CIVICA Honours Seminars 2026

Human–Machine Interaction: How Society and Business Could Benefit from It

Bucharest, June 22-26, 2026

SEMINAR DESCRIPTION

Human–Machine Interaction (HMI) examines the ways in which people engage with digital systems, intelligent machines, and automated environments in everyday life, work, and governance. As artificial intelligence, robotics, data-driven platforms, and smart technologies become more deeply embedded in modern societies, the quality of interaction between humans and machines increasingly shapes economic performance, organizational efficiency, and social well-being. The topic is therefore not only technical, but also managerial, social, and ethical.

From a business perspective, effective human–machine interaction can improve productivity, support better decision-making, enhance customer experience, and foster innovation. Intelligent systems can assist employees in handling complex tasks, analyzing large volumes of information, and automating repetitive processes, allowing human workers to focus on creativity, judgment, and strategic thinking. In society more broadly, human–machine interaction can contribute to better public services, smarter urban systems, more accessible healthcare, and improved communication between citizens and institutions.

At the same time, these benefits do not arise automatically. Poorly designed systems may create confusion, exclusion, or mistrust. For this reason, the study of human–machine interaction emphasizes the importance of designing technologies that remain human-centered, transparent, and responsible. Understanding how society and business can benefit from human–machine interaction requires not only attention to technological progress, but also careful consideration of human needs, organizational contexts, and public values.

PREREQUISITES

Participants should have a working knowledge of digital technologies and basic familiarity with artificial intelligence, information systems, and digital transformation. Good knowledge of English is required.

The program combines conceptual lectures with case studies and collaborative projects to examine how organizations and societies can design responsible, efficient, and human-centered interactions with machines.

LEARNING OUTCOMES

By the end of the course, participants will be able to:

- Understand key concepts and theoretical foundations of human–machine interaction.
- Analyze how emerging technologies reshape human decision-making and work processes.
- Evaluate the societal and economic impacts of AI-enabled systems.
- Identify opportunities for improving organizational performance through human–machine collaboration.

- Assess risks associated with automation, algorithmic bias, and human dependency on intelligent systems.
- Design strategies for implementing effective human–machine collaboration in organizational and societal contexts.

COURSE TOPICS

Module 1. Foundations of Human–Machine Interaction

- Historical development of human–computer interaction
- Cognitive and behavioral dimensions of human interaction with technology
- Socio-technical systems and digital ecosystems

Module 2. Human–Machine Collaboration in the Age of AI

- Principles of human-centered AI
- Conversational interfaces and natural language systems
- Human oversight and algorithmic governance

Module 3. Automation and the Future of Work

- Human roles in automated environments
- Human–AI teamwork
- Organizational transformation and digital workplaces

Module 4. Ethics, Trust, and Responsible AI

- Algorithmic bias and fairness
- Transparency and accountability
- The impact of human-machine collaboration in the digital breach

Module 5. Emerging Technologies and Future Scenarios

- Brain–computer interfaces
- Human–robot interaction
- Ambient intelligence and smart environments
- Agentic AI? Not future but I think is a paradigmatic example of HMI

Final schedule will be sent out to registered participants.

COURSE INSTRUCTORS & GUEST LECTURERS

Catalin Vrabie – National University of Political Studies and Public Administration

Natalia Menéndez González – European University Institute and CUNEF University

Stefano Colafranceschi – James Madison University

Diana-Camelia Iancu – National University of Political Studies and Public Administration

ASSESSMENT

Participants will be assessed through a combination of the following components:

1. Active Participation

Participants are expected to attend all sessions, complete required readings, and actively engage in discussions.

2. Group Project

Participants will work in small groups to analyze a real-world human–machine interaction scenario (e.g., AI in customer service, smart city infrastructure, autonomous systems, or public-sector decision systems).

Each group will develop a proposal outlining:

- the problem context
- the interaction design
- expected benefits for society or business
- risks and mitigation strategies.

3. Final Presentation

Each group will present their project and discuss the societal and organizational implications of their proposed solution.

N.B. *This seminar is assessed on a pass/fail basis. To obtain a passing result, participants are required to attend all sessions in full, demonstrate adequate preparation for each class, actively engage in seminar activities and discussions, and complete all assigned exercises. Participants who successfully fulfill these requirements will receive a certificate of participation issued by CIVICA/SNSPA.*

EQUALITY, DIVERSITY, AND INCLUSION

The course encourages participation from students with diverse academic backgrounds including technology, public administration, economics, sociology, and management. Interdisciplinary perspectives are considered essential to understanding the broader implications of human–machine interaction.

FORMAT OF THE COURSE

The course consists of four main components.

1. Lectures

Lectures constitute the core theoretical component of the course and are designed to introduce participants to the principal concepts, frameworks, and technological developments in the field of human–machine interaction. Through a structured engagement with interdisciplinary scholarship, lectures will address the historical evolution of human–computer interaction, the emergence of intelligent and adaptive systems, and the broader cognitive, organizational, and societal implications of human engagement with digital technologies.

2. Case Studies and Group Work

Case studies and group work provide the applied and collaborative dimension of the course, enabling participants to examine concrete examples of human–machine interaction in organizational and societal contexts. Working in small groups, students will analyze real-world cases involving artificial intelligence systems, automation processes, digital platforms, smart environments, or data-driven decision-support tools. This component is designed to encourage the application of theoretical concepts to practical situations, while also fostering collaborative problem-solving, comparative analysis, and critical evaluation of technological implementation.

3. Networking and Guest Lectures

Guest lectures and networking activities are intended to enrich the academic content of the course by bringing participants into contact with professionals and scholars working directly in areas related to human–machine interaction, artificial intelligence, digital innovation, and technology governance. Speakers drawn from academia, industry, public administration, and civil society will offer practice-based perspectives on the design, implementation, and evaluation of human-centered technological systems. Their contributions will help bridge the gap between theoretical inquiry and professional application by illustrating how key concepts discussed in class are addressed in research, policy, and organizational practice.

In addition, networking opportunities will allow participants to engage in informed dialogue with invited experts, thereby enhancing their understanding of current trends, professional challenges, and emerging opportunities in the field.

4. Study Visits to Relevant Institutions and Organizations

To complement the theoretical and analytical dimensions of the course, participants will take part in guided visits to relevant institutions, organizations, and innovation environments whose work intersects with the themes of human–machine interaction, digital transformation, artificial intelligence, and socio-technical systems. These visits are intended to provide direct exposure to the practical implementation of human-centered technologies in both public and private sector settings.

ONLINE PLATFORM

Course materials and assignments will be available via the institutional learning platform (e.g. Moodle).

VENUE

SNSPA | Faculty of Public Administration

READINGS

Artificial Intelligence Index Report 2025 – Stanford University | Human-Centered Artificial Intelligence (HAI), https://hai.stanford.edu/assets/files/hai_ai_index_report_2025.pdf

Intelligence as Agency: Evaluating the Capacity of Generative AI to Empower or Constrain Human Action – An MIT Exploration of Generative AI, https://mit-genai.pubpub.org/pub/94y6e0f8/release/2

Design Principles for Generative AI Applications – ACM Digital Library, https://dl.acm.org/doi/fullHtml/10.1145/3613904.3642466

Temporal Aspects of Human-AI Collaborations for Work – ACM Digital Library, https://dl.acm.org/doi/fullHtml/10.1145/3663384.3663397

Cyborgs, Centaurs and Self-Automators: The Three Modes of Human-GenAI Knowledge Work and Their Implications for Skilling and the Future of Expertise – Harvard Business School, https://www.hbs.edu/faculty/Pages/item.aspx?num=68273

New Report: Framework for AI Transparency – Berkman Klein Center, https://cyber.harvard.edu/publication/2024/new-report-framework-ai-transparency

Artificial Intelligence Promises to Public Organizations and Smart Cities - PLAIS EuroSymposium, https://link.springer.com/chapter/10.1007/978-3-031-23012-7_1

Human control over automation : EU policy and AI ethics – European University Institute, https://cadmus.eui.eu/entities/publication/b11f0331-7913-5690-8ccf-cf32845cd52d

Addressing the risks of generative AI for democracy – European University Institute, https://cadmus.eui.eu/entities/publication/b851f50c-5208-4e2b-a766-dba5f1b7bc3d

Smart government in local adoption – Authorities in strategic change through AI – Smart-EDU Hub @ SNSPA, https://scrd.eu/index.php/scrd/article/view/110

Algorithmic management in the workplace – existing regulations and their limitations – Tobias Müllensiefen, https://cadmus.eui.eu/server/api/core/bitstreams/afce372a-6a5f-4299-aca0-38e8dde2ba88/content

Human–AI interactions in public sector decision making: "Automation bias" and "selective adherence" to algorithmic advice - Saar Alon-Barkat and Madalina Busuioc, https://academic.oup.com/jpart/article/33/1/153/6524536

Neurotechnologies and the future of internet governance – Roxana Radu, https://cadmus.eui.eu/entities/publication/1b4018a3-5f4c-5ccc-a5af-403bf2645b97

Growing the image: Generative AI and the medium of gardening - Nick Young and Enrico Terrone, https://academic.oup.com/pq/article-abstract/75/1/310/7775353?redirectedFrom=fulltext&login=true

Preserving Public Values in The Automated State: Proportionality – Natalia Menéndez González and Spyros Syrrakos, https://www.slsa.ac.uk/post/guest-blog-series-on-preserving-public-values-in-the-automated-state-proportionality

VIDEO INVITATION: https://youtube.com/shorts/YIXWrHXrEQM