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

Associate Professor
Department of Civil Engineering
Indian Institute of Technology (ISM), Dhanbad
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## Research Interests

- Blast, Impact & Fire Engineering
- Sustainable Structural Materials
- High Strain Rate Effects
- Structural Concrete and Steel
- Protective Technology
- 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 (IIEST), Shibpur, West Bengal, India
(Formerly Bengal Engineering and Science University, Shibpur, West Bengal, India)

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

***Higher Secondary Examination*** (2003)

Kharagpur Atulmoni Polytechnic High School, West Bengal, India

Marks: **84.3%**

***Secondary Examination*** (2001)

Kharagpur P. N. Roy Vidyaniketan, West Bengal, India

Marks: **86.4%**

## 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:

| Year/Semester | Course Name & Code | UG/PG | L-T-P | No. of Students |
|---|---|---|---|---|
| 2016-2017 (Monsoon Semester) | Design of Steel Structures II - Theory (CEC 17101) | UG (B.Tech. 7th Semester) | 3-0-0 | 40 |
| | Design of Steel Structures II - Practical (CEC 17201) | UG (B.Tech. 7th Semester) | 0-0-2 | 40 |
| | Structural Engineering Laboratory (CEC 51201) | PG (M. Tech. 1st Semester) | 0-0-3 | 24 |
| 2016-2017 (Winter | Design of Steel Structures I - Theory (CEC 16101) | UG (B.Tech. 6th Semester) | 3-0-0 | 43 |

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|---|---|---|---|---|
| Semester) | Design of Concrete Structures II - Theory (CEC 16104) | UG (B.Tech. 6th Semester) | 3-0-0 | 43 |
| | Design of Concrete Structures II - Sessional (CEH 16701-Honours Course) | UG (B.Tech. 6th Semester) | 0-0-2 | 39 |
| 2017-2018 (Monsoon Semester) | Design of Steel Structures II - Theory (CEC 17101) | UG (B.Tech. 7th Semester) | 3-0-0 | 43 |
| | Design of Steel Structures II - Practical (CEC 17201) | UG (B.Tech. 7th Semester) | 0-0-2 | 43 |
| | Structural Engineering Laboratory (CEC 51201) | PG (M. Tech. 1st Semester) | 0-0-3 | 43 |
| 2017-2018 (Winter Semester) | Design of Prestressed Concrete-Theory (CEE 52103) | PG (M. Tech. 2nd Semester) | 3-0-0 | 22 |
| | Design of Concrete Structures II - Theory (CEC 16104) | UG (B.Tech. 6th Semester) | 3-0-0 | 37 |
| 2018-2019 (Monsoon Semester) | Solid Mechanics –Theory (CEC 13101) | UG (B.Tech. 3rd Semester) | 3-0-0 | 46 |
| | Design of Steel Structures II - Theory (CEC 17101) | UG (B.Tech. 7th Semester) | 3-0-0 | 37 |
| | Design of Steel Structures II - Practical (CEC 17201) | UG (B.Tech. 7th Semester) | 0-0-2 | 37 |
| 2018-2019 (Winter Semester) | Design of Concrete Structures II - Theory (CEC 16104) | UG (B.Tech. 6th Semester) | 3-0-0 | 43 |
| | Design of Concrete Structures II - Sessional (CEH 16701-Honours Course) | UG (B.Tech. 6th Semester) | 0-0-2 | 36 |
| | Engineering Graphics (MCC 12101) | UG (B.Tech. 2nd Semester) | 3-0-0 | 40 |
| | Design of Prestressed Concrete-Theory (CEE 52103) | PG (M. Tech. 2nd Semester) | 3-0-0 | 19 |
| 2019-2020 (Monsoon Semester) | Solid Mechanics –Theory (CEC 13101) | UG (B.Tech. 3rd Semester) | 3-0-0 | 47 |
| | Engineering Graphics –Sessional (CEI 101) | UG (B.Tech. 1st Semester) | 0-0-2 | 40 |
| | Structural Dynamics- Theory (CEC 511) | PG (M. Tech. 1st Semester) and PhD | 3-0-0 | 12 |
| | Structural Laboratory-I (CEC 515) | PG (M. Tech. 1st Semester) | 0-0-3 | 10 |
| 2019-2020 (Winter Semester) | Construction Planning and Management-Theory (CEC 18101) | UG (B.Tech. 8th Semester) | 3-0-0 | 43 |
| | Engineering Graphics – Sessional (CEI 101) | UG (B.Tech. 2nd Semester) | 0-0-3 | 37 |
| | Design of Steel Structures-I Practical (CEC 16201) | UG (B.Tech. 6th Semester) | 0-0-2 | 44 |

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| 2020-2021 (Monsoon Semester) | Design of Steel Structures II - Theory (CEC 17101) | UG (B.Tech. 7th Semester) | 3-0-0 | 45 |
| | Design of Steel Structures II - Practical (CEC 17201) | UG (B.Tech. 7th Semester) | 0-0-2 | 45 |
| | Structural Dynamics- Theory (CEC 511) | PG (M. Tech. 1st Semester) and PhD | 3-0-0 | 25 |
| 2020-2021 (Winter Semester) | Construction Planning and Management-Theory (CEC 18101) | UG (B.Tech. 8th Semester) | 3-0-0 | 46 |
| | Prestressed Concrete Structures-Theory (CED 515) | PG (M. Tech. 4th Semester) and PhD | 3-0-0 | 10 |
| | Engineering Graphics – Sessional (CEI 101) | UG (B.Tech. 2nd Semester) | 0-0-3 | 42 |
| 2021-2022 (Monsoon Semester) | Design of Steel Structures II - Theory (CEC 17101) | UG (B.Tech. 7th Semester) | 3-0-0 | 47 |
| | Design of Steel Structures II - Practical (CEC 17201) | UG (B.Tech. 7th Semester) | 0-0-2 | 47 |
| | Engineering Graphics – Sessional (CEI 101) | UG (B.Tech. 2nd Semester) | 0-0-3 | 48 |
| 2021-2022 (Winter Semester) | Prestressed Concrete Structures-Theory (CED 515) | PG (M. Tech. 4th Semester) | 3-0-0 | 21 |
| | Engineering Graphics – Sessional (CEI 101) | UG (B.Tech. 2nd Semester) | 0-0-3 | 45 |
| 2022-2023 (Monsoon Semester) | Engineering Graphics – Sessional (CEI 101) | UG (B.Tech. 1st Semester) | 0-0-3 | 45 |
| | Material Testing Laboratory (CEC 204) | UG (B.Tech. 3rd Semester) | 0-0-2 | 55 |
| 2022-2023 (Winter Semester) | Prestressed Concrete Structures-Theory (CED 542) | PG (M. Tech. 2nd and 4th Semester) and PhD | 3-0-0 | 30 |
| | Blast Protection of Structures-Theory (CEO 529) | PG (M. Tech. 2nd and 4th Semester) and PhD | 3-0-0 | 21 |
| | Engineering Graphics – Sessional (CEI 101) | UG (B.Tech. 2nd Semester) | 0-0-3 | 45 |
| 2023-2024 (Monsoon Semester) | Engineering Graphics – Sessional (CEI 101) | UG (B.Tech. 1st Semester) | 0-0-3 | 47 |
| | Material Testing Laboratory (CEC 204) | UG (B.Tech. 3rd Semester) | 0-0-2 | 55 |
| 2023-2024 (Winter Semester) | Prestressed Concrete Structures-Theory (CED 542) | PG (B. Tech. 8th, M. Tech. 2nd and 4th Semester) and PhD | 3-0-0 | 21 |

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|---|---|---|---|---|
| | Blast Protection of Structures-Theory (CEO 529) | PG (B. Tech. 8th, M. Tech. 2nd and 4th Semester) and PhD | 3-0-0 | 11 |
| | Engineering Graphics – Sessional (CEI 101) | UG (B.Tech. 2nd Semester) | 0-0-3 | 44 |

## Research Supervision:

- **B. Tech. Students**

| Sl. No. | Name | Year of Completion | Title of Thesis |
|---|---|---|---|
| 1. | Alaukik Singh (14JE000687) | 2018 | Use of Ultra High-Performance Concrete for Blast Resistant Structures |
| 2. | Aditya Gunjan (15JE001812) Gangasagar Vaishnav Datta (15JE001671) Shubham Verma (15JE001610) Himanshu Bardawat (15JE001761) | 2019 | Impact Performance of Concrete Slabs |
| 3 | Jethwani Rohan Rajesh (16JE002575) Abhishek Soni (16JE002477) Tushar Gupta (16JE002476) Ish Kumar (16JE002259) | 2020 | Machine Learning Algorithm to Predict the Compressive Strength of Concrete |
| 4 | Rahul Sinha (17JE003028) Neha Bharti (17JE002983) Nitesh Nishad (17JE003244) | 2021 | Prediction of Impact Force of Reinforced Concrete Beams using Artificial Neural Network |
| 5 | Abhigyan Ayush Jha (18JE0012) Kshitija Mangesh Walimbe (18JE0432) | 2022 | Machine Learning Model to Predict Impact Response of RC Beams |
| 6 | Pushpendra Singh Solanki (19JE0664) Priyesh Kumar Yadav | 2023 | Eco-friendly Cementless Composite Using Industrial Waste |

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|---|---|---|---|
| | (19JE0652)<br>Joydip Mandal<br>(19JE0406) | | |
| 7 | Pratham Goyal<br>(20JE0713) | 2024 | Response Prediction of RC Beams Under Drop Weight Impact Using Recurrent Neural Networks and Machine Learning Models |
| 8 | Polapragada Sai Prasanth<br>(20JE0689) | 2024 | Numerical Analysis of Concrete Slab Subjected to Contact explosion |

- **M. Tech. Students**

| Sl. No. | Name | Year of Completion | Title of thesis | Co-guide (if any) |
|---|---|---|---|---|
| 1. | Mohit Singh Thakur<br>(16MT001460) | 2018 | Material Characterization and Structural Application of Fly Ash and Geopolymer Concrete | NA |
| 2. | Kumar Aditya<br>(16MT000759) | 2018 | Effect of Blast Loading on Reinforced Concrete Buildings | NA |
| 3. | Priyanka Mondal<br>(16MT000944) | 2018 | Vulnerability Assessment of Reinforced Concrete Beams under Impact Loading | Dr. Piyali Sengupta, Department of Civil Engineering, IIT (ISM) Dhanbad |
| 4. | Sarita Anand<br>(16MT000802) | 2018 | Wind Loading Effects on High-Rise Reinforced Concrete Buildings | Dr. Piyali Sengupta, Department of Civil Engineering, IIT (ISM) Dhanbad |
| 5. | Kush B Patel<br>(17MT002065) | 2019 | Bridge Pier against Explosions | NA |
| 6. | Souvik Sen<br>(17MT002056) | 2019 | Development of Engineered Cementitious Composites | NA |
| 7. | Adarsh Kumar<br>(17MT002103) | 2019 | Self-healing Concrete | Dr. Vipin Kumar, Department of Environmental Science and Engineering |

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|---|---|---|---|---|
| 8. | Aashis Kumar Jha (17MT001870) | 2019 | Impact Loading on Fibre Reinforced Concrete Slab | NA |
| 9. | Anand (17MT002121) | 2019 | Development of Bacterial Concrete for Application in Building Constructions | Dr. Vipin Kumar, Department of Environmental Science and Engineering |
| 10. | Pushkar A Deshpande (18MT0509) | 2020 | SFRC Flexural Members Under Impact Loading: An Analytical Approach for Response Assessment | NA |
| 11. | Arun Singh Asawat (18MT0376) | 2020 | Response of RC Slab Under Low Velocity Impact Loading | NA |
| 12. | Pushpraj Singh (18MT0212) | 2020 | Development of Solid-Activator based Geopolymer Concrete | NA |
| 13. | Anoop Kumar Verma (20MT0071) | 2022 | Reinforced ECC Panels under Impact and Blast Loading | NA |
| 14 | Aman (21MT0034) | 2023 | Blast Performance of Steel-Concrete Composite Structures | NA |
| 15 | Vikas Chaurasia (22MT0421) | 2024 | Shear-Critical Reinforced Concrete Beams under Transverse Impact Loading: Numerical Study | NA |

- **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-December 2024 | Development of GUI-based Computer Program for Thermo-Hygro-Mechanical Behavior Assessment of Concrete Structures under Fire | NA | Completed |

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|---|---|---|---|---|---|
| 3. | Debjit Mitra Roy (18DP000397) | Jan 2018- | Assessment of Mechanical, Durability and Micro-structural Characterization of Novel Ambient cured Cement-free Composite Concrete | Dr. Piyali Sengupta, Department of Civil Engineering, IIT (ISM) Dhanbad | Ongoing |
| 4. | Dipanshu Jain (21DR0051) | Aug-2021 | Development of Cement-free concrete with full replacement with waste materials | NA | Ongoing |

## R&D Projects

| SL. No. | Title | Funding Agency | PI/Co-PI | Amount (Rs) | Duration | Status |
|---|---|---|---|---|---|---|
| 1. | 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 |
| 2. | Fly ash Concrete for Sustainable Development | TEQIP III | PI | 2.0 Lakhs | 18/12/2017-17/12/2019 (2 years) | Completed |
| 3. | Mathematical Modeling of Concrete Structures under Combined Blast and Impact Loading | MATRICS-DST-SERB (DST(SERB)(254)/2019-2020/703/CE) | PI | 6.6 Lakhs | 21/02/2020-20/02/2023 (3 years) | Completed |
| 4. | 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 |

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|---|---|---|---|---|---|---|
| 5. | 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 |
| 6. | 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 |
| 7. | Development of Computer Program and Experimental set-up for Response assessment of Concrete Structures under Drop-weight Impact and Contact Explosions | CORE-DST-SERB (DST(SERB) (379)/2022-2023/991/CE | PI | 34.14 Lakhs | 22/02/2023-21/02/2026 (3 years) | Ongoing |
| 8. | Blast-fragment impact mitigation of structures using light weight steel cementitious composite steel (SCCS and functionally graded cementitious composite (FGCC) systems | DRDO (ARMREB) (25)/2023-2024/1059/CE | PI | 43.54 Lakhs | 16/01/2024-15/01/2027 (3 years) | Ongoing |

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|---|---|---|---|---|---|---|
| 9. | 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) | Ongoing |

## Patent/Copyright Details

1."**A cement-free mortar (CFM) composition**" by **Satadru Das Adhikary** and Dipanshu Jain (PhD student); Indian Patent Application Number: 202431006089; Status: Published on 16.02.2024 (Indian Patent)

2.**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

3. **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: 64; No. of Citations: 862; h-Index: 12; i10 Index: 14

***International Journal Articles***

1. 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)**

2. 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)**

3. 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 – 1.6 (Q3)**

4. 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)**

5. 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**, Impact Factor – 3.7 (Q1)**

6. 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)**

7. 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, **Impact Factor – 3.7 (Q1)**

8. 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)**

9. 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)**

10. 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 – 7.4 (Q1)**

11. 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)**

12. 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 , **Impact Factor – 1.9 (Q3)**

13. **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)**

14. **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 – 7.4 (Q1)**

15. **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, **Impact Factor – 1.9 (Q3)**

16. **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)**

17. **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)**

18. **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, **Impact Factor – 1.9 (Q3)**

19. 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)**

20. **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)**

21. **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)**

22. **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, **Impact Factor – 1.8 (Q3)**

23. **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/macr.14.00312, **Impact Factor – 2.7 (Q2)**

24. **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)**

25. **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***

26. 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.

27. 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.

28. 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),*** Chennai, India, September 25-27.

29. 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.

30. 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.

31. 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.

32. 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.

33. 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.

34. 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.

35. 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.

36. 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.

37. 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.

38. **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.

39. 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.

40. **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.

41. 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.

42. **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***

43. 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.

44. 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

45. 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

46. 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.

47. 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.

48. 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

49. 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

50. 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

51. 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

52. **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***

53. 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.

54. 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.

55. 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.

56. 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.

57. 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.

58. **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.

59. 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.

60. **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***

61. **Adhikary, S.D.** (2018) "Utilization of Pulverized Fuel Ash," ***EnergiTalk Magazine @ Maithon***, Maithon Power Limited, Jharkhand, India, January, Issue 5.

62. 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.

63. 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.

64. 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.

## Citations (Google Scholar): Click here

| | |
|---|---|
| Total Number of Citations | 862 |
| h-index | 12 |
| i-10 index | 14 |

## Awards/Honours/Scholarships

- Certificate of Excellence in Reviewing from Defence 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)
- 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.
- Grant for research visit (17 October- 15 November 2011) to National Defense Academy, Yokosuka, Japan from School of Civil and Environmental Engineering of Nanyang Technological University, Singapore.
- Grant for presenting paper in 9th International Conference on Shock & Impact Loads on Structures (16-18 November 2011) in Fukuoka, Japan from School of Civil and Environmental Engineering of Nanyang Technological University, Singapore.
- Research Scholarship (2009-2013) for Doctoral Study from School of Civil and Environmental Engineering of Nanyang Technological University (NTU), Singapore.
- Rank certificate (ranked 3rd in the Graduating class of 93 students, 2007) from Bengal Engineering and Science University, Shibpur, West Bengal, India.
- Scholarship in undergraduate study (2004-2006) from Bengal Engineering and Science University, Shibpur, West Bengal, India.
- Merit Certificates in Secondary and Higher Secondary Examination (2001 and 2003), West Bengal, India.

## Administrative Activities

- Department Level Space Committee Member (22 August 2024-till date)
- Departmental Faculty Screening Committee (DFSC) Member (January 2024 – till date)

- Warden, Emerald Hostel (July 2022 – June 2024)
- 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 PhD thesis from ***Civil Engineering Department of Osmania University, Hyderabad*** (2022)
- 5 R&D project proposals reviewed of ***DST-SERB under CRG scheme*** (2023)
- Examiner of PhD thesis from ***Civil Engineering Department of IIT Bombay*** (2023)
- Member of Committee of Selection of Project Staff at ***CSIR-CIMFR*** (2024)
- 2 ***GIAN*** proposals reviewed (2024)
- External examiner for the M. Tech. dissertation and project seminar of ***Civil Engineering Department of NIT Durgapur*** (2024)

## 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) 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.

## Research Guidance and Teaching Experiences at NUS & NTU, Singapore

- Mentored two undergraduate final year students from Department of Civil and Environmental Engineering in National University of Singapore (NUS), Singapore to complete final year project report in 2014 and 2015 respectively.
  - ***FYP Thesis Title:*** *Numerical Analysis of SHCC-strengthened normal strength concrete panels subjected to blast loading.*
  - ***FYP Thesis Title:*** *Evaluating partial safety factors for use of high-performance concrete in Defense Structures*
- Mentored two undergraduate final year students from School of Civil and Environmental Engineering in Nanyang Technological University (NTU), Singapore to complete their final year project reports in 2011 and 2013 respectively.
  - ***FYP Thesis Title:*** *Behavior of Reinforced Concrete Beams under Drop-weight Impact Loading*
  - ***FYP Thesis Title:*** *Behavior and Modeling of Reinforced Concrete Beams Subjected to High Rates of Concentrated Loading*
- Civil Engineering Drawings (AutoCAD 2011 and Inventor 2011) CV-1711, Aug-Dec 2012, School of Civil and Environmental Engineering in Nanyang Technological University (NTU), Singapore.

  Civil Engineering Drawings (AutoCAD 2011 and AutoCAD 2008), CV-1711 and CV-2901, Jan-May 2012, School of Civil and Environmental Engineering in Nanyang Technological University (NTU), Singapore.

## Conference/Workshop/Seminar Attended

- ***Smart and Sustainable Infrastructure with Digitization, Sensorial Networks and Nanotechnology***, 5 July 2016, Faculty of Engineering, 9 Engineering Drive 1, National

University of Singapore, Singapore 117575, organized by Department of Civil and Environmental Engineering, National University of Singapore.

- ***Progressive Collapse Simulation of Vulnerable Reinforced Concrete Buildings***, 11 January 2016, Faculty of Engineering, 9 Engineering Drive 1, National University of Singapore, Singapore 117575, organized by Department of Civil and Environmental Engineering, National University of Singapore.
- ***International Symposium on Design and Construction of Steel and Composite Structures,*** 22 January 2015, at LT-7A, Faculty of Engineering, 9 Engineering Drive 1, National University of Singapore, Singapore 117575, organized by Department of Civil and Environmental Engineering, National University of Singapore.
- ***Dr. Tam Chat Tim Concrete Forum-Durability of Concrete,*** 10 December 2014, at LT2, National University of Singapore, organized by Asian Concrete Construction Institute and Department of Civil and Environmental Engineering, National University of Singapore.
- ***NUS-KAJIMA Workshop on Sustainable Concrete,*** 9 October 2014, at National University of Singapore, Engineering Auditorium, Block EA, 9 Engineering Drive 1, Singapore 117575, organized by Centre for Advanced Materials and Structures (CAMS), Department of Civil and Environmental Engineering, National University of Singapore and Kajima Technical Research Institute, Kajima Corporation.
- ***Study on Bond and Peeling Characteristics between CFRP Plates and Concrete under Fatigue Loading,*** 3 September 2014, at Faculty of Engineering, organized by Centre for Offshore Research and Engineering and Department of Civil and Environmental Engineering, National University of Singapore.
- ***Structural Vibration- Fundamental, Modeling, Evaluation and Mitigation,*** 20 August 2014, at School of Civil and Environmental Engineering, Nanyang Technological University, by Prof. Lu Yong from Structural Mechanics, School of Engineering, University of Edinburgh, UK and Prof. Fung Tat Ching from School of Civil and Environmental Engineering, Nanyang Technological University, Singapore.
- ***Behavior of strain hardening cement-based composite subjected to high strain rate compressive loading,*** 16 July 2014, at Faculty of Engineering, Department of Civil and

Environmental Engineering, National University of Singapore, Civil and Environmental Engineering Graduate Research Seminar.

- ***Advances in building, offshore and protective structures using steel & composite materials,*** 5 May 2014, at Faculty of Engineering, 1 Engineering Drive 2, National University of Singapore, organized by Structural Steel and Concrete Composite Research Group.
- ***10th International Conference on Shock & Impact Loads on Structures***, 25-26 November 2013, Singapore.
- ***All about Blast Mitigation in Facade,*** 13 September 2013, organized by Blast Mitigation Academy for Practitioners (BMAP Asia) at InterContinental Singapore, by Dr. Ang Choon Keat (Prostruct Consulting, Singapore), Mr. Karl P. Kernander (Madico Inc., USA) and Mr. Moty Emek (B-Pro Safeguard Inc., Israel).
- ***Lower Bound Plasticity-Theory Solutions for Concrete Slabs in Bending,*** 4 April 2013, organized by Protective Technology Research Centre, Nanyang Technological University, by Emeritus Dr. Chris Morley former Senior Lecturer in Concrete Structures, Engineering Department, Cambridge University.
- ***Eurocode Design of Reinforced Concrete and Prestressed Concrete Structures***, 8 March 2013, CEE Research Seminar, Nanyang Technological University, by Associate Prof. Jaroslav Navratil from Faculty of Civil Engineering, Institute of Concrete and Masonry Structures Brno University of Technology, Czech Republic and Managing Director of IDEA RS Ltd, Brno, Czech Republic.
- ***Steel Material Selection and Quality Assurance***, 7 August 2012, Tan Chin Tuan Lecture Theatre Nanyang Technological University, by Prof. Chiew Sing Ping from Nanyang Technological University, Singapore.
- ***High Performance Hybrid Fiber Reinforced Concrete Composites for Damage Resistant and Sustainable Structures***, 25 May 2012, School of Civil and Environmental Engineering (CEE) Nanyang Technological University, by Prof. Claudia P. Ostertag from University of California, Berkeley, US.
- ***9th International Conference on Shock & Impact Loads on Structures***, 16-18 November 2011, Fukuoka, Japan.

- ***To mesh or not to mesh: High order numerical simulation for complex structures***, 30 September 2011, School of Civil and Environmental Engineering (CEE) Nanyang Technological University, by Prof. Ernst Rank from Technische Universität München, Germany.
- ***Recent Advances in Concrete Material Technologies***, 16 August 2011, School of Civil and Environmental Engineering (CEE) Nanyang Technological University, by Prof. Surendra P. Shah from Northwestern University, US.
- ***3rd International Conference on Design and Analysis of Protective Structures***, 10-12 May 2010, Singapore.
- ***Recent Research on Form Pressures Due to Self-Consolidating Concrete and Direct Verification of Design Provisions for Punching Shear of Reinforced Concrete Flat Slabs***, 26 Feb 2010, School of Civil and Environmental Engineering (CEE) Nanyang Technological University, by Prof. N. John Gardner from University of Ottawa, Canada.
- ***A Review of Concrete Modeling and Hydrocode Applications***, 11 February 2010, School of Civil and Environmental Engineering (CEE) Nanyang Technological University, by Dr. Werner Riedel from German Fraunhofer Society, Ernst-Mach-Institute.
- ***National Seminar on Seismic Safety of Concrete Gravity Dams***, 27 February 2009, India Habitat Centre, New Delhi, by Prof. Anil K. Chopra and Mr. Larry K. Nuss along with others Indian experts.
- ***Short Course on Seismic Design of Concrete Gravity Dams***, 3-6 March 2009, IIT Kanpur, by Prof. Anil K. Chopra and Mr. Larry K. Nuss.
- ***Workshop on "Repair and Rehabilitation of Structures"*** at Bengal Engineering and Science University, Shibpur, 19 Oct 2005, jointly organized by Dr. Fixit Institute and Bengal Engineering and Science University, Shibpur.
- ***Workshop and Hands-on Computer Training on STAAD.Pro 2005***, at Bengal Engineering and Science University, Shibpur, Jan 2005, jointly organized by Bengal Engineering and Science University and Research Engineers Ltd.

## Personal Information

Gender: Male

Nationality: Indian

Marital Status: Married

Languages Known: English, Bengali and Hindi

Hobbies: Cricket, Swimming, Badminton