

## **Dimitrios C. Rizos, Ph.D.**

Email: [rizos@enr.sc.edu](mailto:rizos@enr.sc.edu); Tel. (803) 777-6166-2607; Cell (803) 414-5506

### **Education:**

- Ph.D., Civil & Environmental Engineering, University of South Carolina, 1993
- M.S., Civil & Environmental Engineering, University of South Carolina, 1989
- B.S., Civil Engineering, University of Patras – Greece, 1987

### **Employment History:**

- 2011-Present (11 years), Associate Department Chair, Department of Civil and Environmental Engineering, University of South Carolina.
- 2006-Present (16 years), Associate Professor, Department of Civil and Environmental Engineering, University of South Carolina.
- 2000-2006 (6 years), Assistant Professor, Department of Civil and Environmental Engineering, University of South Carolina.
- 1997-2000 (3 years), Assistant Professor, Department of Civil Engineering, University of Nebraska-Lincoln.
- 1993-1997 (4 years), Research Associate and Lecturer, Department of Civil and Environmental Engineering, University of South Carolina.

### **Relevant External Grants and Contracts as Principal/Co-Principal Investigator:**

- “A Non-Contacting System for Longitudinal Rail Stress Measurements: Field Deployment and Validation” Federal Railroad Administration, **\$453,209. (Sept 2021 – Aug 2024)**
- “Satellite Radar Imagery for Ground Hazard Risk Monitoring in Railway Track and Slopes”, Federal Railroad Administration **\$310,000. (Oct 2021-Sep 2024)**
- “Railroad 4.0: intelligent Risk Assessment and Prediction System (i-RAPS)”, Federal Railroad Administration **\$395,000. (Jun 2020 – Jun 2023)**
- “Field Implementation of a Digital Image Correlation Enabled Drone for Non-Contacting Measurements of Railroad Infrastructure”, Federal Railroad Administration **\$100,670. (Apr 2021 Jun 2022)**
- “Longitudinal Stress Measurements in Rail Using a Non-Contacting Reference-Free Vision-Based Approach”, Federal Railroad Administration **\$199,548. (Aug 2019-Dec 2021)**
- “Railroad 4.0: intelligent Crossing Assessment and Traffic Sharing System (i-CATSS),” Federal Railroad Administration, **\$160,000. (Aug 2019 – Aug 2021)**
- “Laser-based Non-destructive Spike Defect Inspection System”, NAS-NCHRP, **\$100,000 (Nov. 1, 2020 – July. 31, 2022)**
- “Railway Right of Way Monitoring and Early Warning System (RailMEWS) Based on Satellite and Aerial Imagery”, USDOT C2M2 UTC **\$71,250. (Sep 2017 – Aug 2018)**
- “High-Strength Reduced-Modulus High Performance Concrete (HSRM-HPC) for Prestressed Concrete Tie Applications”, Federal Railroad Administration & CSX Transportation **\$507,280. (Sep 2014 – Aug 2018)**

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

- K. Knopf\*, **D.C. Rizos**, Y. Qian, and M. Sutton “A non-contacting system for rail neutral temperature and stress measurements: Concept development” *Structural Health Monitoring*, 20(1): pp. 84-100, 2021. <https://doi.org/10.1177/1475921720923116>
- A. Datta\*, **D.C. Rizos**, Y. Qian “A Robust Non-Iterative Algorithm for Fast Multi-Body Dynamics and Vehicle-Structure Interaction Analysis” *Vehicle System Dynamics* 60(4): pp. 1209-1227 2021. <http://dx.doi.org/10.1080/00423114.2020.1850809>
- S. Carroll\*, J. Satme\*\*, S. Alkharousi\*\*, N. Vitzilaios, A. Downey, and **D.C. Rizos** (2021) “Drone-Based Vibration Monitoring and Assessment of Structures”, *Applied Sciences* 11(8), 8560, 2021. <https://doi.org/10.3390/app11188560>
- M. Kalaitzakis\*, N. Vitzilaios, **D.C. Rizos**, and M.A. Sutton “Drone-Based StereoDIC: System Development, Experimental Validation and Infrastructure Application” *Experimental Mechanics*, 61: pp. 981–996, 2021. <https://doi.org/10.1007/s11340-021-00710-z>
- Q. Feng\*, Y. Qian, **D.C. Rizos**, Z. Suo “Automatic Rail Surface Defects Inspection Based on Mask R-CNN” *Transportation Research Record: Journal of the Transportation Research Board* 2675(11): pp. 655-668, 2021. <https://doi.org/10.1177/03611981211019034>
- S. Wang\*, Y. Qian, Q. Feng\*, F. Guo, **D.C. Rizos**, X. Luo “Investigating High Rail Side Wear in Urban Transit Track through Numerical Simulation and Field Monitoring” *WEAR*, 470-471, 203643, 2021. <https://doi.org/10.1016/j.wear.2021.203643>
- S. Byraju\*, **D.C. Rizos** and Y. Qian “Satellite Radar Imagery for Detection and Monitoring of Geohazards”, *Transportation Research Record: Journal of the Transportation Research Board* 2674(3): pp. 283-292, 2020. <https://doi.org/10.1177/0361198120910746>
- A. Abdulqader\* and **D.C. Rizos** “Benefits of Digital Image Correlation in Uniaxial Compression Tests”, *Results in Engineering*, 6: pp. 100109, 2020. <https://doi.org/10.1016/j.rineng.2020.100109>
- L. Li\*, H. Mei\*, M.F. Haider\*, **D.C. Rizos**, Y. Xia and V. Giurgiutiu “Guided Wave Field Calculation in Anisotropic Layered Structures Using Normal Mode Expansion Method” *Smart Structures and Systems*, 26(2): pp. 157-174, 2020. <https://doi.org/10.12989/sss.2020.26.2.157>
- S. Rajan\*, M.A. Sutton, **D.C. Rizos**, A.R. Ortiz\*, A. Zeitouni\* and J.M. Caicedo “A Stereo-Vision Deformation Measurement System for Transfer Length Estimates in Prestressed Concrete” *Experimental Mechanics*, 58(7): pp. 1035-1048, 2018. <https://doi.org/10.1007/s11340-017-0357-0>

**Relevant External Service:**

- (2020-2022) National Academies of Engineering: Committee Member on Safe Transportation of Liquefied Natural Gas by Railroad Tank Car.
- (2018-Present) Chair, ASCE TDI Rail Transportation Committee
- (2012-Present) Member of TRB Committee on Railroad Infrastructure Design and Maintenance (AR050 and AR060)
- (2010-Present) Member of AREMA Committee 24 Education and Training