

AKASH BAJAJ (E.I.T.)

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[Google Scholar Profile](#)

EDUCATION

- **University of Illinois**, Urbana-Champaign, IL (Exp) Dec 2027
Doctor of Philosophy, Civil Engineering **GPA: 3.81**
- **Texas A&M University**, College Station, TX Dec 2018
Master of Science, Civil Engineering **GPA: 3.88**
- **Delhi Technological University**, New Delhi, India May 2016
Bachelor of Technology, Civil Engineering **GPA: 3.00**

SELECTED PUBLICATIONS

- **Bajaj, A.**, Al-Qadi, I. L., and Lambros, J. (2026) "A Novel Fracture-Inspired Cored Brazil Disc Test to Characterize Cracking Potential for Asphalt Concrete" *International Journal of Pavement Engineering*, 27(1). <https://doi.org/10.1080/10298436.2026.2670562>
- **Bajaj, A.**, Y. I. Alhadidi, A. Sulaiman, J. J. García Mainieri, A. S. Campos, and Al-Qadi, I. L. (2026) "Investigating Photochemical Degradation of Asphalt Binders under Field-Representative Temperature Conditions" *Under Review at Journal of Materials in Civil Engineering*
- **Bajaj, A.**, Modi, S., Al-Qadi, I. L., Dave, E.V., Lambros, J., and Sias, J.E. (2026) "Lab and Field Validation of Simplified Low-Temperature SCB Test for Airfield Asphalt Mixtures" *In Publication at Journal of Transportation Engineering, Part B: Pavements*
- **A. Bajaj**, A. Epps Martin, G. King, C. Glover, F. Kaseer, and E. Arámbula-Mercado (2020) "Evaluation and classification of recycling agents for asphalt binders" *Construction and Building Materials*, Vol 260. <https://doi.org/10.1016/j.conbuildmat.2020.119864>
- A. Epps Martin, F. Kaseer, E. Arámbula-Mercado, **A. Bajaj**, L. Garcia Cucalon, F. Yin, A. Chowdhury, J. Epps, C. Glover, E. Y. Hajj, N. Morian, J. Sias Daniel, M. Oshone, R. Rahbar-Rastegar, C. Ogbo, and G. King (2018) "The Effects of Recycling Agents on Asphalt Mixtures with High RAS and RAP Binder Ratios" *NCHRP Report 927*. <https://trid.trb.org/View/1694719>

RELEVANT EXPERIENCE

Graduate Research Assistant, University of Illinois

Jan 2022 – Present

- Served as lead student researcher in writing and winning a competitive \$500k FAA project, now leading the research on Stone-Matrix Asphalt implementation across U.S. airports in collaboration with academia and industry to prolong airside infrastructure.
- Led a 3-year, \$1M FAA-sponsored project investigating cracking mechanisms in airfield asphalt pavements. Outcomes include updates to FAA specifications with new tests and thresholds as well as establishment of 2 new ASTM standards.

Graduate Teaching Assistant, University of Illinois

Jan 2024 – Dec 2025

- Teaching assistant for CEE 407 Airport Design course, overseeing grading, facilitating discussions, and guiding projects for 50+ students each semester with a focus on effective communication and organization

Graduate Engineer, Fisher Arnold

Mar 2021 – Dec 2021

- Prepared 30%, 60%, and 90% design plan sets for city and state roadway projects, including typical sections, pavement markings, plan & profile, MOT, and erosion control sheets.
- Managed site plans and subdivision designs up to 30 acres across Arkansas, Tennessee, and Missouri, covering utilities, erosion control, and local specification compliance.

Civil Engineer, Applied Research Associates Inc.

Mar 2019 – Mar 2021

- Implemented pavement management systems for state, county, and private agencies — including PennDOT, NHTA, and Anne Arundel County — covering distress data QC, database entry, 10-year condition forecasting, and treatment

optimization across thousands of miles of roadway.

- Served as project manager to catalogue almost 87,000 traffic signs spread across 2.5k miles for Nashville metro public works, created a GIS Database for easy access and asset management.

Graduate Assistant – Teaching, Texas A&M University

Sep 2018 – Dec 2018

- Lab instructor and teaching aide for CVEN 342 (91 undergraduates) and CVEN 653 (14 graduates). Responsibilities included overseeing lab experiments, grading, proctoring, assisting students, and coordinating field visits.

Graduate Assistant – Research, Texas A&M Transportation Institute

Jan 2017 – Aug 2018

- Contributed to a federally funded, 5-year \$1.5M multi-university project evaluating recycling agents for high-RAP (up to 50%) asphalt mixtures, leading lab testing and contributing to final guidelines for incorporating recycled materials in new construction.

SELECTED PRESENTATIONS

- **Bajaj, A.**, Al-Qadi, I. L., and Lambros, J. (2026) “Fracture Characteristics of Cored Brazil Disk Geometry” *12th International Conference on the Bearing Capacity of Roads, Railways and Airfields*, Ljubljana, Slovenia.
- **Bajaj, A.** and Al-Qadi, I. L. (2026) “Performance Characterization of Airfield Asphalt Concrete for Service Temperature Cracking” *2nd International Symposium on Bituminous Materials*, Padova, Italy.
- Modi, S., **Bajaj, A.**, Dave, E., Sias, J., & Al-Qadi, I. (2025) “Development of Simplified Low-Temperature Semi-Circular Bend Test for Balanced Mix Design Application for Airfield Pavements” *101st Association of Asphalt Paving Technologists Annual Meeting*, Reno, NV.
- **Bajaj, A.**, Gangidi, N., Al-Qadi, I. L., & Pine, W. J. (2025) “Fracture and Strength Tests for Airfield Balance Mix Design” *ASCE T&DI International Airfield and Highway Conference 2025*.
- **Bajaj, A.**, & Al-Qadi, I. L. (2025) “Characterization of Cracking Potential of Airfield Asphalt Pavements” *104th Transportation Research Board Annual Meeting*, Washington, D.C.
- **Bajaj, A.**, Epps Martin, A., & Arambula-Mercado, E. (2018). “Evaluating the Effect of Recycling Agent Type on Binder Blend Performance” *94th Association of Asphalt Paving Technologists Annual Meeting*, Jacksonville, Florida.

ACADEMIC AWARDS

- **Ward K. Parr Scholarship for PhD Students (2024)**: Sponsored by Association of Asphalt Paving Technologists
- **Graduate Research Award for Public-Sector Aviation Issues (2023)**: Sponsored by Airport Cooperative Research Program of Transportation Research Board
- **Illinois Asphalt Pavement Association Scholarship (2022)**: Sponsored by Illinois Asphalt Pavement Association

SERVICE AND OUTREACH

- **Research Forum Chair (2025-Present)**: Academy of Pavement Science and Engineering.
- **Board Member (2024-Present)**: Students Advising Graduate Education (SAGE), University of Illinois.
- **Undergraduate Student Mentor (2022)**: Undergraduate Research in Scientific Advancement, University of Illinois.
- **Journal Reviewer (2018-Present)**: Construction and Building Materials, International Journal of Pavement Engineering, Transportation Research Record, American Society of Civil Engineering.
- **Panel Member (2018)**: University Disciplinary Appeals Panel (UDAP), Texas A&M University.
- **Vice President (2017-2018)**: Graduate and Professional Student Council (GPSC), Texas A&M University.
- **Director (2016-2017)**: Indian Graduate Student Association (IGSA), Texas A&M University.