

Akhila Gollakota

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Education

Pennsylvania State University (State College,PA) August 2015-Current

PhD candidate in Chemical Engineering

Selected for the College of Engineering Graduate Excellence Fellowship

University at Buffalo, SUNY (Buffalo, NY) May 2015

Master of Science in Chemical Engineering

Thesis: Influence of Mannosylation and Molecular Weight upon Hybrid Bio-synthetic Gene Delivery

Birla Institute of Technology and Science (BITS)-Pilani (India) December 2012

Bachelor of Technology (Honors) in Chemical Engineering

Research Experience

Dec. 2013- May 2015

UB SUNY, Chemical & Biological Engineering, Graduate Researcher (Buffalo, NY)

- Developed and characterized mannosylated hybrid gene delivery vectors
- Maintained lab equipment (shakers, autoclave, biosafety cabinets)
- Trained and guided two undergraduate students conducting lab experiments

Jan. - May 2013

Indian Institute of Chemical Technology (IICT), Research Fellow (India)

- Developed a computational model in FLUENT for scale up of micro-reactors using multiple T-channels connected in parallel
- Developed a pilot plant of the scaled-up model and demonstrated improved percentage extraction in comparison to a macro reactor for water-ethyl acetate-acetic acid system

July-Dec. 2012

Indian Institute of Chemical Technology (IICT), Undergraduate Researcher (India)

- Developed a computational model in FLUENT for annular mixing of two-phase flow in micro-channels.
- Developed a pilot plant of a T-channel micro-reactor and demonstrated the different parameters of reaction studies like product yield, selectivity, conversion and time in micro and macro reaction systems

Mar. 2010 –May 2012

BITS-Pilani, Chemical Engineering Department, Undergraduate Researcher (India)

- Optimized the reaction conditions for zeolite catalyzed acylation of anisole
- Characterized the zeolite catalyst using GC.
- Catalyst Development and characterization for Vapour Phase Amination of Cyclohexanol
- Nanoparticle characterization using powder X-ray diffraction (XRD)

Publications

- **Gollakota A**, Jones CH, Chen M, Chung T, Pfeifer BA. Influence of molecular weight upon mannosylated bio-synthetic hybrids for targeted antigen presenting cell gene delivery **Biomaterials**. 2015 Jul;58:103-11
- Chen M, Jones CH, **Gollakota A**, Smith R, Andreadis S, Pfeifer BA. Structure-Function Assessment of Mannosylated Poly (β -amino esters) upon Targeted Antigen Presenting Cell Gene Delivery. **Biomacromolecules** 16 (5), 1534-1541
- Chung T, Jones CH, **Gollakota A**. Improved Escherichia coli bactofection and cytotoxicity by heterologous expression of bacteriophage Φ X174 lysis gene E. **Molecular pharmaceutics** 12 (5), 1691-1700
- Jones CH, Chen C-K, Chen M, Ravikrishnan A, Zhang H, **Gollakota A**, Chung T, Cheng C, Pfeifer BA. PEGylated cationic polylactides for hybrid bio-synthetic gene delivery. **Molecular Pharmaceutics**
- **Gollakota A**, Kantamneni H. Carbon nanotubes based systems for targeted drug delivery: A Review. **International Journal of Engineering Research and Technology**. 2013;2(2)
- **Gollakota A**, Kantamneni H. Nanotechnology in Neuroengineering –Carbon Nanotubes as Scaffolds for Axon Regeneration. **International Journal of Systems, Algorithms and Applications**-Special Issue-ICRASE 2012.

Presentations

1. **Gollakota A**, Jones CH, Chen M, Pfeifer BA. Poly-beta Amino Esters for Hybrid Bio-synthetic Gene Delivery Vectors. University at Buffalo SUNY, CBE Graduate Research Symposium. October 2014
2. Chung T, Jones CH, **Gollakota A**, Rane S, Pfeifer BA. Improved Escherichia Coli Bactofection and Cytotoxicity by Heterologous Expression of Bacteriophage Φ X174 Lysis Gene E. University at Buffalo SUNY, CBE Graduate Research Symposium. October 2014
3. **Gollakota A**, Parasar V. Scaffolds for Heart Valve Tissue Engineering: A Review. International Research Conference on Biological Engineering and Natural Sciences. March 2013. Bangkok, Thailand.
4. **Gollakota A**, Parasar V. Bioreactors for Heart Valve Tissue Engineering: A Review. International Research Conference on Biological Engineering and Natural Sciences. March 2013. Bangkok, Thailand.
5. **Gollakota A**, Kantamneni H. Avant-garde Nanotechnology Applications in Automotive Industry. Annual International Conference on Materials Processing and Characterization. March 2013. India.
6. **Gollakota A**, Kantamneni H, Sreedhar I. Process Standardization of Zeolite Catalysed Acylation of Anisole. CHEMCON 2012-International Conference on Sustainable Technologies for Energy and Environment. December 2012. India.

7. **Gollakota A**, Kantamneni H. Nanotechnology in Neuroengineering –Carbon Nanotubes as Scaffolds for Axon Regeneration. International Conference on Recent Advances in Science and Engineering. October 2012. India.
8. Sridevi B, **Gollakota A**, David Raju Bram Rao KS. Vapor phase amination of cyclohexanol over hydrotalcite supported ruthenium catalyst. National Catalysis Symposium, National Center for Catalysis Research. June 2012. India.
**Jury Selection Best Paper*
9. **Gollakota A**, Sonti S, Jain S. Microengineering -A new advent in The Chemical Industry. Rasayanika-2012. Indian Institute of Chemical Engineers Symposium. February 2012. India.
**Faculty Selection Best Paper*
10. **Gollakota A**, Kantamneni H. Green Gold: A promising fuel for tomorrow. National level Conference on Recent Advancements in Chemical Engineering. December 2011. India.
11. **Gollakota A**, Kantamneni H. Green Technology towards Sustainable Development. National Conference on Emerging Trends In Chemical Research. August 2011. India.
12. **Gollakota A**, Srinivas MB. AGRIBOT- A Multi-purpose Agricultural Robot. TENCON 2010- IEEE Conference. December 2010. Fukoka, Japan

Awards & Honors

- Penn State-College of Engineering Graduate Excellence Fellowship Aug. 2015
- Best Paper Award-Faculty Selection June 2012
- Best Paper Award-Jury Selection Feb. 2012
- Prathibha scholarship(4 years) Aug. 2008-Dec. 2012
- BITS-Pilani Merit cum Need Scholarship Aug. 2008-Dec. 2012
- Best Research Project- President's Medal-State and National Level Dec. 2006