Good governance for AI in scientific publications
Developing policy for reliability, ethics, and integrity

Tuesday 30 July to Thursday 1 August 2024
9:00 to 12:00 PDT / 16:00 and 19:00 UTC (or staggered times)

FSCI Course Proposal

(Draft version 3.0, 30 November 2024)

Course Description

This hybrid course of three 3-hour meetings over three days is designed to introduce a global audience to the challenges of developing governance frameworks for artificial intelligence (AI) in scientific publications, with a particular focus on open science platforms. The classes meet on 30 & 31 July and 1 August 2024 from 16:00 and 19:00 UTC (or staggered times). The course has been created by a faculty of international experts in scientific publications, publication policy & ethics, data and AI ethics and integrity, data and AI policy, and open science platforms. Several organizations have contributed to the development of the topics, syllabus, and course materials, including the EOSC-Future/RDA Artificial Intelligence & Data Visitation Working Group (AIDV-WG), CODATA, and the International Science Council. Guiding documents include UNESCO's Recommendation on Open Science as well as its Recommendation on the Ethics of Artificial Intelligence.

This course offers a global perspective on developing effective governance policies for AI in scientific research, with a focus on appreciating not only a broad, international context, but also examining regional and local contexts for science publications. It aims to foster an understanding of how international standards can be created while considering regional and national differences in approaches to ethical, reliable, and integrity AI practices in scientific publications.

The course examines the challenges AI brings to the publication of science, whether its contribution to scientific outcomes or in interpreting, reporting, and communicating of science. During a period when scientists, publishers, and policymakers are examining the role and governance of AI in scientific publications, this course examines the role of governance in establishing and promoting reliable and trustworthy open science frameworks for knowledge creation and citizen benefit in our emerging digital societies. The course examines the ethical, regulatory, and policy implications arising from the development of AI in the publication of science two areas: 1. the publication of algorithms, machine learning (ML) software, and other AI-related tools used for the advancement and development of science; and 2. the use of AI and ML in scientific publications as it informs research and writing while also contributing to and/or challenging the integrity, robustness, and accountability of scientific publications and communications.

Course Methodology

This course is designed to be conducted in person in six geographically different locations (nodes). Each node will design three hours of in-person course instruction and engagement over a three -day period. Each node will also engage for three hours online connecting with other nodes in a shared hybrid in-person / online environment.

- Node 1: Los Angeles, CA, USA
- Node 2: Beijing, China
- Node 3: New Delhi, India
- Node 4: Ankara, Turkey

- Node 5: Pretoria/Cape Town, South Africa
- Node 6: Campinas, Brazil

In each node, the local convener will organize a course appropriate to the regional/national environment, focusing the local three hours of the course on specific local content. The other three hours of each day will be spent in an online environment with a common curriculum.

The course leverages both the in person and online learning environments built on interactive frameworks and designed to be inclusive of a diverse international audiences of researchers, publishers, and professionals with an interest in scholarly communication and open science practices. The course sessions use presentations to introduce the latest developments in AI ethics and its role in open scholarly publications communication while also providing background to ethics, integrity, policy, and governance frameworks for publications.

The emphasis is on discussion and sharing that builds throughout the sessions to refine our understanding of AI ethics in contexts of open scholarship and how this impacts knowledge sharing and the wellbeing of individuals and communities globally. Each course node will relate discuss AI governance within a specific context that relates to current and ongoing revisions to publication practices, academic research assessment (e.g., the EU Coalition for Advancing Research Assessment [CoARA]), and peer-review practices.

The course builds on open scholarship platforms for knowledge sharing and the exploration of the role of ethics in ensuring the positive impact of scientific publications and communications for individuals and their communities. It draws on the experience of the faculty's participation in global initiatives, including the Strategic Initiative for Developing Capacity in Ethical Review (SIDCER), Preparedness Planning for Clinical Research During Public Health Emergencies (PREP), Force 11, Virus Outbreak Data Network (VODAN) - GOFAIR, the EOSC-Future / RDA Artificial Intelligence & Data Visitation Working Group (AIDV-WG), and the CODATA International Data Policy Committee (IDPC).

This FSCI course presents an international context across various specific settings for exploring how AI ethics emerged as a critical element in the governance of open scholarship and scientific communication against the background of an increasingly digitalized economic, cultural, and geo-political world.

Course Objectives

This course is experimental in nature. It is intended to provide a framework where both similarities and differences can come to the fore in a harmonized approach to developing responsible policies and governance for AI in scientific publications. In particular, the course will

- explore the impact of AI on scientific research from disparate regional/national settings;
- examine the ethical, legal, and practical challenges in AI governance from multi-national perspectives;
- develop diversity in understanding the implications for AI in scientific publications;
- examine approaches for diverse strategies for ensuring the reliability and integrity of AI-assisted research and the use of AI in the publication process; and
- explore pathways for intercultural dialogue and collaboration on AI governance policies.

Target Audience

This course is expected to be of interest to those who make use of AI-assisted research, those considering the role of AI in scientific publications, and those developing AI tools for research

and/or publication purposes. This follows the FSCI 2023 course that introduced the role of AI ethics in the publication of digital objects with its focus on open science. The course should be of interest to scientists, publication professionals, editors, publishers, peer reviewers, and members of IRBs/RECs that review research proposals involving AI.

The course will develop a multi-disciplinary, multi-national conversation around AI ethics and its role in cutting edge scholarly publication practices. Scientists and professionals who are well grounded in the modalities of scholarly publication, research integrity, and publication ethics should find this course to be particularly interesting as the field of scientific publications engages the rapidly developing role of AI in the publication process and even in publication decision-making.

The faculty will be diverse and located in different environments, each with its own well-defined frameworks, specific course presents materials, and particular teaching methodologies. This methodology of both in person learning complimented by hybrid learning across regions should facilitate the full engagement of junior scholars and advanced students with a variety of background in ethics, science communication, the use of AI-assisted research, and the impact of AI on scientific publications. Each node will provide in advance of the course a short list of reading materials and digital tools for the participants to review prior to the course. There will also be a common set of materials and tools to be reviewed within each node and separately.