

Appendix B – Faculty Vitae

1 Name: Dr. Tony N. Rogers

2 Education:

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| B.S., Chemical Engineering, Clemson University | 1982 |
| M.S., Chemical Engineering, Clemson University | 1984 |
| Ph.D., Chemical Engineering, Michigan Technological University | 1994 |

3 Academic experience:

Michigan Technological University, Associate Professor, 1999 – Present (full-time)
Associate Chair, Chemical Engineering Dept., April 15, 2008 – Present
Interim Chair, Chemical Engineering Dept., 2011 – 2012
Michigan Technological University, Assistant Professor, 1994 – 1999 (full-time)
Michigan Technological University, Instructor, 1993 – 1994 (full-time)
Michigan Technological University, Graduate Research Assistant, 1989 – 1993 (full-time)
Clemson University, Graduate Research Assistant, 1982 – 1984 (full-time)

4 Non-academic experience:

Research Triangle Institute, Senior Chemical Engineer, Center for Process Research,
Environmental Sciences and Engineering Unit, 1984 – 1989 (full-time)

5 Certifications or professional registrations:

Engineer-In-Training (EIT) Exam, National Council of Examiners for Engineering and
Surveying (NCEES), 1982 – Present

6 Current membership in professional organizations:

American Institute of Chemical Engineers (AIChE)
National Space Society
Phi Lambda Upsilon Honorary Chemical Society
Sigma Xi Scientific Research Society
The Planetary Society

7 Honors and awards:

University: Greek Life Outstanding Faculty Award, 2015-16; Outstanding Enterprise
Advisor (2017-18, 2019-20); Note: CPM has placed 1st (9 times) or 2nd (3 times)
among all Enterprises at the annual Michigan Tech Design Expo (since Fall 2000).
Department: Outstanding Teacher (AIChE, Omega Chi Epsilon)

8 Service activities:

Reviewer of technical papers for three journals
Member, COE Dean Search Committee (2 times)
Member, Faculty Search Committee for Chemical Engineering Department, 2015-16
Chair, Chair Search Committee for Chemical Engineering Department, 2016-17
University: Enterprise Governing Board, Benefits Claims Appeal Committee, Benefits
Liaison Group
Department: Executive Committee (Chair), Charter Committee, Computer Committee,
Promotion & Tenure, Space & Safety

9 Most important publications and presentations:

- B. C. Cornilsen, J. Wang, P. S. Kuttipillai, T. N. Rogers, W. N. Yeo, M. B. Chye, and A. S. Bhatia, "Development and Evaluation of an Asymmetric Capacitor with a Nickel/Carbon Foam Positive Electrode," *ECS Transactions*, 50 (43) 135-143 (2013).
- Contributing Textbook Author. *Electrical Engineering: Concepts and Applications*. Pearson Higher Education. ISBN 0-13-253918-7. (2012).
- Lau, K.A., T.N. Rogers, D.J. Chesney. "Measuring the Aqueous Henry's Law Constant at Elevated Temperatures Using an Extended EPICS Technique." *Journal of Chemical & Engineering Data*. Vol. 55, pp. 5144-5148 (2010).
- Lau, K.A., T.N. Rogers, D.A. Zei. "Modeling the Temperature Dependence of the Henry's Law Constant of Organic Solutes in Water." *Fluid Phase Equilibria*. Vol. 290, pp. 166-180 (2010).
- Rogers, T. N., Zei, D. A. "Contribution to "Section 2: Physical and Chemical Data" in Perry's Chemical Engineers' Handbook", Ed. Green, D. W., Perry, R. H., *Perry's Chemical Engineers' Handbook (Eighth Edition)*; McGraw-Hill, (Section 2: Table 2-124, page 2-130). 2008.
- Zekavat, R., W.M. Bulleit, G.E. Archer, J.T. Lukowski, T.M. Rogers, and K. Hwunge, "A Novel Integrated Class/Web-based Curriculum for the Course "Introduction to Electrical Engineering for Non-Majors"" Progress Made-Lessons Learned," presented at the *2007 IEEE Frontiers in Education Conference*, Milwaukee, WI, Oct. 10-13, 2007.
- Cornilsen, B.C., M. Ning, C. Baiz, T.N. Rogers, M.B. Chye, and A. I. Kolesnikov, "Inelastic Neutron Scattering Study of Hydrogen Positions in Nickel Hydroxide Battery Electrode Materials," Paper #28972, Poster presented at the *ACS 37th Great Lakes Regional Meeting*, Milwaukee, WI, May 31 – June 2, 2006.
- Wee, K.M., Rogers, T.M., Altan, B. S., Hackney, S.A., Hamm, C., "Engineering and Medical Applications of Diatoms", *Journal of Nanoscience and Nanotechnology* (American Scientific Publishers), Vol. 5, pp. 1-4, 2005.
- Snyder, S.A., F. Rosario, P. Westerhoff, T.N. Rogers, and J. Drewes, "Empirical and Quantum Mechanical Models for Emerging Contaminant Research" (Sponsoring Agencies: AWWARF and WRF), Proceedings of: *Water Quality Technology Conference and Exhibition*, American Water Works Association (AWWA), Quebec City, Quebec, Nov. 6-10, 2005.
- Chen, H., B.A. Barna, D.R. Shonnard, and T.N. Rogers. "Automating Hierarchical Environmentally-Conscious Design Using Integrated Software: VOC Recovery Case Study." *Environmental Progress*. Vol. 22. pp. 147-150 (2003).
- Chatkun Na Ayuttaya, P., T.N. Rogers, M.E. Mullins, A.A. Kline. "Henry's Law Constants Derived from Equilibrium Static Cell Measurements for Dilute Organic-Water Mixtures." *Fluid Phase Equilibria*. Vol. 185, pp. 359-377 (2001).
- Raymond, J.W., T.N. Rogers, D.R. Shonnard, A.A. Kline. "A Review of Structure-Based Biodegradation Estimation Methods." *Journal of Hazardous Materials*. Vol. B84, pp. 189-215 (2001).
- Shonnard, D.R., T.N. Rogers, B.A. Barna, D.A. Crowl, E.J. Oman, P.P. Radecki, J.A. Herlevich Jr., and P.B. Parikh. "Chapter 2: Integrated Assessment Methodologies and Software Tools for Process Design: Economic, Environmental, Safety, and Decision Analyses." pp. 39-64. In *Process Design Tools for the Environment* (Editors: S.K. Sikdar and M. El-Halwagi). 2001.
- Shonnard, D.R., T.N. Rogers, D.A. Crowl, P.P. Radecki, and J.R. Baker. "Methods for Integrating Environmental Considerations into Chemical Process Design Decisions." Final Report to the U.S. EPA, National Risk Management Research Laboratory, Cincinnati, OH. EPA Assistance ID No. CR824506-01. 150 pages. 2001.
- Dechapanya, W., T.N. Rogers, J.R. Baker, and P.P. Radecki. "Application of the Analytic Hierarchy Process for Integrating Environmental Considerations into Process Design Decisions." Book chapter in *Tools and Methods for Pollution Prevention* (Editors: S.K. Sikdar and U. Diwekar). Kluwer Academic Publishers (Dordrecht, The Netherlands). pp. 367-383. 1999.
- Raymond, J.W., T.N. Rogers. "Molecular Structure Disassembly Program (MOSDAP): A Chemical Information Model to Automate Structure-Based Physical Property Estimation." *Journal of Chemical Information and Computer Sciences*. Vol. 39, pp. 463-474 (1999).

10 Recent professional development activities:

- Training in discounted cash flow methods used in industry to analyze capital investments:
 - a) BASF ("North American Economic Model")
 - b) DuPont ("Back-of-the-Envelope Method for NPV and IRR")
 - c) UOP/Honeywell (personal discussions with design engineers Gavin Towler and Chris Gosling). Contributed to and reviewed Towler's textbook [Towler, G. and R. Sinnott, *Chemical Engineering Design: Principles, Practice and Economics of Plant and Process Design* (2nd Ed.), Butterworth-Heinemann (Elsevier), 2012, ISBN-10: 0080966594] which is used in teaching CM4855/4860.
- Assisted Dow Corning (on 2 occasions in Spring 2013 and Spring 2014) with real-time Internet delivery of a 1-credit elective course on process automation principles ("Design for Flexible Operations in the Chemical Process Industry")