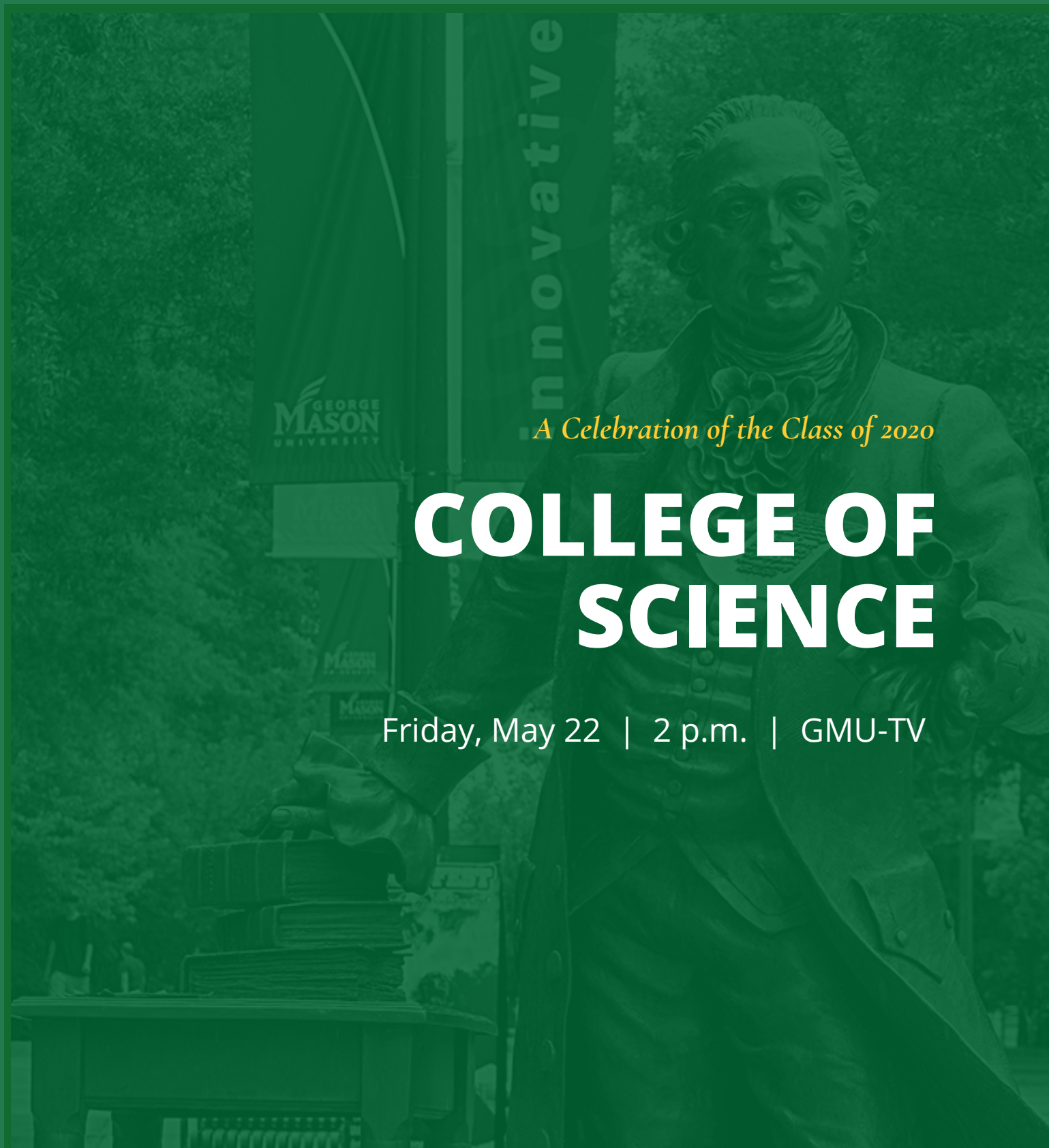
GEORGE MASON UNIVERSITY | College of Science



A Celebration of the Class of 2020

COLLEGE OF SCIENCE

Friday, May 22 | 2 p.m. | GMU-TV

A Message from the Dean

Dear Class of 2020,

I would like to congratulate you on your day of celebration! You have achieved so much, yet there is so much more that you will achieve in the future!!

As students of science, you have learned how to analyze situations by looking at facts and to arrive at your conclusions in an unbiased, evidence-based manner. The intellectual tools that you have acquired will continue to serve you well as you embark on the next leg of your exciting journey. As you experience the myriad opportunities for personal and professional growth in your bright futures, you will come to rely on these tools to help you navigate uncharted territories and expand your boundaries.

Although the current circumstances may appear daunting, these difficulties are transitory. I want you to remember that you are exceptionally well-prepared and are capable of creating opportunities out of challenges. Also remember that you are, and will always be, a member of the Mason College of Science family.

Once again, please accept my heart-felt congratulations and best wishes for a brilliant future of continued discovery and learning.

Together, we are the Mason Nation.

Ali Andalibi
College of Science

#MASON2020

College of Science 2020 Student Award Recipients

Congratulations

DEANS GRADUATE AWARD FOR EXCELLENCE

Jaydeep Joshi
Department of Physics and Astronomy

Deepanshu Verma
Department of Mathematics

DEPARTMENT OF BIOLOGY

Mariann and Bruce Johnson Award

Emma McCallum
Mythri Chitilla
Lyla Ahmad
Elias Khayat
Oleksiy Melnyk

Research Semester Award

Emma McCallum
Jad Alchoubassi
Hallie Rauch

Biology Writing Award

Darian Ahmad
Oleksiy Melnyk

"Discovery consists of looking at the same thing as everyone else and thinking something different."

— Albert Szent-Gyorgyi

Marion Lobstein Award

Alexander Marchesani

Melissa Stanley Medical Laboratory Science Award

Annabelle Casey
Beza Bulcha
Sarah Laryea

Outstanding Biology Graduate Student Teacher

Mia Keady
Nicole Bracci
Robert Posont
Brian Griffiths

Senior Award

Nitasha Abba

Honors in the Major

Bradley Bontrager
Emma McAllum
Sarah Khatib
Alaa Fares
Emily Helms (Summer 2020)
Cynthia Temeles (Summer 2020)

Faculty Award

Raghad Almofeez

SCHOOL OF SYSTEMS BIOLOGY

Best Master's Thesis

Maria Cowen

Best Doctorate of Philosophy Dissertation

Daniel Pinto

John N. Brady Award

Heather Branscome

Navachat Tongvichit Bioinformatics Fellowship

Pooja Khatkar

Outstanding Undergraduate Student Scholar Award

Shan Zaidi

School of Systems Biology Impact Award (PhD)

Bibha Dahal

School of Systems Biology Impact Award (MS)

Matthew Kutyna

School of Systems Biology Innovator Award

Raquel Adams

DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY

General Chemistry Acheievment Award

Kaci Jose

Feinstein Award in General Chemistry

Allison Carroll

ACS Organic Chemistry Award

Gillian Payne

C.R. Walter Award in Organic Chemistry

Shan Zaidi

Meites-ACS Undergraduate Award in Analytical Chemistry

Moon-Jung (Melony) Kim

Holly Chen Biophysical Chemistry Award

Enkhsaruul Sergelenbaatar

American Chemical Society Award in Physical Chemistry

Ume Tahir

MS Graduate Student Award

Jinghao Huang

PHD Graduate Student Award

Andrew Evangelista

American Chemical Society Senior Award

Tristan Moon

DEPARTMENT OF ENVIRONMENTAL SCIENCE AND POLICY

Best Doctoral Dissertation

Rachel Golden Kroner

Outstanding Undergraduate in Environmental Health

Natalie Cross

Outstanding Undergraduate in Conservation

Emma Gregory

Outstanding Undergraduate in Ecological Science

Rachel Pack

Outstanding Undergraduate in Marine, Estuarine, and Freshwater Ecology

Keith Keel

Outstanding Undergraduate in Human and Ecosystem Response to Climate Change

Essam Temuri

Outstanding Undergraduate in Wildlife

Benjamin Nolen

FORENSIC SCIENCE PROGRAM

Service Award

Jude Basrawi
Camille Flores
Jenny Brock
Shraddha Na

Faculty Award

Alexandre Agaev
Samantha Hadley
Felicia Marks
Paige Riley
Georgia Williams

Achievement Award

Jason Boarts
Kevin Embrey
Matthew James
Brittni Sullivan
Shannon Taylor
Ryan Tignor

DEPARTMENT OF GEOGRAPHY AND GEOINFORMATION SCIENCE

Alice Andrews Highest GPA

Bryce Collier

Highest GGS GPA

Alana Bosco

Outstanding Senior

Amy Rose-Tejwani

Outstanding Service Award

YoLani Martin

Outstanding Certificate

Jonathan Haas

Outstanding Masters

Jeffrey Heuwinkel

Outstanding PhD

MD. Shahinoor Rahman

DEPARTMENT OF MATHEMATICS

Klaus Fischer Academic Achievement Award in Mathematics

Scott Webster
Katrina Junta

Mary K. Cabell Award to the Outstanding Mathematics Student

Ben Concepcion

Genevieve G. Feinstein Award in Cryptography

Matthew Kearney

Amer Beslagic Award

George Andrews
Kylie Smith

INTERDISCIPLINARY PROGRAM IN NEUROSCIENCE

Outstanding Neuroscience Researcher Award in Electrophysiology

Sibghatullah Saeed
Esprit Blatchford

Outstanding Neuroscience Researcher Award in Neurodevelopment

Daniel Plaxe

Outstanding Neuroscience Researcher Award in Molecular Neuroscience

Paresha Khan
Massiel Raya

Neuroscience Faculty Choice Award

Jalynn Mabry
Lucas Kinsey
Karen Therrien

DEPARTMENT OF PHYSICS AND ASTRONOMY

Outstanding Physics PhD Dissertation

Alejandro Figueroa

Outstanding Physics and Astronomy Graduate Teaching Assistant

Nicholas King

Outstanding Graduating Senior

Ben Concepcion

Doctoral Candidates

Doctor of Philosophy in Bioinformatics

Paul Aiyetan

A Quantitative Systems Biology and Mechanistic Model Approach to Synthetic Lethality– defining reaction and regulatory pathways of targeted cellular death in cancer cells

Major Professor: Iosif Vaisman, PhD, School of Systems Biology

Thomas C. McCarty

Customizable Virus Vaccine Design Using Computational Targeting of Protein Structures

Major Professor: Iosif Vaisman, PhD, School of Systems Biology

Rohan Sanjay Patil

Comparative Analysis of Denoising and Clustering Methods in Microbiome Analysis

Major Professor: Patrick Gillevet, PhD, Biology Department

Roshan Paudel

A multi-Scale Computational Approach to Understand Calcium Dynamics and rArhythmogenic Disorders Caused by Mutations in RyR2/CASQ2 Expressing Genes

Major Professor: M. Saleet Jafri, PhD, School of Systems Biology

Srilatha Sakamuru

Prediction of Chemical Activity against Various Disease-Related Targets with Machine Learning Methods

Major Professor: Iosif Vaisman, PhD, School of Systems Biology

Fayaz Tasaduck Seifuddin

lncRNAKB: A comprehensive knowledgebase of long non-coding RNAs

Major Professor: M. Saleet Jafri, PhD, School of Systems Biology

Michael Alexander Smith

Deconvoluting Systemic Lupus Erythematosus Disease Activity Through High Dimensional Blood Protein Profiles

Major Professor: Iosif Vaisman, PhD, School of Systems Biology

Doctor of Philosophy in Biosciences

Aslaa Ahmed

Synthetic Antimicrobial Peptides as a Multi-Purpose Therapeutic Strategy to Treat Venezuelan Equine Encephalitis Virus Infection andAssociated Inflammation

Major Professor: Aarthi Narayanan, PhD, School of Systems Biology

Taryn Rose Brooks-Faulconer

Identification and molecular characterization of a natural plant derivedanti-HIV compound, Ahah-100

Major Professor: Yuntao Wu, PhD, School of Systems Biology

Sarah N. Bui

The Investigations of the Effect of in-vitro Combination Treatment Curcumin, Aspirin, and Sulforaphane on Idiopathic Pulmonary Fibrosis

Major Professor: Geraldine Grant, PhD, Biology Department

Bibha Dahal

Cellular factors impacting Venezuelan equine encephalitis virus inducted astrocyte cell death

Major Professor: Kylene Kehn-Hall, PhD, School of Systems Biology

Catherine Elizabeth DeMarino

The interplay between pro-inflammatory extracellular vesicles, antiretrovirals, and novel therapeutics in HIV-1 latent viral reservoirs

Major Professor: Fatah Kashanchi, PhD, School of Systems Biology

Alexandra D. Hudson

Molecular and Functional Analysis of Age and Sex Differences inNicotine-Induced Cellular Signaling and Synaptic Plasticity

Major Professor: Karl Fryxell, PhD, School of Systems Biology

Stephen Kassinger Francisella

Toxin-Antitoxin Systems

Major Professor: Monique van Hoek, PhD, School of Systems Biology

Doctor of Philosophy in Biosciences
(continued)

Luis Rodolfo Rodriguez

Mechanisms of Disease Pathology: An In-Vitro Investigation ofPulmonary Fibroblasts in Idiopathic Pulmonary Fibrosis

Major Professor: Geraldine Grant, PhD, Biology Department

Zyeda Fatima A. Zaidi

FecalVolatile Organic Compound Metabolomics and Its ClinicalApplications

Major Professor: Robin Couch, PhD, Department of Chemistry and Biochemistry

Doctor of Philosophy in Chemistry and Biochemistry

Carol Alexander Ajjan

Noncovalent Binding of Anthracene and Ciprofloxacin with Molecular Pseudophase: Fluorescence and pH studies

Major Professor: Gregory Foster, PhD, Department of Chemistry and Biochemistry

Haley S. Ball

Development of Novel Antibiotics Targeting the First Committed Enzyme in the Methylerythritol Phosphate Pathway: MEP Synthase

Major Professor: Robin D. Couch, PhD, Department of Chemistry and Biochemistry

Nickolaus Weise

Analysis of Premature Degradation to High Performance Aerospace Military Coatings

Major Professor: Gerald Weatherspoon, PhD, Department of Chemistry and Biochemistry

Doctor of Philosophy in Computational Social Science

Melanie Swartz

Emojis as Social Cues for User Role,Diversity, Events, and Place

Major Professor: Andrew Crooks, PhD, Department of Computational and Data Sciences

Doctor of Philosophy in Earth Systems and Geoinformation Science

Kejin Cui

Content-Based Methods for Spatiotemporal Data Discovery Based on Intelligent Algorithms

Major Professor: Dieter Pfoser, PhD, Department of Geography and Geoinformation Science

Daniel W. Czirjak

Investigating Photovoltaic Solar Power Production Using Remote Sensing Technology

Major Professor: John Qu, PhD, Department of Geography and Geoinformation Science

Zhe Guo

Disaggregate Agricultural Statistics: An Application of Machine Learning and Nonlinear Constrained Optimization to Spatiotemporal Remotely Sensed Data

Major Professor: Liping Di, PhD, Department of Geography and Geoinformation Science

Yun Li

Spatio-temporal Analysis for Finding Conditions Favorable to Rapid Intensification of Tropical Cyclones

Major Professor: Chaowei Yang, PhD, Department of Geography and Geoinformation Science

Chengbi Liu

Developing a Research Framework of AR-Based LBSN in the GIScience Context

Major Professor: Ruixin Yang, PhD, Department of Geography and Geoinformation Science

Steven Quan

Bathymetry Derivation Using Adaptive Local Models, Object-Based Image Analysis, and Geographically Weighted Regression

Major Professor: Paul Houser, PhD, Department of Geography and Geoinformation Science

Md. Shahinoor Rahman

Remote Sensing Based Rapid Assessment of Flood Crop Damage

Major Professor: Liping Di, PhD, Department of Geography and Geoinformation Science

Doctor of Philosophy in Earth Systems and Geoinformation Science
(continued)

Aisha Sikder

Improving Machine Learning and Recommender Engines with the Integration of Spatial Statistics

Major Professor: Andreas Zufle, PhD, Department of Geography and Geoinformation Science

Chenyang Xu

Investigating Land Surface Properties with Different Ecosystems Using Earth Observing Big Data

Major Professor: John Qu, PhD, Department of Geography and Geoinformation Science

Mengchao Xu

Multidimensional Array Database Engine for Gridded Climate Dataand A Precipitation Downscaling Study

Major Professor: Chaowei Yang, PhD, Department of Geography and Geoinformation Science

Doctor of Philosophy in Environmental Science and Public Policy

Natalie Hall

Urban Stormwater Best Management Practices (BMPs) and Microbial Denitrifier Communities

Major Professor: R. Christian Jones, PhD, Department of Environmental Science and Policy

Susan Howard

The Loop Trail "Quest": Use of Choice-Based Interactive Simulations toAnalyze the Feedback Effect of Park Visitor Behavior on Wildlife,Ecosystem, and Human Health

Major Professor: A. Alonso Aguirre, PhD, Department of Environmental Science and Policy

Peter Jacobs

Interrogating Late Cenozoic Proxy-Model Agreement Through Novel Climate & Ecological Model Simulations

Major Professor: Kim deMutsert, PhD, Department of Environmental Science and Policy

Doctor of Philosophy in Mathematics

Jacob Farinholt

Lattice Polynomials and Polytopes

Major Professor: James Lawrence, PhD, Department of Mathematical Sciences

Ratna Khatri

Inverse Problems With Nonlocal Operators and Classification Problems in Deep Learning

Major Professor: Harbir Antil, PhD, Department of Mathematical Sciences

Jack Love

Stability and Classification of Polygon Spaces

Major Professor: Sean Lawton, PhD, Department of Mathematical Sciences

Ryan M. Vaughn

Diffusion Maps for Manifolds with Boundary and Regularity Results

Major Professor: Timothy Sauer, PhD, Department of Mathematical Sciences

Stephen N. Wheatley

Clopen Subsets of X and 2 - Homeomorphic Spaces*

Major Professor: Ronald Levy, PhD, Department of Mathematical Sciences

Doctor of Philosophy in Neuroscience

Siva Venkadesh Iyappan Latha

LathaIntrinsic Diversity in Hippocampal Neurons: Phenomenological and Integrative Descriptions of Quantitative Dynamics

Major Professor: Giorgio Ascoli, PhD, Department of Bioengineering

Erin McKenna

Examining the Generalization of Unconstrained Motor Ski Learning

Major Professors: James Thompson, PhD, Department of Psychology and Wilsaan Joiner PhD, Department of Bioengineering

Doctor of Philosophy in Neuroscience
(continued)

Sumit Nanda

Description and simulation of Neurostructural Plasticity: Role of Cytoskeletal Molecules

Major Professor: Giorgio Ascoli, PhD, Department of Bioengineering

Doctor of Philosophy in Physics

Atis Degro

Optimization of fluid solvers with respect to fault tolerance and memory latency

Major Professor: Rainald Löhner, PhD, Department of Physics and Astronomy

Steve Keeling

Vortex Lattice and Finite Momentum Condensate in the Presence of a Zeeman Field: A Numerical Search for Phase Boundaries

Major Professor: Predrag Nikolic, PhD, Department of Physics and Astronomy

Sean Oliver

Controlling the Electronic and Optical Properties of Low-Dimensional Materials

Major Professor: Patrick Vora, PhD, Department of Physics and Astronomy

Stay Involved!

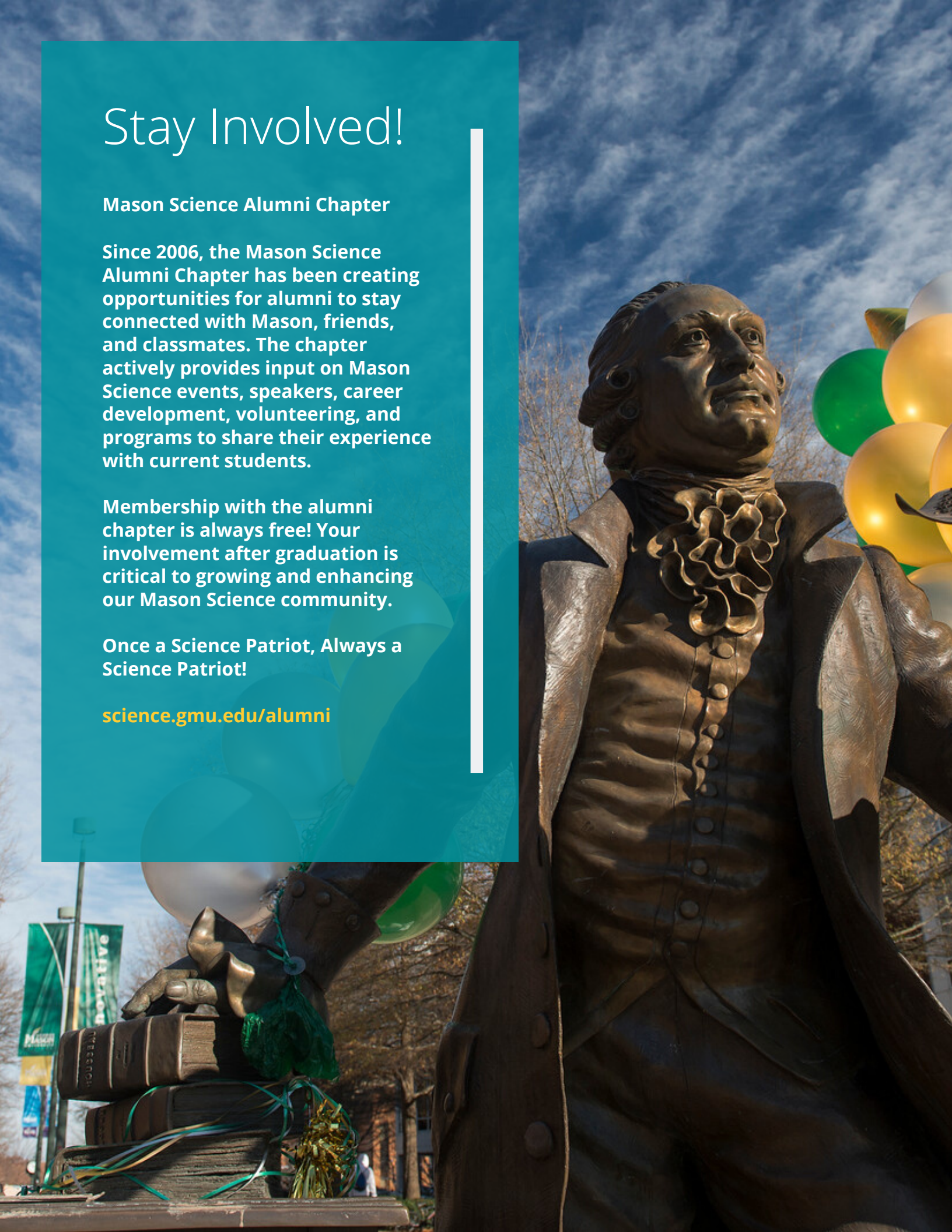
Mason Science Alumni Chapter

Since 2006, the Mason Science Alumni Chapter has been creating opportunities for alumni to stay connected with Mason, friends, and classmates. The chapter actively provides input on Mason Science events, speakers, career development, volunteering, and programs to share their experience with current students.

Membership with the alumni chapter is always free! Your involvement after graduation is critical to growing and enhancing our Mason Science community.

Once a Science Patriot, Always a Science Patriot!

science.gmu.edu/alumni



About the College of Science

The College of Science at George Mason University is a leader in scientific discovery and the creation of innovative solutions for the rapidly-changing needs of today's world. The college prides itself in being home to a diverse population of students from across the US and around the world. We are a magnet for minds interested in scientific disciplines and offer enhanced undergraduate and graduate research opportunities to our students. The college is also one of Mason's leaders in entrepreneurship and is home to the NSF I-Corp Site grant. With new discoveries, we are adding to Mason's portfolio of patents, licenses, and spin off companies.

The College of Science blends traditional science education with sought-after programs in disciplines as diverse as personalized medicine, infectious diseases, drug discovery, geoinformatics, chemistry, climate dynamics, environmental conservation, materials science, astronomy, forensic science, computational science, and applied mathematics. We encourage meaningful research at all levels of learning, pairing high achieving undergraduate students with faculty mentors to undertake original projects. Many of our undergraduates go on to pursue advanced degrees in the sciences or medical professions, while others pursue careers in public service, nonprofit organizations, and the private sector. We also offer innovative minors, certificates, and graduate degree opportunities, as well as global, transfer-focused, and online, or hybrid, programs that allow professionals the opportunity to reskill or change careers.

The College of Science serves the university through teaching Mason Core courses in a variety of scientific disciplines and is a leader in the development of creative STEM initiatives to challenge and engage students at all levels. The college also serves the community and region as a resource for science education for K–12 students, teacher training, and community outreach programs. Our faculty strives to inculcate creativity, rigorous, analytical thinking, and clear communication as they help students explore new ideas and develop novel approaches to problem-solving. Students are thus prepared for their role as informed citizens in a complex global society and are able to adapt to an ever-changing world.

College Administration

Ali Andalibi, Dean (Interim)

Donna Fox, Associate Dean for Student Affairs and Special Programs

Patrick Gillevet, Associate Dean (Interim) for Research

Audrey Kelaher, Assistant Dean for Development

Tracy Mason, Assistant Dean for Strategic Communications and Marketing

Padmanabhan Seshaiyer, Associate Dean for Academic Affairs

Department Chairs & Directors

James Kinter, Chair
Atmospheric, Oceanic, and Earth Sciences

Geraldine Grant, Chair
Biology

William Hahn, Director
Biomedical Sciences Program

Gerald Weatherspoon, Chair
Chemistry and Biochemistry

Jason Kinser, Chair
Computational and Data Sciences

A. Alonso Aguirre, Chair
Environmental Science and Policy

Mary Ellen O'Toole, Director
Forensic Science Program

Dieter Pfoser, Chair
Geography and Geoinformation Science

Saleet Jafri, Director
Interdisciplinary Program in Neuroscience

David Walnut, Chair
Mathematical Sciences

Paul So, Chair
Physics and Astronomy

Iosif Vaisman, Director
School of Systems Biology

Support Our Students

Now more than ever, Mason students need our support.

You can help. Your gift to the newly established College of Science Student Emergency Assistance Fund will provide **immediate** financial assistance and other resources to students facing an unexpected financial crisis that could derail their progress towards a degree.

Together, we can make a difference.

Connect with us

science.gmu.edu