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Assistant Professor

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1. POST SECONDARY EDUCATION

- 2003 **Ph.D.** in Environmental Engineering, University of British Columbia, Canada
- 1993 **M.A.Sc.** in Environmental Engineering, University of British Columbia, Canada
- 1989 **M.Eng.** in Environmental Engineering, Tsinghua University, Beijing, China
- 1986 **B.Eng.** in Environmental Engineering, Tsinghua University, Beijing, China

2. PROFESSIONAL REGISTRATION/CERTIFICATION

- 2004 **Diplomate Environmental Engineer (DEE)**, Board Certified Specialist in Water Supply and Wastewater, American Academy of Environmental Engineers (current)
- 1995 Licensed **Professional Engineer (P.E.)** in Civil Engineering, State of Washington, USA (current)
- 1994 Registered **Professional Engineer** in Environmental Engineering, Province of British Columbia, Canada (1994-2004)

3. EMPLOYMENT HISTORY

- 2002-current Assistant Professor, **Southern Illinois University Edwardsville**, USA
- 2001-2002 Sessional Instructor, **British Columbia Institute of Technology**, Canada
- 1998-2002 Graduate Research Assistant, University of British Columbia, Canada
- 1994-1999 Project Engineer (Environmental), **Dayton & Knight Ltd.**, BC, Canada
- 1991-1994 Environmental Engineer, **Stantec Consulting Ltd.**, Canada
- 1989-1991 Graduate Research Assistant, University of British Columbia, Canada

4. PUBLICATIONS (also presented in the listed conferences)

1. **Zhou, J.**, Parker, W. and Laha, S. (2007) *Biosolids and Sludge Management*, Water Environment Research (accepted)
2. Hu, S. and **Zhou, J.** (2007) *Developing a GIS-Based Information Management System for On-site Wastewater Treatment Facilities*, International Journal of Software Engineering & Knowledge Engineering (in revision and review)
3. Lin, C, Vaughn, B.M. and **Zhou, J.** (2007) *Experience in Developing and Managing a Web Site to Assist in Teaching Civil Engineering Undergraduate Laboratory Courses*, Computers in Education Journal (in press)
4. **Zhou, J.** and Hu, S. (2007) *On-line Data Collection and GIS-based Biosolids Information Management System*, In Proceedings of 2007 WEF/AWWA Joint Residuals and Biosolids Management Conference, Apr. 15-17, Denver, CO
5. Parker, W., Laha, S., and **Zhou, J.** (2006) *Biosolids and Sludge Management*, Water Environment Research, 78(10), 1429-1468
6. **Zhou, J.**, Corley, C. E., Zhu, L., Broeckling, L., Renth, R., and Kluge, T.R. (2006) *Better with Barley Straw*. Water Environment & Technology, 18 (1), pp.70-73
7. **Zhou, J.**, Jaffery, S.F., and Hill, W.R. (2006) Effects of Barley Straw on Algae Growth in Wastewater. In Proceedings of IWA 2006 World Water Congress, Sept. 10-14, Beijing, China (refereed)
8. **Zhou, J.** (2006) Rapid Determination of Wastewater Sludge Dewatering Performance and Conditioning Chemical Dosage Using Capillary Suction Timer. In Proceedings of ASCE-EWRI 2006 World Water and Environment Resources Congress, May 21-25, Omaha, NE
9. **Zhou, J.**, and Mavinic, D.S. (2003) *Pollution reduction at waste management facilities through thermophilic sludge digestion*. Water Science & Technology, 48 (3), pp. 57-63.
10. **Zhou, J.**, Mavinic, D.S., Kelly, H.G., and Ramey, W.D. (2002) *Effects of temperature and extracellular proteins on dewaterability of thermophilically digested biosolids*. Journal of Environmental Engineering and Science, 1 (6), pp. 409-415.
11. **Zhou, J.**, Corley, C. E., Zhu, L., Broeckling, L., Renth, R., and Kluge, T.R. (2005) *Barley Straw to Improve Performance of Small Wastewater Treatment Lagoon System*. In Proceedings of WEF 78th Annual Conference & Exposition (WEFTEC'05), Oct. 29-Nov. 2, Washington DC
12. Hu, S. and **Zhou, J.** (2005) *Developing a GIS-based Information Management Systems for On-site Wastewater Treatment Facilities*. In Environmental Informatics Archives, Vol. 3, pp. 328-334. Also in Proceedings of 4th International Conference on Environmental Informatics-ISEIS'2005, July 26-28, Xiamen, Fujian, China
13. **Zhou, J.** (2005) *Effective Use of Videos to Enhance the Teaching and Learning of Environmental Engineering*. In Proceedings of ASEE 2005 Annual Conference & Exposition, June 12-15, Portland, OR
14. **Zhou, J.** (2004) *Effects of Solids Concentration on Capillary Suction Time as a Measurement Method of Wastewater Sludge Dewaterability*. In Proceedings of WEF 77th Annual Conference & Exposition (WEFTEC'04), Oct. 2-6, New Orleans, LA
15. **Zhou, J.** (2004) *Achieving Balance between Student-Centered Learning and Instructor-Centered Teaching - A Case Study of an Environmental Engineering Course*. In

- Proceedings of ASEE 3rd International Colloquium on Engineering Education, Sept. 7-10, Beijing, China
16. **Zhou, J.**, Hu, S., Bhusal, A., and Jones, F. (2004) *Spatial Wastewater Biosolids Information Management System: a GIS Approach*. In Environmental Informatics Archives, Vol. 2, pp. 902-909. Also in Proceedings of ISEIS International Conference on Environmental Informatics, Aug. 25-27, Regina, SK, Canada
 17. **Zhou, J.** (2004) *Video-enhanced Instruction Bring Real-world Application and Interactive Learning to Classroom*. In Proceedings of ASEE Illinois/Indiana Sectional Conference, Mar. 26-27, Peoria, IL
 18. **Zhou, J.**, Mavinic, D.S., and Kelly, H.G. (2004) *Cations distribution in thermophilic aerobically digested biosolids*. In Proceedings of WEF 18th Annual Residual and Biosolids Management Conference, Feb. 22-25, Salt Lake City, UT
 19. **Zhou, J.**, Mavinic, D.S., Kelly, H.G., and Ramey, W.D. (2003) *Experimental assessment of factors influencing dewatering properties of thermophilically digested biosolids*. In Proceedings of IWA Sludge Management Conference, June 23-25, Trondheim, Norway, pp. 111-118.
 20. **Zhou, J.**, Mavinic, D.S., and Kelly, H.G. (2003) *Factors of impact on dewatering properties of thermophilically digested biosolids*. In Proceedings of 2nd Canadian Organic Residuals Recycling Conference, April 24-25, Penticton, BC, Canada
 21. **Zhou, J.**, and Mavinic, D.S. (2002) *Pollution reduction at waste management facilities through thermophilic sludge digestion*. In Proceedings of 1st IWA Young Researchers Conference, Sept. 9-10, Cranfield, UK (best poster award), pp. 106-112.
 22. **Zhou, J.**, Mavinic, D.S., Kelly, H.G., and Ramey, W.D. (2002) *Dewaterability of thermophilically digested biosolids: effects of temperature and cellular polymeric substances*. In Proceedings of 2002 Joint CSCE/ASCE-EWRI Environmental Engineering Conference, July 21-24, Niagara Falls, Ontario, Canada
 23. **Zhou, J.**, Kelly, H.G., Mavinic, D.S. and Ramey, W.D. (2001) *Digestion effects on dewaterability of thermophilic and mesophilic aerobically digested biosolids*. In Proceedings of WEF 74th Annual Conference & Exposition (WEFTEC'01), Oct. 13-17, Atlanta, GA
 24. **Zhou, J.**, Mavinic, D.S. and Kelly, H.G. (2001) *Flocs size profiling to characterise dewatering properties of thermophilic and mesophilic aerobically digested biosolids*. In Proceedings of 7th CSCE Environmental Engineering Conference, May 30-June 2, Victoria, BC, Canada (2nd place student paper award)
 25. Kelly, H.G., Frese, H., Gibb, A. and **Zhou, J.** (2000) *Dewatering improvements of thermophilically digested biosolids through addition of metal salts at the Salmon Arm Water Pollution Control Centre*. In Proceedings of 6th CSCE Environmental Engineering Conference, June 7-10, London, Ontario, Canada, pp. 241-246.

5. DISSERTATION AND THESIS

1. **Zhou, J.** (2003) Dissertation for Ph.D. degree in Environmental Engineering: *Factors Influencing Dewaterability of Thermophilic Aerobically Digested Biosolids*. Advisors: Dr. Donald S. Mavinic, Professor of Environmental Engineering and Mr. Harlan G. Kelly, Adjunct Professor of Environmental Engineering, University of British Columbia, Canada

2. **Zhou, J.** (1993) Thesis for Master of Applied Science degree in Environmental Engineering: *The Accuracy and Precision of ORP Monitoring in Bio-Nutrient Removal Processes*. Advisor: Dr. William K. Oldham, Professor Emeritus of Environmental Engineering, University of British Columbia, Canada

6. DIRECTED MASTER'S THESIS at SIUE

- Amit Bhusal, M.S. Thesis "The Development and Application of a GIS-based Wastewater Biosolids Information Management System". Completed in 07/2005. This thesis won **SIUE 2005 Outstanding Thesis Award**
- Syed Jaffery, M.S. Thesis "Inhibitory Effects of Decomposing Barley Straw on Algal Growth in Water and Wastewater". Completed in 03/2007
- Farzana Mulla, M.S. Thesis "An Innovated Approach to Handle Shock Loading to Wastewater Treatment Process through Reusing Waste Activated Sludge". In progress. Expected completion in Fall 2007
- Barbara Lehan, M.S. Thesis "Developing the Basis for Creating Environmental Networking Organizations in Downstate Illinois". In progress. Expected completion in Spring 2008

7. GRANTS, FELLOWSHIP, AWARDS (total of more than \$200,000, including \$124,000 external grants, obtained while appointed at SIUE since 2002)

1. Joint PI, "Developing the Basis for Creating Environmental Networking Organizations in Downstate Illinois" from Illinois Waste Management and Research Center, Champaign, IL, 2006-2008
2. Co-PI, "Competitive Intelligence for Small Businesses" from State of Illinois, 2006 (GIS-based information system)
3. Project Director (PD), "Environmental Engineering Internship" from Basilico Engineering Inc., St. Louis, MO, 2003-2006
4. PI, "Develop an Operational Strategy to Handle Shock Loading to Wastewater Treatment Process", SIUE Funded University Research, 2006-2007 (GPS-X wastewater process simulation and modeling)
5. PI, "Barley Decomposition and Inhibitory Effects on Algae Growth in Wastewater" from Illinois Waste Management Research Center, Champaign, IL, 2005-2006
6. Principal Advisor of a M.S. thesis that won **SIUE 2005 Outstanding Thesis Award**, titled "The Development and Application of a GIS-based Wastewater Biosolids Information Management System"
7. PI, "Impact of Roxana WWTP Discharge on Water Quality in the Cahokia Diversion Channel" from Village of Roxana, IL, 2004
8. PI, SIUE: Summer Research Fellowship "Rapid Determination of Conditioning Chemical Dosage to Dewater Wastewater Sludge", 2005
9. PI, SIUE: Research Equipment and Tools Program, "Particle Charge Detector to Enhance Environmental Engineering Research", 2004
10. PI, SIUE: Funded University Research, "Kinetics of Barley Decomposition in Wastewater", 2004-2005
11. Co-PI, SIUE, Excellence in Graduate Education, "Promoting Research in Environmental Engineering", 2004

12. PI, “Barley Straw for Algae Control in New Baden Wastewater Lagoon”, from Illinois Environmental Protection Agency, Springfield, IL, 2004
13. PI, SIUE: Summer Research Fellowship, “Field Study for Algae Control in Wastewater Lagoon”, 2004
14. PI, SIUE: Funded University Research, “Developing a Wastewater Biosolids Information Management System”, 2003-2004
15. Recipient, American Society of Civil Engineers, “ASCE Excellence in Civil Engineering Education (ExCEED) Fellowship”, 2003
16. PD, SIUE: Excellence in Graduate Education, “Developing a New Graduate Course: Municipal Infrastructure Design”, 2004
17. PD, SIUE: Excellence in Undergraduate Education, “Enhancing the Teaching of Environmental Engineering by Multimedia Tools”, 2003-2004
18. PI, SIUE, Summer Research Fellowship, “Effects of Solids Concentration on Capillary Suction Time as a Measurement Method of Wastewater Sludge Dewaterability”, 2003
19. PD, SIUE, Excellence in Graduate Education, “Learning and Teaching beyond the Classroom: WebCT for an Environmental Engineering Laboratory Course”, 2003

8. TEACHING IN HIGHER EDUCATION

Southern Illinois University Edwardsville, USA (2002-current)

- CE 581 Advanced Wastewater Treatment (graduate course)
- CE 592 Water Quality and Treatment (graduate course)
- CE 460 Municipal Infrastructure Design (graduate/undergraduate course)
- CE 480 Environmental Analysis (graduate/undergraduate course)
- CE 486 Wastewater Treatment Design (graduate/undergraduate course)
- CE 487 Water Treatment Design (graduate/undergraduate course)
- CE 416 Engineering Hydrology (undergraduate course)
- CE 493 Engineering Design (undergraduate course)
- CE 380 Environmental Engineering (undergraduate course)
- CE 240 Statics (undergraduate course)

British Columbia Institute of Technology, Canada (2001-2002)

- EENG 7714 Methods of Wastewater Analysis (undergraduate course)
- EENG 8753 Industrial Wastewater Treatment I (undergraduate course)
- EENG 8754 Industrial Wastewater Treatment II (undergraduate course)

9. PROFESSIONAL ENGINEERING EXPERIENCE

1994 – 1999 Project Engineer, Dayton & Knight Ltd. Canada

- Design and Construction Management of Wastewater Treatment Plants

Designed various components of wastewater treatment plants including hydraulic profile, headworks, primary and secondary reactors (physical-chemical and biological treatment processes), disinfection and final disposal, sludge digestion and gas collection. Conducted preparation of specifications, shop drawing review, and construction management.

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Sanitary Sewer Modelling, Study Analysis, Design and Construction Management

Design and construction management of sanitary forcemain, sanitary sewer rehabilitation. Sanitary system analysis, inflow and infiltration monitoring and studies, long term infrastructure improvement and capital planning.

- Sewage and Drainage Pump Stations

Pre-design of drainage pump station. Construction management of standby generator for a major sewage pumping station.

- Water Supply System Modelling, Analysis and Studies

Water supply system analysis, computer model development and calibration, long term infrastructure improvement and capital planning.

1991 – 1994 Environmental Engineer, Stantec Consulting Ltd. Canada

- Wastewater Collection and Treatment

Worked as a design engineer for 12 months on various components of the 1993 expansion of Saskatoon Wastewater Treatment Plant (biological nutrient removal - BNR process). Pre-design of sanitary sewage pump stations.

- Water Supply and Treatment

Worked as an operation engineer for 12 months to conduct pilot-scale water treatment studies including coagulation and flocculation, sedimentation, filtration, and ozonation. Provided operator training to Trail Water Treatment Plant.

- Various Municipal Projects

10. PROFESSIONAL SERVICE

- Reviewer, *ASCE Journal of Environmental Engineering*
- Reviewer, *Journal of Environmental Informatics*
- Reviewer, *Environmental Technology*
- Reviewer, *Water Environment Research*
- Reviewer, International Water Association (IWA) 2006 World Water Congress
- Reviewer, IWA 2006 Young Researchers Conference
- Reviewer, America Society for Engineering Education (ASEE) 2006 Annual Conference
- Reviewer, ASEE 2005 Illinois-Indiana Section Conference
- Reviewer, USEPA Design Manual for Municipal Wastewater Stabilization Ponds
- Proposal reviewer, National Science Foundation (NSF) 2006 CCLI Program
- Proposal reviewer, North Carolina Biotechnology Center, 2005 Science & Technology Development Program
- Program Committee member, 2006 Annual National Operators Training Conference
- Session moderator, ASEE IL/IN 2004 Sectional Conference
- Session moderator, 2006 ASCE World Environmental & Water Resources Congress
- Secretary, the Residuals Management Technical Committee of the ASCE-EWRI

11. MEMBERSHIP IN PROFESSIONAL ORGANZATIONS

- American Academy of Environmental Engineers (AAEE)
- American Society for Engineering Education (ASEE)
- Association of Environmental Engineering and Science Professors (AEESP)
- Environmental & Water Resources Institute of American Society of Civil Engineers (ASCE-EWRI)
- International Water Association (IWA)
- Water Environment Federation (WEF)