

## Special Issue on the recent advances of calorimetry, thermal analysis and applied thermodynamics

### *Guest Editors*



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This compilation is based on the peer-reviewed and selected papers presented at XLII National Conference on Calorimetry, Thermal Analysis and Applied Thermodynamics, AICAT2020, Udine, January 27–28, 2021.

## Preface

This Special Issue of Journal of Thermal Analysis and Calorimetry contains a selection of research articles related to the contributions presented at the XLII National Conference on Calorimetry, Thermal Analysis and Applied Thermodynamics (AICAT2020) which took place in Udine as online event on January 27–28, 2021. Jointly organized by AICAT (Italian Association of Calorimetry and Thermal Analysis) and GICAT (Interdivisional Group of Calorimetry and Thermal Analysis of the Italian Chemical Society) the conference gathers experts in Calorimetry, Thermal Analysis from Italy and across Europe since late 1970s. The spreading of the COVID-19 global pandemic forced the cancellation of the in-person event initially planned in June 2020. Thanks to the support of the AICAT-GICAT executive boards, the staff of the University of Udine and the sponsors, the organizing committee has been able to transform the original congress into an online one preserving the entire scientific program and allowing the participation of more than 100 delegates from Italy and other 10 other European countries. In particular, we acknowledge the University of Udine for the support and the sponsoring companies: TA Instruments, Mettler Toledo, Netzsch, Alfatest, Linseis/MP Strumenti and Edises. Also the Italian Association of Chemistry for Engineering (AICIng) is acknowledged for the patronage. We warmly acknowledge all the young collaborators who participated in the organization of the congress in Udine.

The topics of the contributions received included applications of calorimetry and thermal analysis in the fields of cultural heritage, polymers, biomaterials, chemical thermodynamics, food science, inorganic materials, kinetics and catalysis, and life science. Invited contributions from outstanding scientists were given in form of plenary lectures by

Prof. Giuseppe Arena (University of Catania, Italy, AICAT-TA award), Prof. Jurij Lah (University of Ljubljana, Slovenia) and Dr. Maria Paciulli (University of Parma, Italy, AICAT “A. Lucci” award). Keynote lectures were given by Dr. Lorenzo Appolonia (Centro Conservazione Restauro, LaboS, Venaria Reale, Torino, Italy), Prof. Nadia Lotti (University of Bologna, Italy), Prof. Celia Duce (University of Pisa, Italy), and Prof. Matko Erceg (University of Split, Croatia),

The cultural heritage session has been dedicated to Prof. Giuseppe Della Gatta, pioneer in the application of thermal analysis and calorimetry in this field and one of the founders of AICAT, who passed away in 2020. A memory of his career and work was given by Prof. Elena Badea (INCDTP-ICPI Bucharest, Romania) during her talk.

A special relevance was given to brilliant young scientists who had the opportunity to highlight their work and achievements through oral communications and flash poster presentations.

This Special Issue on Recent Advances in Calorimetry, Thermal Analysis, and Applied Thermodynamics, collects papers where the use of calorimetric and thermal analysis methods are essential for addressing a given scientific question. In such works, the potential of the multi-technique approach, where calorimetric and thermal analysis methods are employed in combination with other experimental or computational techniques, is highlighted.

We thank all the authors who submitted their papers to this Special Issue, as well as the reviewers for their precious work. Our special thanks go to Prof. Imre Miklós Szilágyi, Editor-in-Chief of JTAC, as well as the members of the Editorial Office and SpringerNature for their work.

Prof. Andrea Melchior and Prof. Marilena Tolazzi  
Guest Editors

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