



Recent Advance and Applications in Chip Calorimetry

Guest Editors:

Dr. Johannes Lerchner

Institute of Physical Chemistry,
TU Bergakademie Freiberg,
Leipziger Str. 29, 09599 Freiberg,
Germany

Prof. Dr. Christoph Schick

Institute of Physics, University of
Rostock, Wismarsche Str. 43-45,
18051 Rostock, Germany

Deadline for manuscript
submissions:

closed (20 February 2022)

Message from the Guest Editors

Chip calorimeters are modern, highly miniaturized representatives of an old and very fundamental method used in physical chemistry and related sciences. They are characterized by the integration of the essential functional elements of a calorimeter, such as sensors for the measurement of temperatures and temperature differences, calibration heaters, sample containers, and heat sinks in a solid-state device, generally a silicon chip. The micro-techniques used for the preparation of the heat power transducers in chip calorimeters have led to high signal resolution and extremely small signal time constants.

This Special Issue on this area is intended to provide an overview of the current state-of-the-art, as well as the possibilities and limitations, and to encourage broader applications. Contributions presenting new results are very welcome, especially from the fields of ultrafast scanning calorimetry and bio-medical diagnostics in the broadest sense, including single-cell thermometry.

Keywords:

- ultra-fast scanning calorimetry
- phase transition
- nano-samples
- thin-films
- metabolic heat production
- metabolic drug responses
- single-cell thermometry





an Open Access Journal by MDPI

Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo
Dipartimento di Fisica,
Politecnico di Milano, Piazza L.
da Vinci 32, 20133 Milano, Italy

Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

Author Benefits

Open Access: free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility: indexed within Scopus, SCIE (Web of Science), Inspec, CAPlus / SciFinder, and other databases.

Journal Rank: JCR - Q1 (Engineering, Multidisciplinary) / CiteScore - Q1 (General Engineering)

Contact Us

Applied Sciences Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/applsci
applsci@mdpi.com
[X@Applsci](#)