PUBLICATIONS / PATENTS:

Total number of

- papers in journals: 93
- papers published so far with IITM affiliation (highlighted below): 72
- papers published as an independent investigator/PI or co-PI: 84
- papers currently under review: 10
- conference proceedings (peer reviewed): 7
- conference proceedings under review: 1
- book chapters: 2
- patents: 6 (applied)

Papers (under review)

I. Santanu Maiti and Tiju Thomas, “Hybrid organic photovoltaic-device (with improved stability; $\eta \sim 11\%$, $\eta_{\text{internal}} \sim 89\%$) fabricated on sputter-deposited Mg:ZnOnanopillars” (under review)

II. Santanu Maiti and Tiju Thomas, “Broadband-UV, hybrid-organic-photodetector containing chemically-treated ZnMgO layer with promising detectivity, responsivity and low dark current” (under review)

III. “Chemical sensors based on noble metal-functionalized metal oxides composites”, Shendan Zhang, Sefiu Abolaji Rasaki, Fengdong Q, Samira, Meng Da, Tiju Thomas*, and Minghui Yang* (under review)

IV. “Vibrational properties of ultra-small, BaTaO$_2$N”, Kousika A, R Harikrishna, and Tiju Thomas

V. “Nickel hydroxide with structural defects for sensitive-detection of Pb$^{2+}$ and Cd$^{2+}$ ions in aqueous media”, Fenghui Fan, Longhai Pan, Mohammad Raza Miah, Hangjia Shen, Bhuvanasundari Sivagnanam, Tiju Thomas, Minghui Yang*

VI. "Single phase anti-perovskite metal carbide nanostructures for oxygen reduction reaction catalysts", Sefiu Rasaki, Hangjia Shen, Tiju Thomas*, Minghui Yang*


VIII. “Magnetism, half-metallicity and bonding in Al$_{1.5}$In$_{2}$FeO$_3$”,
IX. "Single Walled Titanium Carbonitride Nanotube Supported Cobalt Nanoparticle (Co@TiC_{0.25}N_{0.75}) Derived from Solid-Solid Separation for Oxygen Reduction Reaction in Alkaline Solution", Sefiu Abolaji Rasaki, Hangjia Shen, Haichuan Guo, Tiju Thomas, Minghui Yang (re-submitted after ‘minor revisions’)

X. “In-plane lateral formation of p-n diodes by laser-assisted doping of pulsed laser deposited SiC thin films on MgO substrate”, Emmanuel Paneerselvam; Nilesh J Vasa; Daisuke Nakamura; M. S. Ramachandra Rao; Kaname Imokawa; Hiroshi Ikenoue; Tiju Thomas (Applied Physics A)


2. "Ordered mesoporous carbon assisted Fe-N-C for efficient oxygen reduction catalysis in both acidic and alkaline media", Shuqin Liang, Haichuan Gu, Shen Hangjia, Hanzhang Gong, Fenghui Fan, Mengyao Lv, Tiju Thomas, Jian Liu, Minghui Yang, Zhen Zhao, IOP Nanotechnology (just accepted)


12. “Mechanism of alkali metal carbonates catalysing the synthesis of β-hydroxyethyl sulfide with mercaptan and ethylene carbonate”, Dongliang Liu, Tiju Thomas, Hong Gong, Fei Li, Qiang Li, Lijuan Song, Tamil Azhagan, Heng Jiang and Minghui Yang, RSC Organic & Biomolecular Chemistry, 17, 9367-9374 (2019)


17. “Amphotericity-spectroscopy correlations in Eu doped sodium bismuth titanate (Na_{0.5}Bi_{0.5}TiO_3)”, Santosh Behara, Harikrishna, R., Muralidhar M., Murakami M., Irfan M., Najma S. and Tiju Thomas, Materialia 7, 100426 (2019).


19. “Synthesis of Stable Al(0) Nanoparticles in Water in the form of Al(0)@Cu and Sequestration of Cu^{2+} (aq.) with Simultaneous H2 Production", Abdul Malek,


33. “Large-scale synthesis of dual-emitting-based visualization sensing paper for humidity and ethanol detection”, Zhuoqi Wen, Shanliang Song, Chuanxi Wang, Fengdong Qu, Tiju Thomas, Tantan Hu, Pei Wang, Minghui Yang, Sensors and


37. "Effective mass and optical properties of orthorhombic Al_{1-x}In_xFeO_3 perovskite: an ab initio study", Sudha Priyanka and Tiju Thomas, Computational Materials Science 159, 222-227 (2018).


42. “Size-dependent disproportionation (in ~2-20 nm regime) and hybrid-Bond-valence derived interatomic potentials for \(\text{BaTaO}_2\text{N}\)”, Kousika Anbalgan and Tiju Thomas, Applied Nanoscience 8 (6), 1379–1388 (2018), https://doi.org/10.1007/s13204-018-0785-x.


47. “Structural, optical, and Raman studies of Gd doped sodium bismuth titanate”,


60. “Methane-Sensing Performance Enhancement in Graphene Oxide/Mg:ZnO-Heterostructure Devices”, Argha Sarkar Santanu Maity, Aneesh M. Joseph, S


5. "Effect of nitridation on visible light photocatalytic behavior of microporous (Ag, Ag$_2$O) co-loaded TiO$_2$", Zou Mingming, Honghong Liu, Lu Feng, Fengqiang Xiong, Tiju Thomas, and Minghui Yang, Microporous and Mesoporous Materials 240 (2017): 137-144.

67. "Effect of nitrogen substitution on the structural and magnetic ordering transitions of \( \text{NiCr}_2\text{O}_4 \), Xin Liu, Nan Yin, Tiju Thomas, Minghui Yang, Junhu Wang and Quan Shi, RSC Advances, 6, 112140-112147 (2016); DOI: 10.1039/C6RA22773B


69. "Visual and Optical Sensing of \( \text{Hg}^{2+}, \text{Cd}^{2+}, \text{Cu}^{2+}, \text{and Pb}^{2+} \) in Water and Its Beneficia-

70. "Enhanced photocatalytic degradation of rhodamine B under visible light irradiation on mesoporous anatase \( \text{TiO}_2 \) microspheres by codoping with \( W \) and \( N \)\( ^\text{a}\), Jian Zheng, Feng-Qiang Xiong, Mingming Zou, Tiju Thomas, Heng Jiang, Ying Tian, Minghui Yang, Solid State Sciences 54, 49-53 (2016)

71. “Electric field induced short range to long range structural ordering and its influence on the \( \text{Eu}^{3+} \) photoluminescence in the lead-free ferroelectric \( \text{Na}_{1/2}\text{Bi}_{1/2}\text{TiO}_3 \)”, Abhijit Kalaskar, Tiju Thomas, Rajeev Ranjan, Journal of Applied Physics 117 (24) , 244106 (2015).


73. “Nanorod to quantum dot conversion in \( \text{ZnO} \) dispersions with co-surfactants”, Niya Mary and Tiju Thomas, RSC Advances 5 (20), 15154-15158 (2015).


77. “Digestive ripening and green synthesis of ultra-small ($r<2$nm) stable ZnO quantum dots”, Niya Mary Jacob and Tiju Thomas, Ceramics International 40.9 (2014): 13945-13952. [http://dx.doi.org/10.1016/j.ceramint.2014.05.116](http://dx.doi.org/10.1016/j.ceramint.2014.05.116)


