



TARGET NANOTECH TALENT

MatPAC (Materials Pennsylvania Coalition) Universities
Graduate Student Presentations sponsored by CAMN/LNN

Date: Wednesday November 30th, 2011
Location: 4th Floor Whitaker Lab, Room 451
Lehigh University, 5 E. Packer Ave. Bethlehem, PA 18015
Time: 12:00 pm – 1:45 pm
Cost: Free (Lunch Included)
Register [here](#) or email idsi@lehigh.edu
Watch online broadcast [here](#)



AGENDA

12:00-12:15 *Welcome /Lunch Served*

12:15-12:45 **Dr. Amit Belwalkar:**
**Flow Analysis in the Extrusion of Tellurite Glass Preforms
for Enhanced Optical Fibers**



Education:

Ph.D., Mechanical Engineering, Lehigh University, PA, 2011
M.E., Mechanical Engineering, Widener University, PA, 2006
B.E., Mechanical Engineering, Mumbai University, India, 2001

Research activities, consulting, patents, etc.:

Extensive research in glass and oxide-ceramics, glass processing especially extrusion of low-melting glasses for making optical fibers. Ph.D. dissertation focused on optimization of extrusion process using experimental and numerical modeling to obtain high performance optical fibers. Materials characterization techniques used in the research include microscopy (SEM, LOM), rheometry (ARES, DSC) and spectroscopy (XRD, XPS, Raman). Additional research includes development of nanoporous ceramic membranes for bio-filtration application. Research has been presented at several international conferences and published in peer-reviewed journals. Current research interests include non-newtonian/viscoelastic flows through channels and structural change during processing through optical analysis.

12:45-1:15 **Marjorie Austero:**
Post-Processing Electrospun Chitosan Fibers

Education:

Ph.D. candidate, Materials Science and Engineering, Drexel University, PA
M.Sc., Food Science, Drexel University, PA, 2010
M.Sc., Chemistry (CAR), Ateneo de Davao University, Philippines, 2008
B.Sc., Food Science and Technology, University of the Philippines, 2005



Research activities, consulting, patents, etc.:

Extensive research in biopolymers especially in fine fiber fabrication and processing of chitosan by electrospinning. Ph.D. dissertation is currently focused on porosity development of reactive electrospun chitosan fiber mats for filtration applications. Materials characterization techniques used in research include microscopy (SEM), spectroscopy (FTIR, ¹HNMR, ¹³CNMR, UV-Vis), rheometry, mechanical testing (Instron, Kabawata). In addition, Marjorie is working on fabricating crosslinked fiber mats for tissue engineering applications and on optimizing the electrospinning parameters of polyallylamine and nanodiamond-containing polyallylamine fibers for improved mechanical and chemical properties. Her research has been presented at several multidisciplinary conferences and published in books and trade journals.