micromachines

IMPACT FACTOR 3.0 | Indexed in: PubMed | CITESCORE 5.2

an Open Access Journal by MDPI

Quantum Cascade Laser: Physics, Technology and Applications

Guest Editor:

Dr. Feihu Wang
Shenzhen Institute for Quantum Science and Engineering, Southern University of Science and Technology, Shenzhen 518055, China

Deadline for manuscript submissions:
closed (31 October 2022)

Message from the Guest Editor

Dear Colleagues,

The quantum cascade laser (QCL) is a unipolar quantum device fully based on a semiconductor technology platform. Its invention was marked as one of the top photonic breakthroughs since the establishment of quantum mechanics theory and brought with it hope and expectations. Although QCL has undergone surprising development in physics, technology, and applications in the past 27 years, there are still some vital issues that have not found solutions, e.g., room temperature QCL with direct terahertz gain has yet to be realized; little progress has been achieved for years on the overall efficiency of QCL; many technological challenges in the long-wave infrared range still need to be overcome; the nature of pulse generation and the limiting factors for obtaining shorter pulse widths and higher peak power in QCL need to be further explored; the application of mid-infrared and terahertz waves is far below our expectation, etc. This junction is a good time for us to conclude our past achievements, present our recent outcomes, and discuss the future prospects of QCLs.

micromachines

IMPACT FACTOR 3.0 | Indexed in: PubMed | CITESCORE 5.2

an Open Access Journal by MDPI

Editor-in-Chief

Prof. Dr. Ai-Qun Liu
1. Department of Electrical and Electronic Engineering, The Hong Kong Polytechnic University, Hong Kong, China
2. School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore 639798, Singapore

Message from the Editor-in-Chief

You are invited to contribute research articles or comprehensive reviews for consideration and publication in *Micromachines* (ISSN 2072-666X). *Micromachines* is published in the open access format. Research articles, reviews and other contents are released on the internet immediately after acceptance. The scientific community and the general public have unlimited free access to the content as soon as it is published. As an open access journal, *Micromachines* is supported by the authors or their institutes by payment of article processing charges (APC) for accepted papers. We are pleased to welcome you as our authors.

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), PubMed, PMC, Ei Compendex, dblp, and other databases.
Journal Rank: JCR - Q2 (*Physics, Applied*) / CiteScore - Q2 (*Mechanical Engineering*)

Contact Us

Micromachines Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

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

mdpi.com/journal/micromachines
micromachines@mdpi.com
𝕏@micromach_mdpi