

# Maine EPSCoR

NSF EPSCoR RII Track-1  
Topic Selection Overview  
November 30, 2021

- 1:00 - 1:15: Welcome & Introduction – *Dr. Joan Ferrini-Mundy, President of University of Maine & Vice Chancellor for Research and Innovation for the University of Maine System*
- 1:15 - 1:35: NSF RII Track-1 Overview – *Dr. Shane Moeykens, ME EPSCoR Director*
- 1:35 - 2:00: Track-1 Selection Process Q&A – *Dr. Shane Moeykens, ME EPSCoR Director & Dr. Kody Varahramyan, Vice President for Research and Dean of the Graduate School at the University of Maine*

## Considerations for selecting the science and technology research themes:











1. Research capacity, excellence, and competitiveness
2. NSF-supported STEM research and education
3. Aligned with science and technology priorities and needs
4. Recognized national or global interest
5. Diverse, well-prepared STEM-enabled workforce
6. Partnerships

## Considerations for selecting the science and technology research themes:

1. Potential for increased and sustainable research capacity, excellence, and competitiveness in the jurisdictions' colleges and universities by building infrastructure
2. Areas of STEM research and education that are supported by the NSF
3. Aligned with the jurisdiction's science and technology priorities and needs
4. Areas of recognized national or global interest
5. Enables development of a diverse, well-prepared STEM-enabled workforce to sustain research competitiveness and catalyze economic development and growth
6. Availability of partnerships with nationally recognized centers of R&D activity, such as federal and industrial R&D labs, NSF-sponsored research centers, and academic institutions with nationally recognized research capabilities, and with awardees in NSF programs that support broadening participation in STEM



# Maine's Track-1 History

| 1980-1987   | 1990-1993   | 1993-1996   | 1996-2000  | 2000-2003   | 2003-2006   | 2006-2009   | 2009-2014   | 2014-2019   | 2019-2024   |
|---|---|---|--|---|---|---|---|---|---|
| \$4.3M  | \$5.5M  | \$8.8M  | \$9.4M   | \$6M  | \$6M  | \$12.7M   | \$20M   | \$20M   | \$20M   |
|  |  |  |                            |  |  |  |  |  |            |
| Earth and Marine Science  | Global Environmental Change   | Wood Science and Marine Molecular Biology   | Adv. Eng. Wood Composites and Aquaculture  | Biosensors, Intel./ Spatial   | Institute for Molecular Biophysics  | Forest Bio-products   | Sustainability Solutions Initiative   | Sustainable Ecological Aquaculture Network  | Environmental DNA as a Nexus of Coastal Ecosystem   |
| Ar-dating and Heat Flow Lab   | Stable Isotope Lab  | DNA-sequencing facility<br>Timber Bridge/ FRP Hybrids Project                     | <b>Advanced Structures and Composites Center</b><br>(Formerly AEWC)<br><b>Aquaculture Research Institute</b> | Intelligent Spatial Design Technology Institute (ISTI) housed at <b>LASST</b>       | Institute for Molecular Biophysics  | <b>Forest Bioproducts Research Institute</b>  | <b>Sen George J. Mitchell Center for Sustainability Solutions</b>                   | <b>Aquaculture Research Institute</b>   | <b>Maine Center for Genetics in the Environment</b><br>increased capacity for eDNA innovation |

- Activities in Maine are overseen by the Maine Innovation Economic Advisory Board (MIEAB) – the “State EPSCoR Committee”
- MIEAB is comprised of individuals from Maine's education, research, and business communities, and state government
- New MIEAB appointments are pending from Governor Mills’ office



**Don Perkins**  
MIEAB Chair

*President/CEO*  
Gulf of Maine Research  
Institute (GMRI)



**Brian Whitney**  
MIEAB Member

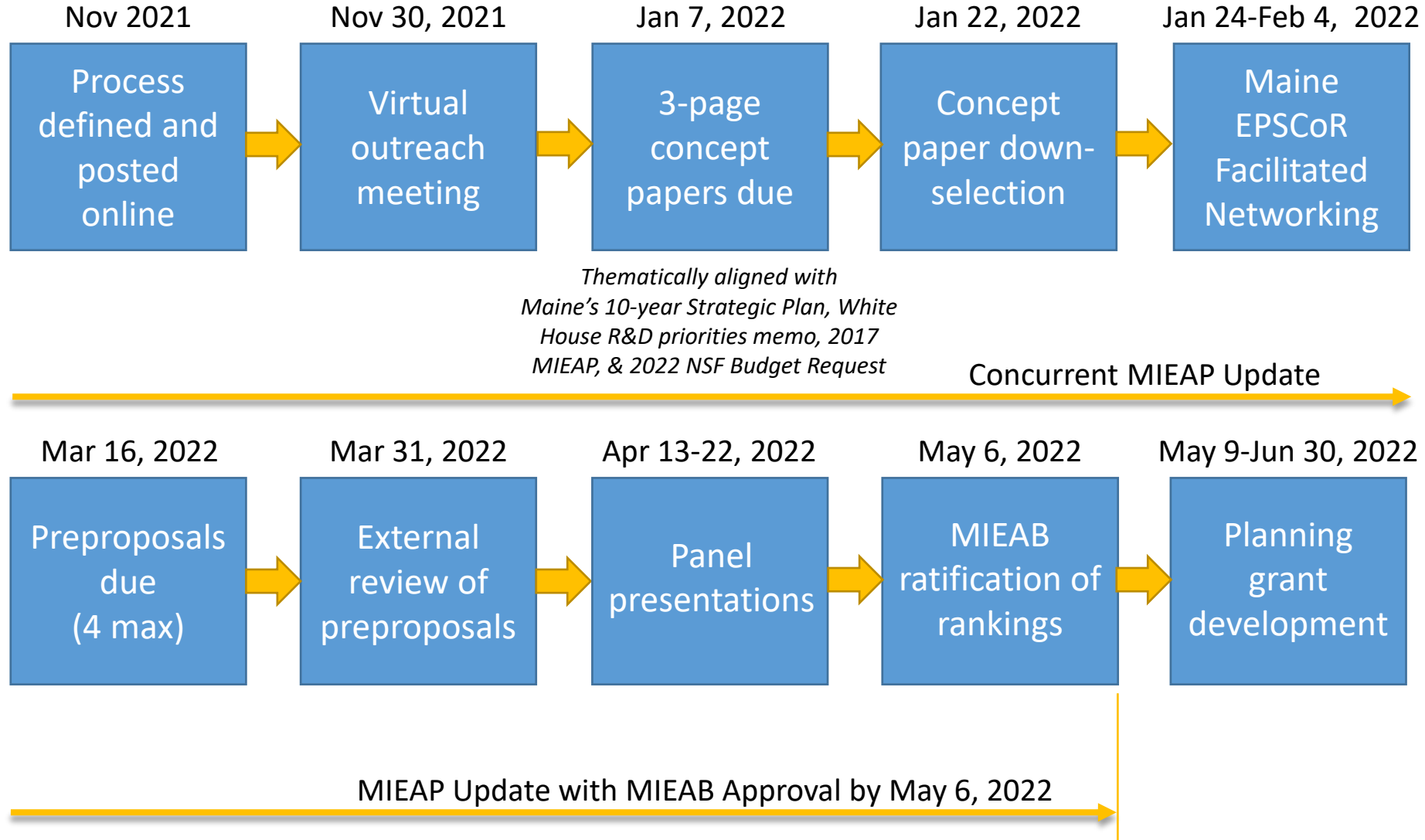
*President*  
Maine Technology  
Institute (MTI)



**Samantha Warren**  
“Ex Officio Member”

*Director of Government  
& Community Relations*  
UMS

# 2022 Topic Selection



# Maine EPSCoR Track-1 Development Process

Planning  
Process  
Outline

Learn more about the  
process for the RII  
Track-1 Topic  
Selection

Phase One

Phase 1 – Concept  
Paper Materials

Phase Two

Phase 2 – Concept  
Paper Evaluation

Phase Three

Phase 3 – Pre-  
proposal Team  
Formation

Phase Four

Phase 4 – Pre-  
proposal  
Development

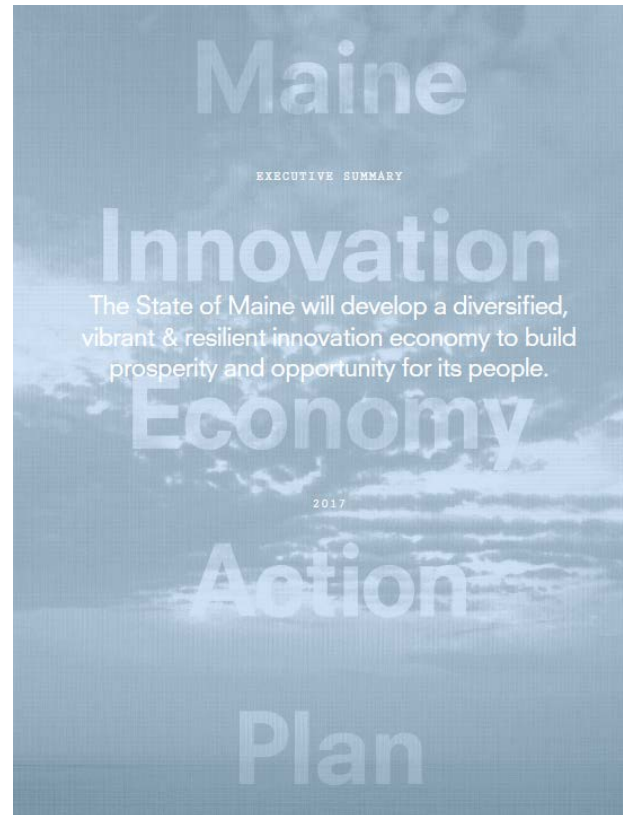
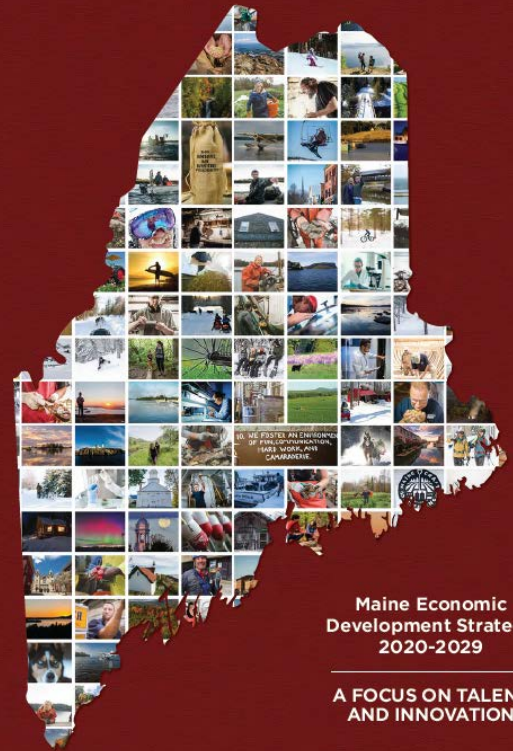
<https://umaine.edu/epscor/track-1-rii-development-process/>



- Informational Presentation 1:00-2:00, November 30, 2021
- **Phase I – Concept Papers (due at 5:00 pm, January 7, 2022)**
- Phase II – Concept Paper Evaluation (completed by January 21, 2022)
- Phase III – Maine EPSCoR Facilitated Networking & Transdisciplinary Team Formation (January 24 – February 4, 2022)
- Phase IV – Pre-proposals (commence on February 7 and due at 5:00 pm, March 16, 2022)
- Phase V – External Review (completed by March 31, 2022)
- Phase VI – Review Panel Presentations (April 13 – April 22, 2022)
- Phase VII – MIEAB Ratification of Topic Selection (completed by May 6, 2022)
- Phase VIII – Planning Grant Development (May 9 – June 30, 2022)
- Phase IX – Proposal Development (July 2022 – August 2023)
- Phase X – Proposal Submission (August 2023)
- Phase XI – Award notification (Summer 2024)
- Phase XII – Project begins (Fall 2024)

# Concept Paper Outline

1. Indicate the general focus area of the research that you are proposing.
2. Indicate the contact person for this concept.
3. Indicate potential key personnel who could be part of the effort to address this research concept. (only include individuals who have granted permission to be listed)
4. Intellectual Merit – provide a brief description in each of the sections, relating to the research focus that you have identified as a current problem/need in Maine.
5. Broader Impacts – provide a brief description in each of the sections describing the likely impacts and outcomes that can be achieved.



NATIONAL SCIENCE FOUNDATION

FY 2022 Budget Request to Congress

May 28, 2021



EXECUTIVE OFFICE OF THE PRESIDENT  
WASHINGTON, D.C. 20503

August 27, 2021



M-21-32

MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES

FROM: SHALANDA D. YOUNG *Shalanda D. Young*  
ACTING DIRECTOR  
OFFICE OF MANAGEMENT AND BUDGET

DR. ERIC S. LANDER *Eric S. Lander*  
DIRECTOR  
OFFICE OF SCIENCE AND TECHNOLOGY POLICY

SUBJECT: Multi-Agency Research and Development Priorities for the FY 2023 Budget

This moment in American history, as we face unprecedented challenges but also unprecedented opportunities, is a moment for the Federal Government to take action to reform and reorganize our Nation's science and technology enterprise with the aim of harnessing the full power of science and technology on behalf of the American people. Scientific discovery, technological breakthroughs, and innovation are the engines for expanding the frontiers of human knowledge and are vital for responding to the challenges and opportunities of the 21st century.

Federal funding for research and development (R&D) is essential to maximize the benefits of science and technology to tackle the climate crisis and advance health, prosperity, security, environmental quality, equity, and justice for all Americans. Simply supporting R&D is not sufficient; however, Federal agencies should ensure that the R&D results are made widely available to other scientists, to the public to facilitate understanding and decisions, and to innovators and entrepreneurs who can translate them into the businesses and products that will improve all of our lives. And, as we seek to make our supply chains more resilient, R&D investments should create more than just cutting-edge technology; they should also create products that are made in the United States by U.S. workers.

This memorandum outlines the Administration's multi-agency R&D priorities for formulating fiscal year (FY) 2023 Budget submissions to the Office of Management and Budget (OMB). The priorities covered in this memo require continued investment in R&D; science, technology, engineering, and mathematics (STEM) education and engagement; STEM workforce development; technology transfer and commercialization; and research infrastructure, with emphasis on Historically Black Colleges and Universities, other Minority Serving Institutions, and disadvantaged communities who have been historically underserved, marginalized, and adversely affected by persistent poverty and inequality. These priorities should be addressed within the FY 2023 Budget guidance levels provided by OMB.

*Pending revision, but revision will be done consistently with 10-year Economic Development Strategy*

## Opportunities

- Bio-based alternatives (Manufacturing / Forest products)
  - advanced building materials
  - bioplastics
  - biofuels
- Climate change (Technical services / Making manufacturing )
  - on and offshore wind power
  - tidal power
  - battery development
  - solar development
- Growing demand for safe, climate responsible food source (Technical services/making manufacturing/food systems and marine resources)
  - finfish vet services
  - shellfish vaccines
  - testing for exports
  - sustainable aquaculture
  - innovations

Not a direct fit with NSF Budget Request but could indirectly link through Climate Science, Biotechnology, or AI

# NSF FY2022 Budget Request Priorities

- Enhancements to fundamental research (all areas, key word “fundamental”)
- Strengthening US leadership in emerging technologies (industries of the future)
  - Advanced manufacturing, AI, Advanced wireless, Biotechnology, Quantum information science
- Advances in equity in science and engineering – underrepresented participation
  - Includes K-12 STEM advancement
- Advances in climate science and sustainable research
  - Climate science and clean energy, including socio-economic factors
    - Understanding climate impacts on US’s ecosystems (coastal, forestry)
    - Implications for Arctic

## Research vs. capacity building - 2

- Solicitation:
  - “In preparation for submitting a proposal, the jurisdictional EPSCoR steering committee is expected to have conducted a comprehensive analysis of the **jurisdiction’s R&D strengths, the opportunities that exist to further develop R&D capacity, and the challenges** that must be overcome to take advantage of those opportunities.”
- Activity:
  - **Analyzing how much of the future work would be research (with the needed infrastructure in place) and how much would be research infrastructure improvement (effort toward establishing the equipment and human resources needed for research excellence in the chosen topical area).**

# Unknown Variables

- 80% decline rate from 2020 Track-1 submissions
- Future of EPSCoR Committee Report to emerge in 2-3 months
- New incoming NSF EPSCoR Director
- Lack 100% clear understanding re: NSF EPSCoR's renewed emphasis on capacity building

## **The good news!**

- Maine's strategic priorities have never been better documented



# Information Requests

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- Maine EPSCoR Office: [maine.epscor@maine.edu](mailto:maine.epscor@maine.edu), 207.581.3312
- Shane Moeykens: [shane.moeykens@maine.edu](mailto:shane.moeykens@maine.edu), 207.944.3109
- Invitation to conduct follow-up meetings with your team, unit, or institution





Thank You!

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Questions?