

Tamara Floyd Smith, Ph.D., P.E.

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APPOINTMENTS

- 2016-present Assistant Provost, Professor of Chemical Engineering and Adjunct Professor of Materials Science and Engineering, Tuskegee University, Tuskegee, AL.
- 2015-2016 Interim Assistant Provost, Tuskegee University, Tuskegee, AL.
- 2012-2016 Professor and 3M Scholar, Chemical Engineering and Adjunct Professor Materials Science and Engineering, College of Engineering (COE), Tuskegee University, Tuskegee, AL.
- 2009-2012 Associate Professor and 3M Scholar, Chemical Engineering and Center for Advanced Materials, College of Engineering and Physical Sciences (CEPS), Tuskegee University, Tuskegee, AL.
- 2007-2009 Associate Professor, Chemical Engineering and Center for Advanced Materials, College of Engineering, Architecture and Physical Sciences (CEAPS), Tuskegee University, Tuskegee, AL.
- 2003-2007 Assistant Professor, Chemical Engineering and Center for Advanced Materials, College of Engineering, Architecture and Physical Sciences, Tuskegee University, Tuskegee, AL.
- 2001-2003 Member of Technical Staff, OFS (formerly Lucent Technologies, Bell Labs), Optical Fiber Research and Development, Norcross, GA

EDUCATION (DEGREES)

Massachusetts Institute of Technology (MIT), Ph.D., Chemical Engineering, November 2001. Dissertation Advisors: Professor Klavs F. Jensen (ChemE) and Professor Martin A. Schmidt (EECS). Dissertation Title: "A Novel Microchemical System for Rapid Liquid-Liquid Chemistry"

MIT, M.S., Chemical Engineering Practice, 1998.

Tuskegee University (TU), B.S., Chemical Engineering, Summa Cum Laude, 1996.

EDUCATION (CERTIFICATES)

The Chicago School of Professional Psychology (Washington DC Campus), NSF-Sponsored Post Graduate Certificate (16 credit hours) in Academic Leadership, June 2015.

FELLOWSHIPS AND AWARDS

- 2014 BEYA STEM K12 Promotion of Education Award

2013	Tuskegee University Business and Engineering (TUBE) Conference, Engineering Professor of the Year
2008/9	Tuskegee University Russell Brown Research Award presented by Sigma Xi
2008/9	CEAPS Faculty Teaching Award
2007/8	CEAPS Faculty Service Award
2006/7	CEAPS Faculty Research Award
2005	Office of Naval Research (ONR) Summer Faculty Fellow
2004	ONR Summer Faculty Fellow
2000-2001	UNCF•Merck Dissertation Fellow
2000	Ford Foundation Dissertation Fellowship for Minorities (declined)
1999	Outstanding Seminar Award of the MIT Department of Chemical Engineering
1997-2000	National Science Foundation (NSF) Minority Graduate Research Fellow
1996-1997	National Consortium for Graduate Degrees for Minorities in Engineering and Science (GEM) Fellow
1995	TU Outstanding Senior in Chemical Engineering awarded by the Regional American Institute of Chemical Engineers (AIChE)
1992-1994	TU Eminent Scholar
1993	TU Outstanding Sophomore in Chemical Engineering awarded by the Regional AIChE
1993-1996	National Action Council for Minorities in Engineering (NACME) Scholar
1993	National Society of Black Engineers (NSBE) Fellow
1992-1996	TU Presidential Citation Scholar
1992-1996	Phillips Van Heusen Scholar
1992	National Achievement Scholar
1992	Bryant Jordan Scholar-Athlete Scholarship

ACADEMIC LEADERSHIP EXPERIENCE

- 2015-Present, Assistant Provost, Tuskegee University, Tuskegee, AL
- 2013-2015 Advising Coordinator, College of Engineering, Tuskegee University, Tuskegee, AL
- Chair (2010-2013) and Member (2007-2010), Academic Affairs Committee, Tuskegee University Faculty Senate, Contribution: primary author of Curriculum and Course Review Guidelines
- Founding Link Governor (2010-present), Order of the Engineer, Tuskegee University
- 2013-Present, Member, Publications Board, *Chemical Engineering Education*
- 2008 SACS QEP Planning Committee, Contribution: attended meetings and primary author of an early draft of the tutorial program enhancement narrative
- Conference Session Chair for the American Institute of Chemical Engineers (AIChE) and the American Society for Engineering Education (ASEE)

PROFESSIONAL DEVELOPMENT

- 2017-2018 Senior Leadership Academy, Council of Independent Colleges (CIC) and the American Academic Leadership Institute
- Southern Association of Colleges and Schools Commission On Colleges (SACSCOC) Summer Institute, July 2017
- Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) Annual

Meeting, December 2016

- Lumina Foundation Student Success Convening, October 2016
- Southern Association of Colleges and Schools Commission On Colleges (SACSCOC) Summer Institute, July 2016
- Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) Annual Meeting, December 2016
- Workshop on Leadership, Innovation and Entrepreneurship for Women of Color in Academic Engineering, The City College of New York, Sponsored by the National Science Foundation, June 2015
- AAC&U Preparing Critical Future Faculty (PCFF) Professional Development Program: Cohort 2, 2012-13
- Office of Naval Research (ONR) Summer Faculty Fellow, Supervisor: Dr. Frances Ligler, Center for Biomolecular Science and Engineering (CBMSE), Naval Research Lab, Washington, DC, Summer 2004 and 2005.

INVITED PRESENTATIONS, WORKSHOPS AND PANELS

- Case Western Reserve University Future Faculty Workshop Mentor, July 30 – August 1, 2017, Cleveland, OH.
- VIP Think Tank for African American, Female, Full Professors in Engineering, Sponsored by NSF, ASEE Meeting, June 26, 2017, Columbus, OH.
- Association for Public and Land Grant Universities (APLU) HBCU Summit, The Time is Now: Considerations for Assessing One's Academic Promotion Readiness, Workshop Facilitator, June 15, 2016.
- Southern Company Girl's Engineering Conference, Panel Member, March 1, 2014, Birmingham, AL
- Taking the Pentagon to the People, Fundamentals of Proposal Development Workshop Presenter, February 27, 2014, Tuskegee, AL
- 22nd National NSF EPSCoR Conference, Towards Integrating Nanoparticle Enhanced Phase Change Materials (NEPCM) and Microfluidics for Thermal Management in High Heat Flux Electronics, October 27, 2011, Coeur d'Alene, Idaho
- Florida State University and Florida A&M University College of Engineering, Seminar Speaker, "Microfluidics for Controlled Production of Thin Films and Particles," September 2011, Tallahassee, FL
- 3M Invited Speaker, "Microfluidics for Controlled Production of Thin Films and Particles," August 2011, St. Paul, MN.
- NASA Ames STEM Symposium, "Investigation of the Thermal Performance of Nanofluidics and Nanoparticle Enhanced Phase Change Materials (NEPCM)," July 2011, San Jose, CA
- MIT ACCESS Program, Panelist, October 2009, Cambridge, MA
- EPSCoR National Conference, Speaker & Panelist, Panel on Successful Nanotechnology Center or Institute Formation in EPSCoR States, September 2005.

TEACHING EXPERIENCE

- 2012-present *Professor*, Chemical Engineering Department, Tuskegee University, Tuskegee, AL.
- 2007-2012 *Associate Professor*, Chemical Engineering Department, Tuskegee University, Tuskegee, AL.
- 2003-2007 *Assistant Professor*, Chemical Engineering Department, Tuskegee University, Tuskegee, AL.

- Fall 2002 *Adjunct Professor*, Chemical Engineering Program, Clark-Atlanta University, Atlanta, GA. Co-taught Material and Energy Balances.
- Fall 2000 *Supervisor for Undergraduate Student*, MIT. Designed research project for a junior in chemical engineering. Directed research of student.
- Summer 2000 *Supervisor for Undergraduate Student*, MIT. Designed research project for a rising junior in chemical engineering. Directed research of student.
- Spring 2000 *Teaching Assistant*, Integrated Chemical Engineering, MIT. Conducted office hours. Co-wrote problem sets. Graded problem sets. Lectured full class in absence of the instructor. Class size: 17 students.
- Fall 1999 *Graduate Grader*, Reaction Engineering, MIT. Graded problem sets for the chemical engineering department's graduate reaction engineering course with 2 other graders. Class size: ~ 50 students.
- Spring 1999 *Supervisor for Undergraduate Student*, MIT. Designed research project for a junior in chemical engineering. Directed research of student.
- Fall 1998 *Tutor*, MIT Tutorial Services Room, Assisted small groups of students (1-5) with undergraduate thermodynamics.

INDUSTRIAL EXPERIENCE

- 9/01-8/03 OFS Optics (formerly Lucent Technologies Bell Labs) Norcross, GA.– Optical Fiber Research and Development: Vapor Axial Deposition (VAD) Technology Group (9/02-8/03), Developed fluorine doping capability for VAD fiber. Characterized manufacturing dehydration/consolidation furnaces and made recommendations for improved operation. Modified Chemical Vapor Deposition (MCVD) Technology Group (9/01-9/02), Designed and implemented a hardware modification demonstrating a 10% improvement in a key, product quality metric for optical fiber performs. Developed a process for new, larger MCVD substrates meeting stricter requirements.
- Spring 1998 *MIT Practice School*, Rhone Poulenc Industrialization, Lyon, France. “Decantation of Reaction Products from Raney Nickel Catalyst”- Set up a bench scale experiment to measure viscosity of suspensions of catalyst in reaction product mixture using a Brookfield viscometer. Developed a CFD model using FLUENT to predict velocity and concentration patterns in industrial-scale decanters. Evaluated changing decanter configurations. Determined the applicability of CFD to predict concentrations of catalyst lost from the decanter.
- MIT Practice School*, Rhone Poulenc Industrialization, Lyon, France. “Micromixing in Reactors,” - Studied micromixing occurring at an injector in a reactor using a chemical probe system of reactions. Obtained data from the degree of segregation remaining using number of different injector designs and flow rates. Measured pressure drops in the injectors. Determined the optimum injector design. Made CFD computations to help interpret experimental results. Compared results with literature studies.

MIT Practice School, Dow Chemical Company, Freeport, TX . “Evaporation Crystallizers,”
- Using operation data, suggested a simple model to predict crystallizer behavior. Made recommendations to improve crystallizer to lengthen run times.

MIT Practice School, Dow Chemical Company, Freeport, TX .“Investigation of Chlorine Purification Unit,” - Constructed an Aspen model of a chlorine purification unit. Using operation data and the Aspen model, determined the cause of high impurities in chlorine.

Summer 1996 *Student Professional/Technical Trainee*, Ford Motor Company -- Environmental Quality Office Dearborn, MI. Initiated a company-wide analytical study to address environmental compliance issues. Collaborated with a team to quantitatively determine emissions from manufacturing facilities.

Summer 1994 *Student Professional/Technical Trainee*, Ford Motor Company -- Catalyst Research and Development Lab, Dearborn, MI. Studied the effects of contaminants on catalytic converter performance. Communicated pertinent findings through an internal publication.

Summer 1993 Union Carbide Plastics and Chemicals Co.- Safety Department, Port Lavaca, TX. Defined cathodic protection for a tank farm. Drafted a design to reduce the potentially hazardous flow rate of a hydrocarbon tank.

ACADEMIC STUDENT RESEARCH EXPERIENCE

1997-2001 Graduate *Research Assistant*, MIT, Advisors: Professor Klavs F. Jensen and Professor Martin A. Schmidt. Design, micro-fabrication, characterization and modeling of micro-chemical systems for liquid-liquid processes.

Summer 1995 *MIT Summer Research Program*, Massachusetts Institute of Technology -- Heparinase Lab, Cambridge, MA. Mentor: Professor Charles Cooney. Determined kinetic parameters of recombinant and mutant enzymes. Developed a reliable method for determining enzyme concentrations.

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

2005-present	American Society of Engineering Education (ASEE)
1992-1996, 1999-present	American Institute of Chemical Engineers (AIChE)
1992-1998	National Society of Black Engineers (NSBE)
1994-1996	Omega Chi Epsilon Chemical Engineering Honor Society

PROFESSIONAL SERVICE

2014-present	Accrediting Board for Engineering and Technology (ABET) Program Evaluator
2012-present	Chemical Engineering Education Publication Board
Fall 2007	Coordinated Environmental Restoration and Waste Management (ERWM) Workshop short course for professionals
Summer 2006	Coordinated ERWM Workshop for High School Teachers
2006-present	AIChE National Conference Session Co-chair
2005-present	NSF Panel Reviewer

2004-present	Reviewer for various scientific journals
2004-2007	Mentor, Mentor.net Scientific Community
2000-2001	Educational Technologies Group (funded by Microsoft), Vice President
2000-2001	Math and Science Enrichment Program for Youth, Instructor
1999	Ashdown Graduate Dormitory, Floor Officer
1999	MIT Tutorial Services Room, Tutor
1998-2000	Jensen Group, Safety Coordinator
1998-1999	MIT Black Graduate Student Association, Treasurer
1995-1996	TU Omega Chi Epsilon Chemical Engineering Honor Society, President
1994-1995	Delta Sigma Theta Sorority Scholarship Committee, Co-chairperson
1993-1994	TU Chapter of the National Society of Black Engineers, Secretary

GRADUATE STUDENT SUPERVISION

Baah, David, "Fabrication of a Graded Refractive Index Polymeric Material Using Microfluidics," M.S. Thesis, Chemistry, Summer 2008.

Baah, David, "Microfluidic Synthesis of Non-Spherical Microparticles," Ph.D. in Materials Science and Engineering, Spring 2013. (completed a postdoctoral fellow at Tuskegee University with Dr. N. Egiebor, currently Research Assistant Professor in chemical engineering at Tuskegee University)

Vickers, Dwayne, "Synthesis and Characterization of Cobalt Oxide Nanocomposites," M.S. Thesis, Mechanical Engineering, Spring 2008. (completed a PhD in chemical engineering at Northeastern University and postdoctoral fellowship at Harvard University, currently a fellow at the Broad Institute, Cambridge, MA)

Tigner, Julaunica, "Investigation of Traditional and Novel Methods for Cooling Laptop Computers," M.S. Thesis, Mechanical Engineering, Summer 2012.

Tigner, Julaunica, "A Carbon NanoFiber Sensor for Non-Enzymatic Glucose Detection," Ph.D. in Materials Science and Engineering, May 2016.

UNDERGRADUATE RESEARCH SUPERVISION

1. Alabama Louis Stokes Alliance for Minority Participation (ALSAMP) mentor for undergraduate research: Jahria Cox (2013 1st Place Winner ALSAMP Statewide Engineering Competition), Alayna Huckleby (2014 1st Place Winner ALSAMP Statewide Engineering Competition) and Alisha White (2015 2nd Place Winner ALSAMP Statewide Engineering Competition)
2. Undergraduate Research Trainees (2003-present): Adrienne Moore, Cotasha Wilson, Jeremy York, Robert Hardy, April Hollinger, Nicole Walker, Shamira Theodore, Kala Bean, Bernard Britton, Gwynetta Henderson, Shanita Wilburn, Dana Brock, Aaron Robinson, Elijah Pugh Jr., William Truss, Brandon Jeffrey, Daniel Douglas, Martenza Amery, Melanie Tolbert, Tobias Donnell, Trena Sharpe, Jahria Cox, Kassandra Shaw, Ria Askew, Carlisha Gould, Ashia Spence, Jahria Cox, Alayna Huckleby, Alisha White and Tierany English.

COURSES TAUGHT

- Heat Transfer (CENG 0310: Fall 2003 to present)
- Fluid Mechanics (CENG 0220: Spring 2014 to present)
- Introduction to Chemical Engineering (CENG 0110: Fall 2010 to Spring 2015)
- Introduction to Biochemical Engineering (CENG 0400: Fall 2007 to Spring 2014)

- Thermodynamics of Materials Systems (MSEG 0625: Fall 2008 to Fall 2012)
- Process Control and Instrumentation (CENG 0430: Fall 2003 to Spring 2011)
- Process Control and Instrumentation Lab (CENG 0440: Fall 2004 to Spring 2010)
- Concepts of Nanoscience (INTE 100A: Spring 2007 and Fall 2007)
- Senior Design (CENG 0490), Material and Energy Balances (Clark Atlanta University)

EXTERNAL FUNDING

(PI refers to TU PI if another university is listed)

- Distinguished Professional Endowed Chair (DPEC) Award from Delta Sigma Theta Sorority, Inc., Awarded to Dr. Vivian Carter (PI), \$200K, 8/2017-7/2019, Institutional Lead.
- Senior Leadership Academy Fellowship through the Council of Independent Colleges and the American Academic Leadership Institute, American Express Foundation, \$3,300, 7/2017-6/2018, Recipient.
- Building Fiscal and Institutional Effectiveness Capacity at Tuskegee University Through Strategic Partnerships, UNCF, \$16.5K. 9/1/16-4/30/17, PI.
- Development of an Integrated Microfluidic Ion-specific Carbon Nanofiber Array Electrode Biosensor for Point-of-Care Clinical Diagnostics, UNCFSP/NASA, \$300K. 11/2011-10/2014, PI.
- National Science and Technology Initiative Grant, NSTI/UNCFSP/NASA, \$60K. 09/2010-08/2012, PI.
- IGERT: Nanomedicine Science and Technology, NSF/Northeastern University, \$300K. 09/2010-09/2016, PI.
- REESE: Connection, Community and Engagement in STEM Education, NSF, \$200K. 08/2009-09/2015, PI.
- Nanoparticle Enhanced Phase Change Materials, DOE/Auburn University, \$180K. 06/2010-08/2013, PI.
- Microfluidic Synthesis and Rheological Characterization of Non-Spherical Nanostructures, MIT Institute for Soldier Nanotechnology, 08/2008-07/2010, \$190K, PI.
- HBCU-RISE: Strengthening the Ph.D. Program in Materials Science and Engineering Program at TU, NSF, \$1M. 01/2009-12/2010, co-PI.
- PREM: A Research and Educational Partnership in Nanomaterials between Tuskegee University and Cornell University, NSF, \$2.0M. 08/2006-07/2011, senior personnel.
- RISE: Enhancement of Research and Infrastructure in the Materials Science and Engineering Program at Tuskegee University, NSF/TU, 09/2006-12/2008, \$50K, PI.
- NIRT: Multiphase Functional Nanomaterials, NSF, 08/2004-7/2008, \$1.3M, PI (originally Co-PI).
- Research, Curriculum, Development and Training for ER/WM at Tuskegee University, DOE/NNSA, 08/2005-07/2008, \$400K, Co-PI.
- Ethics of the Nanoscale, NSF/Auburn University, 01/2006-12/2007, \$20K, PI.
- SGER: Microfluidics-based Immunosensors for Steroid Hormone Detection, NSF, 07/2005-01/2007, \$40K, PI.

INTELLECTUAL PROPERTY

Kyung C. Kwon, Nader Vahdat, Tamara M. Floyd-Smith, Legand L. Burge, Jr. and Paul Jones (2010). "Capillary Viscometers for use with Newtonian and non-Newtonian Fluids," Patent No. 7730769.

SELECTED JOURNAL AND BOOK PUBLICATIONS

Tigner, J.A., English, T. and T. Floyd-Smith, "Cultivating the STEM Pipeline by Translating Glucose Sensor Research into a Hands-On Outreach Activity," *Education for Chemical Engineers*, in press.

Wilson, D., D. Jones, F. Bocell, J. Crawford, M. Kim, N. Veilleux, T. Floyd-Smith, R. Bates and M. Plett, "Belonging and Academic Engagement Among Undergraduate STEM Students: A Multi-Institutional Study," *Research in Higher Education*, 2015, (56) 750.

Floyd-Smith, T., S. Begum, N. Vahdat, Q. P. He, K. Kwon, J. Mbah and A. Smith. "Chemical Engineering at Tuskegee University," *Chemical Engineering Education*, 2015, Vol. 1 (Winter Issue).

Baah, D., Donnell, T., Srinivasan, S. and Floyd-Smith, T. "Stop Flow Lithography (SFL) Synthesis and Characterization of Structured Microparticles," *Journal of Nanomaterials*, 2014, (17) 431.

Wilson, D., Jones, D. Kim, M.J., Allendoerfer, C., Bates, R., Crawford, J., Floyd-Smith, T., Plett, M. and Veilleux, N., "The Link Between Cocurricular Activities and Academic Engagement in Engineering Education," *Journal of Engineering Education*, 2014, (103) 625.

Baah, David and Tamara Floyd-Smith, "Microfluidics for Particle Synthesis from Photocrosslinkable Materials," *Microfluidics and Nanofluidics*, 2014, (17) 431.

Baah, David, Tobias Donnell, Julaunica Tigner and Tamara Floyd-Smith, "Stop Flow Lithography Synthesis of Non-Spherical Metal Oxide Particles," *Particuology*, 2013, (14) 91.

Julaunica Tigner, Mahmoud Moeini Sedeh, Trena Sharpe, Alexandria Bufford and Tamara Floyd-Smith, "Analysis of a Platform for Thermal Management Studies of Microelectronic Cooling Methods," *Applied Thermal Engineering*, 2013, (60) 88.

Cheryl Allendoerfer, Denise Wilson, Rebecca Bates, Joy Crawford, Denise Jones, Tamara Floyd-Smith, Melani Plett, Elaine Scott and Nanette Veilleux, "Strategic Pathways for Success: The Influence of Outside Community on Academic Engagement," *Journal of Engineering Education*, July 2012.

David Baah, Julaunica Tigner, Kala Bean, Bernard Britton and Tamara Floyd-Smith, "Microfluidic Synthesis and Post Processing of Non-Spherical Polymeric Microparticles," *Microfluidics and Nanofluidics*, 2012, (12) 657.

David Baah, Julaunica Tigner, Kala Bean, Gwynetta Henderson, Nicole Walker, Bernard Britton, Tamara Floyd-Smith, "Preparation of Planar Graded Refractive Index Nanocomposites Using Microfluidics," *Materials Science and Engineering B*, 2011, (176) 883.

Ki Wan Bong, Stephen C. Chapin, Daniel C. Pregibon, David Baah, Tamara M. Floyd-Smith and Patrick S. Doyle, "Compressed-air Flow Control System," *Lab on a Chip*, 2011, (11) 743.

Tamara Floyd-Smith, David Baah, James Bradley, Michelle Sidler, Rosine Hall and Christine Curtis, "A Synchronous Distance Education Course for Non-Scientists Coordinated Among Three Universities," *Chemical Engineering Education*, 2010, (44) 30.

Dwayne Vickers, Lynden Archer and Tamara Floyd-Smith "Synthesis and Characterization of Cubic Cobalt Oxide Nanocomposite Fluids," *Colloids and Surfaces A*, 2009, (348) 39.

Tamara Floyd-Smith, David Baah, Kala Bean, April Hollinger, Dwayne Vickers and Jeremy York, "Principles of Nanotechnology for Middle and High School Students," *Journal of Materials Education*, 2009, (31) 167.

D. Baah, D. Vickers, A. Hollinger, T. Floyd-Smith, "Patterned Dispersion of Nanoparticles in Hydrogels using Microfluidics," *Materials Letters*, 2008, (62) 3833.

Willie F. Harper, Jr., Tamara Floyd-Smith and Taewoo Yi, "Chemical Processes During Biological Wastewater Treatment (Chapter 16), *Fate of Pharmaceuticals in the Environment and in Water Treatment Systems*, CRC Press: New York, NY, 2008.

Kyung C. Kwon, Yoonkook Park, Tamara Floyd, Nader Vahdat, Erica Jackson and Paul Jones, "Rheological Characterization of Shear-Thinning Fluids with a Novel Viscosity Equation of a Tank-tube Viscometer," *Applied Rheology*, 2007, (17) 51413.

K.C. Kwon, Y. Park, T. Floyd-Smith, N. Vahdat, E. Jackson, C. Burnell, T. Allen and P. Jones, "Rheological Characterization of Non-Newtonian Fluids With a Novel Viscometer," *Chemical Engineering Communications*, 2007, (195) 687-705.

J. Golden*, Tamara M. Floyd-Smith*, D. Mott, F. S. Ligler, "Target Delivery in a Microfluidic Immunosensor," *Biosensors and Bioelectronics*, 2007, (22) 2763-2767. (*authors contributed equally to this work).

Tamara M. Floyd-Smith, K.C. Kwon, J. A. Burmester, F. Dale, N. Vahdat, P. Jones, "Demonstration and Assessment of a Simple Viscosity Experiment for High School Science Classes," *Chemical Engineering Education*, Summer 2006

Tamara M. Floyd-Smith, J. Golden, P. Howell, F. S. Ligler, "Characterization of Passive Microfluidic Mixers Fabricated Using Soft Lithography," *Microfluidics and Nanofluidics*, 2006, (2) 180-183.

Tamara M. Floyd, M. A. Schmidt, K. F. Jensen, "A Silicon Micromixer with Infrared Detection for Studies of Liquid Phase Reactions," *Industrial & Engineering Chemistry Research*, 2005, (44), 2351-2358.

Rebecca J. Jackman, Tamara M. Floyd, Reza Ghodssi, Martin A. Schmidt, Klavs F. Jensen, "Microfluidic Systems with On-line UV Detection Fabricated in Photodefinable Epoxy," *J. Micromech. Microeng*, 2001, (11) 263-269.

SELECTED PRESENTATIONS AND CONFERENCE PROCEEDINGS

Melani Plett, Denise Wilson, Rebecca A. Bates, Cheryl Allendoerfer, Diane Carlson Jones, Tamara Floyd-Smith, Nanette M. Veilleux, and Caitlin Hawkinson Wasilewski, "People Matter: The Role of Peers and Faculty in Students' Academic Engagement," ASEE Annual Conference, Indianapolis, IN, June 2014. (oral presentation and published proceedings paper, Best Paper Award for New Engineering Educators Division)

Julaunica Tigner, Trena Sharpe, Melanie Tolbert, Jessica Koehne and Tamara Floyd-Smith, "Towards a Carbon NanoFiber (CNF) Sensor with Integrated Microfluidics for Biomarker Detection," 3rd International Conference on Nanotek and Expo, Las Vegas, NV, December 2013. (oral presentation and published abstract)

Tamara Floyd-Smith, D. Wilson, D. Jones, M. Plett, N. Veilleux and R. Bates, "Investigating Belonging for STEM Students," AIChE Annual Meeting, San Francisco, CA, November 2013. (requested poster presentation)

Tamara Floyd-Smith, Martenza Amey, Daniel Douglas and William Truss, "Pump Characterization for

Integration with a Microfabricated CNF Array Sensor,” AICHE Annual Meeting, San Francisco, CA, November 2013. (requested poster presentation)

Denise Wilson, Cheryl Allendoerfer, M.J. Kim, Elizabeth Burpee, Rebecca Bates, Tamara Floyd Smith, Melani Plett and Nanette Veilleux, “STEM Students Outside the Classroom: The Role of Institution in Defining Extracurricular Activity,” ASEE Annual Conference, Atlanta, GA, June 2013. (oral presentation)

Tamara Floyd-Smith, Denise Wilson, Diane Jones, Melani Plett, Nanette Veilleux and Rebecca Bates, “Understanding Belonging to Improve Persistence: A Gender Study,” World Engineering Education Forum, Buenos Aires, Argentina, October 2012. (oral presentation)

Tamara Floyd Smith, Denise Wilson, Diane Jones, Melani Plett, Rebecca Bates and Nanette Veilleux, “Investigation of Belonging for Engineering and Science Undergraduates by Year in School,” ASEE Annual Conference, San Antonio, TX, June 2012. (oral presentation)

D. Baah, J. Tigner, B. Britton and T. Floyd-Smith, “Microfluidics for Controlled Production of Thin Films and Particles,” Proceedings of the ASME 2012 3rd Micro/Nanoscale Heat & Mass Transfer International Conference in Atlanta, GA, March 2012. (oral presentation)

J. Tigner and T. Floyd-Smith, “Feasibility Assessment of the Integration of Microfluidics and NEPCM for Cooling Microelectronics Systems,” Proceedings of the ASME 2012 3rd Micro/Nanoscale Heat & Mass Transfer International Conference in Atlanta, GA, March 2012. (oral presentation)

D. Baah, J. Tigner and T. Floyd-Smith, “Microfluidic Synthesis of Non-Spherical Polymeric and Composite Particles,” AICHE National Meeting, Minneapolis, MN, 2011 (oral presentation).

Tamara Floyd-Smith, D. Wilson, D. Jones, M. Plett et al. “Gender Similarities and Differences In Belonging Among Engineering Graduating Seniors at Two Universities,” AICHE National Meeting, Minneapolis, MN, 2011 (oral presentation)

J. Tigner and Tamara Floyd Smith, “Comparison of Microfluidic and Traditional Techniques for Cooling High Heat Flux Microelectronic Systems, AICHE National Meeting, Minneapolis, MN, 2011 (poster presentation)

Melanie Plett, Diane Carlson Jones, Joy Crawford, Tamara Floyd Smith, et al. “STEM Seniors: Strong Connections to Community Are Associated with Identity and Positive Affect in the Classroom.” ASEE National Meeting, Vancouver, B.C. Canada 2011 (oral presentation and proceedings paper).

T. Floyd-Smith and Nader Vahdat, “Gulf Coast Oil Spill Instruction at Tuskegee University.” ASEE National Meeting, Vancouver, B.C. Canada 2011 (oral presentation and proceedings paper).

T. Floyd-Smith, David Baah and Julaunica Tigner, “Microfluidic Synthesis of Non-Spherical Polymeric Microparticles, AICHE National Meeting, Salt Lake City, UT 2010 (oral presentation).

T. Floyd-Smith, Denise Wilson, Ryan Campbell, etc., “A Multi-Institutional Study of Connection, Community and Engagement in STEM Education: Conceptual Model Development, ASEE National Meeting, Louisville, KY 2010 (oral presentation and proceedings paper).

T. Floyd-Smith, David Baah, Kala Bean, April Hollinger, Dwayne Vickers and Jeremy York, “Principles of Nanotechnology for Middle and High School Students,” AICHE National Meeting, Nashville, TN, 2009 (oral presentation).

D. Vickers, T. Floyd-Smith, L. Archer, "Synthesis and Characterization of Cobalt Oxide Nanocomposite Fluids," AIChE National Meeting, Philadelphia, PA, 2008 (oral presentation and proceedings paper).

T. Floyd-Smith, D. Baah, J. Bradley, M. Sidler, C. Curtis, "Concepts of Nanoscience for Non-Scientists: A Collaborative Distance Education Course," AIChE National Meeting, Philadelphia, PA, 2008 (oral presentation and proceedings paper).

D. Vickers, T. Floyd-Smith, L. Archer, "Synthesis and Characterization of Cobalt Oxide Nanocomposites," AIChE National Meeting, Salt Lake City, UT, 2007 (oral presentation).

T. Floyd-Smith, K.C. Kwon, A. Moore, C. Wilson and J. York, "Experimental Outreach Activities to Educate High School Students and Attract them to the Engineering Profession," AIChE National Meeting, San Francisco, CA, 2006 (oral presentation).

T. Floyd-Smith, J. York, L. A. Archer, and D. Dean, "Polystyrene Nanoparticles Dispersed in Hydrogels Using Microfluidics Technology," AIChE National Meeting, Cincinnati, OH, 2005 (oral presentation).

Tamara M. Floyd, K. Sapsford, F. Ligler, L. Archer, "Microfluidic Mixers for Kinetics Studies, Materials Processing and Biosensor Applications," American Chemical Society National Meeting, San Diego, CA, 2005 (poster presentation).

Tamara M. Floyd, Klavs F. Jensen, Martin A. Schmidt, "A Silicon Microchip for Infrared Transmission Kinetics Studies of Rapid Homogeneous Liquid Reactions," MicroTotal Analysis Systems 2001, Monterey, CA, (oral presentation and proceedings paper).

Tamara M. Floyd, K. Jensen, M. Schmidt, "Implications of Interfacial and Transport Phenomena for Liquid-Liquid Microchemical Systems," Annual AIChE Conference, Los Angeles, California, 2000 (oral presentation).

Tamara M. Floyd, R. Jackman, K. Jensen, "Microchemical Systems in Chemical Engineering Undergraduate Education," Annual AIChE Conference, Topical: Chemical Engineering in the New Millennium. Los Angeles, California, 2000 (oral presentation and proceedings paper).

Tamara M. Floyd, M. Losey, S. Firebaugh, K. Jensen, M. Schmidt, "Novel Liquid Phase Microreactors for Safe Production of Hazardous Specialty Chemicals," Third International Conference on Microreaction Technology. Frankfurt, Germany, 1999 (oral presentation and proceedings paper).