

Charles J. Coronella

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Education

BS, Chemical Engineering, Lehigh University, June, 1986

BA, Mathematics, Lehigh University, June, 1986

MS, Chemical Engineering, University of Utah, 1989

PhD, Chemical Engineering, University of Utah, 1994

Professional Experience

1993 – present Assistant Professor, Associate Professor (2000) of Chemical Engineering University of Nevada, Reno. Responsibilities include teaching chemical engineering courses at undergraduate and graduate levels, advising students, conducting independent externally funded research.

January 1, 2007 – December 31, 2007: Chemical Engineer V, GRT, Santa Barbara CA. Did reactor design and economic analysis for a new process to convert natural gas to liquid fuels.

Licensed professional chemical engineer, State of Nevada License # 017146, through December 2008

Related Publications

1. S.B. Ramachandra, C.J. Coronella, V.R. Vasquez "Analysis of Biosolids Equilibrium Moisture and Drying for Energy Utilization" accepted for publication, Environmental Progress, January, 2009.
2. Vasquez, V.R. and Coronella, C.J. "A Simple Model for Vapor-Moisture Equilibrium in Biomass Substrates" accepted for publication, AIChE J, May, 2008.
3. Bellur, S., Coronella, C.J., and Vasquez V.R. "A sustainable process for conversion of sludge to power" paper #110g, AIChE annual meeting, Salt Lake City, November 5, 2007
4. Cooper, S. A. and Coronella, C. J. "CFD Simulations of Particle Mixing in a Fluidized Bed" Powder Technology **151** (2005) 27– 36
5. S. Cooper and C. J. Coronella "Fluidized Bed Heat Transfer" in *Handbook of Heat Transfer Calculations* edited by Myer Kutz, McGraw Hill 2005.
6. "CFD Simulations of Particle Mixing in a Binary Fluidized Bed" by C. J. Coronella and Scott Cooper, paper #40b, AIChE annual meeting, San Francisco, November, 2003.
7. "Scaling Properties of Particle Mixing in Fluidized Beds" by C. Coronella and Adam Laputz, #15e, AIChE annual conference, Los Angeles, November 15, 2000.
8. Coronella, C. J. and Deng, J. "A Novel Method for Isokinetic Measurement of Particle Flux within the Riser of a Circulating Fluidized Bed", *Powder Technol.* **99**(3) 1998, p 211 – 219.

9. Coronella, C. J., and Deng, J. "Electrostatic Effects in Circulating Fluidized Beds", AIChE annual conference, Chicago, paper #134i, November 13, 1996.
10. Coronella, C. J., Lee, S. Y., and Seader, J. D., "Minimum Slugging Velocity in Fluidized Beds Containing Vertical Rods," *Fuel*, **73**(9), 1994, p 1537-1544.

Synergistic Activities

Biomass pretreatment: We currently have a DOE-funded subcontract from the Gas Technology Institute (GTI) to study hydrothermal pretreatment of lignocellulosic biomass.

Wastewater sludge: We have had external funding from the California Energy Commission to study a process to transform wastewater sludge to power by way of gasification.

Fluidization We have studied particle mixing in inverted conical bubbling fluidized beds, both experimentally and through numerical simulations.

Current and Pending Support

Developing Thermal Conversion Options for Biorefinery Residues, US DOE (DE-FG36-01GO11082), \$488,000, January 1, 2008 – November 30, 2009 Principal Investigator