

EDITORIAL

Since 2007, the journal *High Temperatures-High Pressures* has consistently featured invited contributions originating from presentations delivered at the International Workshop on Subsecond Thermophysics (IWSSTP). These long-standing workshops are organized on a triennial basis at varying international venues and are intended to foster the exchange of expertise, experimental experience, and emerging concepts related to thermophysical property measurements. Particular emphasis is placed on investigations conducted under extreme conditions, including elevated temperatures and pressures, as well as on the behavior of matter either near to or far from thermodynamic equilibrium. The characteristic temporal scales addressed span from seconds down to milliseconds, requiring the implementation of rapid resistive or inductive volume heating, pulsed laser heating, levitation methods under terrestrial, microgravity conditions, and other advanced fast diagnostic techniques developed in recent years.



The present special issue is dedicated to the 14th International Workshop on Subsecond Thermophysics, held from June 24 to June 26, 2025. It was both an honor and a privilege for the Institut de Recherche Dupuy de Lome (IRDL, UMR CNRS 6027), Lorient, to host this event and welcome the international thermophysics community. The workshop brought together 54 participants representing 9 countries. Among them were 17 doctoral candidates, whose role in shaping the future of the field is of fundamental importance. The scientific program comprised 36 oral presentations across 10 oral sessions and socials events.

The sessions addressed a broad range of topics, including pulse heating, surface tension, aerodynamic levitation, data analysis and simulation, levitation techniques, structure and dynamics, radiation and thermal properties on many types of materials. Participants were affiliated with institutions in 9 countries, with the largest representation from France (28), Germany (10) and the United States (7), followed by Japan (4), Austria (1), China (1), Canada (1), Poland (1) and Switzerland (1). This distribution highlights the strongly international character of the workshop.

Beyond the formal scientific sessions, participants were also engaged in a social program that included a guided tour of a French Navy Submarine and an gala diner inside the Sailing museum of Lorient. On June 26, IRDL offered a visit of its laboratories. This additional program provided to participants valuable practical and technical insights into thermophysical measurements at IRDL mainly thanks to recent aerodynamic levitation apparatus.

The workshop once again demonstrated its role as an effective platform for exchanging current ideas, technological advances, and scientific trends in subsecond thermophysics. The overall quality of the contributions was exceptionally high and stimulated intensive and constructive discussions within a collegial atmosphere. Six peer-reviewed papers arising from the workshop have been published in the present special issue of *High Temperatures-High Pressures*.

I would like to express my sincere gratitude to all individuals and institutions who contributed to this success. First and foremost, I thank the International Organizing Committee for entrusting us with the organization of this workshop and for their continued confidence. Financial supports from Université Bretagne Sud, Région Bretagne, Comsol and SFT are gratefully acknowledged, and part of the social program was supported by OCP Science.

Special appreciation is owed to the members of the International Organizing Committee who were closely involved throughout all phases of the workshop: Konstantinos Boboridis (Institute for Transuranium Elements, EC-JRC, Germany), Ivan Egly (RWTH Aachen University, Germany), Erhard Kaschnitz (Austrian Foundry Research Institute, Austria), Gernot Pottlacher (Graz University of Technology, Austria), Patrick Hopkins (University of Virginia), Douglas Matson (Tufts University) and Natalia Sobczak (Foundry Research Institute, Krakow, Poland). Ivan Egly is additionally acknowledged for his role as Co-Editor-in-Chief of *High Temperatures-High Pressures* and for overseeing, the timely publication of this special issue.

While the organizers strive to create optimal conditions for a workshop, its true success ultimately depends on the participants who deliver the presentations and actively contribute to the discussions. They bring the workshop to life. Accordingly, the highest appreciation is extended to all attendees, including the audience, speakers and session chairs. There was unanimous agreement among participants that the 14th IWSSTP was a highly successful event.

By decision of the International Organizing Committee, the 15th International Workshop on Subsecond Thermophysics (IWSSTP 2028) will be organized by Prof. Ragnhild Elizabeth Aune of Norwegian University of Science and Technology, Norway. According to current planning, the next workshop will take place in 2028 in Trondheim, Norway. I look forward to meeting the community again at the 15th IWSSTP !

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Chairman of the 14th IWSSTP

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