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Faculty, Scientists and Students of IISER Pune.
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BIOLOGY

Author(s) Bhowmik, Arpan Dey; PODDER, SANTOSH; Mondal, Paritosh; Shaw, Pallab; Bandyopadhyay, Arindam; Das, Ankita; Bhattacharjee, Pritha; Chakraborty, Anindita; Sudarshan, Muthammal; Chattopadhyay, Ansuman

Title Chronic exposure to environmentally relevant concentration of fluoride alters Ogg1 and Rad51 expressions in mice: Involvement of epigenetic regulation

Citation Ecotoxicology and Environmental Safety, 202.

Publisher Elsevier B.V.

URI <https://doi.org/10.1016/j.ecoenv.2020.110962>

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5049>

Date of Publication 2020-10

Author(s) Dar, M. Saleem; DHOLAKIA, BHUSHAN B.; Shanmugam, Haripriya; Gupta, Vidya S; Subramanian, K. S.; Subramanian, J.; Giri, Ashok P.

Title Differential Modulation in Metabolites Revealed with the Improvement in the Shelf-Life of Alphonso Fruits

Citation Molecular Biotechnology, 62(10), 508-520.

Publisher Springer Nature

URI <https://doi.org/10.1007/s12033-020-00267-7>

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5042>

Date of Publication 2020-08

Author(s) HARNE, SHRIKANT; Duret, Sybille; PANDE, VANI; BAPAT, MRINMAYEE; Beven, Laure; PANANGHAT, GAYATHRI

Title MreB5 Is a Determinant of Rod-to-Helical Transition in the Cell-Wall-less Bacterium Spiroplasma

Citation Current Biology.

Publisher Elsevier B.V.

URI <https://doi.org/10.1016/j.cub.2020.08.093>

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5072>

Date of Publication 2020-09

Author(s) HEGDE, SUSHMITHA; SOORY, AMARENDRANATH; KADUSKAR, BHAGYASHREE; RATNAPARKHI, GIRISH S.
Title SUMO conjugation regulates immune signalling
Citation Fly.
Publisher Taylor & Francis
URI <https://doi.org/10.1080/19336934.2020.1808402>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5048>
Date of Publication 2020-08

Author(s) KRISHNAN, ANAND; Singh, Avehi; Tamma, Krishnapriya
Title Visual signal evolution along complementary color axes in four bird lineages
Citation Biology Open.
Publisher The Company of Biologists
URI <https://doi.org/10.1242/bio.052316>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5032>
Date of Publication 2020-09

Author(s) MALLA, JAVID AHMAD; SHARMA, VIRENDER KUMAR; LAHIRI, MAYURIKA; TALUKDAR, PINAKI
Title Esterase-Activatable Synthetic M^+/Cl^- Channel Induces Apoptosis and Disrupts Autophagy in Cancer Cells
Citation Chemistry-A European Journal, 26(52), 11946-11949.
Publisher Wiley
URI <https://doi.org/10.1002/chem.202002964>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5035>
Date of Publication 2020-09

Author(s) NAIK, SUYASH; UNNI, MANU; SINHA, DEVANSHU; RAJPUT, SHATRUHAN SINGH; REDDY, P. CHANDRAMOULI; Kartvelishvily, Elena; Solomonov, Inna; Sagi, Irit; CHATTERJI, APRATIM; PATIL, SHIVPRASAD; GALANDE, SANJEEV
Title Differential tissue stiffness of body column facilitates locomotion of Hydra on solid substrates
Citation Journal of Experimental Biology.
Publisher The Company of Biologists
URI <https://doi.org/10.1242/jeb.232702>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5065>
Date of Publication 2020-09

Author(s) SATHE, SANTOSH; Kuemmerli, Rolf
Title Antagonistic interactions subdue inter-species green-beard cooperation in bacteria
Citation Journal of Evolutionary Biology, 33(9), 1245-1255.
Publisher Wiley
URI <https://doi.org/10.1111/jeb.13666>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5069>
Date of Publication 2020-09

Author(s) Sinnott, Matthew; Malhotra, Sony; MADHUSUDHAN, M.S.; Thalassinos, Konstantinos; Topf, Maya
Title Combining Information from Crosslinks and Monolinks in the Modeling of Protein Structures
Citation Structure, 28(9), 1061-1070.e3.
Publisher Elsevier B.V.
URI <https://doi.org/10.1016/j.str.2020.05.012>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5053>
Date of Publication 2020-09

Author(s) Sun, Ruo; Gols, Rieta; Harvey, Jeffrey A.; Reichelt, Michael; Gershenzon, Jonathan; PANDIT, SAGAR; Vassao, Daniel G.
Title Detoxification of plant defensive glucosinolates by an herbivorous caterpillar is beneficial to its endoparasitic wasp
Citation Molecular Ecology.
Publisher Wiley
URI <https://doi.org/10.1111/mec.15613>
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Date of Publication 2020-08

Author(s) UDDIN, ASLAM; ROY, BIBHISAN; JOSE, GREGOR P.; Hossain, S. K. Saddam; HAZRA, PARTHA
Title Sensing and modulation of amyloid fibrils by photo-switchable organic dots
Citation Nanoscale, 12(32), 16805-16818.
Publisher Royal Society of Chemistry
URI <https://doi.org/10.1039/D0NR04312E>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5029>
Date of Publication 2020-08

Author(s) Umar, Danish; SARKAR, DEBAYAN; MIRJI, GAURI; KALIA, JEET; RATH, SATYAJIT; BAL, VINEETA et al.

Title Febrile temperature change modulates CD4 T cell differentiation via a TRPV channel-regulated Notch-dependent pathway

Citation Proceedings of the National Academy of Sciences of the United States of America, 117(36), 22357-22366.

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URI <https://doi.org/10.1073/pnas.1922683117>

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Date of Publication 2020-09

CHEMISTRY

Author(s) Danielson, Eric; Dindo, Mirco; Porkovich, Alexander J.; Kumar, Pawan; Wang, Zhenwei; JAIN, PRASHANT; METE, TRIMBAK; Ziadi, Zakaria; KIKKERI, RAGHAVENDRA; Laurino, Paola; Sowwan, Mukhles

Title Non-enzymatic and highly sensitive lactose detection utilizing graphene field-effect transistors

Citation Biosensors and Bioelectronics, 165.

Publisher Elsevier B.V.

URI <https://doi.org/10.1016/j.bios.2020.112419>

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5068>

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Author(s) GEORGE, JERRIN THOMAS; SRIVATSAN, SEERGAZHI G.

Title Bioorthogonal chemistry-based RNA labeling technologies: evolution and current state

Citation Chemical Communication.

Publisher Royal Society of Chemistry

URI <https://doi.org/10.1039/D0CC05228K>

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5075>

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Author(s) GEORGE, JERRIN THOMAS; SRIVATSAN, SEERGAZHI G.

Title Responsive fluorescent nucleotides serve as efficient substrates to probe terminal uridylyl transferase

Citation Chemical Communication.

Publisher Royal Society of Chemistry

URI <https://doi.org/10.1039/D0CC05092J>

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Author(s) Madhanagopal, Bharath Raj; More, Shahaji H; Bansode, Nitin D.; GANESH, KRISHNA N.
Title Conformation and Morphology of 4-(NH₂/OH)-Substituted L/D-Prolyl Polypeptides: Effect of Homo- and Heterochiral Backbones on Formation of β -Structures and Nanofibers
Citation ACS Omega, 5(34), 21781-21795.
Publisher American Chemical Society
URI <https://doi.org/10.1021/acsomega.0c02826>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5080>
Date of Publication 2020-09

Author(s) MALLA, JAVID AHMAD; SHARMA, VIRENDER KUMAR; LAHIRI, MAYURIKA; TALUKDAR, PINAKI
Title Esterase-Activatable Synthetic M⁺/Cl⁻ Channel Induces Apoptosis and Disrupts Autophagy in Cancer Cells
Citation Chemistry-A European Journal, 26(52), 11946-11949.
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URI <https://doi.org/10.1002/chem.202002964>
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Author(s) MUKHOPADHYAY, SANCHAYITA; KOTTAICHAMY, ALAGAR RAJA; BHAT, ZAHID MANZOOR; DARGILY, NEETHU CHRISTUDAS; THOTIYL, MUSTHAFA OTTAKAM
Title Isomerism-Activity Relation in Molecular Electrocatalysis: A Perspective
Citation Electroanalysis.
Publisher Wiley
URI <https://doi.org/10.1002/elan.202060244>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5073>
Date of Publication 2020-08

Author(s) Pierini, Stefano; D'Amato, Marianna; GOYAL, MAYANK; Glorieux, Quentin; Giacobino, Elisabeth; Lhuillier, Emmanuel; Couteau, Christophe; Bramati, Alberto
Title Highly Photostable Perovskite Nanocubes: Toward Integrated Single Photon Sources Based on Tapered Nanofibers
Citation ACS Photonics, 7(8), 2265-2272.
Publisher American Chemical Society
URI <https://doi.org/10.1021/acsp Photonics.0c00820>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5044>
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Author(s) PRAJESH, NEETU; YADAV, ASHOK; GOURKHEDE, RANI; Praveenkumar, Balu; Steiner, Alexander; BOOMISHANKAR, RAMAMOORTHY
Title Ferroelectric Behavior of an Octahedral Metal-Ligand Cage and Its 2D-Connected Cage Framework
Citation Chemistry-An Asian Journal.
Publisher Wiley
URI <https://doi.org/10.1002/asia.202000744>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5052>
Date of Publication 2020-08

Author(s) SHIRIN, SHANA; ROY, SOUMENDU; RAO, ANISH; PILLAI, PRAMOD P.
Title Accelerated Reduction of 4-Nitrophenol: Bridging Interaction Outplays Reducing Power in the Model Nanoparticle-Catalyzed Reaction
Citation Journal of Physical Chemistry C, 124(35), 19157-19165.
Publisher American Chemical Society
URI <https://doi.org/10.1021/acs.jpcc.0c06237>
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Date of Publication 2020-09

Author(s) SINDHU, POOJA; PRASOON, ANUPAM; RANA, SHAMMI; BALLAV, NIRMALYA
Title Emergent Interface in Heterostructured Thin Films of Cu(II) and Cu(I) Coordination Polymers
Citation Journal of Physical Chemistry Letters, 11(15), 6242-6248.
Publisher American Chemical Society
URI <https://doi.org/10.1021/acs.jpcllett.0c01735>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5031>
Date of Publication 2020-08

Author(s) UDDIN, ASLAM; ROY, BIBHISAN; JOSE, GREGOR P.; Hossain, S. K. Saddam; HAZRA, PARTHA
Title Sensing and modulation of amyloid fibrils by photo-switchable organic dots
Citation Nanoscale, 12(32), 16805-16818.
Publisher Royal Society of Chemistry
URI <https://doi.org/10.1039/D0NR04312E>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5029>
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MATHEMATICS

Author(s) AMBI, CHAITANYA
Title On the growth of cuspidal cohomology of $GL(2)$ and $GL(3)$
Citation Journal of Number Theory, 217, 237-255.
Publisher Elsevier B.V.
URI <https://doi.org/10.1016/j.int.2020.05.004>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5070>
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Author(s) KALELKAR, TEJAS
Title Strongly irreducible Heegaard splittings of hyperbolic 3-manifolds
Citation Proceedings of the American Mathematical Society, 148(10), 4527-4529.
Publisher American Mathematical Society
URI <https://doi.org/10.1090/proc/15114>
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Date of Publication 2020-10

PHYSICS

Author(s) Adak, Debabrata; Ghosh, Tuhin; Boulanger, Francois; Haud, Urmas; Kalberla, Peter; Martin, Peter G; Bracco, Andrea; SOURADEEP, TARUN
Title Dust polarization modelling at large scale over the northern Galactic cap using EBHIS and **Planck** data
Citation Astronomy & Astrophysics, 640.
Publisher EDP Sciences
URI <https://doi.org/10.1051/0004-6361/201936124>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5046>
Date of Publication 2020-08

Author(s) BISWAS, ABHIJIT; SHANKER, G. SHIVA; Das, Tisita; MANDAL, RAJESH; Chakraborty, Sudip; OGALE, SATISHCHANDRA
Title Enhanced electrocatalytic oxygen evolution activity in geometrically designed $SrRuO_3$ thin films
Citation Applied Surface Science, 529.
Publisher Elsevier B.V.
URI <https://doi.org/10.1016/j.apsusc.2020.147065>
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Author(s)	CHOUGALE, YASHWANT; TALUKDAR, JUGAL; Ramos, Tomás; NATH, REJISH
Title	Dynamics of Rydberg excitations and quantum correlations in an atomic array coupled to a photonic crystal waveguide
Citation	Physical Review A, 102(2).
Publisher	American Physical Society
URI	https://doi.org/10.1103/PhysRevA.102.022816
DR URI	http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/4990
Date of Publication	2020-08
Author(s)	CMS Collaboration; Sirunyan, A. M.; CHAUHAN, S.; DUBE, S.; HEGDE, V.; KAPOOR, A.; KOTHEKAR, K.; PANDEY, S.; RANE, A.; RASTOGI, A.; SHARMA, S. et al.
Title	Study of central exclusive $\pi^+ \pi^-$ production in proton-proton collisions at $\sqrt{s}=5.02$ and 13TeV
Citation	European Physical Journal C, 80.
Publisher	Springer
URI	https://doi.org/10.1140/epjc/s10052-020-8166-5
DR URI	http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5030
Date of Publication	2020-08
Author(s)	CMS Collaboration; Sirunyan, A. M.; CHAUHAN, S.; DUBE, S.; HEGDE, V.; KAPOOR, A.; KOTHEKAR, K.; PANDEY, S.; RANE, A.; SHARMA, S.
Title	Studies of Charm Quark Diffusion inside Jets Using Pb-Pb and pp Collisions at $\sqrt{s_{NN}}=5.02\text{TeV}$
Citation	Physical Review Letters, 125(10).
Publisher	American Physical Society
URI	https://doi.org/10.1103/PhysRevLett.125.102001
DR URI	http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5055
Date of Publication	2020-09
Author(s)	CMS Collaboration; Sirunyan, A. M.; DUBE, S.; KANSAL, B.; KAPOOR, A.; KOTHEKAR, K.; PANDEY, S.; RANE, A.; RASTOGI, A.; SHARMA, S. et al.
Title	Measurement of the associated production of a Z boson with charm or bottom quark jets in proton-proton collisions at $\sqrt{s}=13\text{TeV}$
Citation	Physical Review D, 102(3).
Publisher	American Physical Society
URI	https://doi.org/10.1103/PhysRevD.102.032007
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Date of Publication	2020-08

Author(s) CMS Collaboration; Sirunyan, A. M.; DUBE, S.; KANSAL, B.; KAPOOR, A.; KOTHEKAR, K.; PANDEY, S.; RANE, A.; RASTOGI, A.; SHARMA, S. et al.

Title Search for physics beyond the standard model in events with jets and two same-sign or at least three charged leptons in proton-proton collisions at $\sqrt{s}=13\text{TeV}$

Citation European Physical Journal C, 80(8).

Publisher Springer

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Date of Publication 2020-08

Author(s) CMS Collaboration; Sirunyan, A. M.; DUBE, S.; KANSAL, B.; KAPOOR, A.; KOTHEKAR, K.; PANDEY, S.; RANE, A.; RASTOGI, A.; SHARMA, S.

Title Search for a light pseudoscalar Higgs boson in the boosted $\mu\mu\tau\tau$ final state in proton-proton collisions at $\sqrt{s} = 13 \text{ TeV}$

Citation Journal of High Energy Physics, 2020(8).

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URI [https://doi.org/10.1007/JHEP08\(2020\)139](https://doi.org/10.1007/JHEP08(2020)139)

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Date of Publication 2020-08

Author(s) Fuchs, Jean-Noel; PATIL, SOURABH; Vidal, Julien

Title Parity of Chern numbers in the Kitaev honeycomb model and the sixteenfold way

Citation Physical Review B, 102(11).

Publisher American Physical Society

URI <https://doi.org/10.1103/PhysRevB.102.115130>

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5079>

Date of Publication 2020-09

Author(s) Ganesh, N.; Ghorai, Anaranya; KRISHNAMURTHY, SHRREYA; Banerjee, Suman; Narasimhan, K. L.; OGALE, SATISHCHANDRA B.; Narayan, K. S.

Title Impact of trap filling on carrier diffusion in MAPbBr₃ single crystals

Citation Physical Review Materials, 4(8).

Publisher American Physical Society

URL <https://doi.org/10.1103/PhysRevMaterials.4.084602>

DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5054>

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Author(s) KUMAR, AANJANEYA; Capraro, Valerio; Perc, Matjaž
Title The evolution of trust and trustworthiness
Citation Journal of the Royal Society Interface, 17(169).
Publisher The Royal Society
URI <https://doi.org/10.1098/rsif.2020.0491>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5041>
Date of Publication 2020-08

Author(s) MITRA, DEBARSHI; CHATTERJI, APRATIM
Title Transient helix formation in charged semiflexible polymers without confinement effects
Citation Journal of Physics: Condensed Matter.
Publisher IOP Publishing
URI <https://doi.org/10.1088/1361-648X/abbc32>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5078>
Date of Publication 2020-09

Author(s) NAIK, SUYASH; UNNI, MANU; SINHA, DEVANSHU; RAJPUT, SHATRUHAN SINGH; REDDY, P. CHANDRAMOULI; Kartvelishvily, Elena; Solomonov, Inna; Sagi, Irit; CHATTERJI, APRATIM; PATIL, SHIVPRASAD; GALANDE, SANJEEV
Title Differential tissue stiffness of body column facilitates locomotion of Hydra on solid substrates
Citation Journal of Experimental Biology.
Publisher The Company of Biologists
URI <https://doi.org/10.1242/jeb.232702>
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Author(s) PATIL, RAJ
Title EFT approach to general relativity: correction to EIH Lagrangian due to electromagnetic charge
Citation General Relativity and Gravitation, 52(9).
Publisher Springer Nature
URI <https://doi.org/10.1007/s10714-020-02748-1>
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Author(s) SHARMA, DEEPAK K.; Agreda, Adrian; Barthes, Julien; Francs, Gerard Colas des; KUMAR, G. V. PAVAN; Bouhelier, Alexandre
Title Wave-vector analysis of plasmon-assisted distributed nonlinear photoluminescence along Au nanowires
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Publisher American Physical Society
URI <https://doi.org/10.1103/PhysRevB.102.115414>
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5077>
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Author(s) Shukla, Aarti; Gaur, N. K; GHOSH, PRASENJIT
Title First principles investigations of structure, stability and electronic properties of polar $\text{Ca}_2\text{Fe}_2\text{O}_5(0\ 1\ 0)$ surfaces
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Publisher Elsevier B.V.
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Author(s) SRIKARA, S.; Chandrashekar, C. M.
Title Quantum direct communication protocols using discrete-time quantum walk
Citation Quantum Information Processing, 19(9).
Publisher Springer Nature
URI <https://doi.org/10.1007/s11128-020-02793-4>
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Date of Publication 2020-08

Author(s) Yadav, Poonam; SHARMA, NEHA; Patrike, Apurva; Sabri, Ylias M.; Jones, Lathe A; Shelke, Manjusha, V.
Title Electrochemical Evaluation of the Stability and Capacity of r-GO-Wrapped Copper Antimony Chalcogenide Anode for Li-Ion battery
Citation ChemElectroChem, 7(15), 3291-3300.
Publisher Wiley
URI <https://doi.org/10.1002/celec.202000625>
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