ARTIFICIAL INTELLIGENCE GUIDELINES FOR THE ETHICAL USE OF ARTIFICIAL INTELLIGENCE IN SCIENCE AND EDUCATION

OMBUDSWOMAN
DR. REDA CIMMPERMAN

2024

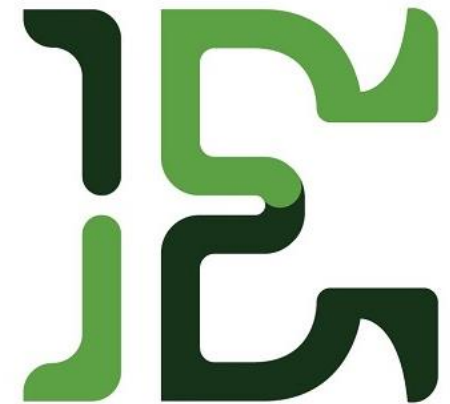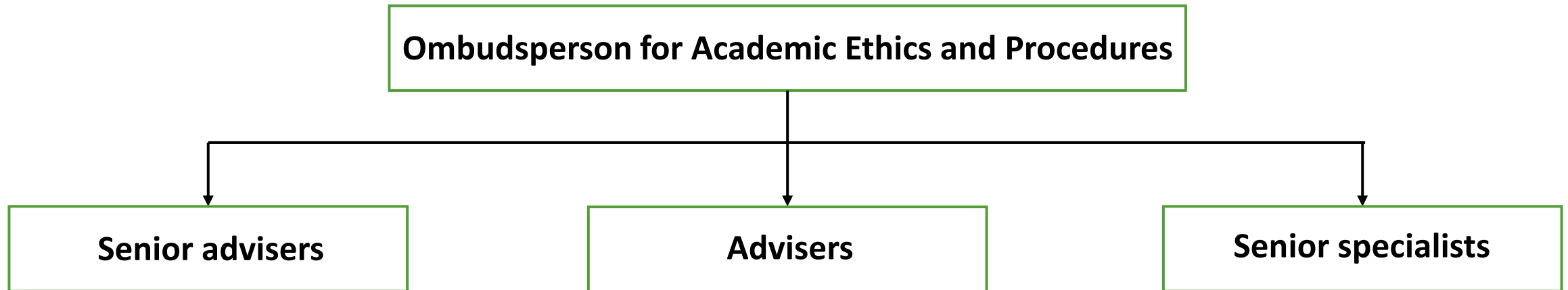[The Office of the Ombudsperson for Academic Ethics and Procedures of the Republic of Lithuania](#) **(Office)** is a state budgetary institution established on 15 September 2011, by the Resolution of the Seimas of the Republic of Lithuania.

Academic ethics – a set of universally accepted values, principles and scientific practices that ensure transparency, honesty, fairness, justice, responsibility, equality of persons, non-discrimination, academic freedom, trust and respect in the conduct of scholarship, the dissemination of science and scholarship (art), and in the pursuit of studies and activities related to their studies.

Structure of the Office

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│  Ombudsperson for Academic Ethics and Procedures     │
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┌─────────────────┐  ┌─────────────────┐  ┌─────────────────┐
│ Senior advisers │  │    Advisers     │  │Senior specialists│
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The mission

To ensure compliance with academic ethics and fairness of procedures in Lithuanian higher education institutions, to promote integrity, transparency and accountability in the academic community and to strengthen public trust in the Lithuanian higher education system.

The vision

To be a flagship institution in Europe that ensures the highest standards of academic ethics and procedures, promotes academic integrity and excellence and contributes to world-class higher education in Lithuania.

2024

Priorities for action

Promoting the development of a culture of academic ethics in science and higher education institutions.

Effective oversight of the implementation of science and studies procedures.

Raising the profile of the Authority's activities and cooperation at national and international level.

2024

Academic ethics participants (1)

Office of the Ombudsperson for Academic Ethics and Procedures	Research and study institutions	The Office of the Inspector of Journalist Ethics	Ethics Commissions
Research Council of Lithuania	Office of the Equal Opportunities Ombudsperson	Lithuanian Bioethics Committee	Lithuanian Courts

Academic ethics participants (2)

Conference of Rectors of Lithuanian Universities

Rectors' Conference of Lithuanian University Colleges

Lithuanian Union of Young Scientists

Vilnius University Students' Representation

Lithuanian Students' Union

The Lithuanian Academy of Sciences

Lithuanian Scientific Society

Areas of activity

Intervention

➤ Handling complaints
➤ Carrying out investigations
at the initiative of the
Ombudsperson
➤ Investigation of
administrative offences

Prevention

➤ Guidelines, recommendations,
memos, etc.
➤ Advice, FAQs
➤ Training, seminars, etc.
➤ Analytical studies
➤ Useful links, newsletters and
other dissemination

## Collaboration

2024

Handling complaints

Year of receipt of complaints	Complaints received			Complaints handling		
	Total	Number of handling complaints	Number of complaints suspended*	Number of complaints handled**	Number of complaints rejected	Number of complaints under handling in 2024***
2019	1	1	0	0	1	0
2021	1	0	1	0	0	1
2023	18	18	0	1	17	0
Total:	20	19	1	1	18	1

* The complaint is suspended due to ongoing legal proceedings.

** The Ombudsperson's decisions are taken regarding these complaints.

*** Data of 1 January 2024.

2024

Number of complaints 2015-2023
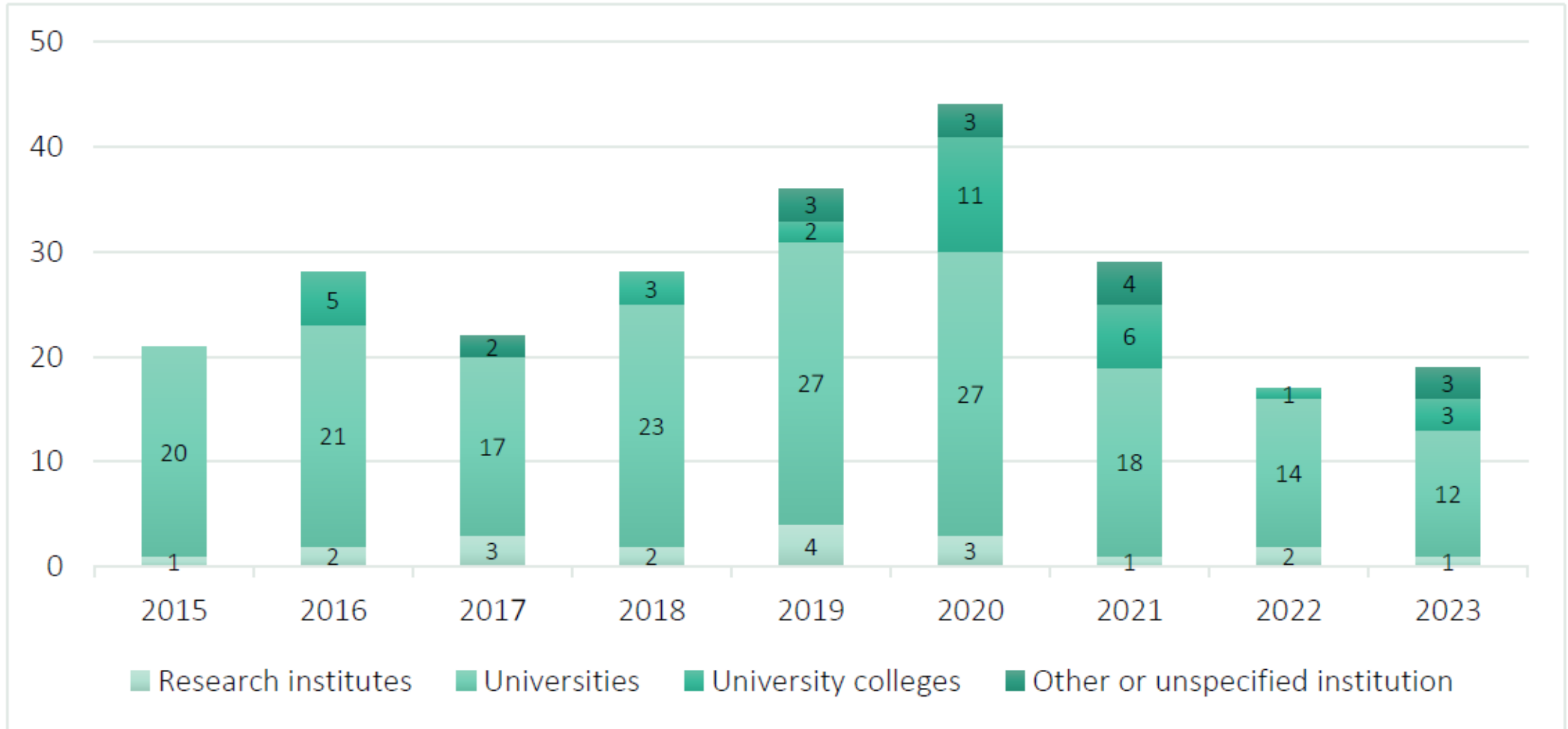
Monitoring the implementation of prevention measures in research and higher education institutions

Title of the prevention measure	Community awareness (e.g. planned or publicly available on the institution's website or through internal communication)*			Transposition into the institution's internal documents (e.g. guidelines are planned to be transposed or integrated into codes of academic ethics, etc.)*		
	2021	2022	2023	2021	2022	2023
Guidelines for Publication Ethics (2019)	34 (77%)	40 (80%)	42 (95%)	17 (39%)	18 (36%)	42 (89%)
Guidelines for Recognition of Fictitious Scientific Events (2019)	33 (75%)	42 (84%)	40 (91%)	14 (32%)	11 (22%)	40 (75%)
Recommendations on the Preparation, Adoption and Implementation of Academic Ethics Codes by Lithuanian research and higher education institutions (2020)	24 (55%)	30 (60%)	43 (98%)	32 (73%)	26 (52%)	43 (91%)
Guidelines for Objective and Fair Evaluation of Group Works (2020)	31 (70%)	37 (74%)	37 (84%)	15 (34%)	14 (28%)	37 (73%)
Guidelines for Ensuring Academic Ethics by Remote Means (2020)	30 (68%)	32 (64%)	35 (80%)	17 (39%)	15 (30%)	35 (75%)
Guidelines for Ethical Review (2020)	30 (68%)	37 (74%)	41 (93%)	24 (55%)	20 (40%)	37 (84%)
Guidelines related to Ensuring Academic Ethics and Equal Opportunities in the Scientific Events (2021)	34 (77%)	40 (80%)	40 (91%)	16 (36%)	14 (28%)	35 (80%)
Template form for a research data management plan (2022)	not applicable	37 (74%)	39 (89%)	not applicable	21 (42%)	36 (82%)

* The table shows the number of RHEIs that filled in the Office's survey: N=44 (2021), N=50 (2022) and N=44 (2023).

The Guidelines on the Ethical Use of Artificial Intelligence in Science and Higher Education are designed to provide guidance to science and higher education institutions (universities, colleges, research institutes) and the academic community (students, lecturers, researchers, and other staff directly involved in science and/or higher education) on how **to ensure the ethical use of artificial intelligence technologies in their studies and scientific activities**.

Guidelines on the Ethical Use of Artificial Intelligence in Science and Higher Education – Guidelines

Artificial Intelligence - AI

Members and observers of the Study and Research Subgroup

Prof. Dr. **Olga Kurasova**, representative of the Lithuanian Academy of Sciences.

Dr. **Birutė Liekė**, Chief Specialist (Chief Analyst), Office of the Ombudsman for Academic Ethics and Procedures, Republic of Lithuania.

Dr. **Lina Šarlauskienė**, representative of the Conference of Directors of Lithuanian Colleges.

Aurimas Šimeliūnas, representative of the Ministry of Culture of the Republic of Lithuania (alternate representative - **Živilė Plyčiuraitytė-Plyčiūtė**, representative of the Ministry of Culture of the Republic of Lithuania).

Prof. **Gvidas Urbonas**, representative of the Lithuanian Conference of University Rectors (alternate representative: Dr. **Ramunė Kasperė**, representative of the Lithuanian Conference of University Rectors).

Dr. **Vaida Bartkutė-Norkūnienė**, representative of the Conference of Directors of Lithuanian Colleges.

Prof. habil. dr. **Gintautas Dzemyda**, representative of the Lithuanian Academy of Sciences.

Simona Martinavičiūtė, representative of the Ministry of Culture of the Republic of Lithuania (alternate representative: **Živilė Plyčiuraitytė-Plyčiūtė**, representative of the Ministry of Culture of the Republic of Lithuania).

Associate Professor **Tomas Saulius**, representative of the Conference of Rectors of Lithuanian Universities.

Gabija Juzėnaitė, representative of the Lithuanian Students Union.

Vytautas Kučinskas, representative of the Lithuanian Students Union.

The guidelines are based on the following sources

Ethical guidelines for trustworthy artificial intelligence (EC, 2019).

Recommendation on the Ethics of Artificial Intelligence (UNESCO, 2022).

Ethical guidelines for educators on the use of AI and data in teaching and learning (EC, 2022).

Recommendations of the Committee on Publication Ethics (COPE).

Guidelines on Generative Artificial Intelligence for Education and Research (UNESCO, 2023).

The European Network for Academic Integrity (ENAI) Guidelines on the Ethical Use of Artificial Intelligence in Education.

Staff Working Document on combating foreign interference in research and innovation (EC, 2022).

Terms and definitions used in the Guidelines

➢ **Artificial intelligence** is the ability of computer systems to perform tasks that require human intelligence. AI systems are trained using large amounts of data.

➢ **Generative AI** is an AI technology that can create new content (such as images or text) based on a query or other specified criteria.

➢ **Generative AI tools** are platforms that incorporate generative AI models and allow users to generate text, images or other content using simple and intuitive interfaces.

➢ **Machine learning** is a branch of artificial intelligence that involves algorithms that allow a computer to learn how to perform tasks based on data rather than on pre-conceived rules or instructions.

➢ Other terms used in the Guidelines shall be understood as defined in the Laws on Science and Studies of the Republic of Lithuania, on Copyright and Related Rights of the Republic of Lithuania and other legal acts.

Challenges

Accessibility and fairness.

The human touch.

Human intellectual development.

Psychological effects.

Hidden bias and discrimination.

Critical thinking.

# Intellectual property protection

The emergence of generative AI is rapidly changing the way scientific, artistic and literary works are created, distributed and used. **The unauthorised copying, distribution or use of copyrighted works without the authorisation of the copyright holder infringes the exclusive rights of the copyright holder and may lead to legal consequences.** Academic communities therefore need to carefully assess the existing legal framework and detail the correct use of copyrighted content in their internal rules of academic conduct.

Copyright restrictions

The limitation of copyright in the Law on Copyright and Related Rights of the Republic of Lithuania, which gives research organisations the right to reproduce works for the purposes of text and data mining without the consent of the author or other holder of property rights, should receive special attention of the academic community.

Authenticity

While the regulatory frameworks being developed intend to require generative AI providers to recognise and protect the intellectual property of the owners of the content used in the model, it is becoming increasingly difficult to establish the ownership and authenticity of the huge volume of generated works. This lack of traceability not only raises concerns about protecting the rights of creators and ensuring fair remuneration for their intellectual contributions, but also forces the search for solutions to the responsible use of products generated by AI.
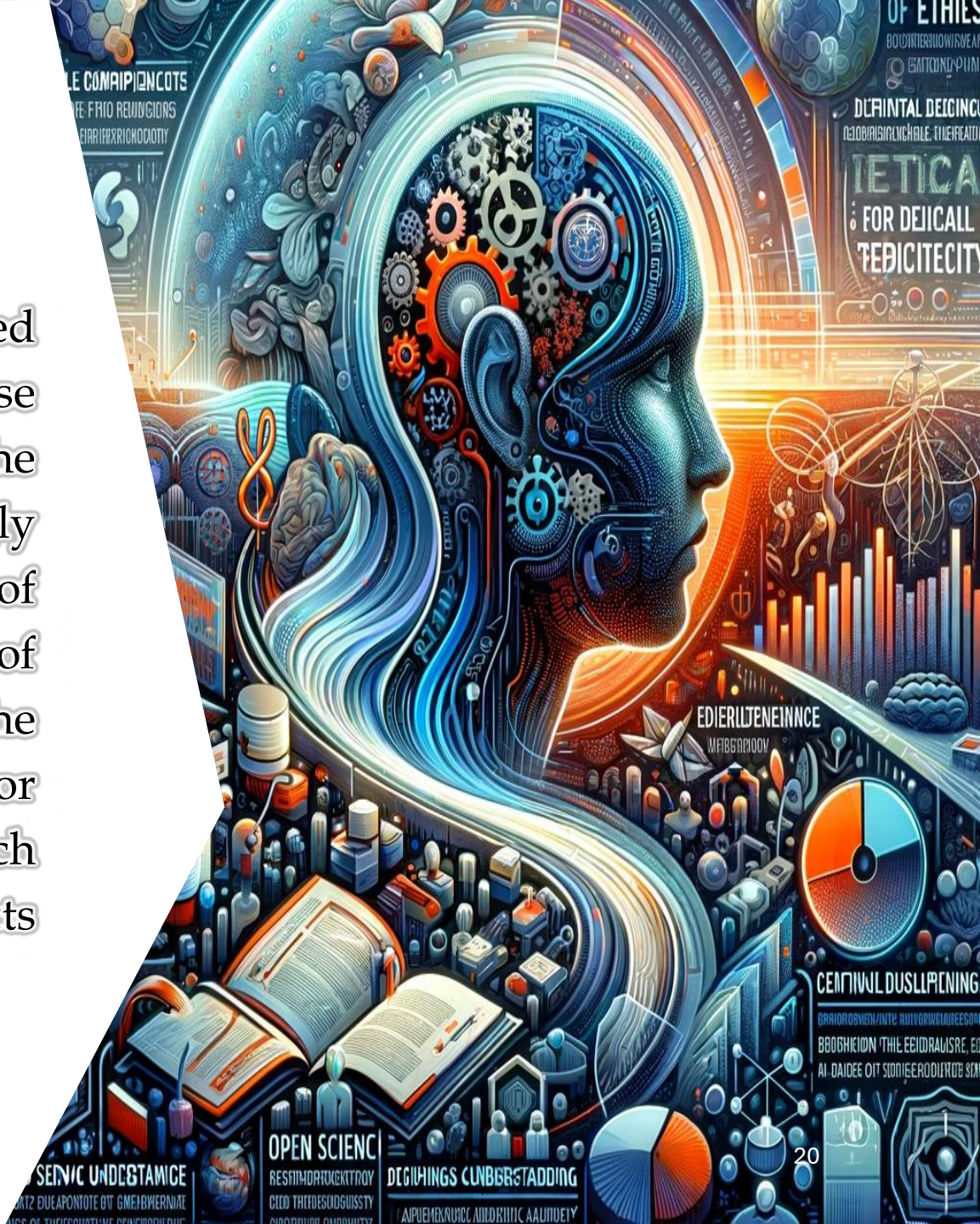
Sources of learning

In the future, content generated by human-ICT interactions may become one of the main sources of knowledge creation. This is likely to further reduce the direct involvement of learners in studies using human-generated and trusted resources. There is also a debate on whether learning based solely on content generated by generative AI should be recognised as learning.

Methods of assessing teaching and learners' achievements

In response to the current trends stimulated by generative DI, teaching and assessment methods need to be reviewed in the light of the objectives of the training(s). When integrating generative AI into studies, it is important to ensure that learners acquire basic knowledge and professional skills through critical thinking based on a broader perspective and values.

General principles for the use of artificial intelligence

➢ The principle of democracy.

➢ Academic integrity.

➢ The principle of responsibility.

➢ Competence development.

➢ Equity.

➢ Protection of human rights and freedoms.

➢ Transparency.

➢ Principles of the distinction between human beings and the AI.

➢ Safety and security.

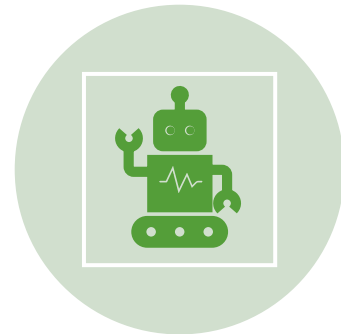# Artificial intelligence and open science

Foreign influences risk: research data sets opening up to researchers and students; publication by institutions publishing in journals published by institutions and students.

Machine learning and generative AI use: to process large research data and information large research datasets.

Institutional publishing policy: to address generative R&D and data security risks.

Responsibility: to assess generative AI technology development research security risks; protect against foreign state or from non-state actors intervention.

Artificial intelligence and publishing ethics

A generative AI tool **cannot be credited as the author of a work.** The author of the work is responsible for the authorship of his/her own work. Authors are fully responsible for the content of their manuscript, even for those parts of it that have been generated by the generative AI tool, and are therefore liable for any breaches of publication ethics.

Intellectual property rights and consumer protection

➢ Avoid damaging other people's reputations or rights.
➢ Create a generative AI model by using online data without the consent of the owners (may contravene laws (e.g. EU GDPR).
➢ Check that AI tools do not violate legislation (EU GDPR, Lithuanian law).
➢ Know the rights of data owners.
➢ Check that the use of generative AI tools does not infringe intellectual property rights.
➢ Know the terms and conditions for the use of generative AI.
➢ Comply with the terms and conditions and laws specified in the AI use and liability agreements.
➢ Report violations of the law to government agencies.

Regulatory shortcomings:
➢ Generative AI technologies are advancing faster than the laws governing them.
➢ There is a lack of rules to ensure users rights.

Institutional level (1)

➢ Implement the policy on the use of AI in science and education.

➢ Develop guidelines and other documents on the ethical use of AI.

➢ Integrate aspects of the ethical use of AI into other relevant activity profiles.

➢ Assess and manage the risks of the use of AI.

➢ Ensure that the use of AI tools is safe and compliant with EU and Lithuanian legislation.

➢ Review and update study process regulations.

➢ Ensure that the AI enhances but does not replace student learning.

➢ Be able to assess real student outcomes and achievements.

➢ To develop AI literacy among the participants in the study process.

➢ Critically evaluate AI tools and their results.

➢ Protect personal and institutional data when using AI tools.

➢ Ensure that AI is clearly identified, named and/or cited.

Institutional level (2)

➢ Apply expert review procedures in cases of unethical use of AI.

➢ Continuous development of critical thinking, protection of intellectual property and personal data, research ethics, information literacy, understanding of machine learning, proper data labelling, generative AI query engineering, etc.

➢ Develop guidance on the correct and transparent use of AI tools.

➢ Involve research ethics compliance oversight bodies.
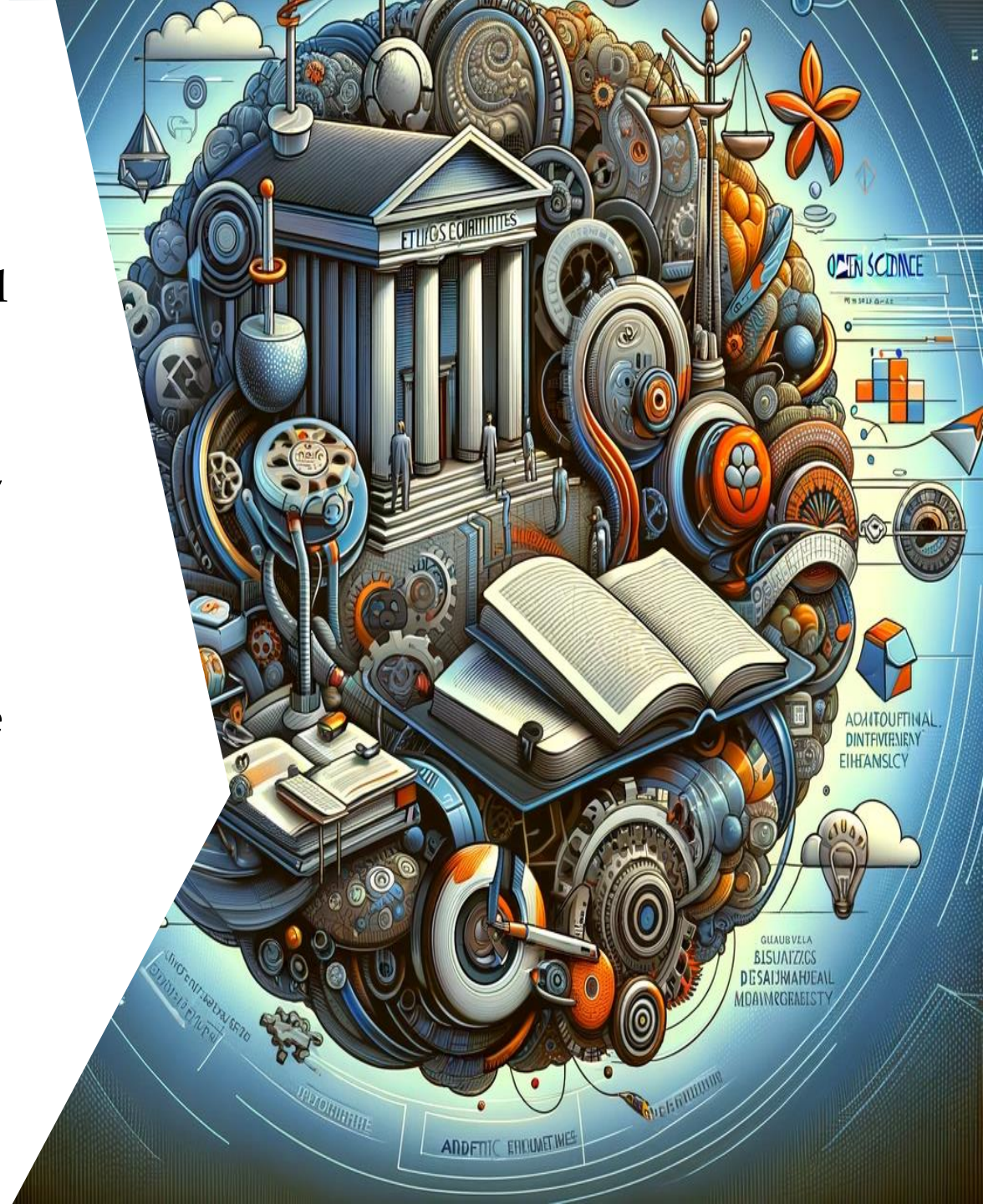
Evaluating and validating AI tools (1)

Politics

➢ Determine whether to implement generative AI.
➢ Decide which AI tools should be used.

Validation

➢ Verify the validity and reliability of AI results.
➢ Preliminary testing of the tools to be deployed.

Monitoring

➢ Ensure validity.
➢ Implement algorithm and data monitoring mechanisms.
➢ Regular audits and evaluations.
➢ Protection of user data.
➢ Automatic filtering of inappropriate content.

Criteria

➢ Methodological soundness.
➢ The principle of non-discrimination.
➢ Ensuring intellectual property rights.
➢ Compliance with research ethics.
➢ Reliability (monitoring of inappropriate content).

Evaluating and validating AI tools (2)

Educational relevance

➢ Relevance to the content of study programmes.

Legislative compliance

➢ Assess compliance with legislation.
➢ Build on feedback on implementation.

Analysis of results

➢ Ensuring the validity and reliability of AI results.
➢ Revise the query several times.

Critical approach

➢ Careful use of AI in study and research.
➢ Critically evaluate the information provided by AI.
➢ Avoid inappropriate, biased or damaging requests.

Benefits

➢ Broaden the approach in research.
➢ To complement data exploration and literature reviews.
➢ Automatically collect information and propose methodologies.

Risks

➢ Fictionalizing "GenAI" information.
➢ It is essential to be aware of and avoid potential risks.

As a partner in Horizon Europe calls, we aim to leverage our analytical capabilities to contribute to projects focusing on:

Ethics in AI Development and Implementation: Providing ethical frameworks and guidelines through thorough analysis to support responsible AI use in research and higher education.

Seminars and Recommendations: Offering expert-led seminars and workshops on ethics and procedures, delivering actionable recommendations to academic institutions, public services and business sector.

Impact Assessments and Monitoring: Utilizing our analytical skills to monitor and evaluate the effectiveness of project initiatives, ensuring that ethical considerations are maintained throughout the project lifecycle.

Our research team

Dr. Reda Cimmperman
Ombudsperson

Holds a PhD in biomedical sciences from Vilnius University and has over 15 years of experience at the Research Council of Lithuania.

Dr. Birutė Liekė
Senior analyst

Holds a doctoral degree in education and has over 20 years of teaching experience.

Dr. Andrius Puksas
Senior Adviser

Holds a PhD in Law and has 18 years of legal experience.

Dr. Rima Sinickė
Senior Analyst

Holds a PhD in Sociology and master's degrees in Sociology and Higher Education Pedagogy and has over 15 years of experience in data analysis.

Thank you!

I will be happy to answer any questions you may have.

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