ODSS Concept Clearance – May 2024

Initiative 1: Multi-Disciplinary Postdoc Program for Ethical AI in Biomedical and Behavioral Research
Initiative Type: New
Activity Code: (K01) Research Scientist Development Award – Research and Training

OBJECTIVE: To provide support and protected time for an intensive, multi-disciplinary, supervised career development experience in ethical, responsible, and transparent AI for biomedical and behavioral research with the goal of developing the next generation of researchers ready to innovate new capabilities in this emerging field.

PROPOSED FUNDING: budget will grow from $600,000 in FY25 for 3 awards to $3,000,000 in FY29 for a steady state of 15 awards per year.

DESCRIPTION: Applicants may have a background in biomedical, statistical, and computational fields including AI, or ethics/humanities fields. To achieve research independence in the field of ethical biomedical AI, this opportunity will engage researchers with a team of mentors comprised of experts in biomedical research, AI, and ethics. Applications must have one primary mentor from the awarded institution. Other mentors may be affiliated with other institutions and collaborations with under-represented organizations are encouraged.

Applications must specify a research project with aims to advance the ethical development of AI for biomedical and behavioral research. This program will support a portfolio of research that addresses a spectrum of biomedical and behavioral research aims, ethics challenges, and real-world applications. Projects of 3-5 years will be considered.

EXPECTED OUTCOMES: Attract and retain a broader workforce and spectrum of expertise needed for ethical biomedical-AI; support projects that foster collaborative, multidisciplinary research; and enhance the integration of ethical, responsible, and transparent practices into biomedical-AI. Support a portfolio of research activities that addresses challenges in ethical biomedical-AI across the NIH mission space. Future phases would include PI meetings (and other gatherings) with mentors and other NIH programs to create a community of researchers at the intersection of biomedical and behavioral research, AI, and ethics.

IMPORTANCE: There is a need for biomedical researchers to be co-innovators of new capabilities at the intersection of biomedical and AI research (including data development). In this fast-moving field it is critical for NIH to build up the cadre of researchers trained at this intersection to help develop AI tools and methods that align with the biomedical-AI community and its unique goals/needs (e.g., new tools to capture data processing provenance, capabilities to enhance transparency, integrating ethics into AI model training and assessment).

HISTORY: This initiative addresses essential feedback garnered by NIH through PI meetings, Innovation Labs, and other engagements with the biomedical data science/AI community on their needs. Findings from these workshops and exercises highlighted the need team-based science; and enhanced pathways to partner with ethics experts. It was also noted that biomedical-AI research is not organically bringing together the needed multidisciplinary teams, with specific challenges for ethical/responsible AI practice.