

Prof. Sriman Kumar Bhattacharyya, FNAE, FIE, FIASE

General Information:

B.E.(Civil), M.Tech.(Str.), Ph.D.(Engg.)

**Senior Professor & Former Head
Department of Civil Engineering
IIT Kharagpur**

**A-193 IIT Campus
Kharagpur - 721302
West Midnapur**

Former Director

CSIR-Central Building Research Institute (CBRI)

Roorkee – 247 667

(Council of Scientific & Industrial Research)

Ph. – (03222)- 283410 (office); 283411 (Res); 278052 (Res);

e-mail: srinankb@gmail.com; bsri@civil.iitkgp.ernet.in

- **Former Director (Engg. Coordination), CSIR - Additional Charge**
- **Served as Adjunct Professor, BITS, Pilani, Rajasthan**
- **Served as AICTE-INAE Distinguished Visiting Professor, BESU, Shibpur**
- **Chief Editor, Institution of Engineers, India Journal – A series - Springer**
- **Served as Outstanding Professor, Academy of Scientific and Innovative Research (AcSIR)**

Area of Specialisation Structural Engineering

Areas of Research Sustainable Building Material; Fluid-Structure Interactions; Structural Health Monitoring; FRP-Concrete composite systems; Structural Restoration; Numerical Modelling;

Date of Birth: 1st July 1957

Nationality: Indian

Religion: Hinduism

Family Status: Married with one son

Educational Qualifications:

Degree	Board / Univ. / Institute	Year	Subjects	% Marks	Division / Class
H.S.	WBBSE	1974	Science Subjects (Phy, Chem, Math, Biology)	70.5% (*)	1 st Division
B.E. (Civil)	Calcutta University (B.E. College)	1974-1979	Civil Engineering Subjects	83%	1 st Class First Gold Medalist
M.Tech (Structure)	IIT Kharagpur	1979-1981	Structural Engg. Subjects	Indiv. Grades	---
Ph.D	IIT Kharagpur	1992/1994	Fluid-structure Interactions	No grade Awarded	----

***Awarded Silver Medal for scoring highest Marks in Mathematics in the District**

Academic and Professional Experiences:

Designation	Period	Organization
Lecturer, Asst. Prof., Asso. Prof., Professor, Senior Prof.	1987 – to Date	Department of Civil Engineering, Indian Institute of Technology, Kharagpur, West Bengal, India.
Director	Aug.2009 – Aug 2015	Director, CSIR-CBRI, Roorkee, India; on deputation from IIT, Kharagpur, India.
Director (Addl. Charge)	July 2014 – Aug 2015	Director (Engg. Coordination), CSIR
Visiting Professor	May-July 2007 Dec.2000 – Jan. 2001	Technical University of Braunschweig, Germany.
Professor	1999-2001	University of Durban-Westville, South Africa.
Asst. Engr., Senior Asst. Engr.	1981 - 1987	Tata Consulting Engineers, Bangalore, India

Administrative Responsibilities:**Current:**

Member	Board of Governors, IIT Patna
Member	Project Advisory Committee, Civil & Mechanical Engg., SERB, DST
Member	Council, Institute of Steel Development & growth (INSDAG)
Chairman	DST-TIFAC, Vision 2035 document on Habitat
Member	DST-TIFAC Vision 2035 document on Infrastructure
Member	Sectional Committee, Indian National Academy of Engineering
Member	Educational Sub-Committee, Indian National Academy of Engineering
Member	Committee for selection of Young Engineers Award, INAE
Chairman	Bureau of Indian Standard (BIS) committee on Thermal Insulation (CHD 27)
Chairman	Bureau of Indian Standard (BIS) committee on Sustainability issues
Chairman	Curricula Development Committee, BPUT, Orissa.
Member	Board of Studies in Civil Engineering, GITAM, Vishakhapatnam
Member	As Chancellor's Nominee in selection committee for Aliah University, Kolkata
Chairman	Selection Committees for DRDO scientists
Member (Special Invitee)	Research Council, Central Road Research Institute, N. Delhi

Past:

Designation	Organization
Director	Director, CSIR-CBRI, Roorkee, India; on deputation from IIT, Kharagpur, India.
Director	Director (Engg. Coordination), CSIR

Professor & Head	Department of Civil Engineering, Indian Institute of Technology, Kharagpur, West Bengal, India.
Chairman, Civil Const. & Maint.	Indian Institute of Technology, Kharagpur, West Bengal, India.
Prof-in-charge (Civil Works)	Indian Institute of Technology, Kharagpur, West Bengal, India.
Member	UG, PG & Research Programme, Indian Institute of Technology, Kharagpur, West Bengal, India.
Member	Curricula development Committee, Indian Institute of Technology, Kharagpur, West Bengal, India.
Prof.-in-charge	Structural Engineering Group, Civil Engg., IIT Kharagpur
Prof.-in-charge	Structural Engineering Laboratory, Civil Engg., IIT Kharagpur
Acting Head	Department of Civil Engineering, University of Durban-Westville, S.A.
Member	South African Qualification Accreditation Committee (SAQA) at the University of Durban-Westville.
Member	Curriculum development committee in Engineering, University of Durban-Westville, South Africa.
Member	Senate, University of Durban-Westville, South Africa
Chairman	Board of Studies in Civil Engineering, BPUT, Orissa.
Member	Curricula Development Committee, NIT, Jamshedpur.
Member	Selection Committee for Academic Positions, NIT, Rourkela
Member	As Chancellor's Nominee in selection committee for Jadavpur University, Bengal Engineering & Science University (BESU).
Member	Selection Committee for Academic positions at BPUT
Member	Selection Committee for Academic Positions, IIT Patna
Member	Selection Committee for Academic Positions, IIT Roorkee
Member	Selection Committee for Academic Positions, IIT Madras
Member	Selection Committee for Academic Positions, IIT Bhubaneswar
Member	Research Council, DRDO, Proof & Experimental Establishment, Chandipur, Balasore, Odisha
Member	Project Advisory Committee, Civil & Env. Engg., SERB, DST
Chairman	Advisory committee on Works & Services, Aliah University, Kolkata
Chairman	Task Force for Supra Project at CSIR-CBRI
Member	CSIR Committee on Human Resource Development
Member	Senate, CSIR-Academy of Scientific and Innovative Research (AcSIR)
Co-chairman	NMITLI Project on Disaster Mitigation, CSIR
Chairman	Advisory committee on Innovation complexes of CSIR at Chennai, Mumbai and Kolkata
Chairman	Task Force, Innovation complex at Chennai at CSIR complex
Member	Management Councils at CSIR-CRRI, CSIR-IIP
Member	Research Councils at CSIR-CSIO, CSIR-CRRI, CSIR-SERC, CSIR-CIMFR
Chairman	Technical advisory Group (TAG) on new Technologies, BMTPC, N.Delhi
Member	Review committee of DST funded Projects on Materials & Structures

Chairman	Research Advisory committee, School of Infrastructure, IIT Bhubaneswar
Chairman	Apex Committee on Engineering Services Division (ESD), CSIR
Member	Committee on Selection of PMC for 750-bedded Super speciality Hospital & Medical College, IIT Kharagpur
Chairman	Task Force Committees of Network Projects on Health Monitoring of Buildings, Intelligent Buildings & Disaster Mitigation, CSIR
Member	Research Advisory committee, Centre for Fire, Explosive & Environmental Studies, DRDO, N. Delhi

Number of Patents (Filed / Awarded):

1. 'Anti termite barrier for buildings' – Patent Submitted
2. 'Three dimensional deformometer – for measurement of displacement response of masonry prisms along three axes' – 0324NF2014, Feb17, 2015
3. 'A room temperature cured flyash based geopolymer composition for concrete and building materials and a process for manufacturing the same' – 0194NF2014, Nov.20, 2014

Awards & Special Mentions:

Awarded ' Distinguished Alumnus Award ' by IEST (BESU Shibpur) in 2016
Awarded ' Fellow ' of Indian Association of Structural Engineering (IASE) in 2014
Awarded ' Concrete Technologist of the year ' by Indian Concrete Institute, Uttarakhand Chapter, 2011.
Awarded ' Fellow ' of Institution of Engineers (India) (FIE), 2010
Awarded ' Fellow ' of Indian National Academy of Engineering (FNAE) , 2005
Awarded ' K.F.Antia Memorial ' Gold Medal for the best publication in the journal of the Institution of Engineers, December 2000.
Obtained ' Telkom Best Lecturer Award ' for the best teacher in Civil Engineering at the University of Durban-Westville, South Africa in 1999 -2000
Obtained Merit Award for work performance in Tata Consulting Engineers in the year 1984.
University Gold Medal for securing first position in B.E. Examination in Civil Engineering (Calcutta University) in 1979.
Awarded National scholarship during 1974-1979 based on Secondary examination
Awarded Silver Medal for scoring highest Marks in Mathematics in H.S. in Burdwan District
Reviewer for the following journals: <ol style="list-style-type: none"> a. American Society of Mechanical Engineers (ASME) b. American Society of Civil Engineers (ASCE) c. International Journal of Numerical Methods in Engineering (IJNME) d. International Journal of Sound & Vibration (JSV) e. International Journal of Applied Mechanics f. 'MECCANICA' – International journal of the Italian Association of Theoretical and Applied Mechanics.

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| <ul style="list-style-type: none">g. AIAA Journalh. INSA Journal, 'Sadhana'i. International Journal of Structuresj. International Journal of Construction and Building Materials |
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Number of Ph.D guided: (i) Completed: 16; (ii) In Progress: 07

Number of Publications (National / International): 215 (Journals & Conferences)

Monographs / Book Chapters / Edited Volumes / Video course

1. A web based course on '**Finite element method in Engineering**' has been developed under NPTEL programme and is available online, 2013.
2. Contributed a chapter on '**Applications of Nanotechnology in construction**' published by Studium Press, LLC, USA, 2013.
3. A video course on '**Strength of Materials**' has been developed under NPTEL programme and is available online for use by the Undergraduate students, 2007.
4. Proceedings of ICTACEM 2004 – International Conference on Theoretical, Applied, Computational and Experimental Mechanics – Edited by S. K. Bhattacharyya & Somnath Ghosh, 2004.
5. Contributed a chapter on '**Design of Warehouse and Silo**' for an International Handbook on Post-Harvest Technology, edited by Prof. A. Chakraborty, IIT Kharagpur & published by Marcel & Decker Inc., 2003.
6. Proceedings of the SEC 2003 – Structural Engineering Convention – Edited by S. K. Bhattacharyya, 2003.
7. Completed a Laboratory Manual on '**Concrete and Stress Analysis**', 2000.

Articles

1. Chourasia Ajay, **Bhattacharyya, S. K.** – '*Confined Masonry Construction for India: Prospects & Solution for Improved behaviour*', **IBC Special Issue, Nov., 2014.**
2. L. P. Singh, **S. K. Bhattacharyya** and S. Ahalawat – '*Application of Nanotechnology in Cement Based Materials*' - **Nano Digest, CSIR Special Issue, 2011.**
3. Chourasia, Ajay, **Bhattacharyya, S. K.** - '*Confined Masonry: A solution for seismic resistant construction*'. **BMTPC Newsletter, special issue. pp 30-37, 2011**
4. L. P. Singh, **S. K. Bhattacharyya** and P. C. Thapliyal – '*CBRI Builds Nano- Apps for Construction*', **Nano Digest 2010.**

Projects and Consultancies:

Sponsored Projects:

Research Projects	Sponsorer
Effect of interfacial gaps in FRP strengthened structural components - An Experimental / Numerical study	DST - (Ongoing)
Development of artificial pillars for the removal of coal pillars from coal mines	CSIR - (Ongoing)
Structural Health Monitoring using Wireless sensors	CSIR – (Ongoing)
Development of cement-free geopolymers concrete	CSIR – (Ongoing)
Structural Health Monitoring of Building Structures using wireless sensors	DST – (Ongoing)
Characterisation of Recycled Aggregates from C&D Wastes	DST – (Ongoing)
Development of low-cost housing modules for earthquake and flood prone areas using appropriate material and technology	BMTPC – Completed
Characterisation of FRP-wrapped concrete elements as earthquake resistant structural elements	DST - Completed.
Characterisation of concrete with Recycled Coarse Aggregates	UGC - Completed
Sloshing Response and coupled dynamic behaviour of liquid filled composite containers with baffles	Aeronautical R&D Board, India (Completed)
Sloshing Response and coupled dynamic behaviour of liquid filled composite containers	BRNS, India (Completed)
Design of construction elements using hollow sections for building structures	RDCIS, Steel Authority of India Ltd. (Completed)
Investigation on the behaviour of joints with square and rectangular hollow steel sections,	TISCO, Calcutta. (Completed)
Sloshing Response and coupled dynamic behaviour of liquid filled composite containers	Aeronautical R&D Board, India (Completed)
Characterization and Automation of Flyash-clay brick production units.	(With West Bengal Power Development Corp.) - Under Technology Development Mission, Govt. of India. (Completed)

Consultancy Projects:

Major Projects	Sponsorer
Analysis and design of the roof structure for Salt Lake Stadium, Calcutta, India.	Nagarjuna Coated Tubes
Stability analysis of collapsed structure for Nayagarh sugar factory, Bhubaneswar, Orissa, India.	IDCO, Orissa
Restoration of damaged compressor foundation	Hindustan Copper, Ghatsila.
Analysis and design of North Dry Dock structure	Vishakhapatnam Port
Analysis and design of Antenna towers	P&T, Calcutta, West Bengal

Modification of Smelter plant structure	Hindustan Copper, Ghatsila
Analysis and design of a shopping complex cum community centre	Steel Authority of India, Ranchi
Restoration of Lord Jagannath Temple at Puri,	Govt. of Orissa
Earthquake analysis of Lord Jagannath Temple at Puri	Govt. of Orissa
Design checking of bridge superstructure of a rail cum road bridge for Mejia Thermal Power Station	DVC, Kolkata
Measurement of dynamic strain of a vibrating screen structure	Tata- Robins-Fraser Ltd., Jamshedpur
Investigation on the use of flyash as pozzolanic material and hollow block elements	EPDC, Japan
Checking of Restored Structures for Durgapur Chemicals Ltd., Durgapur,	DCL, Durgapur
Design and development of a high strength concrete mix for airstrip	Border Roads Org.
Restoration of 150 years old building structures & Water tank	Fort William, Calcutta
Design of a Water tank of capacity 900 m ³ at TELCO, Jamshedpur	Biji consultants, Calcutta
Investigation on the behaviour of joints with square and rectangular hollow steel sections	TISCO, Calcutta
Structural design of a housing complex at TELCO, Jamshedpur	Biji Consultants, Calcutta
Restoration of Dakshineswar temple, Calcutta	Temple Trust
Earthquake analysis and standardisation of the structural frameworks of different structures for tea gardens at ASSAM & DOOARS.	Williamson & Magor Co., Calcutta
Investigations & Restoration measures of Hot Rolling Mill foundations	Steel Authority of India Ltd., Bokaro
Investigations & Restoration measures of two D.G. foundations of size 13.0m X 6.0m X 4.0	ISPAT ALLOYS Ltd., Balasore, Orissa,
Development of a software for the analysis and design of mine supporting equipment	JESSOP, Calcutta
Checking of Design & Drawings for a coal-handling sampling tower structure	NCL at Singrauli, India
Checking of Design & Drawings for Road over bridges (ROB) for NH-41, NH-60 etc.	NHAI, India
Checking of Design & drawings for Microwave towers at Port Blair & Itanagar,	Webel Mediatronics, Kolkata
Checking of Design & drawings for 100M Microwave tower at Kohima	Webel Mediatronics, Kolkata
Checking of Design & Drawings for Road over bridges (ROB) for NH-41, NH-60 etc.	NHAI, India
Investigation on the failure and Restoration measures for Rajbhavan, structure,	PWD, Patna
Checking of Design & Drawings for 2 X 33.53m span Railway bridge for West Central railway	M/s Bridge & Roof Co.
Testing of Elastomeric bearings for Second Vivekananda Bridge,	SVBTC, Kolkata,

Structural Restoration of a large capacity water tank	PHE, Bhubaneswar
Stability analysis of Residential towers	Southcity Projects, Kolkata,
Structural Health Monitoring of tall building structures, Eastern High Project,	West Bengal Housing Board
Structural Health monitoring of Factory building for Titagarh Wagon Ltd.	Titagarh Wagon Ltd.
Stability Analysis of Lucknow Airport	S. K. Ghosh Consultants, N. Delhi
Checking of design and drawings for Road over bridges (ROBs) at Tamilnadu	IRCON, Chennai
Failure analysis of the bridge over river Kangasabati at Panshkura	NHAI, Kolkata
Analysis & Restoration measures for the Sun Temple at Konark	ASI, N. Delhi
Analysis & Restoration measures for Taj Mahal	ASI, N. Delhi
Investigations of blast effects on Chittorgarh fort	Birla cements Ltd.
Analysis & Restoration measures for Kashi Viswanath Temple, Varanasi	Kashi Viswanath Trust
Design of a rotational globe structure on roof top of Victoria house, Kolkata	CESC, Kolkata
Assessment of effect on three Heritage structures for E-W Metro corridor at Kolkata	KMRCL, Kolkata

Professional Affiliations:

Designation	Organization
Fellow	Indian National Academy of Engineering, India
Fellow	Indian Association of Structural Engineering (IASE), India
Fellow	Institution of Engineers (India)
Life Member	Indian Association of Computational Mechanics, India
Life Member	Indian Society of Theoretical and Applied Mechanics, India.
Life Member	Coal Ash Institute of India.
Life Member	Indian Building Congress
Member	Institute for Steel Development and Growth (INSDAG), India.
Member	International Association of Steel-Concrete Composite Structures (IASCCS)
Chief Editor	Journal of Institution of Engineers-A Series, Springer Publication
Member	International Masonry Society, UK

Organizational Activities:

- i. Conducted ISTE-STTP training programme for the teachers to train Ten thousand teachers (**T10KT**) on '**Introduction to Structural Engineering**' during 4th January to 9th January 2016 through video conferencing, under **NMEICT programme of MHRD**, Govt. of India.
- ii. Conducted ISTE-STTP training programme for the coordinators to train Ten thousand teachers (**T10KT**) on '**Introduction to Structural Engineering**' during 28th September – 2nd October 2015 at IIT Kharagpur under **NMEICT programme of MHRD**, Govt. of India.
- iii. Organised a short term programme on '**Application of Finite element technique**' for the engineers of TRF, Jamshedpur, November 2008.
- iv. Chairman, Technical committee for the International Conference on '**Theoretical, Applied, Computational and Experimental Mechanics (ICTACEM 2007)**', December, 2007
- v. Co-ordinated a short term course on '**Seismic Analysis and Design of tall structures**' – sponsored by MHRD, December, 2006.
- vi. Organised an International conference on '**Theoretical, Applied, Computational and Experimental Mechanics (ICTACEM 2004)**' as Co-chairman of International Technical Committee at IIT Kharagpur, 2004.
- vii. Convener of an International conference on '**Structural Engineering Convention (SEC 2003)**' in December, 2003.
- viii. Co-ordinated a short term course on '**Highrise Structures**' in December, 1996.
- ix. Co-ordinated the '**Need Analysis Workshop**' for All India Council of Technical Education (AICTE) for Civil Engineering courses in Eastern Region in 1996.
- x. Co-ordinated a short term course on '**Application of Finite Element Technique in Engineering.**' jointly with one of my colleagues in 1993.

Contributions at CSIR-Central Building Research Institute (From August 2009 to August 2015)

Introduced New areas of research in the following:

- Structural Fire Engineering
- Structural Health Monitoring
- Use of Nanotechnology in enhancing durability of concrete
- Development of Geopolymer Concrete
- Development of Bio-concrete
- Tall Buildings and Steel Structures

Introduced academic programmes in the Institute

- Post-graduate programme in the area of '**Building Engineering and Disaster Mitigation**'
- Ph.D programme in Engineering and Science

Introduced Infrastructural facilities in the Institute

- Development of Plastic, Polymer and Composite laboratory
- Creation of Bio-concrete laboratory
- Created Acoustics, Instrumentation and Mechanical System (AIMS) laboratory
- Creation of Testing of structural systems exposed to fire
- Creation of facilities for Structural Health Monitoring
- Creation of landslide experimentation facility
- Development of Phosphogypsum laboratory
- Development of facilities for nanotechnology applications in concrete
- Upgradation of academic and residential facilities of the Institute

Created Institutional linkages for the Institute

- Indo-US virtual centre on Fire Structural Engineering with Michigan State University, USA
- UK-India Education and Research Initiative with West of Scotland University, UK
- Linkage with North Western University, USA
- Linkage with University of Tokyo, Japan in the area of Wind Engineering
- MoU with different IITs and Universities for exchange of research activities and students

Academic Activities:

A. Teaching:

Courses at Post Graduate Level (AcSIR)

- Advanced Building Structural Analysis
- Structural Repair, renovation and retrofit
- Computational and Nonlinear Mechanics (For Ph.D students)
- Continuum Mechanics and Finite Element Analysis (For Ph.D students)

Courses at Undergraduate Level (IIT Kharagpur)

- Advanced strength of Materials
- Design of Steel Structures
- Advanced structural analysis
- Structural dynamics and earthquake resistant design
- Computer Methods in Civil Engg.
- Matrix and Finite element Analysis of structures.
- Civil Engg. drawings - I & II
- Concrete & Structural Laboratory.

Courses at Post Graduate Level (IIT Kharagpur)

- Structural Connections and composite structures
- Behaviour and design of Metal structures
- Highrise structures
- Advanced Structural Analysis
- Fluid-structure Interactions
- Theory of Elastic Stability.
- Structural laboratory.

Courses at Undergraduate Level (University of Durban-Westville, South Africa)

- Structural Analysis – IV
- Structural Analysis – V
- Design of Steel Structures
- Design of Concrete Structures – I
- Computer Applications
- Computer Programming

Courses at Post Graduate Level (Technical University of Braunschweig, Germany)

- Fluid-structure Interactions
- Finite Element Analysis

B. Publications:

Refereed Journals:

1. B. Singh, M.R. Rahman, R. Paswan, **S. K. Bhattacharyya** – ‘Effect of activator concentration on the strength, ITZ and drying shrinkage of fly ash / slag geopolymers concrete’ – **Journal of Construction and Building Materials, Vol.118, pp.171-179, August, 2016.**
2. L. P. Singh, **S. K. Bhattacharyya**, A. Goel and G. Mishra – ‘Quantification of hydration products in cementitious material incorporating silica nanoparticles’- **Frontiers of Structural and Civil Engineering, Vol.10, Issue.2, June 2016, pp.162-167.**
3. S. K. Panigrahi, A. Deb and **S. K. Bhattacharyya** – ‘Modes of failure in shear deficient RC T-beams strengthened with FRP’- **Journal of Composites for Construction, ASCE, 20(1), February 2016.**
4. Anindya Pain, Deepankar Choudhury and **S. K. Bhattacharyya** - ‘Seismic uplift capacity of horizontal strip anchors using modified pseudo-dynamic approach’ - **International journal of Geomechanics, ASCE, Vol.16, No.1, February 2016.**
5. L. P. Singh, **S. K. Bhattacharyya**, S. P. Shah, G. Mishra and U. Sharma – ‘Studies on early stage hydration of tricalcium silicate incorporating silica nanoparticles: Part II’- **J. of Construction & Building Materials, Vol.102, January 2016, pp.943-949.**
6. M. Chakradhara Rao, **S. K. Bhattacharyya** and S. V. Barai – ‘Interfacial transition zone, strength and chloride penetration of recycled aggregate concrete’- **The Indian Concrete Journal, Vol.89, No.11, November, 2015, pp.54-65.**

7. Chaurasia Ajay, **Bhattacharyya S. K.**, Bhargava Pradeep, Bhandari N.M. – ‘*Seismic behaviour of different masonry buildings: A full scale experimental study*’ – **Journal of Performance of Constructed facilities, ASCE, 2015 (In press)**
8. S. K. Panigrahi, S. Chakraverty and **S. K. Bhattacharyya** – ‘*Damage detection of multi-storeyed shear structure using sparse and noisy modal data*’- **Smart Structures & Systems, Vol.15, No.5, pp.1215-1232, 2015.**
9. B. Singh, G. Ishwarya, M. Gupta & **S. K. Bhattacharyya** – ‘*Geopolymer Concrete: A review of some recent developments*’ – **Journal of Construction and Building Materials, Vol.85, June, 2015, pp.78-90.**
10. Anindya Pain, Deepankar Choudhury and **S. K. Bhattacharyya** – ‘*Seismic stability of retaining wall-soil sliding interaction using modified pseudo dynamic method*’ – **Geotechnique Letters (ICE), 2015, 5, 56-61**
11. L. P. Singh, **S. K. Bhattacharyya**, A. Goel, U. Sharma and G. Mishra – ‘*Hydration studies of cementitious material using silica nanoparticles*’- **J. Advanced Concrete Technology, 2015, 13, 345-354.**
12. L. P. Singh, A. Goel, **S. K. Bhattacharyya**, U. Sharma, S. Ahalawat, G. Mishra – ‘*Effect of morphology and dispersibility of silica nanoparticles on the mechanical behaviour of cement mortar*’, **Int. Journal of Conc. Struc. and Mater, Vol.9, Issue.2, June 2015.**
13. L. P. Singh, **S. K. Bhattacharyya**, S. P. Shah, G. Mishra, S. Ahalawat, U. Sharma – ‘*Studies on early stage hydration of tricalcium silicate incorporating silica nano particles; Part I*’ – **Journal of Construction and Building Materials, pp.278-286, Vol.74, January 2015.**
14. L. P. Singh, **S. K. Bhattacharyya**, S. Ahalawat, G. Mishra – ‘*Effect of silica nano particles on chloride permeability in cement mortars*’ – **Advanced Cement Research, Vol.26 (1) 2014, pp.1-10.**
15. L.P. Singh, **S.K. Bhattacharyya**, S. Ahalawat, R. Kumar, G. Mishra, U. Sharma, G. Singh – ‘*Sol-Gel processing of silica nanoparticles and their applications*’, **Advances in Colloid and Interface Sci., Vol.214, 2014, pp.17–37**
16. Monalisa Behera, **S. K. Bhattacharyya**, A. K. Minocha, R. Deoliya, S. Maiti – ‘*Recycled aggregate from C&D waste & its use in concrete – A breakthrough towards sustainability in construction sector: A review*’- **Journal of Construction and Building Matertials, pp.501-516, Vol.68, October 2014.**
17. L. P. Singh, **S. K. Bhattacharyya**, U. Sharma, G. Mishra, S. Ahalawat – ‘*Microstructure improvement of cementitious systems using nano materials : A key for enhancing the durability of concrete*’ – **ASCE publications, pp.293-300 (doi: <http://dx.doi.org/10.1061/9780784413111.034>), 2013**
18. L.P.Singh, S. R. Karade, **S. K. Bhattacharyya**, M.M. Yousuf, S. Ahalawat – ‘*Beneficial role of nanosilica in cement based materials – A review*’ – **Journal of Construction and Building Materials, Vol.47, October 2013, pp.1069-1077.**
19. Rimen Jamatia, Tabarak Hussain, Arghya Deb, **S. K. Bhattacharyya** – ‘*Effect of imperfections in the bond on the strength of FRP wrapped cylindrical concrete columns*’ – **Journal of Composites Part:B: Engineering, Vol.53, October 2013, pp.297-307.**

20. Panda K.C., **Bhattacharyya S. K.**, and Barai S. V. – ‘Effect of transverse steel on the performance of RC T-beams strengthened in shear zones with GFRP sheet’ – **Journal of Construction and Building Materials, Vol.41, pp.79-90, April 2013.**
21. P. Pal & **S. K. Bhattacharyya** – ‘Slosh dynamics of liquid filled composite containers – A two dimensional meshless local Petrov-Galerkin approach’ – **Journals of Fluids & Structures, Vol.39, pp.60-75, May 2013..**
22. Monika Chauhan, M. Gupta, B. Singh, **S. K. Bhattacharyya**, A. K. Singh, V. K. Gupta – ‘Pretreatment of pine needles / wood particles and their composites with isocyanate prepolymer adhesive’ – **Polymer Engineering & Science, USA, published online 22 Dec 2012, Doi:10.1002 / pen.23436**
23. L. P. Singh, **S. K. Bhattacharyya** and S. Ahalawat – ‘Preparation of size controlled silica nano particles and its functional role in cementitious system’ – **Journal of Advanced Concrete Technology, Vol.10, 345-352, 2012.**
24. L. P. Singh, **S. K. Bhattacharyya**, G. Mishra and S. Ahalawat, ‘Reduction of calcium leaching in cement hydration process using nanomaterials’ - **Jl. of Materials Technology, Vol.27, No.3, 233-238, July 2012.**
25. Ramkrishna Dandapat, Arghya Deb and **S. K. Bhattacharyya**, ‘Localised failure in Fibre-Reinforced-Polymer wrapped cylindrical concrete columns’ – **Journal of ACI, Structural Engg., Vol.109, Issue.4, July 2012.**
26. L. P. Singh, **S. K. Bhattacharyya**, P. Singh and S. Ahalawat, ‘Granulometric synthesis and characterisation of dispersed nanosilica powder and its application in cementitious system’ - **Advances in Applied Ceramics, Vol.111, No.4, 220-227, May 2012.**
27. Chakradhara Rao, M., **Bhattacharyya, S. K.**, Barai, S.V. ‘Recycled Coarse Aggregate and its Use in Concrete’. **Journal of Indian Concrete Institute, Vol.11, No.4, Jan-March 2012.**
28. K. C. Panda, **S. K. Bhattacharyya** and S. V. Barai, ‘Shear behaviour of RC T-beams strengthened with U-wrapped GFRP sheet’ – **Steel and Composite Structures, Vol.12, No.2, 2012.**
29. K. C. Panda, **S. K. Bhattacharyya** and S. V. Barai – ‘Shear Strengthening of RC T-beams with externally side bonded GFRP sheet’ – **Journal of Reinforced Plastics and composites, Vol.30(13), July 2011, pp.1139-1154.**
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12. **S. K. Bhattacharyya** - 'Strategies for disaster mitigation - Experimental studies' - A keynote presentation - ***Proceedings of the International Symposium on Experimental Mechanics, organised by Japan Society of Experimental Mechanics, held at N.Delhi, India during 1-6th November 2014.***
13. A. K. Mittal, S. Behera, D. Ghosh and **S. K. Bhattacharyya** - 'Issues of Tall Building due to wind forces - A case study' - ***Proceedings of 7th National Conference in Wind Engineering, held at Thapar University, Patiala during 21-22 November, 2014.***
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15. B. Singh, Ishwarya G., M. Gupta & **S. K. Bhattacharyya** – 'Performance evaluation of geopolymer concrete through alkali-silica reaction' – ***Proceedings of the International Conference on Advances in Chemically Activated Materials (CAM 2014 – China), held at Changsha, China during 1-3rd June 2014.***
16. **S. K. Bhattacharyya** - 'Effects of Fire on Structures' – A Keynote talk presented at the International conference-cum-exhibition on '***Fire & Life Safety in Hospitals & other facility buildings***' by Indian Chamber of commerce, Kolkata at Kolkata on 21st February 2014.
17. **S. K. Bhattacharyya** – 'Fire behavior of concrete structures and retrofitting techniques' – Keynote talk presented in the ***International conference on 'Trends and Challenges in concrete structures' organized by ICI, Uttarakhand & Western UP units & held at Ghaziabad on 19th – 21st December 2013.***
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35. Kaushik Pandit, Ajay Chourasia, & **S. K. Bhattacharyya** – ‘Pillar design practices in coal mines’ – **28th National convention of Civil Engineers and National Seminar on role of infrastructure for sustainable development, Oct.12-14, 2012, IEI, Roorkee.**
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47. Bhar A., Satsangi S. K., **Bhattacharyya S. K.** – 'Static and Natural Vibration Analysis of stiffened functionally graded plates' – ***Proceedings of ICCS16, Faculdade de Engenharia Universidade do Porto (FEUP), Portugal held in June 2011.***
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49. Bhar A., Satsangi S. K., **Bhattacharyya S. K.** – 'Natural vibration Analysis of laminated composite stiffened annular sectorial plates' – ***Proc. of ISTAM-55, held at NIT, Hamirpur in December 2010.***
50. Bhar A., Satsangi S. K. and **Bhattacharyya S. K.** – 'Finite element analysis of stiffened functionally graded annular sector plates' – ***Proc. of 5th International conference on Theoretical, Applied, Computational and Experimental mechanics (ICTACEM 2010) held at IIT Kharagpur in December 2010.***
51. Panda, K. C., **Bhattacharyya, S. K.**, and Barai, S. V. 'Numerical study of reinforced concrete T-beams strengthened in shear with GFRP sheet.' ***Proc. of the 5th International conference on Theoretical, Applied, Computational and Experimental mechanics (ICTACEM 2010), held at IIT Kharagpur, India, Dec, 27-29, 2010, pp.49-52, ISBN 93-80813-03-1.***
52. Panda, K. C., **Bhattacharyya, S. K.**, and Barai, S. V. 'Shear reinforcing effect of glass fibre reinforced polymer sheet attached to side of reinforced concrete T-beams' ***Proc. International conference on innovative world of structural engineering (ICIWSE 2010), , held at Govt. College of Engineering, Aurangabad, India, December, 25-27, 2010, pp.354-361, ISBN 81-7088-089-1.***
53. M. Chakradhar Rao, **S. K. Bhattacharyya**, S. V. Barai – 'Use of recycled aggregate concrete towards sustainable built environment' – ***Proceedings of International Conference on sustainable built environment (ICSBE), 12 – 14 December 2010, SriLanka.***
54. Panda, K. C., **Bhattacharyya, S. K.**, and Barai, S. V. 'Influence of transverse steel on the performance of RC T-beams strengthened in shear zone with GFRP sheet.' ***Proc. of the 3rd Asian conference on ecstasy in concrete (ACECON 2010), Dec, 5-9, 2010, IIT Madras, India, pp.543-553, ISBN: 978-93-80689-02-9.***
55. K. C. Panda, S. V. Barai & **S. K. Bhattacharyya** – 'Influence of transverse steel on the performance of RC-T beams strengthened in shear with GFRP strips' – ***Proc. of 5th International Conference on Composites in Civil Engineering (CICE 2010), Sept.27-29, 2010 at Beijing, China.***
56. Chakradhara Rao, M., **Bhattacharyya, S. K.**, Barai, S.V. 'Influence of Recycled Aggregates on Mechanical Properties of Concrete'. ***Proc. of The 5th Civil Engineering***

Conference in the Asian Region and Australasian Structural Engineering Conference 2010. Sydney, Australia.

57. Chakradhara Rao, M., **Bhattacharyya, S. K.**, Barai, S.V. 'Recycled Aggregates: A sustainable Construction Material'. **Proc. of the National Conference on "Sustainable Development of Urban Infrastructure" VNIT Nagpur. 2010**
58. Chakradhara Rao, M., **Bhattacharyya, S. K.**, Barai, S.V. 'Towards Waste to Wealth: Construction and Demolition (C&D) Waste as Aggregate in Concrete'. **International Seminar on "Waste to Wealth" "Green Building Materials and Construction Technologies using Agricultural and Industrial Waste". New Delhi, 12-13th November 2009.**
59. Chakradhara Rao, M., **Bhattacharyya, S. K.**, Barai, S.V. 'Characterisation of Recycled Aggregate Concrete Prepared with Recycled Coarse Aggregate obtained from Two Different Sources'. **International Conference on Advances in Concrete, Structural and Geotechnical Engineering, held at BITS Pilani, India, 25-27th October 2009.**
60. Panda, K. C., **Bhattacharyya, S. K.**, and Barai, S. V. 'Shear Enhancement of RC T-beams Strengthened with GFRP Sheet in Shear Zone: Experimental Study' - **Proc. International Conference on Advances in Concrete, Structural and Geotechnical Engineering (ACSGE-2009), held at BITS, Pilani, India, October, 25-27, 2009.**
61. Chakradhara Rao, M., **Bhattacharyya, S. K.**, Barai, S.V. 'Influence of Different Sources of Recycled Coarse Aggregate on Properties of Concrete'. **Proceedings of First International Conference on Recycling and Reuse of Materials (ICRM 2009), Kottayam, Kerala, 17-19th July 2009.**
62. P. Pal & **S. K. Bhattacharyya** – 'Characterisation of liquid filled containers considering Fluid-structure Interaction' – **Proceedings of 9th International Conference on Vibration Problems (ICOVP), IIT Kharagpur, January 2009, pp.9-16.**
63. Panda, K. C., **Bhattacharyya, S. K.**, and Barai, S. V. 'Rehabilitation of RC T-beams with shear deficiencies using GFRP strips' - **Proc., of the Sixth Structural Engineering Convention (SEC-2008), , at SERC, Chennai, India, December, 18-20, 2008, Vol II, pp.1217-1226, ISBN 81-90617-20-5.**
64. P. Pal & **S. K. Bhattacharyya** – 'Liquid sloshing in containers under seismic excitation' – **Proceedings of the Sixth Structural Engineering Convention (SEC-2008) at SERC, Chennai, 18-20th December 2008, Vol.1, pp.129-138.**
65. Chakradhara Rao, M., **Bhattacharyya, S. K.**, Barai, S.V. 'Characterisation of Recycled Aggregate Concrete'. **Proceedings of the Sixth Structural Engineering Convention, SEC-2008, Chennai, 18-20th December 2008.**
66. Panda, K. C., **Bhattacharyya, S. K.**, and Barai, S. V. 'Shear behavior of reinforced concrete T-beams with externally side bonded glass fiber reinforced polymer composites' - **Proc., International Symposium for Research Scholars on Metallurgy, Materials Science and Engineering (ISRS 2008), held at IIT Madras, India, December 10-12, 2008, pp.32-37.**
67. Chakradhara Rao, M., **Bhattacharyya, S. K.**, Barai, S.V. 'Preliminary Test Results of RCA based Concrete'. **Proceedings of International Conference on XXXVI World Congress on housing Sector, Kolkata, 3-7th November 2008.**

68. D. Bandyopadhyay & **S. K. Bhattacharyya** – ‘Structural vulnerability assessment of old metropolitan cities in earthquake disaster mitigation’ – ***Proceedings of 14th World Congress of Earthquake Engineering, held in October 12-17, 2008 at Beijing, China.***
69. D. Bandyopadhyay & **S. K. Bhattacharyya** – ‘An inverse dynamic approach of statistical health monitoring of structure from limited noisy data’ – ***Proceedings of XXII International Congress of Theoretical and Applied Mechanics (ICTAM), held in August 25-29, 2008, at the University of Adelaide, Australia.***
70. D. Bandyopadhyay & **S. K. Bhattacharyya** – ‘Structural health monitoring of an underground industrial RCC duct from non-destructive dynamic responses’ – ***Proceedings of International Conference of Innovations of Building Materials, structural design and Construction practices, held in May 15 -17, 2008 at Coimbatore, India.***
71. P. Pal and **S. K. Bhattacharyya**, “Dynamic analysis of liquid filled composite containers using Meshless Local Petrov-Galerkin (MLPG) method”- ***Proceedings of International Conference of Innovations of Building Materials, structural design and Construction practices, held in May 15 -17, 2008 at Coimbatore, India.***
72. Panda K.C, **Bhattacharyya S. K.** and Barai S.V. – ‘Effect of transverse steel on the performance of RC T-beams strengthened in shear with GFRP composites’ – ***Proceedings International Conference of Innovations of Building Materials, structural design and Construction practices, held in May 15 -17, 2008 at Coimbatore, India.***
73. Panda, K. C., **Bhattacharyya, S. K.**, and Barai, S. V. ‘Shear strengthening of RC T-beams using glass fiber reinforced polymer composites’ - ***Proc., National Conference on Advances in Steel, Concrete, Composite and Aluminium Structures (NCSCC 2008), held at Hindustan College of Engineering, India, April, 24-25, 2008, pp.299-305.***
74. Panda K.C, **Bhattacharyya S. K.** and Barai S.V. – ‘Shear strengthening of reinforced concrete beams with FRP composites: An overview’ – ***Proceedings National Conference on Emerging trends in Civil Engineering for Infrastructure Development (ETC-ID 2008) held in Feb 15-16, 2008 at NIT, Raipur, India.***
75. Panda K.C, **Bhattacharyya S. K.** and Barai S.V. – ‘Shear performance of RC T-beams strengthened with externally bonded GFRP composites’ – ***Proceedings of Fourth International Conference on Theoretical, computational & Experimental Mechanics, IIT Kharagpur, December 27-29, 2007.***
76. P. Pal and **S. K. Bhattacharyya**, “Liquid sloshing in rectangular tanks with a submerged block using MLPG approach” ***Fourth International Conference on Theoretical, computational & Experimental Mechanics, IIT Kharagpur, December 27-29, 2007.***
77. D. Bandyopadhyay & **S. K. Bhattacharyya** - ‘Statistical health monitoring of structure using Noisy dynamic responses’ - ***Fourth International Conference on Theoretical, computational & Experimental Mechanics, IIT Kharagpur, December 27-29, 2007.***
78. D. Bandyopadhyay & **S. K. Bhattacharyya** – ‘Probabilistic structural health monitoring of a repaired concrete overhead water tank’ - ***3rd International Structural Engineers World Congress, November 2-7, 2007, Bangalore, India.***
79. P. Pal and **S. K. Bhattacharyya**, “Two Dimensional Analysis of Sloshing of Liquid in a Container – Experimental and Numerical Study” ***International Conference on “Recent***

Developments in Structural Engineering (RDSE-2007), Manipal Institute of Technology, Manipal, August 30-31&1st September, 2007.

80. **S. K. Bhattacharyya** – ‘Characterisation of FRP-wrapped concrete elements’ – ***A keynote paper presented at the National Conference on ‘Recent Advances in Civil Engineering’ (RACE) at CET, OUAT, Bhubaneswar, March, 2007.***
81. **S. K. Bhattacharyya** – ‘Sloshing response of liquid in a container under base excitation’ – An invited paper presented at ***International Conference on Civil Engineering in the New Millennium: Opportunities and Challenges (CENeM-2007), BESU, Shibpur, January 11-14, 2007.***
82. **P. Pal & S. K. Bhattacharyya** – ‘Nonlinear sloshing of liquid in a container using meshless local Petrov-Galerkin (MLPG) approach’ ***An International Conference on Civil Engineering in the New Millennium: Opportunities and Challenges (CENeM-2007), BESU, Shibpur, January 11-14, 2007.***
83. **S. K. Bhattacharyya** - ‘Suppression of liquid sloshing using baffles’ An invited paper presented at ***2nd International Congress on Computational Mechanics and Simulation (ICCMS), IIT Guwahati, December 8-10, 2006.***
84. **P. Pal and S. K. Bhattacharyya**, ‘Choice of Scaling Parameter in Meshless Local Petrov-Galerkin (MLPG) method’ ***2nd International Congress on Computational Mechanics and Simulation (ICCMS), IIT Guwahati, December 8-10, 2006.***
85. **P. R. Maiti & S. K. Bhattacharyya** – ‘Finite element analysis of contained fluid subjected to external excitation’ - ***2nd International Congress on Computational Mechanics and Simulation (ICCMS), IIT Guwahati, December 8-10, 2006.***
86. **P. R. Maiti, S. K. Bhattacharyya & S. Majumdar** – ‘Dynamic analysis of a liquid storage tank under sinusoidal base excitation’ – ***Wind and Earthquake Engineering Proceedings of the Tenth East Asia-Pacific Conference on structural Engineering & Construction (EASEC-10), held at Bangkok, Thailand, pp.109-114, 3-5 August, 2006.***
87. **P. Pal and S. K. Bhattacharyya**, “Meshless Local Petrov-Galerkin (MLPG) approach for 2D sloshing of liquid under external excitation” ***50th Congress of ISTAM (An International Meet), IIT Kharagpur, December 14-17, 2005.***
88. **P. K. Pani & S. K. Bhattacharyya** – “Fluid-structure interaction effect on free vibration frequency of a rectangular lock gate using a near truncated boundary” - ***50th Congress of ISTAM (An International Meet), IIT Kharagpur, December 14-17, 2005.***
89. **S. K. Bhattacharyya & Arnab Majumdar** – ‘Experimental investigation of liquid sloshing in flexible cylindrical containers with different types of baffles’ - ***50th Congress of ISTAM (An International Meet), IIT Kharagpur, December 14-17, 2005.***
90. **Pratap Kr. Pani & S. K. Bhattacharyya** – ‘Finite element analysis of a lock gate structure using a truncated boundary condition considering linear surface wave in the fluid’ - ***Proceedings of 3rd International conference – ICTACEM 2004, held at IIT Kharagpur, December 2004.***
91. **K.C.Biswal, S. K. Bhattacharyya & P.K.Sinha** – ‘Finite element analysis of liquid filled annular cylindrical tanks with baffles’ - ***Proceedings of 3rd International conference – ICTACEM 2004, held at IIT Kharagpur, December 2004.***

92. Priyaranjan Pal & **S. K. Bhattacharyya** – ‘Element-free Galerkin Method for static and free vibration analyses of thin plates’ – ***Proceedings of 3rd International conference – ICTACEM 2004, held at IIT Kharagpur, December 2004.***
93. **S. K. Bhattacharyya** – ‘Thin walled Steel-concrete composite sections: Use as structural elements’ – ***Presented at International conference on ‘Long Products’, held at TISCO, Jamshedpur in February 2004.***
94. N. C. Pal & **S. K. Bhattacharyya** – ‘Structural aspects of a monument’ – ***Presented in Structural Engineering Convention (SEC 2003) – an International conference at IIT Kharagpur, December 2003.***
95. P. K. Pani & **S. K. Bhattacharyya** – ‘3-D Finite element analysis for evaluation of dynamic pressure on lock-gate structures considering fluid-structure interaction’ – ***Presented in Structural Engineering Convention (SEC 2003) – an International conference at IIT Kharagpur, December 2003.***
96. P. K. Pani & **S. K. Bhattacharyya** – ‘Hydrodynamic pressure on a vertical rectangular plate using a near truncated boundary’ – ***Presented at the National conference held at NIT, Rourkela in November 2003.***
97. K.C. Biswal, **S. K. Bhattacharyya** & P.K.Sinha – ‘Coupled dynamic response of liquid filled composite cylindrical tanks with baffles’ – ***54th AGM and International Seminar, January 21-22, 2003.***
98. K.C. Biswal, **S. K. Bhattacharyya** & P.K.Sinha – ‘Slosh response of liquid filled composite container with baffle’ – ***5th FSI conference, ASME congress, November 17-22, 2002 at New Orleans, USA.***
99. D. Maity & **S. K. Bhattacharyya** – ‘Evaluation of stresses of a flexible structure exposed to fluid considering fluid-structure interaction’ – ***Presented in the International conference ‘Advances in Civil Engineering ACE 2002, held at IIT Kharagpur in January 2002.***
100. D. Maity & **S.K.Bhattacharyya** – ‘Response of a separator wall of large storage tanks considering fluid-structure interactions’ – ***Proceedings of second International conference on Theoretical, Applied, Computational and Experimental Mechanics, December 2001 at IIT Kharagpur.***
101. D. Maity & **S. K. Bhattacharyya** – ‘Finite Element Modeling of infinite Reservoir using an exact far boundary condition’ – ***First MIT conference on fluid and solid Mechanics, 12-15 June 2001, MIT, Cambridge, USA.***
102. **S. K. Bhattacharyya** & O. O. Onyejekwe – ‘A Green element computational technique applied to a fluid-structure interaction problem’ - ***Presented in the International conference held at Cape Town, South Africa in April 2001.***
103. P. K. Parhi, **S. K. Bhattacharyya** & P. K. Sinha – ‘Hygrothermal effects on the bending behaviour of multiple delaminated composite plates’ - ***Presented in the International conference held at Cape Town, South Africa in April 2001.***
104. T. U. Ahmed, L. S. Ramachandra & **S. K. Bhattacharyya** – ‘Elasto-Plastic analysis of free-free beam subjected to pulse load at its tip’ – ***Presented in the International conference held at Cape Town, South Africa in April 2001.***

105. **S. K. Bhattacharyya** & D. Maity – ‘Evaluation of stresses of a flexible structure exposed to fluid considering fluid-structure interaction’ – **Presented in the International conference held at Cape Town, South Africa in April 2001.**
106. Ahmed T.U., Ramachandra L.S. and **Bhattacharyya S.K.** – ‘Evolution of plastic regions of a free-free beam subjected to impact load’ – **Proceedings, International conference on Recent Advances in Mathematical Sciences, December 2000 held at IIT Kharagpur, pp.492-501.**
107. Ahmed T.U., Ramachandra L.S. and **Bhattacharyya S.K.** – ‘Elasto-plastic response of free-free beams subjected to impact loads’ – **Proceedings of VETOMAC-1, held at Bangalore in October 25-27, 2000.**
108. **Bhattacharyya S.K.** & Ghosh S.K. – ‘Finite element analysis of concrete filled closed steel columns of square/Rectangular cross sections’ – **Presented in the International conference ASCCS-6-2000 held at Los Angeles, USA in March 2000.**
109. T.U.Ahmed, L.S.Ramachandra and **S. K. Bhattacharyya** – ‘Elasto-Plastic Response of Clamped beams under impact load’ - **Proceedings of International Conference-SEC-2000 held at Indian Institute of Technology, Bombay, 5-8 Jan. 2000.**
110. P. K. Parhi, **S. K. Bhattacharyya** & P. K. Sinha – ‘Finite Element Impact Analysis of Multiple Delaminated Composite Plates’-**Proceedings of International Conference-SEC-2000 held at Indian Institute of Technology, Bombay, 5-8 Jan. 2000.**
111. N.C.Pal, **S. K. Bhattacharyya** and P.K.Sinha – ‘Numerical modelling of Nonlinear coupled slosh dynamic problems’ – **Proceedings of the International conference on Mathematical Modelling of non-linear systems held at I.I.T. Kharagpur, India, 1999.**
112. **Bhattacharyya S. K.** – ‘Non-linear Analysis of fluid-structure systems using finite element technique’ – **Proceedings of the International conference on Mathematical Modelling of non-linear systems held at I.I.T. Kharagpur, India, 1999.**
113. **Bhattacharyya S. K.** et al. – ‘Thin walled steel hollow sections with concrete infill as structural elements’ – **Proceedings of the International symposium, “Structures for the future – The search for Quality”, held at Rio de Janeiro, August 1999.**
114. Pal N.C., **Bhattacharyya S. K.** & Sinha P.K. - 'The dynamics of the sloshing phenomenon: Some theoretical and Experimental Studies' - **Presented in the International conference on Theoretical, Applied, Computational & Experimental Mechanics, held at IIT Kharagpur, December 1998.**
115. Maity D. & **Bhattacharyya S. K.** – ‘Effect of Water compressibility in the vibration problems of dam-reservoir systems’ – **Presented in the International conference on Theoretical, Applied, Computational & Experimental Mechanics, held at IIT Kharagpur, December 1998.**
116. Maity D. & **Bhattacharyya S.K.** - 'Study on the effect of upstream profile of dam and reservoir bed on the development of hydrodynamic pressure' - **Presented in the National Seminar organised by Indian Society of Theoretical & Applied Mechs. held at REC, Surat in December 1997.**

117. **Bhattacharyya S.K.** & Bandyopadhyay D. - 'Finite element algorithm to assess structural damage from measured responses' - **Presented in the National Seminar organised by Indian Society of Theoretical & Applied Mechs. held at REC, Surat in Dec. 1997.**
118. Maity D. & **Bhattacharyya S.K.** - 'Dynamic analysis of infinite reservoir by finite element method' - **Presented in the National Seminar held at B.E. College, Shibpur in December 1997.**
119. N.C.Pal, **Bhattacharyya S.K.** & Sinha P.K. - 'Dynamics of fluid-structure systems in the Nuclear Industry' - **Presented in the National Seminar held at Kalpakkam in December 1997.**
120. Maity D. & **Bhattacharyya S.K.** - 'An efficient far-boundary condition for finite element solution of hydrodynamic pressure in fluid of infinite extent' - **Proceedings of the Int. conference on Ship & Ocean Technology held at IIT Kharagpur, March 1997.**
121. Pal N.C., **Bhattacharyya S.K.** & Sinha P.K. - 'Finite element sloshing analysis of liquid filled containers' - **Proceedings of the National Convention of Aerospace Engineers, AEROSPACE-97, held at Trivandram, March 1997.**
122. D.Maity & **S.K.Bhattacharyya** - 'Response of Structural system in Fluid environment' - **Proc. of National Seminar on Aero Structures (NASAS), conf. held in IIT Bombay, Jan. 1996.**
123. **Bhattacharyya S.K.** & Majumdar S. - 'Finite Element analysis of Fluid-Structure interaction at low Reynolds Numbers' - **Proc. of National Seminar on Aero Structures (NASAS '94) held at IIT Kharagpur, December, 1994.**
124. **Bhattacharyya S.K.** & Subhash Babu S. - 'Finite element Analysis of sloshing effect on liquid retaining structures'- **Presented in the ISTAM conf. at IIT, Kharagpur, 1993.**
125. Nayak A.N. & **Bhattacharyya S.K.** - 'Behaviour of steel - concrete composite columns' - **Proc. of National seminar on composite materials at IGIT, Sarang, Orissa, 1993.**
126. **Bhattacharyya S.K.** & Majumdar S. - 'Fluid-structure interaction effects for an actively moving body in a flow field' - **Proc. of 8th National convention of Aerospace Engineers held at I.I.T.Kharagpur in 1993.**
127. **Bhattacharyya S.K.** & Sachadeva P.K. - 'Effect of wave slamming force on the members of offshore structures' - **Proc. of National seminar on offshore structures held at Andhra University, Vishakhapatnam in 1992.**
128. **Bhattacharyya S.K.** & Majumdar S. - 'Finite element solutions of 2-D viscous incompressible N-S equations using symmetrisation scheme' - **Proc. of ISTAM conf. held at ANNA University, Madras in 1990.**
129. **Bhattacharyya S.K.** & Waso R.R. - 'Computer aided planning of building construction projects' - **Proc. Of National seminar on Construction Management at Patiala, 1989.**

C. Invited Lectures:

1. **'The Sun Temple Konark: Rehabilitation challenges'**- A talk presented to the participants from USA in the AR&P Dept. IIT Kharagpur, June 2016.
2. **'Sustainable Construction materials – Green approach'** – A Keynote talk presented at the Odisha Engineering Congress, Bhubaneswar, March 2016.
3. **'Fire Safety in Buildings and related issues'**- A Keynote talk presented at the National Conference on Kolkata Fire and Safety Conference – 2016 (KFSC-2016) held on 22nd January 2016.
4. **'Sustainable Materials for Sustainable Infrastructure'**- A key note Talk presented in the Workshop on Sustainable Infrastructure at Indian School of Mines, Dhanbad on 10th January 2016.
5. **'Landslide hazard and Mitigation measures'**- An invited talk presented at the Annual Meeting of IEI(India) Kharagpur local centre, November 2015.
6. **'Appropriate Materials for Sustainable housing'** – An invited talk presented at a workshop organized by NAREDCO at Indian Habitat centre, N.Delhi, 17th March 2015.
7. **'The Sun Temple at Konarak - Past, Present and Future'** - An invited talk presented at a workshop organised by the Institution of Engineers(I), Bhubaneswar local centre on 16th December 2014.
8. **'Concrete: Sustainability issues as construction material'** - An invited talk presented to the participants of a workshop at Jadavpur University, Kolkata, 23rd October 2014.
9. **'Enablers and barriers in Innovation and creativity process in research'** – An invited talk presented to the participants of short term Training programme on IPR at IIT Roorkee, 3rd September 2014.
10. **'Green Materials & Technologies – past, present and future'** – A keynote presentation in the workshop on Green Materials and Technologies for buildings at BMTPC, N. Delhi, 29th August 2014
11. **'Concrete – A leading material for sustainable construction'** – An invited talk presented to the post-graduate students at NIT Hamirpur, on 15th May 2014.
12. **'Sustainable construction materials'** – A Keynote address at a National conference on 'Innovations in Design and Construction of Industrial structures', held at NIT, Durgapur on 3rd April 2014.
13. **'Continuous upgradation of faculties'** – A keynote lecture presented in the Workshop on 'Engineering Education in West Bengal – Current scenario and future prospects on engineering education in Bengal' at Kolkata on 22nd February 2014.
14. **'Sustainable Building Materials'** – an invited presentation to the students of Civil & Environmental Engineering at IIT Patna on 5th February 2014.
15. **'Structures subjected to extreme loading'**, - An invited talk presented at the 2days DST Brain Storming Workshop held at IISc. Bangalore, 30th and 31st January 2014.

16. **'Concrete – A material for sustainable construction'** – An invited lecture presented in a workshop organized by Indian Concrete Institute, N. Delhi, November 2013.
17. **'Achieving Sustainability in concrete technology'** – An invited talk presented in the colloquium on NanoTechnology in concrete, 13th February, 2013.
18. **'Research on Advanced Materials at CSIR-CBRI: An overview'** – A keynote lecture presented at the International conference on Advanced Materials for Energy Efficient Buildings held at N. Delhi during 10-12 February 2013, organized by CSIR-CBRI.
19. **'Health Monitoring of Buildings subjected to Wind Loads'** – An Invited talk presented at the 6th National Conference on Wind Engineering (NCWE-2012), 14-15th December 2012.
20. **'Energy Efficient Building System'** – A Keynote address presented at the National conference on Emerging trends in Energy conservation in buildings at CSIR-CBRI, Roorkee, November 2012.
21. **'Advances in concrete Technology – Sustainable Approach'** – An invited lecture presented at the National Conference on Sustainable Infrastructure organized by the **Institution of Engineers (I), Civil Engineering Division** at Roorkee, October 2012.
22. **'Use of Nanotechnology in Concrete'** – An invited talk presented at a Workshop organized by the **Indian Concrete Institute, Uttarakhand** at Dehradun, December 2011.
23. **'Technical Education for Infrastructure Development' – Some aspects of Green Structures & Structural Health Monitoring** – An invited talk presented at a Workshop organized by the **Institution of Engineers (I), Roorkee local centre** at Roorkee, October 2011.
24. **'Sustainable Materials for Green Structures'** – An invited talk presented at the **National Frontiers of Engineering (NatFoE) organized jointly by INAE and IIT Hyderabad**, held at Hyderabad, September 2011.
25. **'Cement concrete – Present Research Needs'** – An invited lecture presented at Seminar held at CGCRI, Kolkata, organized by Indian Concrete Institute, May 2010.
26. **'Seismic design concepts of Buildings – A few Issues'** - An invited lecture presented at Seminar held at Institution of Engineers (I), Dehradun , organized by Institution of Engineers(I), April 2010.
27. **'Concepts of Green Building Technologies'** – An invited lecture presented at Chaudhari Charan Singh University, Meerut, January, 2010.
28. **'Advances in Construction Materials'** – An invited talk presented at the Institution of Engineers, Kolkata, organized by ASCE-India Section, December 2008.
29. **'Effect of Corrosion of rebars on the durability of concrete structures'** – An invited talk presented at a workshop organized by Indian Concrete Institute at Kolkata, July 2008.
30. **'Sloshing of Liquid – Abuse and Use'** – An invited Institute Seminar, delivered at N.I.T., Rourkela, January 2008.

31. **'Sloshing response of liquid in a container under base excitation'** – An invited paper presented at International Conference on Civil Engineering in the New Millennium: Opportunities and Challenges (CENeM-2007), BESU, Shibpur, January 11-14, 2007.
32. **'Weld in steel structures'** – An invited lecture presented at a workshop organized by CET, Bhubaneswar & INSDAG, Kolkata, May 2006.
33. **'Steel-concrete composite system'** – An invited lecture presented at a workshop organized by CET, Bhubaneswar & INSDAG, Kolkata, May 2006.
34. **'Earthquake Resistant Structures'** – Lecture delivered at the INAE annual meeting held at NIAS, Bangalore, December 2005.
35. **'Quality Control of Steel Structures'** - Lecture delivered at Bhubaneswar for Orissa Mining Corporation, July 2005.
36. **'Concrete & its ingredients: Quality Control Aspects'** – Lecture delivered at Bhubaneswar for Orissa Mining Corporation, July 2005.
37. **'Effects of Cement on Concrete structures: An overview'** - Delivered an invited talk at Ambuja Cements Ltd., Kolkata, 2002.
38. **'Plate bending elements in finite element analysis' and 'Finite element technique in application problems'** – Delivered two lectures in the workshop held at IGIT, Sarang in December 2001.
39. **'Earthquake – causes, effects on Structures & Mitigation' and 'Cyclone disaster & Mitigation'** – Delivered **two** lectures in the workshop on 'Disaster management' held at Bhubaneswar on 27th –29th August 2001, organized by the Institute of Advance Technology & Environmental studies.
40. **'Behaviour of Structural steel connections' and 'Connections using Welding'** – Delivered **three (3)** lectures in the Workshop for University faculty held at Kolkata in July 2001, organized by the Institute for the Steel Development and Growth (INSDAG).
41. **'Numerical Modelling of Fluid-structure interaction problems'** - Presented in the National seminar held at B.E.College (D.U.), January 1997.
42. **'Use of Flyash as a pozzolanic material to cement'** - Presented at the National Workshop on **'Emerging needs of building materials and substitute for wood'**, held at B.E.College (D.U.), Feb. 1995.
43. **'Prospects and constraints of flyash utilisation with special reference to Indian Standards'** - Presented in the National Seminar organised by Coal Ash Institute of India, Calcutta, March, 1995.

D. Lectures delivered at Short Term Courses / Workshops

1. Delivered lectures to the Teachers of different Engineering Institutes in the country through video conferencing mode (T10KT), an MHRD programme on **'Introduction to Structural Engineering'** during 28th Sept – 02 Oct 2015 and 4th to 9th January 2016

2. Delivered lecture on '**Durability of Concrete Structures**' in a short course organized by Civil Engineering Department, IIT Roorkee, December, 2009.
3. Delivered lectures on '**Fundamentals of Finite element technique**' and '**Application of Finite element for fluid flow problems**' in a short course organized by Civil Engineering Department, IIT Kharagpur, November 2008.
4. Delivered two lectures on '**Introduction to Structural Dynamics**' & '**Evaluation of earthquake forces**' in a short-term course organized by NITTR, Kolkata, March 2008.
5. Delivered **Nine (9) lectures** in the short term course on **NPCBEERM** organized by Civil Engineering Dept., IIT Kharagpur, March 2006.
6. '**Earthquake Resistant Design**' - Short course on **Soil dynamics and Earthquake Engineering**, organized by Civil Engineering Dept., IIT Kharagpur, July 2004.
7. '**Soil-Structure Interaction during earthquakes**' - Short course on **Soil dynamics and Earthquake Engineering**, organized by Civil Engineering Dept., IIT Kharagpur, July 2004.
8. '**Seismic Zoning of India**' – Short course on **Soil dynamics and Earthquake Engineering**, organized by Civil Engineering Dept., IIT Kharagpur, July 2004.
9. '**Retrofitting of Structures damaged due to earthquake**' - UNDP Training Programme on **Earthquake Resistant design of Masonry, RCC and framed structures**, organized by Civil Engineering Dept., IIT Kharagpur, July 2004.
10. '**Earthquake Resistant Design and detailing of Steel Structures**' – UNDP Training Programme on **Earthquake Resistant design of Masonry, RCC and framed structures**, organized by Civil Engineering Dept., IIT Kharagpur, July 2004.
11. '**Elements of earthquake Engineering**' - Short course on **Earthquake Engineering**, , organized by Dept. of Geology & Geophysics, IIT Kharagpur, May 2003.
12. '**Fluid-Structure interaction Problems: Review and Overview**' – Delivered two lectures at the International Workshop on '**Computational Mechanics and Optimisation (IWCMO 2002)**', organized by Aerospace Engg. Dept. at IIT Kharagpur in October 2002.
13. '**Finite Element techniques applied to fluid-structure interaction problems: An overview**' – Delivered **two** lectures in the short term course on '**Application of Finite Elements in Mechanical system design**', organized by Mechanical Engg. Department, IIT Kharagpur in June 2002.
14. '**Response of Gravity Dam under Earthquake Loading**' – Short Course on '**Site Response and Microzonation Studies from Earthquake Seismology**', Organised by Geology & Geophysics Department, IIT Kharagpur, 1998.
15. '**Finite Element Modelling of Dam-Reservoir system**' - Short course on '**System Techniques and Computer Applications in Water resources**', Organised by Civil Engg. Department, IIT Kharagpur, 1997.
16. '**Finite Element Modelling of floating Structures : A Fluid-Structure Interaction Problem**' - Short course on '**Finite Element Analysis of Floating Structures**', Organised by Ocean Engg. & Naval Arch. Department, IIT Kharagpur, 1997.

17. **'Introduction to Finite Element Method'** - Workshop cum short course on **'Composite Materials and Structures'**, Organised by Aerospace Department, IIT Kharagpur, 1996.
18. **'Introduction to Finite Element Method'** and **'Application of Finite Element Method to Fluid-Structure Interaction Problems'** - Short course on **'Wind effects on built forms'**, organised by Aerospace & ARP Department, IIT Kharagpur, 1994.
19. **'Large Span Industrial Structures'** - Workshop on **'Industrial Architecture'** organised by Architecture & Regional Planning Department, IIT Kharagpur, 1994.

E. Reports:

1. Report on 'Impact Assessment on three protected monuments namely Beth El Synagogue, David Magen Synagogue and Currency Building located in the vicinity of E-W Metro corridor', June 2016.
2. Report on the 'Restoration strategy of The Sun Temple Konark', August 2015
3. Report on the stability analysis of Building Towers for 'South City Projects', Kolkata, 2008.
4. Report on the structural health monitoring of the factory building of 'Titagarh Wagon Ltd.', Kolkata, May 2008.
5. Report on the structural health monitoring of building towers at New Town, Rajarhat, Kolkata for West Bengal Housing Board, 2007.
6. Report on Restoration measure for DG foundation, ISPAT ALLOYS LTD., Balasore, 1997.
7. Report on the Restoration measure for Hot Strip Rolling Mill foundation, Steel Authority of India Ltd., Bokaro, 1996.
8. Report on Restoration of Dakshineswar Temple, Calcutta, 1996.
9. Analysis of Tea garden Structures at ASSAM - A Project from Williamson & Magor Co., Calcutta, 1996.
10. Report on Restoration of Structures at Fort William Complex, Calcutta, 1995.
11. Experimental Investigations on Rectangular & Square hollow Steel Sections - A Project from TISCO, Calcutta carried out at Structural Engg. Laboratory, IIT Kharagpur, 1995.
12. The Earthquake Analysis of Lord Jagannath Temple, Puri, 1995.
13. Investigation report on the usage of Flyash as pozzolanic material and hollow block - A Japanese Project conducted at Structural Engg. Laboratory, IIT Kharagpur, 1993.

Sd/-

(Sriman Kumar Bhattacharyya)