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Monthly Bulletin of Publications:  
Faculty, Scientists and Students of IISER Pune.  
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## Contents

Subject	Page No.
<a href="#">Biology</a>	2
<a href="#">Chemistry</a>	3
<a href="#">Earth and Climate Science</a>	4
<a href="#">Mathematics</a>	5
<a href="#">Physics</a>	5

# BIOLOGY

- Author(s)** Adhav, Anmol; HARNE, SHRIKANT; Bhide, Amey; Giri, Ashok; GAYATHRI, PANANGHAT; Joshi, Rakesh
- Title** Mechanistic insights into enzymatic catalysis by trehalase from the insect gut endosymbiont *Enterobacter cloacae*
- Citation** The FEBS Journal, 286(9), 1700-1716.
- Publisher** Wiley
- URI** <http://dx.doi.org/10.1111/febs.14760>
- DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/3051>
- Date of Publication** MAY-2019
- 
- Author(s)** Britz, Ralf; Anoop, V.K.; DAHANUKAR, NEELESH; Raghavan, Rajeev
- Title** The subterranean *Aenigmachannagollum*, a new genus and species of snakehead (Teleostei: Channidae) from Kerala, South India
- Citation** Zootaxa, 4603(2).
- Publisher** Magnolia Press
- URI** <http://dx.doi.org/10.11646/zootaxa.4603.2.10>
- DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/3048>
- Date of Publication** 09-05-2019
- 
- Author(s)** Dandekar, Manoj P.; Bharne, Ashish P.; Borkar, Pradip D.; SUBHEDAR, NISHIKANT K.; Kokare, Dadasaheb M.
- Title** Maternal ethanol exposure reshapes CART system in the rat brain: Correlation with development of anxiety, depression and memory deficits
- Citation** Neuroscience, 406, 126-139.
- Publisher** Elsevier B.V.
- URI** <https://doi.org/10.1016/j.neuroscience.2019.02.010>
- DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/3047>
- Date of Publication** 15-05-2019
- 
- Author(s)** Goluguri, Rama Reddy; Sen, Sreemantee; UDGAONKAR, JAYANT
- Title** Microsecond sub-domain motions and the folding and misfolding of the mouse prion protein
- Citation** eLife, 8.
- Publisher** eLife Sciences Publications Ltd.
- URI** <https://doi.org/10.7554/eLife.44766>
- DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/3062>
- Date of Publication** 26-04-2019

[Go to top](#)

**Author(s)** KONDHARE, KIRTIKUMAR R.; NATARAJAN, BHAVANI; BANERJEE, ANJAN K.  
**Title** How are storage organs of root and tuber crops made? Mobile RNAs and proteins hold the promise!  
**Citation** Current Science, 116(10), 1625-1627.  
**Publisher** Indian Academy of Sciences  
**URI** <https://www.currentscience.ac.in/Volumes/116/10/1625.pdf>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/3046>  
**Date of Publication** 25-05-2019

**Author(s)** MAHAJAN, GAURANG; NADKARNI, SUHITA  
**Title** Intracellular calcium stores mediate metaplasticity at hippocampal dendritic spines  
**Citation** The Journal of Physiology.  
**Publisher** Wiley  
**URI** <https://doi.org/10.1113/JP277726>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/3088>  
**Date of Publication** 16-05-2016

**Author(s)** Pinder, Adrian C.; DAHANUKAR, NEELESH et al.  
**Title** Mahseer (Tor spp.) fishes of the world: status, challenges and opportunities for conservation  
**Citation** Reviews in Fish Biology and Fisheries, 29(2), 417-452.  
**Publisher** Springer  
**URI** <https://doi.org/10.1007/s11160-019-09566-y>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/3059>  
**Date of Publication** 02-05-2019

## CHEMISTRY

**Author(s)** CHAKRABORTY, DEBANJAN; NANDI, SHYAMAPADA; MULLANGI, DINESH; HALDAR, SATTWICK; Vinod, Chathakudath P.; VAIDHYANATHAN, RAMANATHAN  
**Title** Cu/Cu<sub>2</sub>O Nanoparticles Supported on a Phenol-Pyridyl COF as a Heterogeneous Catalyst for the Synthesis of Unsymmetrical Dienes via Glaser-Hay Coupling  
**Citation** ACS Applied Materials & Interfaces, 11(17), 15670-15679.  
**Publisher** American Chemical Society  
**URI** <http://dx.doi.org/10.1021/acsami.9b02860>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/3050>  
**Date of Publication** 01-05-2019

[Go to top](#)

**Author(s)** DAS, KONOYA; ROY, BIBHISAN; SATPATHI, SAGAR; HAZRA, PARTHA  
**Title** Impact of Topology on the Characteristics of Water inside Cubic Lyotropic Liquid Crystalline Systems  
**Citation** Journal of Physical Chemistry B, 123(18), 4118-4128.  
**Publisher** American Chemical Society  
**URI** <https://doi.org/10.1021/acs.jpcc.9b01559>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/3060>  
**Date of Publication** 22-04-2019

**Author(s)** SINGH, DIVYA; CHAUDHURY, SRABANTI  
**Title** Theoretical study of the conditional non-monotonic off rate dependence of catalytic reaction rates in single enzymes in the presence of conformational fluctuations  
**Citation** Chemical Physics, 523, 150-159.  
**Publisher** Elsevier B.V.  
**URI** <https://doi.org/10.1016/j.chemphys.2019.04.012>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/3085>  
**Date of Publication** 01-07-2019

**Author(s)** SIVARAM, S.  
**Title** The TWAS-Lenovo Science Prize-winning work of R. A. Mashelkar  
**Citation** Current Science, 116(8), 1281-1282.  
**Publisher** Indian Academy of Sciences  
**URI** <https://www.currentscience.ac.in/Volumes/116/08/1281.pdf>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/3073>  
**Date of Publication** 25-04-2019

## EARTH AND CLIMATE SCIENCE

**Author(s)** DAS, RITIMA; Ashish; SAHA, GOKUL KUMAR  
**Title** Crust and shallow mantle structure of south India by inverting interpolated receiver function with surface wave dispersion  
**Citation** Journal of Asian Earth Sciences, 176, 157-167.  
**Publisher** Elsevier B.V.  
**URI** <http://dx.doi.org/10.1016/j.jseaes.2019.02.011>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/3049>  
**Date of Publication** 01-06-2019

[Go to top](#)

## MATHEMATICS

**Author(s)** BHAKTA, MOUSOMI; Nguyen, Phuoc-Tai  
**Title** Nonlinear fractional elliptic systems with boundary measure data: Existence and a priori estimates  
**Citation** Journal of Mathematical Analysis and Applications, 475(2), 1614-1635.  
**Publisher** Elsevier B.V.  
**URI** <https://doi.org/10.1016/j.jmaa.2019.03.034>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/3071>  
**Date of Publication** 15-07-2019

**Author(s)** BISWAS, ANUP  
**Title** Liouville type results for systems of equations involving fractional Laplacian in exterior domains  
**Citation** Nonlinearity, 32(6), 2246-2268.  
**Publisher** IOP Publishing  
**URI** <https://doi.org/10.1088/1361-6544/ab091b>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/3056>  
**Date of Publication** 10-05-2019

## PHYSICS

**Author(s)** CHANDRA, A. RAMESH; MUKHI, SUNIL  
**Title** Towards a classification of two-character rational conformal field theories  
**Citation** Journal of High Energy Physics.  
**Publisher** Springer  
**URI** [https://doi.org/10.1007/JHEP04\(2019\)153](https://doi.org/10.1007/JHEP04(2019)153)  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/3080>  
**Date of Publication** 29-04-2019

**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 and interpretation of differential cross sections for Higgs boson production at root s=13 TeV  
**Citation** Physics Letters B, 792, 369-396.  
**Publisher** Elsevier B.V.  
**URI** <https://doi.org/10.1016/j.physletb.2019.03.059>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/3082>  
**Date of Publication** 10-05-2019

**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 the energy density as a function of pseudorapidity in proton-proton collisions at  $\sqrt{s}=13\text{TeV}$

**Citation** European Physical Journal C, 79(5).

**Publisher** Springer

**URI** <https://doi.org/10.1140/epjc/s10052-019-6861-x>

**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/3061>

**Date of Publication** 07-05-2019

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

**Title** Measurement of inclusive very forward jet cross sections in proton-lead collisions at  $p_{\text{sNN}}=5.02\text{ TeV}$

**Citation** Journal of High Energy Physics.

**Publisher** Springer

**URI** [https://doi.org/10.1007/JHEP05\(2019\)043](https://doi.org/10.1007/JHEP05(2019)043)

**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/3054>

**Date of Publication** 07-05-2019

**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 the  $t(\bar{t})$  production cross section, the top quark mass, and the strong coupling constant using dilepton events in pp collisions at  $\sqrt{s}=13\text{TeV}$

**Citation** European Physical Journal C, 79(5).

**Publisher** Springer

**URI** <https://doi.org/10.1140/epjc/s10052-019-6863-8>

**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/3055>

**Date of Publication** 29-04-2019

**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** Measurements of the  $pp \rightarrow WZ$  inclusive and differential production cross sections and constraints on charged anomalous triple gauge couplings at  $\sqrt{s} = 13\text{ TeV}$

**Citation** Journal of High Energy Physics.

**Publisher** Springer

**URI** [https://doi.org/10.1007/JHEP04\(2019\)122](https://doi.org/10.1007/JHEP04(2019)122)

**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/3074>

**Date of Publication** 18-04-2019

[Go to top](#)

**Author(s)** CMS Collaboration; Sirunyan, A. M.; CHAUHAN, S.; DUBE, S.; HEGDE, V.; KAPOOR, A.; KOTHEKAR, K.; PANDEY, S.; RANE, A.; RASTOGI, S.; SHARMA, S. et al.  
**Title** Search for W Boson Decays to Three Charged Pions  
**Citation** Physical Review Letters, 122(15).  
**Publisher** American Physical Society  
**URI** <https://doi.org/10.1103/PhysRevLett.122.151802>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/3076>  
**Date of Publication** 18-04-2019

**Author(s)** CMS Collaboration; Sirunyan, A. M.; CHAUHAN, S.; DUBE, S.; HEGDE, V.; KAPOOR, A.; KOTHEKAR, K.; PANDEY, S.; RANE, A.; SHARMA, S. et al.  
**Title** Search for a W ' boson decaying to a tau lepton and a neutrino in proton-proton collisions at root s=13 TeV  
**Citation** Physics Letters B, 792, 107-131.  
**Publisher** Elsevier B.V.  
**URI** <https://doi.org/10.1016/j.physletb.2019.01.069>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/3081>  
**Date of Publication** 10-05-2019

**Author(s)** CMS Collaboration; Sirunyan, A. M.; CHAUHAN, S.; DUBE, S.; HEGDE, V.; KAPOOR, A.; KOTHEKAR, K.; PANDEY, S.; RANE, A.; SHARMA, S. et al.  
**Title** Search for an L-mu - L-tau gauge boson using Z -> 4 mu events in proton-proton collisions at root s=13 TeV  
**Citation** Physics Letters B, 792, 345-368.  
**Publisher** Elsevier B.V.  
**URI** <https://doi.org/10.1016/j.physletb.2019.01.072>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/3083>  
**Date of Publication** 10-05-2019

**Author(s)** CMS Collaboration; Sirunyan, A. M.; CHAUHAN, S.; DUBE, S.; HEGDE, V.; KAPOOR, A.; KOTHEKAR, K.; PANDEY, S.; RANE, A.; RASTOGI, S.; SHARMA, S. et al.  
**Title** Search for contact interactions and large extra dimensions in the dilepton mass spectra from proton-proton collisions at root s=13 TeV  
**Citation** Journal of High Energy Physics.  
**Publisher** Springer  
**URI** [https://doi.org/10.1007/JHEP04\(2019\)114](https://doi.org/10.1007/JHEP04(2019)114)  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/3075>  
**Date of Publication** 17-04-2019

**Author(s)** CMS Collaboration; Sirunyan, A. M.; CHAUHAN, S.; DUBE, S.; HEGDE, V.; KAPOOR, A.; KOTHEKAR, K.; PANDEY, S.; RANE, A.; RASTOGI, S.; SHARMA, S. et al.  
**Title** Search for nonresonant Higgs boson pair production in the  $b(b)\text{over-bar}b(b)\text{over-bar}$  final state at  $\sqrt{s}=13$  TeV  
**Citation** Journal of High Energy Physics.  
**Publisher** Springer  
**URI** [https://doi.org/10.1007/JHEP04\(2019\)112](https://doi.org/10.1007/JHEP04(2019)112)  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/3070>  
**Date of Publication** 17-04-2019

**Author(s)** CMS Collaboration; Sirunyan, A. M.; CHAUHAN, S.; DUBE, S.; HEGDE, V.; KAPOOR, A.; KOTHEKAR, K.; PANDEY, S.; RANE, A.; RASTOGI, S.; SHARMA, S. et al.  
**Title** Search for vector-like quarks in events with two oppositely charged leptons and jets  
**Citation** The European Physical Journal C, 79(4).  
**Publisher** Springer  
**URI** <https://doi.org/10.1140/epjc/s10052-019-6855-8>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/3078>  
**Date of Publication** 26-04-2019

**Author(s)** KASHYAP, G.; AMBIKA, G. et al.  
**Title** Synapse loss and progress of Alzheimer's disease - A network model  
**Citation** Scientific Reports, 9.  
**Publisher** Springer Nature Publishing AG  
**URI** <https://doi.org/10.1038/s41598-019-43076-y>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/3086>  
**Date of Publication** 25-04-2019

**Author(s)** PATTANAYAK, NAMRATA; Bhattacharya, Arpan; CHAKRAVARTY, SHRUTI; BAJPAI, ASHNA  
**Title** Weak ferromagnetism and time-stable remanence in hematite: effect of shape, size and morphology  
**Citation** Journal of Physics: Condensed Matter.  
**Publisher** IOP Publishing  
**URI** <https://doi.org/10.1088/1361-648X/ab251c>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/3089>  
**Date of Publication** 28-05-2019



**Author(s)** SADHU, AMRUTA; VARDARAJAN, SUNEETA  
**Title** Study of semiclassical instability of the Schwarzschild AdS black hole in the large D limit.  
**Citation** Classical and Quantum Gravity, 36(11).  
**Publisher** IOP Publishing  
**URI** <https://doi.org/10.1088/1361-6382/ab1d69>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/3064>  
**Date of Publication** 13-05-2019

**Author(s)** TELANG, PRACHI; MISHRA, KSHITI; Prando, Giacomo; Sood, A. K.; SINGH, SURJEET  
**Title** Anomalous lattice contraction and emergent electronic phases in Bi-doped Eu<sub>2</sub>Ir<sub>2</sub>O<sub>7</sub>  
**Citation** Physical Review B(Rapid Comm.),99(20).  
**Publisher** American Physical Society  
**URI** <https://doi.org/10.1103/PhysRevB.99.201112>  
**DR URI** <http://dr.iiserpune.ac.in:8080/xmlui/handle/123456789/3087>  
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[Go to top](#)

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