

Mr. NABAJYOTI MODAK, ME, (PhD)



Email ID: modaknabajyoti84@gmail.com / nabajyotimodak.civil@aiht.ac.in

Mobile: (+91) - 9840731053 / 9962048623

Present Address: 7/8s, DSR Apartment, Malavika Avenue, Sharma Nagar Second Street, Chitlapakkam, Chennai 64; Pin Code: 600-064

Current Position:

- Assistant Professor (Full-Time) in the Department of Civil Engineering in Anand Institute of Higher Technology, Chennai, Tamil Nadu, India.
- Research Scholar (Part-Time) in the Department of Civil & Structural Engineering in Annamalai University, Chidambaram, Tamil Nadu, India.
- Innovation Ambassador, in the domain of Design Thinking and Innovation, MHRD Innovation Cell, Government of India.

Academic Qualification:

Course Institute	Year of passing
Ph.D. (Civil & Structural Engineering), Annamalai University, Chidambaram, Tamil Nadu, India	Currently Pursuing (2019-2023).
ME (Structural Engineering), Mohamed Sathak AJ College of Engineering, Anna University, Chennai, Tamil Nadu, India	2018.
B.E (CIVIL), Sathyabama Institute of Science and Technology; (Deemed to be University), Chennai, Tamil Nadu, India	2016.

Computer Skills:

Technology Details:

- Operating systems and tools
- Windows, Microsoft office package.
- Cloud Computing in AWS Premises.
- AWS Solution Architect
- AWS Devops and General Devops Tools.

Academic Project:

- “Bond Strength of High Strength Reinforced Concrete Structure Confined with Stirrups, HYSD Bars & Steel Fiber” (BE academic project).
- “Experimental Investigation on The Behavior of Corroded CHST Columns Retrofitted Using AFRP” (ME academic project).
- “Development of high-strength geopolymer concrete” (PhD topic).

Extra Curriculum Activities and Certifications:

- Revit architecture.
- Auto cadd.
- Staad Pro.
- Winter training at Nagarjuna Construction Company Ltd. (4 weeks) at Agartala Fly-Over & Box Girder Culvert, Agartala, Tripura.
- IIC Ambassador Certification (Design Thinking and Innovation), MHRD Innovation Cell, AICTE &

Govt. of India.

- Certified from Alison Management in the course of “Introduction to Design Thinking and People Centered Design – Revised”.
- NPTEL Certified from IIT – Madras in the course “Maintenance and Repair of Concrete Structures”.

Workshop / Conference / FDP participated:

- Workshop on SODAR Technology & Application at Sathyabama Institute of Science & Technology (Deemed to be University).
- Participated in International Conference on Sustainable Technologies in Building and Environment at Sathyabama Institute of Science & Technology (Deemed to be University).
- Participated in a Faculty Development Training on VIT-TBI for Entrepreneurship Development for two weeks at VIT Vellore, Tamil Nadu.
- Participated in Leveraging Research for Business Development Workshop at IITM research park, Chennai.
- Workshop on Art of Writing Research Proposal at Velammal Engineering College.
- Workshop on Patent Drafting at Velammal Engineering College.
- Attended IIC Ambassador Training Series for Design Thinking and Innovation from MHRD Innovation Cell, AICTE.
- Participated and presented an article in International Conference on Advanced Light-Weight Materials & Structures (ICALMS-2k20) for two days at CMR Technical Campus, Hyderabad, Telangana, India.
- Attended 150+ online Webinars, Workshop and FDPs.
- Attended and successfully completed 6 ATAL – AICTE FDP, Government of India.

Area(s) of Interest:

- Civil and Structural Engineering.
 - Reinforced Concrete Structures and Composite Structures.
 - Composite materials.
 - Structural and Solid mechanics.
 - Concrete Technology, GEO-POLYMER and POLYMER (Resin) Concrete.
 - Waste management for Supplementary Cementitious Materials (SCM).
 - Maintenance, Strengthening and Repair of Concrete and Steel Structures.
 - Finite Element Analysis (FEM).
 - Fiber Reinforced Polymer (FRP) Composites.
 - Hybrid Structures.
 - Structural Stability.
 - Theory of Elasticity and Plasticity.
- Agricultural Engineering
 - Innovations in Agriculture
 - Principles and Practices in Crop Production.
 - Environmental adaptation In Crop Production.
 - IOT and AI in Agricultural Process.
- Entrepreneurship and Business Model Canvas.
- Design Thinking and Innovation.
- People centered Design.
- Research on empathy development in prototyping.

Work Experience:

SL No.	Organization / Institution	Designation	Department	Joining Date	Status
1.	Anand Institute of Higher Technology (AIHT), Chennai.	Assistant Professor.	Civil Engineering.	16 th August 2018.	Working.
2.	Annamalai University	Research Scholar	Civil & Structural Engineering	06 th February 2020	Working

Publications:

International Journals:

- ‘**Axial Behavior of Corroded CHST Members Confined with AFRP Sheet**’, *International Journal of Recent Technology and Engineering (IJRTE)*; ISSN: 2277-3878, Volume-8 Issue-2, July 2019. (Published).
- ‘**Valorization of Specially Designed Concrete by Using Sugarcane Bagasse Ash and Inducing the Special Benefits of Waste Tin Fiber Reinforced Concrete**’, *International Journal of Innovative Technology and Exploring Engineering (IJITEE)*; ISSN: 2278-3075, Volume-8 Issue-12, October 2019. (Published).
- ‘**Performance in Binary Characteristics of Sisal Fibre Reinforced Concrete**’, *International Journal of Innovative Technology and Exploring Engineering (IJITEE)*; ISSN: 2278-3075, Volume-9 Issue-1, November 2019. (Published).
- ‘**Significant Effect on the Mortar Studies Containing Various Supplementary Cementitious Materials to Act as Green Building Materials**’, *Journal of Green Engineering (JGE)*, Volume-9, Issue-3, October 2019. (Published).
- ‘**Behavior of AFRP Composite and its Practical Aspects in the Invigoration of Structural and Materialistic Properties of Corroded SHTS**’, *International Journal of Engineering and Advanced Technology (IJEAT)*, Volume-9, Issue-2, December 2019. (Published).
- ‘**Investigation on the Safety Measure in Construction Industry at Construction Site**’, *International Journal of Scientific Research in Engineering and Management*, Volume – 4, Issue – 3, March 2020, ISSN: 2582 – 3930. (Published).
- ‘**Conduct of AFRP Composite and its Pragmatic Angles in the Empowerment of Basic and Materialistic Properties of Eroded Steel Hollow Sections**’, *International Journal of Scientific Research in Engineering and Management*, Volume – 4, Issue – 3, March 2020, ISSN: 2582 – 3930. (Published).
- ‘**Experimental Investigation on the Behavior of Corroded CHST Columns Retrofitted Using AFRP**’, *Journal of Structural Engineering (JOSE)*, CSIR – SERC, Chennai, Vol 47 No. 1, April-May 2020, pp. 55 – 64.
- ‘**A Study on the Use of FRP on the Strengthening of Various Structural Elements: A Review**’, *International Journal of Scientific Research in Engineering and Management*, Volume – 4, Issue – 4, March 2020, ISSN: 2582 – 3930. (Published).
- ‘**A Review on the Base Materials and Properties of Geopolymer Concrete**’, *Journal of Engineering Sciences*, Vol 11, Issue 6, June / 2020, ISSN: 0377-9254, pp. 686 – 697.
- ‘**A Study on the Source Materials and Estates of Geopolymer Concrete - A Review**’, *International Journal of Innovative Research in Technology*, Volume 7 Issue 1, ISSN: 2349-6002, June 2020, pp. 1019 – 1030.
- ‘**Compression Performance of Square Steel Tubular Members Externally Enfolded with Carbon Fiber Reinforced Polymer Sheet.**’, *Practice Periodical on Structural Design and Construction*, ISSN: 1943-5576, Volume 27, Issue 2, May 2022, ASCE Publication. DOI: <https://ascelibrary.org/doi/10.1061/%28ASCE%29SC.1943-5576.0000664>

International Conference:

- ‘**Behavior of HCS Columns in Compression Retrofitted with AFRP**’, *Materials Today: Proceeding – Elsevier Journal*. <https://doi.org/10.1016/j.matpr.2020.01.290> (doi: 10.1016/j.matpr.2020.01.290), *Materials Today: Proceedings* 27 (2020) 968–974.
- ‘**Analysis of Carbon Fibre Reinforced Polymer Wrapped Square Steel Tubular Sections Under Compression**’, *Materials Today: Proceedings – Elsevier Journal*. <https://doi.org/10.1016/j.matpr.2020.03.318> (doi: 10.1016/j.matpr.2020.03.318), *Materials Today: Proceedings* 27 (2020) 1613–1617.

Membership:

- Life time member of **IAENG**
- Life time member of **ICSES**
- Permanent Member of **IFERP**
- **IIC Ambassador** in Design Thinking and Innovation MHRD Govt. of India (AIHT – E Cell in-charge)
- **INSC Student Membership (2020-2024)** as Research Scholar.
- Member of American Society of Civil Engineering (**ASCE**): Student Member as Research Scholar.
- **INSC – Professional Member.**

Reviewer of the following Journals:

- Practice Periodical on Structural Design and Construction (ESCI Indexed)
- International Journal of Engineering Research in Africa (JERA)
- Advanced Engineering Forum (AEF)
- Advanced Materials Research (AMR)
- INSC – International Journal of Civil Engineering
- International Journal of Research and Analytical Reviews (IJRAR)
- International Journal of Creative Research Thoughts (IJCRT)

Workshops / Event conducted:

- Conducted a workshop in Anand Institute of Higher Technology on Social Entrepreneurship in association with a social body of IIT Bombay (Abhuday) and Symbiosis Institute of Technology, Pune. (2019).
- Handled a session in Anand Institute of Higher Technology on Motivation Towards Entrepreneurship on an event of Entrepreneurship awareness Camp. (2019).
- Conducted a workshop in Anand Institute of Higher Technology on Design Thinking and Innovation. (2020).
- Organized and handled a webinar on “Scopes and Repair Methodology of Civil Engineering Works” (2020).
- Organized and handled two webinars Phase I and Phase II on “Corrosion Mechanisms in Concrete Structure” (2020).

Achievements:

- Awarded by INSC for “INSC Young Achiever Award 2020”.
- Awarded by INSC for “INSC Research Excellence Award 2020”.
- Honored as member form the Scientific committee board in “International Conference on Civil Engineering, Architecture, and Sustainable Infrastructure (ICCEASI - 2021)”, Organized by Babu Banarasi Das University, Lucknow in Association with IFERP.
- Honored as member form the Advisory and Scientific committee board in “2nd International Conference on Civil Engineering, Architecture, and Sustainable Infrastructure (2nd ICCEASI - 2022)”, Organized by Babu Banarasi Das University, Lucknow in Association with IFERP.

Current work on research:

- Currently working on the development of the mechanical and durability properties of Polymer Resin Concrete.
- Working on the development of high strength Geo-Polymer Concrete.
- Strengthening and retrofitting of structural members by different synthetic and natural FRP Composites.
- Development of Composite materials with synthetic and natural FRP composites.
- Study on the effect of the polymer resin matrices on the overall properties of FRP composites on different applications.
- IOT based model for smooth Agriculture.

Declaration:

I hereby declare that the above-mentioned information is correct according to the best of my knowledge and I bear the responsibility for the correctness of the above-mentioned particulars.



**Cordially,
Mr. Nabajyoti Modak.**