

## Special Issue

# Gas Turbine Cooling Systems Design and Analysis

### Message from the Guest Editors

In the last decades the progress of gas turbine design achieved significant advancements, thanks also to the constant improvement of heat transfer technologies and prediction capabilities. Nowadays, novel experimental techniques open new opportunities and challenges on collecting high resolution and high accuracy data with well-defined boundary conditions at relevant engine working parameters. On the other hand, the research on numerical method continuously grow dragged by computing power; CFD is now facing with high fidelity simulations, multiphysics and multiscale problems, tuning of low order turbulence models, and fluid/solid coupling in conjugate simulations. In addition, the new manufacturing processes offer us new opportunities on design novel cooling architectures. This special issue invites scientific output in the following topics:

- Novel internal and external heat transfer technologies
- Experimental methodologies for heat transfer investigation
- HiFi CFD and validation of numerical models in heat transfer
- Validation of Conjugate CFD simulations
- Experimental and numerical investigations on relevant heat transfer issues

### Guest Editors

Prof. Dr. Bruno Facchini

Dipartimento di Ingegneria Industriale (DIEF), Università degli Studi di Firenze, Florence, Italy

Dr. Alessio Picchi

Dipartimento di Ingegneria Industriale (DIEF), Università degli Studi di Firenze, THT Lab coordinator, Florence, Italy

### Deadline for manuscript submissions

closed (28 February 2021)



## Energies

an Open Access Journal  
by MDPI

Impact Factor 3.2  
CiteScore 7.3



[mdpi.com/si/43078](https://mdpi.com/si/43078)

*Energies*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[energies@mdpi.com](mailto:energies@mdpi.com)

[mdpi.com/journal/  
energies](https://mdpi.com/journal/energies)





# Energies

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.2  
CiteScore 7.3



[mdpi.com/journal/  
energies](https://mdpi.com/journal/energies)



## About the Journal

### Message from the Editor-in-Chief

*Energies* is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

---

### Editor-in-Chief

Prof. Dr. Enrico Sciubba

Department of Mechanical and Industrial Engineering, University  
Niccolò Cusano, 00166 Roma, Italy

---

### 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), Ei Compendex, RePEc, Inspec, CAPlus / SciFinder, and other databases.

#### Journal Rank:

CiteScore - Q1 (Control and Optimization)