

Dr. SATADRU DAS ADHIKARY, M. ASCE, M. ACI, M. RILEM

Associate Professor

Department of Civil Engineering

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Research Interests

- Blast, Impact & Fire Engineering
- Sustainable Structural Materials
- High Strain Rate Effects
- Structural Concrete and Steel
- Protective Structures
- Retrofitting of Structures

Academic Background

Doctor of Philosophy (August 2009-May 2014)

Division of Structures and Mechanics; School of Civil and Environmental Engineering;
Nanyang Technological University, Singapore

CGPA: 4/5

Thesis Title: *Dynamic Behavior of Reinforced Concrete Beams under Varying Rates of Concentrated and Impact Loadings*

Bachelor of Engineering (2003-2007)

Civil Engineering; Indian Institute of Engineering Science and Technology (IIST),
Shibpur, West Bengal, India

(Formerly Bengal Engineering and Science University, Shibpur, West Bengal, India)

Marks: 78.5% (**1st class Honors, Rank 3/93**)

Employment History

- Associate Professor (9 August 2023 to till date)
- Assistant Professor (19 September 2016 to 8 August 2023: 6 years 11 months)

Department of Civil Engineering, Indian Institute of Technology (ISM), Dhanbad

- Post-Doctoral Research Fellow (1 June 2014 to 10 September 2016: 2 years 3 months)
Department of Civil and Environmental Engineering, Faculty of Engineering, National University of Singapore, Singapore
- Research Engineer (28 November 2013 to 31 May 2014: 6 months)
Department of Civil and Environmental Engineering, Faculty of Engineering, National University of Singapore, Singapore
- Structural Design Engineer (1 August 2013 to 1 November 2013: 3 months)
Prostruct Consulting Pte. Ltd., Singapore
- Project Associate (31 July 2008 to 24 June 2009: 11 months)
Department of Civil Engineering, Indian Institute of Technology (IIT) Kanpur, India
- Engineer (1 August 2007 to 29 July 2008: 1 year)
Structural Engineering Department, M. N. Dastur & Co (Pvt.) Limited, Kolkata, India

Teaching Engagements:

	UG	PG/PhD
Theory	• Mechanics of Solid • Design of Steel Structures-I • Design of Steel Structures-II • Design of Concrete Structures-II • Prestressed Concrete Structures • Construction, Planning and Management	• Blast Protection of Structures • Prestressed Concrete Structures • Structural Dynamics
Practical/Sessional	• Structural Engineering (Lab) • Design of Steel Structures-II (Practical) • Design of Concrete Structures-II (Sessional) • Engineering Graphics (Sessional) • Material Testing (Lab)	• Structural Engineering Laboratory

Research Supervision:

- Ph. D. Students

Sl. No	Name	Year	Title of thesis	Co-guide (if any)	Status
1.	Abhiroop Goswami (17DR000485)	Aug 2017-Aug 2022	Study On the Responses of Reinforced Concrete Structures Subjected to Combined Blast and Fragment Impact	NA	Completed
2.	Umang Pulkit (18DR0148)	Aug 2018-Dec 2024	Development of GUI-based Computer Program for Thermo-Hygro-Mechanical Behavior Assessment of Concrete Structures under Fire	NA	Completed
3.	Debjit Mitra Roy (18DP000397)	Jan 2018-Sep 2025	Mechanical, Durability and Micro-structural Characterization of Ambient-Cured Cement-free Composite Concrete	Dr. Piyali Sengupta, Department of Civil Engineering, IIT (ISM) Dhanbad	Completed
4.	Dipanshu Jain (21DR0051)	Aug 2021-	Development of fully waste based one-part geopolymers mortar and concrete	NA	Ongoing

- **M. Tech. Students: 16**

- **B. Tech. Students: 21**

R&D Projects

SL. No.	Title	Funding Agency	PI/Co-PI	Amount (Rs)	Duration	Status
1.	Development of Novel Self-Healing Cement Additive for Oil and Gas Fields of OIL	Oil India Limited SRDP 1235 I	Co-PI	97.20 Lakhs	09/09/2025-08/09/2027 (2 years)	Ongoing

2.	Blast-fragment impact mitigation of structures using light weight steel cementitious composite steel (SCCS) and functionally graded cementitious composite (FGCC) systems	DRDO DRDO (ARMREB) (25)/2023-2024/1059/CE	PI	43.54 Lakhs	16/01/2024- 15/01/2027 (3 years)	Ongoing
3.	Development of Computer Program and Experimental set-up for Response assessment of Concrete Structures under Drop-weight Impact and Contact Explosions	DST-SERB-CRG (DST(SERB)) (379)/2022-2023/991/CE	PI	34.14 Lakhs	22/02/2023- 21/02/2026 (3 years)	Ongoing
4.	Development of Novel Cement-Free Mortar Utilizing Waste Materials	IEI R&D Grant-in-Aid (IEI/2023-2024/50/CE)	Guide Applicant : PhD Student Mr. Dipanshu Jain	1.00 Lakh	14.12.2023- 13.12.2025 (2 years)	Completed
5.	Development of Cement-free Concrete using GGBS and Fly Ash for Civil Infrastructures	TATA STEEL LTD. (Tata Steel/2019- 2020/675/CE)	PI	23.6 Lakhs	16/09/2019- 15/06/2023 (3.9 years)	Completed

6.	Machine learning model for assessing the impact response of concrete structures	DST-SERB-ACCELERATE VIGYAN (DST (SERB)(332)/2022-2023/902/CE)	PI	0.3 Lakhs	10/06/2022-31/07/2022 (1.5 months)	Completed
7.	Development of Graphical User Interface based empirical tool for fast prediction of blast wave parameters	DST-SERB-ACCELERATE VIGYAN (DST (SERB)(271)/2020-2021/756/CE)	PI	0.3 Lakhs	29/11/2020-28/06/2021 (7 months)	Completed
8.	Mathematical Modeling of Concrete Structures under Combined Blast and Impact Loading	DST-SERB-MATRICES (DST(SERB)(254)/2019-2020/703/CE)	PI	6.6 Lakhs	21/02/2020-20/02/2023 (3 years)	Completed
9.	Fly ash Concrete for Sustainable Development	TEQIP III	PI	2.0 Lakhs	18/12/2017-17/12/2019 (2 years)	Completed
10.	Reinforced Concrete Slabs under Low Velocity Impact Loading	IIT (ISM) Dhanbad (FRS (106)/2016-2017/CE)	PI	9.9 Lakhs	15/12/2016-14/12.2019 (3 years)	Completed

Patent

1. **“A Composition for the development of Paver Block utilizing cement-free concrete with waste aggregates and a process for the preparation thereof”** by **Prof. Satadru Das Adhikary** and Dipanshu Jain (PhD student); Indian Patent Application Number: 202531006117; Status: Published on 31.01.2025 (Indian Patent)
2. **“A cement-free mortar (CFM) composition”** by **Prof. Satadru Das Adhikary** and Dipanshu Jain (PhD student); Indian Patent Application Number: 202431006089; Status: Published on 16.02.2024 (Indian Patent)

Copyright

1. **TZTFM: “A GUI-based computer program for predicting the nominal and travelling fire inside concrete compartment”** by Dr. Umang Pulkit and **Prof. Satadru Das Adhikary**, Copyright Diary Number: 33764/2024-CO/SW dated 25.10.2024
2. **STRUCT-FIRE: “A GUI-based computer program for analysis of reinforced concrete flexural members exposed to fire”** by Dr. Umang Pulkit and **Prof. Satadru Das Adhikary**, Copyright Diary Number: 34108/2024-CO/L dated 29.10.2024

Development of Computer Program

1. **FRAG-BLAST: “A novel GUI based computer program developed to assist with the design and the analysis of reinforced concrete structures subjected to cased and uncased explosive charges”** PhD Student: Dr. Abhiroop Goswami, Guide: **Prof. Satadru Das Adhikary**, 2022
2. **CALCI-BLAST: “A novel GUI based computer program for quantification of the blast loading parameters due to the detonation of uncased high explosive charges”** PhD Student: Dr. Abhiroop Goswami, Guide: **Prof. Satadru Das Adhikary**, 2022

List of Publications: Total No. of Publications: 73; No. of Citations: 1108; h-Index: 13; i10 Index: 15

International Journal Articles

1. Jain, D. and Adhikary, S.D. (2025) “Development of Fully Waste-Based One-Part Geopolymer Concrete Utilizing Basalt Waste Dust and Steel Slag Aggregate” *Construction and Building Materials Journal*, DOI: <https://doi.org/10.1016/j.conbuildmat.2025.143204>, Impact Factor – 8.0 (Q1)

2. Kumar, A., Pulkit, U., Goel, M.D and **Adhikary, S.D.**, (2025) “Effect of Contact Explosions on Cratering, Spalling and Breaching Damage of Concrete Components: Critical Review, Recent Advancements and Future Perspectives.” *ASCE Journal of Structural Design and Construction Practice*, **Impact Factor – 2.1 (Q3)**
3. Jain, D. and **Adhikary, S.D.**, Sarker, P.K. (2025) “Novel One-part Geopolymer Concrete Mix Design using Hybrid Taguchi GRA-PCA Optimization Approach” *Structures Journal*, DOI: <https://doi.org/10.1016/j.istruc.2025.108805>, **Impact Factor – 3.9 (Q1)**
4. Chaurasia, V., Pulkit, U., and **Adhikary, S.D.** (2025) “An analytical prediction of maximum deflection and concrete contribution in shear-critical RC beams subjected to low-velocity transverse impact,” *ASCE Journal of Structural Design and Construction Practice*, **Impact Factor – 2.1 (Q3)**
5. Jain, D. and **Adhikary, S.D.** (2024) “Sustainable Utilization of Basalt Waste Dust as Replacement of River Sand in One-Part Geopolymer Mortar” *Structural Concrete Journal*, DOI: <https://doi.org/10.1002/suco.202400979>, **Impact Factor – 3.2 (Q2)**
6. Pulkit, U., **Adhikary, S.D.** and V. Kodur (2024) “Influence of fire severity and concrete properties on the thermo-hygral behaviour of concrete during fire exposure,” *Structural Concrete Journal*, DOI: <https://doi.org/10.1002/suco.202400067>, **Impact Factor – 3.2 (Q2)**
7. Pulkit, U., and **Adhikary, S.D.** (2024) “Development of Novel GUI-based computer program for predicting the temperature distribution in concrete compartment and member,” *ASCE Journal of Structural Design and Construction Practice*, DOI: <https://doi.org/10.1061/JSDCCC.SCENG-1617>, **Impact Factor – 2.1 (Q3)**
8. Goswami, A., Thiagarajan, G, **Adhikary, S.D.** (2022) “RC Structures Subjected to Combined Blast and Fragment Impact Loading: A State-Of-The-Art Review on the Present and the Future Outlook”, *International Journal of Impact Engineering*, DOI: <https://doi.org/10.1016/j.ijimpeng.2022.104355>, **Impact Factor – 5.1 (Q1)**
9. Goswami, A., Thiagarajan, G, **Adhikary, S.D.** (2022) “High Strength Materials for the Response Enhancement of Reinforced Concrete Structures Subjected to Cased Explosive Charges,” *ASCE Journal of Structural Engineering*, DOI: [https://doi.org/10.1061/\(ASCE\)ST.1943-541X.0003491](https://doi.org/10.1061/(ASCE)ST.1943-541X.0003491), **Impact Factor – 3.7 (Q1)**

10. Roy, D.M., **Adhikary, S.D.**, and Sengupta, P. (2022) "Assessment of Mechanical and Micro-Structural Characterization of Novel Ambient Cured Cement-Free Composite Concrete", *Ceramics International*, DOI: <https://doi.org/10.1016/j.ceramint.2022.05.348>, **Impact Factor – 5.2 (Q1)**
11. Goswami, A., Thiagarajan, G, **Adhikary, S.D.** (2021) "Dynamic Response Prediction of RC Structural Components Subjected to Combined Blast and Fragment Impact," *ASCE Journal of Structural Engineering*, Vol. 148, Issue 2, DOI: [https://doi.org/10.1061/\(ASCE\)ST.1943-541X.0003242](https://doi.org/10.1061/(ASCE)ST.1943-541X.0003242), **Impact Factor – 3.7 (Q1)**
12. Pulkit, U., and **Adhikary, S.D.** (2021) "Effect of Micro-structural changes on concrete properties at elevated temperature: Current Knowledge and Outlook," *Structural Concrete Journal*, DOI: <https://doi.org/10.1002/suco.202000365>, **Impact Factor – 3.2 (Q2)**
13. Patel, K., Goswami, A., **Adhikary, S.D.** (2020) "Response Characterization of Highway Bridge Piers Subjected to Blast Loading," *Structural Concrete Journal*, Vol. 21, Issue 6, pp. 2377-2395, DOI: <https://doi.org/10.1002/suco.201900286>, **Impact Factor – 3.2 (Q2)**
14. Goswami, A., **Adhikary, S.D.** (2019) "Retrofitting materials for enhanced blast performance of Structures: Recent advancement and challenges ahead," *Construction and Building Materials Journal*, Vol. 204, pp. 224-243, DOI: <https://doi.org/10.1016/j.conbuildmat.2019.01.188>, **Impact Factor – 8.0 (Q1)**
15. Goswami, A., **Adhikary, S.D.** and Li Bing (2019) "Predicting Punching Shear Failure of Concrete Slabs under Low Velocity Impact Loading," *Engineering Structures Journal*, Vol. 184, pp. 37-51, DOI: <https://doi.org/10.1016/j.engstruct.2019.01.081>, **Impact Factor – 5.5 (Q1)**
16. Fukuda, T., **Adhikary, S.D.**, Fujikake, K., Sasaki, K. and Tanaka, M. (2019) "Feasibility Study on Application of Controlled Electrical Discharge Impulse Crushing System to Lifesaving Operations in Earthquake Disasters," *ASCE Journal of Practice Periodical on Structural Design and Construction*, Vol. 24, Issue 1, pp. 1-7, DOI: [https://doi.org/10.1061/\(ASCE\)SC.1943-5576.0000401](https://doi.org/10.1061/(ASCE)SC.1943-5576.0000401), **Impact Factor – 1.9 (Q3)**
17. **Adhikary, S.D.** and Dutta, S.C. (2019) "Blast Resistance and Mitigation Strategies of Structures: Present Status and Future Trends," *Proceedings of the ICE - Structures and Buildings Journal*, Vol. 172, Issue 4, pp. 249-266, DOI: <https://doi.org/10.1680/jstbu.17.00056>, **Impact Factor – 1.6 (Q3)**

18. **Adhikary, S.D.**, Lado, R.C., Christian, A., and Ong, K.C.G. (2018) "SHCC-strengthened RC panels under near-field explosions," *Construction and Building Material Journal*, Vol. 183, pp. 675-692, DOI: <https://doi.org/10.1016/j.conbuildmat.2018.06.199>, Impact Factor – 8.0 (Q1)
19. **Adhikary, S.D.** and Li, B. (2018) "Simplified Analytical Models to predict low-velocity Impact Response of RC Beams," *ASCE Journal of Practice Periodical on Structural Design and Construction*, Vol. 23, Issue 2, pp. 1-10, DOI: [https://doi.org/10.1061/\(ASCE\)SC.1943-5576.0000357](https://doi.org/10.1061/(ASCE)SC.1943-5576.0000357), Impact Factor – 1.9 (Q3)
20. **Adhikary, S.D.**, Lado, R.C., Christian, A., and Ong, K.C.G. (2017) "Influence of Cylindrical Charge Orientation on the Blast Response of High Strength Concrete Panels," *Engineering Structures Journal*, Vol. 149, pp. 35-49, DOI: <https://doi.org/10.1016/j.engstruct.2016.04.035>, Impact Factor – 5.5 (Q1)
21. **Adhikary, S.D.**, Li, B., and Fujikake, K. (2016) "State-of-the-Art Review on Low Velocity Impact Response of Reinforced Concrete Beams," *Magazine of Concrete Research Journal*, Vol. 68, Issue 14, pp. 701-723. DOI: <https://doi.org/10.1680/jmacr.15.00084>, Impact Factor – 2.7 (Q2)
22. **Adhikary, S.D.** (2016) "Review of Glazing and Glazing Systems under Blast Loadings," *ASCE Journal of Practice Periodical on Structural Design and Construction*, Vol. 21, Issue 1, pp. 1-10, DOI: [https://doi.org/10.1061/\(ASCE\)SC.1943-5576.0000264](https://doi.org/10.1061/(ASCE)SC.1943-5576.0000264), Impact Factor – 1.9 (Q3)
23. Christian, A., Lado, R.C., **Adhikary, S.D.**, and Ong, K.C.G. (2016) "Influence of Charge Shape and Orientation on the Response of Steel-Concrete Composite Panels," *International Journal of Engineering and Technology Innovation*, Vol. 6, No. 4, pp. 284-293, Impact Factor – 1.3 (Q3)
24. **Adhikary, S.D.**, Li, B., and Fujikake, K. (2015) "Low velocity Impact Response of Reinforced Concrete Beams: Experimental and Numerical Investigation," *International Journal of Protective Structures*, Vol. 6, No. 1, pp. 81-111, DOI: <https://doi.org/10.1260/2041-4196.6.1.81>, Impact Factor – 2.0 (Q2)
25. **Adhikary, S.D.**, Li, B., and Fujikake, K. (2015) "Parametric study of RC Beam under Wide range of Loading Rates," *Proceedings of the ICE - Structures and Buildings*

- Journal*, Vol. 168, No. 10, pp. 729-746. DOI: <https://doi.org/10.1680/stbu.15.00024>, Impact Factor - 1.6 (Q3)
26. Adhikary, S.D., Li, B., and Fujikake, K. (2014) "Effects of High Loading Rate on Reinforced Concrete Beams," *ACI Structural Journal*, Vol. 111, No. 3, pp. 651-660. DOI: [10.14359/51686579](https://doi.org/10.14359/51686579), Impact Factor – 1.8 (Q3)
 27. Adhikary, S.D., Li, B., and Fujikake, K. (2014) "Residual Resistance of Impact-damaged Reinforced Concrete Beams," *Magazine of Concrete Research Journal*, Vol. 67, Issue 7, pp. 364-378. DOI: <https://doi.org/10.1680/mac.14.00312>, Impact Factor – 2.7 (Q2)
 28. Adhikary, S.D., Li, B., and Fujikake, K. (2013) "Strength and Behavior in Shear of Reinforced Concrete Deep Beams under Dynamic Loading Conditions," *Nuclear Engineering and Design Journal*, Vol. 259, pp. 14-28. (Most Downloaded Article after 90 days of online publication), DOI: <https://doi.org/10.1016/j.nucengdes.2013.02.016>, Impact Factor –1.86 (Q1)
 29. Adhikary, S.D., Li, B., and Fujikake, K. (2012) "Dynamic Behavior of Reinforced Concrete beams under Varying Rates of Concentrated Loading," *International Journal of Impact Engineering*. Vol. 47, pp. 24-38. (Most Downloaded Article after 90 days of online publication), DOI: <https://doi.org/10.1016/j.ijimpeng.2012.02.001>, Impact Factor – 5.1 (Q1)

International Conference Proceedings

30. Kumar, S., Adhikary, S.D., Rai A.K. (2025) "Theoretical Model for Equation of State Parameters for Cement-Free Composites" 14th International Symposium on Plasticity and Impact Mechanics (IMPLAST 2025); Volume 4: Structural Response to Dynamic Loads, IIT Roorkee, India, October 12-16
31. Hashmee, I., Adhikary, S.D. (2025) "Strut-and-tie model to evaluate the ultimate shear strength of RC deep beam under varying loading rates" 14th International Symposium on Plasticity and Impact Mechanics (IMPLAST 2025); Volume 6: Mechanics of Impact, IIT Roorkee, India, October 12-16
32. Kumar, A., Adhikary, S.D. (2025) "Numerical Simulation on Damage Zone Assessment of Reinforced Concrete Beam under Contact Explosion "14th International Symposium on

- Plasticity and Impact Mechanics (IMPLAST 2025); Volume 6: Mechanics of Impact, IIT Roorkee, India, October 12-16
33. Jain, D. and **Adhikary, S.D.** (2025) “Eco-Friendly One-Part Geopolymer Composites: Influence of PVA and Glass Fibers on Mechanical and Durability Properties” *3rd International Conference on Construction Materials and Structures (ICCMS 2025)*, IIT Tirupati, India, July 03-05
34. Irfan, H., Pulkit, U., **Adhikary, S.D.** (2025) “Behavior of Shear-Critical Reinforced Concrete Beams Under Different Loading Rates” *International Conference on Sustainable and Resilient Infrastructure (ICSRI-2024)*, NIT Durgapur, India, December 5-6, DOI: https://doi.org/10.1007/978-3-031-91976-3_18
35. Kumar, S., Pulkit, U., **Adhikary, S.D.**, Rai A.K. (2024) “Numerical investigation on blast resistance of composite system with concrete filled thin-walled tube” *14th Structural Engineering Convention (SEC-2024)*, NIT Tiruchirappalli, India, December 12-14, [eBook ISBN: 979-8-89171-163-1](#)
36. Kumar, A., **Adhikary, S.D.**, Rana A. (2024) “Local Damage Prediction of Concrete Slab Under Contact Detonation Through FEM-SPH Modelling Techniques” *14th Structural Engineering Convention (SEC-2024)*, NIT Tiruchirappalli, India, December 12-14, [eBook ISBN: 979-8-89171-163-1](#)
37. Jain, D. and **Adhikary, S.D.** (2024) “Investigation on Effect of Basalt Waste Fines as Replacement of River Sand in One-part Geopolymer Mortar” *10th International Conference on Concrete under Severe Conditions (CONSEC-2024)*, IIT Madras, Chennai, India, September 25-27.
38. Pulkit, U. and **Adhikary, S.D.** (2023) “Variation of pore pressure in NSC slabs subjected to non-uniform heating: Analytical study” *13th Structural Engineering Convention (SEC-2023)*, VNIT, Nagpur, India, December 07-09, DOI: https://doi.org/10.1007/978-981-97-6067-1_16
39. Pulkit, U. and **Adhikary, S.D.** (2022) “Theoretical model for assessing the spatiotemporal temperature inside a building compartment” *8th International Congress on Computational Mechanics and Simulation (ICCMS-2021)* IIT Indore, Madhya Pradesh, India, December 09-11.

40. Deshpande, P.A. and **Adhikary, S.D.** (2020) "SFRC Slabs Under Low Velocity Impact Loading: An Analytical Approach for Response Assessment," *Second ASCE India Conference on "Challenges of Resilient and Sustainable Infrastructure Development in Emerging Economies" (CRSIDE2020)*, Kolkata, India, March 2-4.
41. Goswami, A. and **Adhikary, S.D.** (2018) "Synergistic Effects of Combined Blast and Fragment Loading on Structures: State-of-the-Art," *3rd RN Raikar Memorial International Conference and Gettu- Kodur International Symposium*, Mumbai, India, December 14-15.
42. Goswami, A., Gunjan, A. and **Adhikary, S.D.** (2018) "Response Assessment of Steel Fibre-Reinforced Concrete Slabs under Impact Loading," *International Conference on Advances in Construction Materials and Structures (ACMS 2018)*, IIT Roorkee, India, March 7-8.
43. Goswami, A., Singh, A. and **Adhikary, S.D.** (2017) "Blast Resistance of Ultra High-Performance Concrete Structures," *2nd International Conference on Innovation in Structural Engineering (IC-ISC)*, Osmania University, Hyderabad, India, December 29-31.
44. Gunjan, A., Goswami, A., and **Adhikary, S.D.** (2017) "Impact Performance of Reinforced Concrete Slabs," *2nd International Conference on Innovation in Structural Engineering (IC-ISC)*, Osmania University, Hyderabad, India, December 29-31.
45. Thakur, M.S. and **Adhikary, S.D.** (2017) "Structural Steel silos: An alternative of RC silos," *ASCE India Conference*, IIT Delhi, India, December 12-14.
46. Kumar, S., Dutta, S.C., **Adhikary, S.D.**, Hussain, M.A., Kundu, S., and Chatterjee, S. (2017) "Non-Linear Dynamic Analysis of Structures on Opencast Backfilled Mine Due to Blast Vibration," *13th International Conference on Vibration Problems*, IIT Guwahati, India, November 29-December 2.
47. **Adhikary, S.D.**, Lado, R.C., Christian, A., and Ong, K.C.G. (2015) "Blast Performance of High Strength Concrete panels: Experimental, Numerical and Analytical Investigation," *5th International Conference on Design and Analysis of Protective Structures*, pp. 602-612, Singapore, May 19-21.
48. Lado, R.C, **Adhikary, S.D.**, and Ong, K.C.G. (2015) "Bond Characteristics of Concrete-to-SHCC Interfaces and Numerical Analysis of SHCC-strengthened RC panels under Blast

- Loading,” *5th International Conference on Design and Analysis of Protective Structures*, pp. 464-473, Singapore, May 19-21.
49. **Adhikary, S.D.**, Li, B., and Fujikake, K. (2013) “Numerical Investigation on Residual Resistance of RC Beams Subjected to Impact Loading,” *10th International Conference on Shock & Impact Loads on Structures*, pp. 287-294, Singapore, Nov. 25-26.
 50. Fujikake, K., Li, B., **Adhikary, S.D.**, and Salem, H.M. (2012) “Dynamic Shear Resistance of Short RC Beams,” *4th International Conference on Design and Analysis of Protective Structures*, pp. 570-578, Jeju, Korea, June 19-22.
 51. **Adhikary, S.D.**, Li, B., and Fujikake, K. (2011) “Performance Assessment of Reinforced Concrete Beams under Varying Rates of Concentrated Loading,” *9th International Conference on Shock & Impact Loads on Structures*, pp. 261-268, Fukuoka, Japan, Nov. 16-18.

Book/Book Chapter

52. Roy, D.M., **Adhikary, S.D.**, and Sengupta, P. (2021) “Experimental Optimization of GGBS Fly Ash-Based Geopolymer Concrete Paver Blocks”, *Sustainable Cities and Resilience; Lecture Notes in Civil Engineering*, Vol. 180, Springer, https://doi.org/10.1007/978-981-16-5543-2_13.
53. Goswami, A. and **Adhikary, S.D.** (2021) “Theoretical Framework for Response Prediction of Reinforced Concrete Structures Subjected to Cased Explosive Charges” *Advances in Geotechnics and Structural Engineering, Lecture Notes in Civil Engineering, Springer*, pp. 449-459, https://doi.org/10.1007/978-981-33-6969-6_39
54. Kumar, S., Dutta, S.C., **Adhikary, S.D.**, and Hussain, M.A. (2020) “Non-Linear Dynamic Analysis of Structures on Opencast Backfilled Mine due to Blast Vibration” *Advances in Structural Vibration, Lecture Notes in Mechanical Engineering, Springer*, pp. 95-104, https://doi.org/10.1007/978-981-15-5862-7_9
55. Jha, A. K, Goswami, A. and **Adhikary, S.D.** (2019) “Are FRP’s the Way Forward for the Blast Retrofitting of Reinforced Concrete Structures?” *Advances in Structural Engineering and Rehabilitation, Lecture Notes in Civil Engineering, Springer*, Vol. 38, pp. 93-104, https://doi.org/10.1007/978-981-13-7615-3_8.

56. Jethwani, R., Thakur, M.S. and **Adhikary, S.D.** (2019) "Development of Geopolymer Concrete for Sustainable Infrastructures," *Advances in Sustainable Construction Materials and Geotechnical Engineering, Lecture Notes in Civil Engineering*, Springer, Vol. 35, pp. 1-14, https://doi.org/10.1007/978-981-13-7480-7_1.
57. Kumar, A. and **Adhikary, S.D.** (2018) "Effect of Blast Loading on Reinforced Concrete Buildings", *Bloomsbury Publishing India Pvt. Ltd.*, pp. 354-360, [ISBN:978-93-87471-69-6](#)
58. Thakur, M.S. and **Adhikary, S.D.** (2018) "Characterization of Fly Ash Concrete", *Bloomsbury Publishing India Pvt. Ltd.*, pp. 406-411, [ISBN:978-93-87471-69-6](#)
59. Anand, S., Sengupta, P. and **Adhikary, S.D.** (2018) "Wind Loading Effects on High-Rise Reinforced Concrete Buildings", *Bloomsbury Publishing India Pvt. Ltd.*, pp. 676-682, [ISBN:978-93-87471-69-6](#)
60. Mondal, P., Sengupta, P. and **Adhikary, S.D.** (2018) "Vulnerability Assessment of Reinforced Concrete Beams under Impact Loading", *Bloomsbury Publishing India Pvt. Ltd.*, pp. 521-527, [ISBN:978-93-87471-69-6](#)
61. **Adhikary, S.D.** (2017) "RC Structures under High Speed and Impact Loading," *LAP LAMBERT Academic Publishing*, 301 pages, [ISBN:978-620-2-09364-4](#)

Reports/Thesis

62. Ong, K.C.G, Lado, R.C. and **Adhikary, S.D.** (2016) "High Performance Concrete for Protective Structures: Part A: Design of Structures with HPC materials against Blast and Impact loadings," *Project Report D5&D6*, submitted to Defense Science & Technology Agency (DSTA), Singapore by Centre for Protective Technology, National University of Singapore.
63. Ong, K.C.G, Lado, R.C. and **Adhikary, S.D.** (2015) "High Performance Concrete for Protective Structures: Part A: Design of Structures with HPC materials against Blast and Impact loadings," *Design Guide*, submitted to Defense Science & Technology Agency (DSTA), Singapore by Centre for Protective Technology, National University of Singapore.
64. Ong, K.C.G, Lado, R.C. and **Adhikary, S.D.** (2015) "High Performance Concrete for Protective Structures: Part A: Design of Structures with HPC materials against Blast and Impact loadings," *Project Report D4*, submitted to Defense Science & Technology Agency (DSTA), Singapore by Centre for Protective Technology, National University of Singapore.

65. Ong, K.C.G, Lado, R.C. and **Adhikary, S.D.** (2014) “ATREC Blast Test- Pretest Calculation,” **Project Report**, submitted to Defense Science & Technology Agency (DSTA), Singapore by Centre for Protective Technology, National University of Singapore.
66. Ong, K.C.G, Lado, R.C. and **Adhikary, S.D.** (2014) “High Performance Concrete for Protective Structures: Part A: Design of Structures with HPC materials against Blast and Impact loadings,” **Project Report D3**, submitted to Defense Science & Technology Agency (DSTA), Singapore by Centre for Protective Technology, National University of Singapore.
67. **Adhikary, S.D.** (2014) “Dynamic Behavior of Reinforced Concrete Beams under Varying Rates of Concentrated and Impact Loadings,” **Doctor of Philosophy Thesis**, Division of Structures and Mechanics, School of Civil and Environmental Engineering, Nanyang Technological University.
68. Ang, C.K., **Adhikary, S.D.** and Low, K. (2013) “Blast Effect Analysis, Structural Resiliency Study and Protective Hardening Measures of Tampines Town Hub (Seven storey with two basements) Building in Singapore,” **Project Report**, Prostruct Consulting Pte Ltd, Singapore.
69. **Adhikary, S.D.** (2007) “Planning and Design of an Industrial Complex,” **Final Year Project Report**, Bengal Engineering and Science University Shibpur, India.

Magazine Articles/Research Bulletin

70. **Adhikary, S.D.** (2018) “Utilization of Pulverized Fuel Ash,” **EnergiTalk Magazine @ Maithon**, Maithon Power Limited, Jharkhand, India, January, Issue 5.
71. Ang, C.K. and **Adhikary, S.D.** (2014) “Blast-Resistant Design of Facades,” **The Singapore Engineer-Magazine**, The Institution of Engineers Singapore, February issue, Singapore.
72. Ang, C.K. and **Adhikary, S.D.** (2014) “Progressive-Collapse-Resistant Design of Buildings,” **The Singapore Engineer-Magazine**, The Institution of Engineers Singapore, February issue, Singapore.
73. Li, B. and **Adhikary, S.D.** (2013) “Dynamic Behavior of Reinforced Concrete beams under Varying Rates of Concentrated Loading,” **CEE Research Bulletin**, Nanyang Technological University, Singapore.

Consultancy Projects

1. “Design of Pier and Abutment of a Major Rail over Rail (ROR) Bridge in Jharkhand” RITES LIMITED, 2021.
2. “Design of RCC T-Beam and Slab of a Major Road Over Bridge (ROB)” Sumcon Infraventures LLP, 2022.
3. “Design of Temporary Structures for Launching of Major Bridge in Jharkhand” KVRECPL-UPAKAR-SCRNPL (JV), 2022.
4. “Design of Temporary Structures for Launching of Major Bridge” KVRECPL-UPAKAR-SCRNPL (JV), 2023.
5. “Evaluation of Raw Materials & Concrete Mix Design for M25 Grade Concreting work” SMS India Pvt. Ltd., 2024
6. “A Study on the Structural Health Assessment of the Bokaro Barrage”, Damodar Valley Corporation (DVC), 2025

Citations (Google Scholar): [Click here](#)

Total Number of Citations	1108
h-index	13
i-10 index	15

Awards/Honours/Scholarships

- Subject Expert Member in the Project Appraisal Committee (PAC) of Department of Higher and Technical Education of Jharkhand Council on Science, Technology and Innovation in January 2026.
- Editorial Board Member of Scientific Reports Journal of Springer Nature from November 2025.
- External Expert Peer Review Committee member for evaluation of Research Proposal of CFEES DRDO Delhi in July 2025

- Working Group Member (WG 60) of revised code IS 4991 (Part 1):2024 “Criteria for Blast Resistant Design of Structures: Part 1 Above-ground Explosions”
- Certificate of Excellence in Reviewing from Defense Science Journal, DRDO in May 2024
- Promising Young Structural Engineer Award 2020 from Indian Association of Structural Engineers (IAStructE)
- Associate Editor of ASCE Journal of Structural Design and Construction Practice (July 2020 – Till date) [[Link](#)]
- Review Editor of Board of Computational Methods in Structural Engineering (specialty section of Frontiers in Built Environment Journal)
- Review Editor of Board of Solid and Structural Mechanics (specialty section of Frontiers in Mechanical Engineering Journal)
- Guest Editor for the November 2021 issue of the Indian Concrete Journal (ICJ)
- Guest Editor for Special Issue on “Structures under Blast and Impact Loading” in ASCE Practice Periodical on Structural Design and Construction Journal
- Technical Committee Member: Blast, Shock and Impact of ASCE
- Associate Member: ACI Committee 370, Blast and Impact Load Effects
- Technical Committee Member: IEC Impact and Explosion of RILEM
- Working Group Member: TG 2.12-Protective Concrete Structures against Hazards of International Federation for Structural Concrete
- Grant for presenting paper in 5th International Conference (19-21 May 2015) on Design and Analysis of Protective Structures (DAPS 2015), Singapore from Department of Civil and Environmental Engineering of National University of Singapore (NUS), Singapore.
- Grant for attending workshop (23-26 February 2015) on Geomaterial, Modeling Technique and Simulation using LS-DYNA, Singapore from Department of Civil and Environmental Engineering of National University of Singapore (NUS), Singapore.

- Post-Doctoral Research Fellowship (June 2014 – September 2016) from Department of Civil and Environmental Engineering of National University of Singapore (NUS), Singapore.
- Rank certificate (ranked 3rd in the Graduating class of 93 students, 2007) from Bengal Engineering and Science University, Shibpur, West Bengal, India.

Administrative Activities

- Editorial Board Member of Monthly Newsletter of Civil Engineering Department
- Departmental Faculty Screening Committee (DFSC) Member (January 2024 – till date)
- Warden, Emerald Hostel (July 2022 – June 2024)
- Faculty-In-Charge of Strength of Material Laboratory
- Faculty mentor for the new entrants through IIT-JEE Advanced (2019)
- Departmental Faculty Screening Committee (DFSC) Member (July 2019 – Nov 2020)
- Core Committee Member - Central Research Facility of IIT (ISM) Dhanbad (September 2018 – August 2020)
- Library Advisory Committee (LAC) member – Central Library of IIT (ISM) Dhanbad (October 2018 –Till date)
- DPGC member (June 2018 - September 2020)
- DUGC member (October 2020 – September 2022)
- Faculty Advisor of Anti-ragging squad (2018, 2019)
- Committee member (October-November 2017) for preparation of required supporting document and filling-up the application form of IIT (ISM) Dhanbad for Institution of Eminence (IOE).
- Assistance to M. Tech. Program Coordinator (July 2017 – June 2018) for Structural Engineering Specialization of Civil Engineering Department of IIT (ISM), Dhanbad, Jharkhand, India.
- Faculty-In-Charge (July 2017 - Till date) of Strength of Material Laboratory of Civil Engineering Department of IIT (ISM), Dhanbad, Jharkhand, India.

- Faculty-In-Charge (July 2017 – July 2022) for Placement of Civil Engineering Department of IIT (ISM), Dhanbad, Jharkhand, India.
- Faculty-In-Charge (November 2016 - July 2017) of Training and Placement of Civil Engineering Department of IIT (ISM), Dhanbad, Jharkhand, India.
- Faculty-In-Charge (November 2016 - till date) of Civil Engineering Departmental Library, IIT (ISM) Dhanbad, Jharkhand, India.
- Faculty-In-Charge (November 2016-July 2017) of Civil Engineering Department Office, IIT (ISM) Dhanbad, Jharkhand, India.
- Held the position of Treasurer (2005-2006) in the Society of Civil Engineers (SOCCE) at Bengal Engineering and Science University, Shibpur, West Bengal, India.
- Committee member (2005-2006) of Institute of Engineers India Student's Chapter at Bengal Engineering and Science University, Shibpur, West Bengal, India.
- Organized several educational tours and industrial visits.

External Thesis Examiner/Selection Committee

- Examiner of Ph.D. thesis from ***NIT Silchar*** (December 2025)
- Two (2) R&D project proposals reviewed of ***ANRF under Advanced Research Grant (ARG) scheme*** (October 2025)
- Examiner of Ph.D. thesis from ***Visvesvaraya Technical University, Belagavi*** (June 2025)
- Examiner of Ph.D. thesis from ***CSIR-CBRI Roorkee*** (November 2024)
- External examiner for the M. Tech. Dissertation and Project Seminar of ***Civil Engineering Department of NIT Durgapur*** (May 2024)
- Two (2) ***GLAN*** proposals reviewed (2024)
- Member of Committee of Selection of Project Staff at ***CSIR-CIMFR*** (2024)
- Examiner of PhD thesis from ***Civil Engineering Department of IIT Bombay*** (2023)
- Five (5) R&D project proposals reviewed of ***DST-SERB under CRG scheme*** (2023)

- Examiner of PhD thesis from *Civil Engineering Department of Osmania University, Hyderabad* (2022)

Reviewer/Editorial/Technical Committee Member:

- American Concrete Institute (ACI) Structural Journal
- American Concrete Institute (ACI) Material Journal
- ASCE Journal of Structural Engineering
- ASCE Journal of Materials in Civil Engineering
- ASCE Journal of Bridge Engineering
- Engineering Structures Journal from Elsevier
- Construction and Building Materials Journal from Elsevier
- International Journal of Impact Engineering from Elsevier
- Cement and Concrete Composites from Elsevier
- Structures Journal from Elsevier
- Structural Concrete Journal from Wiley
- Journal of Building Engineering from Elsevier
- Engineering Failure Analysis Journal from Elsevier
- Materials and Structures from Springer
- Defence Science Journal, DRDO
- Structure and Infrastructure Engineering from Taylor and Francis
- Advances in Structural Engineering Journal from SAGE
- Practice Periodical on Structural Design and Construction Journal from ASCE
- Shock and Vibration Journal from Hindawi
- Proceeding of the ICE - Engineering and Computational Mechanics Journal
- Journal of The Institution of Engineers (India): Series A from Springer

- Advances in Civil Engineering Journal from Hindawi
- Indian Concrete Journal
- Technical Committee member of International Conference on Materials, Mechanics and Structures (ICMMS 2022) at Department of Civil Engineering of NIT Calicut, Kerala, India, March 10-12, 2022.
- Editorial Committee member of International Conference on Trends and Recent Advances in Civil Engineering (TRACE), Department of Civil Engineering, Amity University, UP, India, 2018, 2020.

Professional Memberships

- Member (Member ID - 11041555) of American Society of Civil Engineers (ASCE)
- Member (Member ID - 1502479) of American Concrete Institute (ACI)
- Senior Member of RILEM
- Member (Membership Number: M-1592135) of The Institution of Engineers India (IEI)
- Life Member (Membership Number: M-319) of Indian Association of Structural Engineers
- Life Member (Membership Number: 2018013) of Indian Society for Construction Materials and Structures (ISCMS)
- International Association of Protective Structures
- Alumni member of Nanyang Technological University, Singapore
- Life Member (Membership No. L/015/CE/D00427) of Global Alumni Association of Bengal Engineering and Science University (GAABESU), Shibpur, West Bengal, India.

Invited Lecture

- Delivered lecture (online) at Short Term Course on “Sustainable Applications and Research Perspectives in Civil Engineering” on 08 July 2025 at *NIT Jalandhar*.
- Delivered theme lecture at the “1st International Conference on Advances in Structural and Geotechnical Engineering (ASAGE’25)” on February 6 - 8, 2025, at *IIT Patna*.

- Delivered lecture (online) on fib Days 2022 at ***The Institutional of Engineers (India), Kolkata*** on 12th September 2022.
- Delivered lecture at online Faculty Development Program on Recent Trends and Future Aspects of Steel Structures at ***NIT Warangal and SVNIT Surat*** on 29th October 2021.
- Delivered online lecture at ***Indian Association of Structural Engineers (IAStructE) (Eastern Zone), Kolkata*** on 23rd October 2021.
- Delivered lecture (physical) at Workshop on Advances in Structural and Geotechnical Engineering (ASGE) at ***IIT (ISM) Dhanbad*** from 5-9th June 2018.
- Delivered lecture (physical) at TEQIP-III sponsored Workshop on Recent Advances in Civil Engineering (RACE) at ***Department of Civil Engineering of BIT, Sindri*** from 07-11th December 2018.

Conference/EDP/Workshop/Seminar Organized

- 5-days long Executive Development Program (EDP) on ***"Blast Resilience of Civil Infrastructures: Emerging Global Trends"*** from 08.07.2024 to 12.07.2024 at IIT (ISM) Industry Institute Interaction Facility, Kolkata, India.
- Organizing Committee member of 2nd ASCE India 2020 Conference on ***"Challenges of Resilient and Sustainable Infrastructure Development in Emerging Economies"*** from 02.03.2020 to 04.03.2020.
- ***Career Opportunities in RITES LIMITED***, 19 January 2017, at seminar room of Civil Engineering Department, organized by Department of Civil Engineering, IIT (ISM) Dhanbad.