

Jong Suk Kim

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Campus Address:

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Austin, TX 78712-0231

Current Address:

3600 Greystone Drive, Apt 511
Austin, TX 78731

SCIENTIFIC INTERESTS

Multivariable Control of Combined Heat and Power (CHP) Plants:

- Dynamic modeling and advanced process control of CHP plants
- Real-time optimization of industrial CHP plants for chemical processes (i.e. olefin plants and refineries)
- Operation decision support and economic dispatch for power plant at UT Austin

EDUCATION

The University of Texas at Austin, Austin, TX
Pursuing Ph.D in Chemical Engineering

Expected Graduation Date: 12/2013
Overall GPA 3.98/4.0

The University of Texas at Austin, Austin, TX
Master of Science in Chemical Engineering

Graduation Date: 12/2011
Overall GPA 3.98/4.0

Thesis: Development of Linear Capacitance-Resistance Models for Characterizing Waterflooded Reservoirs (supervised by Drs. Edgar and Lake)

Georgia Institute of Technology, Atlanta, GA
Bachelor of Science in Chemical and Biomolecular Engineering

Graduation Date: 12/2008
Overall GPA 4.0/4.0

Graduate courses:

- Fluid Flow and Heat Transfer
- Advanced Analysis for Chemical Engineering
- Advanced Thermodynamics
- Optimization: Theory/Practice
- Geostatistics
- Large-Scale System Optimization
- Advanced Reservoir Engineering
- Numerical Simulation of Reservoirs
- Scientific Programming (C and FORTRAN)
- Enhanced Oil Recovery (audited)
- Advanced Petrophysics (audited)
- Drilling Engineering (audited)
- Elements of Modern Control Theory

Undergraduate Course:

- Chemical Process Control
- Unit Operation Lab
- Process Design & Economics
- Chemical Process Safety
- Kinetics & Reactor Design
- Separation Processes
- Transport Processes I & II
- Chemical Engineering Thermodynamics I & II
- Biochemistry I & II
- Numerical Simulation
- Principle and Application of Engineering Materials
- Chemical Engineering Process Principles

Activities:

- American Institute of Chemical Engineers (AIChE)
- Omega Chi Epsilon: Chemical Engineering Honor Society
- Society of Petroleum Engineers (SPE)
- Kappa Mu Epsilon: Mathematics Honor Society
- Volunteered as a tutor in college-level Math and Science for the past 4 years (2004-2007)

Honors:

- Faculty Honors (2008) indicating 4.0 GPA
- President's and Dean's list (2005-2006) – indicating GPA higher than 3.8

- Garry MaGlaun Outstanding Chemistry Student (2006) – the best academic performance in Chemistry
- Outstanding Physics Student (2006) – the best academic performance in Physics
- Georgia Mathematics Tournament (2006) – 2nd place individual and 2nd place team

WORK EXPERIENCE

The University of Texas at Austin (Graduate Research Assistant) 08/2009 - present
Process Control Lab, Chemical Engineering Austin, TX

- Supervised by Drs. Edgar (Chemical Engineering) and Lake (Petroleum & Geosystems Engineering)
- Optimized the net present value (NPV) of future oil recovery for waterflooded reservoirs using simple reservoir models
- Served as Teaching Assistant for Process Control course
- Served as Teaching Assistant for Reservoir Engineering: Primary Recovery course

Samsung Engineering (Full-Time Employee) 02/2009 - 08/2009
R&D Center, Process Engineering Seoul, South Korea

- Developed Catalysts that can remove Impurities from Ultra Pure Water more effectively
- Performed equipment sizing and hydraulic calculation for distillation columns, compressors, and pumps
- Provided optimal design conditions for de-propanizer column and absorber
- Executed HAZOP studies on P&ID

Georgia Institute of Technology (Undergraduate Research) 08/2007 - 12/2008
Professor Dennis Hess Research Group, Chemical and Biomolecular Engineering Atlanta, GA

- Assisted in plasma assisted fabrication of artificial superhydrophobic papers

Final Year Design Project, Chemical and Biomolecular Engineering 06/2008 - 08/2008

- Performed Optimization and Economic Evaluation on Propylene Production in FCC plant using HYSYS
- Sponsored by LydondellBasell

PUBLICATIONS

Peer Reviewed Book Chapter

B. Balu, **J. S. Kim**, V. Breedveld and D. W. Hess, "Design of Superhydrophobic Paper/Cellulose Surfaces Using Plasma Processing", Contact angle, Wettability and Adhesion, Vol. 6 Ed: K.Mittal, Koninklijke Brill NV, Leiden (Netherlands), 2009.

Journal Paper

B. Balu, **J. S. Kim**, V. Breedveld and D. W. Hess, "Tunability of the Adhesion of Water Drops on a Superhydrophobic Paper Surface *via* Selective Plasma Etching", Journal of Adhesion Science and technology, 23, 361-380, 2009.

CONFERENCE PRESENTATIONS

- **Jong S. Kim**, Larry W. Lake, and Thomas F. Edgar, **Integrated Capacitance Resistive Model for Characterizaing Waterflooded Reservoirs**, International Federation of Automatic Control (IFAC) in Offshore Oil and Gas Production, Trondheim, Norway, 31 May-1 June.
- **Jong Suk Kim** and Thomas F. Edgar, **Multivariable Control of Combined Heat and Power Plants**, Proc. Texas, Wisconsin, California Control Consortium (TWCCC), Austin, TX, March 2012.
- **Jong Suk Kim**, Thomas F. Edgar, and Larry W. Lake, **Development of Integrated Capacitance-Resistance Model in Waterfloods**, Center for Petroleum and Asset Risk Management (CPARM) Annual Meeting, Austin, TX, December 2011.

- Nguyen, A.P., **Kim, J.S.**, Edgar, T.F., Lake, L.W., and Haynes, B. 2011. **Integrated Capacitance Resistive Model for Reservoir Characterization in Primary and Secondary Recovery**. Paper SPE 147344 presented at the SPE Annual Technical Conference and Exhibition, Denver, Colorado, 30 October-2 November.

- **Jong Suk Kim**, Thomas F. Edgar, and Larry W. Lake, **Application of Linear Capacitance-Resistive Model for Secondary Recovery**, Proc. Texas, Wisconsin, California Control Consortium (TWCCC), Austin, TX, February 2011.

- **Jong Suk Kim**, Thomas F. Edgar, and Larry W. Lake, **Improvements in Capacitance-Resistive Modeling for Secondary Recovery**, Center for Petroleum and Asset Risk Management (CPARM) Annual Meeting, Austin, TX, November 2010.

SKILLS & PROFICIENCIES

- Proficient: EXCEL, Mathematica, AspenTech's HYSYS, CHEMCAD, APMonitor, Hydromaster, and CMG (IMEX, GEM, STARS, and CMOST)
- Programming skills: MATLAB, SIMULINK, FORTRAN, C, and GAMS
- Equipped with laboratory devices: IR, Gas chromatography, Plasma reactor, Ellipsometer, Atomic force scope, and Spin-coater
- Languages: Korean (Native) and English (Fluent)

MILITARY SERVICE

- Military Grade: Sergeant served 02/2001 – 04/2003

CONTACT INFORMATIONS

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