

Jovan Tatar, Ph.D.
Department of Civil and Environmental Engineering
University of Delaware

Professional Preparation

University of Florida, Gainesville, FL	Civil Engineering	Ph.D., 2016
University of Florida, Gainesville, FL	Civil Engineering	M.S., 2013
University of Montenegro, Montenegro	Civil Engineering	B.S., 2011

Appointments

- **Assistant Professor** (2018-present)
Department of Civil and Environmental Engineering, University of Delaware, Newark, DE
- **Affiliated Faculty** (2018-present)
Center for Composite Materials, University of Delaware, Newark, DE
- **Affiliated Faculty** (2018-present)
Center for Innovative Bridge Engineering, University of Delaware, Newark, DE
- **Assistant Professor** (2016-2018)
Department of Civil Engineering, University of Louisiana at Lafayette, Lafayette, LA

Selected Research Projects:

“CAREER: Durable Biomimetic Adhesives for Structural Engineering Applications”. PI: **J. Tatar**; National Science Foundation, Total cost: \$599,000; 06/2021-05/2026.

“TuFF Internal Wrap for Rapid Pipeline Repair (TuFF iWRAP)”. PIs: J. Gillespie, H. Shenton, **J. Tatar**, C. Kloxin, S. Yarlagadda, D. Heider; Department of Energy ARPA-E; Total Cost: \$5,954,637; 05/01/2021-04/30/2024.

“REU Site: Sustainable Resilient Transportation Systems” PIs: **J. Tatar**, M. Nejad; National Science Foundation, Total cost: \$420,383; 09/2021-08/2024.

“Extending the Service Life of Rigid Pavement Joints with Self-Healing Sealants” PIs: **J. Tatar**, C. Kloxin, A. Brand (Virginia Tech); U.S. Department of Transportation—Center for Integrated Asset Management for Multi-Modal Transportation Infrastructure Systems; Total cost: \$175,000; 04/2020-06/2023.

“Mitigating Cracking in Ultra-High Performance Concrete Connections” PIs: **J. Tatar**, F. Rajabipour (Penn State); U.S. Department of Transportation—Center for Integrated Asset Management for Multi-Modal Transportation Infrastructure Systems; Total cost: \$150,000; 06/2021-05/2023.

“Design of Anchors for Rapid and Durable Strengthening of Bridges with Externally Bonded Carbon Fiber Reinforced Polymer Composites—Phase 2”, PI: **J. Tatar**, U.S. Department of Transportation—Center for Integrated Asset Management for Multi-Modal Transportation Infrastructure Systems; Total cost: \$74,709; 01/2022-07/2023

“Precast Design Studio at the University of Delaware”. PI: **J. Tatar**; PCI Foundation, Total cost: \$ 100,000; 07/2021-06/2025.

“RAPID: Performance of Reinforced Concrete Structures with Externally Bonded Fiber Reinforced Polymer (EBFRP) Composite Retrofits in the 2018 Anchorage, Alaska Earthquake”. PI: **J. Tatar**; National Science Foundation, Total cost: \$47,800; 02/2019-02/2021.

Selected Publications

1. H. Shenton, **J. Tatar**, D. Wagner (2022). “Load Rating of Bridges and Culverts with Missing or Incomplete As-Built Information”. National Cooperative Highway Research Program (NCHRP), Synthesis Report 571, Transportation Research Board, Washington, DC, <https://dx.doi.org/10.17226/26495>

2. **J. Tatar**, S. Sattar, D. Goodwin, S. Milev, S. Ahmed, J. Dukes, C. Segura (2021). “Performance of Externally Bonded Fiber Reinforced Polymer Retrofits in the 2018 Cook Inlet Earthquake in Anchorage, Alaska”. *Earthquake Spectra*, <https://doi.org/10.1177/87552930211028609> [Featured as Editor’s Monthly Pick article for September 2021.]
3. **J. Tatar**, N. Brenkus (2021). “Performance of FRP-Strengthened Reinforced Concrete Bridge Girders after 12 Years of Service in Coastal Florida”. *ASCE Journal of Composites for Construction*, [https://doi.org/10.1061/\(ASCE\)CC.1943-5614.0001134](https://doi.org/10.1061/(ASCE)CC.1943-5614.0001134)
4. **J. Tatar**, S. Milev (2021). “Durability of Externally Bonded Carbon Fiber-Reinforced Polymer Composite Strengthening Systems in Concrete Structures: A Critical Review”. *Polymer*, 13, 765, <https://doi.org/10.3390/polym13050765>
5. A. Sinha, N. Tatar, **J. Tatar** (2020). “Rapid Heat-activated Post-tensioning of Reinforced Concrete Girders with Unbonded Near-Surface Mounted (NSM) NiTiNb Shape-memory Alloy Wires”. *Materials and Structures*, 53(4), <https://doi.org/10.1617/s11527-020-01522-8>
6. **J. Tatar**, C.R. Taylor, H.R. Hamilton (2019). “A Multiscale Micromechanical Model of Adhesive Interphase between Cement Paste and Epoxy Supported by Nanomechanical Evidence”. *Composites Part B*, 172, 679-689, <https://doi.org/10.1016/j.compositesb.2019.05.038>
7. **J. Tatar**, C. Torrence, J.J. Mecholsky, C.R. Taylor, H.R. Hamilton (2018). “Effects of Silane Surface Functionalization on Interfacial Fracture Energy and Durability of Adhesive Bond between Cement Paste and Epoxy”, *International Journal of Adhesives and Adhesion*, 84, pp. 132-142, <https://doi.org/10.1016/j.ijadhadh.2018.02.009>
8. **J. Tatar**, G. Subhash, C.R. Taylor, H. R. Hamilton (2018). “Characterization of Adhesive Interphase between Epoxy and Cement Paste via Raman Spectroscopy and Mercury Intrusion Porosimetry”. *Cement and Concrete Composites*, 88, pp. 187-199, <https://doi.org/10.1016/j.cemconcomp.2018.01.012>

Synergistic Activities

- **Professional Service**
 - American Concrete Institute (ACI):
 - Vice Chair, Committee 440F – FRP Repair/Strengthening
 - Group Leader, Environmental Reduction Factor Task Group, Committee 440L – FRP Durability
 - Voting Member, Committee 123 – Research and Current Developments
 - Associate Member, Committee 440 – Fiber-reinforced Polymer Reinforcement
 - Associate Member, Committee 446 – Fracture Mechanics of Concrete
 - Member, Committee S803 – Faculty Network
- **Session Chair**
 - American Concrete Institute (ACI) Convention: Open Topic Sessions (2017-2021)
 - Bridge Engineering Institute (BEI-2019): Session on Environmental Effects on Bridges
 - CDCC 2017: The Fifth International Conference on Durability of Fiber Reinforced Polymer (FRP) Composites for Construction and Rehabilitation of Structures
- **Proposal Reviewer**
 - Ralph E. Powe Junior Faculty Enhancement Awards (2019, 2020)
 - National Science Foundation GRFP (2020)
 - National Science Foundation (2017, 2021)
 - Louisiana Transportation Research Center (2016-2018)
- **Journals**
 - International Editorial Board Member, *ASCE Journal of Composites for Construction*
 - Reviewer for *Construction and Building Materials*, *ASCE Journal of Composites for Construction*, *ASCE Journal of Civil Engineering Materials*, *Mechanics of Materials*, *Polymers*, *Composite Structures*, *Canadian Journal of Civil Engineering*