

**David H. Allen, Ph.D., Director of the Center for Railway Research at TAMUS**

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Registered Professional Engineer, Texas, License No. 52285

**Education:**

- Ph.D., Aerospace Engineering, Texas A&M University, College Station, TX, 1980
- M.Eng., Civil Engineering, Texas A&M University, College Station, TX, 1976
- B.S., Aerospace Engineering, Texas A&M University, College Station, TX, 1972

**Employment History:**

- 2016-Present (6 years), Director, Center for Railway Research, Texas A&M University System (TAMUS).
- 2022-Present (recent), Professor, Ocean Engineering Department, Texas A&M University (TAMU).
- 2018-2022 (4 years), Senior Lecturer, Ocean Engineering Department, Texas A&M University (TAMU).
- 2015-2018 (3 years), Senior Engineer, Texas A&M Transportation Institute (TTI).
- 2013-2015 (2 years), Senior Scientist, Pavement Scientific International (PSI), Canada.
- 2010-2013 (3 years), Dean of Engineering, University of Texas-Pan American (UTPA).
- 2002-2010 (8 years), Dean of Engineering, University of Nebraska-Lincoln (UNL).
- 1981-2010 (21 years), Professor, Texas A&M University (TAMU), Aerospace Engineering Department.
- 1980-1981 (1 years), Assistant Professor, Virginia Tech University (VPI&SU), Engineering Science and Mechanics Department.
- 1972-75 (3.3 years), Weather Officer, United States Air Force.

**Relevant External Grants and Contracts as Principal Investigator:**

- "Experimental Fatigue Testing of Rails," Transportation Technology Center, Inc., **\$615,124, Jan. 1, 2017-Dec. 31, 2022**
- "Development of a Model for Predicting Buckling Resistance of Rail Structural Systems," Transportation Technology Center, Inc., **\$434,688, Jan. 1, 2017-December 31, 2022.**
- "Proposal to Establish a USDOT University Transportation Center for Railway Safety (UTCRS)," USDOT, UTC Program, **\$4,500,000, Oct. 1, 2013 – Dec. 31, 2018 (TAMU Subcontract for \$1,425,000).**
- "Modeling Fatigue Behavior of Composite Crossties," Axion Innovations, **\$150,000, January 1, 2018-December 31, 2019.**
- "Multiscale Modeling of Rail Cracks," Transportation Technology Center, Inc., **\$90,000, January 1, 2019-December 31, 2020.**
- "Texas A&M Affiliated Lab," Transportation Technology Center, Inc., **\$600,000, January 1, 2017-December 31, 2019.**

**Relevant Publications:** \*Graduate Co-Authors; \*\* Undergraduate Co-Authors

- **D.H. Allen**, How Mechanics Shaped the Modern World, Second Edition, Springer, 2022 (in press).
- D. Little, **D.H. Allen**, A. Bhasin, Modeling and Design of Flexible Pavements and Materials, Springer, 2018.
- **D.H. Allen**, A Two-Way Coupled Multiscale Algorithm for Predicting Evolving Microcracking In Inelastic Heterogeneous Solids, WCCM-ECCOMAS World Congress, Paris France, January 2021.
- **D.H. Allen** and G. Fry, A Model for Predicting Lateral Buckling in Rails, IHHA Conference, Capetown, South Africa, 2017.
- **D.H. Allen** and G. Fry, Analysis of a Rail Subjected to Mechanical and Thermal Loading, Center for Railway Research, Texas A&M University, CRR-2016-01, 2016.
- **D.H. Allen** and G. Fry, Finite Element Formulation for Thermal Buckling of Rails, Center for Railway Research, Texas A&M University, CRR-2016-02, 2016.
- **D.H. Allen** and G. Fry, Finite Element Formulation and Verification for Thermal Buckling of Rail Structures in the Horizontal Plane, Center for Railway Research, Texas A&M University, CRR-2017-01, 2017.
- V. Musu\*, **D.H. Allen**, and L. Cordes\*, Finite Element Formulation and Verification for Thermal Buckling of Rail Structures in the Horizontal and Vertical Planes, Center for Railway Research, Texas A&M University, CRR-2020-01, 2020.

**Relevant External Service:**

- (2017-Present) Consultant, Axion Structural Innovations
- (2015-2020) Railway Technology Working Committee, Transportation Technology Center, Inc. (TTCI)
- (2002-2010) Member, Board of Directors, Peter Kiewit Institute Technology Development Corporation