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Monthly Bulletin of Publications:  
Faculty, Scientists and Students of IISER Pune.  
January 2021

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# BIOLOGY

**Author(s)** BUWA, NATASHA; KANNAN, NIVEDHIKA; KANADE, SHAUNAK; BALASUBRAMANIAN, NAGARAJ  
**Title** Adhesion-dependent Caveolin-1 Tyrosine-14 phosphorylation is regulated by FAK in response to changing matrix stiffness  
**Citation** FEBS Letters.  
**Publisher** Wiley  
**URI** <https://doi.org/10.1002/1873-3468.14025>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5572>  
**Date of Publication** 2020-12

**Author(s)** JOSHI, MANESH PRAKASH; SAWANT, ANUPAM A.; RAJAMANI, SUDHA  
**Title** Spontaneous emergence of membrane-forming protoamphiphiles from a lipid-amino acid mixture under wet-dry cycles  
**Citation** Chemical Science.  
**Publisher** Royal Society of Chemistry  
**URI** <https://doi.org/10.1039/D0SC05650B>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5564>  
**Date of Publication** 2021-01

**Author(s)** MISHRA, KAMAL K.; BORISH, KSHETRIMAYUM; SINGH, GULZAR; PANWARIA, PRAKASH; METYA, SURAJIT; MADHUSUDHAN, M.S.; DAS, ALOKE  
**Title** Observation of an Unusually Large IR Red-Shift in an Unconventional S-H...S Hydrogen-Bond  
**Citation** Journal of Physical Chemistry Letters, 12, 1228-1235.  
**Publisher** American Chemical Society  
**URI** <https://doi.org/10.1021/acs.jpcllett.0c03183>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5576>  
**Date of Publication** 2021-01

**Author(s)** PUNTAMBEKAR, SHRADDHA; Newhouse, Rache; Navas, Jaime San Miguel; Chauhan, Ruchi; Vernaz, Gregoire; Willis, Thomas; Wayland, Matthew T.; Umrانيا, Yagnesh; Miska, Eric A.; PRABAKARAN, SUDHAKARAN  
**Title** Evolutionary divergence of novel open reading frames in cichlids speciation  
**Citation** Scientific Reports, 10(1).  
**Publisher** Springer Nature  
**URI** <https://doi.org/10.1038/s41598-020-78555-0>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5575>  
**Date of Publication** 2020-12

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Author(s) RAWAT, MUKUL; KANYAL, ABHISHEK; SAHASRABUDHE, AISHWARYA; Vembar, Shruthi Sridhar; Lopez-Rubio, Jose-Juan; KARMODIYA, KRISHANPAL  
Title Histone acetyltransferase PfGCN5 regulates stress responsive and artemisinin resistance related genes in *Plasmodium falciparum*  
Citation Scientific Reports, 11.  
Publisher Springer Nature  
URI <https://doi.org/10.1038/s41598-020-79539-w>  
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5551>  
Date of Publication 2021-01

Author(s) Vashum, Yaongamphi; PREMSINGH, RIYA; Kottaiswamy, Amuthavalli; Soma, Mathangi; Padmanaban, Abirami; Kalaiselvan, Parkavi; Samuel, Shila  
Title Inhibitory effect of cathepsin K inhibitor (ODN-MK-0822) on invasion, migration and adhesion of human breast cancer cells in vitro  
Citation Molecular Biology Reports.  
Publisher Springer  
URI <https://doi.org/10.1007/s11033-020-05951-0>  
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5488>  
Date of Publication 2020-12

## CHEMISTRY

Author(s) ARFIN, HABIBUL; KSHIRSAGAR, ANURAJ S.; Kaur, Jagjit; MONDAL, BARNALI; Xia, Zhiguo; Chakraborty, Sudip; NAG, ANGSUMAN  
Title  $ns^2$  Electron ( $Bi^{3+}$  and  $Sb^{3+}$ ) Doping in Lead-Free Metal Halide Perovskite Derivatives  
Citation Chemistry of Materials, 32(24), 10255-10267.  
Publisher American Chemical Society  
URI <https://doi.org/10.1021/acs.chemmater.0c03394>  
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5556>  
Date of Publication 2020-12

Author(s) Ashok, Ubale Panchsheela; KAULAGE, SANDEEP et al.  
Title Preparation, Spectroscopic Characterization, Theoretical Investigations, and In Vitro Anticancer Activity of Cd(II), Ni(II), Zn(II), and Cu(II) Complexes of 4(3H)-Quinazolinone-Derived Schiff Base  
Citation Molecules, 25(24).  
Publisher MDPI  
URI <https://doi.org/10.3390/molecules25245973>  
DR URI <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5558>  
Date of Publication 2020-12

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**Author(s)** BHINGARDEVE, PRAMOD; Madhanagopal, Bharath Raj; GANESH, KRISHNA N.  
**Title** Cy(S/R)-Bimodal Peptide Nucleic Acids (Cy-*bm*-PNA) Form Coupled Double Duplexes by Synchronous Binding to Two Complementary DNA Strands  
**Citation** Journal of Organic Chemistry, 85(21), 13680-13693.  
**Publisher** American Chemical Society  
**URI** <https://doi.org/10.1021/acs.joc.0c01853>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5574>  
**Date of Publication** 2020-11

**Author(s)** GHOSH, MOUSHAKHI; PANWARIA, PRAKASH; Tothadi, Srinu; DAS, ALOKE; KHAN, SHABANA  
**Title** Bis(silanetellurone) with C-H...Te Interaction  
**Citation** Inorganic Chemistry, 59(23), 17811-17821.  
**Publisher** American Chemical Society  
**URI** <https://doi.org/10.1021/acs.inorgchem.0c03098>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5557>  
**Date of Publication** 2020-12

**Author(s)** MISHRA, KAMAL K.; BORISH, KSHETRIMAYUM; SINGH, GULZAR; PANWARIA, PRAKASH; METYA, SURAJIT; MADHUSUDHAN, M.S.; DAS, ALOKE  
**Title** Observation of an Unusually Large IR Red-Shift in an Unconventional S-H...S Hydrogen-Bond  
**Citation** Journal of Physical Chemistry Letters, 12, 1228-1235.  
**Publisher** American Chemical Society  
**URI** <https://doi.org/10.1021/acs.jpcllett.0c03183>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5576>  
**Date of Publication** 2021-01

**Author(s)** RAJASEKAR, PRABHAKARAN; JOSE, CAVYA; SARKAR, MEGHAMALA; BOOMISHANKAR, RAMAMOORTHY  
**Title** Effective Enantioselective Recognition by Chiral Amino-Phosphonium Salts  
**Citation** Angewandte Chemie International Edition  
**Publisher** Wiley  
**URI** <https://doi.org/10.1002/anie.202012392>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5515>  
**Date of Publication** 2020-11

**Author(s)** RAVI, VIKASH KUMAR; MONDAL, BARNALI; NAWALE, VAIBHAV V.; NAG, ANGSHUMAN  
**Title** Don't Let the Lead Out: New Material Chemistry Approaches for Sustainable Lead Halide Perovskite Solar Cells  
**Citation** ACS Omega, 5(46), 29631-29641.  
**Publisher** American Chemical Society  
**URI** <https://doi.org/10.1021/acsomega.0c04599>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5486>  
**Date of Publication** 2020-11

**Author(s)** Sudhakara, Sarvajith Malali; DEVENDRACHARI, MRUTHYUNJAYACHARI CHATTANAHALLI; Kotresh, Harish Makri Nimbegondi; Khan, Fasiulla  
**Title** Phthalocyanine pendent polyaniline via amide linkage for an electrochemical sensing of H<sub>2</sub>O<sub>2</sub>  
**Citation** Microchemical Journal, 161.  
**Publisher** Elsevier B.V.  
**URI** <https://doi.org/10.1016/j.microc.2020.105781>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5567>  
**Date of Publication** 2021-02

**Author(s)** Velappan, Anand Babu; Kesamsetty, Dhanunjaya; DATTA, DHRUBAJYOTI; Ma, Rui; Hari, Natarajan; Franzblau, Scott G.; Debnath, Joy  
**Title** 1,3-Oxazine-2-one derived dual-targeted molecules against replicating and non-replicating forms of Mycobacterium tuberculosis  
**Citation** European Journal of Medicinal Chemistry, 208.  
**Publisher** Elsevier B.V.  
**URI** <https://doi.org/10.1016/j.ejmech.2020.112835>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5525>  
**Date of Publication** 2020-12

## EARTH AND CLIMATE SCIENCE

**Author(s)** ETTAMMAL, SUHAS; NEENA, J. M.; Jiang, Xianan  
**Title** Exploring the Factors Influencing the Strength and Variability of Convectively Coupled Mixed Rossby-Gravity Waves  
**Citation** Journal of Climate, 33(22), 9705-9719.  
**Publisher** American Meteorological Society  
**URI** <https://doi.org/10.1175/JCLI-D-20-0218.1>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5485>  
**Date of Publication** 2020-11

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## HUMANITIES AND SOCIAL SCIENCES

**Author(s)** THOMAS, BEJOY; Bhar, Soumyajit; Chakravarty, Shoibal  
**Title** Imagining Sustainability Beyond COVID-19 in India  
**Citation** Ecology, Economy and Society-the INSEE Journal, 4(1).  
**Publisher** Indian Society for Ecological Economics (INSEE)  
**URI** <https://doi.org/10.37773/ees.v4i1.315>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5573>  
**Date of Publication** 2021-01

## MATHEMATICS

**Author(s)** DESHMUKH, NEERAJ; HOGADI, AMIT; KULKARNI, GIRISH; YADAV, SURAJ  
**Title** Gabber's presentation lemma over noetherian domains  
**Citation** Journal of Algebra, 569, 169-179.  
**Publisher** Elsevier B.V.  
**URI** <https://doi.org/10.1016/j.jalgebra.2020.10.036>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5555>  
**Date of** 2021-03

## PHYSICS

**Author(s)** ANANTH, SUDARSHAN; Malcha, Hannes; PANDEY, CHETAN; PANT, SAURABH  
**Title** Supersymmetric Yang-Mills theory in D=6 without anticommuting variables  
**Citation** Physical Review D, 103(2).  
**Publisher** American Physical Society  
**URI** <https://doi.org/10.1103/PhysRevD.103.025010>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5519>  
**Date of Publication** 2021-01

**Author(s)** BHATTACHARJEE, ARINDAM  
**Title** Asymptotic symmetry and classical holographic dual of dS<sub>3</sub> supergravity  
**Citation** Physical Review D, 102(12).  
**Publisher** American Physical Society  
**URI** <https://doi.org/10.1103/PhysRevD.102.126028>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5565>  
**Date of Publication** 2020-12

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**Author(s)** CHATURVEDI, SMITA; Shyam, Priyank; Shirolkar, Mandar M.; KRISHNA, SWATHI S.; Sinha, Bhavesh; Caliebe, Wolfgang; Kalinko, Aleksandr; Srinivasan, Gopalan; OGALE, SATISHCHANDRA B.

**Title** Unusual magnetic ordering transitions in nanoscale biphasic LuFeO<sub>3</sub>: the role of the ortho-hexa phase ratio and the local structure

**Citation** Journal of Materials Chemistry C, 8(47), 17000-17008.

**Publisher** Royal Society of Chemistry

**URI** <https://doi.org/10.1039/D0TC02991B>

**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5489>

**Date of Publication** 2020-12

**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** Measurement of single-diffractive dijet production in proton-proton collisions at  $\sqrt{s} = 8\text{TeV}$  with the CMS and TOTEM experiments

**Citation** European Physical Journal C, 80(12).

**Publisher** Springer Nature

**URI** <https://doi.org/10.1140/epjc/s10052-020-08562-y>

**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5518>

**Date of Publication** 2020-12

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

**Title** Dependence of inclusive jet production on the anti- $k_T$  distance parameter in pp collisions at  $\sqrt{s} = 13\text{TeV}$

**Citation** Journal of High Energy Physics, 2020(12).

**Publisher** Springer

**URI** [https://doi.org/10.1007/JHEP12\(2020\)082](https://doi.org/10.1007/JHEP12(2020)082)

**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5490>

**Date of Publication** 2020-12

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

**Title** Search for bottom-type, vectorlike quark pair production in a fully hadronic final state in proton-proton collisions at  $\sqrt{s} = 13\text{TeV}$

**Citation** Physical Review D, 102(11).

**Publisher** American Physical Society

**URI** <https://doi.org/10.1103/PhysRevD.102.112004>

**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5560>

**Date of Publication** 2020-12

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**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** Inclusive search for highly boosted Higgs bosons decaying to bottom quark-antiquark pairs in proton-proton collisions at  $\sqrt{s} = 13$  TeV

**Citation** Journal of High Energy Physics, 2020(12).

**Publisher** Springer

**URI** [https://doi.org/10.1007/JHEP12\(2020\)085](https://doi.org/10.1007/JHEP12(2020)085)

**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5491>

**Date of Publication** 2020-12

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

**Title** Observation of electroweak production of  $W\gamma$  with two jets in proton-proton collisions at  $\sqrt{s} = 13$  TeV

**Citation** Physics Letters B, 811.

**Publisher** Elsevier B.V.

**URI** <https://doi.org/10.1016/j.physletb.2020.135988>

**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5559>

**Date of Publication** 2020-12

**Author(s)** DE, AVIRUP; Singh, Anupam K.; Singh, Sanjay; NAIR, SUNIL

**Title** Temperature dependence of the anomalous Nernst effect in  $\text{Ni}_2\text{MnGa}$  shape memory alloy

**Citation** Physical Review B, 103(2).

**Publisher** American Physical Society

**URI** <https://doi.org/10.1103/PhysRevB.103.L020404>

**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5516>

**Date of Publication** 2021-01

**Author(s)** GARG, CHARU; ROY, DEEPAK; Lonsky, Martin; Manuel, Pascal; Cervellino, Antonio; Muller, Jens; KABIR, MUKUL; NAIR, SUNIL

**Title** Evolution of the structural, magnetic, and electronic properties of the triple perovskite  $\text{Ba}_3\text{CoIr}_2\text{O}_9$

**Citation** Physical Review B, 103(1).

**Publisher** American Physical Society

**URI** <https://doi.org/10.1103/PhysRevB.103.014437>

**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5569>

**Date of Publication** 2021-01

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**Author(s)** GHOSH, DIPTIMOY; THALAPILLIL, ARUN; ULLAH, FARMAN  
**Title** Astrophysical hints for magnetic black holes  
**Citation** Physical Review D, 103(2).  
**Publisher** American Physical Society  
**URI** <https://doi.org/10.1103/PhysRevD.103.023006>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5571>  
**Date of Publication** 2021-01

**Author(s)** Kar, Indrani; Dolui, Kapildeb; HARNAGEA, LUMINITA; Kushnirenko, Yevhen; Shipunov, Grigory; Plumb, Nicholas C.; Shi, Ming; Buchner, Bernd; Thirupathaiah, Setti  
**Title** Experimental Evidence of a Stable 2H Phase on the Surface of Layered 1T'-TaTe2  
**Citation** Journal of Physical Chemistry C, 125(1), 1150-1156.  
**Publisher** American Chemical Society  
**URI** <https://doi.org/10.1021/acs.jpcc.0c10517>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5562>  
**Date of Publication** 2021-01

**Author(s)** Karbhal, Indrapal; BASU, ANIRUDDHA; Patrike, Apurva; Shelke, Manjusha V.  
**Title** Laser patterning of boron carbon nitride electrodes for flexible micro-supercapacitor with remarkable electrochemical stability/capacity  
**Citation** Carbon, 171, 750-757.  
**Publisher** Elsevier B.V.  
**URI** <https://doi.org/10.1016/j.carbon.2020.09.053>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5520>  
**Date of Publication** 2021-01

**Author(s)** Ltaief, L. Ben; Shcherbinin, M.; MANDAL, S.; Krishnan, S. R.; Richter, R.; Turchini, S.; Zema, N.; Mudrich, M.  
**Title** Photoelectron Spectroscopy of Coronene Molecules Embedded in Helium Nanodroplets  
**Citation** Journal of Low Temperature Physics.  
**Publisher** Springer Nature  
**URI** <https://doi.org/10.1007/s10909-020-02553-9>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5570>  
**Date of Publication** 2021-01

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**Author(s)** McCormack, Gary; NATH, REJISH; Li, Weibin  
**Title** Nonlinear dynamics of Rydberg-dressed Bose-Einstein condensates in a triple-well potential  
**Citation** Physical Review A, 102(6).  
**Publisher** American Physical Society  
**URI** <https://doi.org/10.1103/PhysRevA.102.063329>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5514>  
**Date of Publication** 2020-12

**Author(s)** PANJA, SOUMENDRA NATH; Manuel, Pascal; NAIR, SUNIL  
**Title** Anisotropy in the magnetization and magnetoelectric response of single crystalline  $Mn_4Ta_2O_9$   
**Citation** Physical Review B, 103(1).  
**Publisher** American Physical Society  
**URI** <https://doi.org/10.1103/PhysRevB.103.014422>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5528>  
**Date of Publication** 2021-01

**Author(s)** PAUL, DIPTABRATA; SHARMA, DEEPAK K.; KUMAR, G. V. PAVAN  
**Title** Focused linearly-polarized-light scattering from a silver nanowire: Experimental characterization of the optical spin-Hall effect  
**Citation** Physical Review A.  
**Publisher** American Physical Society  
**URI** <https://doi.org/10.1103/PhysRevA.103.013520>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5552>  
**Date of Publication** 2021-01

**Author(s)** Roy, Abhinash Kumar; SAHU, ANMOL; Singh, Tejinder P.  
**Title** Trace dynamics, and a ground state in spontaneous quantum gravity  
**Citation** Modern Physics Letters A.  
**Publisher** World Scientific Publishing  
**URI** <https://doi.org/10.1142/S021773232150019X>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5484>  
**Date of Publication** 2020-12

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**Author(s)** SHENDE, MAYUR B.; Chauhan, Prashali; SUBRAMANIAN, PRASAD  
**Title** X-ray dips in AGNs and microquasars - collapse time-scales of inner accretion disc  
**Citation** Monthly Notices of the Royal Astronomical Society, 501(3).  
**Publisher** Oxford University Press  
**URI** <https://doi.org/10.1093/mnras/staa3838>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/5566>  
**Date of Publication** 2021-03

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