



DESIRE 2 DESIGN ENGINEERS

Structural Consultancy & Constructions

Guest Lecture Report

Science Behind the Structural Failures: From Academia to Construction Industry

A session on structural distress, diagnosis and remedial engineering, with an introduction to real-world internship opportunities

RESOURCE PERSON	Er. S. Soma Sekhar Naidu — Founder & Managing Director, D2D Engineers
DATE	11th August 2026
TIME	10:30 AM – 12:00 Noon
VENUE	Seminar Hall, Department of Civil Engineering, Anil Neerukonda Institute of Technology & Sciences (ANITS), Sangivalasa, Bheemunipatnam Mandal, Visakhapatnam District
ORGANIZED BY	Department of Civil Engineering, ANITS, under the ASCE Student Chapter of ANITS
CONVENER	Dr. J. Vikranth, Head of the Department, Civil Engineering, ANITS
FORMAT	Lecture + Live Demonstration + Interactive Q&A
PARTICIPANTS	3rd & 4th Year Civil Engineering students and teaching staff

ABOUT THE RESOURCE PERSON

Er. S. Soma Sekhar Naidu, M.E., AMIE, AIV (Chartered Engineer), is the Founder & Managing Director of Desire 2 Design (D2D) Engineers — a structural consultancy and turnkey construction firm offering services spanning structural design, NDT & soil testing, DGPS survey, seismic retrofitting and plan approvals. Having earlier worked as an Assistant Professor, he brings both an academic and a site-tested engineering perspective to the classroom, and visited ANITS to share hard-won lessons on why structures fail and how engineers diagnose, repair and prevent distress — delivered in his present capacity as Founder & Managing Director, D2D Engineers.

15+ Years Experience	1000+ Projects Completed	50+ Skilled Team	₹250 Cr Largest Project
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OBJECTIVES OF THE SESSION

- Understand why well-designed, code-compliant structures still develop distress over time.
- Recognise the spectrum of structural failure — cracking, settlement, corrosion, spalling and seepage.
- Learn the systematic investigation procedure: visual inspection, crack mapping, site survey and testing.
- Build familiarity with Non-Destructive Testing (NDT) methods used to assess structures without damage.
- Understand remedial techniques and the modern technologies reshaping structural health monitoring.

TOPICS COVERED

- **Structural Failure as a Spectrum** — A warning sign spanning cracking, settlement, corrosion, spalling and seepage.
- **Life Cycle of a Structure** — Planning, design, construction, service & maintenance, and how failure can originate at any stage.
- **Root Causes of Distress** — Poor planning, inadequate soil investigation, improper construction, material quality issues, environmental effects and lack of maintenance.
- **Concrete & Reinforcement on Site** — Water-cement ratio, compaction, curing, and how corrosion silently reduces load-carrying capacity.
- **Investigation Procedure & NDT** — Visual inspection, crack mapping, Rebound Hammer, Ultrasonic Pulse Velocity, Half-Cell Potential and GPR testing.
- **Remedial Measures & Modern Technology** — Crack injection, jacketing, corrosion control, BIM, IoT monitoring and sustainable construction practice.

INTERACTIVE LEARNING & DEMONSTRATION

Rather than staying at an advanced, theoretical level, Er. S. Soma Sekhar Naidu deliberately walked students back to the basics — reinforcing core concepts of structural behaviour through live, on-the-spot demonstration instead of slides alone. Students were called forward to physically model structural action, while the rest of the hall reasoned out loud alongside him, making the session participative rather than a one-way lecture.



Students modelling structural behaviour in a live, hands-on demonstration



Full house — students following the session attentively



INTERNSHIP OPPORTUNITIES AT D2D ENGINEERS

As part of the session, students were introduced to the internship opportunities available at Desire 2 Design Engineers. A structured overview of the internship programme — covering site exposure, structural design, NDT testing and live project involvement — was presented, along with sample presentations from past D2D interns to give students a first-hand look at the kind of real-world work and learning they can expect. The segment aimed to bridge classroom learning with practical industry experience and encouraged students to apply for the programme.



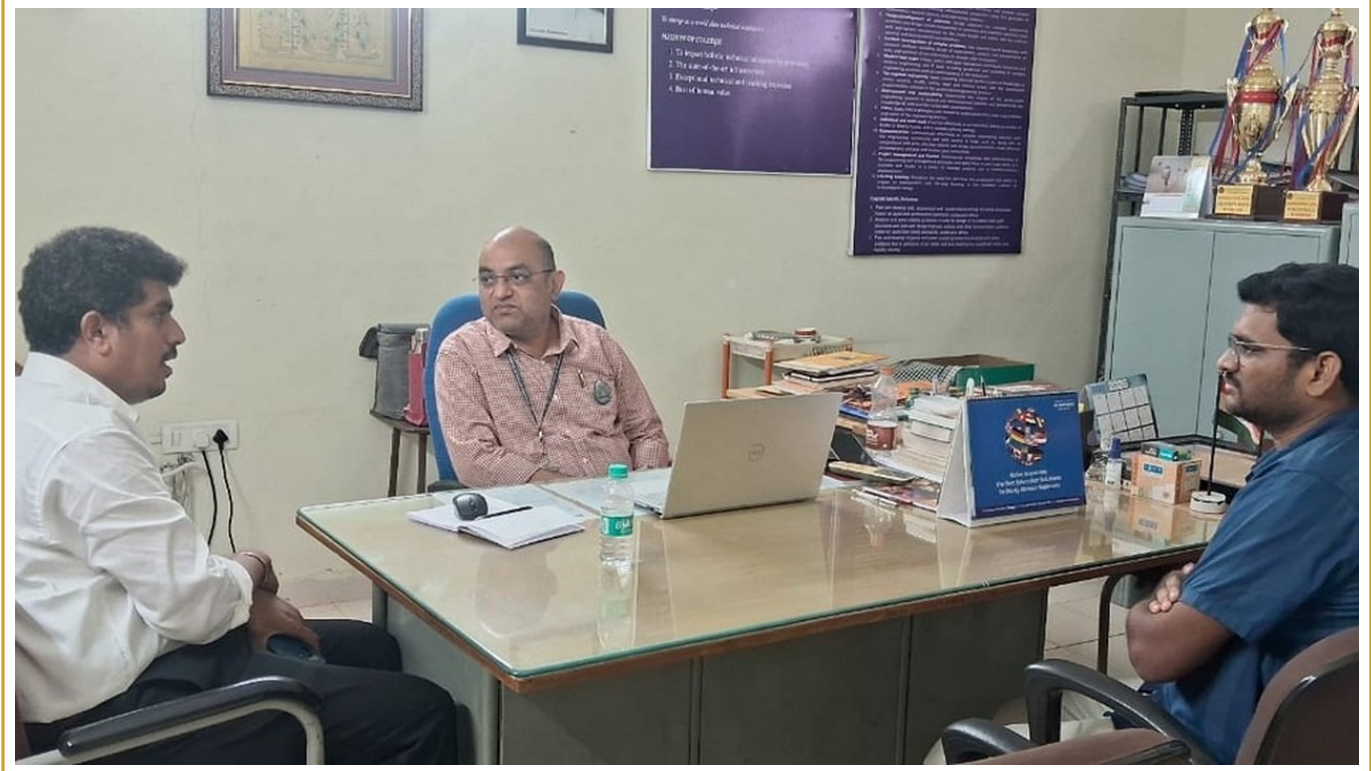
Presenting the D2D internship programme and past interns' project work



Students viewing sample internship presentations on screen

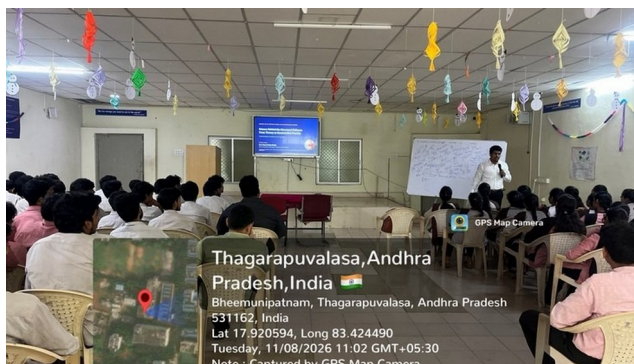
DISCUSSION WITH HEAD OF THE DEPARTMENT AND FACULTY

Ahead of the session, Er. S. Soma Sekhar Naidu met with Dr. J. Vikranth, Head of the Department, and faculty coordinators of the Department of Civil Engineering, ANITS, to align the lecture with the department's current academic focus and student needs, ensuring the content stayed relevant to real-world site practice.



Pre-session discussion with Dr. J. Vikranth, HoD, and faculty coordinator

GLIMPSES OF THE EVENT



Er. S. Soma Sekhar Naidu addressing the students — opening remarks



Explaining structural distress patterns with real site case studies

FELICITATION

Er. S. Soma Sekhar Naidu, Founder & Managing Director, Desire 2 Design Engineers, felicitated Dr. J. Vikranth, Head of the Department, Civil Engineering, ANITS, as a token of appreciation for hosting the guest lecture and for his continued support to the department-industry engagement.



Felicitation to HoD Dr. J. Vikranth by Er. S. Soma Sekhar Naidu, Founder & Managing Director, Desire 2 Design Engineers

OUTCOME & CONCLUSION

The session gave ANITS students a rare, diagnostic view of structural engineering — moving beyond design formulae to how real structures behave, fail and get repaired. Live demonstrations, NDT procedures, root-cause case studies and exposure to the D2D internship programme helped connect Strength of Materials and Structural Analysis fundamentals to the judgement required on an actual site, leaving students better equipped to recognise early warning signs and to pursue practical industry experience in their future careers.

“Great engineers are not only those who design structures, but those who understand how structures behave throughout their service life.”

— Er. S. Soma Sekhar Naidu, Founder & Managing Director, D2D Engineers