

# Journal of Physical Sciences

(A yearly publication of Vidyasagar University)

ISSN 2350-0352

URL : <http://vidyasagar.ac.in/journal>

Vol. 21

2016

## Editor-in-Chief

### Professor Madhumangal Pal

Department of Applied Mathematics with Oceanology and Computer Programming

Vidyasagar University

Midnapore – 721 102, West Bengal, India

email : [mmpalvu@gmail.com](mailto:mmpalvu@gmail.com)

## Board of Advisors

**Prof. Ranjan Chakrabarti, Vice-Chancellor**

**Prof. Paresh Chandra Jana**

**Prof. Radha Raman Pal**

**Prof. Satyajit Saha**

**Prof. Brajagopal Bag**

**Prof. Ajoy Kumar Mishra**

**Prof. Amiya Kumar Panda**

**Prof. Shyamal Kumar Mondal**

**Prof. Sankar Kumar Roy**

## Board of Editors

1. Professor Krassimir T. Atanassov, Bulgarian Academy of Sciences, Bulgaria.
2. Professor Michael Gr. Voskoglou, Graduate Technological Educational Institute, 26334 Patras-Greece.
3. Professor Neculai Andrei, Research Institute for Informatics (ICI), Romania.
4. Professor J.E.Macias-Diaz, Universidad Aut´onoma de Aguascalientes, Mexico.
5. Professor Young Bae Jun, Education Gyeongsang National University, Korea.
6. Professor Adrian I. Ban, University of Oradea, Romania.
7. Professor Chin-Hong Park, Sunmoon University, Korea.
8. Professor Carsten Gundlach, University of Southampton, Highfield, Southampton, UK,
9. Professor M.S. Sunitha, National Institute of Technology Calicut, India.
10. Professor Yi-min Shi, Northwestern Polytechnical University, China.
11. Professor S. Rezvani, Imam Khomainsi Maritime University of Nowshahr, Iran.
12. Professor Asis De, I.A.C.S, India.
13. Professor Parameswar De, Calcutta University, India.
14. Professor Samaresh Bhattacharjee, Jadavpur University, India.
15. Professor S. N. Behera, Institute of Physics, Bhubaneswar, India.
16. Professor Pritem Prasad Roy, Viswabharati, India.

17. Professor R. N. P. Choudhury, IIT Kharagpur, India.
18. Professor P. N. Ghosh, Calcutta University, India.
19. Professor Y. C. Sexena, I.P.R., Bhat Gandhinagar, India.
20. Professor Anjan Mukherjee, Tripura University, India.
21. Professor G.C.Layek, The University of Burdwan, India.
22. Professor Ranjit Biswas, Jamia Hamdard, New Delhi, India
23. Professor S. K. Samanta, Viswabharati, India.
24. Professor Rajat K. Pal, Calcutta University, India.

For subscription send a demand draft of appropriate amount in favour of  
"Registrar, Vidyasagar University", payable at "Midnapore" to

**The Registrar**

Vidyasagar University

Midnapore – 721 102

West Bengal, India

---

Copyright © 2016

**The Registrar, Vidyasagar University, Midnapore.**

All rights reserved.

Published by The Registrar.

Printed at Deep Printers, Kharagpur, India.

No part of this publication may be reproduced or transmitted in any form or  
by any means, electronic or mechanical, including photocopy, recording,  
or any information storage and retrieval system, without written permission  
from The Registrar or Editor-in-Chief.

Website : <http://vidyasagar.ac.in/journal>

Published on 24 December 2016

Author imprints

***Abstracted in***  
**Mathematical Review**  
**Zentralblatt MATH**

**Price Rs. 100/- in India, \$50 in Abroad**