. Nadine Dangerfield

Moderator

Leila Mosleh

Session II: 11:00 AM –12:30PM

TRACK 5

Applications in Science

Benjamin Banneker Room

11:00 AM –12:30PM

Pradip Gatkine

The wild atmospheres of galaxies in the early universe

Danielle Le Roux

Generation of Reactive Oxygen Species by Chromophoric Dissolved Organic Matter in Natural Waters

Jesse Maxwell

Shape-Changing Spacecraft for Missions to Mars

Donny Pearson

Quantum Information: How Light and Matter Will Shape the Future of Communication & Technology

Dalia Ornelas Huerta

Engineering photon interactions with Rydberg atoms

Mahmuda Afrin Badhan

The Impact of Stellar UV Activity on Habitable Moist Terrestrial Extrasolar Planetary Atmospheres Orbiting M Dwarf Stars

Gaohong Yin

A Comparison of Vertical Displacements Derived from Space-based Gravimetry, Ground-based Sensors, and Model-based Hydrologic Loading over the Western United States

Judges

Dr. Larry Washington, Dr. Jonathan Rosenberg

Moderator

Avinash Reddy

TRACK 6

Biological Sciences

Margaret Brent Room

11:00 AM –12:30PM

Sanju Sinha

Identifying modulators of synthetic lethal interactions from CRISPR Screening

Abhilash Sahoo

Pathways of amyloid-beta absorption and aggregation in membranous environment

Elizabeth Bell

Neural and Mechanical Adaptations to Muscular Fatigue over Repetitive Push-Ups

Teodora Kljaic

Highly Precise and Direct Competitive Kinetic Isotope Effect Measurement Using Whole Molecule MALDI-TOF Mass Spectrometry

Maggie Lewis

Can spotted-wing drosophila vector fruit rot fungi in raspberries?

Chaitra Surugihalli

Optimal Coupling of Hepatic Mitochondrial Metabolism with Lipogenesis Promotes Healthy Embryonic to Neonatal Development in Chicken

Eli Pottash

Regulatory RNA trafficking in atherosclerosis

Judges

Dr. Sarah Over, Dr. Jay Thomas

Moderator

Annie Rappeport

TRACK 7

Environment

Thurgood Marshall Room

11:00 AM –12:30PM

Amanda Hoffman-Hall

More than Mosquitoes: Malaria Risk in Ann Township, Myanmar

Zeinab Yahyazadeh Jasour

Building Park Resilience: A Case Study of Patapsco Valley State Park

Jing Liang

Social sentiment on energy transition from coal to natural gas

Jennifer Louise Richmond

Drivers of household appliance usage: survey evidence from rural India

Afrouz Rahmati

Garden of grandparents to meet with others

Ajeet Wankhede

Heuristic Based Optimal Path Planning for Neurosurgical Tumor Ablation

Judges

Dr. Sevgi Erdogan, Dr. Arefeh Nasri

Moderator

Kavya Kummarakuntla

TRACK 8

**Interdisciplinary Research
from Social Sciences**

Pyon Su Room

11:00 AM –12:30PM

Alexandra M. Brown Breslin

The Influence of Interviewer Dialect on Data Quality

Eddie S. K. Chong

*Resilience in the Face of Intersectional Stressors among LGBTQ
Asians in North America: The Role of Social Support*

Grace Davenport

*A Comparison of Baltimore and Ohio Railroad Stations'
Economic Influence and Change of Use Over Time*

C. Andrew Conway

*The Unexplored Adverse Childhood Experiences of Latino
Immigrants*

Devin Scott

*The Co-Construction of Content and Form in Deadpool: Dead
Presidents*

Dane De Silva

*Affordable Care Act (ACA) implementation and maternity care
provisions by insurance type: an interrupted time series analysis
of births between 2009-2017 in the United States*

Judges

Dr. Emina Herovic, Dr. Kirsten Crase

Moderator

Eun Kyoung (Rosa)

Session III: 1:30 PM – 3:00 PM

TRACK 9

Engineering and Technology

Benjamin Banneker Room

1:30 PM – 3:00 PM

Ashley Pantaleao

Development and Testing of a Digital Tool to Map Social Support Among African Americans with Type 2 Diabetes

Xiaoxu Meng

Foveated Rendering in Virtual Reality

Hamed Ghaedi

The impact of repeated disasters on the number of applications for FEMA Public Assistance program: a predictive case study analysis

Siqi Cao

Polychlorinated biphenyls in stormwater sediments: relationships with land use and particle characteristics

Zhenyu Tang

Learning the Direction of Arrival of Sound with Ambisonic Audio

Upamanyu Ray

Using nature-inspired materials like cellulose in high-performance structural applications

Chinmay Rajiv Sane

Novel Approach to UE-RAN-Core Ultra Reliable Communication for Mission Critical Use Cases in 5G Networks Using End to End Redundant Traffic Delivery.

Judges

*Jay Thomas, Dr. Fernando Raffan-Montoya,
Dr. Sarah Over*

Moderator

Chin Guo

TRACK 10

Sociology & Human

Charles Carrol Room

1:30 PM – 3:00 PM

George Zuo

Wired and Hired: Employment Effects of Subsidized Broadband Internet for Low-Income Americans

CHANDRA REYNA

Blogging Through Multiracial Motherhood: An Exploration of Multiracial Mommy Blogs

Xu Han

Building a Skilled Workforce at the Expense of Developing Democratic Citizenship: The Effect of Performance Management on Civic Participation at American High Schools

Zhongsheng Wu

What signal matters? Exploring the role of transparency and government ties on the level of public support to nonprofit organizations

Nicole C. Catanzarite

Analogical Reasoning as a Flexible Cognitive Strategy

Yi Feng

Variability as an Outcome Variable: Using Multilevel SEM to Model Lower-level Random Effect Variance as Higher-level Latent Variables

Xinyue Pan

Tipping Points for Norm Change in Human Cultures

Judges

Dr. Kirsten Crase, Dr. Daniel Serrano

Moderator

Sophia (GRAD)

TRACK 11

**Education & Family
Science**

Margaret Brent Room

1:30 PM – 3:00 PM

Xiaojing Wang

*Examining College Students, ¿O Intentions to Seek Online
Counseling Services*

Romina da Costa

*A Case Study of Engineering PhD Students, ¿O Career Decision-
Making Processes using a Bounded Agency Model*

Anthony Kondracki

*Maternal Smoking Intensity Status in Early and Late Pregnancy
and its Association with Morbidity in Singleton Term Neonates,
United States, 2016*

Naheed Ahmed

*Social media use and influenza vaccine uptake among White and
African American adults*

Laura Drew

*The relationship between female genital cutting and sexual
behaviors among women in Nigeria*

Nicole Scalise

*Playing Card Games with Parents Supports Children, ¿OS Early
Mathematical Skills*

Timothy D. Reedy

*The Next Generation Science Standards and Sustainable
Development Goal 4.7: A (mis) Alignment?*

Fiona Jardine

*Breastfeeding Without Nursing: The Lived Experiences of Breast
feeders Who Exclusively Pump*

Judges

Dr. Gulnoza Yakubova, Dr. Eric Haag

Moderator

Mallory N. Haselberger

Lindsay Rand

Tackling the Global Legacy of Radioactive Waste Management

TRACK 12

**Interdisciplinary Research
from Social Science**

Pyon Su Room

1:30 PM – 3:00 PM

Michael Speiser

Question Length and Differential Item Nonresponse in a Mail Survey

Nora Lee Heist

Hybridizing Ancient Rhetorical Theory and /r/change my view

Qiong Peng

Does Purple Line in Preservice Period Increase Multifamily Rent

ZHENPENG (FRANK) ZOU

Move on Scooters: Understand How Social & Built Environments Impact Scooter Share Usage in Washington D.C.

Yuhan Rao

Weather Data Inequality May Cause Large Uncertainty at Local And Regional Climate Analysis

Anjun Li

Integrated Development of Rail Transit in China

Judges

Dr. Andrew McMillan, Dr. Linda Macri

Moderator

Luming Yang

POSTER PRESENTATIONS

Session I: 9:30 AM – 11:00 AM

Jonathan Aram

Risk of Poisoning Death by Employment Status and Occupation ,Äi United States, 2002 - 2008

Rebecca Butcher

Applying geodesy to model post seismic slip of the 2016 Mw 6.4 MeiNong earthquake in southwest Taiwan

Daniel Song

The influence of MUC5B:MUC5AC ratio on the viscoelasticity of mucin-based

Leila Babaei

Development and assessment an integrated Water-Energy-Food Nexus model at urban area

Lillian Hammer

The Relation between Neighborhood Disadvantage, Paranoia, and Appraisals of Social Relationships in a Transdiagnostic Sample of Individuals with Psychosis

Sandra Roberts

Long-Term Trends in Tropospheric Ozone and Ozone Chemistry in the Baltimore-Washington Region

Meleah Boyle

Occupational exposures to phthalates among U.S. hairdressers primarily serving an ethnically diverse clientele

Jawairia Ahmad

Integrating machine learning and brightness temperature assimilation to improve snow estimates over High Mountain Asia

Zeeve Rogoszinski

How do collisions shape the orbits of irregular satellites?

Matthew Renn

Expected behavior of education majors: How the end of the Teaching Fellows program impacted bachelor,Äôs degrees conferred in North Carolina

Natasha Pinheiros

Examining Higher Education in Cuba: What does access look like?

Amritha Mallikarjun

The Cocktail Party Effect in the Domestic Dog

Judges: Dr. Gen Li, Dr. Spencer Benson, Dr. Jianhua Zhu

Session II: 11:00 AM –12:30PM

Qianyu Zhu

The influences of parental involvement and parenting style on Chinese high school students, Æ academic burnout and engagement: students, Æ insecure attachment as a mediator

Fuxi Wang

Investigating plant meristem development by studying a suppressor of tso1 mutants

Rajrupa Ghosh

Race and sex differences in the association between phthalates and metabolic syndrome: National Health and Nutrition Examination Survey, 2005-2014

Leila Mosleh

Stormwater Green Infrastructure Evaluation System in Urban Environment

Scott Cosseboom

The MyIPM Smartphone Application for Grape Diseases: A Tool for Improved Grower Understanding and Disease Management

Poorvaja Ganesan

Bioengineering Techniques for Sustainability: Review

Alicia Spiegel

Crime Trauma Experiences Associated with Gender Differences in Paranoia

Reynold Yu

Progerin expression leads to splicing mis regulation

Alan Uy

Systems engineering-based model development: predictive simulation of a net-zero home

Lucy Kavi

Real-time air monitoring of occupational exposures to indoor pollutants among U.S. hairdressers

Anna Zimina

An LC3-like epitope in a poliovirus structural protein regulates the development of replication organelles.

Aisha Al-Obaid

Modeling and Optimization of a Coupled Photovoltaic- Electrolysis-Battery System for Hydrogen Generation

Judges: Dr. Ijaz Haider Naqvi, Dr. Susan Martin

Session III: 1:30 PM – 2:30 PM

Rini Pek

Delineating heme transport using HRG1-deficient mouse model

Farshid Shoushtarian

A Review Paper on the Latest Urban Water Reuse Regulations And Guidelines in the U.S.

Yu Chen

Shared reading with mothers and fathers: Infants' language development in low-income, ethnic minority families

Xingchen liu

Drought stress limits the growth of the human pathogen Salmonella enterica on kale

Dyuti Ganesh

Title: Mindfulness interacts with depressive symptoms to predict Post-traumatic stress symptoms among college students

Erin Taylor

Sexual Health Information Needs and Information-Seeking Behavior of LGBTQIA Individuals in Early to Late Adolescence

Daniel Colopietro

Carbon Stocks in Organic and Mineral Horizons of Mid-Atlantic Region Forest Soils

Carolina Velloso

Sports Journalism and the Rise of the Female Reporter, 1870-1920

Vidit Mehta

Virtual Item Recommender Engine: A Heterogeneous Network Embedding Perspective

Guanjin Wang

Granular Interactions Across Phases and Scales

David Nahmias

EEG Spectral Connectivity Analysis in a Large Clinical Population

Alina M. Pineiro Escalera

Exceeding the Sauter-Schwinger limit of pair production with a quantum gas

Jing Liang

Assessing Chinese Knowledge about Nuclear Power: An Exploratory Analysis of Online Discussion Board

Judges: Dr. Taniya RoyChowdhury, Dr. Larry Washington

GRAD AT A GLANCE

Breakfast Plenary Lecture

9:00AM - 9:30AM, Colony Ballroom

With an Introduction from

**Dr. Linda Macri, Director of the Writing
Center in the Graduate School**

**“Thoughts on the next century of graduate
education at Maryland”**



Dr. Linda Macri is the Director of Academic and Professional Development in the Graduate School here at the University of Maryland. In that capacity, she directs the Graduate School Writing Center and heads the Graduate Student Success Team, the group of staff in the Graduate School responsible for a broad range of co-curricular support for graduate students. Dr. Macri is herself a Maryland alumna, having earned a doctorate in English with a focus on rhetoric and composition at the tail end of the last millennium. Previously, she served as both the Internship Director and the Director

of the Academic Writing Program in the English Department.

GRAD AT A GLANCE

Networking Session

3:00PM - 4:00PM, Colony Ballroom

(We encourage you to go to the Centennial Celebration at Atrium)

Award Ceremony

4:00 PM – 5:00 PM, Colony Ballroom

Announcement of GRAD Winners

By Dean Jeff Franke & Dr. Jay Thomas

Live Draw & Raffle Winner Announcement

(must be present to win!)

The Graduate School Centennial Celebration

2:30PM – 4:00 PM, Atrium

GRAD AT A GLANCE

Stamp Second Floor Room Function Map



Sustainability

Graduate Student Government is dedicated to reducing our waste!

Please help us do this at GRAD 2019 by limiting your printing and composing throughout the event!



Thank you to our generous sponsors:

The Graduate School
Division of Research
Libraries – Public Services
Office of Student Affairs
Graduate Student Government
Pepsi Enhancement Fund
Board and Brew Coffee

Thank you also to the volunteers who have helped make GRAD possible, including judges, abstract reviewers, and the GRAD Planning Committee!

GRAD Planning Committee:

Aishwarya Phanse
Chenyu (Sophia) Mao
Gaurav Kumar
Haoyuan (Tony) Jing
Teresa Lewandowski

Volunteers:

Ali Rad
Annie Rappeport
Annie Rappeport
Ashish Hirani
Avinash Reddy
Bing Wang
Chin Guo
Deepika Yadav
Dongyi Wang
Eun Kyoung (Rosa)
Hillary Dimig
Himanshu Singhal
Jingsi Xu
Kavya Sri

Leila Mosleh
Luming Yang
Mallory N. Haselberger
Matthew Salzano
Raviteja Boyana
Sai Subbarama Rithvik Gosukonda
Shihangyin Zhang
Sophia (GRAD)
Teodora Kljaic
Victoria Ledford
Yanjia Yang
Yu Wang
Yuxi Liu

Thank you for a great event and we look forward to seeing you
next year!