



**Name:** Mr. ARIJIT KUMAR BANERJI

**Department:** CIVIL ENGINEERING

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**Qualifications:** B.Tech (Civil Engineering), M.Tech (Transportation Engineering), Ph.D (Pursuing)

**Designation:** Assistant Professor

**Experience (Teaching / Research, in years):** 7 / 5

**Date of Joining at the Present Institution:** 23 July 2014

**Examinations Cleared:** GATE

**Qualifications Summary:**

Degree	Institute	From - To	Subjects
Ph.D	National Institute of Technology (NIT), Durgapur	February, 2015- Present	Civil Engineering
M.Tech	Indian Institute of Technology (IIT), Guwahati	July, 2012-June, 2014	Transportation Systems Engineering
B.Tech	Birbhum Institute of Engineering Technology, Suri	July, 2008-June, 2012	Civil Engineering

**Experience Summary:**

Assistant Professor, Dept. of Civil Engineering, Dr. B. C. Roy Engineering College (July, 2014 to Present)

**Specialization/Research Interest:**

- Pavement Design and Materials Characterization
- Warm Mix Asphalt Technology
- Traffic Data Collection and Analysis
- FE Modelling of Pavement

**Awards & Recognitions:**

- Qualified in GATE 2012 (All India Rank 416)
- Full time MHRD scholarship at IIT, Guwahati (2012-2014)

## Courses taught:

### B.Tech:

- **Theory:** Highway & Transportation Engineering, Pavement Design, Railway and Airport Engineering, Metro System and Engineering, Fluid Mechanics, Energy Science & Engineering, Surveying, Building Material & Construction, Concrete Technology, Engineering Geology.
- **Practical:** Highway & Transportation Engineering Lab, Soil Mechanics Lab, Engineering Geology Lab, Concrete Laboratory Lab, Fluid Mechanics Lab, Surveying Lab, Building Design & Drawing Lab, Structural Engineering Design Practice (Sessional).

### Online Mode of Teaching:

Online teaching is conducted through Google Platform and Google classroom. Doubt clearing session are delivered online through Google Meet or Zoom. Additionally, video captured presentation based recorded lectures are shared with students (to help student access at any time). Student's queries and doubts are addressed either through the telephonic conversation, online or whatsapp interactions. Assessments are done using Google quiz format.

### Link to Online Contents:

<https://drive.google.com/drive/u/1/folders/18CaG3IxfzVZomTeLV0WFT-xFDK8xrC6H>

### Publications:

#### Journal:

1. Nayan, S., **Banerji, A. K.**, & Sk Asif, MD., "Design and Analysis of Arch Dam with AutoCAD, ANSYS and Google Earth Software: A Case Study", International Advanced Research Journal in Science, Engineering and Technology, 2018, Volume No. 5, Issue No. 7, pp. 102-108, ISSN (Online) 2393-8021.  
DOI: 10.17148/IARJSET.2018.5717  
Link: <https://iarjset.com/wp-content/uploads/2018/09/10.17148.IARJSET.2018.5717.pdf>
2. **Banerji, A. K.**, Sengupta, S., Das, S., "Pavement Subgrade Soil Stabilization using Stone Quarry Dust", Elixir Civil Engg, 2017, Volume No. 108, pp. 47618-621, ISSN 2229-712X.  
Link: [https://www.elixirpublishers.com/articles/1500016531\\_ELIXIR2017055705A.pdf](https://www.elixirpublishers.com/articles/1500016531_ELIXIR2017055705A.pdf)
3. **Banerji, A. K.**, Das, A., Mondal, A., Biswas, R., Obaidullah, M., & Saha, U., "Performance Assessment of Porous Friction Course (PFC) Mix Modified with Cement as Filler Material", American International Journal of Research in Science, Technology, Engineering & Mathematics, 2015, Volume No. 11, Issue No. 1, pp. 83-88, ISSN (Online) 2328-3580.  
Link: <http://iasir.net/AIJRSTEMpapers/AIJRSTEM15-525.pdf>
4. **Banerji, A. K.**, Das, A., Mondal, A., Biswas, R., & Obaidullah, M., "Influence of Variation in the Aggregate Gradation Range on Mix Design Properties of Bituminous Concrete (BC) Mixes used as Wearing Course", International Journal of Engineering Research & Technology, 2014, Volume No. 9, Issue No. 3, pp. 1258-1262, ISSN: 2278-0181.  
Link: <https://www.ijert.org/research/influence-of-variation-in-the-aggregate-gradation-range-on-mix-design-properties-of-bituminous-concrete-bc-mixes-used-as-wearing-course-IJERTV3IS091138.pdf>

5. **Banerji, A. K.,** Das, A., Mondal, A., Biswas, R., & Obaidullah, M., “A Comparative Evaluation on the Properties of HMA with Variations in Aggregate Gradation of Laboratory and Field Produced Mixes”, International Journal of Research in Engineering and Technology, 2014, Volume No. 9, Issue No. 3, pp. 441-448, ISSN (Online) 2319-1163.  
Link: <https://ijret.org/volumes/2014v03/i09/IJRET20140309070.pdf>

#### Conference:

1. **Banerji, A. K.,** Topdar, P., & Datta, A. K., “Characterization of Stabilized Subgrade on Pavement Performance by means of Finite Element Method”. ASCE: Challenges of Resilient and Sustainable Infrastructure Development in Emerging Economics (CRSIDE-2020), Kolkata, India, March 2-4, 2020, pp. 241, International Conference, Thinker. Print ISBN 978-93-5396-500-6
2. **Banerji, A. K.,** Topdar, P., & Datta, A. K., “Improvement in Pavement Performance Using Interlayer Membrane System: A FEM Approach”. 11th Structural Engineering Convention (SEC-2020), Jadavpur University, Kolkata, India, December 19-21, 2018, pp. 101, International Conference, Jadavpur University Press. Print ISBN 978-93-83660-46-9
3. **Banerji, A. K.,** Topdar, P., & Datta, A. K., “Analysis of Cement Concrete Pavement for Low Volume Roads using Finite Element Method”. 2nd International Conference on Advances in Concrete, Structural & Geotechnical Engineering (ACSGE-2018), BITS Pilani, Rajasthan, India, February 26-28, 2018, pp. 91-95, International Conference, Bloomsbury India. Print ISBN 978-93-87471-69-6
4. **Banerji, A. K.,** Topdar, P., & Datta, A. K., “A Review on the Study of Stress Absorbing Interlayer Composite Structures for Retarding Pavement Distress”. 2nd International Conference on Advances in Concrete, Structural & Geotechnical Engineering (ACSGE-2018), BITS Pilani, Rajasthan, India, February 26-28, 2018, pp. 96-100, International Conference, Bloomsbury India. Print ISBN 978-93-87471-69-6
5. **Banerji, A. K.,** Topdar, P., & Datta, A. K., “Finite Element Analysis of Vehicle Pavement Interaction based on Static and Transient Dynamic Loading”. Third Indian Conference on Applied Mechanics (INCAM-2017), Motilal Nehru National Institute of Technology, Allahabad, India, July 5-7, 2017, pp. 447-448, National Conference, Harileela Publication. Print ISBN 978-93-80635-28-6
6. **Banerji, A. K.,** Topdar, P., Datta, A. K., & Datta, A. K., “A Critical Review of Road Failures due to Major Earthquakes in Asian Continent”. Sixth International Conference on Advances in Design and Construction of Structures (ADCS-2017), IDES Joint International Conference, Bengaluru, India, October 2017, pp. 589-592, International Conference, McGrawHill Education (India) Private Limited. Print ISBN 978-81-931119-9-4
7. **Banerji, A. K.,** Topdar, P., Datta, A. K., & Bagchi, A., “Review of Numerical Modelling Techniques for Studying the Dynamic Response and Damage States of Highway Pavement”. International Conference on Innovations in Structural Engineering (IC-ISE 2015), Osmania University, Hyderabad, India, December 14-16, 2015, pp. 1733-1743, International Conference. Print ISBN 978-93-80635-28-6

**Book Chapter:**

1. **Banerji, A. K.,** Topdar, P., & Datta, A. K., “A Review on the Study of Stress Absorbing Interlayer Composite Structures for Retarding Pavement Distress” pp. 96-100, Advances in Concrete, Structural & Geotechnical Engineering (Bloomsbury India, 2018), Print ISBN 978-93-87471-69-6.
2. **Banerji, A. K.,** Topdar, P., & Datta, A. K., “Analysis of Cement Concrete Pavement for Low Volume Roads using Finite Element Method” pp. 91-95, Advances in Concrete, Structural & Geotechnical Engineering (Bloomsbury India, 2018), Print ISBN 978-93-87471-69-6.
3. **Banerji, A. K.,** Topdar, P., Datta, A. K., & Datta, A. K., “A Critical Review of Road Failures due to Major Earthquakes in Asian Continent” pp. 589-592, Recent Trends in Information Processing, Computing, Electrical and Electronics (McGraw Hill Education (India) Private Limited, 2017). Print ISBN 978-81-931119-9-4.

**Supervision of B.Tech Projects:****B.Tech Project Supervised:**

Year	Project Title	Students (with university roll number
2021	APPLICATION OF RECYCLED WASTES INTO PAVEMENT DESIGN FOR SUSTAINABLE ROAD CONSTRUCTION	Rishabh Raj 12001317048 Raunak Gupta 12001317049 Rakhi Agarwal 12001317050 Rajeev Kumar Mahato 12001317051 Rahul Kumar Singh 12001317052 Pronab Barman 12001317053
2020	EVALUATION OF AIRFIELD PAVEMENT RESPONSE USING WARM MIX ASPHALT	Subham Kumar ( 12001316032) Subham Chakraborty ( 12001316032) Srishti Deo ( 12001316032) Srishti Chourasia ( 12001316032) Soumyadip Mondal ( 12001316032) Somnath Rakshit ( 12001316032) Sibtain Raza ( 12001316032) Shuvrapratim Bera ( 12001316032)
2019	STUDY OF MIXED TRAFFIC BEHAVIOUR AND SPEED PROFILE ACROSS BUMPS	Mukesh Roushan (12001315064) Nikhil Kumar Singh (12001315065) Nitesh Kumar Roy (12001315068) Prashant Kumar Prasad (12001315072) Pushkar Anand (12001315077) Rajan Kumar Singh (12001315081) Roushan Raj (12001315089) Shivam Kumar (12001315098) Ujjwal Wahadar (12001315116)
2018	PERFORMANCE ASSESSMENT OF POROUS CONCRETE MIXES UTILIZING WASTE CONSTRUCTION DEBRIS	Fahad Ahmad (12001314032) Iftkhar Ahamad (12001314036) MD Afzal Hussain (12001314054) MD Azharuddin (12001314055) MD IrfanHussain Ansari (12001314056) MD Meraz (12001314057) MD ShafiAlam (12001314058) Abhishek Moni (12001315122)

2018	DESIGN OF ARCH DAM: A TRIAL CASE STUDY ON RIVER MOHANA	Roshan Ranjan (12001314079) Piyush Raj (12001314070) Piyush Kumar (12001314069) Sumit Kumar Singh (12001314108) Ram Pravesh Yadav (12001314073) Shubham Kumar Mahto (12001314091) Shashank Nayan (12001314089) Prakash Chandra (12001314071)
2017	COMPARATIVE STUDY OF SYMMETRICAL AND SOFT-STOREY BUILDING SUBJECTED TO WIND, SEISMIC AND TRAFFIC INDUCED GROUND MOTION	Arathe S (12001313014) Neha Singh (12001313056) Premlata (12001313061) Amrita Deb Roy (12001314121) Barnali Das (12001314123) Bivabari Jana (12001314124) Ipsita Mondal (12001314125) Kumari Ankita (12001314128)
2016	STRENGTH BEHAVIOR OF SUBGRADE SOIL BLENDED WITH NANO CHEMICAL-TERRASIL	Abhishek Dutta (12001312001) Avishek Santra (12001312008) Rajib Mandal (12001312030) Saikat Chatterjee (12001312036) Sandipan Mukherjee (12001312039) Shubhasish Bhatteerjee (12001312047) Ayon Koner (12001313126) Moupiya Chandra (12001313129) Subhasree Banerjee (12001313134) Tanmoy Ghosh (12001313136)
2015	PERFORMANCE ASSESSMENT OF POROUS FRICTION COURSE MIX	Antu Das (12001311008) Arobinda Mondal (12001311012) Md. Obaidullah (12001311024) Rahul Biswas (12001312070) Somprakash Adak (12001312072) Suman Debnath (12001312074) Suman Roy (12001312075) Sunit Dhara (12001312076) Uttara Saha (12001312077) Abhishek Mitra (12001310006)

#### Participation in seminar/conference/symposium/workshop/discussion meeting

Name of the Events	Duration	Year	Organized by
Webinar on Climate Emergency and our Responsibility	1 day (Sept. 24)	2021	Dr. B.C. Roy Engineering College, Durgapur
Webinar on Architecture, Civil & Earthquake Engineering	2 days (Sept. 24-25)	2021	ASCE Student Chapter
Webinar on Use of Technology in Education	1 day (August 10)	2021	Dr. B.C. Roy Engineering College, Durgapur
Webinar on Civil Engineering Project Management	1 day (June 12)	2020	Dr. B.C. Roy Engineering College, Durgapur
Webinar on Celebrate Biodiversity and Environment	1 day (June 06)	2020	Dr. B. C. Roy Polytecnic, Durgapur
Webinar on Psychological Counselling	1 day (May 18)	2020	Maulana Abul Kalam Azad University of Technology, West Bengal

International conference on Challenges of Resilient and Sustainable Infrastructure Development in Emerging Economics	3 day (March 2-4)	2020	ASCE India Section
Teaching & Learning Skill Development	1 day (August 22)	2019	Dr. B.C. Roy Engineering College, Durgapur
XIth Structural Engineering Convention	3 days (December 19-21 )	2018	Jadavpur University
Integration between Global Navigation Satellite Systems and Wireless Communication and Networking Systems	1 day (February 17)	2018	Dr. B.C. Roy Engineering College, Durgapur
3rd Indian Conference on Applied Mechanics (INCAM2017)	3 days (July 5-7)	2017	Applied Mechanics Department, MNNIT, Allahabad
International Conference on Innovations in Structural Engineering (IC-ISE-2015)	3 days (December 14- 16)	2015	University College of Engineering, Osmania University, Hyderabad
Training on PTV VISSIM and VISWALK	2 days (November 7-8)	2013	IIT Guwahati
Workshop on Warm Mix Asphalt- Challenges and Way Forward	2 days (August 8-9)	2013	IIT Madras

### Participation in faculty development programmes

Name of the faculty development programme	Online / Face-to Face	From Date - To Date	Duration	Organized by
Inculcating Universal Human Values in Technical Education	Online	January 18-22, 2021	5 days	AICTE
Moodle Learning Management System	Online	April, 2020	5 days	Dr. B.C. Roy Engineering College, Durgapur
Behavioural Remodelling with Mentoring Pedagogy and Need of Mental Health Sessions	Face-to Face	January 8-12, 2020	5 days	E & ICT Academy IIT Guwahati and Dr. B.C. Roy Polytechnic, Durgapur
Quality Improvement Programme on Recent Advances in Highway Design and Construction	Face-to Face	December 15-19, 2014	5 days	IIT Delhi

### Organization of events (Dr. B. C. Roy Engineering College)

Cultural Programme (Core-Committee Member)

Annual Sports (Core-Committee Member)

Anti-Ragging roving committee (Member)

### Participation in administrative committees (selected)

Name of the Post	Name of the committee	Year
Programme Co-ordinator	Department of Civil Engineering	2020
Core-Committee Member	NAAC Accreditation Core Committee	2019
Selection Committee Member	Dulal Mitra Best Engineer Award	2019
Member	PMIL Cell	2018
Convenor	Departmental NBA Committee	2017

### Project Ideas Submitted to Govt. Agencies/ On-going Projects / Research Ideas under preparation & execution

#### Project Ideas Submitted to Govt. Agencies:

1. Real Time Crack Detection in concrete pavements using Acoustic Emission Technique - Submitted to CSIR in 2019 (Reviewed, not approved as the Department does not have Master's Programme).
2. Bridge Pier Health Monitoring Using Acoustic Emission Technique (Project File No CRG/2019/000796) - Submitted to SERB in 2019 (The proposal was examined carefully on the basis of scientific / technical merit, novelty, work plan, research methodology and also considering the availability of funds etc. We regret to inform you that after thorough consideration, your proposal is not recommended for funding).
3. Investigation of Public Health Impacts and Traffic Management due to traffic congestion around schools in Urban Areas: A Case Study in Durgapur -Submitted to Dept. of Higher Education, Govt. of West-Bengal (No communication received till date).

#### Research Ideas under preparation & execution:

##### Structural Health monitoring:

Damage detection of asphalt concrete paving mix subjected to low-temperature/thermal cracking using experimental investigations through Acoustic Emission Technique.

#### Membership of professional bodies:

- American Society of Civil Engineers (Member ID 11514679)
- American Concrete Institute (e-Member ID 1939881)