Scoping Workshop

Scoping workshops are 3 day workshops that maximize diverse expertise to break down a broad topic area into actionable challenges and opportunities. These workshops are dynamic, interdisciplinary and collaborative.

Scoping Workshops are used to:

- Jumpstart Grand Challenges
- Collect input from large and diverse communities
- Explore potential areas for solicitations and RFPs

Whether in-person or virtual, these workshops are **highly interactive** experiences. We encourage all participants to block out their days for each workshop so that you can be fully present and get the most out of your time.

LIFE: Leveraging Innovations From Evolution

NSF: Leslie Rissler, DEB Steve DiFazio, MCB

Anna Allen, IOS

Reed Beaman, DBI

Purdue University: Jennifer Wisecaver KnowInnovation: Annemarie Boss Jocelyn Tejeda Kyle McCarthy

Motivation – Why are we here?

The rich diversity of life and its evolutionary innovations means we have a treasure-trove of bio-solutions resulting from millions of years of organisms confronting and solving environmental challenges.









produce/neutralize cope with stress toxins

sense the environment

bioluminescence

Convergent (or parallel) Evolution – Life's replicated experiments



Motivation – Why are we here?

NSF and Administration priorities may be accelerated by investments in LIFE







Bioeconomy and Emerging Industries

Resilient Planet

Research Infrastructure



NSF Landscape



<u>Using Rules of Life to Address Societal Challenges</u> - use the predictive capability of rules of life to address some of the greatest challenges we currently face as a society.



<u>EDGE</u> – Enabling Discovery through GEnomics: causal mechanisms connecting genotype to phenotype



<u>BII – Biology Integration Institutes</u>: interdisciplinary approaches to understand how biological processes operate and interact within and across different scales of organization



<u>IntBIO</u> - collaborative proposals to tackle bold questions in biology that require an integrated approach



Opportunities and Challenges



Conceptual

e.g., what constitutes convergent evolution; how can it be exploited for basic research and the discovery of bio-solutions



Integrate disciplines and bridge cultural barriers

e.g., systematists are often isolated from biochemists & molecular biologists



Leverage new technology and diversity of life

e.g., advances in machine learning, genome editing, & high-throughput sequencing for non-model organisms



Goals



Prioritize bio-solutions and the research challenges and opportunities



Articulate needs, strategies, and recommendations Includes research, infrastructure, and educational/training priorities



Build new networks and teams



The Way Forward – A bit about logistics

Application Deadline: June 5, 2023







In-Person

Indianapolis, Indiana August 14-16, 2023

Virtual

September 11,13,15, 2023 10:00 am – 4:00 pm ET each day

Synthesis

September 25, 2023 10:00 am – 4:00 pm ET

The Way Forward – A bit about logistics

Cost to attend the in-person session is fully covered. Come join us in Indianapolis!







Alexander Hotel

"creating inspiring environments that bring people together"

Nourishment Hub

continuous refreshment break to fuel exciting discussions

Breakout Space

plenty of indoor and outdoor space for small groups

Final Output of the Scoping Sessions



Actionable outcomes and recommendations on nearand long-term research priorities at this nexus



White-papers and short presentations that will inform stakeholders as we develop strategies for a thriving competitive US bioeconomy and a resilient planet



Start building a community of inspired colleagues to follow-up on ideas generated at the scoping sessions

