

CURRICULUM VITAE

Dr. AKIL AHMED

Professor

Department of Civil Engineering

Jamia Millia Islamia (Central University)

New Delhi, India – 110025

Mob: +91 - 8447269080

Email: aahmed@jmi.ac.in



ACADEMIC PROFILES:

- **Faculty Profile:** https://www.jmi.ac.in/civil/faculty-members/Dr_Akil_Ahmad-2003

- **Scopus Profile:** <https://www.scopus.com/authid/detail.uri?authorId=55448621800>

- **ORCID Profile:** <https://orcid.org/0000-0002-2326-4311>

- **Google Scholar Profile:**

https://scholar.google.com/citations?view_op=list_works&hl=en&user=3kPdGR8AAAAJ

EDUCATION:

- **Ph.D. (Structures)**, Indian Institute of Technology Delhi, 2004

- **M.Tech. (Structures)**, Zakir Husain College of Engineering and Technology, AMU, 2001

- **B.E. (Civil)**, Indian Institute of Engineering Science and Technology, Shibpur (formerly, Bengal Engineering College), 1998

***Title of Ph.D. Thesis:** Coupled zigzag and third order models for thermo-electro-mechanical analysis of hybrid piezoelectric beams

***Title of M. Tech. Dissertation:** Free Vibration Analysis of Point Supported Ferrocement Plates

EXPERIENCE:

Professor

- Department of Civil Engineering, Jamia Millia Islamia, India

- August 2019 – Present

Associate Professor

- Department of Civil Engineering, Jamia Millia Islamia, India

- August 2016 – August 2019

Assistant Professor

- Department of Civil Engineering, Jamia Millia Islamia, India
- December 2005 – August 2016

Assistant Professor

- Department of Civil Engineering, BITS Pilani, Rajasthan, India
- August 2004 – December 2005

Assistant Professor (On Extra Ordinary Leave from Jamia Millia Islamia)

- Salman Bin Abdul Aziz University, Saudi Arabia
- 2011 – 2013

SPECIALIZATION:

Structures and Earthquake Engineering

RESEARCH AREA:

- Structural Health Monitoring and Structural Control
- Seismic Analysis of Structures
- Advanced Materials and Structures
- Application of AI in Structures and Earthquake Engineering

CONSULTANCY EXPERIENCE:

- Proof Checking / Vetting of Structural Design and Drawing
- Third Party Quality Assurance and Quality Control of Construction Projects
- Structural Design and Drawing
- Testing of Civil Engineering Materials

COURSES TAUGHT:**Postgraduate Levels:**

- RCC Design
- Earthquake Resistant Design
- Theory of Vibrations
- Finite Element Method
- Structural Optimization
- Disaster Mitigation and Management
- Structural Dynamics
- Structural Dynamics Laboratory
- Software Laboratory

Undergraduate Level:

- Design of Steel Structures
- Design of Structures IV
- Bridge Engineering
- Advanced Structural Analysis
- Structural Analysis
- Mechanics of Solids
- Civil Engineering Materials Laboratory
- Solid Mechanics Laboratory
- Structural Analysis Laboratory
- Civil Engineering Drawing
- Design of Structures Laboratory
- Software Laboratory

DEPARTMENTAL RESPONSIBILITIES:

- Programme Co-ordinator - M.Tech. (Earthquake Engineering)
- Faculty In-Charge – Mid - Semester Tests
- Faculty In-Charge - Structural Dynamics Laboratory
- Faculty In-Charge - Advanced Structural Dynamics Laboratory
- Faculty In-Charge - Structural Engineering Laboratory (earlier)
- Faculty In-Charge - CAD Laboratory (earlier)

ORGANIZED WORKSHOPS / SEMINARS (AS ORGANIZING SECRETARY):

- Workshop on Recent Advances in Earthquake Engineering, March 2017
- National Seminar on Seismic Hazard and Mitigation of Structures, Nov. 2017
- Workshop on Seismic Vulnerability of Structures, March 2018
- International Workshop on Landslides Risk Management and Mitigation, Oct. 2018

PROFESSIONAL MEMBERSHIPS:

- Life member in Ferrocement Society India (LM 99)
- Life member in Indian Society of Earthquake Technology (LM 1548)
- Life member in Indian Society for Technical Education (LM 91002)

REVIEWER (SELECTED JOURNALS):

- Asian Journal of Civil Engineering
- IEEE Transactions on Instrumentation & Measurement
- Structural Engineering and Mechanics, An International Journal

SUPERVISION:

- PhD: 2 + 6 (ongoing)
- M. Tech. Dissertation: 29 + 3 (ongoing)
- B. Tech. Project: 18 groups + 1 group (ongoing)

PUBLICATIONS:

Journals:

- International Journals: 42
- National Journals: 2

Edited Book:

- Seismic Hazard Mitigation of Structures, 1-339, 2019, Cyber Tech Publication, ISBN: 978-93-5053-737-4

Chapters Published in Edited Books:

- 3 chapters

Conference Proceedings / Presentation:

- International: 17
- National: 4

GOOGLE SCHOLAR CITATION INDICES:

Citations:

- All Time: 447
- Since 2018: 176

h-index:

- All Time: 12
- Since 2018: 7

i10-index:

- All Time: 12
- Since 2018: 4

DELIVERED LECTURES:

- Total Number of Delivered Lectures: 11

RESEARCH PROJECT:

- Title: "Post-Buckling Analysis of Sandwich Beams with Functionally Graded Faces Using a Consistent Higher Order Theory"
- Funding Source: Deanship and Research, SAU, KSA
- Funding Amount: 40000 SAR (10666 US dollars)
- Duration: 2012 - 2014

Ph. D. SUPERVISION (SELECTED STUDENTS):

1. Kazi Javed Akram

- Topic: Development of Impedance Sensor for the Health Assessment of Concrete Structures

- Status: Awarded
- 2. Adeela Afreen
 - Topic: Behavior of Masonry Structures for Near-Field Earthquake
 - Status: Awarded
- 3. Mohammad Haider Azam
 - Topic: Multi-Decision Criteria for Rehabilitation of Structures
 - Status: Ongoing
- 4. Habibur Rahaman
 - Topic: Seismic Performance of a Semi-Rigid Jointed Steel Frame Structure Considering Soil-Structure Interaction
 - Status: Ongoing
- 5. Mohd Umair
 - Topic: Mitigation of Progressive Collapse in Semi Rigid Jointed Steel Frame
 - Status: Ongoing
- 6. Mohd Waseem
 - Topic: Durability of Geopolymer Concrete Under Different Marine Environment Conditions
 - Status: Ongoing
- 7. Umashankar Prajapati
 - Topic: Application of Artificial Neural Network for Prediction of Flexural Strength of Concrete
 - Status: Ongoing

FACULTY DEVELOPMENT PROGRAMMES ATTENDED:

- Orientation Programme (one month): 1
- Refresher Course (three weeks): 1
- Short Term Courses (not less than one-week duration): 12

OTHER INFORMATION:

- Completion of Ph. D. thesis in 3 years at IIT Delhi, 2001 - 2004
- Institute Scholarship during Ph. D., 2001 - 2004
- 2nd position in M. Tech., 2001
- GATE Scholarship during M. Tech., 1999 - 2001
- National Scholarship from +2 level till Bachelor of Engineering, 1992 - 1998
- Ranked 99th in the state of West Bengal in Secondary Examination, 1992
- Jointly supervised two students for M. Tech. (Structures) dissertation at Gautam Buddha University, UP, 2015-16

REFEREES:

1. Prof. T. K. Datta
 - Institutional Affiliation: NCDMM, MNIT Jaipur
 - Designation: Adjunct Faculty
 - Contact: tkdatta.ncdmm@mnit.ac.in | 0141111 1111
2. Prof. P. C. Dumir
 - Institutional Affiliation: IIT Delhi
 - Designation: Professor (Retd.)
 - Contact: pcdumir@am.iitd.ac.in | 0112659 1218
3. Prof. S. Kapuria
 - Institutional Affiliation: IIT Delhi
 - Designation: Professor
 - Contact: kapuria@am.iitd.ac.in | 0112659 1218

LIST OF PUBLICATIONS (SELECTED PAPERS):

1. An efficient coupled zigzag theory for dynamic analysis of piezoelectric composite and sandwich beams with damping; S. Kapuria, A. Ahmed, P. C. Dumir; Journal of Sound and Vibration, 279, 345 – 371, 2005.
2. Coupled consistent third order theory for hybrid piezoelectric composite and sandwich beams; S. Kapuria, P. C. Dumir, A. Ahmed; Journal of Reinforced Plastics and Composites, 24, 173 – 194, 2005.
3. Exact 2D piezoelectricity solution of hybrid beam with damping under harmonic electromechanical load; S. Kapuria, P. C. Dumir, A. Ahmed; ZAMM, 84, 391-402, 2004.
4. Efficient coupled zigzag theory for hybrid piezoelectric beams for thermoelectric load; S. Kapuria, P. C. Dumir, A. Ahmed; AIAA Journal, 42, 383 – 394, 2004.
5. Coupled consistent third order theory for hybrid piezoelectric beams under thermal load; S. Kapuria, A. Ahmed, P. C. Dumir; Journal of Thermal Stresses, 27, 405 – 424, 2004.
6. Finite element model of efficient zigzag theory for static analysis of hybrid piezoelectric beams; S. Kapuria, P. C. Dumir, A. Ahmed, N. Alam; Computational Mechanics, 34, 475 – 483, 2004.
7. Static and dynamic thermo-electro-mechanical analysis of angle-ply hybrid piezoelectric beams using an efficient coupled zigzag theory; S. Kapuria, A. Ahmed, P. C. Dumir; Composite Science and Technology, 64, 2463 – 2475, 2004.
8. An efficient coupled layerwise theory for dynamic analysis of piezoelectric composite beams; S. Kapuria, P. C. Dumir, A. Ahmed; Journal of Sound and Vibration, 261, 927-944, 2003.

9. An efficient coupled layerwise theory for static analysis of piezoelectric sandwich beams; S. Kapuria, P. C. Dumir, A. Ahmed; *Archive of Applied Mechanics*, 73, 147-159, 2003.
10. An efficient higher order zigzag theory for composite and sandwich beams for thermal load; S. Kapuria, P. C. Dumir, A. Ahmed; *International Journal of Solids and Structures*, 40, 6613-6631, 2003.
11. Exact 2D benchmark solution and assessment of 1D theories of hybrid beams under arbitrary harmonic loads; A. Ahmed, S. Kapuria, P. C. Dumir; *Proceedings of National Conference on Machines and Mechanism (NaCoMM-2003)*, IIT Delhi, Dec 12-13, 2003.
12. Assessment of a layerwise theory of hybrid beams for patch loads; S. Kapuria, P. C. Dumir, A. Ahmed; *Proceedings of Second M.I.T. Conference on Computational Fluid and Solid Mechanics*, MIT, Cambridge, USA, June 17-20, 2003.
13. Response and shape control of hybrid beams under patch loads; G. P. Dube, S. Kapuria, A. Ahmed; *Proceedings of International Conference on Sonar – Sensors & Systems*, Cochin, India, December 2002.
14. Post-buckling analysis of sandwich beams with functionally graded faces using a consistent higher order theory; A. Ahmed; *International Journal of Civil, Structural, Environmental and Infrastructure Engineering Research and Development*, 4 (2), 59-64, April 2014.
15. Evaluating the co-relationship between concrete flexural tensile strength and compressive strength; M. Ahmed, K. M. El Hadi, J. Mallick, M. A. Hasan, A. Ahmed; *International Journal of Structural Engineering*, 5 (2), 115–131, 2014.
16. A Simple Non-Invasive Technique for Structural Health Monitoring; K. J. Akram, T. Islam, A. Ahmed; *Proceedings of IEEE INDICON 2015 1570187251*, Jamia Millia Islamia, New Delhi, December 2015.
17. A Simple Minimally Invasive Technique for the Hydration Monitoring of Cement Based Concrete, K. J. Akram, T. Islam, A. Ahmed; *2nd National Conference on Recent Development in Electronics*, 67 – 71, February 17 – 18, 2017.
18. A Simple Method on Transformer Principle for Early Age Hydration Monitoring and Setting Time Determination of Concrete Materials; K. J. Akram, T. Islam, A. Ahmed; *IEEE Sensors Journal*, 8 (17), 7265 – 7277, 2018.
19. Fringing Field Impedance Sensor for Hydration Monitoring and Setting Time Determination of Concrete Material; K. J. Akram, A. Ahmed, T. Islam; *IEEE Transactions on Instrumentation and Measurement*, 69 (5), 2131 – 2138, 2020.
20. Effect of near-field earthquake on masonry structure; A. Afreen, A. Ahmed, K. Moin; *Asian Journal of Civil Engineering*, 22, 895–910, 2021.
21. Evaluation of a Cross-Conductance Sensor for Cement Paste Hydration Monitoring and Setting Time Measurement; K. J. Akram, A. Ahmed, B. George and T. Islam; *IEEE Sensors Journal*, 23 (2), 2023.

CONSULTANCY PROJECTS (SELECTED PROJECTS):

1. Development of Bank's Projects as One Single Project by M/s Shapoorji Pallonji & Co. Ltd. under Design & Build Mode – Residential Complex at Hauz Khas, New Delhi - Third Party Quality Assurance (TPQA) Auditor - 2017
2. Third party inspection / quality assurance for Civil Work C/O Office for DC (west) at Raja Garden New Delhi (SH- Civil & Electrical Composite Work) - 2015
3. Third party inspection / quality assurance for “Construction of two nos. Pucca School building, one no multipurpose hall and swimming pool at Hastal village, New Delhi. (SH – Civil & Electrical composite work) - 2015
4. Consultancy for Retrofitting of Sultej Building at Vaishali, Ghaziabad - 2015
5. Proof Checking of Structural Design and Drawing of Proposed Group Housing at Plot No. 3/GH-05, SidhartVihar, NH – 24, Ghaziabad, UP - 2015
6. Foundation & Structure Design & Drawing of Proposed EWS flats in Lohiya Nagar Scheme - 2015
7. Development of Golf Facility Centre (Club House) at Qutab Golf Course, New Delhi - 2015
8. Vetting of school project at Noida - 2015
9. Proof checking of structural design and drawings for Delhi University South Campus - 2015
10. Structural vetting of the building Sea Food Park at Deras Bhubaneswar - 2016
11. Structural vetting of the PEB building Sea Food Park at Deras Bhubaneswar - 2017
12. Building Safety Certificate for KV Pragati Vihar - 2016
13. Structural vetting of Structural Drawing for Approval of NMI Noida - 2016
14. Testing of materials by EM, PWD - 2019
15. Construction of Hospital at Madipur, Jwalapuri, Hastal and Sarita Vihar, Delhi - Vetting of Structural Design and Drawing - 2019
16. Vetting of Structural Design and Drawings of Main Sewage Pumping Station at Village Tigaon Distt Faridabad - 2020
17. Vetting of structural design and drawings for Barricading details of forthcoming project of Sports Complex at Dwarka, New Delhi - 2023
18. Vetting of MS Tensile Canopy - 2023
19. Structural vetting for Construction of 100 bedded Staff Hostel in DIET Campus, Leh in the union territory of Ladakh through EPC Contract Mode - 2023
20. Structural vetting for Construction of 8 Nos. Special T4 Staff Quarters and Staff hostel Geyser Palace Site, Leh in the Union Territory of Ladakh through EPS contract mode - 2023

21. Vetting of Structural Drawing for the NHIDCL project - 2023
22. Proof checking of drawings and design of proposed “Residential Building at Sarojini Nagar, New Delhi”, on Northern Railway’s Land Plot ‘Z’, Near Safdarjung Railway Station - 2023
23. Vetting of structural drawing of proposed group housing at Plot no. Sc-01/08, Sec -152, Noida (U. P.) - 2023
24. Proof checking of submission drawings and design of “Group Housing”, on Khasra No. - 221, 222, 223, 224, 302, 303, 304, 307, Village - Makanpur, Ghaziabad, U.P - 2023