



# Responsibilities of Scientists to Society

Bri Mills

What is the role of a scientist in society?

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“Scientists are increasingly called upon to contribute to **public policy** and to the **public understanding of science**. They play an important role in educating nonscientists about the content and processes of science.”

*-- On Being a Scientist: Responsible Conduct in Research*

# What is the role of a scientist in society?

“In its simplest definition, science can be thought of as the **pursuit of truth**. Truth that stills holds true without our existence, obtained methodically through observations, experimentation and research. ”

-- *Stephen Lucas*

# Some obvious responsibilities may include:

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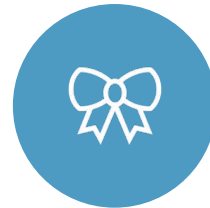
Engage in peer-reviewed research



Communicate results to society



Participate in decision-making (i.e. policy change) discussions



Give back to the community (i.e. public outreach, lectures, service projects)



Be transparent, open-minded, honest



Educate

Threat of plastic pollution to the oceans targeted by Exeter scientists



Photo credit: BBC Blue Planet

**Experts in marine biology and ecology available to discuss oil spill**

Posted by Ecological Society of America on April 30, 2010

**EXPERTS DISCUSS COVID-19 AND WAYS TO PREVENT SPREAD OF DISEASE**

Expert panel shares the latest news on virology, vaccine development, and best practices for social distancing

HEALTH

# Experts Weigh In on Bird Flu Research

The creation of a more contagious H5N1 virus has sparked debate on the most ethical way to publish the results. Three experts discuss the new avian influenza coinfection.

By David Peicyger, PBS NewsHour on January 31, 2012

HEALTH • GENETICS

**Experts Are Calling for a Ban on Gene Editing of Human Embryos. Here's Why They're Worried**

**Scientists and Experts Discuss the Reality of Climate Change**

JANUARY 17, 2019 / COLLIDER EVENTS



# Discourse in an era of distrust



## Trust in medical doctors and dietitians is higher than for researchers in these areas

% of U.S. adults who say their view of each of these groups is ...



% of U.S. adults who say each of these groups \_\_\_\_\_ all or most of the time



Note: Respondents who gave other responses or who did not give an answer are not shown.

Source: Survey conducted Jan. 7-21, 2019.

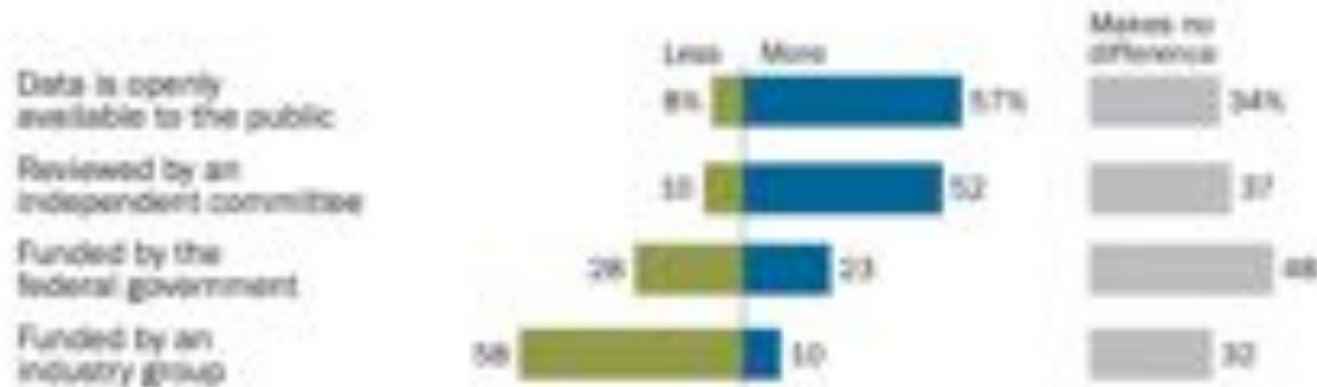
"Trust and Mistrust in Americans' Views of Scientific Experts"

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## Majority of Americans say they are more apt to trust research when the data is openly available

% of U.S. adults who say when they hear each of the following, they trust scientific research findings ...



Note: Respondents who did not give an answer are not shown.

Source: Survey conducted Jan. 7-21, 2019.

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## Opinion Differences Between Public and Scientists

% of U.S. adults and AAAS scientists saying each of the following

### Biomedical sciences

Safe to eat genetically modified foods



Favor use of animals in research



Safe to eat foods grown with pesticides



Humans have evolved over time



Childhood vaccines such as MMR should be required



### Climate, energy, space sciences

Climate change is mostly due to human activity



Growing world population will be a major problem



Favor building more nuclear power plants



Favor more offshore drilling



Astronauts essential for future of U.S. space program



Favor increased use of bioengineered fuel



Favor increased use of fracking



Space station has been a good investment for U.S.



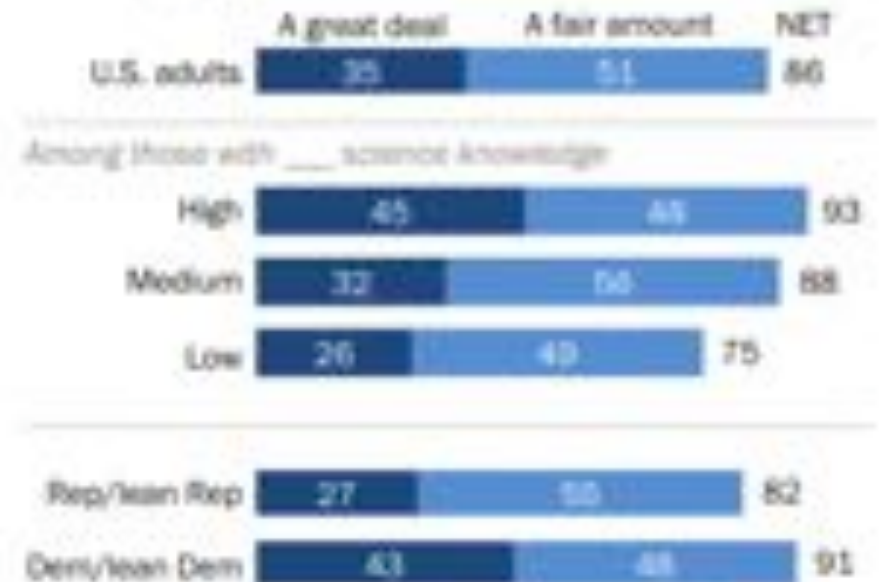
Survey of U.S. adults August 15-25, 2014. AAAS scientists survey Sept. 11-Oct. 13, 2014. Other responses and those saying don't know or giving no answer are not shown.

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# Society's view

## Confidence in scientists is stronger among those with high science knowledge and among Democrats

80% of U.S. adults who say they have a great deal or a fair amount of confidence in scientists to act in the best interests of the public



Note: Respondents who gave other responses or who did not give a response are not shown. See Methodology for details on index of science knowledge.

Source: Survey conducted Jan. 7-31, 2019.

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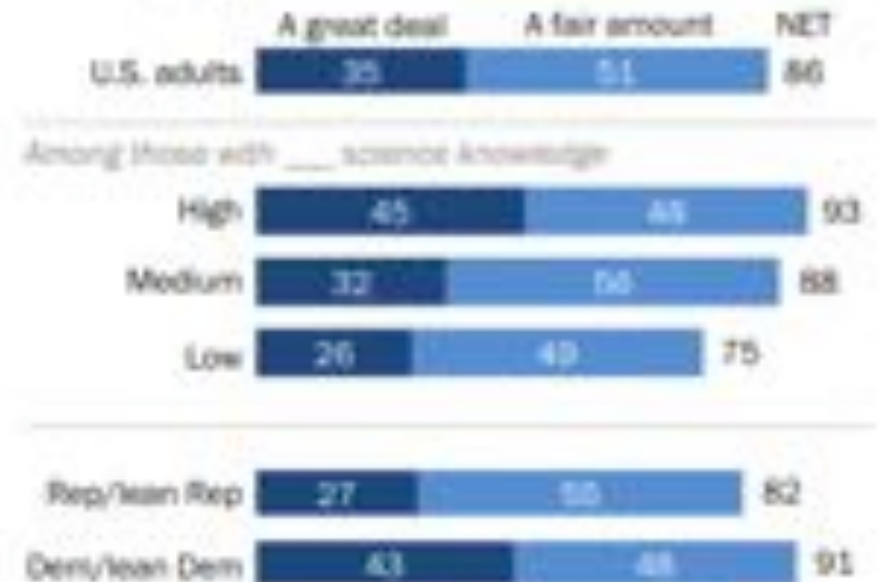
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# Society's view

- 86% of US adults have trust and confidence in scientists/science, despite this “anti-science” climate we may feel

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**Misconception:** It is always disagreement with scientific findings that motivates denial.

**Reality:** It is often the implied solutions of scientific findings that motivate denial.





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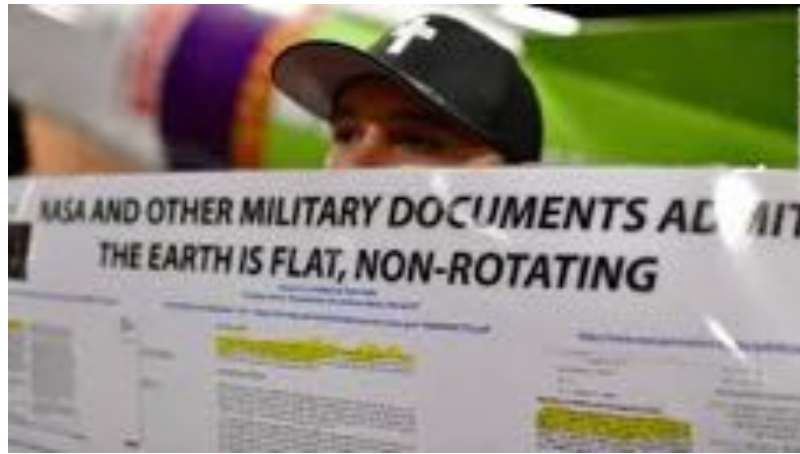
Vaccinations

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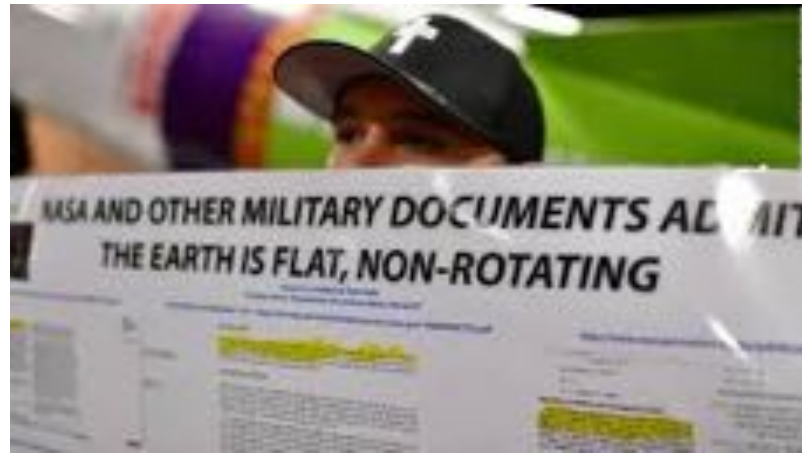
Flat vs. Round Earth

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Vaccinations



Flat vs. Round Earth



Climate Change



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# **Discourse** in an era of distrust

- Social media

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- Social media
  - Popular
  - Persuasive



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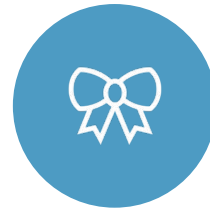
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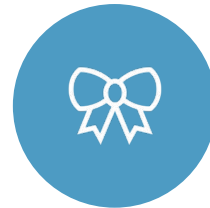
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*Effective strategies for rebutting science denialism in public discussions*