

# **Mitchell Serpas**

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Objective: To gain full time employment as Chemical Engineer utilizing advanced process control training

## **Education**

Currently pursuing PhD in Chemical Engineering at Texas A&M University with GPA of 3.8

Field of research in Process Systems Engineering

Recipient of Department Fellowship and Lechner Graduate Fellowship

Anticipated graduation Fall 2012

B.S. in Chemical Engineering at Louisiana State University in 2008 with GPA of 3.6

Dean's List 2005, University College Honors Award,

Tops Honors Scholarship, and LSU Centennial Award

## **Work Experience**

**Texas A&M Department of Chemical Engineering**      8/2008 to Present  
College Station, TX

*Fourth year graduate student studying Process Systems Engineering, specifically in model based state estimation, process monitoring, and sensor network design. Independently working on developing new approaches for process monitoring, specifically for fault detection and soft sensors use.*

**ExxonMobil**      5/2011 to 8/2011  
Baytown, TX

*Worked as an Applications/ Process Control Engineering Intern assigned to refinery unit, participating in daily troubleshooting of advanced unit controls and unit optimization. Led project to begin refinery-wide rollout of base control performance monitoring tool. Created procedures documentation and led workshop to train site engineers.*

**Dow Chemical Company**      5/2007 to 8/2007  
Plaquemine, LA

*Worked as an Engineering Intern, learned the many roles of a plant engineer in a manufacturing facility, including process control, alarm reduction, safety inspections, optimization of equipment, operations simulation, updating plant technical documents, etc. Led small capital project to update safety instruments system on cooling water tower.*

**Jacobs Engineering Group**      5/2006 to 8/2006  
Baton Rouge, LA

*Worked as an Engineering Assistant, learned the basic functions of most units in a refinery, how to work with and produce engineering documents such as P&ID's and equipment folders. Gained experience using HYSYS, HTRI, etc.*

## **Publications and Presentations**

Serpas, M., and J. Hahn, *Sensor Location for Nonlinear Dynamic Systems via Controllability Analysis and Max-Det Optimization*, Draft in Progress.

Chu, Yunfei, M. Serpas, and J. Hahn, *State-preserving nonlinear model reduction procedure*, Chemical Engineering Science, In Press.

Serpas, M., Y. Chu, and J. Hahn, *New Fault Detection Approach for Systems Involving Soft Sensors*, Draft in Progress.

Serpas, M., and J. Hahn, "Fault Detection Approach for Systems involving Soft Sensors", Process Science and Technology Center Spring 2011 Meeting, Austin, Texas, 2011.

Serpas, M., and J. Hahn, "Effect of Soft Sensor Dynamics on Process Monitoring", AIChE Annual Meeting, Salt Lake City, 2010.

Serpas, M., C. Qu, Y. Chu, and J. Hahn, "Investigation of Different Extended Kalman Filter Implementations", Mary Kay O'Conner Process Safety Center 12<sup>th</sup> Annual Symposium, College Station, 2009.

## **Skills**

Proficient in Matlab, HYSYS Process Simulator, Aspen Process Explorer, Mathcad, Maple, Excel, Word, Powerpoint, Outlook, and Photoshop.