

CIRRICULUM VITAE - William J. Thomas, Ph.D.

WILLIAM J. THOMAS, Ph.D.

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United States citizen

EXPERIENCE

- 10/05 - Present TechnipFMC Houston, TX
Senior Manager, Core Technologies and Multiphysics - Technology and R&D
- Managing 13 direct reports to supply high end engineering analysis, software development, and high performance computing.
 - Subject matter expert in fatigue, fracture mechanics, FEA, and riser analysis.
- 8/11 - Present University of Houston Houston, TX
Adjunct Professor - Subsea Engineering and Mechanical Engineering
- Teach courses in Machine Design, Design for Oil and Gas, and Riser System Design
- 1/07 - 6/11 ITT Technical Institute Houston, TX
Lecturer - Computer Design and Drafting
- Teach mechanical course in the Computer Design and Drafting and Construction Management departments.
- 7/01 - 9/05 ExxonMobil - Upstream Research Houston, TX
Senior Research Engineer - Well Construction
- Investigated mechanics of rock cutting.
 - Qualified torque reduction drill string components and drilling fluid additives for horizontal, extended-reach wells.
 - Developed design concept for high pressure, cryogenic containment system for transport of liquid natural gas aboard ocean-going vessels.
- 1/01 - 4/01 Wayne State University Detroit, Michigan
Adjunct Professor
- Developed and taught new graduate course on analysis of sheet metal forming.
- 11/99 - 7/01 General Motors - Metal Fabrication Troy, MI
Senior Manufacturing Engineer - Formability Analysis
- Validated sheet metal forming die designs using computer simulation.
 - Verified quality standards in the engineering of stamping die lines.
- 6/95 - 10/99 Research Center for Net Shape Manufacturing Columbus, Ohio
Staff Engineer - Stamping Team Leader
- Managed \$750k research and development project co-funded by NIST and the automotive industry.
 - Led team of researchers and analysts to investigate manufacturing issues.
 - Developed and taught several courses and workshops in manufacturing and metal forming.
- 6/90 - 6/95 Modern Tool and Die Cleveland, Ohio
Student Engineer - Cooperative Education
- Process engineer for stamping, compression molding, resistance welding and arc welding.
 - Developed process diagrams for hydraulics and pneumatic manufacturing systems.
 - Computer programmer, quality control engineer, and computer aided designer.
 - Constructed and repaired machines and stamping dies.

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EDUCATION

3/97-12/99 Ohio State University Columbus, OH

- Doctorate - Mechanical Engineering.
- Developed and optimized real-time control system for sheet metal forming processes.
- GPA: 3.76 / 4.00. Graduated Magna Cum Laude.

6/95-3/97 Ohio State University Columbus, OH

- Master's Degree - Mechanical Engineering.
- Conducted experiments and analyses of advanced metal forming techniques.
- GPA: 3.74 / 4.00. Graduated Magna Cum Laude.
- Awarded Fellowship.

6/90-6/95 Kettering University Flint, MI

- Bachelor's Degree - Mechanical Engineering.
- Optimized process for fiber-reinforced, thermoplastic molding production line.
- GPA: 94.3 / 100. Graduated Magna Cum Laude.
- Awarded Rotary Club Scholarship.

SKILLS / QUALIFICATIONS

Top Tensioned Riser Design and Analysis

- Global and Component Analysis with FlexComm and OrcaFlex.
- Wave and Current Loading of Offshore Structures
- Vortex Induced Vibration

Oil and Gas Engineering

- Pressure vessel design (ASME Section VIII) and piping design (ASME B31.3).
- Casing design, drilling fluids, bit mechanics, and well control.
- Shipping optimization, mooring selection, and offshore cargo offloading.

Stress Analysis and Structural Design

- Structural finite element analysis with Abaqus and Ansys.
- Fatigue and Fracture Mechanics with Fracture Graphic and Crackwise.
- Metal forming simulation with Pamstamp and Dynaform.

Computer Aided Design

- Unigraphics, ProEngineer, I-DEAS, and AutoCAD.

Teaching, Presentation and Publication

- Teach three university courses and delivered one keynote speech.
- Published 20 papers and contributed 2 encyclopedia sections.

RESEARCH INTERESTS

- Failure prediction.
- Metal forming and manufacturing.
- Drilling geomechanics.
- Cryogenic containment design.

AWARDS / HONORS

- PVPD Conference Award - Outstanding Technical Paper, HPHT Committee. 2016.
- Keynote Speaker. Ansys Convergence Conference. Houston, 2015.
- Graduated Magna Cum Laude - Ohio State University - 1999
- Keynote Paper - 6th International Conference on Technology of Plasticity - 1999
- Graduated Magna Cum Laude - Ohio State University - 1997

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- Fellowship Awardee - Ohio State University - 1995
- Graduated Magna Cum Laude - Kettering University - 1995
- Rotary Club Scholarship - North Ridgeville, Ohio - 1990

AFFILIATIONS

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|-----------|---------------------------------|------------------------|
| • 6/2016 | Society Mechanical Engineers | Member |
| • 6/2005 | Society of Petroleum Engineers | Member |
| • 6/1999 | Society of Automotive Engineers | Member |
| • 3/1999 | Mensa International | Member |
| • 4/1996 | Phi Delta Theta Fraternity | Alumni, Former Officer |
| • 12/1993 | Tau Beta Pi Honor Society | Selected Inductee |

PUBLICATIONS

- Lee, S; Thomas, W. (2017) Assessment of Ductile Tearing Instability In a Cracked Pressure Containing Equipment. NAFEMS World Congress 2017.
- Contributed two sections in the upcoming Encyclopedia of Marine and Offshore Engineering, Wiley and Sons, to be published December 2017.
- Karpanan, K; Thomas, W. (2016) Critical Plane Search Method for ASME Sec-VIII Div-3 Fatigue Analysis. Journal of Pressure Vessel Technology. PVT-16-1174
- Karpanan, K; Thomas, W. (2015) ASME Sec VIII Div 3 Fatigue Life Predictions Using Critical Plane Approach. Proceedings of the ASME 2015 Pressure Vessels & Piping Conference. PVP2015-45045
- Thomas, W; Karpanan. (2014) Local Failure Analysis of HPHT Subsea Tree Components Due to Triaxial Stress. Proceedings of the ASME 2014 Pressure Vessels & Piping Division Conference. PVP2014-28722.
- Fan, B., Thomas, W. (2013) Weather Window Determination of Top Tensioned Riser Deployment with Guidewires. Proceedings of the ASME 2013 32nd International Conference on Ocean, Offshore, and Arctic Engineering (OMAE). June 9-14. Nantes, France. Paper OMAE2013-11083.
- Schamp, J. H., Estes, B. L., Keller, S. R., Thomas, W. J. (2006) Torque Reduction Techniques in Extended Reach Directional Wells. To be Published in Proceedings of IADC/SPE Drilling Conference, Feb 21-23, Miami, Florida. Society of Petroleum Engineers. Paper #98969.
- O'Donnell, J. R., Rigby, J. R., Thomas, W. J., Healy, B. E. (2003) Support Systems for Containers On-Board a Marine Vessel. United State Patent Application #60/459,204.
- Thomas, W. (2000) Validating Computer Simulation Through Soft and Hard Die Tryout of a Fender Outer. International Conference on Advances in Stamping. Dearborn, MI. Society of Manufacturing Engineers. April 12, 13.
- Thomas, W., Altan, T. (2000) Part and Process Design Methodology for Deep Drawing and Stamping of Sheet Metals. Ph.D. Dissertation. The Ohio State University. Columbus, Ohio.
- Thomas, W., Vazquez, V., Koc, M., Altan, T. (1999) Simulation of Metal Forming Processes - Applications and Future Trends. Proceedings of the 6th International Conference on Technology of Plasticity. September 19-23. Nuremberg, Germany.

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- Thomas, W., Johnson, G., Altan, T. (1999) Improving the Formability of Aluminum Alloy 3003-H14 With Computer Simulation. Keynote Paper. Proceedings of the 6th International Conference on Technology of Plasticity. September 19-23. Nuremberg, Germany.
- Thomas, W., Oenoki, T., Altan, T. (1999) Process Simulation In Stamping - Recent Applications for Product and Process Design. Special Issue of the Journal of Materials Processing Technology. Highlights of the 3rd Int'l Conference on Sheet Metal Forming Technology. Columbus, OH. October 3-5, 1998. Elsevier.
- Thomas, W., Oenoki, T., Altan, T. (1999) Implementing FEM Simulation into the Concept to Product Process. 1999 SAE International Congress. 12th Session on Sheet Metal Stamping (jointly sponsored by NADDRG). March 1-4. Detroit, MI. No. 99M-176.
- Thomas, W., Altan, T. (1998) Regular R&D Update Column of the Stamping Journal. Fabricators and Manufacturers Association International.
- Thomas, W., Oenoki, T., Altan, T. (1998) Process Simulation In Stamping - Recent Applications for Product and Process Design. Proceedings of the 3rd Int'l Conference on Sheet Metal Forming Technology. Columbus, OH. October 3-5, 1998. Fabricators and Manufacturers Association International.
- Thomas, W. Altan, T. (1998) Application of Computer Modeling in Part, Die, and Process Design for Manufacturing of Automotive Stampings. Steel Research. Vol. 69. No. 4, 5. Verein Deutscher Eisenhüttenleute. Max-Planck Institute.
- Thomas, W. Altan, T. (1998) Applying Computer Simulation to Automotive Part Stamping. The Fabricator. February, 1998. Fabricators and Manufacturers Association International.
- Diller, M., Thomas, W., Ahmetoglu, M., Akgerman, N., Altan, T. (1997) Applications of Computer Simulations for Part and Process Design for Automotive Stampings. SAE International Congress. Feb. 24-27, 1997. No. 970985.
- Thomas, W., Kinzel, G. Altan, T. (1997) Improving the Deep Drawability of 2008-T4 Aluminum and 1008 AKDQ EG Steel Sheet with Location Variable Blank Holder Force Control. M.S. Thesis. The Ohio State University. Columbus, OH.
- Thomas, W., Erevelles, W. Sullivan, L. (1995) Implementation and Automation of a Composite Extrusion System. B.S. Thesis. Kettering University. Flint, MI.

REFERENCES

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Dr. Matthew Franchek • Director • Subsea Engineering Program
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Dr. Taylan Altan • Director • Engineering Research Center for Net Shape Manufacturing
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A handwritten signature in black ink on a light gray rectangular background. The signature reads "Will J Thomas" in a cursive, slightly informal script.