

Curriculum Vita

Dr. Mousumi Roy, PE
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EDUCATION:

Doctorate in Civil Engineering and Engineering Mechanics, 1993, *Columbia University, NY, NY*
Master of Engineering in Structural Engineering, 1989, *The Cooper Union, NY, NY*
Bachelor of Civil Engineering, Honors, 1984, *Jadavpur University, Calcutta, India*

ACADEMIC EXPERIENCE:

2026 – present Lecturer, *Howard University, Washington DC*, Civil and Environmental Engineering in the College of Engineering and Architecture
Summer 2025-26 Lecturer, *Johns Hopkins University, MD*, Office of Graduate Education and Lifelong Learning in the Whiting School of Engineering
2015 – 2023 Associate Professor-in-Residence (2022-2023), Assistant Professor-in-Residence (2016-2022) *University of Connecticut, Storrs, CT*, Joint appointment in Civil and Environmental Engineering Department and Management and Engineering for Manufacturing Program
2014 - 2015 Instructor, *Wilkes University, Wilkes-Barre, PA*, Dept. of Mechanical Engineering
2006 – 2010* Instructor, *Penn State University, Scranton-Worthington, PA*, Mathematics Department
Fall 2008 Lecturer, Business Statistics, *Prudential Investment, Moosic, PA*
2004 – 2006 Lecturer, *Johns Hopkins University, MD*, Department of Civil Engineering

*Took time off 2010-2014 to guide my daughter through high school. However, I continued my role as an Independent Scholar.

INDUSTRY EMPLOYMENT:

2001 - 2006 Structural Engineer at *Whitney, Bailey, Cox, Magnani, Baltimore, MD*
1996 - 2001 Structural Engineer at *Weidlinger Associates, Cambridge, MA*
1993 - 1996 Structural Engineer at *Bettigole Andrews & Clark, Inc., Hackensack, NJ, and NY, NY*
1984 - 1988 Structural Engineer at *Consulting Engineering Services, Calcutta, India*

Responsibilities included:

- Analysis, design and construction supervision of high-rise office and residential buildings, parking garages, and other types of structures.
- Inspection and preparation of reports including repair details for trusses in *Manhattan Bridge* and other bridges in New York and New Jersey.
- Participated in analysis, designs, and construction supervision of approach highway at Terminal E of *Logan International Airport, MA*.
- Business proposal preparation for different construction projects and feasibility study of alternative proposals based on their financial and other merits.
- Project management by preparing construction schedules and attending meetings with design team, construction supervisors, and other related personnel.

VARIOUS COURSES TAUGHT:

1. Construction Planning and Scheduling
2. Fundamentals of Construction Engineering and Management
3. Principles of Construction
4. Manufacturing Automation
5. Introduction to Manufacturing Systems with 3D Printing Lab
6. Senior Design for Management and Engineering for Manufacturing (MEM) Program
7. Product Design for Mechanical Engineering
8. Applied Mechanics
9. Mechanics of Materials
10. Reinforced Concrete Structures
11. Design of Steel Structures
12. Probability and Statistics for Civil and Environmental Engineering

JOURNAL PUBLICATIONS:

1. M. Roy & A. Roy (2021), "The Rise of Interdisciplinarity in Engineering Education in the Era of Industry 4.0: Implications for Management Practice" *IEEE Engineering Management Review*, vol. 49 (3), pp. 56-70.
2. M. Roy & A. Roy (2019), "Nexus of Internet of Things (IoT) and Big Data: Roadmap for Smart Management Systems (SMgS)," *IEEE Engineering Management Review*, vol. 47(2), pp. 53-65.
3. M. Roy (2018), "Asia's Role in the Four Industrial Revolutions," *Education About Asia*, vol. 23, pp. 51-56, Association for Asian Studies.
4. A. Roy and M. Roy (2015), "Antecedents and Consequences of Impending Population Implosion in the Developed World: Implications for Business Systems," *International Journal of Sustainable Society*, vol. 7(2), pp. 151-172.
5. A. Roy and M. Roy (2010), "Managing and Leveraging Poverty: Implications for Teaching International Business," *Journal of Teaching in International Business*, vol. 21, pp. 4-26.
6. A Roy and M. Roy (2010), "Reengineering an Urban Slum: A Case Study of Dharavi, India", *International Journal of Sustainable Society*, vol. 2(4), pp. 420- 437.
7. M. Roy (1995), "Theoretical and Experimental Study of Buckling of Built-up Column," *ASCE Journal of Engineering Mechanics*, 1995, vol. 121(10), pp.1200-1208.
8. M. Roy (1995), "Buckling Loads for Built up Columns with Stay Plates," *ASCE Journal of Engineering Mechanics*, 1995, vol. 121(11), pp.1200-1208.

BOOK CHAPTERS:

1. M. Roy (2021) "Solar as a Sustainable Energy," in *Encyclopedia of Sustainable Management*, Samuel O. Idowu and René Schmidpeter, Eds. pp. S1-6
2. M. Roy (2019), "Burr Truss Bridge" in *Technical Innovation in American History: An Encyclopedia of Science and Technology*, R. Welch and P. A. Lamphier, Eds. ABC-CLIO, vol.1, pp. 91-92.
3. M. Roy (2019), "Internal Combustion Engine" in *Technical Innovation in American History: An Encyclopedia of Science and Technology*, R. Welch and P. A. Lamphier, Eds. ABC-CLIO, vol.1, pp. 119-121.
4. M. Roy (2019), "Suspension Bridge" in *Technical Innovation in American History: An Encyclopedia of Science and Technology*, R. Welch and P. A. Lamphier, Eds. ABC-CLIO, vol.1, pp. 155-157.

5. M. Roy (2019), "Wind Energy," in *Technical Innovation in American History: An Encyclopedia of Science and Technology*, R. Welch and P. A. Lamphier, Eds. ABC-CLIO, vol. 3, pp. 242-244.
6. M. Roy (2018), "Population Growth," in *The SAGE Encyclopedia of Business Ethics and Society*, R. W. Kolb, Ed. Sage, pp. 2681-2685.
7. M. Roy (2018), "Technology Assessment," in *The SAGE Encyclopedia of Business Ethics and Society*, R. W. Kolb, Ed. Sage, pp. 3371-3372.
8. M. Roy (2018), "Workplace Safety," in *The SAGE Encyclopedia of Business Ethics and Society*, R. W. Kolb, Ed. Sage, pp. 3687-3688.
9. M. Roy (2018), "Diversity in the Workplace," in *The SAGE Encyclopedia of Business Ethics and Society*, R. W. Kolb, Ed. Sage, pp. 941-945.
10. M. Roy (2018), "Lean Manufacturing: Principles, Tools and Practices," in *Handbook of Research on Applied Optimization Methodologies in Manufacturing Systems*, B. Christiansen, Ed. Hersey, PA: IGI Global, pp. 334-352.
11. M. Roy (2012), "Clean Air Act" in *Encyclopedia of Consumption and Waste: The Social Science of Garbage*, C. A. Zimring and W. L. Rathje, Eds., SAGE, pp. 123- 125.
12. M. Roy and J. Coleman (2011), "Environmental Indicators," in *Green Business: An A-to-Z Guide*, P. Robbins and N. Cohen, Eds. SAGE.

TEST BANK:

Roy, M. (2016). Prepared the Test Bank for the Textbook, "*Product Design and Development*, 6th edition" by Karl T. Ulrich and Steven D. Eppinger, McGraw-Hill, Irwin.

JOURNAL AND CONFERENCE REVIEWS:

- *ASEE Annual Conference and Exposition* (2020 - 2026)
- *IEEE Engineering Management Review Journal* (2019, 2020, 2021)
- *ASEM Annual Conference* (2023)
- *International Journal of Space Structure* (2020)
- *California Management Review Journal* (2018)

CONFERENCE PROCEEDINGS AND PRESENTATION:

1. "Peer Observation Practice to Enhance Inclusive Teaching: An Exploratory Approach to Evaluate Faculty Perceptions," *Proceedings of the Faculty Development Division for the 2023 ASEE Annual Conference*, with S Motaref and M. Chrysochoou (2023)
2. "Impact of Project Based Assignments on Students' Learning Experience in Inclusive Courses," *Proceedings of the Civil Engineering Division for the 2023 ASEE Annual Conference for the 2023 ASEE Annual Conference*, with S Motaref & M. Roy (2023)
3. "Pedagogical Approaches to Addressing Diversity, Equity, and Inclusion (DEI) in Construction Engineering & Management," Presented (Virtual) at the *2022 International Annual Conference by American Society of Engineering Management* (2022)
4. "Remote/Hybrid delivery of CE courses at UConn and the lessons learned," *Proceedings of the Civil Engineering Division for the 2022 ASEE Annual Conference*, with M. Roy (2022)
5. "Enhancing Student Engagement in Civil Engineering Courses during the Pandemic using Remote and Hybrid Modes," *Proceedings of the American Society of Engineering Education Northeast Division*, with S. Jang, S. Motaref, M. Roy (2021)

6. "The Growth of Interdisciplinarity in Engineering Education in the 21st Century," *Proceedings of the Technological and Engineering Literacy/Philosophy of Engineering (TELPhE) Division for the 2021 ASEE Annual Conference* (2021)
7. "Global Manufacturing Competitiveness and Environmental Performance Indices as Drivers of Competitiveness Ranking of Nations," *Proceedings of the American Society for Competitiveness Conference*, Washington DC., October 2019.
8. "The Role of Internet of Things (IoT) and Big Data as a Roadmap for a Smart Management System: Case Studies Across Industries," *Proceedings of the American Society for Engineering Education Annual Conference*, Utah, June 2018.
9. "Redeveloping an Urban Slum: A Case Study and Macro-marketing Implications," *Proceedings of the Macro-marketing Society*, Clemson, SC, June 2008 [with A. Roy].

CONFERENCES/WEBINAR/WORKSHOP ATTENDED:

- Intro to AI Prompt Engineering, August 2025, *Johns Hopkins University, MD*
- AI Synergy Summit, June 2025, *Johns Hopkins University Bloomberg Center, Washington, DC*
- *Eastec Conference and Exhibition*, Spring 2019, Springfield, MA
- *North American Bitcoin and Blockchain Conference and Exhibition*, Spring 2019, Miami, FL
- *7th Annual Women in Manufacturing SUMMIT*, Fall 2017, Hartford, CT.
- *Inside 3D Printing Conference and Expo.*, Spring, 2017, New York, NY.
- *President's series on Teaching Excellence* by Dr. Mitch Green, Spring 2017, Storrs, CT.
- *Manufacturing conference Mfg4* in Spring, 2016, Hartford, CT.
- *Entrepreneurship in Africa* Conference at Syracuse University, April 2010 Syracuse, NY.
- *Workshop, Political and Social Networks Conference and Workshop* at Harvard Kennedy School of Government in June 2009, Cambridge, MA.

SERVICE:

A. Professional Contribution:

Reviewer/ Panelist:

- Reviewed articles for *ASEE Annual Conference and Exposition* (2020-2026), *International Journal of Space Structure* (2020)
- Served as a panelist for the Civil Engineering Discipline of the NSF Graduate Research Fellowship Program in 2019
- Served as a panelist for the Mechanical and Operation Research Disciplines of the *NSF Graduate Research Fellowship Program* in 2018

Conference Presentations at the National Level:

- ASEE Annual Conference and Exposition in 2018, 2021, 2022, & 2023.
- ASEM International Annual Conference in 2023.

B. Institutional Contribution:

Committee Member:

- Teaching Observation Committee (2020-2023) [Chair: 2022-2023]
- Community of Practice (2020 – present)
- Undergraduate Curriculum and Course (C&C) (2019-2020)
- Structural Engineering and Applied Mechanics (STAM) (2019-present)
- Women in Math, Science & Engineering (WIMSE) (2015-present)

Reviewer/Judge:

- One of the Judges for Senior Design Projects for CEE department (2020-2021)
- One of the Judges for Senior Design Projects for MEM Program (2015 – 2022)

Advisor/Mentor:

- Dissertation Reviewer for Sachin Tripathi (PhD student in Civil Engineering, 2023)
- Advisor for Zhenping Ma (MS student in Civil Engineering, 2023)
- Guided Honors Conversion projects for 17 students from CEE Department and MEM Program (2015 - Present)
- Advised two teams for MEM Senior Design Projects, 2020-2021
- Provided mentorship interviews to several students in one-to-one and group settings (2016-present)

Speaker/Coordinator/Event Organizer:

- Speaker, “INCLUDE Project: How to Support Neurodiverse Students” in UConn School of Engineering Faculty Workshop” with co-speakers M. Roy, S. Jang, S. Motaref, and C. Syharat in Spring 2023.
- Guest Speaker “Developing a unified undergraduate engineering statistics course” in Spring 2021
- Commencement Marshal for MEM Program in 2018, 2022, and 2023 (selected by the students)
- Participated as one the Speakers in the Mentor Day activities in Spring 2021
- Presented in a Faculty Speaker series in Orientation to Engineering course in 2017
- Presented Sponsors for Senior Design Projects and introduced Program Director for MEM Annual Banquet in 2018
- Organized Manufacturing Day Events tours and accompanied students from Mechanical Engineering and MEM students to *JVS* in 2016, 2017
- Organized Demo Day event for MEM Program in 2018
- Organized MEM Program booth for Connecticut Invention Convention Event, 2017, 2018

Other Events:

- Participated in New Faculty appointment process in CEE Department (2020-2023)
- Prepared documents to support ABET accreditation.
- Attended Career Fairs, Department Seminars, Undergraduate Award Distribution events, and Open houses, etc.

C. Public and Community Service:

- UConn Community Events:
 - ◇ Opening Ceremony for the Black History Month, Spring 2021.
 - ◇ UConn NSBE Chapter Reception Celebrating the 50th Anniversary of the African American Cultural Center, Spring 2018.
 - ◇ Spring Gathering at the Nathan Hale Inn organized by the African American Faculty and Staff Association, The Asian American Faculty and Staff Association, The Association of Latina, Faculty, Staff and Graduate Student of Color Association.

HONORS/CERTIFICATE/GRANTS:

- Awarded mini grant of \$5,000 for “Experiential Learning for Civil Engineering Students Using a Small-Scale Structural Maquette” with S. Motaref and M. Roy in 2022-2023.
- Awarded mini grant of \$2,000 for *UNH-Integrated E-Learning Modules Mini-Grant*, University of New Haven (KEEN & Connecticut Innovations), University, Spring 2018.
- Guided two teams to win first & third prizes in 2018-2019, and three teams to win first, second, and third prizes in 2017-2018 for senior design annual competition.
- Received letter of recognition for Excellence in Teaching from office of the Provost at *University of Connecticut* in 2016.
- Runner up for “Modernizing Dharavi: If you build, will they come?” with A. Roy in *Oikos Case Writing Competition* in Corporate Sustainability Track in 2013.

PROFESSIONAL LICENSURE AND MEMBERSHIP:

- PE in Civil Engineering (Maryland)
- American Society for Engineering Education (ASEE)
- Society of Women Engineers (SWE)

PERSONAL: US Citizen