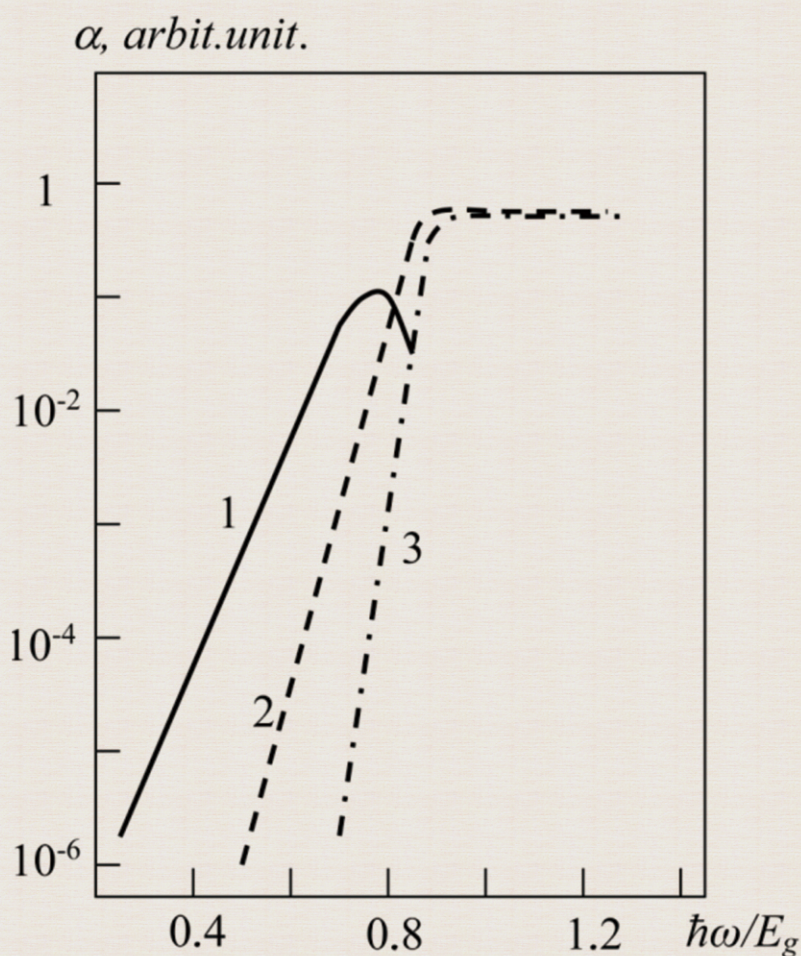


# Optics and Photonics Journal



ISSN: 2160-8881





# Journal Editorial Board

ISSN: 2160-8881 (Print), 2160-889X (Online)

<https://www.scirp.org/journal/opj>

---

## Editors-in-Chief

**Prof. Bouzid Menaa**

Fluorotronics Inc., USA

**Prof. Anhui Liang**

Nanjing University of Posts and Telecommunications, China

## Editorial Board

**Prof. Yao Zhang**

Jinan University, China

**Dr. Kang Zhang**

GE Global Research, USA

**Dr. Changgeng Ye**

nLIGHT Photonics Corporation, Finland

**Dr. Kaikai Xu**

University of Electronic Science and Technology of China, China

**Dr. Yong Wang**

Canalaser Technologies Co., Ltd., China

**Dr. Shuping Wang**

University of North Texas, USA

**Dr. Mengtao Sun**

University of Science and Technology Beijing, China

**Dr. Soheil Sharifi**

Ferdowsi University of Mashhad, Iran

**Dr. Alexey Yurievich Seteikin**

Amur State University, Russia

**Dr. Felix Jaetae Seo**

Hampton University, USA

**Prof. Martins Rutkis**

Institute of Solid State Physics University of Latvia, Latvia

**Prof. Sukhdev Roy**

Dayalbagh Educational Institute, India

**Dr. Chenggen Quan**

National University of Singapore, Singapore

**Prof. Kuppuswamy Porsezian**

Pondicherry University, India

**Prof. Neal T. Pfeifferberger**

Virginia Tech, USA

**Dr. Vincenzo Petruzzelli**

Politecnico di Bari, Italy

**Prof. Frédéric Paul**

University of Rennes 1, France

**Dr. Lim Nguyen**

University of Nebraska-Lincoln, USA

**Prof. Patrick Meyrueis**

University of Strasbourg, France

**Prof. Mohammad Matin**

University of Denver, USA

**Dr. Esha Manne**

NASA Postdoctoral Program, USA

**Prof. Mohd Adzir Mahdi**

Universiti Putra Malaysia, Malaysia

**Dr. Abbas Ali Lotfi-Nayestanak**

Telecommunication Engineering and IT Department, Iran

**Dr. Jiang Li**

The Ohio State University, USA

**Prof. Lev B. Levitin**

Boston University, USA

**Prof. Sang Hak Lee**

Kyungpook National University, South Korea

**Prof. Sergey Kobtsev**

Novosibirsk State University, Russia

**Prof. Sakhrat Khizroev**

Florida International University, USA

**Dr. Rohan D. Kekatpure**

Sandia National Laboratories, Mexico

**Prof. Mark Humphrey**

Australian National University, Australia

**Dr. Tony Jun Huang**

Pennsylvania State University, USA

**Dr. Jacob Dunningham**

University of Leeds, UK

**Dr. Paul B. Crilly**

United States Coast Guard Academy, USA

**Dr. Sharmistha Dutta Choudhury**

Bhabha Atomic Research Centre, India

**Dr. Josep Canet-Ferrer**

Universidad de Valencia, Spain

# Table of Contents

**Volume 10    Number 9**

**September 2020**

## **Temperature Dependence of Urbach Energy in Non-Crystalline Semiconductors**

R. Ikramov, M. Nuriddinova, K. Muminov, R. Zhalalov.....211

# Optics and Photonics Journal (OPJ)

## Journal Information

### SUBSCRIPTIONS

The *Optics and Photonics Journal* (Online at Scientific Research Publishing, <https://www.scirp.org/>) is published monthly by Scientific Research Publishing, Inc., USA.

#### Subscription rates:

Print: \$79 per issue.

To subscribe, please contact Journals Subscriptions Department, E-mail: [sub@scirp.org](mailto:sub@scirp.org)

### SERVICES

#### Advertisements

Advertisement Sales Department, E-mail: [service@scirp.org](mailto:service@scirp.org)

#### Reprints (minimum quantity 100 copies)

Reprints Co-ordinator, Scientific Research Publishing, Inc., USA.

E-mail: [sub@scirp.org](mailto:sub@scirp.org)

### COPYRIGHT

#### Copyright and reuse rights for the front matter of the journal:

Copyright © 2020 by Scientific Research Publishing Inc.

This work is licensed under the Creative Commons Attribution International License (CC BY).

<http://creativecommons.org/licenses/by/4.0/>

#### Copyright for individual papers of the journal:

Copyright © 2020 by author(s) and Scientific Research Publishing Inc.

#### Reuse rights for individual papers:

Note: At SCIRP authors can choose between CC BY and CC BY-NC. Please consult each paper for its reuse rights.

#### Disclaimer of liability

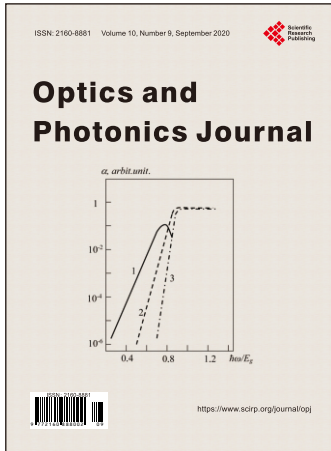
Statements and opinions expressed in the articles and communications are those of the individual contributors and not the statements and opinion of Scientific Research Publishing, Inc. We assume no responsibility or liability for any damage or injury to persons or property arising out of the use of any materials, instructions, methods or ideas contained herein. We expressly disclaim any implied warranties of merchantability or fitness for a particular purpose. If expert assistance is required, the services of a competent professional person should be sought.

### PRODUCTION INFORMATION

For manuscripts that have been accepted for publication, please contact:

E-mail: [opj@scirp.org](mailto:opj@scirp.org)





# Optics and Photonics Journal (OPJ)

ISSN: 2160-8881 (Print) 2160-889X (Online)  
<https://www.scirp.org/journal/opj>

Optics and Photonics Journal (OPJ) is an international, specialized, English-language journal devoted to publication of original contributions in all areas of optics and photonics. The Journal disseminates new results in the theory, design, applications, fabrication, performance and characterization of optics and photonics materials including bio-related functions such as bio-optics, bio-photonics and also optoelectronics. The journal is also devoted to challenging and innovating methods and techniques related to the development of optics and photonics materials, characterization and applications.

## Subject Coverage

The journal publishes original papers including but not limited to the following fields:

- All related associated materials and characterization techniques development
- Bio-induced optical materials and applications
- Bio-photonics
- Imaging processes
- Laser spectroscopy
- Light wave communication systems
- Nanophotonics
- Nonlinear optics
- Optical fibers
- Photonic crystals
- Quantum optics
- Waveguides

We are also interested in: 1) Short reports—2-5 page papers where an author can either present an idea with theoretical background but has not yet completed the research needed for a complete paper or preliminary data; 2) Book reviews—Comments and critiques.

## Notes for Intending Authors

The journal publishes the highest quality original full articles, communications, notes, reviews, special issues and books, covering both the experimental and theoretical aspects including but not limited to the above materials, techniques and studies. Papers are acceptable provided they report important findings, novel insights or useful techniques within the scope of the journal. All manuscript must be prepared in English, and are subjected to a rigorous and fair peer-review process. Accepted papers will immediately appear online followed by prints in hard copy.

## Website and E-Mail

<https://www.scirp.org/journal/opj> E-mail: [opj@scirp.org](mailto:opj@scirp.org)

## ***What is SCIRP?***

Scientific Research Publishing (SCIRP) is one of the largest Open Access journal publishers. It is currently publishing more than 200 open access, online, peer-reviewed journals covering a wide range of academic disciplines. SCIRP serves the worldwide academic communities and contributes to the progress and application of science with its publication.

## ***What is Open Access?***

All original research papers published by SCIRP are made freely and permanently accessible online immediately upon publication. To be able to provide open access journals, SCIRP defrays operation costs from authors and subscription charges only for its printed version. Open access publishing allows an immediate, worldwide, barrier-free, open access to the full text of research papers, which is in the best interests of the scientific community.

- High visibility for maximum global exposure with open access publishing model
- Rigorous peer review of research papers
- Prompt faster publication with less cost
- Guaranteed targeted, multidisciplinary audience



**Scientific  
Research  
Publishing**

**Website: <https://www.scirp.org>**

**Subscription: [sub@scirp.org](mailto:sub@scirp.org)**

**Advertisement: [service@scirp.org](mailto:service@scirp.org)**