

Larry K. Jang

(Also known as Long-Kuan Jang)

Work Address

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Education

PhD in Chemical Engineering (December 1983), University of Southern California, Los Angeles, CA
MS in Chemical Engineering (June 1979), National Taiwan University, Taipei, Taiwan
BS in Chemical Engineering (June 1975), National Taiwan University, Taipei, Taiwan

Present Position Professor and Chair, Department of Chemical Engineering, CSULB, since Summer 2003.

Honors Received Chosen by the College of Engineering Outstanding Graduate to receive recognition as the Most Valuable Professor in the Commencement and the Alumni Award Banquet in May, 2005.

Area of Expertise

1. Computer Automatic Control (Labview-based Control Hardware and Software)

During the sabbatical leave in Academic Year 2002-2003, Jang successfully renovated the old bench-top process control equipment (running on BASIC program provided by the vendor for level, temperature, and flow rate controls) into Labview-based control systems. The application of Labview software and hardware greatly expands the ability of the department to offer modern process control class. Jang is able to design advanced control loops for students to gain hands-on experience in controller tuning and design. With this successful experience, another DOS-based control system (carbon dioxide absorption column) is converted to Labview-based system. This newly converted system can be controlled via Internet.

2. Heat Exchange Equipment Design and Simulation
3. Recovery of Heavy Metals from Aqueous Media
4. Biochemical Engineering
5. Rheology of Non-Newtonian Fluids

Masters Theses Supervised

Chuo Ma, "Ultrasound-modulated Two-fluid Atomization of Aqueous Alginate Solutions," December 2003.

Kareem Morgan, "Interactive Feedback Control of Flow Rate and Temperature with Labview-based Control Package," May 2004.

Philip Ikechukwu Ogbuehi, "Metal Ions Removal from Industrial Wastewater Using Supported Liquid Membranes," January 2004. Received Outstanding Thesis Award in the Commencement of May 2004.

Carlos Lopez, "Decoupling Strategy for Multi-loop Control: A Case Study for Distillation Column Control for Separation of Toluene and Benzene," May 2006. Received Outstanding Thesis Award in the Commencement of May 2005.

Conference Papers

L. Hile, L. Jang, and R. York, Dead Zones of Porous Catalysts, Developments in Chemical Engineering Education Poster Session, Session No. 1513, American Institute of Engineering Education (AIEE), Portland, Oregon, June 13, 2005.

L. Hile and L. Jang, Easy Experiments in Reaction Kinetics, Developments in Chemical Engineering Education Poster Session, Session No. 1513, AIEE, Portland, Oregon, June 13, 2005.

Key Journal Publications

L.K. Jang, R.L. York, and L.R. Hile. A Note on Zero-Order Reactions in Porous Catalysts. *J. Chin. Inst. Chem. Engrs.*, Vol. 34, No. 3, 319-325 (2003).

L.K. Jang, D. Nguyen, and G.G. Geesey. Selectivity of Alginate Gel for Cu Over Zn When Acidic Conditions Prevail. *Water Research*, Vol. 33, No. 12, 2817-2825 (1999).

L.K. Jang, D. Nguyen, and G.G. Geesey. An Equilibrium Model for Absorption of Multiple Divalent Metals by Alginate Gel Under Acidic Conditions. *Water Research*, Vol. 33, No. 12, 2826-2832 (1999).

L.K. Jang, D. Nguyen, and G.G. Geesey. Addition of Copper-Sequestering Agents to Alginate Gel to Enhance Copper Recovery from Aqueous Media. *Water Research*, Vol. 29, No. 11, 2525-2529 (1995).

L.K. Jang, D. Nguyen, and G.G. Geesey. Effect of pH on the Absorption of Cu(II) by Alginate Gel. *Water Research*, Vol. 29, No. 1, 315-321 (1999).

L.K. Jang, D. Nguyen, and G.G. Geesey. Selectivity of Alginate Gel for Cu vs Co. *Water Research*, Vol. 29, No. 1, 307-313 (1995).

L.K. Jang. Diffusivity of Cu^{2+} in Calcium Alginate Gel Beads. *Biotechnology and Bioengineering*, Vol. 43, 183-185 (1994).

T.F. Al-Fariss, L.K. Jang, H.O. Ozbelge, and N.M. Ghasem. A New Correlation for the Viscosity of Waxy Oils. *J. Petroleum Science and Engineering*, Vol. 9, 139-144 (1993).

K.M. Sadeghi, M.-A. Sadeghi, J.-F Kuo, L.K. Jang, J.-R. Lin and T. F. Yen. A New Process for Tar Sand Recovery. *Chem. Eng. Comm.* Vol. 117, 191-203 (1992).

L.K. Jang, S.L. Lopez, S.L. Eastman, and P. Pryfogle. Recovery of Copper and Cobalt by Biopolymer Gels. *Biotechnology and Bioengineering*, Vol. 37, 266-273 (1991).

L.K. Jang, S.L. Lopez, S.L. Eastman, and P. L. Wichlacz. Sorption Equilibrium of Copper by Partially-Coagulated Calcium Alginate Gel. *Chem. Eng. Comm.* Vol. 97, 153-165 (1990).

L.K. Jang, G.G. Geesey, S.L. Lopez, S.L. Eastman, and P. L. Wichlacz. Use of a Gel-forming Biopolymer Directly Dispensed into a Loop Fluidized Bed Reactor to Recover Dissolved Copper. *Water Research*, Vol. 24, No. 7, 889-897 (1990).

L.K. Jang, W. Brand, M. Resong, W. Mainieri, and G. G. Geesey. Feasibility of Using Alginate to Absorb Dissolved Copper from Aqueous Media. *Environmental Progress*, Vol. 9, No. 4, 269-274 (1990).

K.M. Sadeghi, M.-A. Sadeghi, J.-F Kuo, L.K. Jang, and T. F. Yen. A New Tar Sand Recovery Process: Recovery Methods and Characterization of Products. *Energy Sources*, Vol. 12, 147-160 (1990).

L.K. Jang, N. Harpt, D. Grasmick, L.N. Vuong, and G.G. Geesey. A Two-Phase Model for Determining the Stability Constants for Interactions between Copper and Alginic Acid. *J. Physical Chemistry*, Vol. 94, 482-488 (1990).

L.K. Jang, E.J. Quintero, G. Gordon, M. Rohricht, and G.G. Geesey. The Osmotic Coefficient of the Sodium Form of Some Biopolymers. *Biopolymers*, Vol. 28, 1485-1489 (1989).

L.K. Jang, N. Harpt, T.Uyen, D. Grasmick, and G.G. Geesey. An Iterative Procedure Based on the Donnan Equilibrium for Calculating the Polymer-subphase Volume of Alginic Acid. *J. Polymer Science: Part B: Polymer Physics*, Vol. 27, 1301-1315 (1989).

M.M. Sharma, L.K. Jang, and T.F. Yen. Transient Interfacial Tension Behavior of Crude-Oil/Caustic Interfaces. *SPE Reservoir Engineering*, 228-236 (1989).

Major Research Grants & Contracts

Characterization of Rheological Properties of Sludge (PI—Larry Jang), Project No. J605-P001 from Earth Tech, Inc., under Orange County Sanitation District Project P1-100 (Summer 2005). Contract Amount: \$ 9,500. A project report is submitted to the funding corporation.

Proposal to Involve Minority Students and Disadvantaged Students in Research (PI—Gill G. Geesey, Co-PI—Larry K. Jang), Grant No. ECD-8907039, Center for Biofilm Process Engineering, Montana State University, Bozeman. Larry Jang's share: \$58,060. Duration: June 1991-May 1994.

A Novel Three-phase Biochemical Reactor for the Removal of Copper from Aqueous Media (PI—Larry K. Jang; Co-PI—Gill G. Geesey) Grant No. CBT-8721943, National Science Foundation, Award Amount: \$30,000. Duration: May 1988-Oct. 1989.

Community Service

College of Engineering Awards Committee
College of Engineering Sabbatical Leave Committee
College of Engineering RTP Committee
Dean of Engineering's Cabinet Member
Undergraduate Advisor for Chemical Engineering majors