



EDUCATION

- Maharishi Markandeshwar Engineering College
 - Bachelor of Technology, Civil Engineering, 2011
- National Institute of Technology, Kurukshetra
 - Master of Technology, Structural Engineering, 2013
- Indian Institute of Technology, Delhi
 - Doctor of Philosophy, Civil Engineering, 2020

PRACTICE AREAS

- Construction Materials Assessment
- Low Carbon Cement
- Durability Assessment
- Research and Product Evaluation
- Petrography
- Laboratory Evaluation

REGISTRATIONS

- ACI Cement Physical Tester

PROFESSIONAL AFFILIATIONS

- RILEM

TECHNICAL COMMITTEES

- RILEM TC 301 - ASR
- RILEM TC 312 - PHC

CONTACT

aparashar@wje.com
847.272.7400
www.wje.com

EXPERIENCE

Anuj Parashar joined WJE with ten years of research experience. He is engaged in laboratory evaluations of construction-related products, along with evaluation of low carbon cements, calcined clays, alternative supplementary cementitious materials, alkali-silica reaction (ASR) in concrete, and ultra-high-performance concrete (UHPC).

Before joining WJE, Dr. Parashar conducted research at several laboratories. He worked extensively on limestone calcined clay cement (LC³) at the Indian Institute of Technology, Delhi, and collaborated with several cement producers in India for raw materials characterization, cement testing, and field trial production of LC³. During his postdoctoral research at Oregon State University, he conducted research for projects sponsored by the National Science Foundation, Oregon Department of Transportation (DOT), and other agencies. The projects included evaluation of alkali-silica reaction, electrical resistivity of concrete, development of low carbon ultra-high performance concrete for highway infrastructure, evaluation of high early-age strength binders for bridge repair, and the potential for use of off-specification fly ash as an alternative supplementary cementitious material (SCM) for cement and concrete.

Dr. Parashar is involved with the Low Carbon Construction Association and leads the LC³ Technical Resource Center for North America (LC³ TRC-NAM).

REPRESENTATIVE PROJECTS

Construction Materials Assessment

- Potential Natural Pozzolan Evaluation: Characterization of mineral and amorphous phases
- Characterization of Alternative SCMs: Quantitative mineral phase analysis and reactivity testing
- UHPC Development: Trial mixture evaluation and testing

Low Carbon Cement

- Evaluation of Ultra-Low Clinker Cements: Optimization of clinker content, validation of testing techniques, impact of curing temperatures on strength development, and performance assessment based on paste samples and thermodynamic modeling of cement hydration
- Clay Testing: Mineral composition, expansive clay minerals, potential clay phases for thermal activation, optimal calcination temperature, clay calcination, and reactivity testing

Durability Assessment

- Evaluation of environmental degradation and fire damage of concrete and related materials
- Alkali Adsorption by Aggregates in Cement Concrete: Aggregate testing

Research and Product Evaluation

- ACPTP Project No. 2021-1 - Mitigating Potential ASR Expansion in Airfield Concrete Pavements: Potential application of alternative SCMs for ASR mitigation, methodology for assessing the impact of impurities present in alternative SCMs on ASR, and validation of existing test methods for alternative SCMs
- Long-Term Bridge Performance Program: Review of state DOT policies for activities related to bridge deck repair and rehabilitation
- Bridge Design for Minimum Maintenance: Review of state DOT policies and recommendations on pile design for extended service life
- Graphene Testing: Validation of purity of graphene-based materials

Concrete Petrography

- Hardened Air Void Analysis - Quantification of air content in concrete specimens per ASTM C457, Method B

Laboratory Evaluation

- Materials analysis to assess physical and chemical properties
- Reactivity testing of SCMs