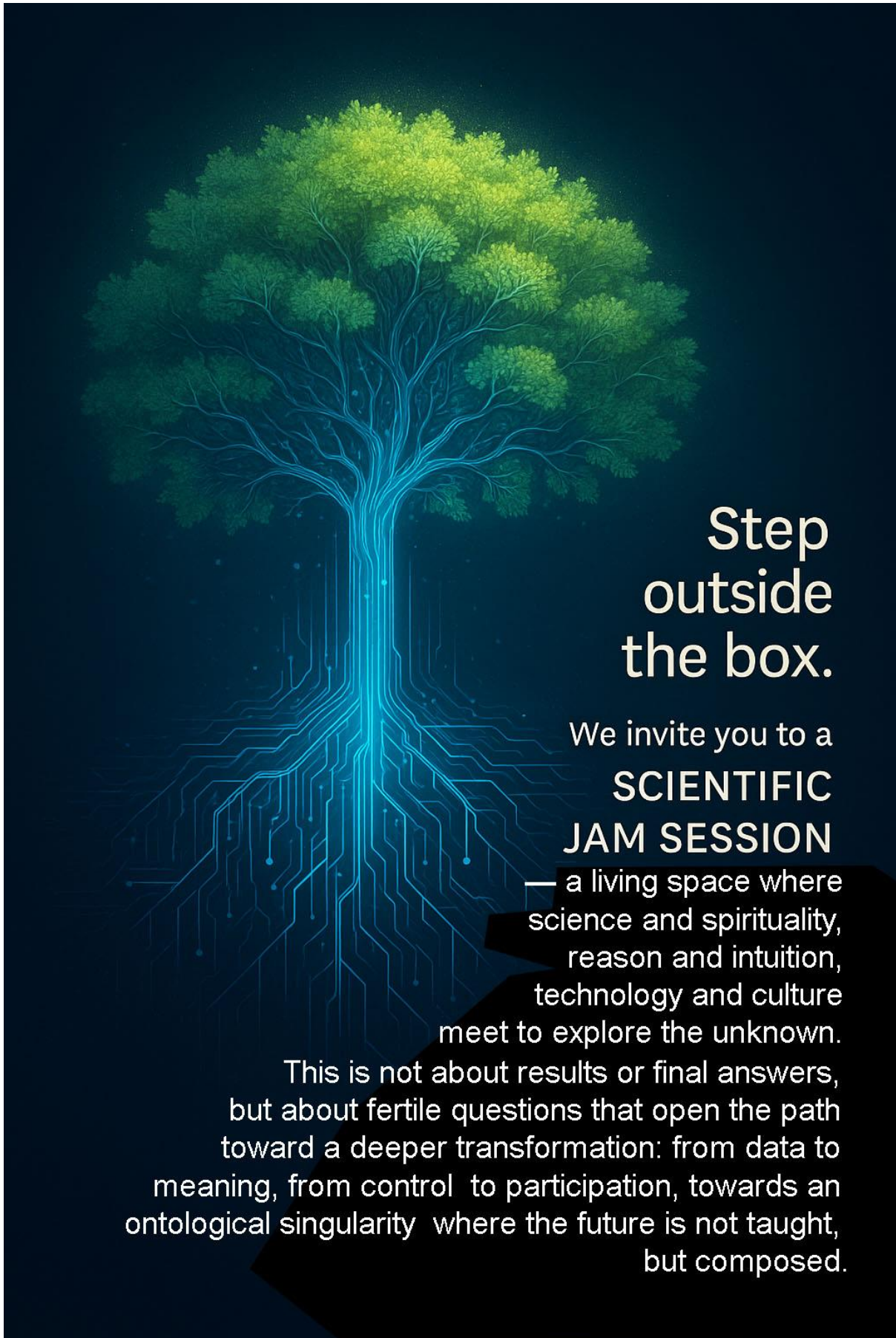


*Paradigm shifts begin not with answers, but with the new questions
that arise when remarkable minds meet.*



Step outside the box.

We invite you to a
**SCIENTIFIC
JAM SESSION**

— a living space where
science and spirituality,
reason and intuition,
technology and culture
meet to explore the unknown.

This is not about results or final answers,
but about fertile questions that open the path
toward a deeper transformation: from data to
meaning, from control to participation, towards an
ontological singularity where the future is not taught,
but composed.

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“True paradigm shifts are not born from the tidy presentation of fragmented research results, but from the spark of new questions — questions that emerge in the living flow of informal conversations among remarkable minds, grounded in knowledge and open to the richness of multicultural and multidisciplinary exchange.”

Florin Munteanu

Why a Scientific Jam Session?

Traditional academic conferences have their essential role: communicating results, rigorously validating research, and exchanging best practices. Yet they unfold within a fragmented logic — each specialist remains confined to their own discipline, with precise objectives and limited applications. In a world marked by complexity and interdependence, this approach is no longer sufficient.

What is missing today:

- There are no spaces where marginal hypotheses, conceptual explorations, and radical questions are placed at the center.
- Paradigm breakthroughs do not arise from formal presentations, but from informal dialogue, intuition, and cognitive interference.
- The education of young researchers remains disciplinary and utilitarian, without training in transdisciplinary thinking or creative exploration.

What the Scientific Jam Session brings:

- A living and provocative space that stimulates imagination and intuition through its architecture (mind-map exhibitions, visual challenges, interactive installations).
- A co-creation methodology inspired by musical improvisation and design thinking, turning researcher interaction into an emergent process.
- A collective outcome: not immediately applicable solutions, but fertile questions and new directions that can inspire future research and academic formation.

Why is it necessary now?

- Because education and research must move from disciplinary to transdisciplinary, from utilitarian to visionary.
- Because innovation without creativity remains applicable, but not paradigmatic.
- Because young researchers need a framework where they can practice heutagogy and complex thinking, not just reporting results.
- Because the future of science depends on fertile questions, not easy solutions.

1. Central Concept

- **Scientific Jam Session:** a fluid encounter, akin to musical improvisation, where ideas are not merely “presented” but interfere, overlap, and generate new questions.
- **Space as an actor:** architecture and design are not neutral but stimulate lateral thinking through visual mind-maps, interactive installations, graphic provocations, and unexpected symbols.
- **Questions as the product:** not immediate solutions or applications, but the formulation of fertile questions that give rise to new directions of research.

2. Event Structure

- **Interactive Exhibition Zone:** with panels, projections, and visual structures where each participant contributes hypotheses, challenges, or conceptual maps.
- **Moderated-Creative Sessions:** 2–3 personalities with transdisciplinary openness lead discussions on frontier topics, provoking dialogue.
- **The Jam Session itself:** participants work in small groups using methodologies such as design thinking, world café, and cognitive improvisation – the objective is the formulation of emergent questions.
- **Moment of Awareness:** at the end, a map of questions, exploratory directions, and opportunities for collaboration is crystallized, making use of AI.

3. Educational Dimension

- Preparing young researchers to think **beyond discipline**.
- Introducing methodologies such as **heutagogy** (self-directed learning) and **andragogy** (adult learning through meaningful experience).
- Learning not from results, but from the **interference and tension between perspectives**.

4. Possible Outputs

- A “**Map of Questions**” – a visual document with emergent ideas.
- A collection of **limit-concepts** (*seeds of paradigms*) that can inspire future projects.
- A **transdisciplinary network** of collaborators.
- Potentially, a collective volume / online platform where the space extends beyond the event.

5. Distinctive Elements

- The event does not aim at “immediately applicable results,” but at **sowing conceptual and educational seeds**.
- The focus is on **experience, space, cognitive vibration**, not just content.
- It is an “**anti-conference**” – a space of co-creation and intuition.

Moderators

(proposals, from which 2–3 people will be selected)

- **Dr. Eng. Florin Munteanu**, Founding President of the Center for Complexity Studies, full member of the Academy of Romanian Scientists (**AOSR**), corresponding member of the Academy of Technical Sciences of Romania (**ASTR**).
- 1. **Prof. Univ. Dr. Gheorghe Ștefan** – Member of the Romanian Academy, specialist in Electronics, close collaborator of Mihai Drăgănescu; focuses on the concept of *Information as an Ontological Dimension* and its applications.
- 2. **Prof. Univ. Dr. Ionuț Purica** – Specialist in nonlinear physics applied to economics and energy systems.
- 3. **Prof. Univ. Dr. Vistrian Matieș** – Director of the Department of Mechatronics and Machine Dynamics, Technical University of Cluj-Napoca.
- 4. **Dr. Ion Petre (Mathematics)** – Department of Mathematics and Statistics, University of Turku, Finland. Expertise in data analytics, artificial intelligence, computational methods for personalized medicine, computational cancer medicine, and mathematical modeling.
- 5. **Dr. Arch. Cerasella Crăciun** – Architect, university professor, coordinator of the “Landscape Planning and Design” Section and of the Master Program *Landscape and Territory*, Faculty of Urbanism, “Ion Mincu” University of Architecture and Urbanism.
- 6. **Dr. Med. Radu Dop** – Specialist in critical care medicine; participant in the U.S. “Eisenhower Fellowships” program for future world leaders. An exceptional surgeon with an academic career and active research in national and international programs.

Approach

1. Accommodation (30 min)

Informal gathering over coffee in a specially designed space.

2. Session Flow

- **Initialization** – introduction by the 2–3 moderators.
 - **Brief presentation of the three selected themes** and a few initial questions that may serve as discussion triggers.
 - **Introduction of fundamentally new ideas** associated with the themes.
 - **Presentation of an example of new questions** generated by a change in perspective.
 - **Formation of discussion groups** (proposal: 3 groups) – each focusing on 3 ideas.
 - **Objective:** to stimulate creativity through a shift in the direction of inquiry.
 - **Final outcome:** increasing the number of relevant questions that can stimulate exploratory research and engage the younger generation in scientific inquiry.
 - **Implicit objective:** raising awareness among participating specialists about the changes brought by the new paradigm (research opportunities and collaboration).
- ### 3. Collection of new questions
- and generation of a discussion with ChatGPT regarding emerging directions, logical interferences among them, and an evaluation of the “effectiveness” of the Human–AI collaboration session.
- ### 4. Generation of a session report
- including collected testimonials.

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Common Meta competencies Essential foundations without which no direction can be meaningfully articulated:

1. **Critical and Complex Thinking** – the ability to perceive interdependencies, not just simple causal lines.
2. **Scientific Creativity and Intuition** – formulating fertile questions, speculative scenarios.
3. **Transdisciplinarity** – integrating perspectives from exact sciences, social sciences, and the humanities.
4. **Ethics and Responsibility** – in relation to human–technology–society–nature.
5. **Lifelong Learning (Andragogy & Heutagogy)** – capacity for re-skilling and autonomous exploration.

Specific Competencies (related to conference themes)

1. **Workforce Development and Skills Training**
 - Analysis of labor market transformations (econophysics).
 - Rapid re-skilling models (digital andragogy).
 - Public policies for social adaptability.
 -
2. **Vocational Training and Advanced Technologies**
 - Integration of emerging technologies into vocational education.
 - Virtual simulations and labs (heutagogy).
 - Development of adaptive curricula.
 -
3. **Industrial Engineering and Automation**
 - Modeling processes as complex systems.
 - Human–machine interfaces (co-evolution).
 - Sustainable and ethical automation.
 -
4. **Biomedical Engineering**
 - The intersection of biology–technology–society.
 - Issues of jurisdynamics and bioethics.
 - Scenarios of biological–digital co-evolution.
 -
5. **Educational Technology**
 - Adaptive and personalized platforms.
 - Virtual labs + heutagogy.
 - Gamification and educational creativity.
6. **Cybersecurity and Data Science**
 - Digital geostasy (data geopolitics).
 - Sociology of algorithms and bias.
 - Ethical and transparent security models.
 -
7. **Sustainable and Green**
 - Digital ecology (ecological footprint of technologies).
 - Circular design and green infrastructures.
 - Linking technology to natural ecosystems.

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8. Entrepreneurship and Innovation

- Transdisciplinary entrepreneurship.
- Disruptive vs. incremental innovation.
- The culture of intuition and improvisation.

○

9. Policy and Ethics in Technology

- Adaptive jurisdynamics.
- Emergent ethics.
- Models of global governance.

○

10. Artificial Intelligence and Machine Learning

- Bias and the sociology of algorithms.
- Responsible and transparent AI.
- Scenarios of human–AI–society co-evolution.

Emergent Themes

- **Sociology of Algorithms** – the social impact of AI.
- **Geostasy and Data Geopolitics** – digital infrastructures as geopolitical leverage.
- **Digital Ecology** – sustainability and technology.
- **Econophysics** – complex models applied to labor markets.
- **Jurisdynamics** – adaptive law for emerging technologies.
- **Andragogy & Heutagogy** – continuous re-skilling and self-directed learning.
- **Human–Machine–Society Co-evolution** – scenarios of symbiosis, conflict, or fusion.
- **Emergent Ethics** – adaptive moral frameworks.
- **Culture of Intuition** – cognitive improvisation and creativity.

Example of Theme

Proposed Discussion: Geostasy and Data Geopolitics

a) Definition

Data geostasy refers to global stability shaped by digital infrastructures – submarine cables, cloud servers, satellites. In the digital age, geopolitics shifts from the terrestrial space to the cyber and orbital domains, where access to and control of data become sources of power.

b) Three Fundamental Questions

1. How does the distribution of digital infrastructures affect the balance of power between states and regions?
2. Who owns and controls the critical resources of the Internet, and what risks does this pose for digital sovereignty?
3. How can we design a global framework for data governance that prevents digital conflicts?

SHORT GENERAL PRESENTATION

If we take as a conceptual basis the two posters (*It from Bit* and *Transdisciplinarity – Opening Towards Transcendence*), the themes gain a deeper level of meaning:

- They are no longer merely technological and educational topics, but are articulated around an **informational ontology** and a **transdisciplinary, transformative knowledge**.
- The questions are no longer only pragmatic ('how do we implement this?'), but also **ontological, epistemic, ethical, and spiritual** ('what does this mean for the human being and for consciousness?').

1. If information is an **ontological dimension**, is data geopolitics merely the control of infrastructures, or the **distribution of meaning-fields** on a planetary scale?
2. How can we move from geopolitics of power (who owns the infrastructure) to a **geostasy of informational resonance**, where balance is measured by coherence rather than domination?
3. Can we imagine a model of global governance that respects the **plurality of levels of reality** (technological, social, cultural, spiritual), not just economic or military logic?

The result is a shift in questioning from: technological and political control → towards the ontological balance of information as meaning and transdisciplinary coherence.

References / key figures / works:

- **Manuel Castells** – *The Network Society*
- **Thomas Rid** – *Cyber War Will Not Take Place*
- **Shane Harris** – *@War: The Rise of the Military-Internet Complex*

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Example 2: Human–Machine–Society Co-evolution

a) Definition:

Co-evolution refers to the process through which humans, technologies, and social institutions evolve simultaneously, influencing each other. It is not merely the adaptation of humans to technology, but a reciprocal reconfiguration: biological, cultural, and digital.

b) Three Fundamental Questions:

1. How do AI and robotics transform human identity and our role in society?
2. Can we design technologies that amplify empathy and collaboration, not just efficiency?
3. What are the possible scenarios of co-evolution: symbiosis, conflict, fusion?

New Perspective:

Co-evolution is not only the adaptation of humans to technology or the integration of machines into society, but the emergence of a new **informational resonance field**, where humans, technology, and culture transform each other at an ontological level.

New Questions:

1. How can we understand the human–machine relationship as a process of **co-creating meaning**, not merely of technological efficiency?
2. In what scenarios does co-evolution become an **ontological leap** — a transition toward a more encompassing consciousness?
3. How can we build a society where technology does not diminish the human, but **amplifies the cultural and spiritual dimension** of existence?

References / Key Figures / Works:

- **Donna Haraway** – *A Cyborg Manifesto* (human–machine as hybrid entity).
- **Kevin Kelly** – *What Technology Wants* (technology as a living organism co-evolving with humanity).
- **Ray Kurzweil** – *The Singularity is Near* (vision of human–machine fusion).

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In the hall: There will be posters containing definitions and examples of works that initiated paradigm shifts (with QR codes linking to essential articles, films, demos, and discussions). Four large plasma screens will run sequences of **modeling based on the new paradigm**.

The **room itself becomes a participant** in the event – an inspirational environment.

Definition Cards (examples)

1. Information as an Ontological Dimension

- **What it is:** Not just transmitted signal or processed data, but a constitutive principle of reality.
- **How it manifests:** organizes matter, makes life possible, creates coherence in complex processes.
- **Relevance:** Engineers and researchers no longer work only with *matter + energy*, but with information as an active vector capable of generating forms and meaning (*orthotechnology*).

2. Field of Meaning

- **What it is:** the relational space where information becomes more than signal – it gains significance, structure, and orientation.
- **How it manifests:** through semantic networks, symbols, culture, language, and also through subtle structures that guide natural processes.
- **Relevance:** Raw data (*big data*) say nothing without a field of meaning to integrate them. Without it, technology risks being blind to cultural and spiritual dimensions.

3. Informational Resonance

- **What it is:** the phenomenon through which entities (physical, biological, cognitive, social) align and enter into coherence through information exchange.
- **How it manifests:** synchronizations (in neural networks, ecologies, societies), meaningful feedback, the emergence of common patterns.
- **Relevance:** Instead of thinking only in terms of *control and command*, we can design educational, technological, and social systems that function through **harmonization and coherence**.

4. Levels of Reality

- **What it is:** distinct frameworks of existence (physical, biological, psychological, social, symbolic, spiritual).
- **How it manifests:** each has its own laws and discontinuities, but they are connected through intermediary zones (“non-resistance”).
- **Relevance:** the impossibility of reducing biology to physics or consciousness to algorithms → obliges us to transdisciplinarity.

5. Logic of the Included Third

- **What it is:** an extension of classical logic – between A and non-A there is T, a third that reconciles them at another level.
- **How it manifests:** wave and particle simultaneously, human being both free and determined, order and chaos coexisting.
- **Relevance:** allows us to work with paradoxes that are inevitable in AI, biotechnology, and education.

6. The Relational Subject of Knowledge

- **What it is:** the knower is not a neutral observer, but an active participant in reality.
- **How it manifests:** their identity is constructed through the ongoing dialogue with the world.
- **Relevance:** the specialist does not merely analyze objects, but **co-creates reality** through the way they approach it.

7. Complexity as a Paradigm

- **What it is:** an approach to reality as a system of emergent, unstable, self-organizing processes.
- **How it manifests:** bifurcations, catastrophes, creativity generated by instability.
- **Relevance:** requires us to think dynamically and relationally, and to see uncertainty as a **source of innovation**.

8. Transcendence as a Dimension of the World

- **What it is:** not “another world,” but the profound dimension of this world, accessed through consciousness.
- **How it manifests:** in experiences of communion, intuition, and leaps to higher levels of understanding.
- **Relevance:** reunites science and spirituality into a **unitary cognitive framework**.

[illegible]

Visual Integration

Alongside these definition cards, **mind maps** will be displayed to suggest correlations between these new notions (*informational resonance, included third, transcendence*) and the **existing conceptual–theoretical base** known to participants. This will help specialists situate the “new language” of the Jam Session in continuity with their established knowledge.

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An invitation

Towards an Ontological Singularity

Dear colleagues,

We are used to meeting at conferences where we present results, methods, and applications. Each within our own discipline, each inside our own “box” of expertise. Yet what is happening in today’s world shows us that this is **no longer enough**.

The Need – Technological progress has pushed human performance to unprecedented levels, but it has also opened a gap: algorithms process data but do not create meaning; bioelectronics repairs the body but does not address identity; education delivers information but does not cultivate transformation.

The Urgency – We no longer have the luxury of linear thinking. Complexity teaches us that instability is the norm, paradoxes are inevitable, and levels of reality interpenetrate: physical, biological, social, symbolic, spiritual. If we remain within old frameworks, we risk missing the very directions in which the **human condition itself is being reconfigured**.

The Shift – What lies ahead is not merely a *technological singularity* but something deeper: an **ontological singularity**. A passage from data to meaning, from control to participation, from knowledge as accumulation to knowledge as transformation.

In this context, we invite you to a **Scientific Jam Session** – a living space of dialogue, where disciplines meet not to defend their boundaries but to explore together **unknown horizons**. A space where:

- **information** is recognized as an ontological dimension,
- **complexity** becomes a shared language,
- and **consciousness** and **culture** are reintegrated into scientific inquiry.

You will not find recipes or final answers here. But you will encounter **fertile questions**, conceptual challenges, and the rare opportunity to take part in a moment where science and spirituality, reason and intuition, technology and culture **begin to play together**.

We invite you to join this collective exercise of imagination and inquiry, to step into a space where the **future is not taught, but composed**.

Ontological Singularity

- **What it is:**
A limit-point in the evolution of reality where **different levels of existence (physical, biological, cognitive, social, spiritual)** enter into a state of **deep resonance and coherence**, producing a qualitative discontinuity. It is not a technological singularity (driven by computational power), but one in which **ontology itself – the mode of being of the world and of humans – is transformed**.
- **How it manifests:**
 - through the emergence of **new forms of knowledge** uniting the rational and the intuitive, the scientific and the spiritual;
 - through leaps (metanoia) in individual and collective consciousness;
 - through the reorganization of the human–technology–nature–society relationship into a **logic of participation** rather than domination;
 - through paradoxes reconciled via the logic of the **included third** (order–chaos, freedom–determinism, matter–information).
- **Relevance:**
The ontological singularity suggests that the future will not be defined solely by the **acceleration of technologies**, but above all by the **transformation of how we understand reality and ourselves**. It opens the way toward science and education that are **visionary, participatory, and transformative**, transcending disciplinary fragmentation and utilitarianism.

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We live in an era of convergent instabilities. Reality can no longer be thought in fragments. A new vision is needed – integrative, relational, open to meaning – built through the convergence of *complexity science, information technologies, the ontology of information, and transdisciplinarity*.

