The Kavli Foundation is dedicated to the goals of advancing science for the benefit of humanity and promoting increased public understanding and support for scientists and their work.

The Foundation's mission is implemented through an international program of research institutes, professorships, and symposia in the fields of astrophysics, nanoscience, neuroscience, and theoretical physics as well as prizes in the fields of astrophysics, nanoscience, and neuroscience.
Research!America’s Mission

Making research to improve health a higher national priority

Research!America is an innovator in advocacy for research
WARNING: Failure to be an advocate can be hazardous to your research career
Changing Hearts and Minds for Research: AKA, Advocacy

- Building relationships
- Sharing evidence
- Making regular engagement and public outreach the new normal

No one who cares about the future of health can afford to ‘outsource’ Advocacy; get involved!
Research!America: 29 Years of Putting Research on the Public Agenda

- Nonprofit alliance with member organizations drawn from academia, independent research institutes, industry, patient organizations and scientific societies representing more than 125 million Americans
- Distinguished, all-volunteer board includes former elected and appointed officials, media and public relations leaders, and leaders from alliance member organizations
- Four ‘sister’ organizations in Canada, Australia, New Zealand and Sweden
Research!America Board
Members (partial list)

• The Honorable Michael Castle, Partner, DLA Piper, LLP
• The Honorable John Edward Porter, Senior Advisor, Hogan Lovells US LLP
• The Honorable Kweisi Mfume, Chief Health Equity Officer, Capital Technologies Informatics System Director, Health Policy Research Consortium
• The Honorable Bart Gordon, Partner, K&L Gates LLP
• The Honorable Rush Holt, Ph.D., CEO, American Association for the Advancement of Science
• Nancy Brown, CEO, American Heart Association
• Susan Dentzer, CEO, Network for Excellence in Health Innovation
• Harry Johns, CEO, Alzheimer’s Association
• James Madara, M.D., CEO, American Medical Association
• William Hait, M.D., Ph.D., Global Head, Janssen Research & Development
• Elias Zerhouni, M.D., President, Global Research & Development, Sanofi
• Hortensia Amaro, Ph.D., Professor of Social Work and Preventive Medicine, University of Southern California School of Social Work
• Mark McClellan, M.D., Ph.D., MPA, Director, Center for Health Policy, Duke University
• Herbert Pardes, M.D., Executive Vice Chairman, Board of Trustees, New York-Presbyterian Hospital
• E. Albert Reece, M.D., Ph.D., MBA, Vice President of Medical Affairs; University of Maryland School of Medicine
• Keith Yamamoto, Ph.D., Vice Dean for Research, School of Medicine, University of California, San Francisco
When Advocacy Works: Bipartisan Support Achieved for NIH

- Doubled the budget in five years, ‘99-‘03
- Included $10B in ARRA funding ’09-’10
- Secured $2 billion increase in FY16 and FY17
- $4.8 billion (over 10 years) in 21st Century Cures
- Appropriations leadership, in bipartisan manner, has pledged continued support in FY18
- Bipartisan budget agreement for FY18 and FY19
Advocacy Works for all Science!

FUNDING SCIENCE
opens a world of possibilities

RAISE THE BUDGET CAPS

Scientific breakthroughs depend on federal support. From the internet to miraculous medical treatments, federal investments in scientific research have made America the unquestioned world leader in science, technology and innovation. These investments have reinvigorated the nation, strengthened local economies and created millions of American jobs. Yet we’ll surrender American leadership if Congress fails to raise the budget caps and increase funding for vital research.

researchamerica.org/RaiseTheCaps

#RaiseTheCaps
The Continuing Resolution (CR) of Feb 9 increased defense spending by $80 billion in FY18 and $85 billion in FY19, and nondefense discretionary (NDD) spending by $63 billion in FY18 and $68 billion in FY19.

The CR lays out several specific priorities, including direction to increase NIH funding by $2 billion and opioid response and mental health funding by $6 billion over the two-year period.
Appropriations Process

- Between now and March 23, Congress must determine contents of and pass a detailed FY18 budget (we are six months into FY18!)
- House Labor-HHS Appropriations Subcommittee Chairman Tom Cole (R-OK) has said the NIH will likely get more than the $2 billion set aside for the agency as part of the CR
- Congress will then pivot to FY19 appropriations
President’s FY19 Budget Proposal

- Funds NIH and NSF essentially at FY17 levels *(below CR direction for NIH in CR covering FY18 and FY19)*
- Funds opioid response and mental health *(similar to CR agreement)*
- Cuts other health and science agencies *(not addressed in CR agreement)*
NIH Appropriations in Current and Constant Dollars

Dollars (Millions)

Source: NIH Office of the Director, Office of Budget:
http://officeofbudget.od.nih.gov/
Constant Dollar NSF Funding History: FY1990 to FY2017

*Source: CRS*
U.S. R&D Spending Lags Behind Other Nations

<table>
<thead>
<tr>
<th>World Ranking</th>
<th>Country</th>
<th>% GDP Spent on R&amp;D in 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Israel</td>
<td>4.25%</td>
</tr>
<tr>
<td>2</td>
<td>South Korea</td>
<td>4.23%</td>
</tr>
<tr>
<td>3</td>
<td>Switzerland</td>
<td>3.42%</td>
</tr>
<tr>
<td>4</td>
<td>Japan</td>
<td>3.29%</td>
</tr>
<tr>
<td>5</td>
<td>Sweden</td>
<td>3.28%</td>
</tr>
<tr>
<td>6</td>
<td>Austria</td>
<td>3.12%</td>
</tr>
<tr>
<td>7</td>
<td>Taiwan</td>
<td>3.05%</td>
</tr>
<tr>
<td>8</td>
<td>Denmark</td>
<td>2.96%</td>
</tr>
<tr>
<td>9</td>
<td>Germany</td>
<td>2.93%</td>
</tr>
<tr>
<td>10</td>
<td>Finland</td>
<td>2.90%</td>
</tr>
<tr>
<td>11</td>
<td>U.S.</td>
<td>2.74%</td>
</tr>
</tbody>
</table>

Source: National Science Foundation, Science & Engineering Indicators 2018, Table 4-5
China Poised to Lead in Science

- In the 1960s, US federal investment in R&D reached 2.23 percent of GDP. By 2016 that had plummeted to 0.77 percent.+

- China is on track to overtake the U.S. in government investment in science research and development in two years or less.*

- Overall spending on research in China has gone up by roughly 18% each year since 2000; the annual increase in the U.S. has been just 4%.*

- China has now overtaken the United States in terms of the total number of science publications.*

Sources: *2018 National Science and Engineering Indicators, and +Boosting Research Funding as Uncertainty Reigns, The Brookings Institute, November 2017.
“You can change the image of things to come. But you can’t do it sitting on your hands... The science community should reach out to Congress and build bridges.”

Research!America Chair Emeritus, Former Congressman John Edward Porter
Important for Scientists to Engage Policymakers

How important is it for scientists to inform elected officials about their research and its impact on society?

Source: A Research!America survey of U.S. adults conducted in partnership with Zogby Analytics in January 2018.
Important for Scientists to Engage Public

How important is it for scientists to inform the public about their research and its impact on society?

Source: A Research!America survey of U.S. adults conducted in partnership with Zogby Analytics in January 2018.
Public Policies Should be Based on Science

Do you agree or disagree that public policies should be based on the best available science?

73% of Democrats and 70% of Republicans agree, compared with 58% of Independents.

Source: A Research!America survey of U.S. adults conducted in partnership with Zogby Analytics in January 2018.
Scientists Should Play Major Role in Shaping Public Policy

Do you agree or disagree that scientists should play a major role in shaping policy for the following:

- Medical and health research: 51% Strongly Agree, 32% Somewhat Agree, 5% Somewhat Disagree, 10% Strongly Disagree
- Air and water quality: 49% Strongly Agree, 33% Somewhat Agree, 5% Somewhat Disagree, 11% Strongly Disagree
- Environment: 48% Strongly Agree, 29% Somewhat Agree, 7% Somewhat Disagree, 11% Strongly Disagree
- Food safety: 47% Strongly Agree, 31% Somewhat Agree, 8% Somewhat Disagree, 11% Strongly Disagree
- Drug safety and efficacy: 44% Strongly Agree, 33% Somewhat Agree, 8% Somewhat Disagree, 12% Strongly Disagree
- Energy: 42% Strongly Agree, 34% Somewhat Agree, 7% Somewhat Disagree, 11% Strongly Disagree
- National Defense: 28% Strongly Agree, 24% Somewhat Agree, 18% Somewhat Disagree, 16% Strongly Disagree
- Roads, bridges, infrastructure: 28% Strongly Agree, 30% Somewhat Agree, 18% Somewhat Disagree, 11% Strongly Disagree
- Education: 28% Strongly Agree, 32% Somewhat Agree, 17% Somewhat Disagree, 9% Strongly Disagree
- Job creation: 25% Strongly Agree, 23% Somewhat Agree, 22% Somewhat Disagree, 14% Strongly Disagree

Source: A Research!America survey of U.S. adults conducted in partnership with Zogby Analytics in January 2018.
Important for Elected Officials to Listen to Scientists

How important is it that elected officials at all levels listen to advice from scientists?

14% increase in those who responded ‘very important’ compared to January 2015.

“Scientists deepened my understanding of the promise of embryonic stem cell research during a time when there was huge opposition in Congress and the White House for federal support of such research. This interaction led to the development of bipartisan legislation introduced by me and Rep. Diana DeGette (D-CO) in 2005 that expanded federal funding of embryonic stem cell research.”

-- Q&A with Society for Neuroscience, Fall 2017
Democrats: 7

Warren Grant Magnuson (D, WA)
• U.S. Rep (1937-1944)
• U.S. Senator (1944-1981)

Lawton Chiles (D, FL)
• U.S. Senator (1971-1989)
• Florida Governor (1991-1998)

Claude Denson Pepper (D, FL)
• U.S. Senator (1936-1951)
• U.S. Representative (1963-1989)

Joseph Lister Hill (D, AL)
• U.S. Representative (1923-1938)
• U.S. Senator (1938-1969)

Dale Bumpers (D, AR)
• Arkansas Governor (1971-1975)
• U.S. Senator (1975-1999)

William Natcher (D, KY)
• U.S. Representative (1953-1994)

Louis Stokes (D, OH)
• U.S. Representative (1969-1999)
• Research!America Board Member (2007-2010)

Republicans: 5

Lowell P. Weicker, Jr. (R, CT)
• U.S. Representative (1969-1971)
• U.S. Senator (1971-1989)
• Connecticut Governor (1991-1995)

Mark Hatfield (R, OR)
• Oregon Governor (1959-1967)
• U.S. Senator (1967-1997)

C.W. Bill Young (R, FL)
• U.S. Representative (1971-2013)

John Edward Porter (R, IL)
• U.S. Representative (1980-2001)
• Chair Emeritus of Research!America

Silvio O. Conte (R, MA)
• U.S. Representative (1959-1991)

*Plaza named for Paul G. Rogers (D, FL, U.S. Representative 1955-1979) Former Chair of Research!America
Two NIH Congressional Champions

Sen. Roy Blunt (R-MO), Chairman, Senate Labor-H Appropriations Subcommittee

Rep. Tom Cole (R-OK-04), Chairman, Labor-H Appropriations Subcommittee
Science Committee Leaders

Rep. Lamar Smith (R-TX-21)
Chair, House Science,
Space, Technology
Committee

Sen. John Thune (R-SD)
Chairman, Senate
Commerce, Science,
Transportation
Committee

*Rep. Eddie Bernice
Johnson (D-TX-30), Ranking
Member, House Science,
Space, Technology
Committee

Sen. Bill Nelson (D-FL)
Ranking Member, Senate
Commerce, Science,
Transportation
Committee

* Will be a keynote speaker at
Research!America’s Annual Meeting
March 14. The event will be
livestreamed.
To **advocate** means to speak up, to plead the case of another or to champion a general cause.

*It is something that most of us routinely do on behalf of our families, our neighbors, our friends and ourselves.*

**Lobbying,** in general, consists of communications intended to influence specific legislation.

Research!America does both.
Know Your Institution’s Policies

- Know your institutions guidelines and policies regarding advocacy.
A Challenge: Pass the Starbucks Test
Q: What do elected officials and scientists have in common?
Q: What do elected officials and scientists have in common?

A: Serving the public’s interest.

You can effectively start a conversation with any elected official by thanking them for serving the public’s interest. And then say how you serve the public’s interest.
IL Representatives and Science- Relevant Committees

Rep. Bobby Rush (D-1); Energy and Commerce Committee

Rep. Robin Kelly (D-2); Oversight and Government Reform Committee

Rep. Randy Hultgren (R-14); Science, Space, Technology Committee

Rep. Bill Foster (D-11); Science, Space, Technology Committee

Rep. Danny Davis (D-7); Ways and Means Committee
115th Congress: Illinois Senators

Senator Dick Durbin (D)
Senate Minority Whip

Senator Tammy Duckworth (D)
Senate Commerce, Science and Transportation Committee
## Advocacy Asks

<table>
<thead>
<tr>
<th>Member</th>
<th>NIH Caucus?</th>
<th>NIH Appropriations Letter?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sen. Dick Durbin</td>
<td>Founding Chair</td>
<td>YES</td>
</tr>
<tr>
<td>Sen. Tammy Duckworth</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>Rep. Danny Davis</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Rep. Robin Kelly</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Rep. Bobby Rush</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Rep. Bill Foster</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>Rep. Randy Hultgren</td>
<td>NO</td>
<td>NO</td>
</tr>
</tbody>
</table>
Make Advocacy Opportunities

Be ready with your “ask”

- Join the NIH Caucus (evergreen)
- Sign on to NIH and NSF Appropriations and Policy Letter(s) (timing varies)
- Include NIH and NSF in your Member Appropriations Request (next budget cycle)

Take Every Opportunity to Say “Thank You”
“...public sentiment is everything. With public sentiment, nothing can fail; without it nothing can succeed.”

President Abraham Lincoln
Research!America Surveys

- Commissioning public opinion surveys on research issues for 26 years:
  - National Surveys
  - State-Based Surveys
  - Issue-Specific Surveys
- Online surveys are conducted with a sample size of 1000-2000 adults and sampling error of +/-3.1% to +/-2.1%. The data are weighted in two stages to ensure accurate representation of the U.S. adult population.
Only a Third Say U.S. Will Be World Leader in Science and Technology in 2020

In your view, which of the following will be considered the number one world leader in science and technology in the year 2020?

12% decrease in those who responded “United States” compared to January 2016.

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>32%</td>
</tr>
<tr>
<td>China</td>
<td>12%</td>
</tr>
<tr>
<td>Japan</td>
<td>11%</td>
</tr>
<tr>
<td>Germany</td>
<td>5%</td>
</tr>
<tr>
<td>Canada</td>
<td>2%</td>
</tr>
<tr>
<td>South Korea</td>
<td>2%</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>2%</td>
</tr>
<tr>
<td>Russia</td>
<td>1%</td>
</tr>
<tr>
<td>France</td>
<td>1%</td>
</tr>
<tr>
<td>Other (Specify)</td>
<td>1%</td>
</tr>
<tr>
<td>Not sure</td>
<td>32%</td>
</tr>
</tbody>
</table>

Source: A Research!America survey of U.S. adults conducted in partnership with Zogby Analytics in January 2018.
Views Split on Whether U.S. Science and Innovation Will Strengthen in 2018

Which statement is closest to your view? Statement A - America's global preeminence in science and innovation will strengthen in 2018. Statement B - America's global preeminence in science and innovation will weaken in 2018.

Source: A Research!America survey of U.S. adults conducted in partnership with Zogby Analytics in January 2018.
Important for U.S. to Lead in Research

How important do you think it is that the U.S. is a global leader in medical, health and scientific research?

- Very important: 65%
- Somewhat important: 26%
- Not too important: 2%
- Not at all important: 3%
- Not sure: 5%

Majority Agree that Basic Research is Necessary

Do you agree or disagree with the following statement? Even if it brings no immediate benefits, basic scientific research that advances the frontiers of knowledge is necessary and should be supported by the federal government.

How important is it for the federal government to fund research on social determinants of health (education, housing, income, access to healthy food and healthcare) to address health disparities?

Source: A Research!America survey of U.S. adults conducted in partnership with Zogby Analytics in January 2018.
Benefits of Research Outweigh Harms

From “Perceptions of Science in America,” American Academy of Arts and Sciences, Feb. 2018

Confidence in Scientists to Act in the Best Interest of the Public

Percentage of U.S. Adults Who Say They Have Confidence in Scientists to Act in the Best Interests of the Public, by Political Affiliation:

- U.S. Adults:
  - A "Great Deal" of Confidence: 21%
  - A "Fair Amount" of Confidence: 55%

- Democrats:
  - A "Great Deal" of Confidence: 34%
  - A "Fair Amount" of Confidence: 51%

- Liberal Democrats:
  - A "Great Deal" of Confidence: 22%
  - A "Fair Amount" of Confidence: 57%

- Moderate/Conservative Democrats:
  - A "Great Deal" of Confidence: 19%
  - A "Fair Amount" of Confidence: 59%

- Republicans:
  - A "Great Deal" of Confidence: 15%
  - A "Fair Amount" of Confidence: 53%


From “Perceptions of Science in America,” American Academy of Arts and Sciences, Feb. 2018
Americans Express Confidence in Military, Scientists

Percentage of U.S. Adults with a “Great Deal” of Confidence in the Leaders of the Following Institutions:

- Military
- Scientific Community
- Banks and Financial Institutions
- Press
- Congress

**Source:** NORC at the University of Chicago, *General Social Survey* (1973–2016).

From “Perceptions of Science in America,” American Academy of Arts and Sciences, Feb. 2018
And Yet, Despite High Levels of Public Confidence, Scientists are Invisible in Our Society...
Can Americans Name a Living Scientist?
Most Americans Cannot Name a Living Scientist

Can you name a living scientist?

- Yes, I can name
  - Stephen Hawking (42%)
  - Neil deGrasse Tyson (27%)
  - Bill Nye (6%)
  - Jane Goodall (5%)
  - Elon Musk (3%)
  - Michio Kaku (2%)
  - James Watson (2%)
  - Richard Dawkins (1%)
  - Anthony Fauci (1%)

- No

Source: A Research!America survey of U.S. adults conducted in partnership with Zogby Analytics in January 2018.
Do Americans Know Where Medical or Health Research is Conducted?
Most Americans Don’t Know Where Research is Conducted

Can you name any institution, company or organization where medical or health research is conducted?

Source: A Research!America survey of U.S. adults conducted in partnership with Zogby Analytics in January 2018.

- Mayo Clinic (21%)
- Johns Hopkins University (12%)
- St. Jude Children’s Research Hospital (10%)
- NIH (6%)
- Cleveland Clinic (5%)
- American Cancer Society (4%)
- CDC (4%)
- Duke University (2%)

Zogby Analytics

Source: A Research!America survey of U.S. adults conducted in partnership with Zogby Analytics in January 2018.
Most Americans Don’t Know Research is Conducted Nationwide

To the best of your knowledge, would you say that medical research in the U.S. is conducted in all 50 states?

- Yes: 24%
- No: 32%
- Not Sure: 45%

Source: A Research!America survey of U.S. adults conducted in partnership with Zogby Analytics in January 2018.
Increase the Visibility of Science
What can you do?

- Get to know small business people in your community e.g. vendors to your lab; they want you to succeed
- Invite a journalist to talk about how science news is covered by media
- Make time for public engagement
- Host a local Science on Tap/Nerd Night
- Recognize and reward best practices in public engagement

*Don’t outsource advocacy!*
Get Involved this Election Year

• Attend a town hall
• Mark your calendar for the IL primary
  • Illinois’ 2018 Primary Election - March 20, 2018
• Research your candidates
  • Does he/she sponsor events for constituents (coffees, lunches, Town Hall)
  • For incumbents: Committee assignments? Leadership?
  • Is funding for research addressed on his/her website?
Arguments that Resonate Include Economic Benefits of Research

• Illinois received $818 million in NIH funding in FY16.

• 17 Illinois businesses received NIH funding totaling $23 million for the research and development of technologies with potential commercial applications in FY16.

• In 2014, Illinois was home to 3,744 bioscience businesses. Residents held 80,965 bioscience industry jobs, and the average annual wage in the bioscience sector was $57,643 higher than the private sector overall.

Sources: FASEB, BIO TEConomy Report
Skepticism is Not Just for Scientists

- People are understandably confused by the three steps forward/two steps back dynamic process of science.
- By standing back or failing to engage, researchers and advocates aren’t helping resolve public confusion.
- Healthy skepticism is a good thing in science and in public discourse!
Engage Emotion: You Can’t Use Facts To Change Feelings

- Time and again, research has shown that facts and rational analysis do not convince people to change behavior. Behavior change begins when people see something that makes them feel something.

- If you want to change the narrative around a cause, you have to start by changing the way people feel.

- We are exposed to literally 148 newspapers worth of information every day. We discard 90% of the content that we receive, immediately.

- To be successful, you have to build a narrative that is in the 10% of content that people retain and use.
Tell Your Story, Not Your Data!

“I’ll pause for a moment so you can let this information sink in.”
Identify a Deep Need

- The first reason we have not been able to engage the audience is simple: we are telling the wrong story.

- We are telling *our* story, not *theirs*.

- The first thing you must do is convey that your mission helps to meet their needs.
THEN... Prior to 1921, children who developed diabetes before the age of 10 often died within 2 months of their diagnosis.

NOW... (thanks to research) Type 1 diabetes is a manageable condition with regular use of insulin, and monitoring blood sugar, eating and exercise.

IMAGINE...(thanks to research) A cure for type 1 diabetes.

Research is the solution to what ails us!
• Americans spent more than $19 billion on Valentine’s Day in 2017.

• That amount is enough to fund the National Institute of General Medical Sciences (NIGMS) for 7 years.

Sources: NRF; NIH
A Nation Worth Defending

- U.S. defense spending in 2017 totaled $587 billion.

- Health Security: The National Institutes of Health budget in 2017 totaled $34.1 billion.

“The NIH... is our nation's Department of Defense for America's personal health”*

Sources: DoD, NIH, Congressman Steve Cohen* (D-TN)
FY17 Appropriations Per Person

- NIH: $34.1B ($104.40/person)
- FDA*: $2.76B ($8.54/person)
- AHRQ: $320M ($0.99/person)
- NSF: $7.47B ($23.12/person)
- CDC: $7.2B ($22.30/person)
- Defense: $587B ($1,817/person)

U.S. Population – 323.1M

*FDA appropriations plus user fees: $ 4.68B ($14.47/person)
Re-Cap: How to Think About Talking to Non-Scientists

- Know your audience
- Use the Then-Now-Imagine message frame
- Be in the moment
- Understand and align with public sentiment
- Remember -- if people are skeptical, they are thinking like scientists!
- Convey your personal commitment/passion

Communicating well demonstrates understanding, sensitivity and accountability.
Put a Face on Research: YOURS!
The most important four words a researcher can say and convey are ...
“I work for you.”
Research!America Works for You

Connect with us

www.researchamerica.org/blog
www.facebook.com/researchamerica.org
www.twitter.com/researchamerica
www.youtube.com/researchamerica