

May 14-15, 2018

STELAR ITEST Summit 2018

Equity and Access at the Human- Technology Frontier



Thank you to Program Committee

- *Ram Alagan
 - Kristin Bass
 - Anne Gold
 - Becky Hammack
 - Ruth Kermish-Allen
 - *Natalie King
 - *Sheron Mark
 - Wendy Martin
 - Ashleigh McFadden
 - Wendy Smythe
 - Tony Streit
 - Eli Tucker-Raymond
 - Keisha Varma
- *2017-18 STELAR Fellows*

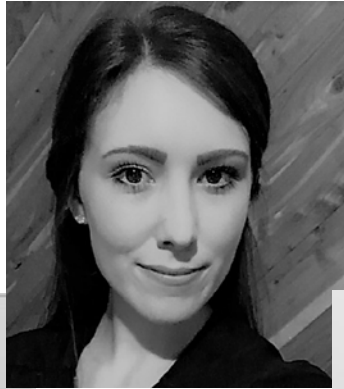
Thank You to STELAR Staff



Becca



Brianna



Lydia



Melody



Sarah



Sarita



Carrie



Joyce

Monday's Agenda

8:30 Welcome & Opening Remarks

9:45 Matt Nurse, Nike

11:00 Networking break

11:30 Plenary Flash Talks

12:30 Lunch

2:00 Breakout sessions 1

3:30 Networking break

4:00 Expertise roundtables

5:00 Networking and poster setup

5:30 Reception and Project Expo

Tuesday's Agenda

7:30 Breakfast and networking

8:30 Welcome and NSF remarks

9:00 Perspectives from the field

10:00 Break

10:15 Breakout sessions 2

11:45 Lunch

12:45 Breakout sessions 3

2:00 Break

2:15 Closing reflections & NSF Townhall

3:00 Meet with NSF Program Officers

Wednesday: Legislative Visits



Social Media!

#ITEST2018

#STELAR2018

@STELAR_CTR

Icebreaker

Discover 10 similarities!

Prize for completing the game
Grand prize for “best” similarity

NSF Welcoming Remarks

David Haury, Program Director, Division of Research on Learning in Formal and Informal Settings, NSF

William (Jim) Lewis, Acting Assistant Director, Directorate for Education and Human Resources, NSF



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Introducing the NSF ITEST Team

Program Directors

Amy L. Baylor

David B. Campbell

Julia V. Clark

Michael Ford

David L. Haury

Margret A. Hjalmarson

Julie I. Johnson

Julio E. Lopez-Ferrao

Celestine H. Pea

Joseph Reed

Ann E. Rivet

Monya A. Ruffin-Nash

Robert L. Russell

Brian K. Smith

Chia Shen

Fellows

Wendy F. Smythe, AAAS Science and Technology Policy Fellow

Rebekah Hammack, Albert Einstein Distinguished Educator
Fellow

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The ITEST Program is a Community

A dedicated research community with ambitious, innovative projects characterized by:

- ✓ **Investigating challenging learning ecosystems with emerging theoretical frameworks.**
- ✓ **Serving diverse communities large and small with equal commitment.**
- ✓ **Engaging young learners with young technologies that will likely augment their skills in future STEM workplaces.**
- ✓ **Partnering with schools, communities, industries, businesses, and others having a stake in the future STEM workforce.**

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- ✓ Potential for 26 new projects in 2018.
- ✓ 6 elementary school, 3 middle school, 17 high school
- ✓ 3 Exploratory, 1 SPrEaD, 22 Strategies
- ✓ Focus areas: Mathematics, Coding, Agriculture, Biotechnology, Data Science, Robotics, Computer Modeling, Earth Sciences, Environmental Sciences, Engineering, Computer Forensics and more
- ✓ Partnerships: IBM, Junior ROTC, CTE, Challenger Center, FBI, INCLUDES, Environmental Research & Technology Center, Universities, and more

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Dr. William James "Jim" Lewis
Acting Assistant Director, NSF
Directorate for Education and Human Resources

Aaron Douglas Professor of Mathematics
Director, Center for Science, Mathematics, and
Computer Education
University of Nebraska-Lincoln (UNL)

Internationally recognized, with numerous awards
for teaching, scholarship, and service.
A Scholar and Really Nice Guy (RNG)

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National Science Foundation



Jim Lewis
Acting Assistant Director
Education and Human Resources

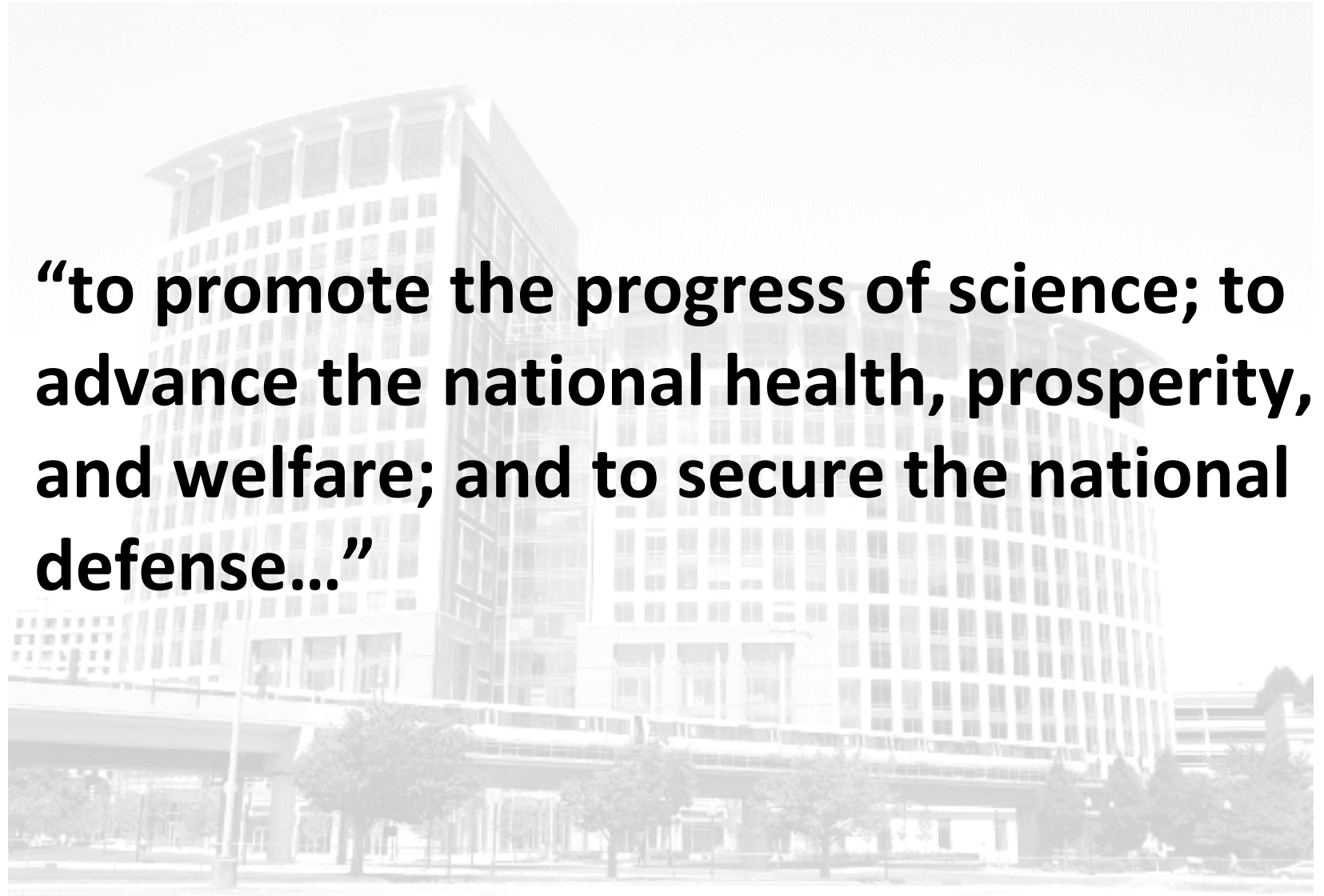
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NSF Mission

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



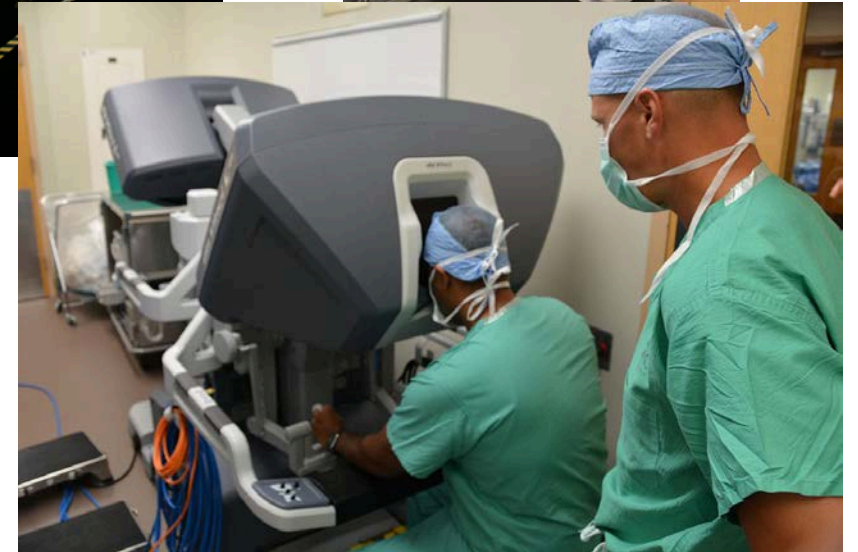
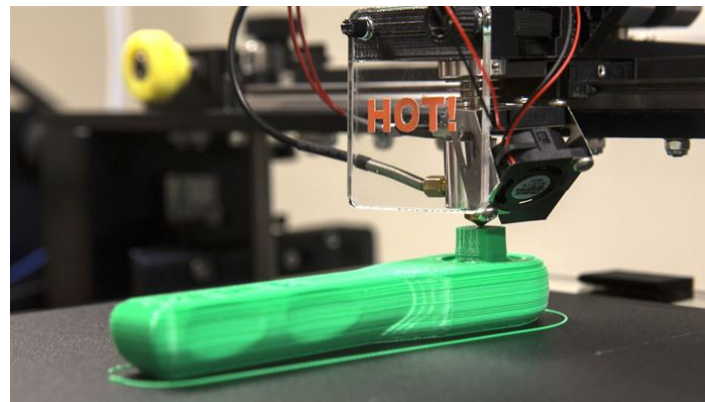
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Technology & the



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10 Big Ideas for Future NSF Investments



Navigating the New Arctic
Improve Arctic observational tools to document rapid changes on multiple scales.

STATISTICAL
COMPUTATIONAL
FOUNDATIONS
ANALYTICS
DATA SCIENCE
EDUCATION
WORKFORCE
DATA MINING
MACHINE

Harnessing Data for 21st Century Science and Engineering
Generate a world-wide data-enabled future for the U.S. through fundamental research and education in data science.



Work at the Human-Technology Frontier: Shaping the Future
Develop "smart" technologies and environments to enhance the human experience; assess their impact on human behavior and social systems.



Understanding the Rules of Life: Predicting Phenotype
Bridge the biggest gap in biological science by determining how the environment influences an organism's unique characteristics.

RESEARCH IDEAS

The Quantum Leap: Leading the Next Quantum Revolution

Develop ways to access and manipulate the behavior of matter and energy at very small scales to make the next generation technology more accurate and efficient.



Windows on the Universe: The Era of Multi-messenger Astrophysics
Extend our understanding of the cosmos by building on NSF's unique observational assets.

PROCESS IDEAS



Growing Convergent Research at NSF
Use ideas and technologies from widely diverse fields to bring about solutions to societal problems and profound questions.



NSF-Includes: Enhancing Science and Engineering through Diversity
Tap the innovation inherent in America's diversity to strengthen the U.S. science and engineering enterprise.



Mid-scale Research Infrastructure
Develop a nimble process to fund crucial scientific infrastructure projects that fall between traditional funding boundaries.



NSF 2050
Bold, forward-thinking research that transcends traditional approaches and pushes the frontiers of exploration.

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Two Big Ideas



Harnessing Data for 21st Century Science and Engineering



The Future of Work at the Human-Technology Frontier

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NSF INCLUDES



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Billion Oyster Project

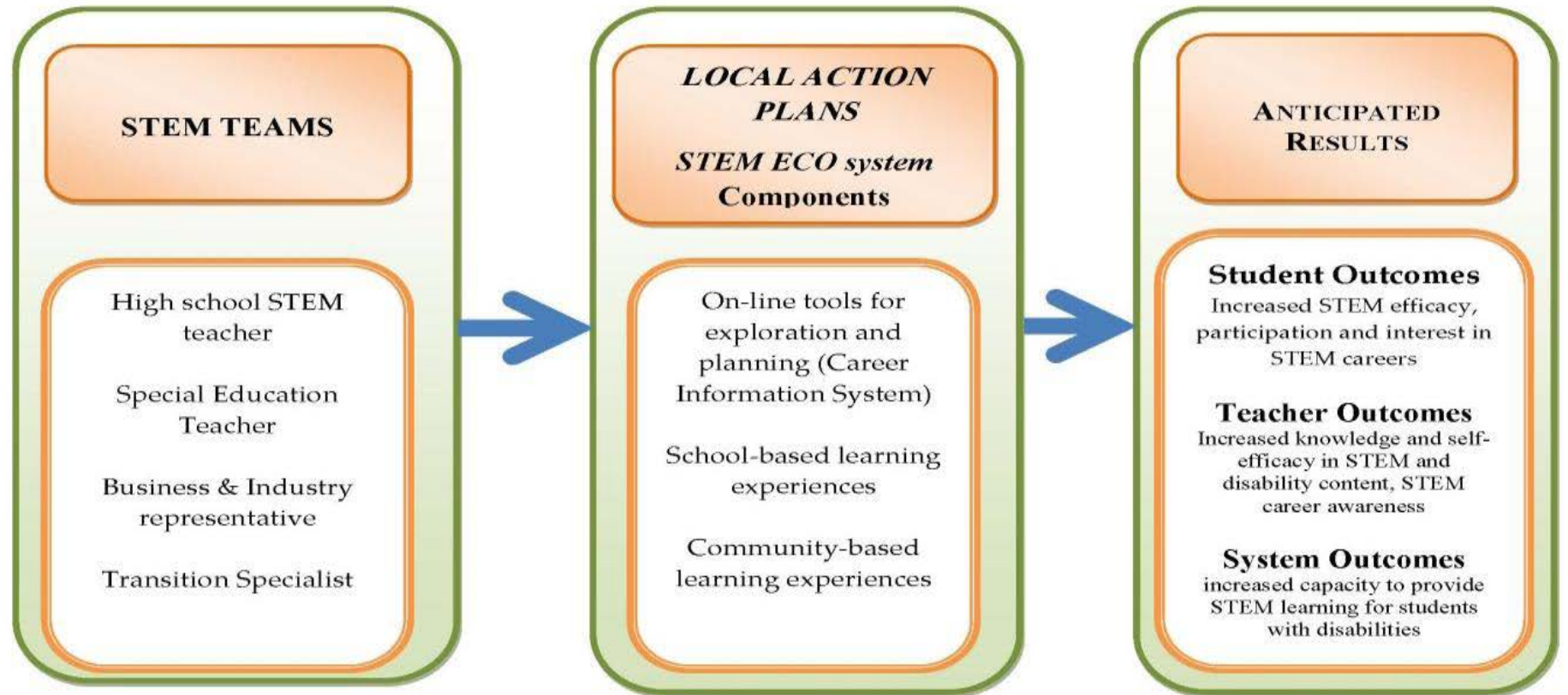
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NSF ITEST @ The University of Oregon



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Thank you.

Jim Lewis

Acting Assistant Director
Directorate for Education and Human
Resources