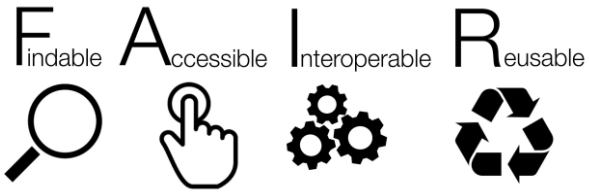



Image credit, Sangya Pundir, 2016

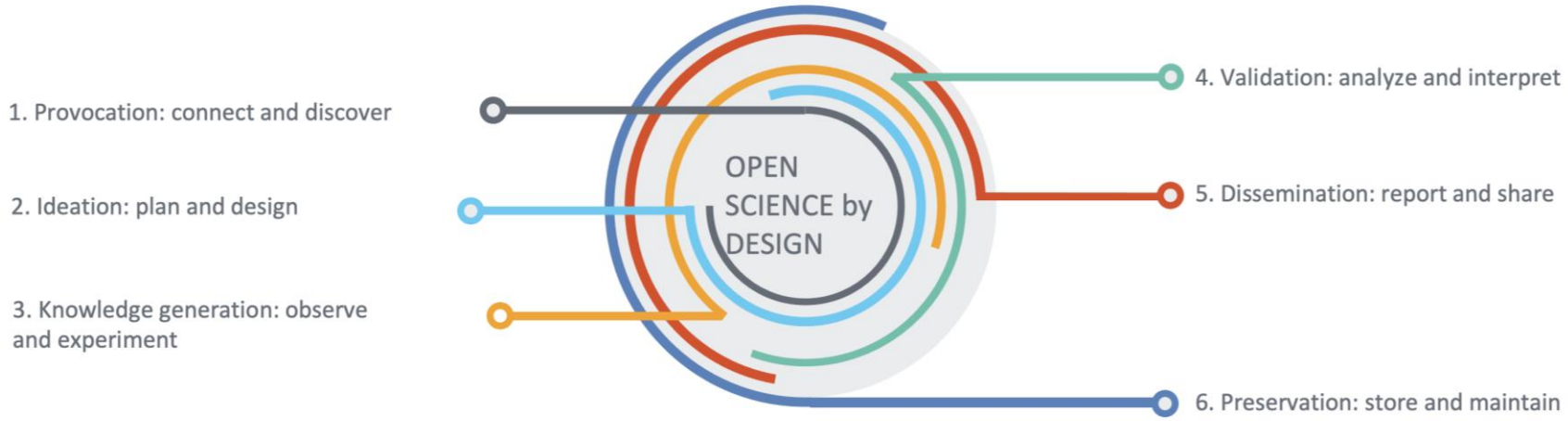
# Redesigning Research Practices to Capitalize on FAIR

Alexa T. McCray, Moderator
Professor of Medicine, Harvard Medical School
Daniel Atkins, Panelist
Professor Emeritus of Information, University of Michigan
Carl Kesselman, Panelist
Professor of Industrial and Systems Engineering, University of Southern California

*Accelerating and Deepening Approaches to FAIR Data Sharing, BRDI Workshop, April 20, 2023*


# Open Science by Design:
## Realizing a Vision for 21st Century Research

Consensus Study
National Academies of Sciences, Engineering, and Medicine, 2018




*A set of principles and practices that fosters openness throughout the entire research life cycle.*

# Open Science by Design

- **Provocation:** explore or mine open research resources and use open tools to network with colleagues.
- **Ideation:** develop and revise research plans and prepare to share research results and tools under FAIR (**F**indable, **A**ccessible, **I**nteroperable, **R**eusable) principles.
- **Knowledge generation:** collect data, conduct research using tools compatible with open sharing, and use automated workflow tools to ensure accessibility of research outputs.

# Open Science by Design

- **Validation:** prepare data and tools for reproducibility and reuse and participate in replication studies.
- **Dissemination:** use appropriate licenses for sharing research outputs and report all results and supporting information, including data and code.
- **Preservation:** deposit research outputs in FAIR archives and ensure long-term access to research results.