

Rahul Ratakonda, P.E.
Senior Engineer

Professional Profile

Mr. Rahul Ratakonda is a Senior Engineer in Exponent's Buildings and Structures practice who specializes in structural engineering with an emphasis on evaluation of structural performance and damage evaluation. Mr. Ratakonda has investigated failure of steel structures, cold formed steel structures, fabric roof structures, cranes, concrete slabs, wood frames, steel joist systems, underground pipes and brick and stone facade systems. In addition, Mr. Ratakonda has experience regarding the engineering aspects of urban construction including analysis of crane collapses, analysis of roof collapses due to snow and ponding loads, analysis of settlement of buildings due to adjacent construction, the use of underpinning and bracing systems to stabilize structures during construction and demolition, analysis and repair design for steel, concrete and cold formed steel construction, crane erection consulting, precast-concrete bridge deck issues, large scale scaffold collapses, stone facade connection issues, brick facade failures, and PVC pipe failures. He has also investigated building envelopes for evaluation of water intrusion and associated damage, and inspected properties damaged by wind and water surge from hurricanes.

Prior to joining Exponent, Mr. Ratakonda was a graduate student at the University of Michigan. During his time there he researched the stress-strain properties of carbon nanotubes (CNTs) to be used in sensors, and the performance of fiber-reinforced plastic (FRP) retrofit of steel and concrete beams. Mr. Ratakonda has also worked on shape optimization, using a genetic algorithm, for large span roof trusses and for metal castings.

Academic Credentials and Professional Honors

M.S.E., Civil Engineering, University of Michigan, Ann Arbor, 2007
B.Tech., Civil Engineering, Indian Institute of Technology, Guwahati, 2006

Registered Professional Engineer, New Hampshire, #13455

Publications and Reports

Ratakonda R, Erdem I, Peraza DB. Learning: An investigation into a gantry crane collapse during disassembly. International Cranes and Specialized Transport, 2011.

Dolhon AM, Ratakonda R. Snow removal strategies of lightweight, flat roof structures. Structures Congress, Las Vegas, NV, 2011.

Ratakonda R, Erdem I. Traditional analytical methods underestimate the stresses at beam copes. Structures Congress, Orlando, FL, 2010.

Ratakonda R. Study of stress-strain properties of Carbon Nanotubes (CNTs). University of Michigan, 2007.

Ratakonda R. Study of Fibre-Reinforced Plastic (FRP) retrofit of concrete beams. B.Tech. Thesis, IIT Guwahati, 2006.

Reddy PDT, Ratakonda R, Dutta A. Multi-objective optimization of a large span roof truss. SEC 2005, IISC Bangalore, 2005.

Selected Projects

- Goliath Crane, Quincy, MA – Gantry crane collapse during disassembly
- Mississippi Power Facility, Escatawpa, MS – Collapse of 180' tall scaffold during boiler maintenance
- New Shrewsbury Racquet Club, North Tinton Falls, NJ – Collapse of fabric roof structure from snow load
- Seneca Casino Parking Garage, Buffalo, NY – Analysis of precast concrete garage
- PeachParking Garage, New York, NY – Selective demolition, renovation and repair of parking garage
- Ayer Condominium, Philadelphia, PA – Investigation of limestone façade.
- Seton Hall University, South Orange, NJ – Investigation of thin limestone façade panel issues.
- DSNY Facilities Garage, 650 West 57th Street, New York, NY – Investigation of limestone façade issues.