



Institute for a Sustainable Earth

Annual Report: 2020-2021

March 10, 2022

Leah Nichols, Executive Director





If you are going to be significant, you have to tackle the significant problems.

President Gregory Washington





ISE Mission

To connect members of the Mason community with others across the Mason community – and with other communities, policy-makers, businesses and organizations – so that, together, we can more effectively address the world’s pressing sustainability and resilience challenges.

ISE Vision

Make Mason the place where people come to put research, scholarship, and creative activity into action and co-create innovative solutions to local, regional, and global sustainability and resilience challenges.



ISE Team



Leah Nichols
Executive Director



Jeremy Campbell
Assistant Director
for Strategic
Engagement



Biruk Haregu
Graduate
Research
Assistant



Ji Eun Kim
Student
Communications
Assistant



Judit Ungvari
Research and
Innovation Officer

Joint position with:



In Memoriam – Tom Lovejoy

Founding Scientific Director



ISE Faculty Fellows

January 2021 – December 2022



Cher Chen
School of Integrative
Studies
CHSS



Celso Ferreira
Civil, Environmental, and
Infrastructure Engineering
CEC



John Qu
Geography and
Geoinformation Sciences
COS

Advisory Council

Supriya Baily CEHD

Sara Cobb Carter School

Cody Edwards Associate Provost for
a Sustainable Earth; SMSC

Mahmud Farooque Arizona State
University

Constance Gewa CHHS

Lisa Gring-Pemle Business School

Lazaro Gonzalez Micron

Joan Kelsch Arlington County, Retired

Erica Key Future Earth US

Jim Kinter COS

Todd La Porte Schar School

Ed Maibach CHSS

Dale Medearis Northern Virginia
Regional Commission

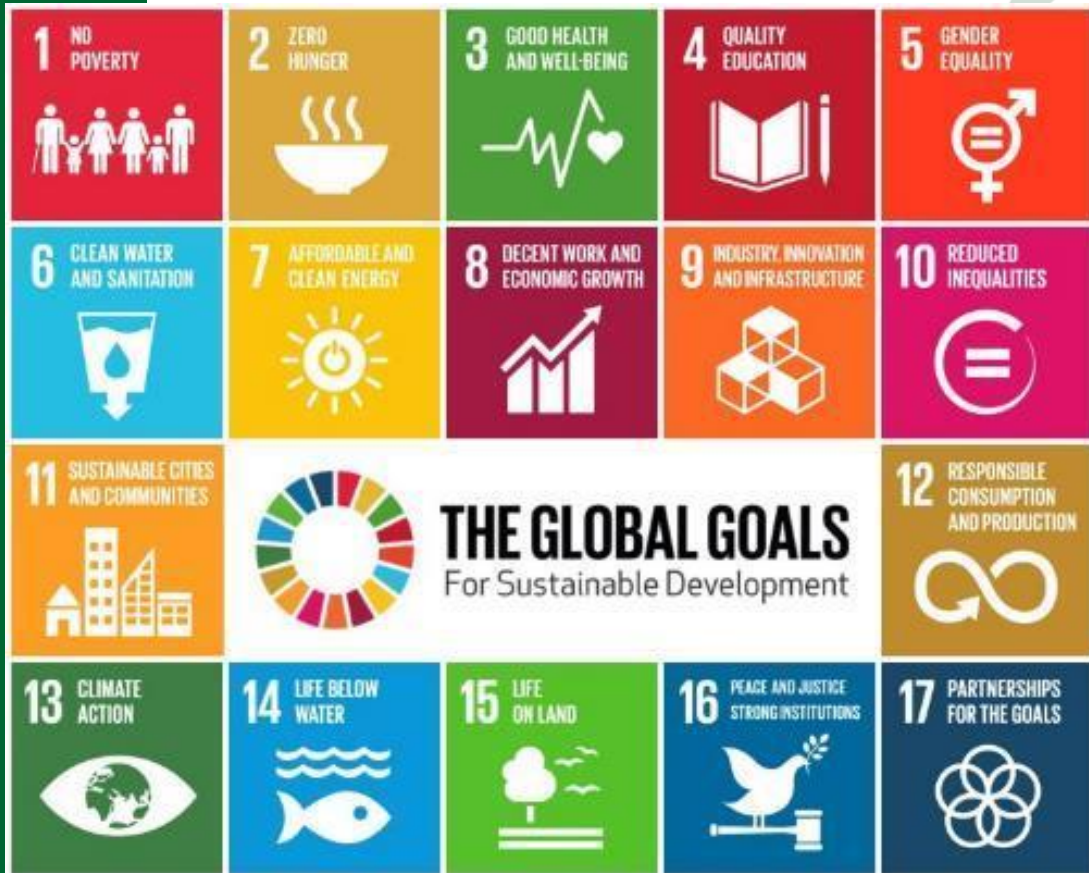
Lisa Moerner Dominion Energy

Sam Salem CEC

Michael Sanio American Society of
Civil Engineers

Tony Socci US EPA

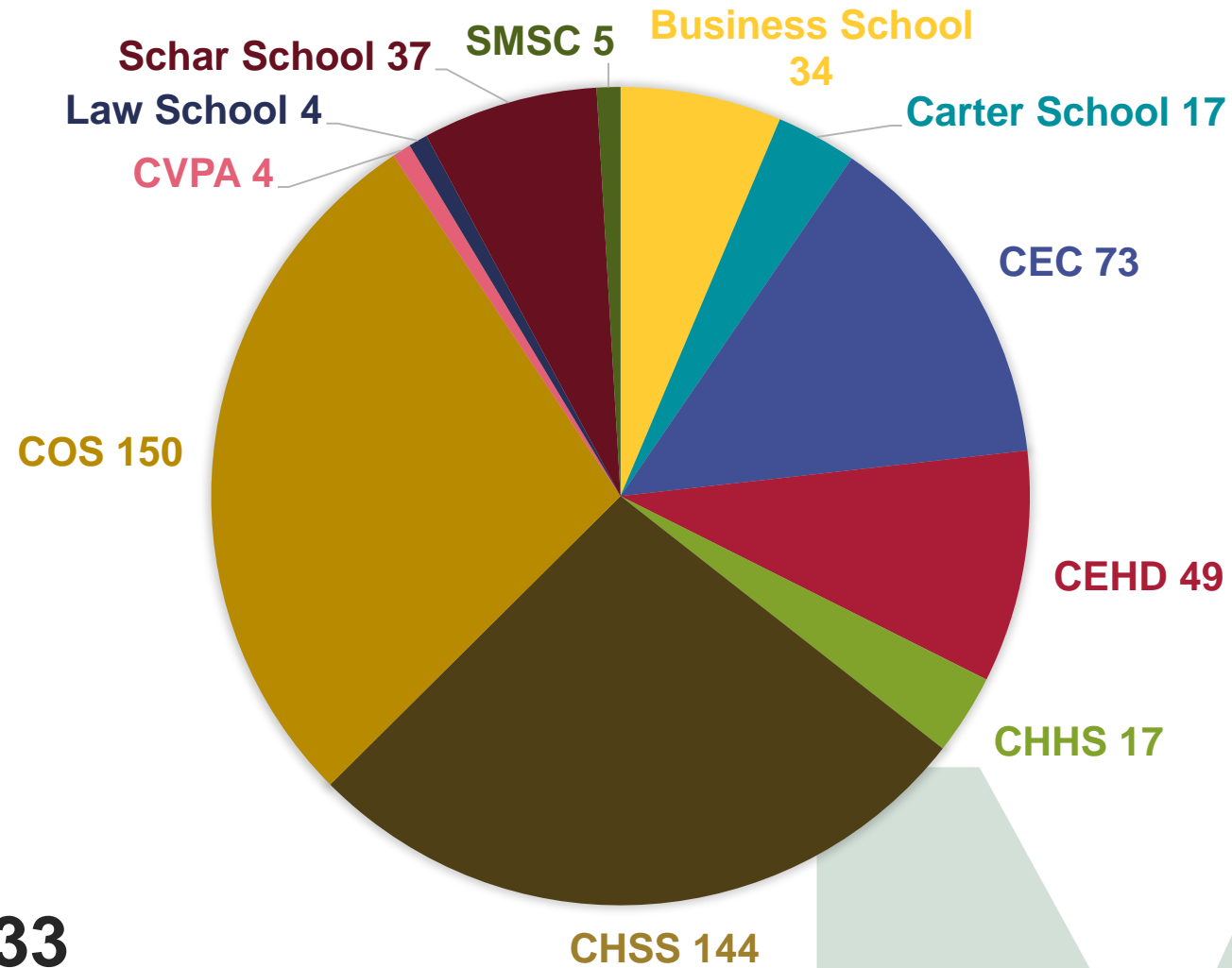
Josh Tewksbury Smithsonian
Tropical Research Institute



Research Themes

- 1) Human health, well-being, and capabilities
- 2) Sustainable and resilient communities and ecosystems
- 3) Harnessing the digital revolution for sustainability and education for all
- 4) Clean energy, decarbonization, and climate action
- 5) Enhancing equality, equity, and access to basic goods and services
- 6) Peace, justice and strong institutions to support thriving economies

ISE Affiliated Faculty



Total = 533

60+ Research Centers

Center for Resilient and Sustainable Communities (Transdisc)



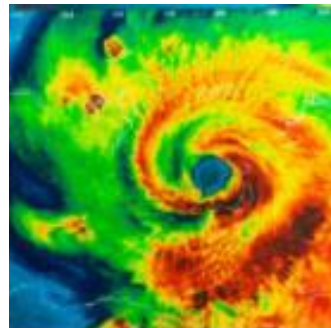
Center for Peacemaking Practice (Carter)



Center for Ocean-Land-Atmosphere Studies (COS)



Center for Climate Change Communication (CHSS)



Business for a Better World Center (School of Business)



Terrorism, Transnational Crime and Corruption Center (Schar)

Institute for Immigration Research (CHSS)

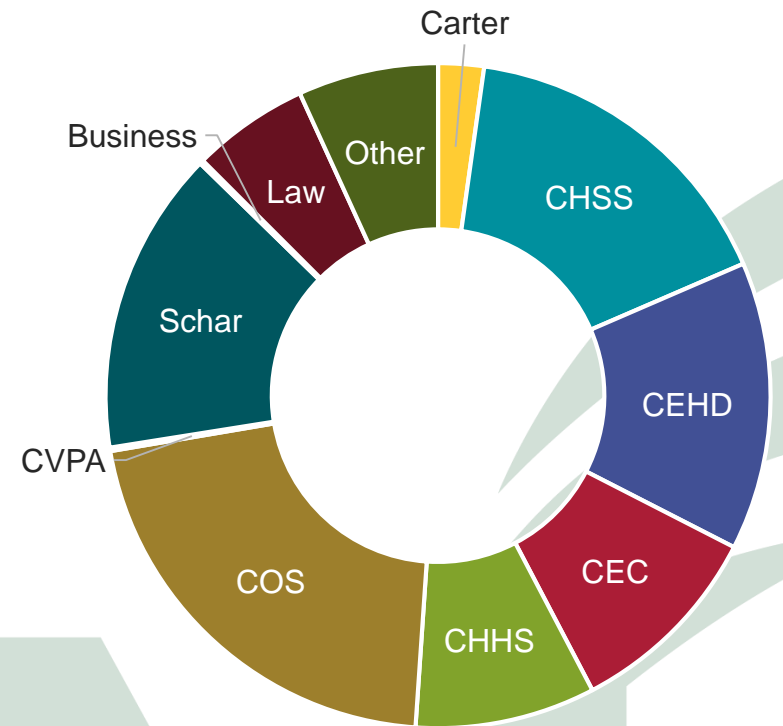
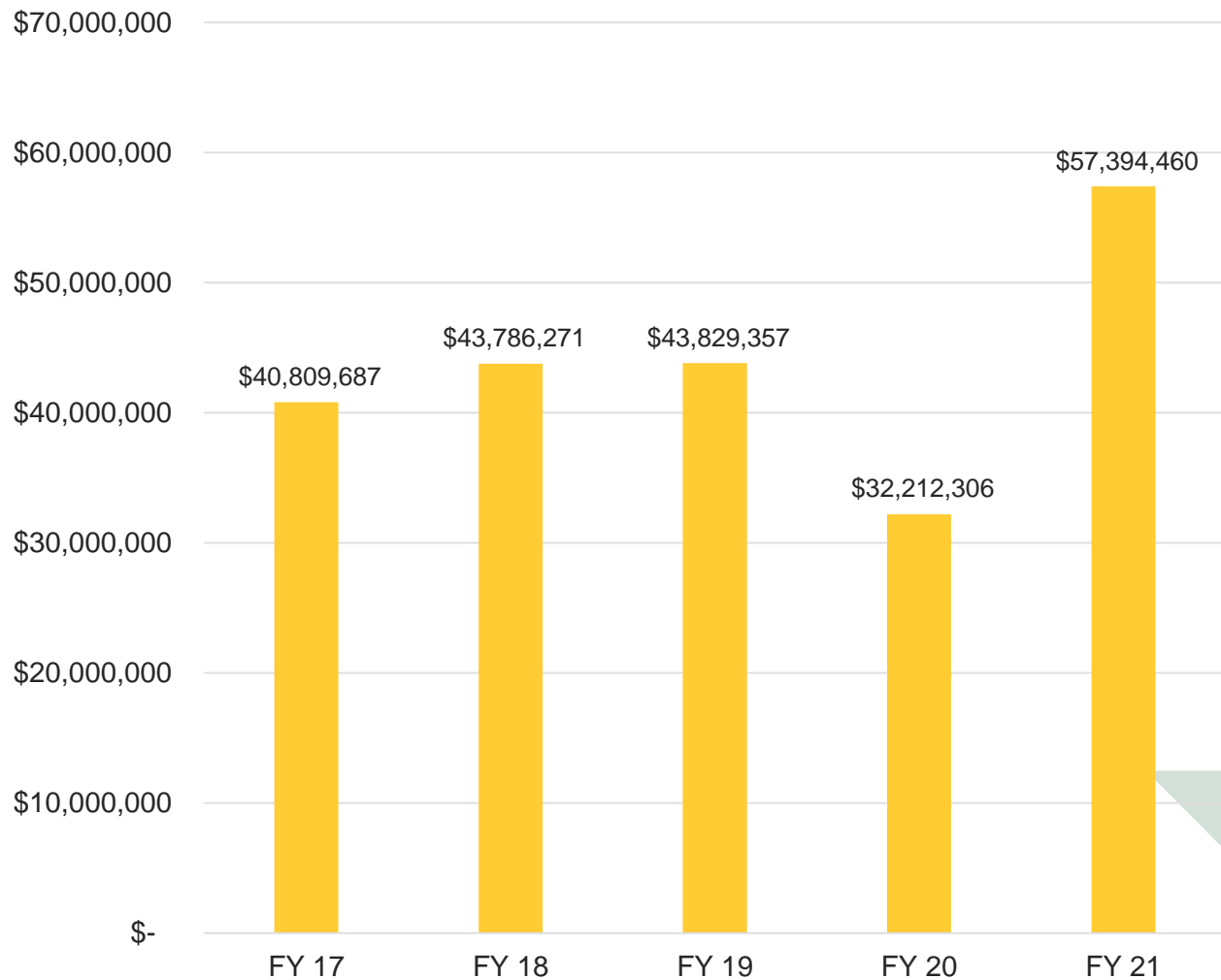


Center for International Education (CEHD)



Center for Health Policy Research and Ethics (CHHS)

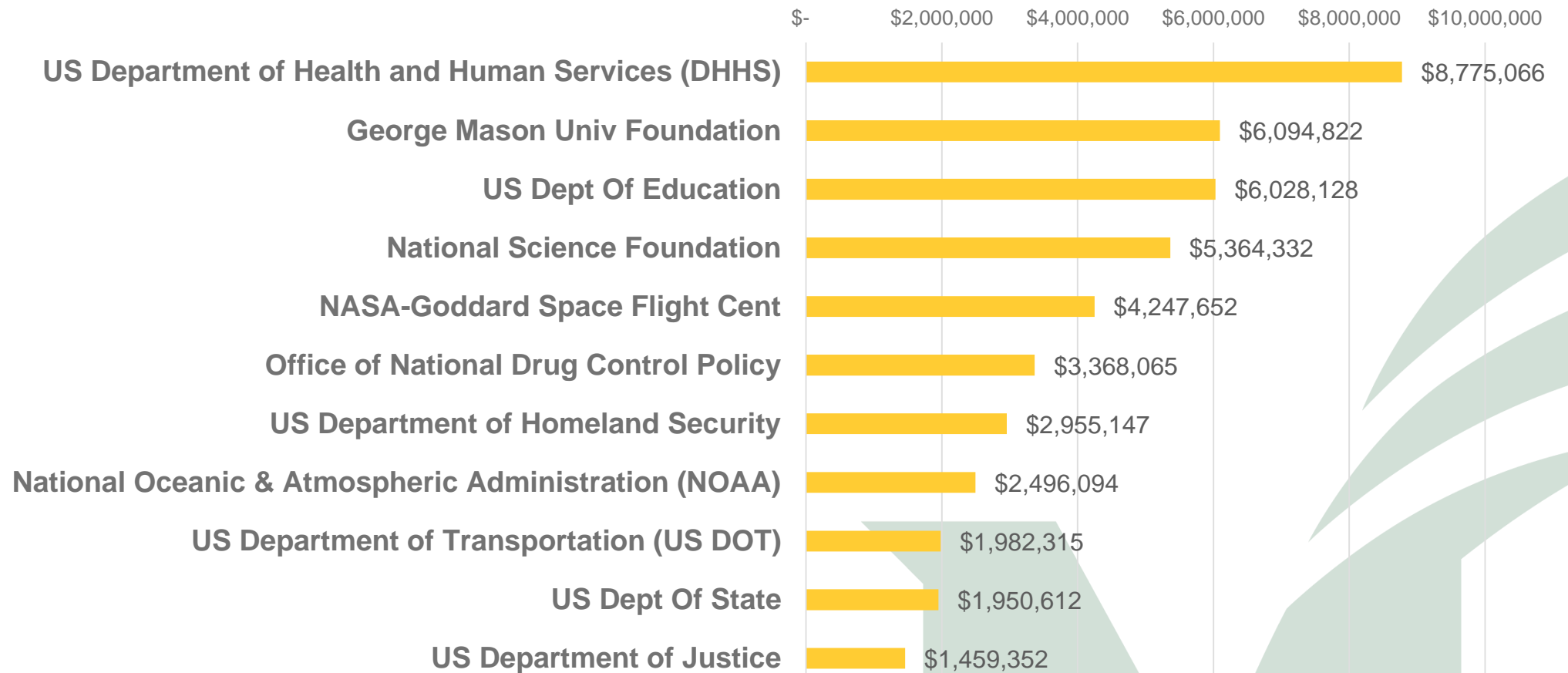
Annual Sustainability-Focused Research Expenditures



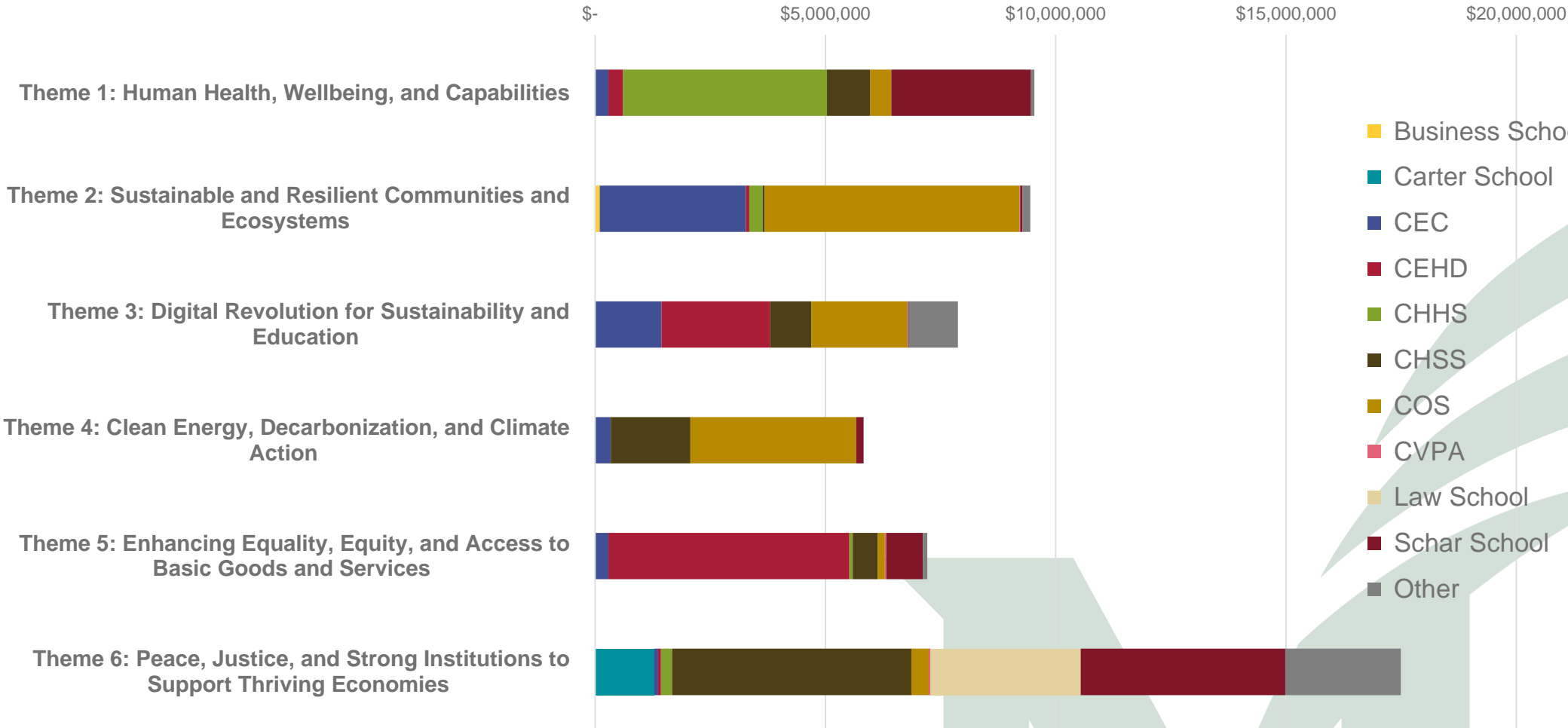
FY 21 Expenditures by Unit

Top Funding Sources

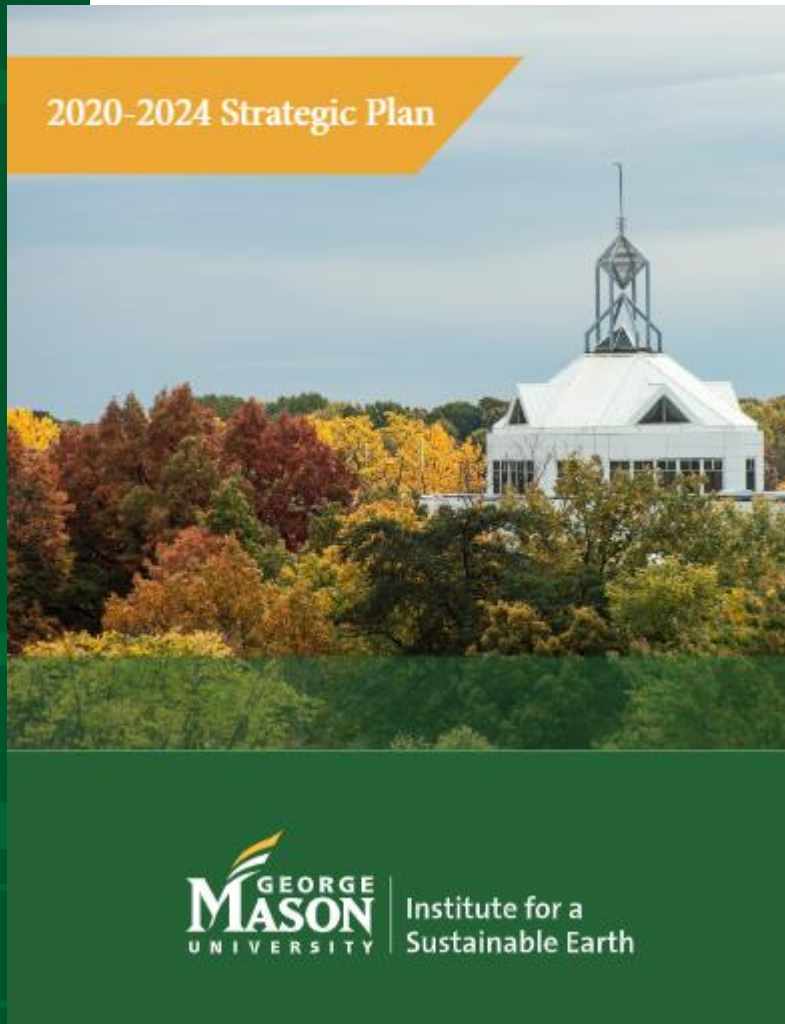
For FY21 Expenditures



FY 21 Research Expenditures by Theme



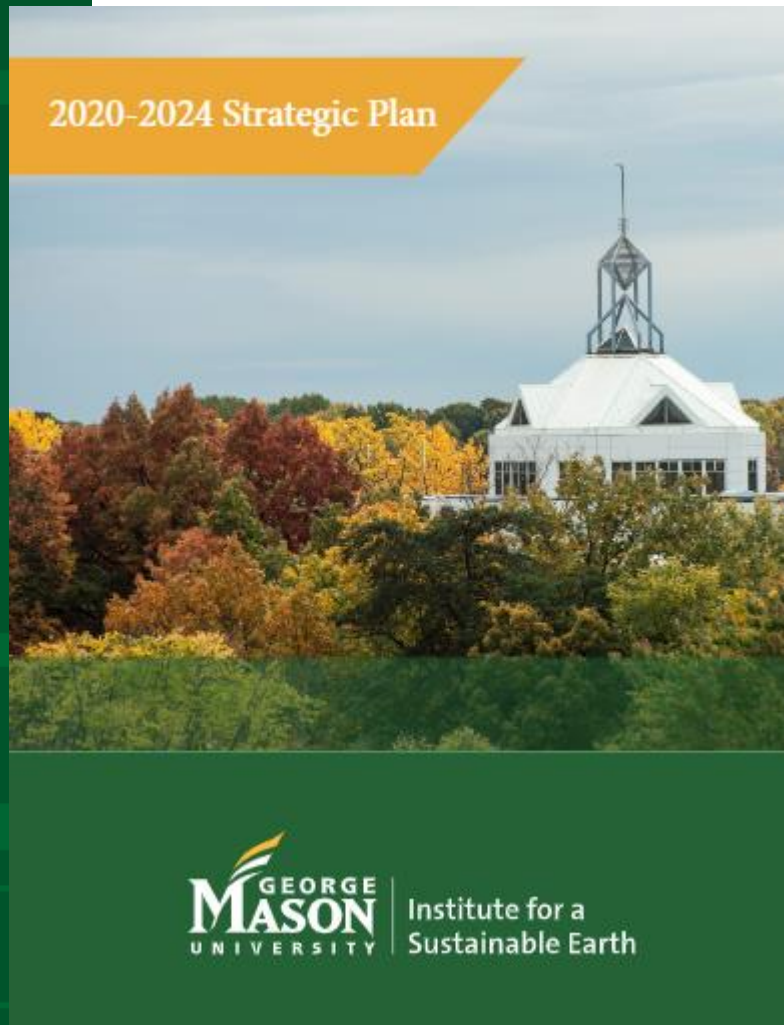
ISE Strategic Plan - Goals



1. Lead by example – locally, regionally, globally
2. Deeply engage faculty in collaborations – create communities & develop partnerships
3. Develop institute infrastructure
4. Catalyze curricular integration and student opportunities

<https://ise.gmu.edu/wp-content/uploads/2020/04/ISE-Strategic-Plan-Pages.pdf>

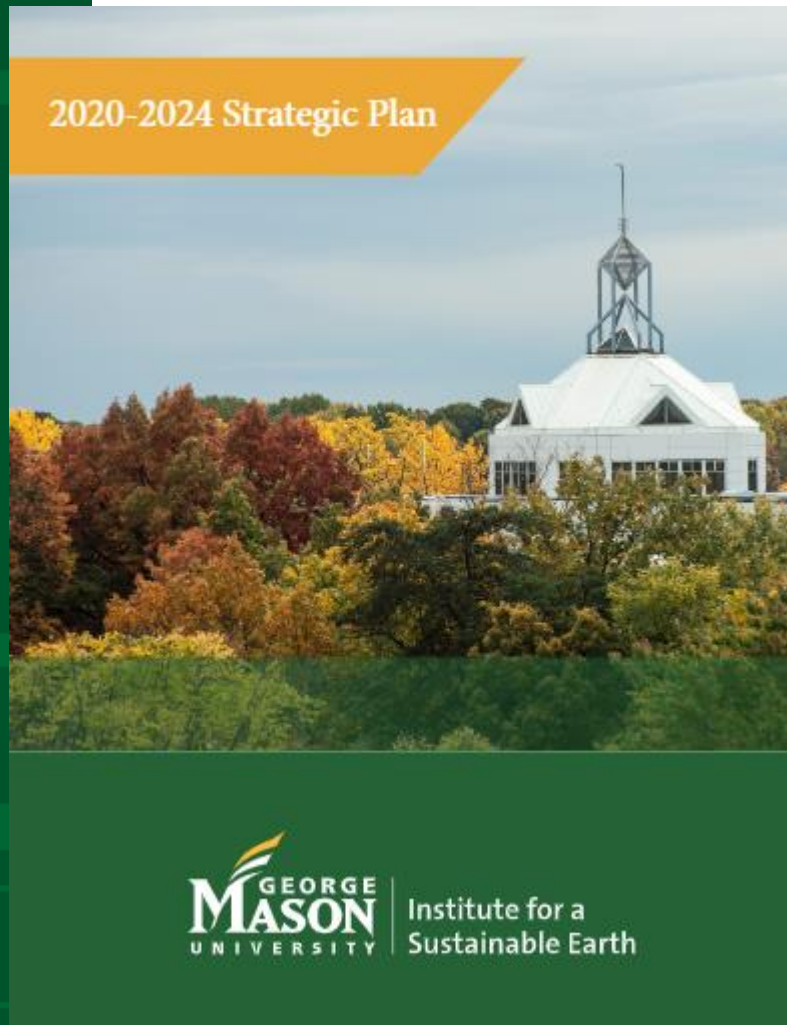
ISE Strategic Plan - Goals



1. **Lead by example – locally, regionally, globally**
Practice what we teach. Promote a sustainable campus and region.
2. Deeply engage faculty in collaborations – create communities & develop partnerships
3. Develop institute infrastructure
4. Catalyze curricular integration and student opportunities

<https://ise.gmu.edu/wp-content/uploads/2020/04/ISE-Strategic-Plan-Pages.pdf>

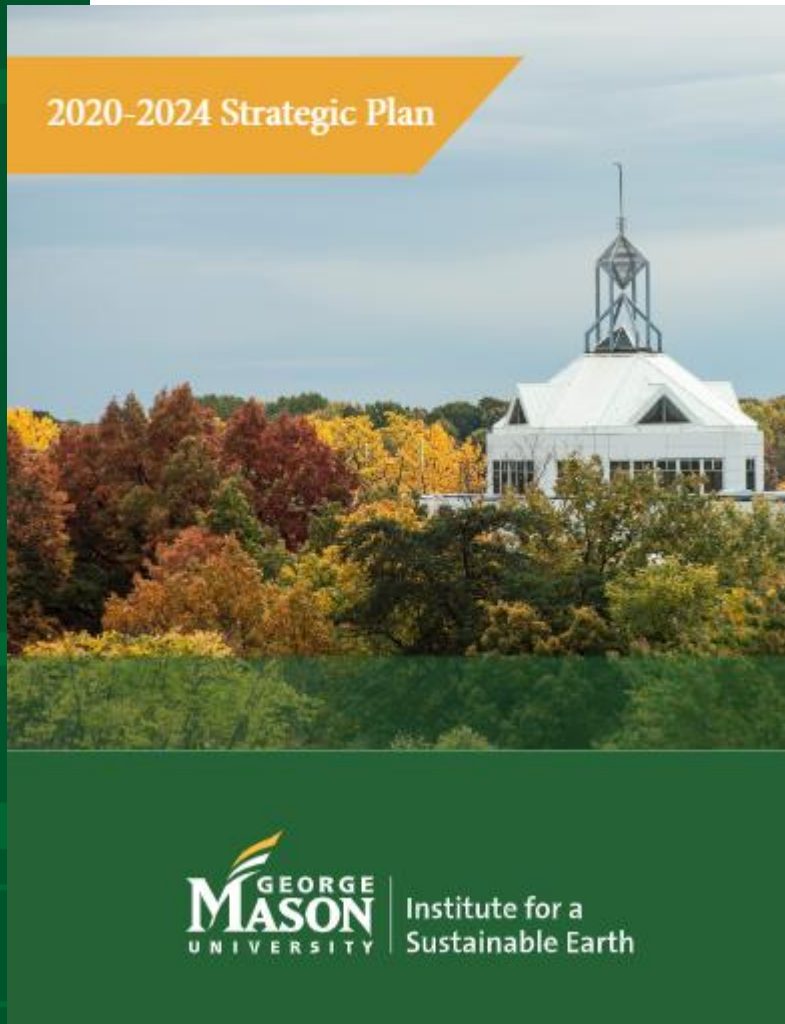
ISE Strategic Plan - Goals



1. Lead by example – locally, regionally, globally
2. **Deeply engage faculty in collaborations – create communities & develop partnerships**
ISE is driven by faculty. Participation is essential.
3. Develop institute infrastructure
4. Catalyze curricular integration and student opportunities

<https://ise.gmu.edu/wp-content/uploads/2020/04/ISE-Strategic-Plan-Pages.pdf>

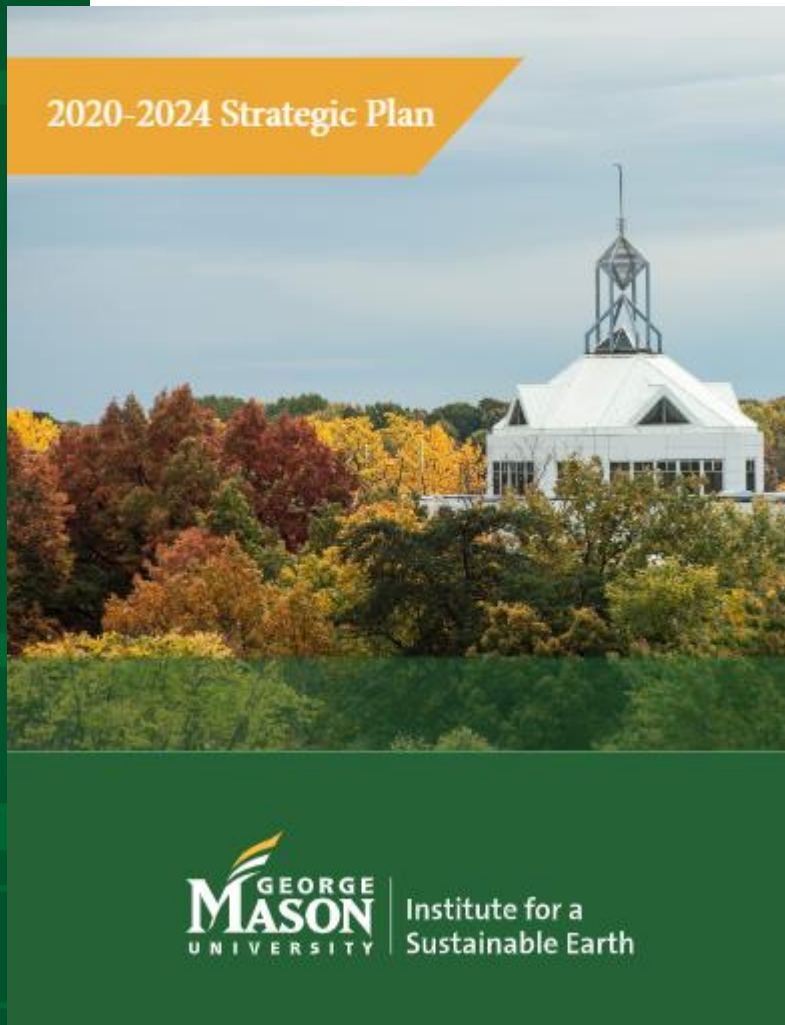
ISE Strategic Plan - Goals



1. Lead by example – locally, regionally, globally
2. Deeply engage faculty in collaborations – create communities & develop partnerships
3. **Develop institute infrastructure**
Build the foundation for an enduring and impactful institute.
4. Catalyze curricular integration and student opportunities

<https://ise.gmu.edu/wp-content/uploads/2020/04/ISE-Strategic-Plan-Pages.pdf>

ISE Strategic Plan - Goals



1. Lead by example – locally, regionally, globally
2. Deeply engage faculty in collaborations – create communities & develop partnerships
3. Develop institute infrastructure
4. **Catalyze curricular integration and student opportunities**

ISE faculty are committed to translational activities that include mentoring students in experiential learning opportunities.

<https://ise.gmu.edu/wp-content/uploads/2020/04/ISE-Strategic-Plan-Pages.pdf>

Key Priorities

2019-20

Launch institute

Create advisory council

Build faculty affiliation program

Hire full-time executive director

Develop strategic plan

2020-21

Centralize sustainability communications

Expand ISE team

Launch faculty fellows program

Establish Mason Sustainability Council

Launch 17 Rooms U at Mason

2021-22

17 Rooms U at Mason

MSC: Sustainability and Climate Action Plans

Develop living labs program

Develop external partnership network

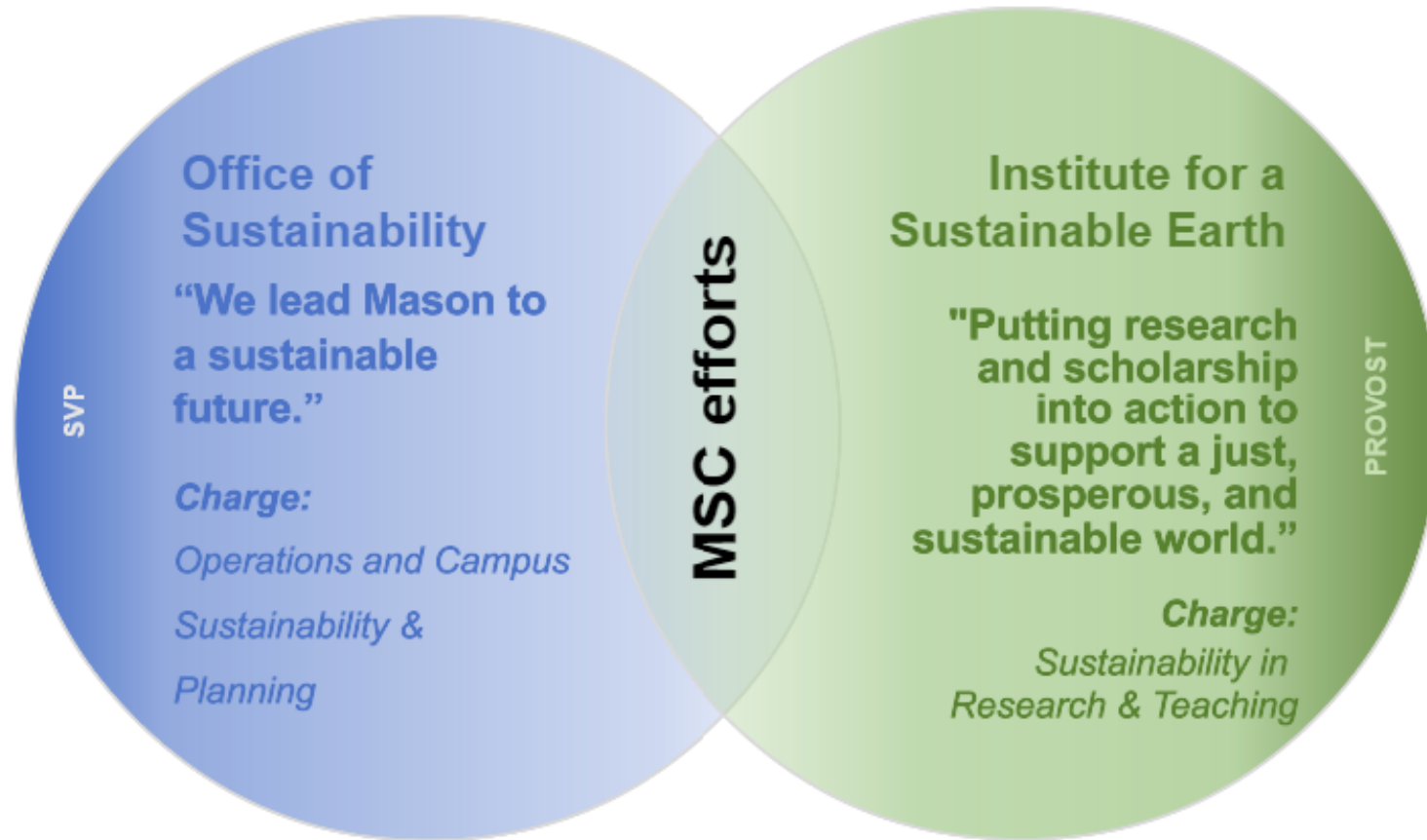
Pilot Summer Graduate Research Fellowships

Mason Sustainability Council

"...an institution-wide initiative that will *integrate Mason's research and academic strengths in sustainability with campus operations* to mitigate Mason's impact on the global climate, enable our campuses to become living laboratories, and further establish Mason as an institutional leader in higher-education sustainability."

More info:

<https://sc.gmu.edu/>



MSC Members

Co-Chairs:

Mark Ginsberg Provost
Carol Kissal SVP

Paul Allvin VP Communication and Marketing
Trishana Bowden VP Advancement
Laurence Bray Assoc. Provost Grad. Ed.
Aurali Dade AVP & Deputy Chief Research Officer
Bill Dracos AVP Business Services
Cody Edwards Assoc. Provost Sustainable Earth
Jack Fadek Student Gov. Chair of Univ. Services
Lisa Gring-Pemle Business School
Erin Iacangelo Rogers Chair Staff Senate

Co-Coordinator:

Greg Farley Director, Office of Sustainability
Leah Nichols Exec. Dir. ISE

Paul Liberty VP Gov. Relations
Ed Maibach CHSS
Andre Marshall VP Research
Rene Stewart O'Neal AVP Planning and Budget
Rose Pascarell VP University Life
Frank Strike VP Facilities
Bethany Usher Assoc. Provost Undergrad. Ed.
Tobi Walsh AVP Capital Strategy and Planning
Tom Wood SIS, Faculty Senate Rep.

MSC: Progress

Current Activities

- **Circular Economy & Zero Waste Task Force**
Successfully implemented Executive Order 77 to Eliminate Single-Use Plastics
- **Climate Action Plan Task Force**
CAP Phase 1 complete in April 2022
- **Sustainability Action Framework**

Faculty & Student Engagement

- Reps on MSC
- Reps on Taskforces
- **Circular Economy & Zero Waste Research Roundtable**
- **CAP Town Halls & Focus Groups**
- **Mason as a Living Lab:**
CAP special faculty discussion on curricula & research alignment

Mason as a Living Lab

Utilizing the campus grounds and infrastructure for research

- Partnership between ISE and Facilities w/in MSC
- Establish a framework to streamline decision-making
- Facilitate communication with all stakeholders
- Create a data repository for research and decision-making
- Connect research to action



17 Rooms U at Mason

Pilot for Brookings Institution in collaboration with B4BW

17 dialogues – inclusive of faculty, staff, students, and partners

Identify near-term actions to make progress on the SDGs

Summit Oct 1, 2021

Seed funding and implementation



More info:

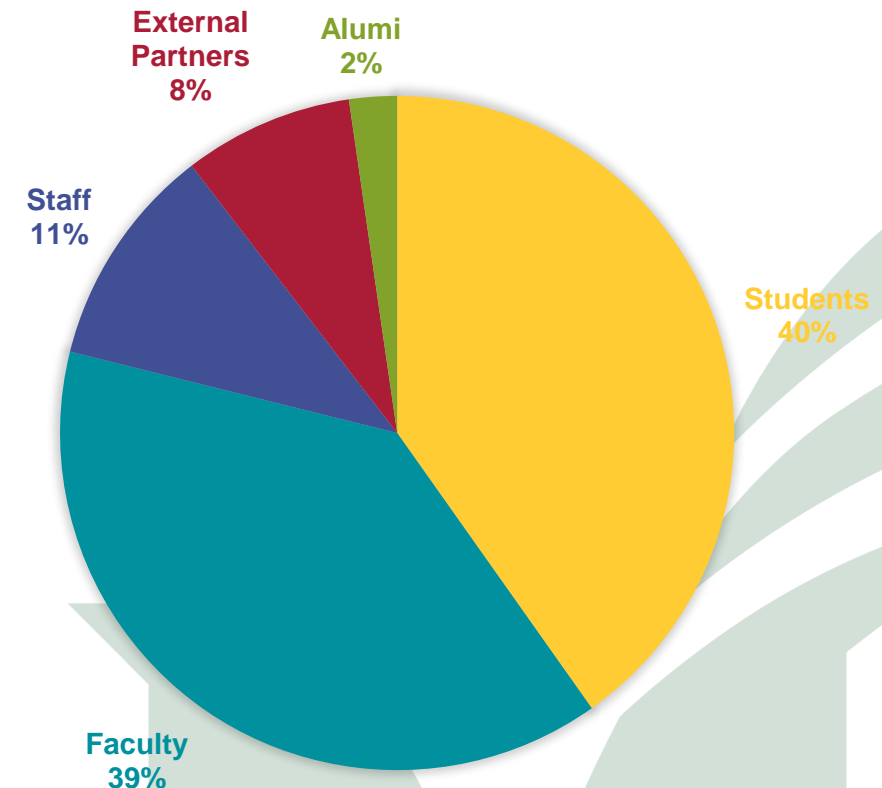
<https://ise.gmu.edu/17-rooms/>

17 Rooms U: Broad Engagement

External participants from:

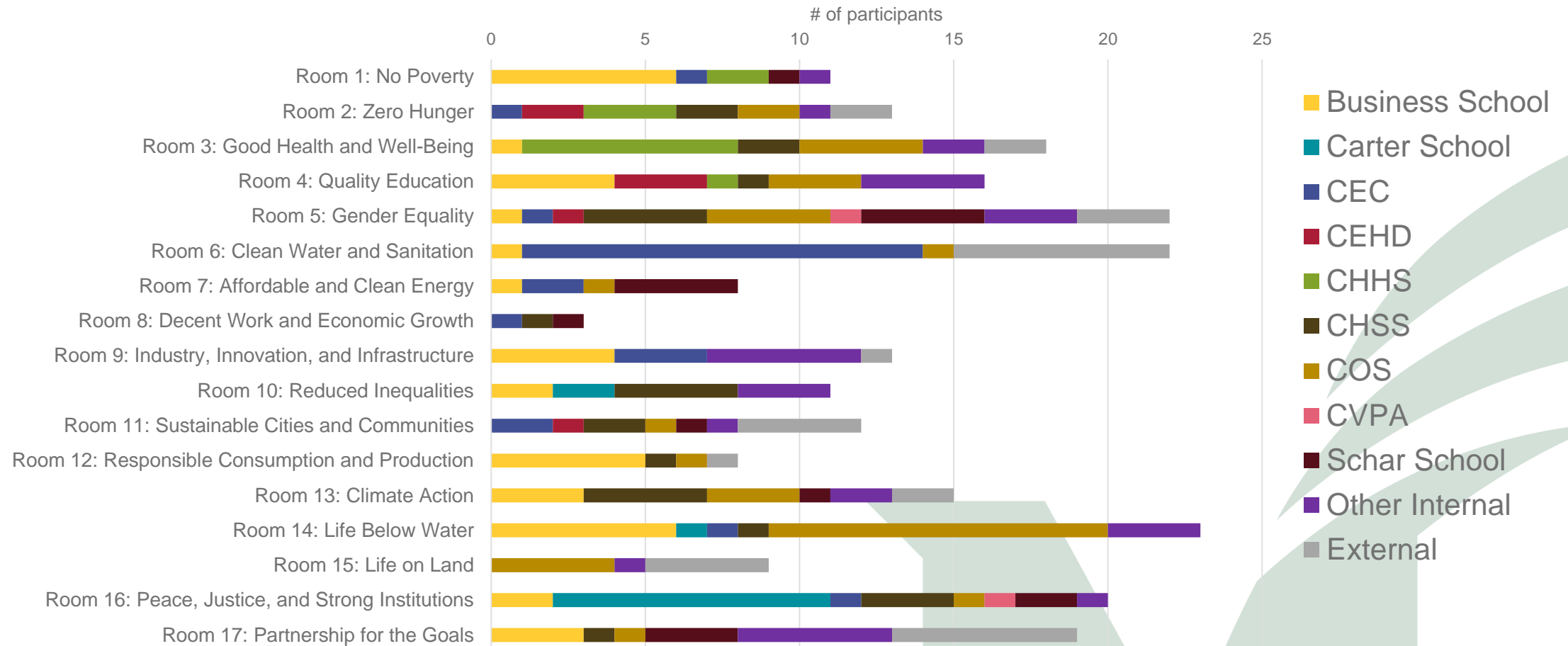
Northern Virginia Regional Council
American Society of Civil Engineers
Rotary Club of Rosslyn
Smithsonian
Belmont Forum
Future Earth
M3D Consulting, LLC
Fairfax County Public Schools
City of Fairfax
WaterAid
Northern Virginia Food Rescue
Library of Congress
Chesapeake Bay National Estuarine Research Reserve in Virginia
Millennium Water Alliance
EnCompass, LLC
US Department of Transportation

Participants
(# registered = 393)



17 Rooms U: Diverse Dialogues

Participants per room by academic unit



Engaging Global Networks

Collaborated with the **Business School and B4BW to co-host the 2021 Ashoka U Exchange**; the annual conference for a **global community of changemakers** in higher ed.

Over **50 Mason faculty and students** organized and spoke at the following sessions to showcase Mason's work.

- Leading change the changemaker way
- The role of higher education during times of upheaval
- Antiracist educator professional development
- Brain(mental) health: Journey into well-being & resilience
- Dismantling denial about teachers' biases
- SDG 16: Peace, justice, & strong institutions
- Multidisciplinary approaches to climate change research and teaching
- Addressing racial inequalities & promoting ethnic justice at Mason
- Three big ideas for the future of student preparedness
- Creating a sustainability ecosystem in higher education
- Leveraging partnerships for the SDGs
- Health equity: The role of researchers, community partners, & practitioners



Higher education for a sustainable future

Establishing Local Networks

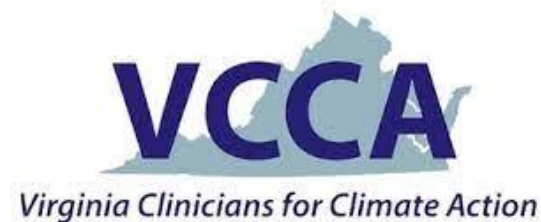
- Mason representation on local sustainability committees
- Quarterly meetings w/ Fairfax County and City via MSC
- Local Sustainability Directors Workshop
- Placement of OSCAR students with local partners
- SSDN NOVA Flood Resilience Workshops
- 2022 Summer Team Impact Grant – Indigenous Environmental Mapping and Resilience Planning in the Greater Chesapeake

Jeremy Campbell & Tom Wood



Sustainability Summer Fellowships for Graduate Research Partnerships

In partnership with Office of Graduate Education



2021-22 Curriculum Impact Grants

Office of Undergraduate Education aligned the CIGs with the UN Sustainable Development Goals

Lifestyle Behavior Change Certificate Program - Debra Stroiney, Suzanne Carmack, Joel Martin (CEHD) Macion Komwa, Viviana Maggioni, Constance Gewa (CEC, CHHS, COS)

Engaging Locally with Food, Energy, Water and Climate Global Goals: Adding Experiential Learning to the Energy and Sustainability Policy and Science MS Concentration - Jennifer Sklarew, Dann Sklarew, Linda Hinnov,

Bridging the Divide: Preparing Graduate STEM Students to Navigate the Science Policy Interface - Lee Solomon, Karen Akerlof, James Olds, Jessica Rosenberg, Jennifer Salerno (COS, Schar)

Creating new pathways to success for early career biology students through computational data science - Ron Mahabir, Matthew Valko, Jason Kinser, Geraldine Grant, Andrea Weeks (COS)

Race and Ethnicity in Cultural Studies: New Courses, New Connections - Tim Gibson, Pavithra Suresh, Jessica Scarlata, Eric Ross, Alex Monea (CHSS)

Ethics and AI Minor - Jesse Kirkpatrick, Peng Warweg, Amarda Shedu, Rachel Jones, Alexander Monea (CEC, CHSS)

Minor in Business for a Better World - Leila Austin, Elaine Viccora, Anne Lauer, Yvonne Demory, Shora Moteabbed, Karen King, Christine Landoll, Sidhartha Das, Ioannis Bellos, Niki Maria Vlastara, Anne Magro, Lisa Gring-Pemble, Robert Pierce (SBUS)

Convening to Engage Ideas (in FY21)

Research Roundtables:

- Energy Policy and Decarbonization Research Roundtable
- NSF Smart and Connected Communities Roundtable – w/ [IDIA](#)
- Circular Economy and Zero Waste Research Roundtable – w/ [MSC CEZW Task Force](#)

Research to Action Webinar Series:

6 webinars focused ISE's research themes. Each featuring panels of Mason faculty and practitioners who discussed the interactions between research and practice.

Other Convenings:

- Race, the Origin Story of the Criminal Legal System, and the Future of Reform – w/ [Human Rights and Social Justice Initiative](#)
- Resistance and Resilience: Student Activism and Well-being – w/ [Human Rights and Social Justice Initiative](#)
- Building Tall with Mass Timber – w/ [Center for Real Estate Entrepreneurship](#)
- Virginia's Climate Future – w/ [Green New Deal Virginia, Mason's Chapter of the NAACP, COLA, Mason's Office of Sustainability, and ESP](#)
- Solve Climate by 2030: The Co-Benefits of Clean Energy in Virginia – w/ [UVA Environmental Resilience Institute](#)

Connect to find collaborators

Weekly newsletter **880** subscribers

Twitter **530** followers

Faculty directory **150** profiles

Research centers directory **63** centers

Follow us on Twitter:
@GeorgeMasonISE

Subscribe to our newsletter:
<https://ise.gmu.edu/contact-us/>

Add your profile to the ISE directory:
<https://ise.gmu.edu/add-profile/>



ISE Events & Opportunities

September 13, 2021

Announcements

ISE & City of Fairfax Hiring Two Undergrad Research Assistants

Faculty Directory

Select a College or School Select a Research Theme

Search by Keyword

Search by Exact Keyword

Search by Last Name:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z View All



A. Alonso Aguirre, DVM, PhD
Professor and Department Chair, Environmental Science and Policy



Changwoo Ahn, PhD
Professor, Department of Environmental Science and Policy



JK Aier, PhD
Arca Chair and Associate Professor, Accounting



Karen Akerlof, PhD
Assistant Professor, Department of Environmental Science and Policy



GMU.EDU



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