UConn Research
Envisioning Tomorrow

Dr. Radenka Maric
Vice President for Research, Innovation and Entrepreneurship
Board of Trustees Meeting, October 27, 2021
Why research?

• The research done on campuses leads to new ways of understanding the world around us and to scientific and medical advances
• Economic impact
• Reputation and ranking
• Increase undergraduate and graduate enrollment
Research solves problems

Climate change
Human Health
New Awards
100% increase over five years

$375M

184.5M

FY 2017
FY 2021

Sources of FY2021 Federal Awards

- Health & Human Services*: 52%
- National Science Foundation: 21%
- NASA: 1%
- Other: 9%
- Energy: 1%
- Defense: 8%
- Commerce: 1%
- Education: 3%
- USDA: 4%

* National Institutes of Health accounts for 88% of HHS funding.

UCONN RESEARCH
UConn Areas of Strength

- Neuroscience
- Energy
- Genomics
- Manufacturing
- Cybersecurity
- Materials
- Health Behavior
Economic Impact of Research
Grant Trails: We need to enhance and clarify our value for the State

- Grant Trails (https://granttrails.uconn.edu/CT) interactively shows you where research grants that are awarded to UConn faculty are spent throughout our state.

**Key takeaways:**

- Research is crucial if UConn wants to improve its reputation and support its many stakeholders
- Grant dollars are used to pay for equipment, reagents, consumables, salaries, etc. that are required for actually carrying out the research.
UConn: TIP Highlights

Fiscal Year 2021

- 5 New UConn faculty startups
- $8.6M Raised by UConn TIP startups
- 6 UConn companies that received SBIR funding
- 18 Entrepreneurs-in-residence
- 62 TIP companies
- 284 Full and part-time employees in TIP Companies
- $71M Funds raised by TIP companies

New Faculty Startups
Human Health Sector
- Nevive Therapeutics
- MembraneX LLC
- FlexHealthinfo LLC
- Aerocyonics Imaging
- VERINTÄS

Stamford Updates
- Opened January 2021
- 17 Startups at TIP Digital
- NEW EIRs and FTEs
Brand Recognition and Revenue Generation
Dr. Harry Steenbock
University of Wisconsin Madison

Discovered that foods irradiated with ultraviolet light prevented rickets in rats

Developed and patented a process to irradiate foods, which increased their vitamin D content

Started the Wisconsin Alumni Research Foundation, WARF to manage his patent

WARF 2021 $103 million in revenue distributed in grants to UW
$21 million in internal support for UW research
Dr. Robert Cade
University of Florida

Discovered that electrolyte imbalance and low blood sugar lead to heat exhaustion in football players.

Invented: Gatorade

Over $1B in royalties, 1965-2015
Over $283M to University of Florida

https://www.espn.com/college-football/story/_/id/13789009/royalties-gatorade-inventors-surpass-1-billion
UConn Innovations & Creative Impact

Bomb Calorimeter: Invented at UConn’s Agricultural Experiment Station
Dr. Wilbur Atwater

FibreKor® Dental Material – Named a Top 100 Invention of the 20th Century
Replaced metal posts in crowns, bridges, and root canals
Drs. Jon Goldberg and Charles Burstone

Catharanthus and Impatiens – Striking colorful plants able to withstand heat and sunlight, developed through UConn’s breeding techniques
Dr. Ron Parker

Grammy Award in the Classical Compendium category
Dr. Kenneth Fuchs
Recruiting the Best Students

Four-star forward Alex Karaban commits to UConn men’s basketball

He is coming to UConn because of UConn's academic and research strengths

He toured IPB with his parents before committing to UConn
Key Takeaways

- Research is crucial if UConn wants to improve its reputation—a key to attracting top student and faculty talent.

- Donations and greater visibility will enhance our reputation and the impact of our research, which are increasingly important in obtaining extramural funding.
How the Trustees can help

• Make inroads to companies
• Support efforts to develop resources and expertise that will make companies want to work with us
• Support investments in areas of collaborative research strengths - Interdisciplinary Centers/Institutes
• Support targeted cluster hires
• Champion fundraising for research
Thank You!
New Awards by Campus

UConn Health
$170M

$155M

$13M

$2M

Medicine

Dental Medicine

Other

UConn Storrs + Regionals
$205M

$72M

$55M

$31M

$47M

Engineering

CLAS

CAHNR

Other
Research Expenditures by Source*

56% Federal

30% UConn Institutional Funding

4% Business

2% State and Local Government

8% All other

*2019 HERD Survey
Where do we need to be?
AAU Indicators

- Competitively funded federal research support
- Membership in the National Academies
- Faculty awards, fellowships, and memberships
- Citations
Subsequent to receiving seed funding, PIs have been awarded > $273M in extramural awards.

### Seed Funding Dollars at Work

<table>
<thead>
<tr>
<th>Seed Funding</th>
<th>FY15-FY20</th>
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<tbody>
<tr>
<td>Alexion-UConn Rare Disease</td>
<td>100,000</td>
</tr>
<tr>
<td>CARIC</td>
<td>730,000</td>
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<tr>
<td>Microbiome Seed Grant</td>
<td>444,950</td>
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<tr>
<td>PATH Ascent</td>
<td>150,000</td>
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<tr>
<td>PATH Trailblazer</td>
<td>50,000</td>
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<tr>
<td>Research Excellence Program</td>
<td>6,292,354</td>
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<tr>
<td>SCHARP Breakthrough</td>
<td>99,823</td>
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<tr>
<td>SCHARP Development</td>
<td>79,740</td>
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<tr>
<td>SPARK</td>
<td>2,289,439</td>
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<tr>
<td>START</td>
<td>367,026</td>
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<tr>
<td>UCH REP</td>
<td>2,491,336</td>
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<tr>
<td><strong>Total Funding from FY15-FY20</strong></td>
<td><strong>13,094,668</strong></td>
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### Total New Awards from FY16-FY21

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Federal</td>
<td>224,243,565</td>
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<tr>
<td>Other</td>
<td>48,884,255</td>
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<tr>
<td><strong>Total New Awards from FY16-FY21</strong></td>
<td><strong>273,127,820</strong></td>
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