

Mohammedsalim Khan

Final Year Postgraduate (M.Tech)
Structural Engineering
Department of Civil Engineering

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Education

Degree	Institution	CPI/%	Year
M.Tech	IIT Gandhinagar	8.24	2018 - Present
B.Tech	Government College of Engineering, Pune	76.76	2013 - 2017
Class XII	S.K.Somaiya College, Mumbai	77.50	2012 - 2013
Class X	Abdullah Patel English High School, Mumbai	88.00	2010 - 2011

Projects

Simplified modeling and seismic base isolation of Nuclear power plants [May 2019-Present]
Guide: Dr. Manish Kumar (IIT Gandhinagar)

- Working on developing a simplified lumped-mass-stick model for Nuclear Power Plants using LS-DYNA and OpenSees (open-source platform for earthquake simulation)
- Implementation of Elastomeric bearings to proposed simplified model for reducing the seismic design forces

Seismic analysis of RC building based on Time History and Response Spectrum method using SAP2000 and MATLAB including beam-column joint design [December 2018-April 2019]

Guide: Dr. Dhiman Basu and Dr. Manish Kumar (IIT Gandhinagar)

- The seismic analysis was carried out using IS 1893 (2016), IS 13920 (2016) and was verified using self-developed MATLAB code
- A 3-D frame was designed based on IS 1893 (2016) and IS 13920 (2016), beam-column joints were designed based on the codal provisions
- Time history and response spectrum method was used to get the response and design forces of the structure

Tension field action and post-buckling behaviour in web stiffened plate girders using Finite Element Methods in Abaqus [December 2018-April 2019]

Guide: Dr. Gaurav Srivastava (IIT Gandhinagar)

- Carried Finite Element Analysis to develop a relationship between shear strength and tension field action for various slenderness ratio of the web using ABAQUS and ANSYS
- Studied the shear-induced plastic hinge formation and its effects on the ultimate capacity of the plate girder

Plastic Formwork System: An innovative and efficient alternative to conventional formwork system (Design and comparison) [August 2016-May 2017]

Guide: Dr. Swapnil Kharmale (Government College of Engineering, Pune)

- Experimental and analytical tests were conducted to determine the structural properties of the plastic composite materials
- Design of formwork was done using the relevant design standards (IS 4990, IS 14687, IS 883 and IS 456)
- Life cycle cost analysis was done for various formwork system and were then compared

Positions of Responsibility

Teaching Assistant for the course Structural Dynamics at IIT Gandhinagar [December 2019-June 2020]

- Conducted sessions on SAP2000 and MATLAB for a group of 30 students

Teaching Assistant for the course Advanced Structural Analysis at IIT Gandhinagar

[July 2019-November 2019]

- Conducted sessions on SAP2000 and OpenSees for a group of 30 students

Teaching Assistant for the course Civil Engineering Materials Lab

[December 2018-April 2019]

- Demonstrated experiments on different materials for a group of 50 students

- Held various positions such as Technical Secretary, Event Management Head, Planning and Documentation Head and Treasurer during the four years
- Organized technical events with over 80 participating institutes

Achievements

- Part of the team which worked on the World Bank sponsored project 'Improving Seismic Resilience of Built Environment in India'. The latest 2016 version of Indian seismic codes IS 1893 (Part I) and IS 13920 were reviewed and modifications were proposed along with the commentary. Explanatory examples were also prepared to illustrate various codal provisions.
- Developed a working model which demonstrated the working of a base-isolated structure supported on an elastomeric bearing, results obtained from the experiment was validated using SAP2000 model.
- Scored of 689/1000 in Graduate Aptitude Test in Engineering (GATE-Civil), 2018.
- Served as a Class Representative for four academic years at Government College, Pune.
- Secured Top 3 Institute ranks among 400 students over the four years at Government College, Pune.

Skill Summary

- **Languages:** MATLAB, C, C++, LaTeX
- **Softwares:** AutoCAD, SAP2000, ETABS, ANSYS, Abaqus, LS-DYNA, STAAD.Pro, OpenSees, Risa

Relevant Courses

- **Civil Engineering:** Earthquake Engineering, Structural Dynamics, Advanced Structural Analysis, Finite Element Method, Reinforced Concrete Design, Steel Design, Pre-stressed Design, Advanced Solid Mechanics, Advanced Geotechnical Engineering, Transportation Engineering, Foundation Engineering
- **Management & Economics:** Project Management, Construction Management, Quantity Estimating Costing and Tendering
- **Mathematics:** Advanced Numerical Methods in Engineering, Mathematical methods in Engineering, Linear Algebra, Differential Equations, Probability Theory

Webinars/Workshops Attended

- Attended the webinar on 'Engineering Preparedness for Earthquake Disaster Mitigation' organized by Indian Society of Earthquake Technology
- Attended the webinar on 'Seismic Response of Retaining Walls' organized by Indian Society of Earthquake Technology
- Attended the webinar on 'Structure-Equipment-Piping Interaction under Earthquake Excitation' organized by Indian Society of Earthquake Technology
- Attended the webinar on 'Supplemental Damping and Energy Dissipation Devices' organized by Indian Society of Earthquake Technology
- Attended the webinar on 'Earthquake Early Warning System: Its relevance for India' organized by Indian Society of Earthquake Technology
- Attended the webinar on 'Development of Geosynthetics Reinforced-soil Structure for Japanese high-speed bullet train- Shinkansen' organized by IIT Gandhinagar
- Attended the webinar on 'Implementation of Regional Rapid Transit System (RRTS)' organized by IIT Gandhinagar
- Attended a one-day workshop on 'Proposed modifications and commentary of IS 1893 (Part I) and IS 13920' organized by IIT Gandhinagar
- Attended a one day workshop on 'Seismic Design of Confined Masonry Buildings' organized by IIT Gandhinagar
- Completed LINUX training offered by the Spoken Tutorial Project, IIT Bombay
- Completed LATEX training offered by the Spoken Tutorial Project, IIT Bombay

Extra-Curricular Activities

- Attended the Entrepreneurship Development Course, July 2016 organized by Vigyan Ashram Pabal (Pune)
- Won 1st prize in Lining Up event of Abinitio'17 at Government College of Engineering, Pune
- Participated in Intelligent Design Civil Event conducted at College of Engineering Pune (COEP)-2014