

Dr. ARUP KUMAR DAS

Civil & Structural Engineering Consultant | Assistant Professor

Jalpaiguri, West Bengal, India

PROFESSIONAL SUMMARY

Experienced Civil Engineering academician and researcher with expertise in structural engineering, self-healing bacterial concrete, and sustainable construction materials. Skilled in teaching, structural consultancy, optimization techniques, and advanced characterization methods. Published multiple SCI and Scopus-indexed research articles in reputed international journals. Passionate about innovative research, academic excellence, and practical engineering applications.

EDUCATION

Ph.D. in Structural Engineering | 2025
National Institute of Technology (NIT),
Jote, Arunachal Pradesh, India

M.Tech. in Structural Engineering | 2016
National Institute of Technical Teachers' Training & Research (NITTTR),
Kolkata, India
Result: 8.52 DGPA

B.E. in Civil Engineering | 2010
Shri Ramdeobaba College of Engineering and Management,
Nagpur, Maharashtra, India
Result: First Division (70.63%)

Diploma in Civil Engineering | 2007
Darjeeling Polytechnic Institute,
Darjeeling, West Bengal, India
Result: First Division (83.2%)

Higher Secondary (12th) | 2002
Birpara High School,
Jalpaiguri, West Bengal, India
Result: Second Division

Madhyamik (10th) | 2000
Birpara High School,
Jalpaiguri, West Bengal, India
Result: First Division

PROFESSIONAL EXPERIENCE

Adjunct Faculty (Guest Faculty)
National Institute of Technology Arunachal Pradesh,
Arunachal Pradesh, India
Aug 2026 – Present

Guest Faculty
National Institute of Technology Arunachal Pradesh,
Arunachal Pradesh, India
Aug 2025 – May 2026

- Teaching undergraduate and postgraduate Civil Engineering subjects.
- Guiding students in structural engineering and research activities.
- Supporting academic and laboratory development activities.

Civil & Structural Engineering Consultant
R.K.S Technical Services
Kolkata, West Bengal, India
Aug 2016 – Aug 2022

- Worked on structural design, drafting, and consultancy projects.
- Prepared engineering drawings and design reports.
- Conducted analysis using structural software tools.

Lecturer
Elitte College of Engineering
Kolkata, West Bengal, India
Dec 2018 – Aug 2019

Part-Time Lecturer
Elitte Institute of Engineering and Management
Kolkata, West Bengal, India
Jan 2011 – Oct 2014

Part-Time Lecturer
Jalpaiguri Government Engineering College
Jalpaiguri, West Bengal, India
Jun 2010 – Dec 2010

Part-Time Lecturer
Jalpaiguri Government Polytechnic Institute
Jalpaiguri, West Bengal, India
Jun 2010 – Dec 2010

RESEARCH INTERESTS

- Self-Healing Bacterial Concrete
- Sustainable Construction Materials
- Structural Engineering
- Bio-mineralization in Concrete
- Optimization Techniques (RSM)
- Durability of Concrete Structures

PUBLICATIONS

Peer-Reviewed Journal Articles (SCI Indexed)

- "The Role of Bamboo Dust as a Self-Healing Nutrient for Bacillus subtilis and Bacillus cereus in Enhancing Concrete Properties."
  Geomicrobiology Journal, 2025.

- "Optimization of Biogenic Calcium Carbonate Production Using Bamboo Dust as a Nutrient Source by Bacillus subtilis and Bacillus cereus for Enhanced Self-Healing Concrete."
  Journal of the Indian Chemical Society, 2025.

- "Development and Enhancement of Self-Healing Bacterial Concrete and its Application as Sustainable Concrete in Modern Construction - A Review."
  Geomicrobiology Journal, 2025.

Scopus Indexed & Under Review

- "Evaluating the Impact of Bamboo Dust Nutrient on the Properties of Self-Healing Concrete Induced by Bacteria, Using Surface Response Methodology."
  (Under Review, SCI).

- "Comparative Study of Enhancement of Concrete Properties Using Bacillus subtilis."
  African Journal of Biological Sciences, 2024. (Scopus)

TECHNICAL SKILLS & CERTIFICATIONS

Structural & Engineering Software:
STAAD.Pro, Etab, Sap, AutoCAD (2D/3D), SketchUp Design, Ravit

Research & Optimization Tools:
Design-Expert (Optimization), LaTeX

Design & Media Software:
Adobe Photoshop, Adobe Illustrator

Office Productivity:
Microsoft Excel, Microsoft Word

Certifications:
Certification in AutoCAD, Darjeeling Institute (Aug 2006 – Sep 2007)

PERSONAL DETAILS

- Languages Known: English, Hindi, Bengali
- Hobbies: Photography, Structural Design, Drawing, Swimming, Cricket
- Driving License: Valid Indian DL (Categories: LMV, MCWG)

PROJECT WORK / PROFESSIONAL ENGAGEMENT

Community Development Consultant
Jalpaiguri Polytechnic Institute
Ministry of Human Resource Development (MHRD) Scheme
From: 20 July 2010

Worked as a Community Development Consultant under the Scheme of Community Development through Polytechnics initiated by the Ministry of Human Resource Development (MHRD), Government of India. The role involved academic, technical, and community-oriented activities aimed at skill development and rural upliftment.

B.TECH PROJECT GUIDANCE / RESEARCH SUPERVISION

- Guided M.Tech projects related to bacterial concrete, bio-based construction materials, and sustainable concrete technology.
- Guided various B.Tech projects related to bacterial concrete, bio-based costruction materials, and sustainable concrete technology.
- Supervised student projects involving different bacterial strains for bio-mineral ization and self-healing applications in concrete.
- Assisted students in experimental investigations on bacterial incorporation tech niques, crack healing efficiency, and enhancement of concrete durability.
- Mentored projects focused on eco-friendly and sustainable concrete using microbial and organic nutrient-based approaches.
- Provided technical guidance in laboratory testing, mix design, characterization,