Bioethics Essay Contest

Eligibility: Undergraduate and Graduate Students enrolled in any major

Topic: The ethics of big data in bioengineered systems for sustainable agriculture

Abstract Submission Deadline: December 1, 2018 at https://easychair.org/conferences/?conf=ibe2019

Length of Abstract: Maximum 250 words

Essay Submission Deadline: February 6, 2019 to essay@ibe.org

Length of Submission: Minimum 1500 words, Maximum 2000 words

Cash Awards: First prize = $150; Second prize = $100; and Third prize = $75

Travel Grants: $400/semifinalist

Publication Award: Option to publish three top essays as an opinion article in Journal of Biological Engineering

Sustainable use of land, water, and energy resources is imperative as evolving environmental stresses and expanding nutritional needs put increasing demands on agricultural productivity. Data-driven sustainable agriculture offers new technologies to increase crop productivity while minimizing collateral impacts to health and environment. To increase crop yields, autonomous imaging and high-resolution data envisioned for crop improvement and real-time crop management will expand data amount and complexity. Ethical issues, however, arise regarding ownership of, responsibility for, transparency in, and access to agricultural and climate data. How will data-driven decision support systems impact small farmers? Will gains be equitably shared with underserved communities in farming? What should limit exporting digital sequence information?

Undergraduate and graduate students enrolled in any discipline are invited to compete in the 2019 IBE Bioethics Essay Competition, addressing the ethics of big data in sustainable agriculture. Students should identify two faculty mentors from the natural, agricultural, data and social sciences, engineering, management, or humanities disciplines to provide guidance and feedback. Faculty mentors are to assist students to frame problems, arguments, and perspectives and avoid misconceptions. A focus on a key aspect of meta-data, such as quality, privacy, security, ownership, and inter/national use that is supported by literature is encouraged. Who should decide if big data or better alternatives are adopted for sustainable agriculture and on what basis, e.g., improved agricultural market stability, sustainable productivity increases, or equitable societal benefits?

To submit an essay, students must submit (to https://easychair.org/conferences/?conf=ibe2019) an abstract of ≤250 words to Bioethics Essay Session by Dec. 1, 2018 including a title and name, email, street address, department, and institutional affiliation of student author(s) and mentors. The 1500-2000 word essay must be received at essay@ibe.org by Feb. 6, 2019. Finalists eligible to speak at IBE will be notified by Feb. 20, 2019.

Essays should state and justify the ethical framework selected for their evaluation, e.g., utilitarian, Kantian, Rawlsian. Evaluation will include assessment of the proposed solutions or routes forward for navigating potential ethical conflicts, whether from a policy, law, regulatory, societal, security, technical, or best practice perspective. Entries will be submitted to a plagiarism-checking service. IBE reserves the right to disqualify any entry judged as non-original or having a non-compliant topic, word length, student authorship or faculty mentorship. IBE is not responsible for any difficulties during submission. Only finalists will be notified of results.

Written feedback will be provided to finalists by competition judges. Finalists will then refine their arguments for an in-person oral presentation at the Bioethics Essay session at the 2019 IBE Annual Conference, Apr. 4-7, 2019, St. Louis, MO. Final competition rankings will be determined after a five minute, oral presentation of the essays and ten minutes of Q&A with the judges and the audience. Finalists will be given complimentary registration to the 2019 IBE Annual Meeting and a travel grant not to exceed $400, with support from NSF ERC Planning Grant: Engineering Research Center for Materials for Agriculture Resource Imaging Analytics at High Resolution (MARIAH). By submitting an essay, students agree that copyright of winning essays is assigned to IBE and that they will attend and present orally at 2019 IBE Annual Conference if selected as a finalist.

IBE – The Society for Advancing Biology-Inspired Engineering

IBE is a professional organization that encourages, in the broadest and most liberal manner, interest and inquiry in fostering international cooperation among engineers, scientists, technologists, and allied professionals in order to apply engineering principles to systems of biological origin to improve the quality of the human condition.

www.ibe.org