

Timothy W. Athan

PhD, PE

Senior Consultant



Dr. Athan investigates incidents pertaining to product performance with an emphasis on software behavior. His decades of experience span automotive, aerospace, and power generation, and he has substantial governmental regulatory experience.

Dr. Athan's experiences with control systems and software development enable him to evaluate the role software played in an incident. One important aspect of software performance is the computer interface that humans use to interact with the software. Dr. Athan can analyze how the software can affect product safety and robustness.

Dr. Athan's experiences in design optimization, dynamic system simulation, and test methods (e.g., design of experiments, engineering statistics, and data analysis) are directly applicable to product development programs.

Education

PhD, Mechanical Engineering. University of Michigan. 1994

MS, Mechanical Engineering. University of California, Berkeley. 1984

BS, Mechanical Engineering. University of California, Berkeley. 1983

BA, Economics. Brown University. 1976

Licenses & Certifications

- State of Michigan P.E. License 6201037641

Positions Held

Engineering Systems Inc., Ann Arbor, Michigan

- Senior Consultant, 2013 – Present

General Motors Powertrain, Milford, Michigan

- Engine Controls Algorithm Developer, 2009–2013

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Ann Arbor, MI 48108

Areas of Specialization

- Controls Software
- Software Reliability
- Design Optimization
- Dynamic System Simulation

U.S. Department of Energy, Washington, D. C.

- Evaluator of Manufacturing Technologies Applicants for Economic Reinvestment Act, 2009–2010

Rolls Royce Fuel Cell Systems, North Canton, Ohio

- Power Plant Controls Developer, 2008–2009

American Society of Mechanical Engineers, Washington, D.C.

- Federal Fellow, Science and Technology Committee of the U.S. House of Representatives, 2007

Ford Motor Company, Dearborn, Michigan

- Vehicle Dynamics Simulation Development, 2006

Applied Dynamics International, Ann Arbor, Michigan

- Applications Engineer, 1997–2006

General Motors Corporation Legal Staff, Milford, Michigan

- Consultant, Control Systems Failure Analysis, 2000–2001

General Motors Powertrain, Ypsilanti, Michigan

- Senior Project Engineer, Transmission Engineering, 1996–1997

General Motors Corporation, Brake and Bearing Systems Center, Milford, Michigan

- Senior Project Engineer, 1988–1996
- Project Engineer, 1986–1988
- Associate Engineer, 1985–1986

Professional Affiliations/Honors

American Society of Mechanical Engineers

- Member, 1997–Present
- Federal Fellow, 2007

General Motors

- PhD Fellow, 1990–1994

University of California, Berkeley

- Recipient, James Marshall Wells Memorial Fellowship, 1983

University of California, Santa Barbara

- Recipient, President's Undergraduate Fellowship, 1982
- Recipient, Moller Scholarship, 1982

Class of Eighteen Seventy-Three

- First Prize Winner, Economics Essay, 1976

National Merit Scholarship

- Semi-finalist, 1972

Publications

“Software Failure: Different Than Hardware Failure,” **T.W. Athan**, Western Loss Association, July 2015.

“Flight Plan Improvements Ahead,” **T.W. Athan**, PE Magazine, November 2007.

“Multicriteria Optimization of Anti-lock Braking system Control Algorithms,” **T.W. Athan** and P.Y. Papalambros, Engineering Optimization, Vol. 27, No. 3, pp. 199–227, 1996.

“A Note on Weighted Criteria Methods for Compromise Solution in Multi-Objective Optimization,” **T.W. Athan** and P.Y. Papalambros, Engineering Optimization, Vol. 25, pp. 65–81, 1995.

Presentations

“Multicriteria Optimization of Anti-Lock Braking System Algorithms,” F.A. Lootsma, **T.W. Athan**, and P.Y. Papalambros, XII International Conference on Multiple Criteria Decision-Making Refereed Proceeding, Hagen, Germany, 1995.