

# The many challenges of Artificial Intelligence

A workshop to evaluate the challenges and repercussions of the “new” Artificial Intelligence (AI).

November 13-15 2023

**Residencia La Cristalera**, Miraflores de la Sierra (Madrid) <https://fuam.es/la-cristalera/>

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**Background.** Artificial intelligence is undergoing an accelerated transition in recent years from a merely academic discipline, with its various ups and downs, to a transforming element in our society. Despite this, it is not easy to find discussion environments in which to consider its foundations, limitations, and realistic and future implications. The AIHub connection has the vocation to serve as a catalyst for these discussions while being able to identify areas within artificial intelligence that require support and an influx of new personnel with the appropriate training. This workshop will try to stimulate these debates while trying to establish an agenda of fundamental problems in which AIHub can play an essential role in the coming years.

We therefore propose a three-day meeting in which the many challenges of AI will be considered. Each day will consist of talks and discussions, where we will ask the speakers about the limitations of their work and their vision of the way forward. We will especially focus on:

- **Theme 1. Foundations.** The study of alternative ways to design intelligent machines. This should revise the present status and limitations of the connectionist approach as well as of other approaches. Are there some new promising frameworks on the horizon that AI Spain could lead?

- **Theme 2. Deployment.** The analysis of the robust deployment of intelligent agents. This should discuss frameworks that improve the robustness, causal reasoning, security, and interpretability of intelligent agents in action.

- **Theme 3. AI and society.** The discussion on the social and economic implications of current cutting-edge technologies. This should encourage a multidisciplinary discussion about how we introduce AI to non-experts. The pros and cons of the current state of the art and the development of discussion groups where these aspects could be considered in the future

## Schedule

**November 13<sup>th</sup> Foundations**

**Chair David Ríos**

**10:45 Introduction. Why are we here?**

**11:00-11:50 Pablo Gervás**

*Generative artificial intelligence and creativity: opportunities and challenges*

**12:00- 12:50 Verónica Bolón-Canedo**

*Less is more: Feature selection in data analysis*

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**13:15-15:00 Lunch**

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**15:00-15:50 Pedro Larrañaga**

*Interpreting Dynamic Models in Industry4.0 with Bayesian Networks*

**16:00-16:50 José Hernández-Orallo**

*Predictable Artificial Intelligence*

**16:50-17:20 Coffee break**

**17:20-18:10 Manuel Cebrian**

*Collective Intelligence in Critical Situations*

**18:10- Discussion**

**20:30 Dinner**

**November 14<sup>th</sup> Deployment**

**Chair Juan A. Rodriguez**

**9:15-10:05 Jesus Cerquides**

*No-ground-truth, pseudo-ground-truth, and learning from crowds*

**10:15-11:05 Guillem Alenyà**

*Assistive robots, or how AI should help us live independently longer*

**11:15-11:45 Coffee break**

**11:45-12:35 José Carlos Castillo Montoya**

*Artificial intelligence in social robotics for the elderly*

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**13:00-14:30 Lunch**

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**14:30-15:20 Julio Gonzalo**

*Challenges for NLP evaluation in the generative AI era*

**15:30-16:20 Ricardo Sanz**

*AI for Conscious Machines*

**16:30-17:40 Coffee break/In the woods + Posters**

**WINE AND CHEESE**

**17:40- Discussion**

**20:30 Dinner**

**November 15<sup>th</sup> Ethics and Society**

**Chair Juan Poyatos**

**9:00-9:50 Sara Degli-Esposti**

*AI value alignment and affordances*

**10:00-10:50 Maite López-Sánchez**

*Value alignment*

**11:00-11:30 Coffee break**

**11:30-12:20 Ana Cuevas**

*Present technologies, future responsibilities: can we avoid the Collingridge dilemma?*

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**12:45-14:30 Lunch**

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**14:30-15:20 Francisco José Bariffi**

*Artificial Intelligence against the rights of groups in vulnerable situations:  
Challenges and perspectives on gender, age, disability and immigration*

**15:30-16:20 Covadonga Gijón**

*Perception of AI in Spain*

**16:20- Discussion**

**18:00 Farewell**

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