European Commission

Ethics and integrity in research

Building a culture of trust and excellence

Ethics and research integrity are prerequisites for research excellence and for maintaining the trust of society in science. In addition, responsible research must reflect on the societal impacts and potential misuse of new technological developments such as artificial intelligence, new genomic techniques, biomedicine, geoengineering, synthetic biology, and neurotechnology. This requires a collective, wide-ranging and inclusive process of reflection and dialogue, based on the values around which we want to organise society and on the role that technologies should play in it.

The European Union is committed to protecting and promoting fundamental rights, values and principles, both at home and in international research and innovation cooperation. The eight Horizon-funded projects featured in the CORDIS Results Pack on ethics and integrity in research illustrate how the EU is promoting the development of training, education and capacity-building, dialogue with global partners, and improved frameworks, tools and procedures to ensure that scientific and technological progress goes hand in hand with the values we hold dear.

To access the full Pack please go to: cordis.europa.eu/article/id/451070

Research and Innovation

TechEthos

(Ethics for Technologies with High Socio-Economic Impact), coordinated by the Austrian Institute of Technology (AIT) in Austria

While emerging technologies often bring important social, economic and environmental benefits, their development and use can also raise significant ethical concerns and questions. Identifying and addressing these ethical challenges is a critical step to ensuring that the whole of society can benefit from innovation. The EU-funded TechEthos project developed guidance for the development and deployment of critical new technologies such as climate engineering, neurotechnologies and digital extended reality.

→ techethos.eu

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iRECS

(improving Research Ethics Expertise and Competences to Ensure Reliability and Trust in Science), coordinated by the Rhenish Friedrich Wilhelm University of Bonn in Germany

The way research and innovation are conducted is constantly evolving as new technologies emerge, such as artificial intelligence (AI), extended reality, genome editing and biobanking. In this context, researchers need to maintain the highest ethical standards in order to secure public trust in their work. iRECS is developing a robust training programme, preparing a new generation of researchers and ethics experts to anticipate and mitigate ethical issues in emerging technologies effectively.

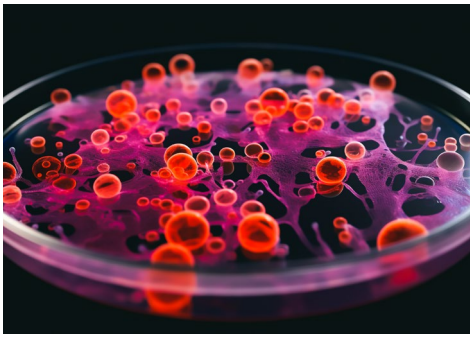
→ irecs.eu

HYBRIDA

(Embedding a comprehensive ethical dimension to organoid-based research and resulting technologies), coordinated by the University of Oslo in Norway

New guidelines and an ethical code of conduct developed by the HYBRIDA project clarify the ethical and legal uncertainties surrounding organoid research. An intense investigation of the ontological, moral and legal status of organoids involved philosophical analysis and comparative legal analysis of the status of organoids in EU legislation, as well as in EU Member States and selected foreign jurisdictions, resulting in new guidelines to enhance the existing ethics and normative frameworks.

→ hybrida-project.eu



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ROSiE

(Responsible Open Science in Europe), coordinated by the University of Oslo in Norway

Open science aims to democratise science, providing better access to research data to wider audiences. Furthermore, it is about making science more relevant to society, and reducing the gap between society and the scientific community. However, open science also raises questions about research ethics, integrity and misconduct. To help establish Europe as a centre of responsible open science, the ROSiE project developed a knowledge hub, training materials and field-specific guidelines.

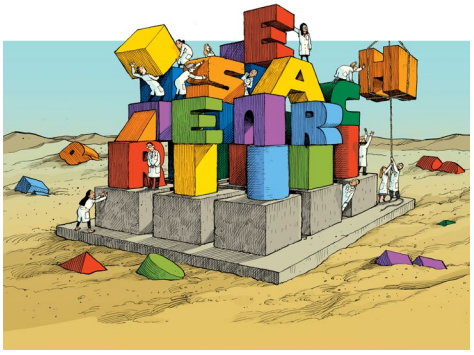
→ rosie-project.eu

SOPs4RI

(Standard Operating Procedures for Research Integrity), coordinated by Aarhus University in Denmark

Research integrity is at the heart of scientific excellence, and breaches of integrity and good research practice may reduce the quality of the research produced and the trustworthiness of the results. A new toolbox from the SOPs4RI project offers research performing and research funding organisations a wealth of procedures and guidelines to support responsible research practices. Using the hundred-plus guidelines contained in the toolbox as inspiration, institutions can create their own research integrity promotion plans.

→ sops4ri.eu



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PRO-Ethics

(Participatory Real Life Experiments in Research and Innovation Funding Organisations on Ethics), coordinated by the Centre for Social Innovation Ltd in Austria

The goal of research funding organisations is to support research and innovation processes to address complex societal needs. To do this effectively, they are increasingly seeking the input of non-traditional stakeholders such as citizens, people affected by relevant issues, NGOs and social entrepreneurs, among others. A new framework and set of guidelines developed by PRO-Ethics help facilitate the responsibilities of involving citizens and other non-traditional stakeholders in scientific research.

→ pro-ethics.eu

ETHNA System

(Ethics Governance System for RRI in Higher Education, Funding and Research Centres), coordinated by Jaume I University in Spain

The ETHNA System project has devised ethics governance guidelines to help institutions deliver on commitments to responsible research and innovation. Bringing together an interdisciplinary team with expertise in organisational ethics, gender equity theory, public engagement, and open access, the project delivered a step-by-step guide on how to design ethics governance systems, building on internal resources and leadership, and monitor the system once this is in place.

→ ethnasystem.eu

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PREPARED

(Pro-active Pandemic Crisis Ethics and Integrity Framework), coordinated by the University of Central Lancashire in Cyprus

In emergencies such as the COVID-19 pandemic, researchers are under pressure to deliver results, fast. The PREPARED project is designing a framework to safeguard ethics and integrity in a context of accelerated research, which supports rapid and effective decision-making whilst maintaining scientific reliability and ensuring the protection of research participants and equitable research. The project is producing guidelines, case studies, and training materials, and will propose policy options to improve overall preparedness for global crises.

→ prepared-project.eu

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Further research

In addition to the projects featured in the Pack, issues of ethics and integrity in research have been addressed by the following projects, generating impactful long-lasting results:

- The TRUST project aimed to foster adherence to high ethical standards in research globally, resulting in the TRUST Global Code of Conduct for Equitable Research Partnerships.
- SIENNA developed ethical protocols and codes in human genomics, AI and robotics, and the Horizon Europe reference document on human enhancement.
- The SHERPA project developed ethical recommendations on AI developments, resulting in the Ethics by design guideline for AI for Horizon Europe.
- The project PANELFIT developed participatory approaches to a new ethical and legal framework for information and communication technologies, resulting in guidelines and a platform for mutual learning.
- Path2Integrity used storytelling and role play to strengthen the fundamentals of research integrity education, and INTEGRITY's training modules present students with real-life academic and research dilemmas. Both projects contributed to the establishment of the Network for Education and Research Quality (NERQ).
- The BEYOND project is investigating the underlying causes of research misconduct to develop evidence-based methodologies for fostering ethics and integrity in research.
- The European Network for Research Ethics and Integrity (ENERI) offers a permanent platform for training, communication and coordination between projects, ethics and integrity experts, and networks, including the European Network of Research Integrity Offices (ENRIO), the European Network of Research Ethics Committees (EUREC) and All European Academies (ALLEA).
- The Embassy of Good Science Platform was set up by the projects EnTIRE and VIRT2UE, to reinforce the dissemination of the resources and training materials, in particular the programme for becoming a certified trainer on research integrity and ethics.

The recently launched **RE4GREEN** project will develop a research ethics and integrity framework for addressing environmental and climate ethics issues, including guidelines, recommendations and training to support the Green Deal. **CHANGER** will promote changes in ethics reviews and capacity building of Research Ethics Committees to address challenges posed by new technologies and research practices.

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