

Michael L. Pluimer, PhD

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PROFESSIONAL PROFILE

- Well-rounded engineering professional with 20 years of experience in both technical and executive/management roles in various industries ranging from power equipment to alternative energy to civil engineering infrastructure
- Ph.D. in Civil Engineering (Villanova University) and Master's Degree in Mechanical Engineering (U. of MN)
- Accomplished speaker and author, having delivered over 50 lectures and presentations at various conferences and universities and published in multiple journals and conference proceedings

EDUCATION

Villanova University, Villanova, PA

Ph.D. in Civil and Environmental Engineering, December 2016 (defended October 2016)

- Completed degree in 4 years while working full-time in industry
- Focus on sustainable transportation systems; Research on incorporation of recycled materials into HDPE pipes

University of Minnesota, Minneapolis, MN

M.S. in Mechanical Engineering, May 2002

- Completed degree in 3 years while working full-time in industry

Calvin College, Grand Rapids, MI

B.S. in Mechanical Engineering, May 1995

- GPA: 3.9/4.0; Graduated top of engineering class

PROFESSIONAL EXPERIENCE

University of Minnesota – Duluth – Duluth, MN

Assistant Professor, January 2018 – Present

- Dual term appointment in Mechanical and Industrial Engineering Department and Civil and Environmental Engineering Department

Crossroads Engineering Services, LLC – Breezy Point, MN

President / Owner, August 2014 – Present

- Owner of engineering consulting business focusing on sustainable solutions for pipe and underground infrastructure systems, including assistance with design, research and development, recycled materials and the development of sustainable alternative materials and blends for plastic pipe applications
- Principal Investigator of NCHRP Project 4-39, *Field Performance of Corrugated HDPE Pipes Manufactured with Recycled Materials*, Published as NCHRP Report 870

Texas Research International / Environmental Division – Austin, TX

Director of Engineering, Pipe Services Division, March 2013 – December 2014

- Responsible for Technical Direction and Management of TRI- Environmental's Pipe Services Division, including research, consulting, testing, presenting, writing, reporting, failure analysis and expert witness work
- Clients included pipe and material manufacturers and suppliers, American Association of State Highway and Transportation Officials (AASHTO), state Departments of Transportation, and NTPEP

Plastics Pipe Institute – Irving, TX

Director of Engineering, Corrugated Division, Feb. 2005 – March 2007; July 2008 – March 2013

- Worked with the Federal Highway Administration and State Departments of Transportation across the country, providing technical direction on plastic pipe issues, assisting in the development of specifications and standards, and working with national standards associations such as ASTM and AASHTO
- The primary technical voice for the corrugated division of the PPI, the largest plastic pipe trade association in North America with over 150 member companies

Nova-Tech Engineering – Willmar, MN

Engineering Department Manager, April 2007 – July 2008

- Managed a team of 28 technical and engineering professionals, including degreed mechanical, electrical, software, and chemical engineers, as well as supporting technical groups including IT, production engineering, test engineering, and technical writing
- Led development efforts on a new state-of-the-art bioenergy project utilizing a fluidized bed combustor to convert various forms of biomass into thermal and electrical energy

Prinsco, Inc. – Willmar, MN

Director of Engineering, February 2002 – March 2005

- Responsible for management and direction of all technical aspects of the Engineering Department, including new product designs, processing and manufacturing improvements, structural calculations and materials development
- Utilized chemical engineering and polymer science to molecularly enhance materials for improved pipe performance and cost savings
- Developed and patented a new joining system for corrugated HDPE pipes

The Toro Company – Bloomington, MN

Sr. Design Engineer, May 2000 – February 2002; Sr. Test Engineer, May 1996 – May 2000

- Lead design engineer for a new Utility Vehicle project for consumer applications and lead test engineer for the award-winning Dingo® compact utility loader for landscaping applications
- Led several teams of engineers, designers and technicians to the completion of multiple successful projects

University of Minnesota – Minneapolis, MN

Teaching and Research Assistant, September 1995 – May 1996

- Research focused on the measurement of nano-sized atmospheric particles
- Teaching assistant for junior-level measurements lab

The Ford Motor Company – Dearborn, MI

Mechanical Engineering Intern, May 1994 – September 1994

- Worked in Advanced Systems Engineering group on experimental emission control systems
- Utilized advanced exhaust gas oxygen sensor technology to convert a lawnmower to propane with an air/fuel feedback control system for a senior design project

PROFESSIONAL APPOINTMENTS AND SKILLS

- Communications Coordinator and member of TRB Committee AFF70 on Culverts and Hydraulic Structures
- Member of TRB Committee AFS60 on Subsurface Drainage
- Membership Secretary of ASTM F17 on Plastic Piping Systems (740 current members)
- Chair of ASTM Subcommittee F17.40 (Test Methods)
- Secretary of ASTM Subcommittee F17.62 (Sewers)
- Researcher and/or Panel Member on multiple National Cooperative Highway Research Program projects
- Guest lecturer for 12 civil and mechanical engineering classes at 4 universities

PROFESSIONAL AWARDS AND ACCOMPLISHMENTS

- Top 10 presenter at Plastic Pipes XVIII conference in Berlin, Germany – 2016
- Selected as presenter for Plastic Pipes XV and XVIII international spinoff conferences – 2011 and 2017
- Recipient of multiple ASTM International awards for standards development and contributions – 2013-2016
- PPI Member of the Year – 2014
- Published in Journal of ASTM International (2011) and ASCE Pipelines Journal (2006; 2010; 2015)
- Patent holder for joint design for corrugated plastic piping systems – 2005
- Recipient for Popular Mechanics© Magazine Design and Engineering Award for the Dingo TX 420 Earthmover by Toro as part of the Toro design team – 2000
- High school valedictorian – 1991

OTHER INTERESTS AND ACTIVITIES

- Competitor in numerous triathlons and marathons, including 17 full ironman-distance triathlons, raising over \$2 million for various non-profit organizations in the process
- Public speaker at churches, schools and other organizations on a variety of topics
- Basketball and football coach for middle and high school boys

REFERENCES

- Available upon request