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**Monthly Bulletin of Publications:
Faculty, Scientists and Students of IISER Pune.
OCTOBER 2022**

Contents

Department	Page No.
Biology	2
Chemistry	4
Earth and Climate Science	7
Humanities and Social Sciences	8
Mathematics	9
Physics	10

BIOLOGY

Journal Articles

Author(s) Nelson, Glyn; PODDER, SANTOSH et al.
Title Monitoring the point spread function for quality control of confocal microscopes
Citation Protocols Io
Publisher protocols.io
URI [dx.doi.org/10.17504/protocols.io.bp2l61ww1vqe/v1](https://doi.org/10.17504/protocols.io.bp2l61ww1vqe/v1)
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7429>
Date of Publication 2022-10

Author(s) Nitnavare, Rahul B.; Pothana, Arunima; Yeshvekar, Richa K.; Bhattacharya, Joorie; Sapara, Vidhi; Reddy, Palakolanu Sudhakar; RAMTIRTHA, YOGENDRA; Tarafdar, Avijit; Sharma, Mamta; Bhatnagar-Mathur, Pooja
Title Chickpea Defensin Gene Family: Promising Candidates for Resistance Against Soil-Borne Chickpea Fungal Pathogens
Citation Journal of Plant Growth Regulation.
Publisher Springer Nature
URI <https://doi.org/10.1007/s00344-022-10811-1>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7416>
Date of Publication 2022-10

Author(s) SELVESHWARI, S.; KHAIRE, KAUSTUBH CHANDRAKANT; KADAM, ADITEE; DEY, SUTIRTH
Title The effect of migration and variation on populations of Escherichia coli adapting to complex fluctuating environments
Citation Journal of Evolutionary Biology.
Publisher Wiley
URI <https://doi.org/10.1111/jeb.14101>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7413>
Date of Publication 2022-09

[Go to top](#)

Author(s) UDDIN, ASLAM; MALLA, JAVID AHMAD; SHARMA, VIRENDER KUMAR; KUMAR, YASHWANT; TALUKDAR, PINAKI; LAHIRI, MAYURIKA; HAZRA, PARTHA et al.

Title Development of a Systematic Strategy toward Promotion of α -Synuclein Aggregation Hydroxyisophthalamide-Based Systems

Citation Biochemistry.

Publisher American Chemical Society

URI <https://doi.org/10.1021/acs.biochem.2c00371>

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7437>

Date of Publication 2022-10

BOOK CHAPTER

Author(s) PODDER, SANTOSH

Title Fluorescent Quantum Dots, A Technological Marvel for Optical Bio-imaging: A Perspective on Associated In Vivo Toxicity

Citation Application of Quantum Dots in Biology and Medicine, 143-163.

Publisher Springer Nature

URI https://doi.org/10.1007/978-981-19-3144-4_8

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7395>

Date of Publication 2022-10

[Go to top](#)

CHEMISTRY

Journal Articles

Author(s) BHAND, SUJIT; JHA, PLAWAN KUMAR; BALLAV, NIRMALYA
Title Unusual enhancement in efficiency of DSSCs upon modifying photoanodes with reduced graphene oxide
Citation RSC Advances, 12(46), 30041-30044.
Publisher Royal Society of Chemistry
URI <https://doi.org/10.1039/D2RA05375F>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7433>
Date of Publication 2022-10

Author(s) Kumar, Rohit; Pahar, Sanjukta; CHATTERJEE, JOY; Dash, Soumya Ranjan; Gonnade, Rajesh G.; Vanka, Kumar; Sen, Sakya S
Title Luminescent magnesium complexes with intra- and inter-ligand charge transfer
Citation Chemical Communications, 58(84), 11843-11846.
Publisher Royal Society of Chemistry
URI <https://doi.org/10.1039/D2CC04142A>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7411>
Date of Publication 2022-10

Author(s) MORE, YOGESHWAR D.; SAURABH, SATYAM; MOLLIK, SAMRAJ; DUTTA, SUBHAJIT; FAJAL, SAHEL; PRATHAMSHETTI, ANIL; WABLE, MINAL; OGALE, SATISHCHANDRA; GHOSH, SUJIT K. et al.
Title Highly Stable and End-group Tuneable Metal-Organic Framework/Polymer Composite for Superior Triboelectric Nanogenerator Application
Citation Advanced Materials Interfaces.
Publisher Wiley
URI <https://doi.org/10.1002/admi.202201713>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7427>
Date of Publication 2022-10

[Go to top](#)

Author(s) MUKHOPADHYAY, SANCHAYITA; DEVENDRACHARI, MRUTHYUNJAYACHARI
CHATTANAHALLI; KANADE, SANDEEP C.; Vinod, Chathakudath Prabhakaran;
Kotresh, Harish Makri Nimbegondi; THOTIYL, MUSTHAFA OTTAKAM

Title Regio-isomerism directed electrocatalysis for energy efficient zinc-air battery

Citation iScience, 25(10), 105179.

Publisher Elsevier B.V.

URI <https://doi.org/10.1016/j.isci.2022.105179>

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7432>

Date of Publication 2022-10

Author(s) Mutadak, Pallavi R.; Chaudhari, Nilima S.; Gadhave, Dattatraya C.; RAJPUT,
PARIKSHIT K.; Kolekar, Sadhu K.; Late, Dattatray J.; More, Mahendra A.; WARULE,
SAMBHAJI

Title Enhanced field emission behaviour from ethylene glycol mediated synthesis of 2D
hexagonal SnS₂ disc with nanoparticle decoration

Citation Materials Science and Engineering: B, 284, 115865.

Publisher Elsevier B.V.

URI <https://doi.org/10.1016/j.mseb.2022.115865>

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7410>

Date of Publication 2022-10

Author(s) NAVALE, BALU S.; LAHA, DEBASISH; Banerjee, Subhrashis; Vanka, Kumar; BHAT,
RAMAKRISHNA G.

Title Highly Site-Selective Direct C-H Bond Functionalization of Unactivated Arenes with
Propargyl α -Aryl- α -diazoacetates via Scandium Catalysis

Citation Journal of Organic Chemistry.

Publisher American Chemical Society

URI <https://doi.org/10.1021/acs.joc.2c01185>

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7434>

Date of Publication 2022-10

Author(s) Nayak, Mithilesh Kumar; VIJAYAKANTH, THANGAVEL; BOOMISHANKAR,
RAMAMOORTHY et al.

Title A bis-NHC-CAAC dimer derived dicationic diradical

Citation Chemical Science.

Publisher Royal Society of Chemistry

URI <https://doi.org/10.1039/D2SC03937K>

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7431>

Date of Publication 2022-09

[Go to top](#)

Author(s) SIVARAM, SWAMINATHAN
Title Turaga Sundara Rama Prasada Rao (1939-2022)
Citation Current Science, 123(3), 499-500.
Publisher Indian Academy of Sciences/Current Science Association
URI <https://www.currentscience.ac.in/Volumes/123/03/0499.pdf>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7402>
Date of Publication 2022-10

Author(s) SUR, SOUMODIP; MONDAL, RITWIK; THIMMAPPA, RAVIKUMAR; MUKHOPADHYAY, SANCHAYITA; THOTIYL, MUSTHAFA OTTAKAM
Title Aqueous OH⁻/H⁺ dual-ion gradient assisted electricity effective electro-organic synthesis of 2,5-furandicarboxylic acid paired with hydrogen fuel generation
Citation Journal of Colloid and Interface Science, 630, Part A, 477-483.
Publisher Elsevier B.V.
URI <https://doi.org/10.1016/j.jcis.2022.10.007>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7407>
Date of Publication 2023-01

Author(s) UDDIN, ASLAM; MALLA, JAVID AHMAD; SHARMA, VIRENDER KUMAR; KUMAR, YASHWANT; TALUKDAR, PINAKI; LAHIRI, MAYURIKA; HAZRA, PARTHA et al.
Title Development of a Systematic Strategy toward Promotion of α -Synuclein Aggregation Hydroxyisophthalamide-Based Systems
Citation Biochemistry.
Publisher American Chemical Society
URI <https://doi.org/10.1021/acs.biochem.2c00371>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7437>
Date of Publication 2022-10

[Go to top](#)

EARTH AND CLIMATE SCIENCE

Journal Articles

Author(s)	Shukla, Aparna; Nicholson, Lindsey; BANERJEE, ARGHA; Fujita, Koji; Quincey, Duncan J.
Title	Editorial: Debris-covered glaciers: Formation, governing processes, present status and future directions
Citation	Frontiers in Earth Science, 10, 1021292.
Publisher	Frontiers Media S.A.
URI	https://doi.org/10.3389/feart.2022.1021292
DR URI	http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7426
Date of Publication	2022-10

[Go to top](#)

HUMANITIES AND SOCIAL SCIENCES

Journal Articles

Author(s)	Balasubramanya, Soumya; Brozovic, Nicholas; Fishman, Ram; LELE, SHARACHCHANDRA; Wang, Jinxia
Title	Managing irrigation under increasing water scarcity
Citation	Agricultural Economics.
Publisher	Wiley
URI	https://doi.org/10.1111/agec.12748
DR URI	http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7428
Date of Publication	2022-10

[Go to top](#)

MATHEMATICS

Journal Articles

Author(s) BHIMANI, DIVYANG G.; Haque, Saikatul
Title The Hartree and Hartree-Fock Equations in Lebesgue L^p and Fourier-Lebesgue L^p Spaces
Citation Annales Henri Poincare.
Publisher Springer Nature
URI <https://doi.org/10.1007/s00023-022-01234-5>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7420>
Date of Publication 2022-10

Author(s) GOSWAMI, ANINDYA; Mukherjee, Kedar Nath; Patalwala, Irvine Homi; NADAHALLI, SATISH SANJAY
Title Regime recovery using implied volatility in Markov modulated market model
Citation Applied Stochastic Models in Business and Industry.
Publisher Wiley
URI <https://doi.org/10.1002/asmb.2719>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7406>
Date of Publication 2022-10

[Go to top](#)

PHYSICS

Journal Articles

Author(s) BHAT, BHAGYASHRI DEVARU
Title Tuning the magnetic and electronic properties of monolayer SnS₂ by 3d transition metal doping: A DFT study
Citation Materials Today Communications, 33, 104626.
Publisher Elsevier B.V.
URI <https://doi.org/10.1016/j.mtcomm.2022.104626>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7405>
Date of Publication 2022-12

Author(s) Carey, Benjamin; ARORA, ASHISH et al.
Title High-Performance Broadband Faraday Rotation Spectroscopy of 2D Materials and Thin Magnetic Films
Citation Small Methods.
Publisher Wiley
URI <https://doi.org/10.1002/smt.202200885>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7424>
Date of Publication 2022-10

Author(s) DEOPA, SURYA PRATAP S.; RAJPUT, SHATRUHAN SINGH; KUMAR, AADARSH; PATIL, SHIVPRASAD
Title Direct and Simultaneous Measurement of the Stiffness and Internal Friction of a Single Folded Protein
Citation Journal of Physical Chemistry Letters, 13(40), 9473-9479.
Publisher American Chemical Society
URI <https://doi.org/10.1021/acs.jpcl.2c02257>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7436>
Date of Publication 2022-10

[Go to top](#)

Author(s) DUTTA, PRANAB; MAURYA, S. SAGAR; PATEL, KUSHAL; BISWAS, KORAK; Mangaonkar, Jay; Sarkar, Sumit; RAPOL, UMAKANT D.
Title A Decade of Advancement of Quantum Sensing and Metrology in India Using Cold Atoms and Ions
Citation Journal of the Indian Institute of Science.
Publisher Springer Nature
URI <https://doi.org/10.1007/s41745-022-00335-8>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7423>
Date of Publication 2022-10

Author(s) HEGDE, GAUTAM; JOSE, SANDRA M.; NATH, REJISH
Title Dynamics of a pair of overlapping polar bright solitons in spin-1 Bose-Einstein condensates
Citation Physical Review A, 106(4) 043307.
Publisher American Physical Society
URI <https://doi.org/10.1103/PhysRevA.106.043307>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7409>
Date of Publication 2022-10

Author(s) Kamboj, Navpreet; Debnath, Bharati; Bhardwaj, Sakshi; Paul, Tanmoy; Kumar, Nikhil; OGALE, SATISHCHANDRA; Roy, Kingshuk; Dey, Ramendra Sundar
Title Ultrafine Mix-Phase SnO-SnO₂ Nanoparticles Anchored on Reduced Graphene Oxide Boost Reversible Li-Ion Storage Capacity beyond Theoretical Limit
Citation ACS Nano, 16(9), 15358-15368.
Publisher American Chemical Society
URI <https://doi.org/10.1021/acsnano.2c07008>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7404>
Date of Publication 2022-09

Author(s) MAHESH, T. S.; BATRA, PRIYA; RAM, M. HARSHANTH
Title Quantum Optimal Control: Practical Aspects and Diverse Methods
Citation Journal of the Indian Institute of Science.
Publisher Springer Nature
URI <https://doi.org/10.1007/s41745-022-00311-2>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7425>
Date of Publication 2022-09

[Go to top](#)

Author(s) Malavi, Pallavi; KUMAR, PRAKASH; JAKHAR, NAVITA; SINGH, SURJEET; Karmakar, S.
Title Signature of superconducting onset in presence of large magnetoresistance in type-II Dirac semimetal candidate Ir₂In₈S
Citation New Journal of Physics, 24.
Publisher IOP Publishing
URI <https://doi.org/10.1088/1367-2630/ac9802>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7419>
Date of Publication 2022-10

Author(s) MAURYA, S. SAGAR; KANNAN, J. BHARATHI; PATEL, KUSHAL; ; DUTTA, PRANAB; BISWAS, KORAK; MANGAONKAR, JAY; SANTHANAM, M. S.; RAPOL, UMAKANT D.
Title Interplay between quantum diffusion and localization in the atom-optics kicked rotor
Citation Physical Review E, 106(3), 034207
Publisher American Physical Society
URI <https://doi.org/10.1103/PhysRevE.106.034207>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7421>
Date of Publication 2022-09

Author(s) MORE, YOGESHWAR D.; SAURABH, SATYAM; MOLLICK, SAMRAJ; DUTTA, SUBHAJIT; FAJAL, SAHEL; PRATHAMSHETTI, ANIL; WABLE, MINAL; OGALE, SATISHCHANDRA; GHOSH, SUJIT K. et al.
Title Highly Stable and End-group Tuneable Metal-Organic Framework/Polymer Composite for Superior Triboelectric Nanogenerator Application
Citation Advanced Materials Interfaces.
Publisher Wiley
URI <https://doi.org/10.1002/admi.202201713>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7427>
Date of Publication 2022-10

[Go to top](#)

Author(s) REJAUL, S.K.; Mondal, Debayan; MULANI, IMRANKHAN; Mahadevan, Priya; DESHPANDE, APARNA
Title Emergent Negative Differential Resistance with an Undisturbed Topological Surface State
Citation Journal of Physical Chemistry C, 126(39), 16744-16750.
Publisher American Chemical Society
URI <https://doi.org/10.1021/acs.jpcc.2c05185>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7414>
Date of Publication 2022-10

Author(s) Verma, P. K.; Saha, Surajit; Muthu, D. V. S.; SINGH, SURJEET; Suryanarayanan, R.; Revcolevschi, A.; Waghmare, U. V.; Sood, A. K.; Krishnamurthy, H. R.
Title Experimental and theoretical study of anomalous temperature dependence of phonons in $Y_2Ti_2O_7$ pyrochlore
Citation Physical Review B, 106(14) 144303.
Publisher American Physical Society
URI <https://doi.org/10.1103/PhysRevB.106.144303>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7408>
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[Go to top](#)
