Soubantika Palchoudhury, Ph.D.

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Chemical Engineering
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Education

Ph.D. **The University of Alabama**, Chemical Engineering, Tuscaloosa, Alabama, 2012
Dissertation: Synthesis and Characterization of Platinum Decorated Iron Oxide Nanoparticles for Biomedical Applications
M.S. **The University of Alabama**, Chemical Engineering, Tuscaloosa, Alabama, 2010
B.S. **National Institute of Technology,** Durgapur, Chemical Engineering, India, 2008

Academic Experience

- **University of Tennessee at Chattanooga**, Assistant Professor, Aug 2017- Present
- **University of Tennessee at Chattanooga**, Visiting Assistant Professor, Aug 2015-Aug 2017
- **The University of Alabama,** Center for Materials and Information Technology (MINT) Tuscaloosa, Alabama, Postdoctoral Researcher, Feb 2014-Aug 2015
- **University of South Carolina,** Arnold School of Public Health, Columbia, South Carolina, Postdoctoral Researcher, Jun 2013-Feb 2014
- **Yale University**, Chemical and Environmental Engineering, New Haven, Connecticut, Postdoctoral Researcher, Jun 2012-Jun 2013

Certifications or Professional Registrations

E.I.T.

Current Membership in Professional Organizations

American Institute of Chemical Engineers and Royal Society of Chemistry

Selected Honors, Awards, and Grants

- CEACSE Tennessee Board of Higher Education Grant, (2017), $89,221
- Center for Integrated Nanotechnologies User Proposal Award, Sandia National Lab (2016)
- Provost Student Research Award UTC (Student: Megan Downs), UTC (2016), $1000
- TBAEE Laboratory Equipment Grant for Chemical Eng., UTC (2015), Co-PI, $26,761

Editorial Board and Peer-Review Experience

Editorial Board Member: Int. J. Measurement Technol. Instrumen. Eng.
JAP/APL, Nanomaterials, Inorg Chem, Dalton Transac, Yale J Biol Med, Langmuir, ES&T, Nanoscale, INJP, Dovepress, J En Storage, book reviews for IGI and Cengage

Selected Publications

Publication: 23, Book chapters: 4, Highlight in Nature: 1, Cover art: 1, h-index: 13, Citations ~ 481

1. ***Palchoudhury, S.;*** Zhou, Z.; Ramasamy, K.; Okirie, F.; Prevelige, P.; Gupta, A. "Self-Assembly of P22 Protein Cages with Iron Oxide Nanoparticles and Polyamidoamine Dendrimers" JMR (2016, **Communicating author**)
2. ***Palchoudhury, S.;*** Ramasamy, K.; Gupta, A. "Recent Progress in Spintronic Materials" Material Matter. (2016, **Invited paper**)
3. Ghosh, A; ***Palchoudhury, S.;*** Thangavel, R.; Zhou, Z.; Naghibolashrafi, N.; Ramasamy, K.; Gupta,

A. "A New Family of Wurtzite-Phase Cu_2ZnAS_{4-x} and $CuZn_2AS_4$ (A= Al, Ga, In) Nanocrystals for Solar Energy Conversion Applications" ChemComm (2015, **Cover art, communicating author**)

4. ***Palchoudhury, S.;*** Palchaudhuri, S. "Rapid Determination of Hexavalent Chromium in ppb Level and Speciation of the Metal with a New Organic Reagent, Bis(pyrrole-2aldehydo)thiocarbohydrazone (BPATCH) in Presence of Vanadium(V)" J. Indian Chem. Soc. (2016)
5. ***Palchoudhury, S.;*** Lead, J.R. "A Facile and Cost-Effective Method for Separation of Oil-Water Mixtures using Polymer-Coated Iron Oxide Nanoparticles" Env. Sci. Technol. (2014)
6. ***Palchoudhury, S.;*** Hyder, F.; Vanderlick, K; Geerts, N. "Water-Soluble Anisotropic Iron Oxide Nanoparticles: Dextran-Coated Crystalline Nanoplates and Nanoflowers" Part. Sci. &Technol. (2013)
7. ***Palchoudhury, S.;*** Xu, Y.; Rushdie, A.; Holler, R.; Bao, Y. "Controlled Synthesis of Iron Oxide Nanoplates and Nanoflowers" ChemComm (2012)
8. ***Palchoudhury, S.;*** Xu, Y.; Rushdie, A.; Bao, Y. "DNA Interaction of Platinum Attached Iron Oxide Nanoparticles" IEEE Transactions (2012)
9. ***Palchoudhury, S.;*** An, W.; Xu, Y.; Qin, Y.; Zhang, Z.; Holler, R.; Turner, C. Heath; Chopra, N.; Bao, Y. "Synthesis and Growth Mechanism of Iron Oxide Nanowhiskers" Nano Lett. (2011).
10. ***Palchoudhury, S.;*** Xu, Y.; Goodwin, J.; Bao, Y. "Synthesis of Multiple Platinum Attached Iron Oxide Nanoparticles" J. Mater. Chem. (2011)
11. ***Palchoudhury, S.;*** Xu, Y.; Goodwin, J.; Bao, Y. "Synthesis of Iron Oxide Nanoworms" J. Appl. Phys. (2011)
12. ***Palchoudhury, S.;*** Xu, Y.; An, Wei; Turner, C. H.; Bao, Y. "Platinum Attachments on Iron Oxide Nanoparticle Surfaces" J. Appl. Phys. (2010)
13. Zhou, Z.; Bedwell, G.; Li, R.; ***Palchoudhury, S.;*** Prevelige, P.E.; Gupta, A. "Pathways for Gold Nucleation and Growth over Protein Cages" Langmuir (2017)
14. Negi, D.S.; Sharona, H.; Bhat, U.; ***Palchoudhury, S.;*** Gupta, A.; Datta, R. "Surface spin canting in Fe_3O_4 and $CoFe_2O_4$ nanoparticles probed by high-resolution electron energy loss spectroscopy" Phys. Rev. B (2017)
15. Gupta, R; Candler, J.; ***Palchoudhury, S.;*** Ramasamy, K.; Gupta, B. "Flexible and High Performance Supercapacitors based on $NiCo_2O_4$ for Wide Temperature Range Applications" Sci. Rep. (2015)
16. Xu, Y.; Yin, Q.; ***Palchoudhury, S.;*** Bao, Y. "Water Soluble Iron Oxide Nanoparticles with High Stability and Selective Surface Functionality" Langmuir. (2011). **Highlight in Nature**.
17. **Book Chp.**: Ramasamy, K.; ***Palchoudhury, S.;*** Gupta, A. "Synthesis and Properties of Magnetic Chalcogenide Nanostructures", Wiley (2017)
18. **Book Chp.**: Melnyczuk, J; ***Palchoudhury, S.*** "Introduction to Bio-Inspired Hydrogel and Their Applications", Emerging Research on Bioinspired Materials Engineering (2016)
19. **Book Chp.**: ***Palchoudhury, S.;*** Baalousha, M.; Lead, J.R. "Methods for Measuring Concentration of Nanoparticles", Frontiers in Nanoscience. (2015)
20. **Book Chp.**: Melnyczuk, J; ***Palchoudhury, S.*** "Synthesis and Characterization of Iron Oxide Nanoparticles", Handbook of Research on Nanoscience, Nanotechnol. & Adv Mater. (2014)

Selected Posters & Presentations

1. ***Palchoudhury, S. "Synthesis and Characterization of Hybrid Nanoparticles for Biomedical and Environmental Remediation Applications", International Conference and Exhibition on Materials Science and Engineering, Sep 2016 (Invited lecture)***
2. ***Palchoudhury, S.*** *et al.*; "Dextran-iron oxide nanoplates and nanoflowers showing excellent aqueous phase stability", SERMACS-SWRM, Nov 2015
3. ***Palchoudhury, S.*** *et al.*; "Self-Assembly of Protein Cages with Polymer and Nanoparticles", NanoBio Summit, Oct 2014 (Poster)
4. ***Palchoudhury, S.*** "Synthesis and Characterization of Nanostructures for Biomedical Applications", Sammilani College, India, Dec 2012 (Invited talk)
5. ***Palchoudhury, S.*** *et al.*; "Synthesis of Multiple Platinum Attached Iron Oxide Nanoparticles", TMS, Mar 2011 (Oral talk)