PUBLICATIONS / PATENTS:

Papers (under review)

I. Santanu Maiti and Tiju Thomas, “Hybrid organic photovoltaic-device (with improved stability; $\eta \approx 11\%$, $\eta_{\text{internal}} \approx 89\%$) 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*

VII. "Highly-sensitive As$^{3+}$ detection using electrodeposited nanostructured MnO$_x$ and phase evolution of the active material during sensing”, Tanvi Gupte, Sourav Jana, Jyoti Mohanty, Pillalamarri Srikrishnarka, Sritama Mukherjee, Ahuja Tripti, Sudhakar, Chennu, Tiju Thomas, Thalappil Pradeep (under review)


IX. “Magnetism, half-metallicity and bonding in Al$_{1-x}$In$_x$FeO$_3$”, Sudha
Priyanka and Tiju Thomas (submitted)

X. "Single Walled Titanium Carbonitride Nanotube Supported Cobalt Nanoparticle (Co@TiC\textsubscript{0.25}N\textsubscript{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’)

1. “Synthesis of Stable Al(0) Nanoparticles in Water in the form of Al(0)@Cu and Sequestration of Cu\textsuperscript{2+} (aq.) with Simultaneous H\textsubscript{2} Production", Abdul Malek, Edamana Prasad and Tiju Thomas, ACS Sustainable Chemistry and Engineering (just accepted) DOI: 10.1021/acssuschemeng.9b00340

2. “Do depletant stabilized water-in-oil microemulsions have implications for nanoencapsulation?”, Leggins Abraham, Tiju Thomas*, Moorthy Pichumani, Colloids and Surfaces A: Physicochemical and Engineering Aspects (just accepted)

3. “Nickel based transition metals nitride (TMN) electrocatalysts in oxygen evolution reaction (OER)”, Ayesha Tareen, Tiju Thomas, Minghui Yang, Wiiley ChemSusChem (just accepted)

4. “Synthesis of Stable Al(0) Nanoparticles in Water in the form of Al(0)@Cu and Sequestration of Cu\textsuperscript{2+} (aq.) with Simultaneous H\textsubscript{2} Production", Abdul Malek, Edamana Prasad and Tiju Thomas, ACS Sustainable Chemistry and Engineering (just accepted) DOI: 10.1021/acssuschemeng.9b00340

5. “Physicochemical properties of chimie douce derived, digestively ripened, ultra-small (r<2 nm) ZnO QDs”, Bhusankar Talluri, and Tiju Thomas, Colloids and Surfaces A: Physicochemical and Engineering Aspects (just accepted)


14. "Hybrid-organic-photodetector containing chemically-treated ZnMgO layer with


24. “Size-dependent disproportionation (in \( \sim 2-20 \text{ nm} \) 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.


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41. "Indications of hard-soft-acid-base interactions governing formation of ultra-small (r<3 nm) digestively ripened copper oxide quantum-dot", Bhusankar Talluri and Tiju


49. "Effect of nitrogen substitution on the structural and magnetic ordering transitions of NiCr$_2$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


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61. “Multivalent Cu doped ZnO nanoparticles with full solar spectrum absorbance and enhanced photoactivity”, Niya Mary, Giridhar Madras, Nagaraju Kottam and Tiju


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1. “Optical Studies of Na$_{0.5}$Bi$_{0.5}$Eu$_x$TiO$_3$ Perovskite Red Phosphor with High Europium Content”, Jingzhou Wang, Praveena Kuruva, Tiju Thomas, Wojciech M. Jadwisienczak, International Workshop on Advanced Spectroscopy and Optical Materials, Gdańsk, Poland (July 2013).


3. “Optical Characterization of Eu Doped Mixed A-site Perovskite Na$_{0.5}$Bi$_{0.5}$TiO$_3$ Red Phosphor”, Jingzhou Wang, Praveena Kuruva, Tiju Thomas, Adam Brant, Wojciech M. Jadwisienczak International Conference on Rare Earths, Ganzhou City, Jiang Xi Province, China (August 2013).

4. “Size reduction and rare earth doping of GaN powders through ball milling”, Xiaomei Guo, Tiju Thomas, Kewen K. Li, Jifa Qi, Yanyun Wang, Xuesheng Chen, Michael G. Spencer, Hua Zhao, Kevin Y. Zou, Hua Jiang and Baldassare D. Bartolo, MRS Proceeding, 1202, 1202-I09-12 (2009).


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Book chapters


**Patents**

1. “A perovskite Na$_{0.5}$A$_{0.5-x}$RE$_x$ZO$_3$ and a process thereof”, Indian Patent (application no. 2211/CHE/2013)

2. “Soft, self-assembly process of low dimensional Au nanostructures using slanted-substrate method” (2016,) Indian Patent (application no. 201641033963); filing date: 04/10/2016.
