

SEAS Vitae AY 2023-2024**Peer-Reviewed Publications****2024**

Abolhassani, B, **J Tadrös**, A Eryilmaz & S Yüksel (2024) "Optimal Push and Pull-Based Edge Caching For Dynamic Content," *IEEE/ACM Transactions on Networking* (Early Access), pp 1–13. DOI:10.1109/TNET.2024.3352029

Florio, A, G Avitabile, **C Talarico** & G Coviello (2024) "A Reconfigurable Full-Digital Architecture for Angle of Arrival Estimation," *IEEE Transactions on Circuits and Systems I: Regular Paper*, 71(3), pp 1443–1455. DOI:10.1109/TCSI.2023.3345161

Florio, A, N Bnilam, **C Talarico**, P Crosta, G Avitabile, G Coviello (2024) "LEO-based Coarse Positioning through Angle-of-Arrival Estimation of Signals of Opportunity," *IEEE Access Journal*, 12, pp 17446–17459. DOI:10.1109/ACCESS.2024.3359440

Nowak, P & **J Schultz** (2024) "Simplified Design Criteria for Bernoulli–Euler Beams: Deflection versus Flexural Strength," *Practice Periodical on Structural Design and Construction*, 29(2). DOI: 10.1061/PPSCFX.SCENG-1378

Shimabuku, K, T Henrie, D Schultise, S Pillai (2024) "Modeling Chloramine Stability and Disinfection Byproduct Formation in Groundwater High in Bromide," *AWWA Water Science*, 6(1), e1365.

Sprint, G (2024) "Social Networks and Large Language Models for Division I Basketball Game Winner Prediction," *IEEE Access* 12, pp. 84774-84784. DOI: 10.1109/ACCESS.2024.3403490

2023

Abolhassani, B, **J Tadrös** & A Eryilmaz (2023) "Optimal Load-Splitting and Distributed-Caching for Dynamic Content Over the Wireless Edge," *IEEE/ACM Transactions on Networking Vol. 31*(5), pp 2178–2190.

Crandall, A, **G Sprint**, **B Fischer** (2023) "Generative Pre-Trained Transformer (GPT) Models as a Code Review Feedback Tool in Computer Science Programs," *Journal of Computing Sciences in Colleges*, Vol. 39(1), pp 38–47.

Escalante, J, B Svetlana, E Cazarin, S Ganzerli, D Quiun, M Reiter (2023) "Experimental Research Studies on Seismic Behaviour of Confined Masonry Structures: Current Status and Future Needs," *Buildings* 13(7), pp 1776-1-57. DOI:10.3390/buildings13071776

Fink, CG, K Fullin, G Gutierrez, N Omodt, S Zinnecker, **G Sprint**, S McCulloch (2023) "A Centrality Measure for Quantifying Spread on Weighted, Directed Networks," *Physica A: Statistical Mechanics and its Applications* 626. DOI:10.1016/j.physa.2023.129083

Fink, CG, N Omodt, S Zinnecker, **G Sprint** (2023) "A Congressional Twitter Network Dataset Quantifying Pairwise Probability of Influence," *Data in Brief* 50. DOI:10.1016/j.dib.2023.109521

- Goswami, N, **J Schultz**, K Zhang, D Dowden, R Swartz & S Morse (2023) "Estimation of flaw parameters for holes in glass using maximum likelihood estimator," *Glass Structures & Engineering*, 8(3), pp 405–421.
- Parkinson, B, **B Sargent**, C Roubicek, S Magleby, V Garcia, L Howell (2023) "Mechanical actuation via resorbable materials." *Robotica*, pp 1-15. DOI:10.1017/S0263574723001534
- Sargent, B**, D Bolanos, V Garcia, L Howell (2023) "An Aggregate Sternal Force-Deflection Model," *Journal of Biomechanical Engineering* 145(11), pp 111009-1-8. DOI:10.1115/1.4063148
- Shimabuku K, M Baumgardner**, R Bahr, N Frojelin, A Kennedy, K Nolan, N Stanton (2023) "Fluoride removal in batch and column systems using bonechar produced in a top-lit updraft drum gasifier and furnace," *Water Research*, 120332.
- Tessari, A and **M Muszynski** (2023) "Evaluating Sand Particle Surface Smoothness Using a New Computer-Based Approach to Improve the Characterization of Macroscale Parameters," *Geotechnics* 3, pp 854-873. DOI:10.3390/geotechnics3030046
- Zhang M**, Y Wan (2023) "Improving Learning Experiences Using LEGO Mindstorms EV3 Robots in Control Systems Course," *International Journal of Electrical Engineering & Education* 60(4), pp 329-351. DOI:10.1177/0020720920965873

Peer-Reviewed Conference Proceedings

2024

- Muszynski, M** (2024) "Dynamic Cone Penetrometer and Relative Compaction Relationships for Silty Sands, with a Comparison to Clean, Poorly-Graded Sands," *72nd Annual U. of Minnesota Geotechnical Conference*, February 23, Minneapolis, MN., Eds. JF Labuz and A Trousil.
- Xia, Y, **S Bowers**, L Li, B Ludeascher (2024) "Reconciling Conflicting Data Curation Actions: Transparency Through Argumentation." *Proceedings of the 18th International Conference on Digital Curation (IDCC)*, arXiv:2403.08257v1 [cs.DB]
- Young, R**; K Chang; D Hurwitz; A Campos; J Woodside (2024) "Characterizations of Expert and Public Perception of Bicycle Rolling Stop Laws" *Transportation Research Record*. DOI:10.1177/03611981241234906

2023

- Abdellatif, B, M Shibl, T Khattab, **J Tadrous**, T ElFouly & N Zorba (2023) "Caching Through the Skies: The Case of LEO Satellites Connected Edges for 6G and Beyond," *TechRxiv*, March 21. DOI:10.36227/techrxiv.22298902.v1
- Crandall, A, D Olivares**, K Davis, K Dang, A Poblette (2023) "Fall PreNoSys: Augmented Reality-based Tripping Hazard Notification System and Initial User Feedback Study." Tareq Ahram and Waldemar Karwowski (eds) *Augmented, Virtual and Mixed Reality Simulation. AHFE International Conference, AHFE Open Access, vol 118*. AHFE International, USA. DOI:10.54941/ahfe1004444.
- Florio, A, **C Talarico**, G Avitabile, G Coviello (2023) "A Synchronous Digital Phase Detector Architecture based on a Coarse Time-to-Digital Approach," *Proc. of IEEE 8th International*

Conference on Smart and Sustainable Technologies (SpliTech), Split, Croatia, June.
DOI:10.23919/SpliTech58164.2023.10192942

Howard, N, **G Sprint**, D Weeks and E Crooks (2023) "A Remotely Accessible Ecological Momentary Assessment and Actigraphy System for ALS Research," *IEEE International Conference on Digital Health (ICDH)*, Chicago, IL, USA, pp 24–29.

Ludaescher, B, **S Bowers** and Y Xia (2023) "Games, Queries, and Argumentation Frameworks: Towards a Family Reunion," *Proceedings of the 7th Workshop on Advances in Argumentation in Artificial Intelligence (AI3)*, November 6–9, Rome, Italy. ceur-ws.org/Vol-3546/paper06.pdf

Ohara, N, [A Neupane](#), K Ahlenius, **R Young**, [R Campos](#) (2023) "Blow-Over Risk Evaluation System for High-Profile Light-Weight (HPLW) Vehicles on Wyoming," *Transportation Research Record* 2677(12). DOI:10.1177/03611981231168118

Conference Presentations

2024

Niezgoda, S (2024) "Mimicking Mother Nature's Ecosystem Engineer by Implementing Beaver Dam Analogs in Thompson Creek to Reduce Sediment and Phosphorus Loads Entering Newman Lake," 2024 Joint ICTWS, WATWS, and NW-PARC Annual Conference, March 27, Couer d'Alene, Idaho.

Niezgoda, S (2024) "BDAs: Mimicking Mother Nature's Ecosystem Engineer to Improve Riverine Ecosystems," Presentation and Discussion for the Monday Morning Talks series of RiverSHARED. February 22.

Shimabuku, K, SX Jin, S Kolstoe, R Cole, K Wampler, K Bladon and A Hohner (2024) "Wildfire impacts on water quality and treatment processes in the Pacific Northwest." American Water Works Association-Pacific Northwest Section Annual Conference, Spokane, WA, May 1-3.

2023

Crandall, A, **G Sprint** and **B Fischer** (2023) "Generative Pre-Trained Transformer (GPT) Models as a Code Review Feedback Tool in Computer Science Programs," *Consortium For Computing Sciences In Colleges*, Eastern Washington University, Spokane, WA, October 13–14.

Shimabuku, K, E Ross, [B Baker](#), [J Pedicord](#), [B Brynna](#), [B Evan](#), [B Bone](#), [N Frojelan](#), [R Barr](#), **M Baumgardner** (2023) (oral presentation) American Water Works Association: Water Quality Technology Conference, Dallas, TX. November 5-9.

Shimabuku, K. K. T. Henrie, D. Schultise, S. Pillai, (2023) "Chloramine Stability and Disinfection Byproduct Formation in the Presence of Bromide" (oral presentation). American Water Works Association: Water Quality Technology Conference, Dallas, TX. November 5-9.

Workshops/Short Course/Seminars

2024

Niezgoda, S. (2024) Co-Facilitator and Instructor, Physical Processes Short Course "Hydrology," "Hydraulics" and "Modeling" modules (2 hours each). Stream Restoration Certificate Program,

Environmental Professional Program, Portland State University, Portland, OR, March 11-15. (6 PDHs)

2023

Crandall, A, G Sprint, B Fischer (2023) "Generative Pre-Trained Transformer (GPT) Models as a Code Review Feedback Tool in Computer Science Programs," *Journal of Computing Sciences in Colleges*, Vol. 39(1), pp 38-47.

Honors & Awards

Muszynski, M was inducted into Tau Beta Pi as an eminent professional in March 2024.

Talarico, C received recognition for "Professional Contributions" at the annual Faculty Recognition Celebration, Gonzaga University, May 2024.

Young, R received "2024 Best Paper Submitted to Transportation Research Record" from the Transportation Research Board Committee on Bicycle Transportation (ACH20) in January, in Washington, D.C.

Funded Research

Schultz, J (2024) *Fly Ash Replacement Grout*. NWCMA. Total: \$6,000

Schultz, J (2024) MJ Murdock Charitable Trust, "Glass Failure Studies," \$15,000

Shimabuku, K. (2024) USDA Forest Service, "Water security: evaluation of drinking water system challenges and cost implications to assess preparedness for wildfire in the Western U.S.," Total: \$335,471/4 years.

Young, R. *Preparing the Transportation Workforce for the Deployment of Emerging Technology*, National Cooperative Highway Research Program (NCHRP), Transportation Research Board, National Academies. Total: \$300,000.

Other Scholarly Activity

2024

Muszynski, M, Governor on the Board of Governors, Order of the Engineer.

Muszynski, M, Member of the Community, Housing & Human Services Affordable Housing Subcommittee, City of Spokane.

Schultz, J, appointed to APA Standards Committee ANSI/APA PRG 320 on Cross-Laminated Timber, 2024.

Schultz, J, appointed to WoodWorks North American Mass Timber Technical Subcommittee, 2024.

Young, R, Member, Transportation Advisory Committee, Spokane Regional Transportation Council.

Young, R, Associate Editor, ASCE Journal on Civil Engineering Education.

2023

Abou-Elkheir, A, H El Gamal, N Wanas, K Youssef, H Zaid & **J Tadrour**, "System and Method for Efficient Use of Network Bandwidth," U.S. Patent 11,647,421 (2023)

Student Accomplishments, Awards**2024**

Matt Udell is a semi-finalist in the SAMPE University Research Symposium for the paper "Material Selection for Carbon Fiber T-Joint Deltoid." (Finalists will be announced in July, 2024.)

ASCE Student Chapter took Third Place in both the Overall and Technical Proposal categories of the Concrete Canoe Competition, Pacific Northwest Student Symposium, April 2024.

Team "Water Security Against Wildfire Impacts" earned First Place, Student Design Competition, Pacific Northwest Clean Water Association. Team members Mark Chayka, Adam Chin, Matt Foley and Noah Hoefler are invited to represent Gonzaga and the Pacific Northwest at the national competition at a conference October 2024 in New Orleans, LA.

2023

Engineering Management, Fourth place in Case Study Competition, American Society of Engineering Management.