



Professor Charles H. Roche

See:

<https://www.linkedin.com/in/charles-roche-11472a4>

<https://www.nafems.org/about/regional/americas/committee/roche/>

<http://www.engineeringexchange.com/profile/CharlesHRoche>

Western New England University

Biography from NAFEMS:

Dr. Roche is now full-time in academia with an emphasis in solid mechanics and design. In his prior tenure, he worked in the gas turbine industry for 28 years in structural analysis and testing. His last position at Pratt & Whitney was as the structures integration manager overseeing about 19,000 engines in the commercial fleet. Dr. Roche is active in NAFEMS. NAFEMS is the International Association for the Engineering Modeling, Analysis and Simulation Community, focusing on the practical application of numerical engineering simulation techniques such as the Finite Element Method for Structural Analysis, Computational Fluid Dynamics, and Multibody Simulation.

Education:

1994 Ph.D., Mechanical Engineering and Applied Mechanics, Univ. of Connecticut

Thesis focused on global finite element modeling of delaminations; Minor in Mathematics

1986 M.S.M.E., Rensselaer Polytechnic Institute (Hartford branch) : Solid Mechanics Emphasis

1983 B.S.M.E., University of Lowell: Engineering Honor Society, ASME officer, Dean's List.

1989-present Licensed Professional Engineer since 1989.

Previous Employment:

1993 United Technologies Research Center, East Hartford

1995-1996 GE Aircraft Engines, Lynn, MA

Teaching:

2011-2014 Central Connecticut State University: Adjunct Faculty in Mechanical Engineering

2002-present Pratt & Whitney Engineering Technical University: ANSYS Analysis of Composites, Introduction to Micromechanics, ANSYS Advanced Analysis of Composites

2005 University of Connecticut: Graduate level Introduction to the Mechanics of Composites
2003: University of Hartford: Undergraduate level Design of Machine Elements

Selected Publications:

- C.H. Roche and Steve Conner, A Comprehensive Look at Buckling of Cylinders Under External Pressure, NAFEMS World Congress, Boston, MASS, 2011.
- C.H. Roche, Comparing ANSYS Shell Elements for Buckling Analysis, ANSYS Solutions magazine, Summer 2005.
- C.H. Roche, H.G. Halverson, Buckling of Cylinders Due to External Pressure, NAFEMS World Congress, Malta, May 2005.
- H.G. Halverson, C.H. Roche, Composites: Macro to Micro Modeling Issues, NAFEMS World Congress, Malta, May 2005.
- H. G. Halverson, M. L. Accorsi, C. H. Roche, Finite Element and Test Validation of the Genin-Hutchinson Constitutive Model for SiC/SiC, 29th International Conference on Advanced Ceramics and Composites, January 23-28, 2005.
- C. Roche, H. G. Halverson, Understanding Buckling from the FEA Point of View, Benchmark, the international magazine for finite element analysts, October 2004.
- C.H. Roche, P.P. Godston, Optimization Choices in Engineering, Proceedings of the NAFEMS World Congress, Newport, RI, April 25-28, pp. 815-825 (1999).
- C.H. Roche, M.L. Accorsi, A new finite element for global modeling of delaminations in laminated beams, J. Finite Elements in Analysis and Design, 31, pp. 165-177 (1998).
- C.H. Roche, M.L. Accorsi, A new finite element for global modeling of delaminations in composites, Proceedings of 9th American Society for Composites Technical Conference, Univ. of Delaware, (1994).