

## **CURRICULUM VITAE**

### **DAVID L. TOMASKO**

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#### **EDUCATION**

1992 Ph.D. Chemical Engineering, University of Illinois, Urbana, IL.  
1990 MS Chemical Engineering, University of Illinois, Urbana, IL.  
1986 BS Chemical Engineering, *Magna Cum Laude*, University of Tulsa, Tulsa, OK.

#### **RESEARCH ACCOMPLISHMENTS AND INDUSTRIAL COLLABORATIONS**

Current work focuses on student engagement and academic support structures to improve retention and graduation rates in STEM disciplines. Applying theories of student retention to targeted demographic groups underrepresented in STEM, we seek to design experiences in a research intensive university environment that allow students to find a sense of belonging and preparedness for the rigors of STEM curricula.

In other work, thermodynamics, mass transport, and physical organic chemistry are used to investigate and design separations and modify material properties. One of the goals of our program is to develop new technologies (e.g. supercritical fluid processes) for difficult separations and novel materials processing. Additional areas of interest included applying novel experimental and molecular thermodynamics tools to separations and processing in the pharmaceutical industry.

- Generated over one million dollars in federal and industrial support for research involving CO<sub>2</sub> assisted polymer processing in collaboration with Professors Jim Lee and Kurt Koelling.
- Established and maintained industrially supported supercritical fluid processing projects within the Center for Advanced Polymer & Composite Engineering.
- Developed novel high-pressure gravimetric apparatus to study the interaction of the supercritical solvent with solid surfaces *in-situ* and in the presence of solutes. The understanding gained from the adsorption competition between supercritical solvent and solutes will ultimately lead to predictive methods of scale-up for separations using these solvents.
- Consulted widely with small companies on supercritical extraction for high value products and polymer extrusion.

## **EXPERIENCE**

- 2009-pres. Associate Dean for Undergraduate Education and Student Services, College of Engineering, The Ohio State University, Columbus, OH  
Responsible for recruitment, scholarship/financial aid, curriculum, assessment, ABET accreditation, undeclared student advising, career services and student projects/organizations. 9 direct reports with over 30 staff. Led College through quarter-to-semester conversion process and two ABET reviews.
- 2006-2008 Director, Honors Collegium, The Ohio State University, Columbus, OH  
Led small program (3 staff, 60 students) within Honors & Scholars Center to recruit, retain, and groom very high ability and ambitious undergraduate students for major national and international awards (Rhodes, Marshall, Truman, Fulbright, NSF)
- 2006-2008 Deputy Director, Center for Affordable Nanoengineering of Polymeric Biomedical Devices, The Ohio State University, Columbus, OH.  
Co-directed NSF funded Nanoscale Science & Engineering Center (NSEC). Led education and outreach programming while contributing to scientific mission.
- 2005-pres. Professor, The Ohio State University, Columbus, OH  
1999-2005 Associate Professor, The Ohio State University, Columbus, OH  
Jun-Dec 2000 Honorary Visiting Fellow, University of New South Wales  
1993-1999 Assistant Professor, The Ohio State University, Columbus, OH  
1992-1993 Postdoctoral Research Fellow, University of New South Wales, Sydney NSW, Australia. Advisor: Prof. Neil R. Foster  
1989-1992 Research and Teaching Assistant, Georgia Institute of Technology, Atlanta, GA  
1986-1992 Research and Teaching Assistant, University of Illinois, Urbana, IL  
1985 Summer Engineer, ARCO Oil and Gas Co., Longview, TX

## **HONORS AND AWARDS**

- Commencement Speaker, 394<sup>th</sup> Commencement of The Ohio State University (2010)  
Faculty Diversity Excellence Award, College of Engineering, The Ohio State University (2010)  
Exemplary Service Award – Minority Engineering Program, The Ohio State University (2005)  
Ralph L. Boyer Award for Outstanding Teaching – College of Engineering, The Ohio State University (2004)  
Alumni Award for Distinguished Teaching – The Ohio State University (2002)  
Lumley Award for Interdisciplinary Research – College of Engineering, The Ohio State University (2002)  
Charles E. MacQuigg Award for Outstanding Teaching - College of Engineering, The Ohio State University (1999, 2004)

Lumley Engineering Research Award - College of Engineering, The Ohio State University (1998, 2003, 2008)  
Maro Publications Future Technology Award for special achievement in research of future developments in the field of polymers. Best paper award presented at Society of Plastics Engineers Annual Technical Conference (ANTEC) Atlanta, GA (1998)  
NSF Post-doctoral Grant - Program for Long and Medium-Term Research at Foreign Centers of Excellence (1992)  
Union Carbide Fellowship (1986-87)  
General Electric Fellowship (1987-88)  
Amoco Foundation Fellowship (1988-89)  
Member Tau Beta Pi Engineering Honor Society (Elected 1985)  
W.L. Nelson Award for Outstanding Achievement in Chem. Eng.  
(Univ. of Tulsa, 1986)

## **PROFESSIONAL ORGANIZATION ACTIVITIES**

ABET (Accrediting organization for engineering programs)  
– Academic Advisory Council (2014-pres)  
– Ad Hoc Committee on Diversity and Inclusion (2015-17)  
– Program Evaluator for Chemical Engineering (2019-pres)  
American Institute of Chemical Engineers – Member since 1992  
Session Co-Chairman: AICHE National Meeting, April 1994  
AICHE Annual Meeting, 1994, 1998, 2002, 2003, 2006, 2007  
Session Chairman: AICHE Annual Meeting, 1995, 1999, 2001, 2006  
Area 1a (Thermodynamic and Thermophysical Properties) Programming Committee Member, 2005-08  
Area 1f (High Pressure) Program Coordinator: AICHE Annual Meeting, November 1997  
Area 1f (High Pressure) Vice-Chairman: Elected 1997  
Area 1f (High Pressure) Chairman: 1999-2000  
American Society for Engineering Education – Member  
Dean's Council Undergraduate Experience Committee – (2014-pres, Co-chair 2017-18)  
International Society for the Advancement of Supercritical Fluids  
Working Committee, Invited Speaker, and Session Chair for 5<sup>th</sup> International Symposium on Supercritical Fluids, 2000  
Tri-State Supercritical Fluids Discussion Group  
Secretary: 1999; Vice-President: 2000; President: 2001-2  
Journal of Supercritical Fluids – Editorial Board 2006-2011

## **EDUCATION & ACADEMIC SERVICE ACTIVITIES**

University Level:  
General Education Implementation Support Team (2019-20)

Student Success and Retention Standing Committee (2015-2018)

Enrollment Services Student retention workgroup (2014)

Provost's Award for Distinguished Teaching by a Lecturer Selection Committee (2013-14)

Search Committees:

Associate Vice President for Enrollment Services and Director of Admissions (2012)

Director for Outreach and Recruitment (Office of Admissions) (2012)

Senior Associate Director for Scholars in Honors & Scholars (2012)

Vice President for Student Life (2008)

Arts and Sciences Task Force on BS Degree (2006)

Faculty and TA Development Advisory Board (2006-07)

Alumni Awards for Distinguished Teaching Selection Committee (2003-2006), Chairman 2006

University-wide Review of Undergraduate Education (2005)

Honors Days Faculty Speaker (2004)

College Level:

Faculty Search Committee for Department of Engineering Education (2015-17)

College Committee on Academic Affairs (2005-2009)

Freshman Orientation Faculty Speaker (1999 – 2006)

Academic Standards and Progress Committee (1993-pres, Chair 1999-00, 2001-03)

- Led implementation of policies for academic standards for undeclared students.

Core Curriculum and College Services Committee (2001-05, Chair 2003-05):

- Led final draft and discussions with other colleges regarding a proposal to modify the general engineering curriculum for the college.
- Led review of writing and communication in engineering curricula.

First-Year Engineering Program (FYEP):

- Taught 1 section of Fundamentals of Engineering Courses (Eng 181, 183) (1999-pres.)
- Developed new laboratory exercise based on an ice cream maker to teach heat transfer, thermodynamics, and mass balances. (Collaboration with Ron Harris, Alumnus)
- Consulted on development of viscosity and fluid flow laboratory to replace ice cream lab (lab staff felt ice cream lab was too messy)
- Currently developing new heat transfer laboratory experiment based on heat sinks for computer chips.
- Secured NSF funding to develop quarter-long design/build experience for Eng 183 based on nanotechnology. Piloted project in Winter and Spring Quarters 2004. Leading expansion of pilot project to 3 sections of 183 and 1 section of Honors Eng 193 for 2004-05.
- FYEP Advisory Committee (2002-2005), Chair 2004-05

Department of Chemical and Biomolecular Engineering:

- Minority Affairs Committee (2014-pres)
- Undergraduate Curriculum Committee (1994-2010) Wrote and led discussion of proposal for departmental curriculum revision as part of college revision to core curriculum (1998).
- Revised graduate seminar course (881) to incorporate critical analysis of arguments and development of communication skills.

- Developed Bioseparations course (733) with J. Chalmers as part of Biomolecular Engineering option. (2002)
- Minority Affairs Coordinator (since 1995). Increased percentage of minorities in department and improved retention. Received “Department of the Year” award from Minority Engineering Program in 1999.
- Developed and led recruiting activities for secondary school age students visiting the department. Provided 9 hands on activities for groups of 3-5. Approximately 12-15 events per year. (2002-present)

## STUDENTS ADVISED

### MS Students (Primary Advisor)

	<u>Title of Thesis (and Co-advisor)</u>
Glen Wheeler (1995)	A Linked Supercritical Extraction-Biodegradation System to Extract and Degrade Phenol, (J.J. Chalmers)
Jong-Hyun Kim (1995)	Supercritical Fluid Processing of Biomolecules: Solute-Solute Effects on Solubility and Rapid Expansion of Supercritical Solutions
Xun Ma (1996)	Coating and Impregnation of Nonwoven Fibrous Materials with a Nonionic Surfactant using a Supercritical Fluid
Alzubair Jwayyed (1997)	High Pressure Flow Gravimetric Apparatus for Supercritical Fluid Extraction Studies
Russell Baird (2006)	The Use of a Side-Stuffer in the Extrusion of Polymer/Drug Solid Dispersions

### PhD Students (Primary Advisor)

	<u>Title of Thesis (and Co-advisor)</u>
Raashina Humayun (Sp 2000)	Adsorption-Desorption Behavior in Heterogeneous Processes Involving Supercritical Fluid Solvents
Yiqing Wang (Su 2001)	Modification of Polymer Surface Properties via Supercritical Fluids
Hongbo Li (Sp 2004)	The Effect of Interfacial Tension in CO <sub>2</sub> Assisted Polymer Processing, (L.J. Lee)
Weihong Gao (Sp 2005)	Adsorption of Supercritical Fluids on Microporous Adsorbents: Experiment and Simulation
Jeffrey Clogston (Sp 2005)	Phase Behavior and Applications of Lipidic Cubic Phases
Dehua Liu (Sp 2006)	Thermodynamic and Glass Transition Behavior in CO <sub>2</sub> -Polymer Systems Emphasizing the Surface Region
Maxwell Wingert (Wi. 2007)	Carbon Dioxide Foaming and High Pressure Rheology of Polystyrene and Polystyrene/Organoclay Nanocomposites, (L.J. Lee coadvisor)
Zhihua Guo (Wi 2008)	Experimental Analysis of Polymer Nanocomposite Foaming Using Carbon Dioxide
Jeffrey Ellis (Sp 2009)	Dense Carbon Dioxide Assisted Polymer Processing at the Nanoscale
Lu Feng (Wi 2012)	Dynamics of Polymer Foaming using Carbon Dioxide

Hrishikesh Munj (Su 2014)	CO <sub>2</sub> Assisted Processing of Biocompatible Electrospun Polymer Blends
Sumant Patankar (Au 2016)	Role of Confinement on the Properties of Ethane and Ethane-CO <sub>2</sub> Mixtures in Mesoporous Silica
<b><u>Co-Advised Students</u></b>	<b><u>Title of Thesis (and Primary Advisor)</u></b>
Mark Elkovitch (MS 1998)	Supercritical Fluid Assisted Polymer Blending, (L.J. Lee)
Mark Elkovitch (PhD 2001)	Supercritical Fluid Assisted Polymer Blending, (L.J. Lee)
Xiangmin Han (PhD 2002)	Production of Microcellular Foams using Supercritical Fluids, (K.W. Koelling, L.J. Lee)
Olukemi Ayodeji (M.S. 2005, MSE)	Piggybacking chemotherapeutic functions onto biomedical implants via subcritical carbon dioxide treatment (J.J. Lannutti)
Geert Verreck (PhD 2005, Pharm. Sci., Univ. of Leueven)	The Use of Compressed CO <sub>2</sub> to Broaden the Applicability of Hot Stage Extrusion for Drug Delivery (G. van Der Mooter, University of Leuven)
Adam Burley (PhD 2012)	Toward a Fundamental Understanding of Bubble Nucleation in Polymer Foaming (I. Kusaka)
Tingting Liu (2018)	Density functional investigation of C-H-O containing fluids in nanoconfinement (D. Cole)
Bohyun Hwang (expected 2019)	Studies of adsorption, wetting and dynamics of confined fluids in shale and representative minerals (D. Cole)
Fengyang Xiong (expected 2020)	Methane adsorption on shale gas materials (J. Moortgat)

## REFEREED PUBLICATIONS

### BOOK CHAPTERS

1. Tomasko, D.L. and Munj, H., “Polymer Nanocomposites and Nanocomposite Foams in Compressed CO<sub>2</sub>” in Supercritical Fluid Nanotechnology: Advances and Applications in Composites and Hybrid Nanomaterials, C. Domingo and P. Subra-Paternault, Eds., Pan Stanford Publishing Pte Ltd., Singapore, **2015**.
2. Guo, Z., Tomasko, D.L., “Supercritical Fluids” in Kirk-Othmer Encyclopedia of Chemical Technology, 5<sup>th</sup> Ed., John Wiley & Sons, **2006**.

### PEER-REVIEWED PUBLICATIONS

1. Xiong, F., Rother, G., Tomasko, D., Moortgat, J., “Investigation of the shale gas sorption capacity of gas shales using a supercritical BET model under geological conditions,” in preparation.

2. Liu, T., Gautam, S., Cole, D.R., Patankar, S., Tomasko, D., Zhou, W., Rother, G., "Structure and Dynamics of Ethane Confined in Silica Nanopores in the Presence of CO<sub>2</sub>" *J. Chem. Phys.*, **2020**, 152(8), <https://doi.org/10.1063/1.5134451>
3. Kong, F., Tong, A., Kathe, M., Fan, L.-S., Tomasko, D.L., "Process Intensification by Applying Chemical Looping in Natural Gas to Dimethyl Ether Conversion Process – Implications for Process Design Education" *Chemical Engineering & Processing: Process Intensification*, **2019**, 143, 107566. <https://doi.org/10.1016/j.cep.2019.107566>
4. Tomasko, D.L., Ridgway, J.S., Waller, R.J., Olesik, S.V., "Association of bridge program outcomes with STEM retention of targeted demographic groups," *J. College Science Teaching*, 45(4), (Mar/Apr **2016**): 90-99.
5. Gautam, S., Liu, T., Patankar, S., Tomasko, D., Cole, D., "Location dependent orientational structure and dynamics of ethane in ZSM5," *Chem. Phys. Lett.*, **2016**, 648, 130-136. [doi:10.1016/j.cplett.2016.02.021](https://doi.org/10.1016/j.cplett.2016.02.021)
6. Patankar, S., Gautam, S., Rother, G., Podlesnyak, A., Ehlers, G., Liu, T., Sheets, J., Cole, D., Tomasko, D., "Role of Confinement on Adsorption and Dynamics of Ethane and an Ethane-CO<sub>2</sub> Mixture in Mesoporous CPG Silica" *J. Phys. Chem. C*, **2016**, 120 (9), 4843–4853. Doi:10.1021/acs.jpcc.5b09984
7. Geiger, B., Nelson, M.T., Munj, H.R., Tomasko, D.L., Lannutti, J.J., "Dual Drug Release from CO<sub>2</sub>-Infused Nanofibers via Hydrophobic and Hydrophilic Interactions", *J. Appl. Polym. Sci.*, **2015**, 132, 42571. DOI: 10.1002/app.42571
8. Munj, H., Nelson, M.T., Karandikar, P.S., Lannutti, J.J., Tomasko, D.L. "Biocompatible Electrospun Polymer Blends for Biomedical Applications," *Journal of Biomedical Materials Research: Part B - Applied Biomaterials*, **2014**, 102(7), 1517-1527.
9. Kusaka, I., Talreja, M., Tomasko, D.L., "Beyond Classical Theory: Predicting the Free Energy Barrier of Bubble Nucleation in Polymer Foaming," *AICHE J.*, **2013**, 59(8), 3042-3053.
10. Nelson, M.T., Munj, H., Tomasko, D.L., Lannutti, J.J., "Carbon dioxide infusion of composite electrospun fibers for tissue engineering," *J. Supercritical Fluids*, **2012** 70, 90-99.
11. Guo, Z., Burley, A., Kusaka, I., Lee, L.J., Koelling, K.W., Tomasko, D.L., "CO<sub>2</sub> Bubble Nucleation in Polystyrene: Experimental and Modeling Studies," *J. Appl. Pol. Sci.*, **2012**, 125(3), 2170-2186. DOI: 10.1002/app.36422.
12. Talreja, M., Kusaka, I., Tomasko, D.L., "Analyzing Surface Tension in Higher Alkanes and their CO<sub>2</sub> Mixtures," *Fluid Phase Equilibria*, **2012**, 319, 67-76. <http://dx.doi.org/10.1016/j.fluid.2011.12.019>.
13. Argemí, A., Ellis, J.L., Saurina, J., Tomasko, D.L., "Development of a polymeric patch impregnated with naproxen as a model of transdermal sustained release system," *J. Pharm. Sci.*, **2011** 100(3), 992-1000.
14. Guo, Z., Yeh, S-K., Wingert, M.J., Ellis, J.L., Tomasko, D.L., Lee, L.J., "Comparison of Nanoclay and Carbon Nanofiber Particles on Rheology of Molten Polystyrene Nanocomposites under Supercritical Carbon Dioxide", *J. Appl. Pol. Sci.*, **2010**, 116(2), 1068-76.
15. Ellis, J.L., Titone, J.C., Tomasko D.L., Annabi, N., Dehghani, F., "Supercritical CO<sub>2</sub> Sterilization of Ultra-High Molecular Weight Polyethylene," *J. Supercritical Fluids*, **2010**, 52(2), 235-240.

16. Wingert, M.J., Shukla, S., Koelling, K.W., Tomasko, D.L., Lee, L.J., "Shear Viscosity of CO<sub>2</sub>-Plasticized Polystyrene Under High Static Pressures", *Ind. Eng. Chem. Res.*, **2009**, 48(11), 5460-5471.
17. Niehaus, A.J., Anderson, D.E., Samii, V.F., Weisbrode, S.E., Johnson, J.K., Noon, M.S., Tomasko, D.L., Lannutti, J.J., "Effects of orthopedic implants with a polycaprolactone polymer coating containing bone morphogenetic protein-2 on osseointegration in bones of sheep" *Am. J. Veterinary Res.*, **2009**, 70(11), 1416-25.
18. Talreja, M., Kusaka, I., Tomasko, D.L., "Density Functional Approach for Modeling CO<sub>2</sub> Pressurized Polymer Thin Films in Equilibrium," *J. Chem. Phys.* **2009**, 130(24), 249901.
19. Tomasko, D.L., Burley, A., Yeh, S-K., Feng, L., Miyazono, K., Nirmal-Kumar, S., Kusaka, I., Koelling, K., "Development of CO<sub>2</sub> for Polymer Foam Applications," *J. Supercrit. Fluids*, **2009**, 47, 493-499.
20. Allam, Y.S., Tomasko, D.L., Trott, B.C., Schlosser, P., Yang, Y., Wilson, T.M.S., Merrill, J.A., "Lab-on-a-chip Design-Build Project with a Nanotechnology Component in a Freshman Engineering Course," *Chem. Engr. Educ.*, **2008**, 42, 45.
21. Guo, Z., Yang, J., Wingert, M.J., Tomasko, D.L., Lee, L.J., Daniels, T., "Comparison of Carbon Nanofibers and Activated Carbon in Carbon Dioxide Foaming of Polystyrene," *J. Cellular Plastics*, **2008**, 44(6), 453-468.
22. Guo, Z., Tomasko, D.L., Lee, L.J., "CO<sub>2</sub> Permeability of Polymer Nanocomposites and Nanocomposite Foams", *Ind. Eng. Chem. Res.*, **2008**, 47(23), 9636-9643.
23. Ellis, J.L., Tomasko, D.L., Dehghani, F., "Novel Dense CO<sub>2</sub> Technique for  $\beta$ -galactosidase Immobilization in Polystyrene Micro-Channels" accepted for publication in *Biomacromolecules*, 2008.
24. Ayodeji, O., Powell, H., Summerfield, T.L., Powell, D., Kniss, D., Tomasko, D.L., Lannutti, J.J. "Implant-based Drug Delivery via Subcritical CO<sub>2</sub> Modification," *J. Biomedical Materials Research*, **2007**, 28(36), 5562-5569.
25. Verreck, G., Decorte, A., Heymans, K., Adriaensen, J., Liu, D.H., Tomasko, D.L., Arien, A., Peeters, J., Rombaut, P., Van den Mooter, G., Brewster, M.E., "The effect of supercritical CO<sub>2</sub> as a reversible plasticizer and foaming agent on the hot stage extrusion of itraconazole with EC 20 cps," *J. Supercritical Fluids*, **2007**, 40(1), 153-162.
26. Han, X., Shen, J., Huang, H., Tomasko, D.L., Lee, L.J. "CO<sub>2</sub> Foaming Based on Polystyrene/Poly(methyl methacrylate) Blend and Nanoclay" *Pol. Eng. Sci.*, **2007**, 47(2), 103-111.
27. Ayodeji, O., Kniss, D., Lannutti, J.J., Tomasko, D.L. "Carbon Dioxide Impregnation of Electrospun Polycaprolactone Fibers" *J. Supercrit. Fluids*, **2007**, 41, 173-178.
28. Lannutti, J., Reneker, D., Ma, T., Tomasko, D., Farson, D., "Electrospinning for Tissue Engineering Scaffolds," *Mat. Sci. & Eng. C*, **2007**, 27, 504-509.
29. Yang Y, Liu D, Xie Y, Lee LJ, Tomasko DL. Low-Temperature Fusion of Polymeric Nanostructures Using Carbon Dioxide. *Adv Mater.* **2007**, 19(2), 251-254.
30. Liu, D., Tomasko, D.L., "CO<sub>2</sub>-Induced Sorption and Dilatation of Poly(glycolide-co-lactide) copolymers," *J. Supercrit. Fluids*, **2007**, 39(3), 416-425.
31. Verreck, G., Decorte, A., Heymans, K., Adriaensen, J., Liu, D., Tomasko, D., Arien, A., Peeters, J., Van den Mooter G., Brewster, M.E., "Hot stage extrusion of p-amino salicylic acid with EC using CO<sub>2</sub> as a temporary plasticizer," *Int. J. Pharmaceutics*, **2006**, 327(1-2), 45-50.

32. Verreck, G., Decorte, A., Li, H., Tomasko, D., Arien, A., Peeters, J., Rombaut, P., Van den Mooter, G., Brewster, M.E., "The effect of pressurized carbon dioxide as a plasticizer and foaming agent on the hot melt extrusion process and extrudate properties of pharmaceutical polymers," *J. Supercritical Fluids*, **2006**, 38(3), 383-391.
33. Verreck, G., Decorte, A., Heymans, K., Adriaensen, J., Cleeren, D., Jacobs, A., Liu, D., Tomasko, D., Arien, A., Peeters, J., Rombaut, P., Van den Mooter, G., Brewster, M.E., "The effect of pressurized carbon dioxide as a temporary plasticizer and foaming agent on the hot stage extrusion process and extrudate properties of solid dispersions of itraconazole with PVP-VA 64," *Eur. J. Pharm. Sci.*, **2005**, 26(3-4), 349-358.
34. Han, X., Tomasko, D., Lee, L.J., "CO<sub>2</sub> Foaming of Polymer Nanocomposite Blends," *Aust. J. Chem.* **2005**, 58(6), 492-503.
35. Liu, D., Li, H., Noon, M.S., Tomasko, D.L., "CO<sub>2</sub>-induced PMMA Swelling and Multiple Thermodynamic Property Analysis using Sanchez-Lacombe EOS," *Macromolecules*, **2005**, 38(10), 4416-4424.
36. Yang, Y., Basu, S., Tomasko, D.L., Lee, L. J., Yang, S.-T., "Fabrication of Well-defined Scaffolds Using Novel Microembossing and Carbon Dioxide Bonding", *Biomaterials* **2005**, 26(15), 2585-2594.
37. Gao, W., Butler, D., Tomasko, D.L., "High Pressure Adsorption of CO<sub>2</sub> on Na-Y Zeolite and Model Prediction of Adsorption Isotherms," *Langmuir*, **2004**, 20(19), 8083-8089.
38. Li, H., Lee, L.J., Tomasko, D.L., "Effect of CO<sub>2</sub> on the Interfacial Tension of Polymer Melts," *Ind. Eng. Chem. Res.*, **2004**, 43(2), 509-514.
39. Sproule, T.L., Lee, J.A., Li, H., Lannutti, J.J., and Tomasko, D.L., "Bioactive Polymer Surfaces Via Supercritical Fluids," *J. Supercrit. Fluids*, **2004**, 28, 241-248.
40. Tomasko, D.L., Liu, D., Li, H., Han, X., Wingert, M.J., Lee, L.J., Koelling, K.W., "A Review of CO<sub>2</sub> Applications in Polymer Processing," *Ind. Eng. Chem. Res.*, **2003**, 43(25), 6431-6456.
41. Tomasko, D.L., Han, X., Liu, D., Gao, W., Koelling, K.W., Lee, L.J. "Supercritical Fluid Applications in Polymer Nanocomposites," *Current Opinion in Solid State and Materials Science*, **2003** 7(4-5), 407-412. (Invited article)
42. Zeng, C., Han, X., Lee, L.J., Koelling, K.W., Tomasko, D.L., "Polymer-Clay Nanocomposite Foams prepared by using Carbon Dioxide," *Adv. Materials*, **2003**, 15(20), 1743-1747.
43. Han, X., Zeng, C., Lee, L.J., Koelling, K.W., and Tomasko, D.L., "Extrusion of Polystyrene Nanocomposite Foams with Supercritical CO<sub>2</sub>," *Polym. Eng. Sci.*, **2003**, 43(6), 1261-1275.
44. Han, X., Koelling, K.W., Tomasko, D.L., Lee, L.J., "Effect of die temperature on the morphology of microcellular foams," *Polym. Eng. Sci.*, **2003**, 43(6), 1206-1220.
45. Han, X., Tomasko, D.L., Koelling, K.W., and Lee, L.J., "Continuous Microcellular Polystyrene Foam Extrusion with Supercritical CO<sub>2</sub>," *Polym. Eng. Sci.*, **2002**, 42(11), 2094-2106.
46. Bezanehtak, K., Combes, G.B., Dehghani, F., Foster, N.R., and Tomasko, D.L., "Vapor-Liquid Equilibrium for Binary Mixtures of Carbon Dioxide + Methanol, Hydrogen + Methanol, and Hydrogen + Carbon Dioxide at High Pressures," *J. Chem. Eng. Data*, **2002**, 47(2), 161-168.
47. Svoboda, P., Zeng, C., Wang, H., Lee, L.J., and Tomasko, D.L., "Morphology and Mechanical Properties of Polypropylene/Organoclay Nanocomposites," *J. Appl. Polym. Sci.*, **2002**, 85, 1562-1570.

48. Wang, Y., Yang, C., and Tomasko, D.L., "Confocal Microscopy Analysis of Supercritical Fluid Impregnation of Polypropylene," *Ind. Eng. Chem. Res.*, **2002**, *41*(7), 1780-86.
49. Elkovitch, M.D., Lee, L.J., and Tomasko, D.L., "Effect of Supercritical Carbon Dioxide on PMMA/Rubber and Polystyrene/Rubber Blending: Viscosity Ratio and Phase Inversion," *Polym. Eng. Sci.*, **2001**, *41*(12), 2108.
50. Clogston, J., Rathman, J., Tomasko, D.L., Walker, H., and Caffrey, M., "Phase Behavior of a Monoacylglycerol (Myverol 18-99)/Water System," *Chemistry & Physics of Lipids*, **2000**, *107*, 191.
51. Elkovitch, M.D., Tomasko, D.L., and Lee, L.J., "Effect of Supercritical Carbon Dioxide on Morphology Development During Polymer Blending," *Polym. Eng. Sci.*, **2000**, *40*(8), 1850.
52. Humayun, R. and Tomasko, D.L., "High Resolution Adsorption Isotherms of Supercritical Carbon Dioxide on Activated Carbon," *AIChE J.*, **2000**, *46*(10), 2065.
53. Elkovitch, M.D., Tomasko, D.L., and Lee, L.J., "Supercritical Carbon Dioxide Assisted Blending of Polystyrene and Poly(Methyl Methacrylate)," *Polym. Eng. Sci.*, **1999**, *39*(10), 2075.
54. Tomasko, D.L. and Timko, M.T., "Tailoring of Specific Interactions to Modify the Morphology of Naproxen," *J. Crystal Growth*, **1999**, *205*, 233.
55. Heater, K.J. and Tomasko, D.L., "Processing Epoxy Resins using Liquid Carbon Dioxide as an Antisolvent," *J. Supercritical Fluids*, **1998**, *14*, 55.
56. Humayun, R., Karakas, G., Dahlstrom, P., Ozkan, U.S., and Tomasko, D.L., "Supercritical Fluid Extraction and Temperature Programmed Desorption of Phenol and its Oxidative Coupling Products from Activated Carbon," *Ind. Eng. Chem. Res.* **1998**, *37*, 3089.
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## PATENTS

Lee, L.J., Koelling, K.W., Tomasko, D.L., Han, X., Zeng, C., Polymer Nanocomposite Foams, 2004, US 6,759,446 reissued as US 7,026,365.

Lee, L.J., Yang, Y., Tomasko, D.L., Zheng, C., Gas Assisted Bonding of Polymers and Polymer Composites, 2009, US 7,501,039.

## **RESEARCH GRANTS**

### **Peer Reviewed Funding for Scientific & Engineering Research**

*Collaborative research: Nanopore confinement of C-H-O mixed volatile fluids relevant to subsurface energy systems*, DOE BES, \$646,0067, 9/11-12/16, PI: D. Cole (Earth Sciences), Co PIs: D. Tomasko, A. Striolo (Univ. of Oklahoma)

*NSEC-Center for Affordable Nanoengineering of Polymeric Biomedical Devices*, NSF-EEC, \$12,900,000, 09/05-08/09, PI: L.J. Lee, Co-PIs: J.J. Chalmers, A.T. Conlisk, R.J. Lee, D.L. Tomasko

*Scalable Nanomanufacturing of High-Performance Polymer Foams*, NSF – DMI, \$400,000, 10/06-9/11, PI: D.L. Tomasko, Co-PIs: I. Kusaka, K.W. Koelling, L.J. Lee

*Low Cost Nanocomposite Foams*, Ohio Department of Development Wright Capital Projects Fund, \$2,000,000, 10/03-9/05, PI: L.J. Lee, Co-PIs: D.L. Tomasko, K.W. Koelling, J.M. Castro, J.J. Lannutti, J.R. Elliot (U Akron). Equipment Grant

*Midwest Thermodynamics & Statistical Mechanics Conference*, NSF-CTS, \$7,260, 3/03-2/04, PI: I. Kusaka, Co-PI: D.L. Tomasko. (Student travel grant)

*Environmentally benign micro-cellular nanocomposite foam for structural and insulation market*, NIST-ATP (Subcontract from Owens-Corning), \$600,000, 12/02-11/05. PI: L.J. Lee, Co-PIs: D.L. Tomasko & K.W. Koelling.

*Renewing and industry/university cooperative research Center for Advanced Polymer & Composite Engineering*, NSF - EEC, \$240,365,000, 10/02-9/07. PI: L.J. Lee, Co-PIs: J. Castro, K.W. Koelling, A. Luscher, D.L. Tomasko.

*Polymer nanocomposite foams prepared by environmentally benign supercritical fluids*, NSF-DMII, \$240,000, 9/02-8/05. PI: D. Tomasko, Co-PIs: L. James Lee & K.W. Koelling. \$12,000 REU Supplement awarded 6/03.

*REU - Enhanced Polymer-Polymer Blending and Polymer-Fiber/Particle Compounding Using Supercritical Carbon Dioxide*, NSF-DMII, \$12,000, 10/01-9/03. PI: D. Tomasko, Co-PI: L. James Lee.

*Enhanced Polymer-Polymer Blending and Polymer-Fiber/Particle Compounding Using Supercritical Carbon Dioxide*, NSF-DMII, \$360,000, 10/99-9/03. PI: D. Tomasko, Co-PI: L. James Lee

*Solvent/Solute Competition in Supercritical Fluid Adsorptive Separations*, American Chemical Society Petroleum Research Fund, \$60,000, 1/99-8/01.

*Supercritical Fluid Enhanced Polymer and Composite Extrusion*, NSF-ECE Funding for Research Centers - Small Firms Collaborative R&D, \$190,000, 10/98-9/00. PI: L. James Lee, Co-PIs: Kurt Koelling & D. Tomasko.

*Environmentally Benign Crystallization: Supercritical Fluids as Separable and Recoverable Antisolvents*, Emission Reduction Research Center (NSF I/U CRC at NJIT), \$31,745, 1/97-6/97.

*Consortium for Commercialization of Supercritical Fluid Technologies*, Investment Fund of Ohio Board of Regents, \$1,647,000, 4/96-3/98, PIs: S. Lee (Akron U), D.L. Tomasko (OSU),

Co-PIs: J.R. Elliot (UA), K. Fullerton (UA), K.W. Koelling (OSU), L.J. Lee (OSU). Equipment Grant

*Crossover Phenomena in Adsorption of Supercritical Fluids*, American Chemical Society Petroleum Research Fund, \$20,000, 5/96-8/98.

*Separation Science Consortium for the State of Ohio*, Investment Fund of Ohio Board of Regents, \$1,750,000, 7/93-7/95, PIs: R. Gilpin (Kent St. U), M. Jaroniec (KSU), Co-PIs: R. Bose (KSU), R. Gregory (KSU), N. Danielson (Miami), J. Dorsey (Cincinnati), N. Pinto (Cincinnati), S. Olesik (OSU), D.L. Tomasko (OSU). Equipment Grant.

### **Peer Reviewed Funding for Education & Teaching Research**

*Human Connect: Scholarships in science, technology, engineering and Math (S-STEM)*, NSF-DUE, \$597,000, 9/13-8/19, PI: D. L. Tomasko, Co-PI: H. Greene

*Wonders of our World (WOW)<sup>2</sup>: Engaging middle school students in STEM through nanochemistry*, Dreyfus Foundation, \$29,000, 1/15-12/17, PI: S. Olesik, Co-PI: D. Tomasko

*Ohio's Sustainable Science and Engineering Talent Expansion Program (OSTEP)*, NSF-DUE, \$2,500,000, 10/08-09/13, PI: D.L. Tomasko, Co-PIs: S. Olesik, J. Ridgway, A. Keller, K. Harkin

*Women in Engineering: ChemE & YOU @ OSU*, Camille and Henry Dreyfus Foundation, \$50,000, 1/09-12/10, PI: G. LaRue, Co-PIs: R. Friedman, D. Tomasko

*Track 2, GK-12, Optimization and Institutionalization of the Science Fellows Supporting Teachers (SFST) Program*, NSF-DGE, \$1,982,000, 2/15/05-1/31/09, PI: S. Olesik (Chemistry), Co-PIs: D.L. Tomasko (Chem Eng), G. McKenzie (Geology), K. Irving (Education)

*Tools for Peer Review of Teaching*, Ohio Learning Network Learning Communities Initiative, \$25,000, 5/04-7/05, PI: A. Kalish (Faculty & TA Develop), Co-PIs: J. Mastry (Vet Biosci), S. Rudmann (Allied Med), J. Forbush (Nursing), D.L. Tomasko (Chem Eng), W. Hall (U Cinn, Vice Prov Faculty Develop).

*NUE: Lab-on-a-chip nanomanufacturing for freshman engineering*, NSF-EEC, \$100,000, 7/03-6/04, PI: D.L. Tomasko, Co-PIs: J. Merrill (CoE), P. Stevenson (CAPCE)

### **Industrial Support and Other Funding**

*Process for Recycling PVB*, Bolon Companies, \$12,000, 8/14-12/14, PI: D. Tomasko

*Polyetherimide (PEI) Foam Extrusion*, Advanced Materials Technology, \$25,000, 10/12-12/13. PI: D. Tomasko

*Upgrading Landfill Gas to Pipeline Quality Natural Gas via Pressure Swing Adsorption*, Adsorption Research Inc., \$21,000, 11/11-12/13. PI: D. Tomasko

*Development of Melt Extrusion Processes for Pharmaceutical Applications Using Chemical Engineering Perspectives*, Hoffman-LaRoche, \$100,000, 1/08-12/09. PI: D. Tomasko

*Application of Supercritical or Subcritical CO<sub>2</sub> in Pharmaceutical Polymer Processing*, Janssen Pharmaceutica, \$308,000, 10/00-12/06. PI: D. Tomasko

*Open-cell foam extrusion technology for absorbent applications*, Kimberly-Clark Corp., \$15,000, 2/02-9/03. PI: D. Tomasko, Co-PI: K.W. Koelling

*Supercritical Fluid Enhanced Polymer Processing* – Industrial Membership Fees in CAPCE, \$28,700, 10/00-9/03.

*Pressurized Propellant Densification System* – PHPK Industries (Subcontract from NASA SBIR Program), \$14,400, 1/01-11/02.

*Supercritical Devilcanization of Rubber*, Goodyear Tire & Rubber, \$30,000, 10/00-9/01. PI: L. James Lee, Co-PI: D. Tomasko

*Supercritical CO<sub>2</sub> Enhanced Rubber Compounding*, Goodyear Tire & Rubber, \$30,000, 10/99-9/00. PI: L. James Lee, Co-PI: D. Tomasko

*Application of Supercritical Fluids to Soil Remediation*. OSU Targeted Interdisciplinary Seed Grant, \$40,000, 5/94-12/95, Co-PIs: S. Olesik (Chemistry), D.L. Tomasko

*An environmentally sensitive method using biocompatible absorbent materials for water treatment*. OSU Targeted Interdisciplinary Seed Grant, \$80,257, 4/97-12/98, PI: M. Caffrey (Chemistry), Co-PIs: D.L. Tomasko, J. Rathman, H. Walker (Civil Eng)

*A New Process for Precipitation of Fine Particles from Supercritical Fluids*, OSU Seed Grant, \$16,666, 1/95-1/96.

*Polymer-Pharmaceutical Intermolecular Interactions for Design of Controlled Release Matrices*, American Cyanamid Formulations Research Starter Grant, \$5000, 3/94-3/95.

## **INVITED TALKS (\* denotes plenary)**

1. Tomasko, D.L. “A Novel Fabrication Technique for Polymeric Lab-on-a-chip Devices Containing an Immobilized Enzyme,” 16<sup>th</sup> Simpósio Internacional De Iniciação Científica Da Universidade De São Paulo, (November 2008).
2. Tomasko, D.L. “Gluing Nanopatterned Polymers with CO<sub>2</sub>: Reversible Surface T<sub>g</sub> Reduction of Polymers,” Department of Chemical & Biomolecular Engineering, Sydney University (March 2007).
3. Tomasko, D.L. “Gluing Nanopatterned Polymers with CO<sub>2</sub>: Reversible Surface T<sub>g</sub> Reduction of Polymers,” Department of Chemical Engineering, Clemson University (October 2006).
4. \*Tomasko, D.L., Liu, D., Yang, Y., Lee, L.J., Lannutti, J.J., D. Kniss, Verreck, G., Arien, T., Brewster, M., “Understanding and Exploiting T<sub>g</sub> Reduction for Surface and Bulk Modification of Polymers with CO<sub>2</sub>,” 10<sup>th</sup> European Meeting on Supercritical Fluids, Colmar, France (December 2005), Plenary Talk
5. \*Tomasko, D.L., Lannutti, J.J., Lee, L.J., Liu, D., Ayodeji, O., “Supercritical Fluid Processing for Functional Biomaterials,” 3<sup>rd</sup> International Symposium on Biomaterials and Biomechanics, Montreal, Canada (April 2005), Plenary Talk
6. \*Tomasko, D.L., Lee, L.J., Koelling, K.W., Han, X., Wingert, M.J., Yang, Y., Liu, D., “Carbon Dioxide Assisted Processing of Polymer Nanocomposites,” 27<sup>th</sup> RACI Australian Polymer Symposium, Adelaide, Australia (Dec 2004), Plenary Talk
7. Yang, Y., Liu, D., Ayodeji, O., Powell, H., Tomasko, D.L., Lannutti, J.J., Kniss, D., Lee, L.J., “Carbon Dioxide Effects on Surface T<sub>g</sub> and Implications for Processing,” 11<sup>th</sup> International Symposium on Supercritical Fluid Chromatography, Extraction, and Processing, Pittsburgh, PA (August 2004).

8. Tomasko, D.L., "Engaging Engineering Students", Teaching Excellence Conference, College of Food, Agriculture, & Environmental Science, Ohio State University, (June 2004).
9. Tomasko, D.L., Koelling, K.W., Lee, L.J., Han, X., Zeng, C., Li., H., Wingert, M.J., Liu, D. "CO<sub>2</sub> as a Blowing Agent in Polymer Nanocomposite Foams," Department of Chemical Engineering, Auburn University (March 2004).
10. \*Tomasko, D.L., Koelling, K.W., Lee, L.J., Han, X., Zeng, C., Li., H., "CO<sub>2</sub> as a Blowing Agent in Nanocomposite Systems – Thermodynamics and Rheology," *Polymer-Supercritical Fluid Systems and Foams*, International Workshop on Supercritical Fluid Aided Polymer and Foam Processing, Tokyo, Japan, (December, 2003). One of 5 plenary talks.
11. Tomasko, D.L., Han, X., Sproule, T., Koelling, K.W., Lee, L.J., Lannutti, L.J. "Supercritical carbon dioxide foaming and impregnation of polymers," Department of Chemical & Materials Engineering, University of Kentucky (September, 2002).
12. Tomasko, D.L., Han, X., Sproule, T., Koelling, K.W., Lee, L.J., Lannutti, L.J. "Supercritical carbon dioxide foaming and impregnation of polymers," Janssen Pharmaceutica, Beerse, Belgium (May, 2002).
13. D.L. Tomasko, "Adsorption Behavior of Supercritical Carbon Dioxide on Microporous Materials," Department of Chemical Engineering, Oklahoma State University (April, 2002).
14. D.L. Tomasko, "Adsorption Behavior of Supercritical Carbon Dioxide on Microporous Materials," Department of Chemical Engineering, University of Cincinnati (January, 2002).
15. Tomasko, D.L., Koelling, K.W., Lee, L.J., Wang, Y., Han, X., Elkovich, M., Li, H., "Supercritical Fluid Assisted Polymer Processing: Novel Blends and Foams," 10<sup>th</sup> International Symposium on Supercritical Fluid Chromatography, Extraction, and Processing, Myrtle Beach, SC (August 2001)
16. D.L. Tomasko, L.J. Lee, K.W. Koelling, C. Yang, M.D. Elkovich, X. Han, Y. Wang "Supercritical Fluid Applications in Polymeric Materials Processing," Cooperative Research Centre for Polymers, University of New South Wales, Sydney, Australia (November, 2000).
17. D.L. Tomasko, L.J. Lee, K.W. Koelling, C. Yang, M.D. Elkovich, X. Han, Y. Wang "Supercritical Fluid Applications in Polymeric Materials Processing," Cooperative Research Centre for Polymers, CSIRO, Melbourne, Australia (October, 2000).
18. D.L. Tomasko, "Adsorption Behavior of Supercritical Carbon Dioxide on Microporous Materials," Central Region American Chemical Society Meeting, Covington, KY (May, 2000).
19. Y. Wang, C. Yang, and D.L. Tomasko, "Spectroscopic Characterization of Supercritical Fluid Impregnation of Polymers," Central Region American Chemical Society Meeting, Covington, KY (May, 2000).
20. D.L. Tomasko, "Adsorption of and from Supercritical Carbon Dioxide on Microporous Materials," Midwest Thermodynamics and Statistical Mechanics Conference, Minneapolis, MN (May, 2000).
21. R. Humayun, D.L. Tomasko, and S.B. Brueggemeier "Adsorption of and from Supercritical Carbon Dioxide on Microporous Materials," 5<sup>th</sup> International Symposium on Supercritical Fluids, Atlanta, GA (April, 2000).
22. D.L. Tomasko, L.J. Lee, K.W. Koelling, M.D. Elkovich "Supercritical Fluid Applications in Polymer Processing," Ashland Technical Forum, Ashland Chemical Company, Columbus, OH (March, 2000).

23. D.L. Tomasko, "Adsorption Behavior of Supercritical Fluids on Microporous Materials," School of Chemical Engineering, Georgia Institute of Technology (January, 2000).
24. M. Elkovich, L.J. Lee and D.L. Tomasko, "Carbon Dioxide-Enhanced Polymer Compounding" Supercritical Fluids in Materials Processing and Synthesis, Engineering Foundation Conference, Davos, Switzerland (September, 1999).
25. M. Elkovich, L.J. Lee and D.L. Tomasko, "Carbon Dioxide-Enhanced Polymer Compounding" Department of Chemical Engineering and Materials Science, Wayne State University, Detroit, MI (September, 1999).
26. D.L. Tomasko, "Supercritical Fluid Applications in Polymer Processing," Corning Incorporated, Corning, NY (June, 1999).
27. D.T. Tomasko, M.D. Elkovich, L.J. Lee, and K.W. Koelling "Supercritical Fluid Applications in Polymer Processing," Janssen Pharmaceutica, Beerse, Belgium (May, 1999).
28. "Supercritical Fluid Assisted Polymer Blending," 8<sup>th</sup> International Symposium on Supercritical Fluids, St. Louis, MO (July, 1998).
29. "Supercritical Fluid Processing of Pharmaceuticals," Department of Chemistry, Otterbein College, Columbus, OH (May, 1998).
30. "Environmentally Benign Crystallization: Compressed Fluids as Separable and Recoverable Antisolvents," Eli Lilly, Indianapolis, IN (December, 1997). Joint presentation with Barbara Knutson, Univ. of Kentucky.
31. "Applications of Supercritical Fluids to Materials Processing," Xerox Research Centre of Canada, Mississauga, Ontario (October, 1997).
32. "Materials Processing with Supercritical Fluids I: Processing in the Solid Phase," Tri-State Supercritical Fluids Discussion Group, Cincinnati, OH (October, 1997).
33. "Supercritical Technology for Impregnation of Synthetic Materials," Kimberly-Clark Corp., Neenah, WI (April 1996).
34. "Applications of Supercritical Fluids to Materials Processing," Center for Materials Research, The Ohio State University, Columbus, OH (April 1996).
35. "Solute-Solute Effects in Supercritical Fluid Processing of Biomolecules," Department of Chemical Engineering, University of Akron, Akron, OH (October 1995)
36. "Solute-Solute Effects in Supercritical Fluid Processing of Biomolecules," Department of Chemical Engineering, University of Toledo, Toledo, OH (May 1995)
37. "Applications of Supercritical Fluids - Just how much can we do with pure CO<sub>2</sub>?", Combined Meeting of Central Ohio Sections of AIChE, ACS, and Electrochemical Society, Columbus, OH, (December, 1994).
38. "Environmental Applications of Supercritical Fluids," ACE Day Program, Department of Chemical Engineering, Ohio State University, (May, 1994).

## PROCEEDINGS PUBLICATIONS

1. Howard L. Greene, David L. Tomasko, Rachel Tuttle, Jan Upton, HumanConnect: Scholarships in Science, Technology, Engineering and Math. Proceedings of 2016 ASEE Annual Conference & Exposition, New Orleans, LA.
2. Patankar, S., Rother, G., Liu, T., Sheets, J., Cole, D., Tomasko, D., "Confinement behavior of ethane in mesoporous CPG-10 silica," 247<sup>th</sup> ACS National Meeting, Dallas, TX (2014)
3. Tomasko, D.L., Ridgway, J.S., Olesik, S.V., Waller, R.J., McGee, M.M., Barclay, L.A., Harkin, K.T., Upton, J., "Impact of summer bridge programs on STEM retention at The Ohio

- State University," Proceedings of ASEE North Central Section Conference, Columbus, OH, 2013.
4. Munj, H., Nelson, T., Lannutti, J., Tomasko, D., "Supercritical CO<sub>2</sub> Assisted Fabrication and Impregnation of PCL-Gelatin Based Scaffolds for Advanced Biomedical Applications," Proceedings of 10<sup>th</sup> International Symposium on Supercritical Fluids, San Francisco, CA, 2012.
  5. Feng, L., Zhu, B., Tomasko, D.L., Kusaka, I., Koelling, K.W., Lee, L.J., "Bubble Nucleation in Polystyrene Microcellular Foam: Effect of Molecular Weight and Polydispersity," Proceedings of SPE-ANTEC, 2010
  6. Tomasko, D.L., Guo, Z., Phoebe, A., Kinstedt, K., Kusaka, I., Koelling, K.W., Lee, L.J., "Analysis of Dynamics in CO<sub>2</sub> Foaming of Polymers," Proceedings of FOAMS 2008, Society of Plastics Engineers, Charlotte, NC, 2008.
  7. Burley, A., Guo, Z., Feng, L., Tomasko, D.L., Kusaka, I., Koelling, K.W., Lee, L.J., "A Scaling Approach for Understanding Nucleation in Polymer Foaming," Proceedings of the 9th International Symposium on Supercritical Fluids, Arcachon, France, 2009.
  8. Guo, Z., Winger, M.J., Yeh, S-K., Tomasko, D.L., Lee, L.J. Comparison of Carbon Nanofibers and nanoclay on rheology of Polystyrene under supercritical Carbon dioxide, ANTEC, 2008.
  9. Guo, Z., Yang, J., Wingert, M.J., Shen, J., Tomasko, D.L. and Lee, L.J. "Comparison of Carbon Nanofibers and Activated Carbon on Carbon Dioxide Foaming of Polystyrene", Proceedings of SPE ANTEC, 3062-3065, 2007
  10. Guo, Z., Yang, J., Wingert, M.J., Shen, J., Lee, L.J. and Tomasko, D.L. "Foaming Dynamics of Immiscible Polymer Blends", Proceedings of SPE ANTEC, 3016-3021, 2007
  11. Guo Z., Lee, L.J. and Tomasko, D.L., "CO<sub>2</sub> and Water Vapor Permeability in Polymer Nanocomposites and Foams", Proceedings of SPE ANTEC, 3109-3114, 2007
  12. Clingan, P., Tomasko, D.L., Merrill, J., Allam, Y. - "Work in Progress: Micro-/Nano-Technology 'Lab-on-a-chip' Research Project for First-Year Honors Engineering Program" 36<sup>th</sup> Annual Frontiers in Education Conference, San Diego, CA (2006), (peer reviewed)
  13. Liu, D., Yang, Y., Kusaka, I., Tomasko, D.L., Lee, L.J., "Role of CO<sub>2</sub> in Surface T<sub>g</sub> Reduction of Polymers" *Proceedings of the 8<sup>th</sup> International Symposium on Supercritical Fluids*, Kyoto, Japan (2006)
  14. Wingert, M.J., Guo, Z., Shen, J., Lee, L.J., Tomasko, D.L., Koelling, K.W., "Dynamics of Nanocomposite Foams using Carbon Dioxide," *Proceedings of the 8<sup>th</sup> International Symposium on Supercritical Fluids*, Kyoto, Japan (2006)
  15. Allam, Y., Tomasko, D.L., Merrill, J., Trott, B., Schlosser, P., Clingan, P. - "Lab-on-a-chip Design-Build Project with a Nanotechnology Component in a Freshman Engineering Course," Proceedings of ASEE Annual Conference, Chicago, IL (2006), paper 2326. (peer reviewed)
  16. Kalish, A., Tomasko, D.L., Masty, J., Acker, S., Rudmann, S., Forbush, J. - "Electronic Course Portfolios for Peer-Evaluation of Teaching," Proceedings of ASEE Annual Conference, Chicago, IL (2006), paper 2309. (peer reviewed)
  17. Tomasko, D.L., Liu, D., Yang, Y., Lee, L.J., Lannutti, J.J., Verreck, G., Arien, T., Brewster, M., "Understanding and Exploiting T<sub>g</sub> Reduction for Surface and Bulk Modification of Polymers with CO<sub>2</sub>," Proceedings of 10<sup>th</sup> European Meeting on Supercritical Fluids, Colmar, France (December 2005)

18. Allam, Y., Tomasko, D.L., Merrill, J., Stevenson, P., Yang, Y., Wilson, T. - “Work in Progress – ‘Lab-on-a-chip’ Micromanufacturing with a Nanotechnology Component for a First-Year Engineering Program: Implementation Results” 35<sup>th</sup> Annual Frontiers in Education Conference, Indianapolis, IN (2005)
19. Wingert, M.J., Shen, J., Davis, P.M., Lee, L.J., Tomasko, D.L., Koelling, K.W., “Rheological Studies of Polymers Under High Pressure Carbon Dioxide,” *Proceedings of SPE-ANTEC*, 63, 1143-47, **2005**. (peer reviewed)
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