



National  
Science  
Foundation

# *ADVANCING THE FRONTIERS OF RESEARCH: THE FUTURE OF THE RESEARCH ENTERPRISE*

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*Council on Government Relations*

*February 25, 2021*

# Mission

Promote the  
progress of  
science

Advance the  
national  
health,  
prosperity and  
welfare

Secure the  
national  
defense



# Mission



To promote the progress of science;  
to advance the national health, prosperity,  
and welfare; and to secure the national defense.



# Vision

Advancing the frontiers  
of research into the future

Ensuring accessibility  
and inclusivity

Securing global  
leadership



# Defining Moment

Global Competition

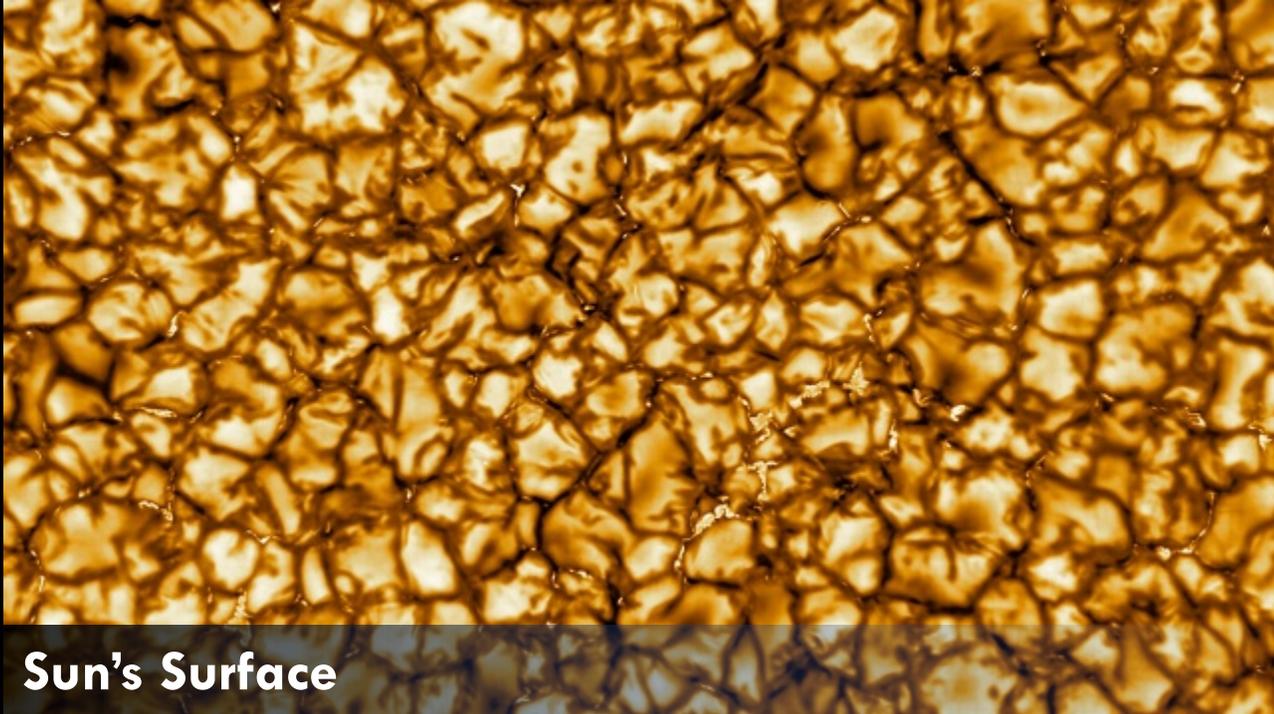
Missing Millions

Bipartisan Support



# The Future of Research





**Sun's Surface**

Curiosity  
Driven  
Research







ERC for Advanced Technologies for  
Preservation of Biological Systems

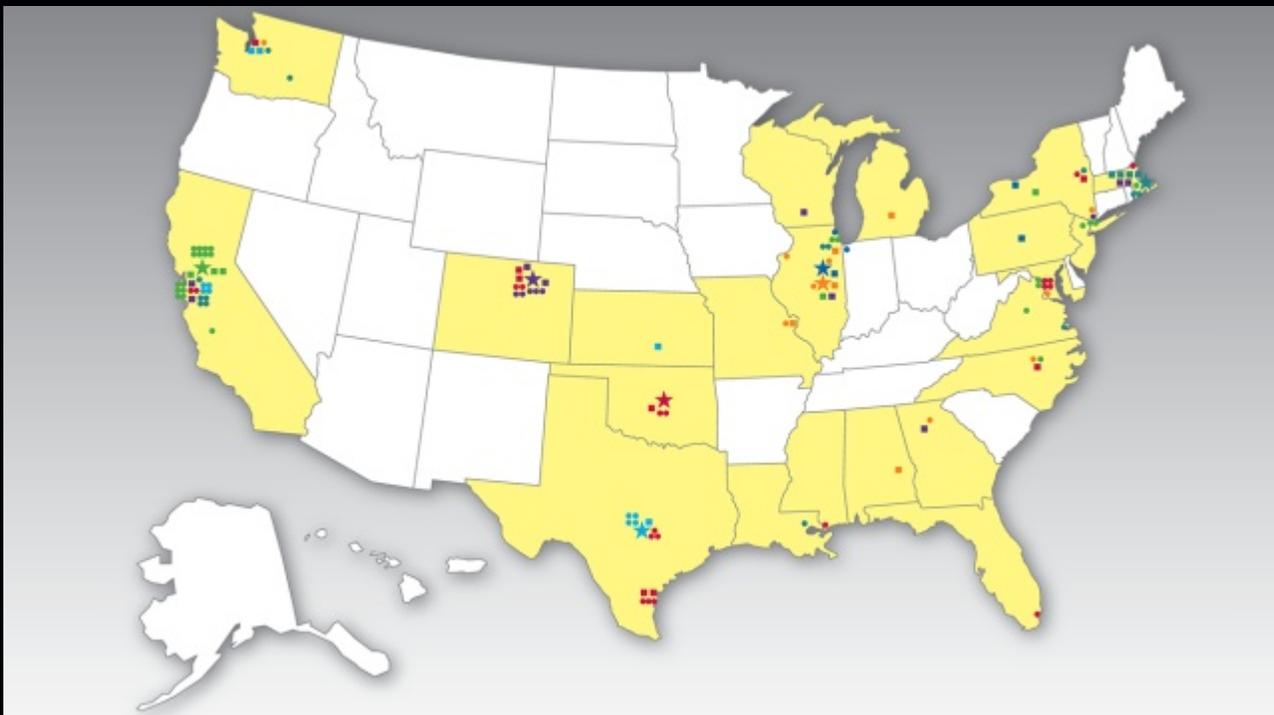
ERC for Advancing Sustainability through Powered  
Infrastructure for Roadway Electrification

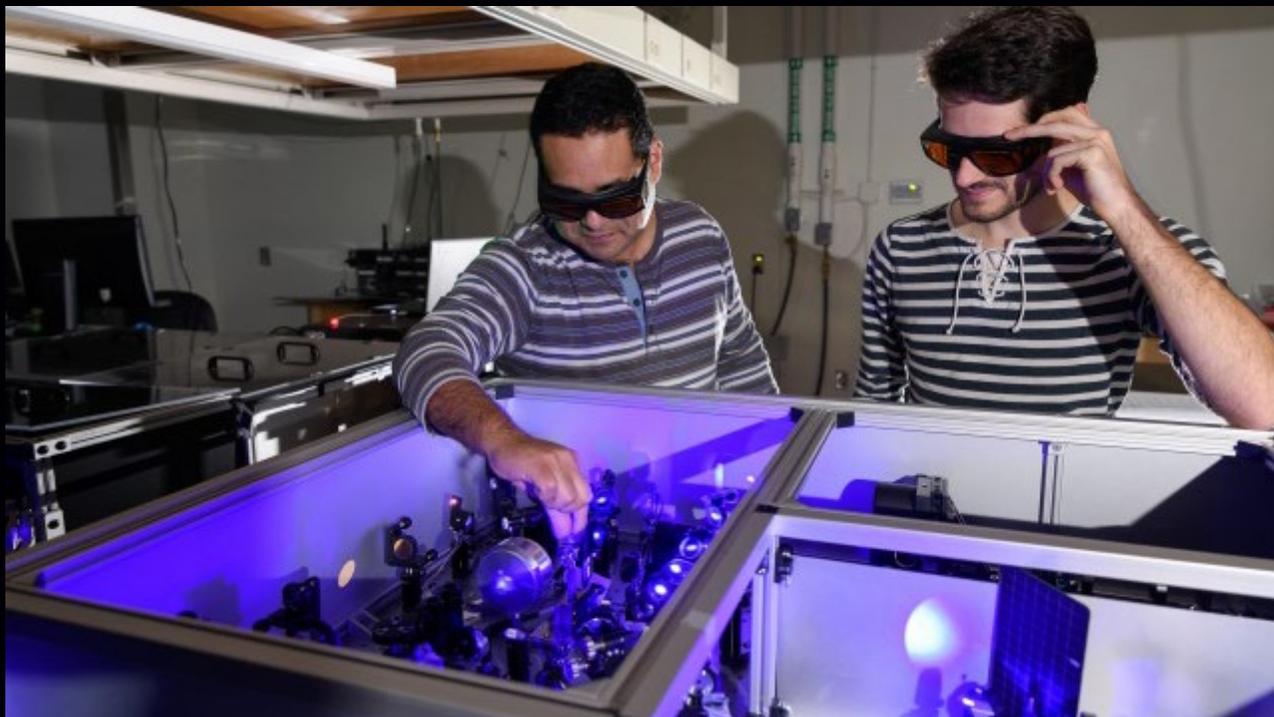
ERC for Quantum Networks

ERC for the Internet of Things  
for Precision Agriculture

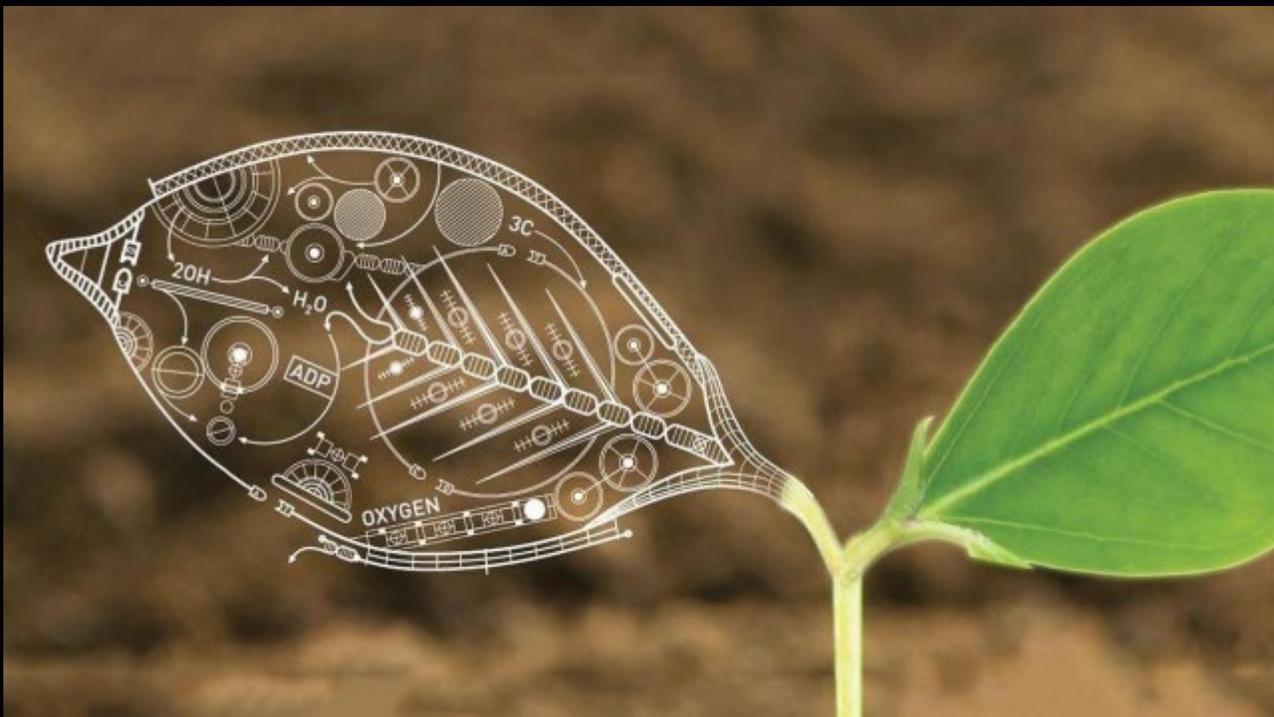




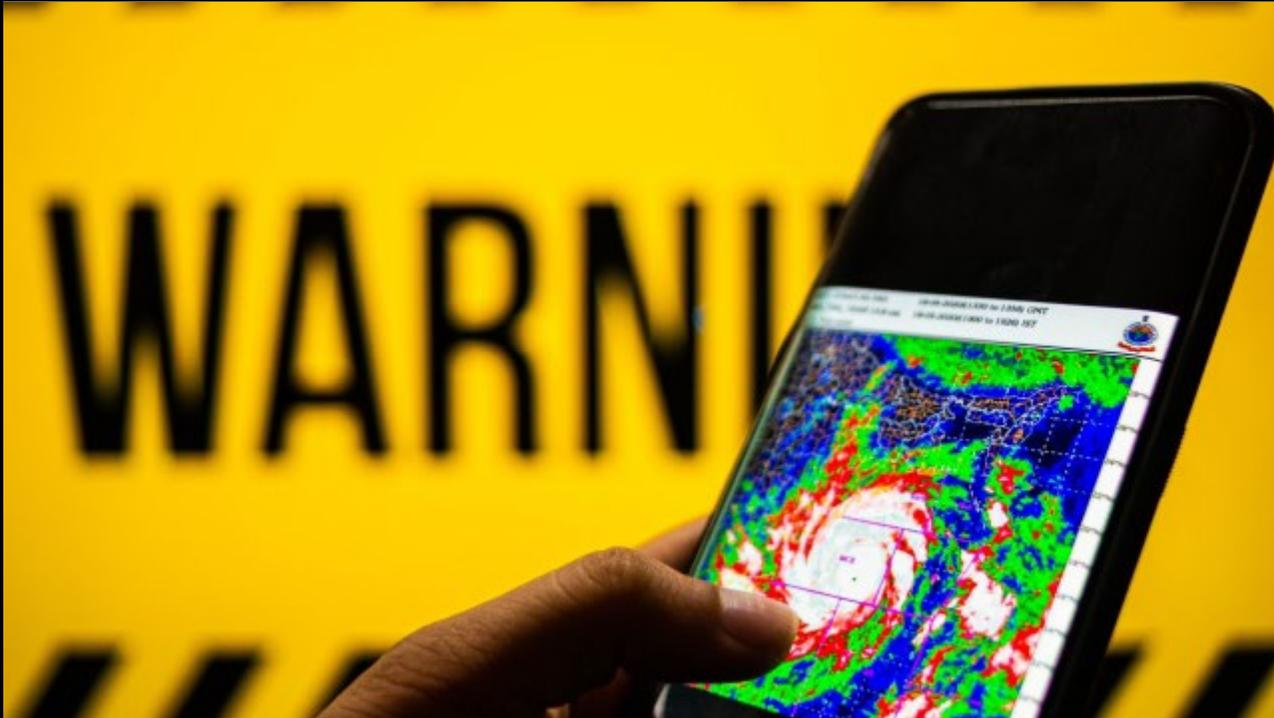












# Advancing the Frontiers of Science







# How? Intra-agency



# How? Inter-agency



# How? Direct Partnerships





# Emerging Talent @ Scale



We need to inspire new generations across all communities to explore the wonders waiting to be discovered.



# Missing Millions

**Women**



**Hispanic or Latino**



**Black or African American**

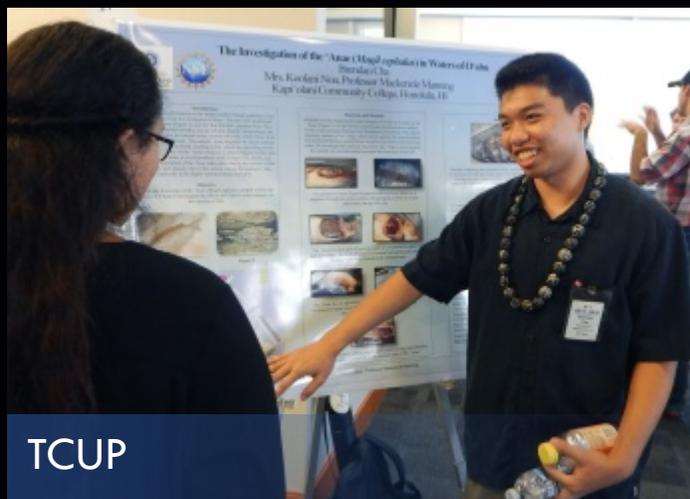


 x 100,000 people in 2020 in the S&E workforce

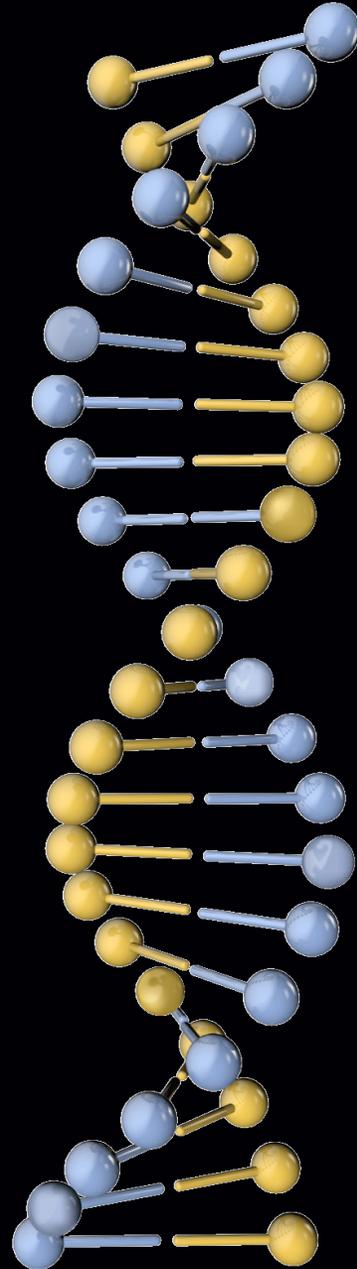
 x 100,000 additional people needed in 2030 for the S&E workforce to be representative of the U.S. population



# Inspiring Talent Everywhere









**1986**  
AND  
BEYOND

**NSFNET ENABLES EXPLORATORY  
RESEARCH AT UNIVERSITIES**



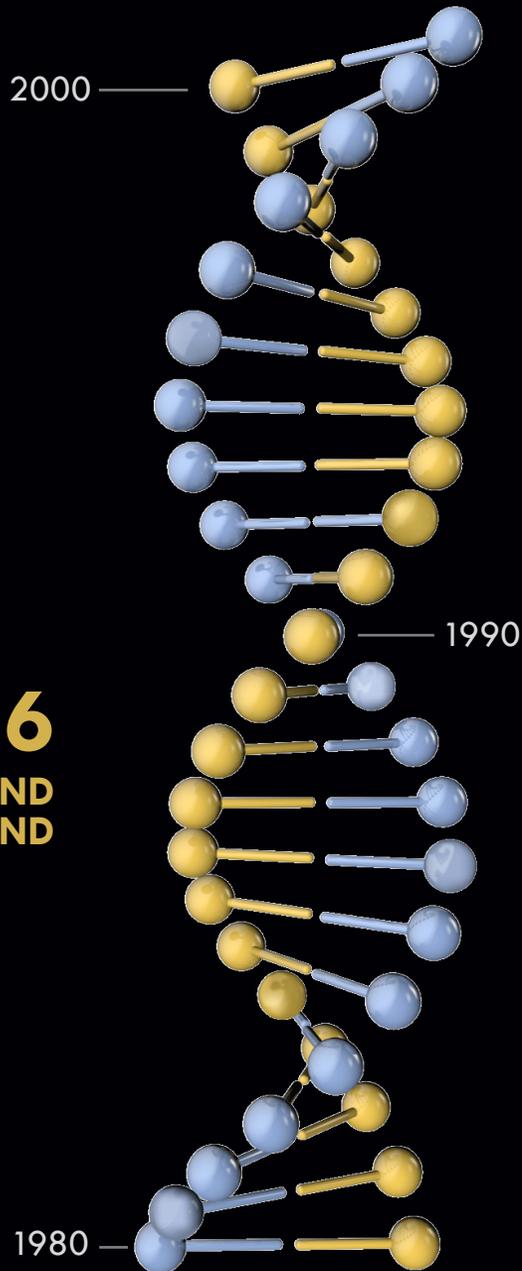
**1995**

**INTERNET COMMERCIALIZATION**



**1985**

**NSF NET**

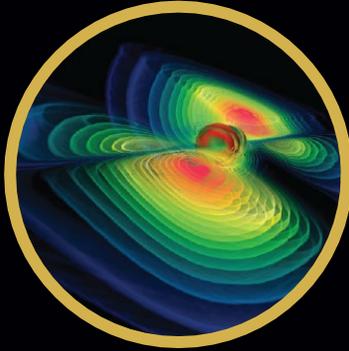


**LIGO ENABLES  
FURTHER  
EXPLORATION**



**2020**

**GRAVITATIONAL  
WAVES DETECTED**



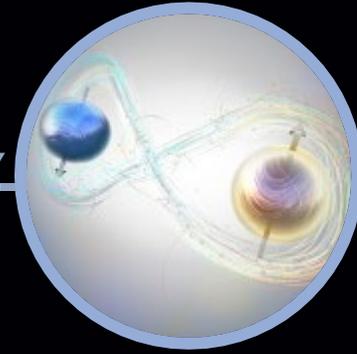
**2015**

**RESEARCH TO  
PROVE THE THEORY  
OF GRAVITATIONAL  
WAVES BEGINS**



**1970s**

**TODAY**

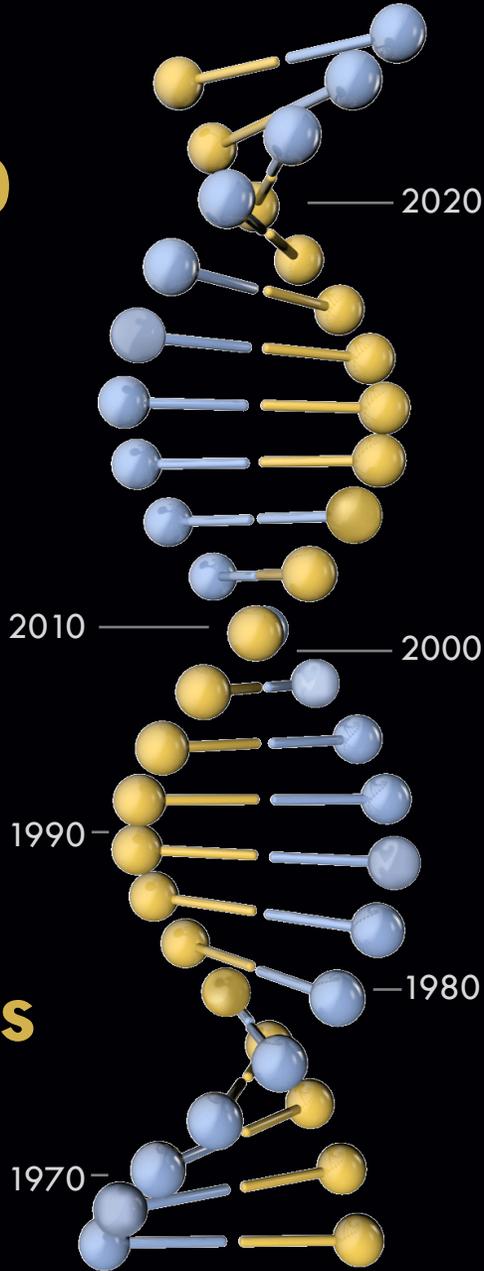


**ENHANCED  
QUANTUM  
SENSING  
CAPABILITIES**

**1999**



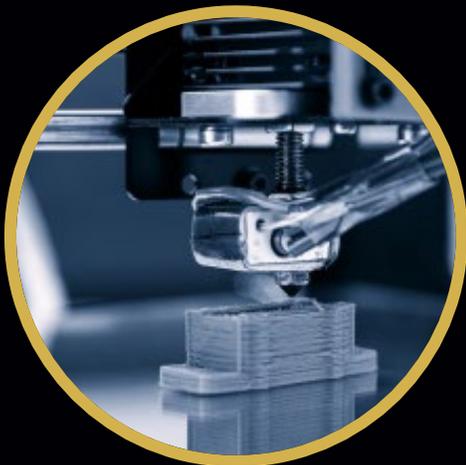
**LIGO  
DETECTORS  
COMPLETED**





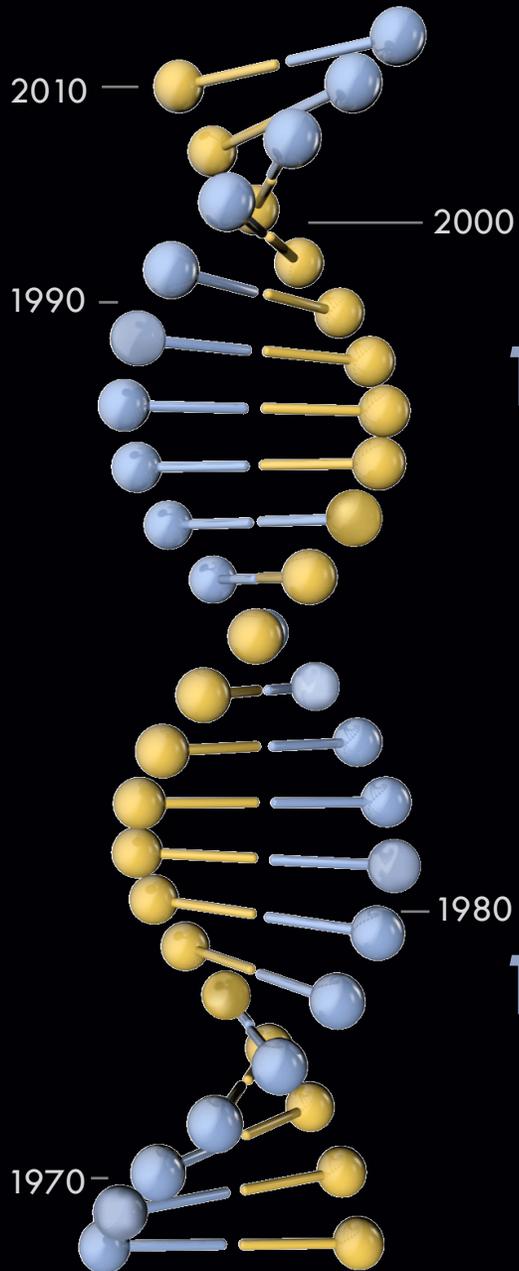
**2009**

**ROADMAP FOR ADDITIVE  
MANUFACTURING CONFERENCE**

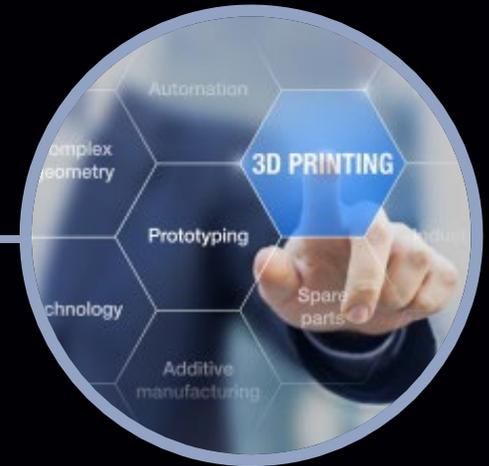


**1986**

**NSF MAKES THE FIRST ADDITIVE  
MANUFACTURING AWARD**



**1989**



**(1989-1996) NSF'S STRATEGIC  
MANUFACTURING INITIATIVE**

**1970s**



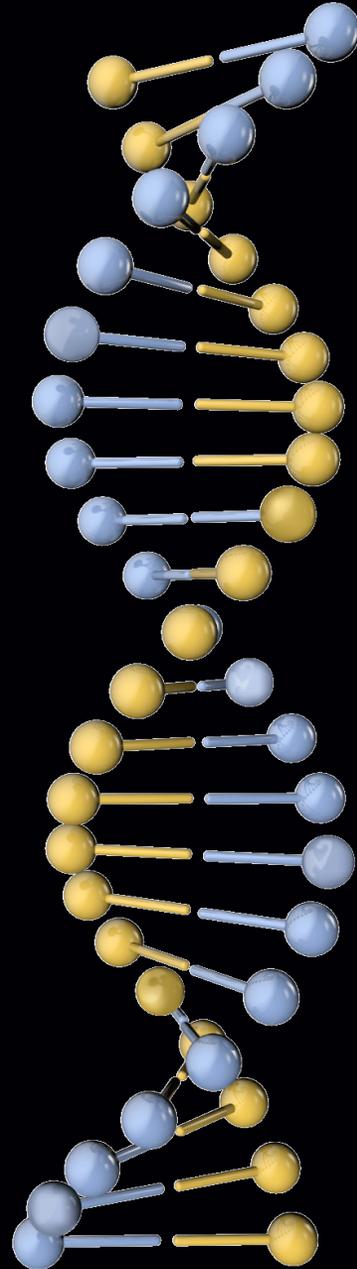
**NSF BEGINS SUPPORTING  
COMPUTER AIDED DESIGN**

# Knowledge Leads to Action











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