

## Wei-Yu Bao

### Name and academic rank:

Wei-Yu Bao, Instructor and former Lab Manager

### Degrees with fields, institution, and date:

Ph.D. Mechanical Engineering, Florida International University, August 1999

M.S. Power Machinery Engineering, Shanghai Jiao Tong University, Shanghai, China, June 1988

B.S. Power Machinery Engineering, Shanghai Jiao Tong University, Shanghai, China, January 1982

### Number of years service of this faculty, date of original appointments, and dates of advancement in rank:

9 Years

Laboratory Manager, Coordinator of Research Programs, 2005-present

Lecturer, Florida International University, 2001-2004

Research Associate, Florida International University, 1999-2000

### Other related experience:

Software Development Specialist, Re-Connect Division, PacifiCare Health Systems Inc., Weston, Florida.

-C++ software development and maintenance of PS medical information systems, 2002-Present.

Software Development Specialist, Park Stone Medical Information Systems Inc., Weston, Florida.

-C++ software development and maintenance of PS medical information systems, 2000-2001

Adjunct Lecturer, Visiting Research Associate, Mechanical Engineering Department, Florida International University, Miami, Florida.

Teaching and research in mechanical engineering, 1999-2001.

Teaching & Research Assistant, Mechanical Engineering Department, Florida International University and Engineering Prototype Center, Radio Technology Division, Motorola Inc.

Fort Lauderdale, Florida. Completed four Motorola-FIU collaboration research projects, including the machinability study, cutting force modeling, tool breakage detection, tool wear estimation, and cutting condition identification of micro end milling operations, 1995-1998.

Assistant Director, Power Engineering Machinery Factory, Shanghai Jiao Tong University, Shanghai, China.

Worked on the experimental design and failure diagnosis of marine engines and machineries, 1988-1990.

Superintendent, Mechanical Engineering, Shanghai Ocean Fishery Co. Shanghai, China, Inspection and supervision of the development, maintenance and repair of ships, 1982-1985.

**Consulting, patents, etc.:** N/A

**State in which registered:** N/A

### Principal publications (Last five years):

I.N. Tansel, B. Ozcelik, W.Y. Bao, P. Chen, D. Rincon, S.Y. Yang, A. Yenilmez, "Selection of Optimal Cutting Conditions by Using GONNS," Vol.46, No.1, pp.26-35, January 2006.

I.N. Tansel, W.Y. Bao, N.S. Reen, "Genetic Tool Monitor (GTM) for Micro-End-Milling Operations," "International Journal of Machine Tools & Manufacture", Vol.45, No.3, pp.293-299, 2005.

Y.-X. Tao, M. Zampino, Y. Cao, and W. Bao, "Using Design, Build and Test Projects for Improving the Design of Fluid-Thermal Systems and HVAC Design," The Experimentation and Laboratory-Oriented Studies Division (DELOS), Session number 1526, ASEE Annual Conference, Portland, Oregon, June 12-15, 2005.

W.Y. Bao, P. Chen, I.N. Tansel, N.S. Reen, and S.Y. Yang, "Selection of Optimal Cutting Conditions by Using the Genetically Optimized Neural Network System (GONNS)," International Conference of Artificial Neural Networks, 2003.

I.N. Tansel, M.E. Trujillo, W.Y. Bao, T.T. Arkan, *Acoustic Emission -Based Tool-Breakage Detector (TBD) for Micro-End-Milling Operations*, Int'l Journal of Modeling and Simulation, Vol.21, No.1, pp. 10-15, 2001.

W.Y. Bao and I.N. Tansel, *Modeling Micro-End-Milling Operations-I: Analytical Cutting Force Model*, International Journal of Machine Tools & Manufacture, Vol.40, No. 15 pp2155-2173, December 2000.

W.Y. Bao and I.N. Tansel, *Modeling Micro-End Milling Operations-II: Tool Run-out*, International Journal of Machine Tools & Manufacture, Vol. 40, No. 15 pp. 2175-2192, December 2000.

W.Y. Bao and I.N. Tansel, *Modeling Micro-End Milling Operations- III: Influence of Tool Wear*, International Journal of Machine Tools & Manufacture, Vol. 40 , No. 15, pp.2193-2211,December 2000.

I.N. Tansel, T.T Arkan, W.Y. Bao, N. Mahendrakar, B. Shisler, D. Smith and M.McCool, *Tool Wear Estimation in Micro-Machining, Part I: Tool Usage- Cutting Force Relationship*, International Journal of Machine Tools & Manufacture, Vol. 40, No.5, pp.599-608, March 2000.

I.N. Tansel, T.T Arkan, W.Y. Bao, N. Mahendrakar, B. Shisler, D. Smith and M.McCool, *Tool Wear Estimation in Micro-Machining, Part II. Neural-Network-Based Periodic Inspector for Non-metals*, International Journal of Machine Tools & Manufacture, Vol.40, No.4, pp.609-620, March 2000.

B. Tansel, W.Y. Bao, I.N. Tansel *Characterization of Fouling Kinetics in Ultrafiltration Systems by Resistances in Series Model*, International Journal of Desalination, Vol.129, No.1, pp.7-14 , February 2000.

I. Tansel, W.Y. Bao, T.T. Arkan and B. Tansel, *Assessing Underground Contamination Concentration Profiles By Using Neural Networks*, Housing Science, Vol. 23 No. 1, pp.11-18, 1999.

I.N. Tansel, M.Trujillo, A. Nedbouyan, C. Velez. W.Y. Bao, and T.T Arkan, *Micro-End-Milling III: Wear Estimation and Tool Breakage Detection Using Acoustic Emission Signals*, Cutting Tool Engineering, Vol.49, No. 6, pp.54-62, September 1997.

L.Li, W.Y. Bao, I,N, Tansel, C.V. Kropas-Hughes, *Detection of Paratial Tool Damage by Using Genetic Algorithm Based Tool Monitoring System*, presented at ANNIE 2001 Conference, pp.203-208.

I. Tansel, S.Y. Yang, F.G. Huffman, C.Shu, W.Y. Bao, V. Girivasan and A. Sasirathsiri, *A Nutrition Intervention Tool (NIT) Using Neural Networks and Genetic Algorithm* presented at ANNIE 2000 Conference.

**Institutional and professional services (Last five years):**

Reviewer for Engineering Mechanics, Statics, 2nd edition, by William Riley and Leroy Sturges, Iowa State University, John Wiley & Son Publishers, 2007.

Science Fair for MAST Academy's 8th Annual Contemporary Issues in Science (C.I.I.S.) forum, 2006 and 2008.