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ISMEC 2025 AND THE 18TH EDITION OF THE FERNANDO PULIDORI PRIZE

The International Symposium on Thermodynamics of Metal Complexes 2025 (ISMEC 2025) took place in Granada (Spain) from June 9th to 12th, organized by the University of Granada. The event covered the cutting-edge research on thermodynamics of metal complex and featured four plenaries, five keynote speakers, thirty-eight oral communications, and thirty-three poster presentations, gathering 102 participants from 13 different countries. The conference also recognized the young scientist Kinga Garstka-Litwin (University of Wrocław, Poland) with the Fernando Pulidori Award.



The International Symposium on Thermodynamics of Metal Complexes (ISMEC) is the annual congress of the International Group for the Thermodynamics of Metal Complexes (**ISMEC Group - International Group for the Thermodynamics of Complexes**), an open group in which researchers freely meet to share knowledge, promote research and best practices, exchange ideas and foster new collaborations in the field of thermodynamics of metal complexes.

ISMEC 2025 is the 53rd edition of a series of meetings that began in Parma in 1973 as the annual

meeting of the Italian *Gruppo di Termodinamica dei Complessi*. The scope and impact of this conference made it expand first to Spain and eventually, in 2010, into a larger international event, highlighting the increasing global significance of coordination chemistry and the research on metal complexes and their multiple applications.

This year, ISMEC 2025 was held in Granada, Spain, from 9th to 12th June 2025, organized by Dr. Alicia Domínguez-Martín and Prof. Juan Niclós-Gutiérrez at the University of Granada. It is the second time that Granada has the pleasure to hold the ISMEC Conference. Just like in 1996, this event attracted a significant number of participants, gathering a total of 102 delegates from 13 different countries: Italy, Spain, Poland, Hungary, France, Czech Republic, Slovakia, Uruguay, Portugal, Ireland, Germany, Denmark and South Africa (Fig. 1). The scientific program was focused on the most recent advances on thermodynamics and kinetics of metal coordination processes, covering a wide range of topics in the fields of analytical, bioinorganic, environmental, supramolecular inorganic and physical chemistry, including for instance:

- Complexation thermodynamics and kinetics,
- Solution equilibria and coordination chemistry,
- Complexation processes in supramolecular chemistry,



Fig. 1 - Group picture of participants of ISMEC 2025

- Metal-based reactivity and catalysis,
- Metal-complex interactions with biomolecules,
- Metals in diseases: transport, homeostasis and toxicity,
- Metal-based drugs: diagnosis and therapy,
- Metal complexes of environmental and biological interests,
- Nanostructured metal complexes,
- Analytical methods and sensors based on complexation equilibria,
- Computer methods for equilibrium analysis.

During the conference, scientists from diverse disciplines had the opportunity to present their cutting-edge research and take part in dynamic and fruitful discussions. Indeed, all the work presented clearly evidences the success of the ISMEC Community, which involve multidisciplinary research groups with very active collaborations.

Four plenary lectures were offered in the Scientific Program. The first and opening lecture was delivered by the Emeritus Professor Prof. Henryk Kowalski (University of Wroclaw, Poland), who reviewed all his expertise on the study of metal complexation involving biomimetic systems, especially metal-peptides interactions. Prof. Eva J. Toth (CMB Orléans, France) presented her latest results on metal complexes for the application on biomedical Magnetic Resonance Imaging probes, while Dr. Pascal E. Reiller (Atomic Energy and Alternative Energies Commission | CEA - Département de Physico-Chimie, France) explored a

more industrial approach, monitoring the speciation of uranium (VI) in different mining context. Prof. Isabel Correia (IST Lisboa, Portugal) addressed the therapeutic potential of different metal complexes as promising candidates for anticancer drug development.

In addition to the plenary sessions, five keynote speakers addressed key topics in the field of metal ion complexation. Prof. Andrea Melchior (University of Udine, Italy) presented a selection of recent studies on coordination, speciation, and solvation properties of several metal ions

in different ionic liquids. Dr. Iris H. Valido (Universitat Autònoma de Barcelona, Spain) discussed the potential of multi-scale and multimodal imaging techniques to study the presence of trace elements in environmental and biological samples. Tom A.J. Vosch (University of Copenhagen, Denmark) offered an overview of the promising near-infrared emitting properties and challenges regarding the structural aspects of DNA stabilized Ag-Nanoclusters. Dr. Rosita Cappai (University of Sassari, Italy) explored the structure-stability relationship of different kojic acid-based metal complexes, paying special attention to their thermodynamics. Dr. Salvador Blasco (University of Valencia, Spain) shared their synthetic strategies to obtain metal complexes with SOD-like activity.

In ISMEC 2025, we wanted to further encourage the oral presentations, giving a total of 38 slots for oral communications, besides 33 poster presentations, ensuring broad participation. As it is usual at ISMEC meetings, the involvement of young scientists was clearly positive, and approximately half of the oral communications were delivered by PhD students and postdoctoral researchers. All abstracts of the Scientific Program were compiled and published in the *Acta of the International Symposium on Thermodynamics of Metal Complexes 2025* (ISSN: 2239-2459), which is annually published online and open access by the ISMEC Group (**ISMEC Acta - ISMEC Group**).





Fig. 2 - The award ceremony of Fernando Pulidori Award. From the left: Alicia Domínguez-Martín (Chair ISMEC 2025), Kinga Garstka-Litwin (F. Pulidori awardee) Tarita Biver (president ISMEC Group) and Maurizio Remelli (guarantor Fernando Pulidori Award)

During ISMEC 2025, the International Group for the Thermodynamics of Complexes conferred the Fernando Pulidori Award 2025 (18th Edition) to Dr. Kinga Garstka-Litwin, from the Faculty of Chemistry, University of Wrocław, Poland (Fig. 2). The Fernando Pulidori Prize is awarded to a young coordination chemist, preferably an expert in thermodynamics and/or kinetics of complexation phenomena in solution, and author of an original paper published in the period 2022-2025. During the ceremony, Dr. Kinga Garstka-Litwin had the opportunity to present her research work during the conference as an oral communication entitled “Master Survival Strategy: Aspf2 zincophore and ZrfC transporter on the front line in the battle for the host’s Zn(II)”, which contained the results included in the scientific article “*Aspergillus fumigatus* ZrfC Zn(II) transporter scavengers zincophorebound Zn(II) (*Dalton Transactions*, 2024, **53**, 2848) and other recent results. Likewise, she was awarded an engraved plaque, a certificate, and a financial contribution, presented by the President of the Evaluation Committee, Prof.

Maurizio Remelli. An extended abstract of her scientific activity is published in this issue of “*La Chimica e l’Industria*”.

In addition to the Pulidori Award, three other prizes were conferred for outstanding young researchers. Franco Castro (Universidad de la República, Montevideo, Uruguay, currently developing his PhD at CMAB - CSIC - Universidad Autónoma de Barcelona, Spain) was awarded with the Andrés M. Del Río Award (sponsored by the Academia Iberoamericana de España), presenting his contribution “Solar-thermal energy release in a water-soluble push-pull norbornadiene-derivative triggered by a Co(II)-porphyrin complex” as an oral communication. He also received a commemorative engraved plaque and a certificate. The best oral presentation award was given to Jennifer Storchl (University of Modena and Reggio Emilia, Modena, Italy), whose oral communication was entitled “DACH-based hexadentate ligands for Pb²⁺ complexation: towards applications in nuclear medicine”. Finally, the best poster presentation was awarded to Nóra Ildikó Kovács (University of Debrecen, Hungary) and her work “Complex forming capabilities of ambidentate hydroxy-pyridinone derivatives bearing N-heteroaromatic ring”. These two former awardees received a copy of the book *Emerging Analytical Techniques for Chemical Speciation Studies - Part 1*, which had been recently published by World Scientific Publishing Co. and was presented, along with the upcoming *Part 2*, during the conference by Dr. Michel Meyer and Prof. Demetrio Milea. This book is closely related to the main topics of ISMEC, offering an in-depth look at various instrumental methods for investigating complex formation equilibria in solution and measuring associated thermodynamic parameters. We are delighted to conclude that ISMEC 2025 was a remarkable success. Thank you to everyone who contributed to this productive and engaging conference. Participation was, once more, exceptional in numbers and quality, a symptom that the ISMEC Community is strong and active along the different generations and evidence the key role that this annual event plays in advancing the field of metal-complex chemistry. We are looking forward to attending the next Edition of the Conference (ISMEC 2026) which will be held in the beautiful city of Udine (Italy), in June 2026.