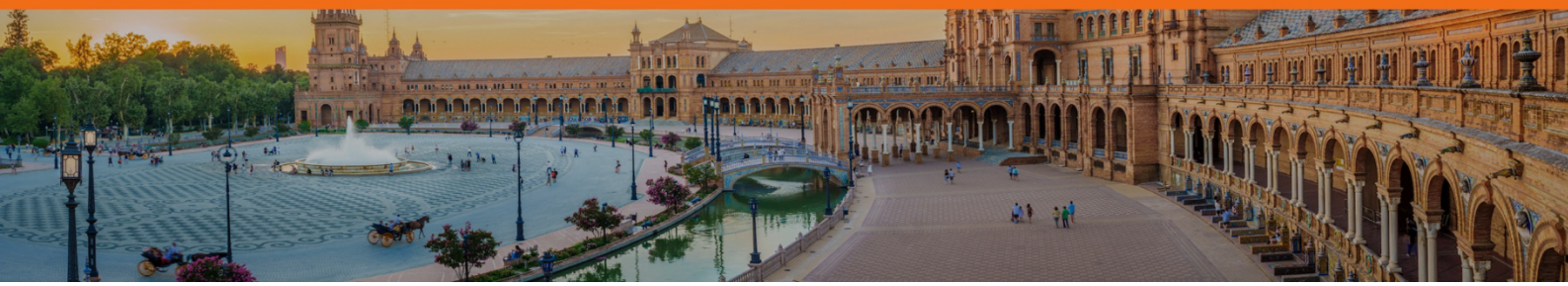
CIABIOMED 2025

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: Computational Multiomics-Clinical Integration for the Discovery and Validation of Predictive Biomarkers (ICMBIO)



Submit your paper through this special track:
https://2025.iabiomed.org/en/submit-your-paper-2/

Modern medicine is on the cusp of a revolution, driven by the ability to **integrate vast amounts of biological and clinical data**. This session will showcase concepts, techniques and best practices for **multiomics–clinical integration**, combining omics layers (genomics, transcriptomics, proteomics, metabolomics, epigenomics and microbiome) with clinical data (medical history, laboratory tests, medical imaging, electronic health records), adopting a bidirectional laboratory–clinical approach that spans bench-to-bedside and bedside-to-bench translation.

The goal is to **promote a multidisciplinary exchange between laboratory researchers, clinicians and data scientists**, catalyzing the rapid translation of biomarker innovations into clinical practice and enabling the **discovery of new predictive markers**.

Multidisciplinary exchange between bench researchers, clinicians and data scientists will catalyze the rapid translation of biomarker innovations into clinical practice and spark the discovery of entirely new predictive markers.

Topics of interest:

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

- **Multiomic-Clinical Integration:** innovative methods for data fusion, normalization and harmonization across diverse biological and clinical datasets. Solutions to the challenges inherent in the heterogeneity and scale of these data will be particularly valued.
- **AI for Omics Data (Omics AI):** Application and development of Machine Learning and Deep Learning algorithms specifically tailored for the analysis of different omics layers. This includes the design of predictive models that extract meaningful information from genomic, transcriptomic, proteomic, metabolomic, epigenomic and microbiome data.
- **Predictive Modeling and Digital Twins:** Hybrid strategies that combine the power of artificial intelligence with biological and clinical knowledge to identify, test and validate new biomarkers. Included are approaches for creating digital twins that simulate disease progression and response to treatments.
- **Translational Research:** Design and analysis of longitudinal cohorts, pilot clinical trials and deployment of prototypes in real hospital settings. Studies are sought that demonstrate the feasibility and clinical impact of biomarkers discovered through multi-omics integration and AI.
- **Computer-Aided Modeling of Biological Processes and Gene Networks:** Research on computational modeling of complex biological systems, simulations at the molecular, cellular or organ level, and analysis of genetic, protein or metabolic networks to understand disease mechanisms and predict responses to treatments. This includes network inference, topology analysis and the identification of key nodes or regulatory modules as potential biomarkers.

Organizadores:

- **Dr. Juan Antonio Ortega Ramírez,** Universidad de Sevilla (US), Spain.
- **Dra. Aurea Simón-Soro,** Universidad de Sevilla (US), Spain.
- **Dr. Francisco Antonio Gómez Vela,** Universidad Pablo de Olavide (UPO), 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 **jortega@us.es**.

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:

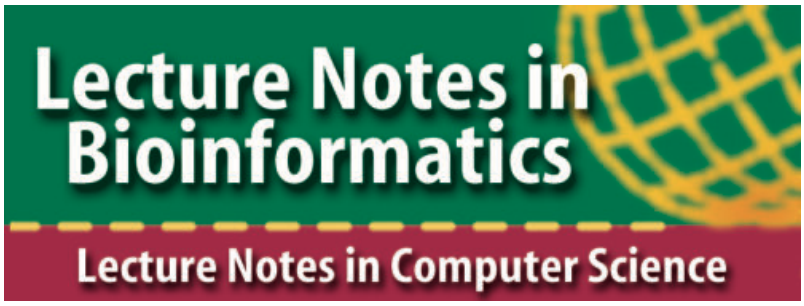
- Regular papers: This type of paper is limited to a range of 12-15 pages.
- Short papers: These papers are limited to a range of 6-11 pages.
- Posters papers: This contribution is limited to a total of between 4-6 pages, and it is not possible to extend the length of the document. This type of document 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



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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.