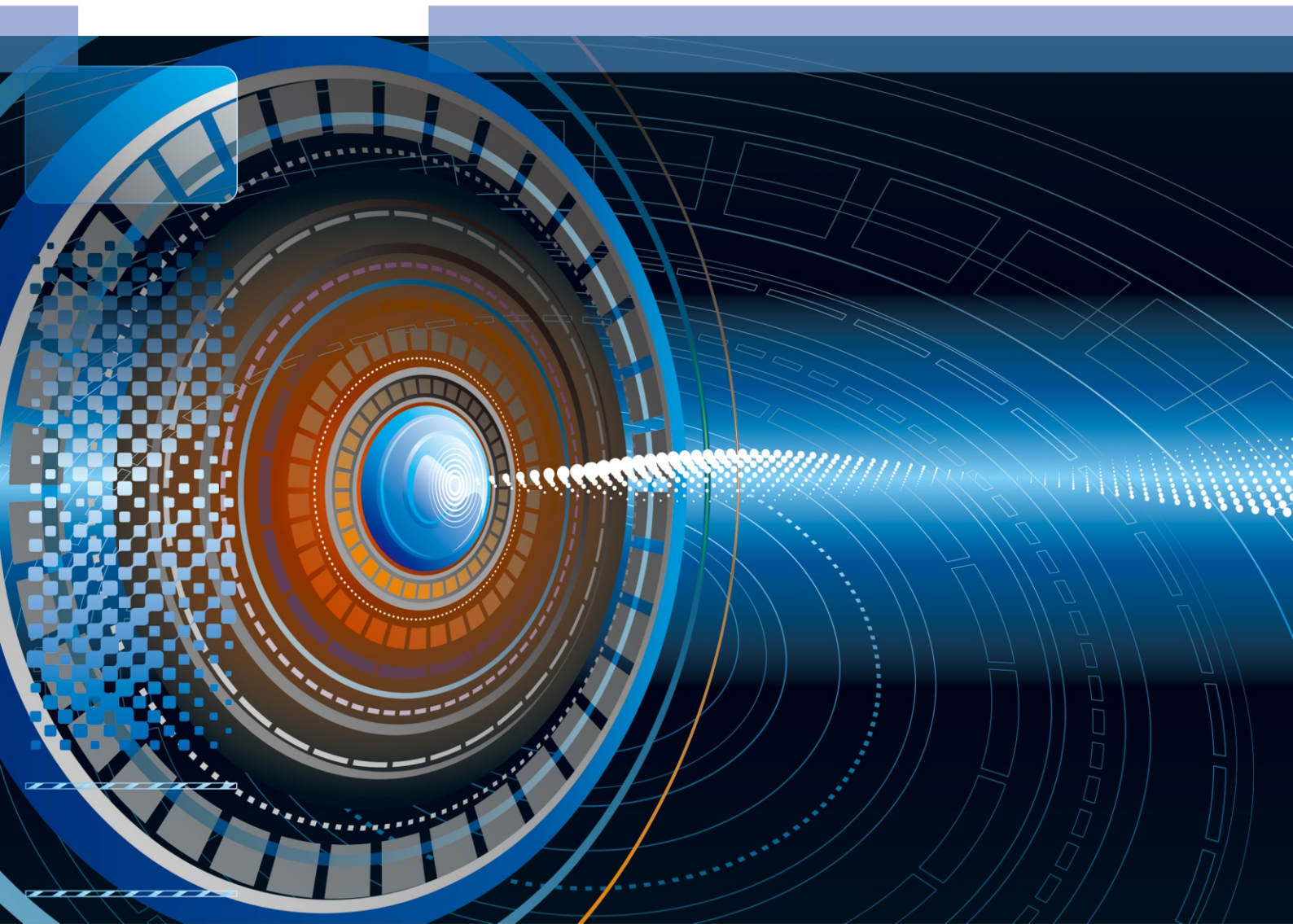


ISSN: 2161-122X Volume 10, Number 4, December 2020



# Journal of Sensor Technology



ISSN: 2161-122X



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

# Journal Editorial Board

ISSN: 2161-122X (Print), ISSN: 2161-1238 (Online)

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

---

## Editor-in-Chief

**Prof. Ashok Srivastava**

Louisiana State University, USA

## Editorial Board

**Dr. Bruno Andò**

The University of Catania, Italy

**Prof. Aytunç Ates**

Yildirim Beyazit University, Turkey

**Dr. Nada Farouk Atta**

University of Cairo, Egypt

**Prof. Saad Belkhiat**

Setif University, Algeria

**Prof. Ismail Hakki Boyaci**

Hacettepe University, Turkey

**Prof. Vinod Kumar Gupta**

Indian Institute of Technology, India

**Prof. Chang-Sik Ha**

Pusan National University, South Korea

**Prof. Songling Huang**

Tsinghua University, China

**Dr. Nirav J. Joshi**

University of Sao Paulo, Brazil

**Prof. Kamaruzaman Jusoff**

Universiti Putra Malaysia, Malaysia

**Prof. Dae-Sik Lee**

Electronics and Telecommunications Research Institute, South Korea

**Prof. Jong-Ho Lee**

Seoul National University, South Korea

**Dr. Weihua Li**

University of Wollongong, Australia

**Prof. Qingjun Liu**

Zhejiang University, China

**Prof. Xiaobing Luo**

Huazhong University of Science and Technology, China

**Dr. Graça M. H. Minas**

University of Minho, Portugal

**Prof. Sandeep Negi**

University of Utah, USA

**Dr. Dongning Wang**

Hong Kong Polytechnic University, Hong Kong (China)

**Prof. Lampl Yair**

University of Tel Aviv, Israel

**Dr. Wenming Zhang**

Shanghai Jiao Tong University, China

**Prof. Yong Zhang**

Xi'an Jiaotong University, China

**Prof. Yong Zhao**

Northeastern University, China

# Table of Contents

**Volume 10    Number 4**

**December 2020**

**Wireless Head Gesture Controlled Robotic Wheel Chair for Physically Disable Persons**

S. M. K. Pathan, W. Ahmed, Md. M. Rana, Md. S. Tasin, F. Islam, A. Sultana.....47

# Journal of Sensor Technology (JST)

## Journal Information

### SUBSCRIPTIONS

The *Journal of Sensor Technology* (Online at Scientific Research Publishing, <https://www.scirp.org/>) is published quarterly by Scientific Research Publishing, Inc., USA.

#### **Subscription rates:**

Print: \$69 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: [jst@scirp.org](mailto:jst@scirp.org)



# Journal of Sensor Technology (JST)

ISSN 2161-122X (Print) ISSN 2161-1238 (Online)

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

**Journal of Sensor Technology** should be the international journal devoted to research on sensor technologies including sensor design, implementation, characterizations and application oriented technical development. It is an interdisciplinary journal serving professionals with an interest in the exploitation of biological materials and designs in novel sensor diagnostic, supervision (or surveillance), and electronic devices including sensors, DNA chips, electronic noses, lab-on-a-chip, etc. Research of physical effects, measurement, theory, modeling and simulation of sensors, is welcome.

## Editor-in-Chief

**Prof. Ashok Srivastava**

Louisiana State University, USA

## Subject Coverage

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

- Arrayed Sensors
- Biosensors
- Flow Sensors
- Interferometry Based Sensors
- MEMS Pressure Sensors
- Micro Accelerometers Mems Gyroscopes
- Microelectromechanical Systems (MEMS)
- Multi-Sensor Data Fusion
- Nano-Photonic Based Sensors
- Optical Fiber Based Sensors
- Sensor Fabrication and Packaging Techniques
- Sensor Networks
- Sensor Signal Processing
- Surface Enhanced Raman Scattering (SERS) Sensors
- Surface Plasmon Based Sensors
- Ultrasonic Transducers

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

Submitted papers should not have been previously published nor be currently under consideration for publication elsewhere. Paper submission will be handled electronically through the website. All papers are refereed through a peer review process. For more details about the submissions, please access the website.

## Website and E-mail

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

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



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

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

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