



The Department of MECHANICAL ENGINEERING



HOME

ABOUT US

NEWS

EVENTS

UNDERGRADUATE STUDIES

GRADUATE STUDIES

FACULTY & STAFF

RESEARCH

ALUMNI

GIVING

EMPLOYMENT

PHOTO GALLERIES

CANVAS LOGIN

MAKE A GIFT



Mechanical Engineering

Undergraduate Studies

[Return to Faculty Directory](#)

Modarres, Mohammad



Nicole Y. Kim Eminent Professor
Director, Nuclear Engineering Program
Director, Center for Risk and Reliability
Department of Mechanical Engineering
0151C Glenn L. Martin Hall, Building 088
University of Maryland
College Park, MD 20742
Email: modarres@umd.edu
Phone: 301-405-5226
Fax: 301-314-9477
[Website](#)

Research Interests

- Probabilistic risk assessment
- Uncertainty analysis
- Physics of failure probabilistic modeling of failure mechanisms of mechanical components, systems and structures
- Reliability analysis of complex engineering systems
- Nuclear safety analysis

Background

Dr. Modarres has served as a consultant to several governmental agencies, private organizations and national laboratories in areas related to probabilistic risk assessment, especially applications to complex systems and processes such as the nuclear power plants. He has over 200 papers in archival journals and proceedings of conferences and three books in various areas of risk and reliability engineering.

Education

Ph.D., Massachusetts Institute of Technology, 1979

Honors and Awards

- 2008 International Research Leadership Award conferred by the Society for Reliability Engineering, Quality and Operations Management
- Distinguished Scholar-Teacher Award, 1994-95
- Fellow, American Nuclear Society

Selected Publications

2006

M. Modarres, "Risk Analysis in Engineering: Probabilistic Techniques, Tools and Trends," *CRC Press* (2006).

2005

F. Joglekar, F. Mowrer, M. Modarres, "A Probabilistic Model for Fire Detection with Applications," *Fire Technology J.*, 41, 151-172 (2005).

S. Chamberlain, M. Modarres, "Compressed Natural Gas Safety: A Quantitative Analysis," *Risk Analysis J.*, 25, 377-389 (2005).

J. L. Hurtado , F. Joglar , M. Modarres, "Generalized Renewal Process: Models, Parameter Estimation and Applications to Maintenance Problems," *International Journal on Performability Engineering*, 1, July (2005).

W. Keller, M. Modarres, "A historical overview of probabilistic risk assessment development and its use in the nuclear power industry: a tribute to the late Professor Norman Carl Rasmussen," *Reliability Engineering and System Safety*, 89, 271–285 (2005).

M. Modarres, "Technology–Neutral Nuclear Power Plant Regulation: Implications of a Safety Goals–Driven Performance–Based Regulation," *Nuclear Engineering & Technology*, Vol. 37, No.3 (2005).

Related News

Alumni Dr. Jeong H. Kim Receives 2016 Horatio Alger Award

Kim named one of 13 exceptional corporate and civic leaders to the Horatio Alger Member Class of 2016 April 8, 2016

Bruck Named a UMD Distinguished Scholar–Teacher

Professor **Hugh Bruck** named one of six Distinguished Scholar–Teachers for the 2016–2017 school year. April 4, 2016

Modarres Awarded Nicole Y. Kim Eminent Professorship

Mechanical Engineering Professor Mohammad Modarres awarded *Nicole Y. Kim Eminent Professorship*. December 11, 2014

Student Awards, Fellowship Campaign Announced at Reliability Alumni Meeting

Faculty, staff presented awards, fundraising campaign for additional fellowship as part of next year's 25th anniversary celebration. July 11, 2013

Alumna Zahra Mohaghegh Becomes Assistant Professor at University of Illinois at Urbana–Champaign

Mohaghegh will help further develop reliability engineering program at the university. December 18, 2012

New Minta Martin Professors Named

Historic honor recognizes full professors who have made significant scholarly contributions. July 19, 2012

Suzanne Schroer Wins American Nuclear Society's Local Paper Competition

Reliability engineering graduate student received \$500 for her paper. June 5, 2012

Modarres Participates in Panel of Experts Debating Nuclear Safety at Public Forum in Calvert County

Safety of Calvert Cliffs Nuclear Plant and its proposed third reactor subject of debate following March disaster in Japan. October 14, 2011

Chatterjee Wins 1st Prize in the 2011 DCCEAS Student Paper Competition

ME graduate student recognized by D.C. Council of Engineering & Architectural Societies. March 15, 2011

Kaushik Chatterjee Wins 1st Place Prize in the 2010 ANS Student Paper Competition

ME graduate student recognized by the American Nuclear Society. January 28, 2011

NRC Funds Development of New Grad–Level Corrosion Courses

Ankem, Christou, and Modarres to create new modules for nuclear, reliability, and sustainability engineering programs. June 14, 2010

PI Holds 1st Annual Research Workshop

ME delegation travels to Abu Dhabi to promote research collaborations. February 17, 2010

Energy Education and Research Collaboration Conducts First Workshop

Maryland faculty and Petroleum Institute review cooperation success of past year. February 1, 2008

Modarres Earns International Research Leadership Award

Award recognizes pioneering research leadership in Probabilistic Risk Assessment. January 21, 2008

Gift Supplements Reliability Fellowship

\$250,000 bequest supports women and minority graduate students, aids *Great Expectations* campaign. July 18, 2007

Mechanical Engineering Recognizes Faculty Accomplishments

Edward B. Magrab honored at reception recognizing distinguished service to campus and department. May 16, 2007

Mechanical Engineering Remembers Willie Webb

Longtime Reliability Engineering staff member Willie Webb passes on April 10, 2007. April 20, 2007

ME Faculty Honored at Research Leaders Luncheon

Nine ME Faculty honored on November 14. December 15, 2006

ME Graduate Students Awarded

Mohammad Pour–gol–mohamad & Emil Rahim Recognized. June 15, 2006

Reliability, Energetics Centers Receive Major DoD Initiative Funding

CECD and CFRE to Conduct Vital Research Efforts July 15, 2005

OUTSTANDING SPRING FACULTY AWARDS AND ACCOMPLISHMENTS

Numerous outstanding faculty awards and accomplishments in the Department of ME announced. April 15, 2004

Reliability Engineering Program Joins ME Department

On April 16, 2003, the Reliability Engineering Program was integrated into the Department of ME. April 16, 2003

[UMD](#) | [Clark School](#) | [ENME Home](#) | [Site Map](#) | [Accessibility](#)
Copyright © 2018 University of Maryland.