



HALLIWELL

SUMANTH CHERUKU, P.E.

SENIOR FORENSIC ENGINEER,
CIVIL/STRUCTURAL ENGINEERING SERVICES
AUSTIN, TX

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SPECIALTIES

- Structural Analysis and Design
- Construction Defect Evaluations
- Structural Forensic Evaluations
- Fire and Wind Damage Evaluation
- Building Envelope and Water Intrusion Analysis
- Collapse and Industrial Explosion Evaluations
- Steel, Concrete and Wood Framed Structures
- Advanced Modeling and Simulation
- Concrete Mixture Proportioning and Durability
- Computational Fluid Dynamics and Fluid-Structure Modeling
- Probabilistic Modeling and Risk Analysis
- Fatigue Analysis
- Utility-Scale Photovoltaic Power Plants
- Refineries and Petrochemical Plants
- Bridges and Wastewater Treatment Plants
- Commercial, Single-Family and Multi-Family Residences
- High-rise Buildings and Multi-unit Complexes

BIOGRAPHY

Sumanth brings more than six years of experience as a Structural Forensic Engineer with expertise in planning and performing investigations, assessing structural integrity, and proposing repair recommendations for clients including property owners and managers, insurance adjusters, attorneys, and contractors. He has experience in assessing petrochemical industries, refineries and LNG facilities, high-rise buildings, bridges, wastewater treatment facilities, and commercial and residential structures. His specialties include corrosion of steel in concrete, wind-induced structural vibration, structural instability and construction bracing, code evaluations, and wind vs. water investigations. Sumanth has experience leading multi-expert teams on complex assignments and has extensive experience with litigation and subrogation support.

QUALIFICATIONS

Master of Science in Engineering – Civil Engineering, University of Texas, Austin, TX

Bachelor of Technology – Civil Engineering, National Institute of Technology, Warangal, India

INDUSTRY CERTIFICATIONS, LICENSES AND MEMBERSHIPS

- Licensed Professional Engineer: TX, CA, LA, AR, KY, WY, MS, CO
- FAA sUAS Pilot

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- American Society of Civil Engineers, Forensic Engineering Division
- American Society of Civil Engineers, Wind Engineering Division
- American Concrete Institute
- Structural Engineering Institute

PROFESSIONAL EXPERIENCE

- Halliwell, Senior Forensic Engineer, Civil/Structural Engineering Services
- EFI Global Inc., Forensic Structural Engineer
- Thornton Tomasetti, Inc., Project Engineer
- Pivot Engineers, PLLC., Staff Engineer, Intern

REPRESENTATIVE ASSIGNMENTS

Construction Defect | Encino, TX

Pre-litigation support for the evaluation of alleged construction defects for a 14.5MW PV solar power plant. The scope of work included geotechnical investigation and in-situ pile testing.

Construction Defect | Confidential Location

Multi-disciplinary engineering investigation for alleged design and construction-related issues for a large municipal tunnel project. Assisted in pre-litigation and mediation phases.

Industrial Explosion | Confidential Location

Structural and geotechnical engineering investigation to evaluate process equipment following an explosion and fire at an oil refinery.

Structural Analysis and Design | Houston, TX

Structural design and design review of the furnace modules and foundation design of Olefin's recovery units.

Design Defect | Arizona

Site investigation after the event, repair design, in-situ load testing of designed retrofit and construction administration of the designed retrofit, and mediation/litigation assistance on a utility-scale PV solar field.

Structural Evaluation of Wastewater Treatment Plants | Austin, TX & Kailua, HI

Non-destructive testing and condition assessment of wastewater treatment plants.

Risk Analysis | Vitoria, Brazil & East Chicago, IN

Structural analysis and risk-based operating recommendations for emergency stacks at coke-processing facilities that are tilting and deteriorating.

Concrete Durability | New York City, NY

Electrochemical NDT of concrete in a large office building for alleged latent chloride-induced corrosion damage from Hurricane Sandy

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Probabilistic Modeling and Reliability Analysis | Confidential Location

Provided reliability assessment of the failure of cable anchors due to wind- induced vibration on a pedestrian bridge.

Nondestructive Testing | Dallas, TX

Nondestructive testing of a parking garage for subsurface defects originating from improper concrete compaction.

Construction Defect | San Antonio, TX

Alleged design defects with a pan-joint floor system in an elementary school. Scope included a site visit, progressive collapse analysis, and advanced modeling.

Numerical Modeling and Simulation | Savannah, GA

Advanced numerical modeling and analysis of cable stays with cross ties to determine performance with viscous damping in rain-wind-induced vibrations.

Structural Evaluation | Austin, TX

Assisted in alleged design and construction defects at a condominium complex with CMU walls.

Structural Evaluation | Central America

Used PIANC WG33 guides to determine the performance of marine fenders under ship impact loads.

RECENT SPEAKING ENGAGEMENTS

- Cheruku, S. (2018), Panelist - Panel Discussion on Guidelines for Sampling for Forensic Investigations, Forensic Engineering Congress, ASCE, Austin, TX
- Cheruku., S. (2018), Implications of Uncertainty in Service Life Modeling: Example of Chloride-Induced Corrosion of Reinforcement in RC Structure, Forensic Engineering Congress, ASCE, Austin, TX
- Cheruku, S*. (2017). Uncertainty in Service Life Estimation and Probabilistic Service Life of Chloride Induced Steel Corrosion in Reinforced Concrete Structures. Corrosion New Orleans, LA: National Association of Corrosion Engineers (NACE)
- Cheruku, S., Alqarni, A., Fowler, D*., (2016). Surface Friction Rehabilitation Using Diamond Grinding and Grooving. International Grinding and Grooving Association Annual Conference, Mesa, AZ.
- Cheruku, S., Alqarni, A., Fowler, D*., (2016). Laboratory Performance of Diamond Grinding and Grooving. Cement Council of Texas Annual Conference. Austin, TX
- Alqarni, A*., Cheruku S., Fowler, D., (2016). Diamond Grinding and Grooving. International Conference on Concrete Pavements. San Antonio, TX. American Concrete Pavement Association (ACPA)
- Cheruku, S*. (2015). Realkalization of Carbonation-Induced Corrosion Damaged Structures. CCC15-6973 Concrete Service Life Extension Conference. Philadelphia, PA. NACE

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- Kumar, R., Oshima, T., Mikami, S., Cheruku, S*. (2013). Studies on RC and Ferrocement Jacketed Columns Subjected to Simulated Seismic Loading. National Convention on Ferrocement. Pune, India. American Society of Civil Engineers – India Chapter
- Cheruku, S*, Kumar, R. (2013). Non-Linear Static Pushover Analysis of Ferrocement Confined Self-Compacting Concrete Columns for Weak Storey Performance. National Convention on Ferrocement. Pune, India.
- Cheruku, S*, Kosuru, R., Kumar, R., (2013). Study of Mechanical and Durability Aspects of Sustainable Self-Compacting Concrete Made from Building Demolished Concrete Wastes 3rd International Conference on Sustainable Construction Materials and Technologies (SCMT3). Kyoto, Japan: Japan Concrete Institute
- Cheruku, S*, Kosuru, R., Kumar, R., Kumar, R., (2013). Recycled Aggregate Based Self Compacting Concrete (RASCC) for Structural Applications. International Conference on Advances in Science and Technology of Concrete – Suru Shah Symposium. Mumbai, India. American Concrete Institute – India Chapter

PUBLICATIONS

- Cheruku, S. (2020), Utility-Scale Photovoltaic Power Plants, Structure Magazine, November 2020
- Cheruku, S. (2018), Revisiting the Galloping Gertie, Structure Magazine, July 2018
- Cheruku, S., Rathish, K., (2014). Compressive Strength Performance of High Strength Concretes Using Binary Supplementary Cementitious Materials. Cement, Wapno, Beton XIX/LXXXI (1): 8
- Cheruku, S., Rathish, K., (2013). Recycling of Construction and Demolition Waste for Sustainability – An Overview of the Use of Recycled Concrete Aggregates, International Journal of 3R's (Repair, Recycle and Reuse) Vol 4: 4, 642-651.