

Curriculum Vitae
Donald D. Carpenter
Associate Professor of Civil Engineering

Address

Donald D. Carpenter, Ph.D., P.E., LEED AP
Department of Civil Engineering
Lawrence Technological University
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Education

Ph.D. – Civil Engineering, University of Michigan, Ann Arbor, MI, 2001

Major: Environmental and Water Resources Engineering

Thesis: *Wave Energy Dissipation in Great Lakes Harbor Entrances.*

M.S. – Civil Engineering, Oregon State University, Corvallis, OR, 1996

Major: Ocean Engineering

Thesis: *Application of beach and dune erosion computer models on the Oregon Coast.*

B.S. – Civil Engineering, Purdue University, West Lafayette, IN, 1993

Major: Environmental Engineering & Hydraulic Engineering

Academic Appointments - Lawrence Technological University

Associate Professor, Department of Civil Engineering Lawrence Tech University, Southfield, MI	07/2007 – present
Assistant Professor, Department of Civil Engineering Lawrence Tech University, Southfield, MI	08/2001 – 06/2007
Adjunct Professor, Department of Civil Engineering Lawrence Tech University, Southfield, MI	08/2000 – 06/2001
Director of Assessment Lawrence Tech University, Southfield, MI	08/2009 – present
Director, Center for Teaching & Learning Lawrence Tech University, Southfield, MI	01/2007 – 08/2008
Chair, Educational Innovation Collaborative Lawrence Tech University, Southfield, MI	08/2003 – 12/2006
Kern Fellow for Entrepreneurial Education	03/2006 – present

Academic Appointments - Other

Courtesy Research Professor, Institute for Environmental Studies University of South Florida, Tampa, FL	08/2008 – present
Adjunct Assistant Professor & Graduate Faculty Member, Civil Engineering Department University of Windsor, Windsor, ONT	01/2006 – present
Adjunct Faculty - Mathematics, Physics, and Engineering Dept. Jackson Community College, Jackson, MI	05/1997 – 12/2000

Graduate Student Instructor and Graduate Student Mentor
University of Michigan, Ann Arbor, MI

01/1996 - 12/2000

Recent Professional Appointments

Senior Technical Consultant
HSW Engineering, Inc.

01/2005 - present (as needed)

Senior Associate Engineer
Environmental Consulting & Technology, Inc., Detroit, MI

02/2002 - 12/2004 (as needed)

Project Engineer
Limno-Tech, Inc., Ann Arbor, MI

01/2001 - 10/2001

Professional Registrations

Leadership in Energy and Environmental Design Accredited Professional (LEED AP), Green Building Certification Institute, 2009.

Registered Professional Engineer (PE #6201056764), Michigan Board of Professional Engineers, 2009.

Referred Journal Publications

Harding, T.S., **Carpenter, D.**, and Finelli, C.J. (2009). "An Exploratory Investigation of the Ethical Behavior of Engineering Undergraduates" Submitted for publication in *Journal of Engineering Education*, 10/08/09.

Carpenter, D. D. & Kaluvakolanu, P. (2009) "Effect of Roof Surface Type on Stormwater Run-off from Full-Scale Roofs in a Temperate Climate." Submitted for publication in *Journal of Irrigation and Drainage*, 9/25/09.

Carpenter, D., Harding, T.S., and Finelli, C.J. (2009). "Using Research to Identify Academic Dishonesty Deterrents in Undergraduate Engineering." Accepted for publication in the *International Journal of Engineering Education* 07/10/09.

Carpenter, D.D. & Hallam, L. (2009). "Impact of Engineered Soil Characteristics on Bioretention Cell Performance." Manuscript accepted for publication in *Journal of Hydrologic Engineering*. 01/30/2009.

Mayhew, M. J., Hubbard, S. M., Finelli, C. J., Harding, T. S., & **Carpenter, D. D.** (2009). "Using structural equations modeling to validate the theory of planned behavior as a model for predicting student cheating with implications for researchers interested in transitional versus consolidated phases of moral reasoning development." *Review in Higher Education*, 32(4), 441-468.

Harding, T. S., Mayhew, M. M., Finelli, C. J., & **Carpenter, D. D.** (2007) "The theory of planned behavior as a model of academic dishonesty in humanities and engineering undergraduates." *Ethics and Behavior*, 17 (4).

Slate, L., Shields, D., Schwartz, J., **Carpenter, D.**, & Freeman, G. (2007), "Engineering Design Standards for Stream Channel Modification or Restoration." *Journal of Hydraulic Engineering*, 133(10), pp 1-4.

Carpenter, D.D., T. Harding, C. Finelli, H. Passow, and S. Montgomery (2006), "Engineering Students' Perceptions of and Attitudes Towards Cheating," *Journal of Engineering Education*, 95(3), 181-194.

Passow, H.J., M. Mayhew, C.J. Finelli, T.S. Harding, and **D.D. Carpenter** (2006), "Factors Influencing Engineering Students' Decisions to Cheat by Type of Assessment." *Research in Higher Education*, 47(7), 643-684.

Harding, T., **D. Carpenter**, C. Finelli, and H. Passow (2004), "Does Academic Dishonesty Relate to Unethical Behavior in Professional Practice?" *Journal of Science and Engineering Ethics*, 10(2) pp 311- 324.

Carpenter, D.D., S.K. Sinha, K. Brennan, and L. Slate (2003), "Urban Stream Restoration." *Journal of Hydraulic Engineering*, 129(7) pp 491-493.

Carpenter, D.D. (2001), "I am a good teacher. Or am I?" *ASCE Journal of Professional Issues*, 127(4), pp. 141-143.

Meadows, G. L. Meadows, **D.D. Carpenter**, W.L. Wood, and B. Caufield (1998), "The Great Lakes Groin Performance Experiment, Phase II: Effect of Groin Field." *Shore and Beach*. vol. 66, no. 2.

Conference Publications (Peer Reviewed)

Harding, T.S., Finelli, C., Sutkus, J., and **Carpenter, D.** (2009) "Engineering Culture and the Ethical Development of Undergraduate Students," *Proceedings of the Research in Engineering Education Symposium*, Cairn, Australia.

Carpenter, D.D., Yang, L., Mades, D., Watson, K., and Flannery, S. (2009) "Development of an Ecohydraulics Model to Evaluate the Impact of Water Withdrawals on Estuary Salinity and Thermal Regimes," *Proceedings of the 33rd International Association of Hydraulic Research Congress*, Vancouver, BC.

Carpenter, D.D., Watson, K., Mades, D., and Yang, L. (2009) "Evaluating the Impact of Water Withdrawals on Water Resource Values," *Proceedings of the 33rd International Association of Hydraulic Research Congress*, Vancouver, BC.

Calappi, T., Miller, C., and **Carpenter, D.** (2009) "Cumulative Pier Scour at Michigan Bridge Crossings: Evaluation of the Scour Rate," *Proceedings of the 33rd International Association of Hydraulic Research Congress*, Vancouver, BC.

Sutkus, J., **Carpenter, D.**, Finelli, C. & Harding, T. (2009) "An Examination of Student Experiences Related to Engineering Ethics: Initial Findings," *Proceedings of the 2009 American Society of Engineering Education Annual Conference*, Austin, TX.

Schwartz, J., Niezgodna, S., Slate, L., **Carpenter, D.**, Annable, W., Wynn, T., Pomeroy, C., & McPhillips, M. "A Monitoring and Assessment Framework to Evaluate Stream Restoration Needs in Urbanizing Watersheds," *Proceedings of the 2009 World Environmental and Water Resources Congress*, Kansas City, KS.

Carpenter, D. D. & Kaluvakolanu (2009), "The Lawrence Technological University Greenroof Performance Evaluation Project." *Proceedings of the 2009 World Environmental and Water Resources Congress*, Kansas City, KS.

Gerhart, A. & **Carpenter, D. D.** (2008), "Creative Problem Solving" *Proceedings of the 2008 ASEE Annual Conference & Exposition*, Pittsburgh, PA.

Sutkus, J. A., **Carpenter, D. D.**, Finelli, C. J., & Harding, T. S. (2008). "Work in Progress: Building the Survey of Engineering Ethical Development (SEED) instrument." *Proceeding of the 38th Frontiers in Education Conference*, Saratoga, NY.

Carpenter, D. D. (2008), "A case study on the use of LEED, LID and stormwater BMPs in the redevelopment of a Midwestern urban campus." *Proceedings of the 2008 National LID Annual Conference*, Seattle, WA.

Hallam, L., & **Carpenter, D.D.** (2008), "A Comparison of Engineered Soil Mixtures on Bioretention Cell Performance." *Proceedings of the 2008 National LID Annual Conference*, Seattle, WA.

Carpenter, D. D. & Hallam, L. (2008), "An investigation of rain garden planting mixture performance and the implications for design." *Proceedings of the 2008 National LID Annual Conference*, Seattle, WA.

Finelli, C. J., Sutkus, J. A., **Carpenter, D. D.**, & Harding, T. S. (2008). *A longitudinal study of the ethical development of engineering and non-engineering students at a national research university*. Proceedings of the Research in Engineering Education Symposium, Davos, Switzerland.

Carpenter, D. D., Finelli, C. J., & Harding, T. S. (2008). *Investigating the linkages between unethical professional behaviors and engineering undergraduate cheating*. Proceedings of the Research in Engineering Education Symposium, Davos, Switzerland.

Finelli, C. J., Harding, T. S., & **Carpenter, D. D.** (2007), "Academic integrity among engineering undergraduates: six years of research." *Proceedings of the 2007 ASEE Annual Conference & Exposition*, Honolulu, HI.

Carpenter, D. & Feierfeil, G. (2007), "Cultivating and entrepreneurial mindset through interdisciplinary collaboration and networking." *Proceedings of the 2007 ASEE Annual Conference & Exposition*, Honolulu, HI.

Carpenter, D. (2007), "Using a hybrid classroom environment for the instruction of ethics and contemporary civil engineering issues." *Proceedings of the 2007 ASEE Annual Conference & Exposition, Honolulu, HI.*

Schwartz, J.S., Niezgoda, S.L., Slate, L.O., **Carpenter, D. D.**, Prager, R., McPhillips, M., & Lucas, S. (2007), "Urban Stream Restoration: Guidance for Monitoring and Assessment Protocols." *Proceedings of the 2007 World Environmental and Water Resources Congress, Tampa, FL.*

Harding, T. S., Finelli, C. J., & **Carpenter, D. D.** (2006), "Cheating in college and its influence on ethical behavior in professional engineering practice." *Proceedings of the 2006 ASEE Annual Conference & Exposition, Chicago, IL.*

Harding, T. S., Finelli, C. J., **Carpenter, D. D.**, & Mayhew, M. J. (2006), "Examining the underlying motivations of engineering undergraduates to behave unethically." *Proceedings of the 2006 ASEE Annual Conference & Exposition, Chicago, IL.*

Gerhart, A. & **Carpenter, D.D.** (2006), "An Innovative Learning Experience – The Detroit To Pittsburgh Canoe Trip." *Proceeding of the 2006 ASEE Annual Conference and Exposition. Chicago, IL.*

Carpenter, D. D., Harding, T. S., & Finelli, C. J. (2006), "The implications of academic dishonesty in undergraduate engineering on professional ethical behavior." *Proceedings of the 2006 World Environmental and Water Resources Congress, Omaha, NB.*

Schwartz, J.S., Niezgoda, S.L., Slate, L.O., Prager, R., **Carpenter, D. D.**, McPhillips, M., & Lucas, S. (2006), "Urban Stream Restoration: Guidance for Monitoring and Assessment Protocols." *Proceedings of the 2006 World Environmental and Water Resources Congress, Omaha, NB.*

Carpenter, D. D., McPhillips, M., Prager, R., Schwartz, J. & Slate, L. (2006). Ethical & Professional Issues Associated with River Restoration. *Proceedings of the 2006 World Environmental and Water Resources Congress, Omaha, NB.*

Harding, T.S., **D.D. Carpenter**, C.J. Finelli, and M.J. Mayhew (2005), "Cheating in college and the workplace: An examination of engineering undergraduates' ethical behavior." *Proceedings of the 2005 ASEE Annual Conference and Exposition.* Portland, OR.

Carpenter, D.D. (2005), "Using Learning Objectives for Course Design and Curriculum Improvement" *Proceedings of the 2005 ASEE Annual Conference and Exposition, Portland, OR.*

Carpenter, D.D., A.L. Gerhart, L. Anneberg, and J. Rohrback (2005), "Engineering Exploration Days – Recruiting High School Students Into Engineering through focused K-12 Outreach Efforts" *Proceedings of the 2005 ASEE Annual Conference and Exposition, Portland, OR.*

Carpenter, D.D., T.S. Harding, C.J. Finelli, and M. Mayhew (2005), "An investigation into the effect of an institutional honor code policy on academic behavior." *Proceedings of the 35th ASEE/IEEE Frontiers in Education Conference, Indianapolis, IN, 2005.*

Finelli, C.J., J.L. Szwalek, **D.D. Carpenter**, and T.S. Harding (2005), "A Case Study on Research in Engineering Education: Designing, Testing, and Administering the PACES-2 Survey on Academic Integrity" *Proceedings of the 35th ASEE/IEEE Frontiers in Education Conference, Indianapolis, IN, 2005.*

Passow, H.J., M.J. Mayhew, C.J. Finelli, **D.D. Carpenter**, and T.S. Harding (2005), "Factors influencing engineering students' decisions to cheat vary by type of assignment." *Proceedings of the 2005 Annual Meeting of the American Educational Research Association.* Montreal, Quebec, Canada.

Etter, B.K., T.S. Harding, C.J. Finelli, **D.D. Carpenter (presenting author)** (2004), "The Role of Moral Philosophy in Promoting Academic Integrity Among Engineering Students," *Proceedings of the 34th ASEE/IEEE Frontiers in Education Conference, Savannah, GA.*

Harding, T., **D. Carpenter**, C. Finelli, and H. Passow (2004), "The Influence of Academic Dishonesty on Ethical Decision-Making in the Workplace: A Study of Engineering Students" *Proceedings of the 2004 ASEE Annual Conference and Exposition, Salt Lake City, UT.*

Carpenter, D.D., J. Schwartz, L. Slate, S. Sinha, K. Brennan, and J. MacBroom (2004), "The Status of Urban Stream Restoration in the United States," *Proceedings of the 2004 ASCE World Water & Environmental Resources Congress*, Salt Lake City, UT.

Passow, H.J., Mayhew, M., Finelli, C.J., **Carpenter, D.D.**, and Harding, T.S. (2004), "Factors influencing engineering students' decisions to cheat vary by type of assignment," *Proceedings of the 29th Annual Conference of the Association for the Study of Higher Education Conference*, Kansas City, Missouri.

Harding, T., **D. Carpenter (presenting author)**, C. Finelli, and H. Passow (2003), "The Relationship Between Academic Dishonesty and Ethical Behavior in Engineering Practice." *Proceedings of the 3rd Ethics and Social Responsibility in Engineering and Technology Conference*, New Orleans, LA.

Harding, T.S., H. Passow, **D.D. Carpenter (presenting author)**, and C. Finelli (2003), "An Examination of the Relationship between Academic Dishonesty & Professional Behavior." *Proceedings of the 33rd ASEE/IEEE Frontiers in Education Conference*, Boulder, CO.

Carpenter, D.D., S.J. Wright, and J. Selegean (presenting author) (2003), "An Investigation of Pocket Wave Absorbers." *Proceedings of the 3rd International Coastal Structures Conference*, Portland, OR.

Finelli, C., T.S. Harding, **D.D. Carpenter**, H. Passow, and E. Dei (2003), "Students' Perceptions of both the certainty and deterrent effect of potential consequences of cheating." *Proceedings of the 2003 ASEE Annual Conference and Exposition*, Nashville, TN.

Hanson, J., **D.D. Carpenter**, and T. Rizk, (2003), Engineering the World: Hands-on Experimentation for Civil Engineering K-12 Outreach. *Proceedings of the 2003 ASEE Annual Conference and Exposition*, Nashville, TN.

Schwartz, J., **D.D. Carpenter**, L. Slate, S. Sinha, K. Brennan, and J. MacBroom (2003), "Research Needs for Improvement of Principals and Practices in Urban Stream Restoration." *Proceedings of the 2003 EWRI World Water & Environmental Resources Congress*, Philadelphia, PA.

Carpenter, D.D., L. Slate, J. Schwartz, S. Sinha, K. Brennan, and J. MacBroom (2003), "Regional preferences and accepted practices in urban stream restoration: An Overview of Case Studies." *Proceedings of the 2003 EWRI World Water & Environmental Resources Congress*, Philadelphia, PA.

Slate, L., K. Bowers, **D.D. Carpenter**, and J. Gracie (2003), "Urban Stream Restoration: What Makes a Project Successful?" *Proceedings of the 2003 EWRI World Water & Environmental Resources Congress*, Philadelphia, PA.

Carpenter, D.D. (2003), "Hands-on experiments for teaching children about erosion, watershed management, and water resources." *Proceeding of the 2003 EWRI World Water & Environmental Resources Congress*, Philadelphia, PA.

Carpenter D.D., T.S. Harding, S. Montgomery, Nicholas Steneck, and E. Dei (2002), "Student Perceptions of Institutional and Instructor Based Techniques for Dealing with Academic Dishonesty" *Proceedings of the 32nd ASEE/IEEE Frontiers in Education Conference*, Boston, MA.

Harding, T.S., **Carpenter D.D.**, S. Montgomery, and Nick Steneck (2002), "A Comparison of the Role of Academic Dishonesty Policies of Several Colleges on the Cheating Behavior of Engineering and Pre-Engineering Students." *Proceedings of the 32nd ASEE/IEEE Frontiers in Education Conference*, Boston, MA.

Budny, D., M. Krishnan, S. Das, M. Paulik, R. DeLyser, H. Khan, D. Elger, C. Yokomoto, J. Rowland, M. Litt, and **D. Carpenter** (2002), "Assessment: When is Enough, Enough?" *Proceedings of the 32nd ASEE/IEEE Frontiers in Education Conference*, Boston, MA.

Carpenter, D.D., T.S. Harding, S.M. Montgomery, and N. Steneck (2002), "P.A.C.E.S. – A study on academic integrity among engineering undergraduates." *Proceedings of the 2002 ASEE Annual Conference and Exposition*, Montreal, Quebec.

Wright, S.J., **D.D. Carpenter**, and A. Cunningham (2001), "Laboratory Model Studies of Wave Energy Dissipation in Harbors." *4th International Symposium on Ocean Wave Measurement and Analysis*, San Francisco, CA.

Carpenter D.D., S.J. Wright, and J. Selegean (2001), "Laboratory and Field Investigation of Pocket Wave Absorbers." *Proceedings of the 2001 Coastal Zone Conference*, Cleveland, OH.

Harding, T.S., **D.D. Carpenter**, S.M. Montgomery, and N.H. Stenneck (2001), "The Current State of Research on Academic Dishonesty Among Engineering Students." *Proceedings of the 31st ASEE/IEEE Frontiers in Education Conference*, Kansas City, MO.

Ulasir M., **D.D. Carpenter (presenting author)**, and S.J. Wright (2001), "CEAL: Cooperative learning coupled with hands on experimentation in a fluid mechanics laboratory," *Proceedings of the 2001 ASEE Annual Conference and Exposition*, Albuquerque, NM.

Carpenter, D.D. and N. Katopodes (2001), "An assessment of the redesigned computational methods course at the University of Michigan." *Proceedings of the 2001 ASEE Annual Conference and Exposition*, Albuquerque, NM.

Carpenter, D.D. (2000), "Employing Graduate Students at Two-year Colleges: A Missed Opportunity?" *Proceedings of the 2000 ASEE Annual Conference and Exposition*, St. Louis, MO.

Carpenter, D.D. (2000), "Ways a graduate student can improve their teaching portfolio." *Proceedings of the 2000 ASEE Annual Conference and Exposition*, St. Louis, MO.

Meadows, G., **D.D. Carpenter**, et al. (1997). "A field investigation of functional design parameter influence on groin performance," *Proceedings of the 1997 Coastal Dynamics Conference*, Southampton, England.

Presentations/Publications (Not Peer Reviewed)

Carpenter, D. D., Harding, T.S., Finelli, C. J., Sutkus, J., & Holsapple, M. (2009). *A Holistic Assessment of the Ethical Development of Engineering Undergraduates*. A poster presented at the 2009 NSF Engineering Education Awardees Conference, Reston, VA.

Carpenter, D. (2009) *Ethics and Professional Issues*. Invited workshop for Summer Undergraduate Research Fellows at National Institute of Standards and Technology. Gaithersburg, MD. 07/8/09.

Carpenter, D. (2009), *Investigation of Rain Garden Planting Mixture Design*. Presentation at the Sarasota County LID Speaker Series, April 27, 2009.

Carpenter, D. (2009) *LEED, Water Resources, and Site Development*. Presentation at the GS&P Luncheon, Tampa, FL, February 23, 2009.

Carpenter, D. (2009) *Low Impact Development Implementation in Manatee County*. Presentation to the Manatee County Green Team, Bradenton, FL, February 23, 2009.

Carpenter, D. (2009) *Low Impact Development Implementation in the Tampa Bay Area*. Presentation to the Hillsborough County Water Resources Department, Tampa, FL, February 24, 2009.

Carpenter, D. (2009) *Low Impact Development Implementation in the Tampa Bay Area*. Presentation to the Tampa Bay Water Authority, St. Petersburg, FL, April 27, 2009.

Carpenter, D. (2009), *Using LID to Retrofit an Urban Campus*. Presentation at the Engineering Society of Detroit H₂O Michigan Conference, Southfield, MI.

Carpenter, D. (2009), *Rain Gardens*. Presentation at the January Meeting of the South Oakland County Municipal Engineers Association, Royal Oak, MI, January, 20, 2009.

Carpenter, D. (2009), *Rain Garden Design, Construction, and Maintenance*. Presentation at the 2009 American Nursery and Landscape Architecture Association Management Clinic, Louisville, KY, February 8, 2009.

Carpenter, D. (2009), *The Influence of Soil Characteristics on Sustainable Site Design*. Presentation at the 2009 Michigan Nursery and Landscape Architecture Association Great Lakes Trade Exposition, Grand Rapids, MI.

- Carpenter, D.** (2009), *Low Impact Development and Sustainable Economic Growth*. Presentation at the Growing with a Green Economy Forum, NSF International, Ann Arbor, MI.
- Carpenter, D.** (2008), *An Investigation of Rain Garden Planting Mixture Design*. Presentation at the 2008 Florida Stormwater Association Winter Meeting, Tampa, FL.
- Carpenter, D.** (2008), *Investigation of Rain Garden Planting Mixtures*. Presentation at the 2008 Annual Conference of the Michigan Water Environment Association, Boyne, MI.
- Carpenter, D.** (2008), *Lawrence Technological University Green Roof Performance Evaluation Project*. Presentation at the Hillsborough County Green Roof Symposium, Tampa, FL.
- Carpenter, D.** (2008) *Academic integrity and professional ethics – A journey towards becoming an ethical professional begins now!* Invited presentation for students given at Missouri University of Science and Technology, Rolla, MO. 09/10/08.
- Carpenter, D.** (2008) *Teaching ethics or developing ethical professionals: Which is more common in engineering education?* The Annual Porth Lecture Series - invited presentation for faculty given at Missouri University of Science and Technology. Rolla, MO. 09/11/08.
- Carpenter, D.** (2008) *Ethics and Professional Issues*. Invited workshop for Summer Undergraduate Research Fellows at National Institute of Standards and Technology. Gaithersburg, MD. 07/16/08.
- Harding, T. S., Finelli, C. J., & **Carpenter, D.D.** (2008). *Ethics education or ethical development: What is the best goal for engineering education?* Workshop presented at the 2008 ASEE Annual Conference & Exposition, Pittsburgh, PA.
- Mayhew, M. J., Hubbard, S., Harding, T. S., Finelli, C. J., & **Carpenter, D. D.** (2008). *Using structural equation modeling to validate the Theory of Planned Behavior as a model for predicting student cheating*. Paper presented at the 2008 Annual Meeting of the American Educational Research Association, New York, NY.
- Harding, T. S., Finelli, C. J., **Carpenter, D. D.**, & Mayhew, M. J. (2007). "Factors influencing moral development in professional education." *Roundtable discussion conducted at 33rd Annual Conference of the Association for Moral Education*, New York, NY.
- Carpenter, D.** (2008), "LID Stormwater Practices on the Campus of Lawrence Technological University", *Presentation at the Low Impact Development for Storm Water Management Meeting (invited speaker)*, March 7, 2008, East Lansing, MI.
- Carpenter, D.** (2007), "Rain Garden Design Specifications for Michigan Specific Conditions," *Presentation for the Assembly of Rouge Communities (invited speaker)*, Southfield, MI.
- Carpenter, D.** (2007), "Bioretention Cell Design," *Presentation for the Michigan Groundwater Stewardship Program (invited speaker)*, Southfield, MI.
- Carpenter, D.** (2007), "Rain Garden Design and Implementation," *Presentation at the Sustainable Stormwater Management Workshop (invited speaker)*, Troy, MI.
- Carpenter, D.** (2007), "Rain Garden Design and Maintenance," *Presentation for City of Auburn Hills Citizens (invited speaker)*, Auburn Hills, MI.
- Carpenter, D.** (2007), "Rain Garden Design and Maintenance," *Presentation for southeast Michigan landscape architects (invited speaker)*, Southfield, MI.
- Mayhew, M. M., Harding, T. S., **Carpenter, D. D.**, & Finelli, C. J. (2007, Apr.). *Examining the underlying motivations of undergraduates to behave unethically*. Paper presented at the 2007 Annual Meeting of the American Educational Research Association, Chicago, IL.
- Carpenter, D.** & Feierfeil, G. (2007), "Cultivating and entrepreneurial mindset through interdisciplinary collaboration and networking." *Presentation at the 2007 National Collegiate Innovators and Inventors Conference*, Tampa, FL.
- Carpenter, D.D.** (2007), "Engaging Students in a Hybrid Learning Environment in Civil Engineering" *Presentation at the 2007 LTU Blackboard Best Practices Session*, Southfield, MI.

Carpenter, D. (2006), "Bioretention Cell Design," *Workshop at the 2006 Annual Meeting of the Michigan Water & the Environment Association (invited speaker), Lansing, MI.*

Carpenter, D.D. and J. Tocco (2006), "Hybrid Learning Environments in Civil Engineering at Lawrence Technological University," *Presentation at the 2006 Michigan Blackboard Users Group Conference, Southfield, MI.*

Feierfeil, G., **D.D. Carpenter**, and A. Gerhart (2005), "Engineering Entrepreneurship – Education and Teaching Innovation," *Proceedings of the 2005 Governor's Conference on Career Education, Detroit, MI.*

Jawad, B., M. Vaz, K. Kelch and **D.D. Carpenter** (2004), "Communication Skills Assessment – Tools, Measures, Analysis, and Closing the Loop" *A Collection of Papers on Self-Study and Intuitional Improvement – Volume 3, 109th Annual Meeting of the North Central Association of the Higher Learning Commission.*

Carpenter, D.D. (2004), "Writing and Using Learning Objectives for Course and Curriculum Improvement." *Proceedings of the Best Assessment Processes VI Symposium, Terre Haute, IN.*

Schwartz, J., **D.D. Carpenter (presenting author)**, L. Slate, S. Sinha, K. Brennan, and J. MacBroom (2003), "Research Needs for Improvement of Principals and Practices in Urban Stream Restoration." *Proceedings of the 11th National Nonpoint Source Monitoring Workshop, Dearborn, MI.*

Carpenter, D.D. and B. Jawad (2003), "A Balancing Act – Engaging Faculty and Administration in University Wide Assessment." *A Collection of Papers on Self-Study and Intuitional Improvement – Volume 3, 108th Annual Meeting of the North Central Association of the Higher Learning Commission, Chicago, IL.*

Carpenter, D.D., B. Jawad, M. Weinstein, and M. Vaz (2003). "The Engagement of Faculty in a University Wide Assessment Program that Transcends the Professional Accreditation Boards." *Proceedings of the Best Assessment Processes V Symposium, Terre Haute, IN.*

Carpenter, D.D. (2000), "Improving your teaching portfolio as a graduate student," *Graduate Methods Workshop, The 2000 American Society of Engineering Education Annual Conference and Exposition, St. Louis, MO.*

Poster Presentations

"Cumulative Pier Scour at Michigan Bridge Crossings: Evaluation of the Scour Rate", 33rd International Association of Hydraulic Research Congress, Vancouver, BC.

"A Holistic Assessment of the Ethical Development of Engineering Undergraduates", 2009 NSF Engineering Education Awardees Annual Conference, Reston, VA.

"An investigation of rain garden planting mixture performance and the implications for design", 2008 National LID Annual Conference, Seattle, WA.

"Academic Integrity Among Engineering Undergraduates. Seven Years of Research by the E3 Team", 2008 NSF Engineering Education Awardees Annual Conference, Reston, VA.

"Stochastic Hydrology and Frequency Analysis in Water Resources", 2007 World Environmental and Water Resources Congress, Tampa, FL.

"Promoting Effective Teaching and Learning through an Educational Innovation Collaborative", Pedagogies of Engagement Conference - AACU, April 14 – 16, 2005, Bethesda, MD.

"Status of Urban Stream Restoration in the United States", 11th National Nonpoint Source Monitoring Workshop, September 8 – 11, 2003, Dearborn, MI.

Technical Reports Authored as a University Representative

Carpenter, D.D. (2008) *Rain Garden Feasibility Study for Lathrup Village Sites on Roseland and San Rosa Avenues Lathrup Village*. Report to the Southeast Oakland County Water Authority.

Carpenter, D.D. (2008) *Rain Garden Sizing and Design for Homeowners*. Report to the Southeast Oakland County Water Authority.

Carpenter, D.D. (2008) *Lawrence Technological University Rain Garden Educational and Demonstration Project*. Report to the Rouge River National Wet Weather Demonstration Project, Department of the Environment, Wayne County, MI.

Carpenter, D.D. (2008) *Determination of Total Suspended Solids (TSS) Trap Efficiencies for KSI Stormwater Treatment Chambers*. Report to Department of the Environment, Wayne County, MI.

Carpenter, D.D. & Laura Hallam (2007) *An Investigation of Rain Garden Planting Mixtures and their Implications for Design*. Report to the Southeast Oakland County Water Authority.

Carpenter, D.D. (2005) *Laboratory Investigation of Rain Garden Planting Mixtures*. Report to the Southeast Oakland County Water Authority.

Olsztyn, O. and **D.D. Carpenter** (2005). *Clinton River HEC-RAS Modeling*. Report to the Clinton River Coldwater Conservation Project.

Komar, P. D., **D.D. Carpenter**, and W.G. McDougal (1995). *The application of beach and dune erosion models to the high-energy Oregon coast*. Report to the Oregon Department of Land Conservation and Development.

Professional and Scientific Society Membership

Associate Member, American Society of Civil Engineers
Member, Society of American Military Engineers
Member, American Society of Engineering Education
Member, Chi Epsilon, Civil Engineering Honor Society
Member, Tau Beta Pi, National Engineering Honor Society
Member, Order of the Engineer
Member, US Green Building Council

Honors and Awards

2009 Water Fellow, Michigan State University Center for Water Science
2008 Distinguished Porth Lecture Speaker, Missouri University of Science and Technology
2008 Lawrence Technological University ASCE Student Chapter National Certificate of Commendation
2006 Lawrence Technological University ASCE Faculty Advisor National Certificate of Commendation
2006 Lawrence Technological University ASCE Student Chapter National Certificate of Commendation
2006 Kern Fellow for Entrepreneurial Education, Kern Family Foundation
2005 Lawrence Technological University ASCE Student Chapter National Certificate of Commendation
2005 UGS Solid Edge Design Award for Detroit to Pittsburgh Canoe Trip
2004 Marburger Award for Most Outstanding Lawrence Technological University Faculty Member
2003 Best Paper Award, Civil Engineering Division, ASEE National Conference
2003 Best Paper Award, Educational Research Methods Division, ASEE National Conference
2003 Outstanding Civil Engineering Faculty Teaching Award, ASCE Student Chapter
2002 New Faculty Fellow Award, Educational Research Methods Division, ASEE
2001 Apprentice Faculty Grant Award, Educational Research Methods Division, ASEE

Institutional Service (chronological order)

Director, Hydraulics and Hydrology Laboratory (2001 - present)
Coordinator, Civil Engineering Department Assessment Program (2001 - present)

- Main Author, Civil Engineering Department ABET Self Study (2004)

Member, University Assessment Committee (2001 - 2008)

- Contributing Author, University NCA Accreditation Self Study (2005)

Faculty Advisor, American Society of Civil Engineers Student Chapter (2002 - 2007)

- National Certificate of Commendation for Chapter (2005, 2006)
- Letter of Honorable Mention for Chapter (2004)
- National Certificate of Commendation for Faculty Advisor (2006)

Chair, Education Innovation Collaborative, Lawrence Technological University (2003 - 2006)

- Founding Member

Director, Center for Teaching and Learning, Lawrence Technological University (2007 – 2008)

Faculty Advisor for AGC Student Chapter (2003 - 2006)

Faculty Advisor, Detroit to Pittsburgh Canoe Trip (2004 – 2006)

- Faculty Advisor for LTU sponsored educational project
- Team won inaugural UGS Solid Edge Design Award for the project

Solar Decathlon (2005 – 2007)

- Faculty Advisor for Fundraising Team

Member, Center for Sustainability (2005 – present)

- Founding member and co-author of Center's Mission Statement, Goals, and Objectives

Professional Service (chronological order)

Member, Educational Research Methods Division of ASEE (2001 - present)

- Chair, Helen Plants Award Committee (2005)

Peer Reviewer for Conference Proceedings, ERM Division of ASEE and EWRI of ASCE (2001 - present)

Member, Urban Stream Restoration Task Committee, EWRI, ASCE (2002 - present)

- Committee Chair (2002 - 2006)
- Symposium Co-Chair for World Water & Environmental Resources Congress (2003, 2005, 2006)
- Editor, Protection and Restoration of Urban and Rural Streams Symposium (2003)

Member, Urban Water Resources Research Committee, EWRI, ASCE (2003 - present)

- Vice Chair, Green Roof Task Committee (2008 – 2009)

Member, River Restoration Technical Committee, EWRI, ASCE (2002 - present)

- Chair (2006 – 2007)
- Vice Chair (2004 – 2006)
- Track Chair for World Water & Environmental Resources Congress (2007)

NSF Review Panel for Engineering Education Program (2004)

NSF Reviewer for Ethics and Societal Values Program (2005)

Peer Reviewer for Journal of the American Water Resources Association (2005)

Peer Reviewer for Journal of Hydraulic Engineering (2005)

Peer Reviewer for Tenure and Promotion Committees for University of Vermont (2005), Evansville University (2005), and Lawrence Technological University (2009)

National Peer Review Panel, Boren International Fellowship Program, Institute for International Education (2007 – 2008)

Member, State of Michigan LID Technical Implementation Committee (2007 – 2008)

Peer Reviewer for Journal of Engineering Education (2009)

Grants Received

Title: LID Across the Downriver Watershed (co-PI)

Agency: MDEQ

Amount: \$600,000 (LTU Portion - \$40,000)

Status: Pending

Title: Using an Integrative Assessment Approach to Restore a Natural Flow Regime in the Clinton River Watershed (PI)

Agency: Michigan Sea Grant

Amount: \$138,990

Status: 5/1/09 – 10/31/11

Title: Integrating Entrepreneurial Mindset Education and Experiences Affecting All Undergraduate Engineering Students at LTU (Leadership Team Member)

Agency: Kern Family Foundation

Amount: \$1,154,500
Status: 2/1/09 – 1/31/14

Title: KSI Structural Stormwater Chamber Performance Evaluation (PI)
Agency: KSI, Inc.
Amount: \$15,000
Status: 8/1/07 – 12/31/08

Title: KEEN Phase II Fellowship Grant (PI)
Agency: Kern Family Foundation
Amount: \$50,000
Status: 9/1/07 – 6/30/10

Title: A Critical Evaluation of Bridge Scour for Michigan Specific Conditions (PI)
Agency: Michigan Department of Transportation
Amount: \$284,220 (LTU Portion - \$165,708)
Status: 6/1/07 – 1/31/11

Title: Lawrence Technological University Participation in the 2007 RETAP Pollution Prevention Internship Program (PI)
Agency: Michigan Department of Environmental Quality
Amount: \$21,600
Status: 5/1/07 – 9/30/07

Title: Collaborative Research: A Holistic Assessment of The Ethical Development of Engineering Undergraduates (PI)
Agency: National Science Foundation
Amount: \$850,802 for 4 years (LTU portion - \$120,953)
Status: 3/1/07 – 2/28/11

Title: Rain Garden Design & Public Education Outreach (PI)
Agency: Southeast Oakland County Water Authority
Amount: \$5,000
Status: 1/1/07 – 8/30/07

Title: Lawrence Technological University Rain Garden Educational and Demonstration Project (PI)
Agency: Wayne County Department of Environment - Rouge River National Wet Weather Demonstration Project (U.S. Environmental Protection Agency)
Amount: \$19,624
Status: 10/1/06 – 6/30/08

Title: Invention to Venture (I2V) Workshop Planning Grant (PI)
Agency: National Collegiate Inventors and Innovators Association
Amount: \$5,000
Status: 9/1/06 – 9/1/08

Title: KEEN Fellowship Grant (co-PI)
Agency: National Collegiate Inventors and Innovators Association
Amount: \$50,000
Status: 6/1/06 – 8/30/07

Title: Hybridization of ECE4051 Ethics and Professional Issues (PI)
Agency: Veraldi Instructional Technology Resource Center (LTU)
Amount: \$2,000
Status: 6/1/05 – 12/31/06

Title: Lawrence Technological University Participation in the 2006 RETAP Pollution Prevention Internship Program (PI)
Agency: Michigan Department of Environmental Quality
Amount: \$21,200
Status: 5/1/06 – 9/30/06

Title: KEEN Fellowship Planning Grant (co-PI)
Agency: National Collegiate Inventors and Innovators Association
Amount: \$5,000
Status: 12/1/05 – 3/30/06

Title: Lawrence Technological University Sustainable and Energy Efficient Equipment and Technologies Project (co-PI)
Agency: U.S. Environmental Protection Agency – Region V
Amount: \$396,800 (co-PI portion - \$40,000)
Status: 1/1/06 – 12/31/07

Title: An investigation of storm water capacity and infiltration of rain gardens (PI)
Agency: Southeast Oakland County Water Authority
Amount: \$1,500
Status: 3/1/05 – 6/30/05

Title: Entrepreneurial Teaching and Learning (co-PI)
Agency: Kern Family Foundation
Amount: \$270,000
Status: 1/1/04 – 12/31/07

Title: PACES – Academic Integrity Among Engineering Students (PI)
Agency: Kern Family Foundation
Amount: \$24,450
Status: 1/1/2004 – 6/30/2005

Title: PACES – A Study of Academic Dishonesty (co-PI)
Agency: ERM Division ASEE
Amount: \$2,500
Status: 1/1/2003 – 12/31/2003