



CIABIOMED 2025

I CONGRESO DE LA SOCIEDAD ESPAÑOLA DE INTELIGENCIA ARTIFICIAL EN BIOMEDICINA
SEVILLA, ESPAÑA | 23-24 Octubre, 2025



BIOMED

Sociedad Española de
Inteligencia Artificial en Biomedicina

SPECIAL TRACK: Explainable, robust, and trustworthy Artificial Intelligence (ERTAI)



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As data scientists, we are accustomed to validate our models according to metrics of correctness. In the medical domain, though, alternative measures of quality may be preferred, particularly those that assess **robustness, trustworthiness and explainability**. The development of explainable, robust, and trustworthy artificial intelligence (AI) approaches is essential to foster **transparency, accountability, and user confidence in the increasingly pervasive role of these technologies in health and biomedicine**. By ensuring that AI systems can be understood, monitored, and relied upon to make decisions that comply with regulations and are bound by ethical principles, we not only mitigate potential risks and biases but also empower domain users to engage with these technologies with greater assurance, fostering a harmonious integration of AI into the field of biomedicine.

The aim of this special session is to **discuss the principles that govern the behaviour of AI technology under the light of current regulatory efforts, as well as of the operators, users and other stakeholders who are impacted by decisions informed by such technologies in the medical domain**. Moreover, we will also explore how clear, understandable, and interpretable **explanation of AI decisions can be made to enhance transparency and foster user trust**.

We are seeking contributions that address either theoretical developments or practical applications, presenting innovative approaches and technological advancements within Explainable, Robust and Trustworthy AI.



Topics of interest:

Topics of interest for this special session include (but are not limited to) the following:

- Explainable and Interpretable AI in (bio)medicine.
- AI in safety critical medical systems.
- Uncertainty management in medical applications.
- Compliance with regulations of medical AI-based systems.
- Human-in-the-loop in medical AI-based systems.
- Intrinsically interpretable methods applied in medicine.
- Ante-hoc vs post-hoc methods applied in medicine.
- Data visualization in biomedicine.
- Application domain specificity of methods.
- Trustworthy AI in medicine.
- Bias in AI methods applied to medical problems.
- Fairness of AI methods applied to medical problems.
- Accountability of AI methods applied to medical problems.
- Impact of AI methods in the human workforce.
- AI for federated learning in healthcare.
- AI ethics in medical application domains.
- Legal implications of the use of AI in healthcare.
- Regulatory frameworks for the use of AI in healthcare.



Organizadores:

- **Dra. Caroline König**, Universitat Politècnica de Catalunya (UPC), Spain.
- **Dr. Alfredo Vellido**, Universitat Politècnica de Catalunya (UPC), Spain.
- **Dr. José M. Juarez**, Universidad de Murcia (UM), Spain.



Contact:

For further information, please visit the CIABiomed 2025 website at <https://2025.iabiomed.org/> or contact the organisers of this special session at caroline.leonore.konig@upc.edu.



Type of submissions:

Each paper should be prepared following the **Lecture Notes in Bioinformatics (LNBI)** format from **Springer**, the template for which is available at <https://www.springer.com/gp/computer-science/lncs/conference-proceedings-guidelines>. The template can also be found on the Overleaf platform: <https://www.overleaf.com/latex/templates/springer-lecture-notes-in-computer-science/kzwwpvhwnvfj#.WuA4JS5uZpi>.

CIABioMed 2025 accepts four types of submissions:

- Regular papers: This type of paper is limited to a range of 12-15 pages.
- Short papers: These papers are limited to a range of 6-11 pages.
- Posters papers: This contribution is limited to a total of between 4-6 pages, and it is not possible to extend the length of the document. This type of document will not include an oral presentation during the conference. Authors of this type of document should prepare a real poster to be displayed during the conference. For presentation purposes at the conference, authors should prepare the poster in portrait format. Accepted dimensions are 60 (width) x 80 (length).
- Breakthroughs papers: This modality aims to give visibility to recent research and bring these advances closer to the scientific community, fostering interdisciplinary knowledge and connections between researchers from different areas such as computer science, biology, medicine and bioengineering. Breakthroughs papers may refer to work that has already been published, although the content of the document must be completely original. The contribution is limited to 2-4 pages, and it is not possible to extend the length of the document. The duration of the oral presentation of this type of document will be shorter than the regular one.

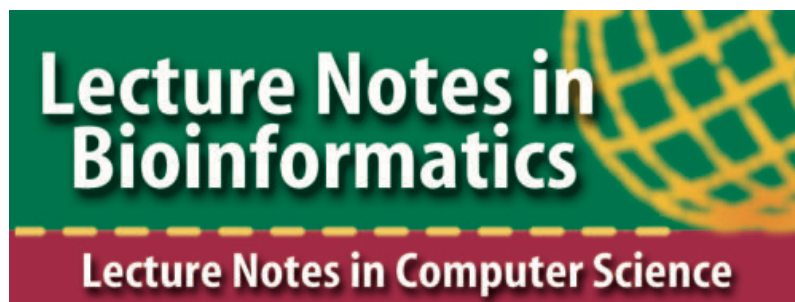
Regular and short papers accepted will be included with their own DOI in **Lecture Notes in Bioinformatics (LNBI)** from **Springer**. **Poster papers accepted** will also be published in **Lecture Notes in Bioinformatics (LNBI)** grouped under the same DOI. In order to encourage more developed contributions, authors are encouraged to expand their papers whenever possible, so that they can be considered as regular papers. The **accepted breakthrough papers** will be published in the society's own proceedings which will be available on the [official IABiomed website](#).



Submission guidelines:

Papers should be submitted electronically via the following website: <https://meteor.springer.com/CIABiomed2025>

All submitted papers **must be written in English** and will be **reviewed by single-blind peer review** by at least three members of the Program Committee. Papers must be original and must not have been published previously. In addition, submitted documents must comply with Springer's code of conduct: <https://www.springernature.com/gp/authors/book-authors-code-of-conduct>



Regular and short papers accepted will be included with their own DOI in [Lecture Notes in Bioinformatics \(LNBI\)](#) from **Springer**. **Poster papers accepted** will also be published in **Lecture Notes in Bioinformatics (LNBI)** grouped under the same DOI. In order to encourage more developed contributions, authors are encouraged to expand their papers whenever possible, so that they can be considered as regular papers. The **accepted breakthrough papers** will be published in the society's own proceedings which will be available on the [official IABiomed website](#).

Publication is conditional on the registration and presentation of the paper at the conference by one of the authors. Accepted oral presentations and posters **may be presented at the conference in Spanish**.

Once the conference is over, the accepted contributions will be published in the corresponding proceedings depending on the type of submission made.