Online Ethics Center
FOR ENGINEERING AND SCIENCE

NetEthics: Building Tools & Training to Advance Responsible Conduct in Complex Research Networks Pioneering Novel Technologies

Year

2022

Description

The OEC Project Pages are intended to cultivate a community of practice and allow ethics researchers, educators, and practitioners to more effectively disseminate their work. This Project Page provides a detailed overview and relevant resources for an on-going science or engineering ethics project. Once you've explored this project, visit the "Projects" section under "Resources" to see more ethics projects.

Body

Project Summary

This project on "NetEthics: Building Tools & Training to Advance Responsible Conduct in Complex Research Networks Pioneering Novel Technologies" will make a major advance in the responsible conduct of large, complex engineering research projects such as NSF-funded Engineering Research Centers (ERCs). Engineering research increasingly involves multidisciplinary teams networked across multiple

universities and other institutions to develop new technologies. However, tools to help these teams conduct research ethically and develop technologies for societal benefit are lacking. Instead, current research ethics and tools tend to focus either on the responsibilities of individual researchers or the big societal issues that the new technology will raise. These two ends of the spectrum – the micro level of the individual and the macro level of overall impacts -- leave a troubling gap in the middle by offering little guidance to the leaders of complex research networks. Those leaders regularly face difficult issues such as how to reconcile conflicting ethical approaches across the network, how to ensure ethical and respectful laboratory leadership and mentoring, how to create network-wide processes for resolving disputes, and how to build a network culture valuing inclusion and diversity. Network leaders also face challenges in building community and stakeholder relationships, ensuring responsible commercialization, and making sure that the entire research network fulfills ethical responsibilities such as responsible conduct of research (RCR) with human participants, ethical treatment of animals in research, and avoiding conflicts of interest.

Our NetEthics project will work with a group of national experts to systematically identify key ethical values to guide network ethics. The project will then use an NSF-funded ERC – ATP-Bio -- as a laboratory to study network ethics in action. This ERC is developing technologies to “stop biological time” with advanced techniques for preserving cells, tissues, and organs to transform systems from organ transplantation to conservation biology. Finally, NetEthics will develop training tools that can be used by complex research ethics networks and those who seek to lead these major projects.

Project Leadership

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Recipient Institution

University of Minnesota

Start and End Date

September 1, 2022 - August 31, 2024

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Project Website

Click here.

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Use of Materials on the OEC

Resource Type

Projects

Parent Collection

STEM Ethics Projects (2017-Present)

Topics

Collaboration
Interdisciplinary Research
Controversies
Data Management
Diversity
Emerging Technologies
Ethics and Society
Goals of Ethics Education
Governance
Human Subjects Research
Intellectual Property and Patents
Law and Public Policy
Mentors and Trainees
Publication Ethics
Authorship
Reproducibility

Research Misconduct
Responsible Innovation
Social Responsibility
Teaching Ethics
Case Study Method
Ethical Decision-Making

Discipline(s)

Computer, Math, and Physical Sciences
Chemistry
Physics
Social Justice, Equity and Inclusion
Engineering
Biomedical Engineering and Bioengineering
Environmental Engineering
Grand Challenges for Engineering
Material Science and Engineering
Life and Environmental Sciences
Biotechnology
Cell and Developmental Biology
Ecology and Evolutionary Biology
Food Science
Genetics and Genomics
Physiology
Plant Sciences
Public Health
Social and Behavioral Sciences
Psychology
Public Policy and Public Administration
Science and Technology Studies
Teaching Ethics in STEM
Research Ethics
Other

Publisher

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