

Ying Wang

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Objective To contribute my multi-disciplinary knowledge and professional skills to a challenging chemical engineer position.

Education

- Ph.D, Georgia Institute of Technology, expected in May 2008.
- MS, Chemical Engineering, Georgia Institute of Technology, 2006.
- BS, Packaging Engineering, Tianjin University of Science and Technology, 1996.

Skill Set

Research Skill

- Proficient in mass balance, heat balance, mass transfer, heat transfer, thermodynamics, fluid dynamics and reaction kinetics.
- Proficient in statistical analysis and mathematic modeling.
- Hands-on experience in enzymatic hydrolysis of cellulose.
- Proficient with characteristic tools: XRD, SEM, HPLC, UV and FTIR.

Computer Skill

- Proficient with MS Word, Excel and PowerPoint.
- Familiar with DOE, Minitab and MatLab.

Communication Skill

- Strong communication in technical writing and oral presentation.

Experience

Research Assistant, Georgia Institute of Technology Present

Project I: Cellulose dissolution in NaOH/urea solution at low temperature.

- Designed and developed a high throughput low temperature reactor.
- Applied the principles of Design of Experiments to enhance the cellulose solubility from 25% to 65%.
- Studied cellulose dissolution kinetics and mechanisms in NaOH/urea solution system.
- Introduced enzymatic hydrolysis pretreatment to improve the solubility of cellulose in NaOH/urea solution by 160%.
- Proposed a novel model, which provided insight into the mechanisms of the multi-phase low temperature cellulose dissolution.

Project II: Process design to improve the recovery of inorganic pulping chemicals from white liquor deadload.

- Performed thorough mass and energy balances and kinetic analysis.
- Designed experiments from bench level to small scale level to collect data for the optimization of reaction parameters to scale up.
- Conceptualized novel high temperature reactor to simulate industrial rotary kiln.

(Continued)

Project III: Graft polymerization of thermo-sensitive polymer on cellulose foam skeleton.

- Prepared viscose cellulose solution and applied freeze-drying method to form open cell foam.
- Performed graft polymerization on cellulose foam to generate thermo-sensitive hydrogel with structural rigidity to ensure mass transfer in drug delivery.

Project IV: Improve Cellulose Fiber-Fiber Bonding by Layer-by-Layer Adsorption of Poly-electrolytes onto Fiber Surface.

- Investigated the feasibility of replacing fiber refining process whilst enhancing paper strength.
- Developed self-assembling fiber adsorption method.

Teaching Assistant, Georgia Institute of Technology

Unit Operations

Summer 2006

Polymer Science and Engineering

Fall 2004

Lecturer, Zhengzhou University, China

1996 - 2000

- Designed and constructed the Packaging Lab.
- Independently instructed three courses in Packaging Engineering.
- Supervised curriculum required industrial practices.

Honors

Otto Kress Scholarship

2003 - 2007

Outstanding Teaching Assistant

2005

**Publications
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Conferences**

Effect of enzymatic treatment on cotton fiber dissolution in NaOH/urea solution at cold temperature. Ying Wang, Yulin Zhao and Yulin Deng, *Carbohydrate Polymers*, 72, 178-184, 2008.

Enhanced enzymatic hydrolysis of spruce by alkaline pretreatment at low temperature. Yulin Zhao, Ying Wang, Junyong Zhu, Art Ragauskas and Yulin Deng, *Biotechnology and Bioengineering*, in press 2008.

Kinetics of dissolution of cellulose in NaOH/urea solution at cold temperature. Ying Wang and Yulin Deng, in preparation, 2008.

Hemicellulose and lignin effect on the dissolution of cellulose in NaOH/urea solution at cold temperature. Ying Wang and Yulin Deng, in preparation, 2008.

Cellulose dissolution in NaOH/urea solution, presentation, AIChE, San Francisco, 2006.

Cellulose dissolution in NaOH/urea solution, presentation, PMG, Atlanta, 2007.