Strengthening the Foundation for Research at the Dawn of GW’s Third Century

PAMELA NORRIS
VICE PROVOST FOR RESEARCH
RESEARCH UPDATE

PRESENTATION OUTLINE

- Collecting Feedback and Gathering Data
- Importance of Expanding GW’s Research Enterprise
- The Contributions of Elite Research Institutions
- Integrating Research and Scholarship Across University Activities
- Highlighted Faculty Accomplishments
- Research Metrics
- Impact of GW Research
- Going Forward/Areas of Focus
RESEARCH UPDATE

COLLECTING FEEDBACK AND GATHERING DATA

- Small group meetings with faculty scholars and investigators
- Meetings with university leadership and campus research stakeholders
- Skip-level interviews with OVPR staff
- Site visits at other institutions with model services and programs
- Informational and introductory meetings with external sponsors
- Partnering with Associate Deans for Research on a series of school-based and thematic sessions with faculty to prepare for follow-up conversations with external sponsors
A unique, significant research and scholarly program:

1. attracts leading faculty
2. contributes to solving major national and international problems
3. attracts talented undergraduates, graduate students and postdocs
4. enhances visibility and academic reputation
5. builds distinction and distinguishability
6. fulfills key university missions
   - contributes new knowledge that benefits society
   - pushes the frontiers of knowledge through the production and dissemination of impactful research
“The Nation’s research institutions are active partners in research, providing the facilities, equipment and research personnel necessary to perform federally funded research.” This “partnership...has made the U.S. scientific enterprise the envy of the world and this country the global leader in science and innovation.”

GW’s research reputation allows us to recruit strong faculty and some of the best and brightest students.

“You want your faculty engaged in state of the art work that supports the teaching mission in addition to the research mission.” ... “You want people who are teaching to be those that are actually making the contributions and knowledge as well…”

- James Tielsch, chair of the department of global health in the Milken Institute School of Public Health

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1 Council on Governmental Relations Report: Excellence in Research: The Funding Model, F&A Reimbursement, and Why the System Works; April 2019
2 GW Hatchet: Research spending grew in FY 2020 while national rankings idle, officials say; February 7, 2022
Many offices, beyond OVPR, contribute to the success of the university’s research mission.

Faculty-led ecosystem review made clear that many research recommendations can only be addressed by working across units:

- Human Resources Management and Development
- Finance
- GW Libraries
- Office of the Provost
- GW Information Technology
- Communications and Marketing

*Research and scholarship need to be top priorities that are woven throughout the fabric of the university.*
RESEARCH UPDATE

CURRENT STATE

- A lot of great local efforts and pent-up potential
- Trip wires and obstacles to navigate
- Siloed and unintegrated
RESEARCH UPDATE

IDEAL STATE

- Integrated and aligned efforts, systems and programs across the entire university
- Collective advancement toward strategic aims
- All units understanding and mindful of the impact of their work on the research enterprise
Christopher Cahill (CCAS) and Nathan Smith (SMHS) were elected to the 2021 class of American Association for the Advancement of Science (AAAS) Fellows

Chet Sherwood (CCAS) elected to National Academy of Sciences

Chryssa Kouveliotou (CCAS) awarded Shaw Prize in Astronomy

Jeremy Bearer-Friend (GW Law), Steven Livingston (CCAS) and Janet Steele (CCAS) received Fulbright Awards for research

Volker Sorger (SEAS) elected a fellow by two societies—Optica and the international society for optics and photonics (SPIE)

Mandi Pratt-Chapman (SMHS) received 2021 National Institutes of Health Sexual and Gender Minority Research Investigator Award

Andrea Casey (GSEHD) received an Outstanding Paper Award from the Emerald Literati Awards
RESEARCH UPDATE

HIGHLIGHTED HONORS AND ACCOMPLISHMENTS

- Diana Mason (SON) received award for leadership from the Sigma Theta Tau International Honor Society of Nursing

- Matt Eich (Corcoran) was selected by Aperture and Google’s Creator Labs for a fund that recognizes artists' exceptional vision

- Eric Schluessel (CCAS/ESIA) won the John E. Fairbank Prize from the American Historical Association for the best book in East Asian history

- Herman Aquinas and Annamaria Lusardi (GWSB) included among list of Highly Cited Researchers in 2021

- L. Grace Zhang (SEAS) and GW are listed among top ten authors and institutions in the field of bioprinting
Adnan Hyder (GWSPH) appointed to World Health Organization Advisory Group on noncommunicable diseases

GW Law ranked number 18 in the country in 2021 in scholarly impact

GW’s New Venture Competition is ranked as #1 collegiate new venture competition in the U.S.

In FY21, Technology Commercialization Office matched record-high number of technology licensing deals.
RESEARCH UPDATE

TOTAL EXPENDITURES BY TYPES OF RESEARCH
FISCAL YEAR 2021 (WITH 1606 ACTIVE AWARDS)

<table>
<thead>
<tr>
<th>Type</th>
<th>Total $</th>
<th>% of Total $</th>
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<tr>
<td>Health-Related: Public Health,</td>
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<td>Health-Related: Biostatistics,</td>
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<td>Health-Related: Medicine and Health Sciences,</td>
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<td>Arts &amp; Humanities,</td>
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<td>Social Sciences,</td>
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*Other includes $27.3M in CARES Act funding
RESEARCH UPDATE

TOTAL FUNDING BY SOURCE
FISCAL YEAR 2021

Federal, 84.8%

Foundation, 9.5%
Non-Profit, 2.1%
Industry, 1.0%
Other, 2.6%

Source | Total $ | % of Total $ |
---|---|---|
*Federal | $188.8M | 84.8% |
Foundation | $21.1M | 9.5% |
Non-Profit | $4.7M | 2.1% |
Industry | $2.3M | 1.0% |
Other | $5.7M | 2.6% |

*Includes $27.3M in CARES Act funding
## RESEARCH UPDATE

### YEAR-END TOTAL EXPENDITURES (FEDERAL VS. NON-FEDERAL)

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<th>Fiscal Year</th>
<th>Federal Total Expenditures</th>
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RESEARCH UPDATE

RESEARCH EXPENDITURES WITH NSF HERD RANKINGS

Rankings and amounts are as reported on the official HERD site.
CROSS-DISCIPLINARY RESEARCH
RELATIONSHIP AMONG SCHOOLS FOR PROJECTS WITH CROSS-SCHOOL PIs
2017-2021
RESEARCH UPDATE

PUBLICATIONS

Source: SCOPUS
Source: Integrated Postsecondary Education Data System/GW Office of Institutional Research and Planning. 2020 and 2021 data is not public.
Undergraduate Participants in GW Research Showcase

% of Graduating Seniors Participating in Mentored Research at GW

Sources: (Top) Office of the Vice Provost for Research; (Bottom) GW Office of Institutional Research and Planning, Graduating Senior Survey
A Lifesaving Treatment for Shock
- GIAPREZA™, a GW-discovered treatment for distributive shock, has the potential to benefit 800,000 U.S. septic shock patients per year.
- A recent European sublicense stands to expand its global impact.

Assessing the True Impact of Natural Disasters
- GWSPH study presented a more rigorous assessment of excess deaths as a result of Hurricane Maria.
- The methodology provides a roadmap for uncovering the true impact of natural disasters and public health crises, including COVID-19.

Combatting Disinformation in the Digital Age
- Institute for Data, Democracy and Politics, conducts research on digital disinformation, organizes events to advise policymakers, and educates journalists.
- Recent projects include examining the efficacy of fact checking on misinformation and social media platform’s effects on elections.

Global Implications of a Rapidly Changing Arctic
- More than a dozen scientists across eight schools have received funding for Arctic research, much of it from the National Science Foundation.
- GW researchers are investigating how a changing Arctic is impacting natural, social, built, geopolitical and economic systems.
RESEARCH UPDATE

RECENT & UPCOMING ENHANCEMENTS

- **myResearch**
  - Modernized and integrated infrastructure for sponsored research activities (proposal development through award management)
  - Launching February 22

- **Postdoc Reclassification and Support**
  - Recognition of unique role at GW and in their career path
  - Planned support for recruitment, hiring, professional development

- **Research as Experiential Learning Opportunity**
  - Undergraduate Transcript Notation for Extracurricular Research Experiences
  - GW Student Research Commons

- **Mid-Atlantic iCorps Hub**
  - GW a partner in new $15 Million NSF grant to build and sustain a diverse and inclusive innovation ecosystem
RESEARCH UPDATE
GOING FORWARD/Areas of Focus

- **Leveraging GW’s Expertise in STEM Policy**
  - Pockets of expertise in various academic units across campus
  - Catalyzing cross-school collaboration towards a central goal
  - Opportunity to impact national and international policies that will ensure a better future for our nation and world

- **Training the next generation of researchers and scholars**
  - Securing sponsored funding to launch/strengthen training programs
  - Providing training beyond the discipline to include ethics, policy, social justice, diversity, etc.
  - Rightsizing the PhD population
  - Graduate student and postdoc career development
  - Further enhancements to undergraduate experiential learning
RESEARCH UPDATE

GOING FORWARD/AREAS OF FOCUS

▸ Innovation and Entrepreneurship
  ▸ Academic program, skill building and translating GW-led discovery and innovation to market

▸ Working across units to build a solid foundation that will support growth of the research enterprise
  ▸ Pod support
  ▸ Ensuring a robust yet streamlined compliance program
  ▸ Research development, including support for large, multidisciplinary proposals and awards, competitive intelligence
  ▸ Clinical and translational research
  ▸ Corporate/Industry funded projects and partnerships
  ▸ Philanthropic support for research
  ▸ Forecasting trends in federal funding; positioning GW to benefit from them
Thank you
OVPR Functional Units

GW Research Impact Examples

Total Federal Funding by Sponsor (FY21)
A Lifesaving Treatment for Shock

- A GW doctor discovered a new use for an existing drug—as a treatment for distributive shock, a life-threatening medical condition that occurs when a patient’s blood pressure plummets.
- Potential to benefit 800,000 U.S. septic shock patients per year.

**Timeline:**

- **2011**
  - Phase 1 clinical trial registered, begins at GW Hospital
- **2013**
  - GW patent filing to protect IP
- **2014**
  - Results published; FDA approves phase III trials; GW licenses IP rights to La Jolla Pharmaceutical
- **2017/2018**
  - FDA approves use of drug, marketed in U.S. as GIAPREZA™
- **2019**
  - GW monetizes a portion of royalty rights, proceeds reinvested in strategic priorities
- **2021**
  - Sublicensed for European markets, expanding potential impact on global community
Assessing the True Impact of Natural Disasters

- Following Hurricane Maria in September 2017, the Puerto Rican government commissioned an independent study from the Milken Institute School of Public Health to get a more accurate and rigorous assessment of resulting deaths.
- GW’s report estimated 2,975 excess deaths between September 2017 and February 2018, many more than previously reported.
- The report identified gaps in the death certification and public communication processes and made recommendations that will help prepare Puerto Rico for future hurricanes and other natural disasters.
- The methodology provides a roadmap for uncovering the true impact of natural disasters and public health crises, including COVID-19 in communities today.
Combatting Disinformation in the Digital Age

- Institute for Data, Democracy and Politics (IDDP) was launched in 2019 by a $5 million grant from the John S. and James L. Knight Foundation.
- IDDP conducts research on digital disinformation, organizes events to advise policymakers, and educates journalists.
- An interdisciplinary hub with researchers and scholars spanning political communication, journalism, physics, international affairs, computer science and engineering.

Highlighted activities and projects

- Developing rapid response system for online harassment victims.
- Partnering with Facebook to examine the platform’s effects on elections.
- Examining the efficacy of fact checking on misinformation.
- Mapping online extremist communities and the social media debate about vaccine hesitancy and COVID-19.
- A robust IDDP fellow program supports postdocs and investigators.
Global Implications of a Rapidly Changing Arctic

- Since 2016, more than a dozen scientists across eight schools at GW have received more than $8 million in funding for Arctic research, much of it from the U.S. government (NSF).
- GW researchers are investigating how a changing Arctic is impacting natural, social, built, geopolitical and economic systems.

Highlighted activities and projects

- GW leads the Arctic Partnership for International Research and Education project, an NSF-funded international network that aims to promote greater urban sustainability in the Arctic.
- GW leads long-term studies of changing permafrost, climate variability, hydrology, and snow cover.
- Other studies focus on wildfires and their impact on energy grids and public health, and an education project that connects students in the Arctic and the DC metro region.
RESEARCH UPDATE

TOTAL FEDERAL FUNDING BY SPONSOR
FISCAL YEAR 2021 (WITH 1606 ACTIVE AWARDS)

- **National Institutes of Health (NIH)**, 59.0%
- Dept. of Education, 16.2%
- Dept. of Energy (DOE), 2.0%
- Dept. of Health & Human Services (DHHS), 5.5%
- National Science Foundation (NSF), 7.1%
- Defense Funding, 5.2%
- NASA, 0.6%
- Other Federal, 4.4%

*Includes $27.3M in CARES Act funding

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<tr>
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<tbody>
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<td>NIH</td>
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<tr>
<td>*Dept. of Education</td>
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<td>NSF</td>
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<tr>
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<td>DOE</td>
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<td>Defense Funding</td>
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<td>Other Federal</td>
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