

# Vita

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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:**

2015 – present Assistant Professor-in-Residence, *University of Connecticut, Storrs, CT*  
Joint appointment in Civil and Environmental Engineering (CEE) Department and  
Management and Engineering for Manufacturing (MEM) Program since 2019.  
2014 - 2015 Instructor, *Wilkes University, Wilkes-Barre, PA*, Dept. of Mechanical Engineering  
2006 – 2010\* Instructor, *Penn State University, Scranton-Worthington, PA*, Mathematics Dept.  
Fall 2008 Lecturer, *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.

- Analysis, designs, and construction supervision of approach highway at Terminal 5 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.

#### **COURSES TAUGHT:**

- Applied Mechanics I (Flipped Format)
- Probability and Statistics for Civil and Env. Engr. (Hybrid Format)
- Introduction to Manufacturing Systems (Lecture and Lab)
- Introduction to Management and Engineering for Manufacturing Program
- Manufacturing Automation
- Senior Design I & II
- Orientation to Engineering
- Concrete Structures
- Integrated Product Development
- Quantitative Analysis for Business Managers
- Differential and Integral Calculus
- Statistical Analysis

#### **JOURNAL PUBLICATIONS:**

1. 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.
2. M. Roy (2018), "Asia's Role in the Four Industrial Revolutions," *Education About Asia*, vol. 23, pp. 51-56, Association for Asian Studies.
3. A. Roy, P. Paul, M. Roy, and K. Mukhopadhyay (2018), "Mapping Confucian Values in the Context of Ethical Dimensions: Implications for Contemporary Business Practices," *Business and Professional Ethics Journal*, vol 37(2), pp. 181-212.
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, forthcoming) “Energy-Solar,” in *Encyclopedia of Sustainable Management*, Samuel O. Idowu and René Schmidpeter, Eds.
2. M. Roy and A. Roy (2021, forthcoming) “Sustainable Supply Chain Management,” in *Encyclopedia of Sustainable Management*, Samuel O. Idowu and René Schmidpeter, Eds.
3. 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.
4. 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.
5. 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.
6. 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.
7. M. Roy (2018), “Population Growth,” in *The SAGE Encyclopedia of Business Ethics and Society*, R. W. Kolb, Ed. Sage, pp. 2681-2685.
8. M. Roy (2018), “Technology Assessment,” in *The SAGE Encyclopedia of Business Ethics and Society*, R. W. Kolb, Ed. Sage, pp. 3371-3372.
9. M. Roy (2018), “Workplace Safety,” in *The SAGE Encyclopedia of Business Ethics and Society*, R. W. Kolb, Ed. Sage, pp. 3687-3688.
10. M. Roy (2018), “Diversity in the Workplace,” in *The SAGE Encyclopedia of Business Ethics and Society*, R. W. Kolb, Ed. Sage, pp. 941-945.
11. 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.
12. M. Roy and A. Roy (2015) “Identity, Marketing,” in *The SAGE Encyclopedia of Economics and Society*, F. F. Wherry and J. B. Schor, Eds. Sage, pp. 901-904.
13. M. Roy and A. Roy (2015), “Quality of Life,” in *The SAGE Encyclopedia of Economics and Society*, F. F. Wherry and J. B. Schor, Eds. Sage, pp. 1363-1367.
14. 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.
15. M. Roy (2012), “Rittenhouse Mill” in *Encyclopedia of Consumption and Waste: The Social Science of Garbage*, C. A. Zimring and W. L. Rathje, Eds., SAGE, pp. 760-762.
16. M. Roy and J. Coleman (2011) , “Environmental Indicators,” in *Green Business: An A-to-Z Guide*, P. Robbins and N. Cohen, Eds. SAGE.

## **WORK IN PROGRESS:**

1. “The Rise of Interdisciplinarity in Engineering Education in the Era of Industry 4.0: Frameworks and Pedagogical Approaches”

2. “The Evolution of Social Entrepreneurship Initiatives by Women in India: A Longitudinal Assessment Across Sectors”

#### **TEST BANKS:**

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

#### **JOURNAL AND CONFERENCE ARTICLE PEER REVIEWS:**

1. Reviewed "Drilling in the Fourth Industrial Revolution – Vision and Challenges" for the *IEEE Engineering Management Review Journal* in 2019-2020.
2. Reviewed article "Piloting an Undergraduate Engineering Mentoring Program to Enhance Gender Diversity " for the *Engineering Management Division for the 2020 ASEE Annual Conference and Exposition* in 2019-2020.
3. Reviewed journal article “Data market strategy” for the *California Management Review* in 2018-2019.

#### **CONFERENCE PROCEEDINGS:**

1. “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.
2. “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 ASEE Annual Conference and Exposition*, Utah, June 2018.
3. “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/SEMINARS/ WORKSHOPS:**

- Attended *Eastec Conference and Exhibition* in Spring 2019, Springfield, MA
- Attended *North American Bitcoin and Blockchain Conference and Exhibition* in Spring 2019, Miami, FL
- Attended Teaching workshop *Theater Delta* in Spring 2019.
- Attended *7th Annual Women in Manufacturing SUMMIT* in Fall 2017, Hartford, CT.
- Attended *Faculty Teaching Workshop* on Helping STEM students to develop high level skills in Fall 2017, Storrs, CT.
- Attended *Inside 3D Printing Conference and Expo* in Spring, 2017, New York, NY.
- Attended *President’s series on Teaching Excellence* by Dr. Mitch Green in Spring 2017, Storrs, CT.
- Attended *Manufacturing conference Mfg4* in Spring, 2016, Hartford, CT.
- Attended *Entrepreneurship in Africa* Conference at Syracuse University, April 2010 Syracuse, NY.
- Attended *Workshop, Political and Social Networks Conference and Workshop* at Harvard Kennedy School of Government in June 2009, Cambridge, MA.

## **SERVICE:**

### **A. Professional Contribution:**

#### **Reviewer/ Judge:**

- Reviewed article "Drilling in the Fourth Industrial Revolution – Vision and Challenges" for the *Engineering Management Review Journal* in 2019-2020
- Reviewed article "Piloting an Undergraduate Engineering Mentoring Program to Enhance Gender Diversity " for the *Engineering Management Division for the 2020 ASEE Annual Conference and Exposition* in 2019-2020
- Reviewed journal article "Data Market Strategy" for the *California Management Review* in 2018-2019
- Served as a reviewer for the Mechanical and Operation Research panels of the *NSF Graduate Research Fellowship Program* in 2018
- Served as a reviewer for the Civil Engineering panels of the NSF Graduate Research Fellowship Program in 2019
- Served as a Judge for senior design projects for MEM Program, 2016-2020

#### **Conference Presentations:**

- Presented at American Society for Competitiveness Conference in Fall 2019
- ASEE Annual Conference and Exposition in June 2018

### **B. Institutional Contribution:**

#### **Committee member:**

- Undergraduate Curriculum and Course (C&C) 2019-2020
- Structural Engineering and Applied Mechanics (STAM) 2019-2020
- Women in Math, Science & Engineering (WIMSE) 2015-2020

#### **Speaker/Coordinator/Event Organizer:**

- Presented in a Faculty Speaker series in Orientation to Engineering course in 2017
- Presented Project Sponsors and introduced Program Co-Director for MEM Annual Banquet in 2018
- Coordinated students in Undergraduate Commencement Ceremony as a Commencement Marshall for MEM Program 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:**

- Prepared documents for my courses to support ABET accreditation.
- Attended faculty meetings for School of Engineering, Civil and Environmental Engineering Dept., MEM Program and APIRs, 2015-2020.
- Attended Career Fairs, Department Seminars, Undergraduate Award Distribution event, and Open houses for MEM Program, 2015-2020
- Accompanied students to *Mastercam* and *Dymotek* on Manufacturing Day Events in 2017, and ACM Workforce Fair Event in 2017

### **C. Public and Community Service:**

- Served as one of the Judges for 3D printing competition for *Access Independence* in 2017
- I have enjoyed attending the following events for UConn Community at large:
  - ◊ Engineers Week Celebration in Spring 2020
  - ◊ Annual Open Houses and Holiday Celebration from CETL 2018, 2019
  - ◊ Inauguration of University President Thomas Katseoulas in Fall 2019
  - ◊ UConn NSBE Chapter Reception Celebrating the 50th Anniversary of the African American Cultural Center in Spring 2018
  - ◊ Annual Faculty/Staff and Students Coffee house meeting in Fall 2017, and 2016
  - ◊ Farewell to Provost Mun Chio and Mei Wei in Spring 2017
  - ◊ WIMSE meetings and Annual Banquet 2015-2020
  - ◊ 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/o Faculty and Staff and Graduate Student of Color Association in Spring 2017
- Proctored exams & attended presentations for courses taught by a colleague from the MEM faculty.

### **HONORS:**

- Awarded *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.
- 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.

### **SOFTWARE SKILLS:**

*SolidWorks, STAAD, RAM, MATLAB, AUTOCAD, R, UCINET, SPSS*

### **CONTINUING EDUCATION COURSES (ONLINE):**

Deterioration of Concrete	Homebuilders Guide to Earthquake Resistant Design
Fundamental of Metals	Pavement Design for Roads, Streets, Walks, and Open Storage Area
Networked Life	Statistics: Making Sense of Data      Social and Economic Networks

### **PROFESSIONAL LICENSURE AND MEMBERSHIP:**

PE in Civil Engineering

American Society of Civil Engineers (ASCE);

Association of Engineering Education (ASEE)

Society of Manufacturing Engineers (SME)

Institute of Electrical and Electronics Engineers (IEEE)