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

Journal Articles

Author(s) AITHAL, ANURAAG; DAGAR, SHIKHA; RAJAMANI, SUDHA
Title Metals in Prebiotic Catalysis: A Possible Evolutionary Pathway for the Emergence of Metalloproteins
Citation ACS Omega, 8(6), 5197-5208.
Publisher American Chemical Society
URI <https://doi.org/10.1021/acsomega.2c07635>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7622>
Date of Publication 2023-01

Author(s) Karyakarte, Rajesh P.; KARMODIYA, KRISHANPAL et al.
Title Clinical Characteristics and Outcomes of Laboratory-Confirmed SARS-CoV-2 Cases Infected With Omicron Subvariants and the XBB Recombinant Variant
Citation Cureus 15(2), e35261.
Publisher Cureus, Inc.
URI <https://doi.org/10.7759/cureus.35261>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7631>
Date of Publication 2023-02

Author(s) KHARE, SATYAJEET P.; MADHOK, AYUSH; PATTA, INDUMATHI; GALANDE, SANJEEV et al.
Title Differential expression of genes influencing mitotic processes in cord blood mononuclear cells after a pre-conceptional micronutrient-based randomised controlled trial: Pune Rural Intervention in Young Adolescents (PRIYA)
Citation Journal of Developmental Origins of Health and Disease.
Publisher Cambridge University Press
URI <https://doi.org/10.1017/S204017442200068X>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7596>
Date of Publication 2023-01

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Author(s) Meena, Chhuttan L; Hingamire, Tejashri; Gupta, Tanya; DESHMUKH, BHAGYASHREE; KARMODIYA, KRISHANPAL; Joshi, Rakesh; Shanmugam, Dhanasekaran; Sanjayan, Gangadhar J.

Title Histidinal-Based Potent Anti-Malarial Agents

Citation ChemMedChem.

Publisher Wiley

URI <https://doi.org/10.1002/cmdc.202200709>

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7614>

Date of Publication 2023-02

Author(s) PATIL, SHALAKA; DESHPANDE, SHRUTI; SENGUPTA, KUNDAN

Title Nuclear envelope protein lamin B receptor protects the genome from chromosomal instability and tumorigenesis

Citation Human Molecular Genetics, 32(5), 745-763.

Publisher Oxford University Press

URI <https://doi.org/10.1093/hmg/ddac235>

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7618>

Date of Publication 2023-03

Author(s) Rashid, Mubasher; Hari, Kishore; THAMPI, JOHN; Santhosh, Nived Krishnan; Jolly, Mohit Kumar

Title Network topology metrics explaining enrichment of hybrid epithelial/mesenchymal phenotypes in metastasis

Citation PLOS Computational Biology, 18(11), e1010687.

Publisher Public Library Science

URI <https://doi.org/10.1371/journal.pcbi.1010687>

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7635>

Date of Publication 2022-11

Author(s) Sharma, Ajay Kumar; Poddar, Sakshi Mahesh; CHAKRABORTY, JOYEETA; Nayak, Bhagyashri Soumya; Kalathil, Srilakshmi; Mitra, Nivedita; PANANGHAT, GAYATHRI; Srinivasan, Ramanujam

Title A mechanism of salt bridge-mediated resistance to FtsZ inhibitor PC190723 revealed by a cell-based screen

Citation Molecular Biology of the Cell, 34(3).

Publisher American Society for Cell Biology

URI <https://doi.org/10.1091/mbc.E22-12-0538>

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7615>

Date of Publication 2023-03

Patent

Inventor(s) BRITTO, SANDANARAJ S.; BATHLA, PUNITA; De, Abhijit; Mujawar, Aaiyas
Title Assay for Determining Target Engagement in Real-Time in Living Systems
Assignee/Applicant Indian Institute of Science Education and Research Pune
Patent No. IN202121011849A
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7611>
URI <https://www.derwentinnovation.com/ui/en/#/home/patent-search/search-results>
Date of Publication 2022-06

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CHEMISTRY

Journal Articles

Author(s) MAURYA, DEVESH; NISAL, RAHUL; GHOSH, RUMA; KAMBALE, PARSHURAM; MALHOTRA, MEHAK; JAYAKANNAN, MANICKAM

Title Fluorophore-tagged poly(L-Lysine) block copolymer nano-assemblies for real-time visualization and antimicrobial activity

Citation European Polymer Journal, 183, 111754.

Publisher Elsevier B.V.

URI <https://doi.org/10.1016/j.eurpolymj.2022.111754>

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7628>

Date of Publication 2023-01

Author(s) MONDAL, ABHISHEK; AHMAD, MANZOOR; MONDAL, DEBASHIS; TALUKDAR, PINAKI

Title Progress and prospects toward supramolecular bioactive ion transporters

Citation Chemical Communications, 59(14), 1917-1938.

Publisher Royal Society of Chemistry

URI <https://doi.org/10.1039/D2CC06761G>

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7621>

Date of Publication 2023-02

Author(s) PRANAV, UPENDIRAN; MALHOTRA, MEHAK; PATHAN, SHAHIDKHAN; JAYAKANNAN, MANICKAM

Title Structural Engineering of Star Block Biodegradable Polymer Unimolecular Micelles for Drug Delivery in Cancer Cells

Citation ACS Biomaterials Science & Engineering, 9(2), 743-759.

Publisher American Chemical Society

URI <https://doi.org/10.1021/acsbiomaterials.2c01201>

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7600>

Date of Publication 2023-02

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Author(s) Rawat, Shivam; Jinlin, Luo; AMBALKAR, ANURADHA A.; HOTH, SRINIVAS; Muto, Akinori; Bhaskar, Thallada

Title Syzygium cumini seed biochar for fabrication of supercapacitor: Role of inorganic content/ash

Citation Journal of Energy Storage, 60, 106598.

Publisher Elsevier B.V.

URI <https://doi.org/10.1016/j.est.2022.106598>

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7616>

Date of Publication 2023-04

Patent

Inventor(s) BRITTO, SANDANARAJ S.; BATHLA, PUNITA; De, Abhijit; Mujawar, Aaiyas

Title Assay for Determining Target Engagement in Real-Time in Living Systems

Assignee/Applicant Indian Institute of Science Education and Research Pune

Patent No. IN202121011849A

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7611>

URI <https://www.derwentinnovation.com/ui/en/#/home/patent-search/search-results>

Date of Publication 2022-06

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EARTH AND CLIMATE SCIENCE

Journal Articles

Author(s) LAHA, SOURAV; BANERJEE, ARGHA; Singh, Ajit; Sharma, Parmanand; Thamban, Meloth

Title Climate sensitivity of the summer runoff of two glacierised Himalayan catchments with contrasting climate

Citation Hydrology and Earth System Sciences, 27(2), 627-645.

Publisher Copernicus Publications

URI <https://doi.org/10.5194/hess-27-627-2023>

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7624>

Date of Publication 2023-02

Author(s) Singh, Arun; DEHIYA, RAHUL

Title An Efficient EM Modeling Scheme for Large 3-D Models-A Magnetotelluric Case Study

Citation IEEE Transactions on Geoscience and Remote Sensing, 61, 4500211.

Publisher IEEE

URI <https://doi.org/10.1109/TGRS.2022.3232488>

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7634>

Date of Publication 2023-02

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HUMANITIES AND SOCIAL SCIENCES

Journal Article

Author(s) Lofqvist, Sara; LELE, SHARACHCHANDRA et al.
Title How Social Considerations Improve the Equity and Effectiveness of Ecosystem Restoration
Citation BioScience.
Publisher Oxford University Press
URI <https://doi.org/10.1093/biosci/biac099>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7630>
Date of Publication 2022-12

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MATHEMATICS

Conference Paper

Author(s) Misra, Neeldhara; Mulpuri, Manas; TALE, PRAFULLKUMAR; Viramgami, Gaurav
Title Romeo and Juliet Meeting in Forest like Regions
Citation 42nd IARCS Annual Conference on Foundations of Software Technology and Theoretical Computer Science (FSTTCS 2022).
Publisher Schloss Dagstuhl - Leibniz-Zentrum für Informatik, Dagstuhl Publishing
URI <https://drops.dagstuhl.de/opus/volltexte/2022/17419/pdf/LIPIcs-FSTTCS-2022-27.pdf>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7588>
Date of Publication 2022-12

Journal Articles

Author(s) Arapostathis, Ari; BISWAS, ANUP; Pradhan, Somnath
Title On the monotonicity property of the generalized eigenvalue for weakly-coupled cooperative elliptic systems
Citation Journal of Differential Equations, 352, 156-193.
Publisher Elsevier B.V.
URI <https://doi.org/10.1016/j.jde.2022.12.023>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7617>
Date of Publication 2023-04

Author(s) Arapostathis, Ari; BISWAS, ANUP; Pradhan, Somnath
Title Risk-sensitive control for a class of diffusions with jumps
Citation Annals of Applied Probability, 32(6), 4106-4142.
Publisher Institute of Mathematical Statistics
URI <https://doi.org/10.1214/21-AAP1758>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7620>
Date of Publication 2022-12

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Author(s) Ball, Joseph A.; SAU, HARIPADA
Title Dilation Theory and Functional Models for Tetrablock Contractions
Citation Complex Analysis and Operator Theory, 17.
Publisher Springer Nature
URI <https://doi.org/10.1007/s11785-022-01282-z>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7619>
Date of Publication 2023-01

Author(s) BHAGWAT, CHANDRASHEEL; MONDAL, SUDIPA
Title Automorphic tensor products and cuspidal cohomology of the GL_4
Citation International Journal of Number Theory.
Publisher World Scientific Publishing Co Pte Ltd
URI <https://doi.org/10.1142/S1793042123500549>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7629>
Date of Publication 2023-01

Author(s) BHIMANI, DIVYANG G.
Title The blow-up solutions for fractional heat equations on torus and Euclidean space
Citation Nonlinear Differential Equations and Applications, 30(2), 19.
Publisher Springer Nature
URI <https://doi.org/10.1007/s00030-022-00828-6>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7602>
Date of Publication 2023-03

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PHYSICS

Journal Articles

Author(s) ANAND, ABHISHEK; SREEJITH, G. J.
Title Real-space entanglement spectra of lowest Landau level projected fractional quantum Hall states using Monte Carlo methods
Citation Physical Review B, 107(08), 085101.
Publisher American Physical Society
URI <https://doi.org/10.1103/PhysRevB.107.085101>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7597>
Date of Publication 2023-02

Author(s) ANANTH, SUDARSHAN; BHAVE, NIPUN; Aadharsh Raj, S.I.
Title The structure of interaction vertices in pure gravity in the light-cone gauge
Citation Physics Letter B, 838, 137743.
Publisher Elsevier B.V.
URI <https://doi.org/10.1016/j.physletb.2023.137743>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7603>
Date of Publication 2023-03

Author(s) BARDHAN, DEBJYOTI; BHOWMICK, SUPRITHA; GHOSH, DIPTIMOY; GUHA, ATANU; Sachdeva, Divya
Title Bounds on boosted dark matter from direct detection: The role of energy-dependent cross sections
Citation Physical Review D, 107(1) 015010.
Publisher American Physical Society
URI <https://doi.org/10.1103/PhysRevD.107.015010>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7623>
Date of Publication 2023-01

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Author(s) CMS Collaboration; Tumasyan, A.; DUBE, SOURABH; KANSAL, B.; KAPOOR, A.; KOTHEKAR, K.; PANDEY, S.; RANE, A; RASTOGI, A.; SHARMA, SEEMA et al.
Title Nuclear modification of Y states in pPb collisions at $\sqrt{s_{NN}} = 5.02\text{TeV}$
Citation Physics Letters B, 835, 137397.
Publisher Elsevier B.V.
URI <https://doi.org/10.1016/j.physletb.2022.137397>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7632>
Date of Publication 2022-12

Author(s) CMS Collaboration; Tumasyan, A.; Alpana, K.; DUBE, SOURABH|Kansal, B.; Laha, A.; Pandey, S.; Rane, A.; Rastogi, A.; SHARMA, SEEMA et al.
Title Evidence for WW/WZ vector boson scattering in the decay channel $\ell\nu qq$ produced in association with two jets in proton-proton collisions at $\sqrt{s} = 13\text{TeV}$
Citation Physics Letters B, 834, 137438.
Publisher Elsevier B.V.
URI <https://doi.org/10.1016/j.physletb.2022.137438>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7599>
Date of Publication 2022-11

Author(s) GOKUL, M. A.; RAHMAN, ATIKUR
Title Fabrication of High-Performance Devices on Water-Soluble Lead Halide Perovskites Using Water-Based Photolithography
Citation Advanced Materials Interfaces, 10(6), 2201749.
Publisher Wiley
URI <https://doi.org/10.1002/admi.202201749>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7633>
Date of Publication 2023-02

Author(s) KHAN, SAKIL; AGARWAL, YUV; TRIPATHY, DEVJYOTI; JAIN, SACHIN
Title Bootstrapping PT symmetric quantum mechanics
Citation Physics Letters B, 834, 137445.
Publisher Elsevier B.V.
URI <https://doi.org/10.1016/j.physletb.2022.137445>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7598>
Date of Publication 2022-11

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Author(s) Rawat, Shivam; Jinlin, Luo; AMBALKAR, ANURADHA A.; HOTH, SRINIVAS; Muto, Akinori; Bhaskar, Thallada

Title Syzygium cumini seed biochar for fabrication of supercapacitor: Role of inorganic content/ash

Citation Journal of Energy Storage, 60, 106598.

Publisher Elsevier B.V.

URI <https://doi.org/10.1016/j.est.2022.106598>

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7616>

Date of Publication 2023-04

Author(s) ROUT, DIBYATA; Tang, Ran; Skoulatos, Markos; Ouladdiaf, Bachir; Kinoshita, Yuto; Miyake, Atsushi; Tokunaga, Masashi; MAHAPATRA, SAGAR; SINGH, SURJEET

Title Ordered and disordered variants of the triangular lattice antiferromagnet $\text{Ca}_3\text{NiNb}_2\text{O}_9$: Crystal growth and magnetic properties

Citation Physical Review Materials, 7(2), 024419.

Publisher American Physical Society

URI <https://doi.org/10.1103/PhysRevMaterials.7.024419>

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/7637>

Date of Publication 2023-02

Author(s) Volpe, Giovanni; KUMAR, G. V. PAVAN et al.

Title Roadmap for Optical Tweezers 2023

Citation JPhys Photonics.

Publisher IOP Publishing

URI <https://doi.org/10.1088/2515-7647/acb57b>

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