

"JOURNEY OF DATA"

DR. VIVEK SHARMA

ASSOCIATE DEAN FOR STUDENT EXCELLENCE
COLLEGE OF ARCHITECTURE, ART & CONSTRUCTION
ASSOCIATE PROFESSOR OF CONSTRUCTION & REAL ESTATE DEVELOPMENT
CLEMSON UNIVERSITY



ABSTRACT

In the digital era, data flows through the intricate networks of information systems, offering the promise of business intelligence and data-driven decision-making. Yet the critical question remains: Are we truly leveraging data effectively in environments where information is abundant but fragmented? In this session, Dr. Vivek Sharma will present the "Journey of Data" through a unique perspective shaped by his career in data analytics and research within the construction industry. Drawing upon his extensive work with healthcare and federal facilities, Dr. Sharma will explore the complexities of transforming raw data into actionable insights. This presentation will delve into the fundamental challenge of data integrity—highlighting the adage "garbage in, garbage out"—and examine how this applies to the dynamic and diverse landscape of construction projects, where each endeavor is unique and interconnected. Dr. Sharma will address the need for systems to identify patterns and build on project similarities to optimize data utilization, particularly for stakeholders navigating complex decision-making environments. Through detailed case studies, the session will illustrate how robust external benchmarking frameworks can be developed to enhance sustainability, assess capital project performance, and account for unique variables across various sectors. Attendees will gain insights into strategies for optimizing data integration and learn how leveraging the right data can transform project outcomes in the Architecture, Engineering, and Construction (A/E/C) industry.

BIOGRAPHY

Dr. Vivek Sharma is the Associate Dean of Student Excellence and Associate Professor in the Nieri Department of Construction and Real Estate Development within the College of Architecture, Arts and Construction at Clemson University. In this role, he oversees strategic initiatives that enhance student success, experiential learning, and industry engagement across the college. His research focuses on benchmarking and project analytics to enhance capital project performance, particularly understanding the impact of early programmatic and design decisions on healthcare facilities and patient outcomes. Dr. Sharma played a pivotal role in developing and implementing an external Healthcare Benchmarking Program for the healthcare construction industry, funded by the U.S. Department of Veteran Affairs (VA) and the U.S. Department of Defense (DoD)/Military Health System (MHS). He has collaborated with leading healthcare industry partners, including Kaiser Permanente, HCA, Adventist, and AECOM, to build a robust healthcare database. His expertise extends to data-driven decision-making, integrating machine learning and AI technologies to enhance benchmarking, knowledge management, and project analytics. Notably, he contributed to the Federal Facilities Data Analytics Research and Applications Program (FF-DARAP), which aimed to create a comprehensive data warehouse for federal facilities to improve building processes and dashboard visualization for key strategic metrics. He also led the National Healthcare Facilities Benchmarking Program, partnering with institutions like Clemson and Vanderbilt to drive data-informed improvements. Dr. Sharma also serves as the Founding Director of the Center for Roofing Innovation and Leadership, where his research focuses on the intersections of business intelligence—including machine learning and AI-tech integration—with capital project performance, life-cycle assessment, workforce development, and sustainability within the construction and roofing industries. This center aims to drive sustainable growth across the roofing supply chain through innovative research and educational initiatives focused on roofing innovation and leadership, leveraging academia-industry collaboration. Dr. Sharma serves on numerous university and national committees, including as a Presidential Appointee to the Search Committee for the Provost and Executive Vice President for Academic Affairs at Clemson University, the Intellectual Property Committee, the Graduate Admissions and Continuing Enrollment Appeals Committee, and the 2026 Healthcare Design & Construction Symposium Program Committee at Vanderbilt University. His industry experience includes serving as an estimator, project engineer, and project manager with Kitchell Contractors. Dr. Sharma is also a member of the American Society for Health Care Engineering (ASHE) and the American Society for Civil Engineers (ASCE). Dr. Sharma holds a Ph.D. in Civil Engineering (Construction Engineering and Project Management) from The University of Texas at Austin, a Master of Science from Arizona State University (Del. E. Webb School of Construction), and a Bachelor's degree in Architecture.