

Nikhil Bugalia

Visiting Faculty, BTCM, Civil Engineering, IIT Madras

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EXPERIENCE

- Aug 2020 - present **Indian Institute of Technology Madras, India, Visiting Faculty**
Building Technology and Construction Management division, Department of Civil Engineering
- Apr 2020 – May 2020 **The University of Tokyo, Post-Doctoral research scholar**
Construction Management and Infrastructure Systems Laboratory, The University of Tokyo
- Jun 2019 – Mar 2020 **Asian Development Bank Institute, Tokyo, Research Associate**
Capacity Building and Training Department for Sanitation and High-Speed Railway
- Jul 2018 – Sep 2018 **Asian Development Bank Institute, Tokyo, Internship**
Capacity Building and Training Department for Sanitation and High-Speed Railway
- Feb 2015 – Mar 2015 **Indian Institute of Technology Kanpur, India, Project Associate**
Creating International Program for Sustainable Infrastructure Development
- Jun 2013- Jan 2015 **Fractal Analytics, India, Senior Business Analyst**
Data Harmonization. Awarded ‘Good Samaritan’
- May 2012 – Jul 2012 **Vakil Mehta Sheth Consulting Engineers, India, Internship**
Structural design of high-rise buildings
- Jun 2011 **Delhi Metro Rail Corporation Limited, India, Internship**

EDUCATION

- Apr 2017 – Mar 2020 **Ph.D., Civil Engineering, The University of Tokyo, Japan. GPA: 4.0/4.0**
Title : Challenges and Improvement for Safety Management Practices at the Organizational and Institutional levels in Japanese High-Speed Railways, Advisor : Dr. Kazumasa Ozawa

Global Leader Program for Social Design and Management

- Apr 2015 – Mar 2017 **Masters, Civil Engineering, The University of Tokyo, Japan. GPA: 3.8/4.0**
Title: Time-Dependent shear capacity of RC beams under statistically sustained loading, Advisor : Dr. Koichi Maekawa

- Jul 2009 – May 2013 **B.Tech, Civil Engineering, Indian Institute of Technology Kanpur, India. GPA: 9.0/10**

LIST OF PUBLICATIONS

Journals (Published)

- Bugalia, N., Maemura, Y., and Ozawa, K., “Organizational and institutional factors affecting High-Speed Rail safety in Japan,” [Safety Science](#), vol. 128, 104762, 2020.
- Bugalia, N.**, Maemura, Y., and Ozawa, K., “Demand risk management of private High-Speed Rail operators: A review of experiences in Japan and Taiwan,” [Transport Policy](#), 2019. Available Online.
- Bugalia, N.**, and Maekawa, K., “Time-Dependent Capacity of Large Scale Deep Beams under Sustained Loads,” [Journal of Advanced Concrete Technology](#), vol. 15, 2017, pp. 314-327.

Book Chapters

- Bugalia, N.**, Maemura, Y., and Ozawa, K., “Top Management Decisions and Safety Culture,” in Handbook on High-Speed Rail and Quality of Life. Asian Development Bank Institute, Mar 2020.
- Kumamoto, Y., and **Bugalia, N.**, “Safety and Reliability,” in Handbook on High-Speed Rail and Quality of Life. Asian Development Bank Institute, Mar 2020.

3. Mukoyama, M., and **Bugalia, N.**, “Salient features of Human Resources Development,” in Handbook on High-Speed Rail and Quality of Life. Asian Development Bank Institute, Mar 2020.

Conference Papers (Published/ Accepted)

1. Kedia, J., Tarani, V., **Bugalia, N.**, and Mahalingam, A. “Classification of safety observation reports from a construction site: An evaluation of text mining approaches”, The 6th PMI Research and Academic Virtual Conference 2021.
2. **Bugalia, N.**, Maemura, Y., and Ozawa, K., “Safety Improvement Strategies for Future Railway Systems,” International Railway Safety Conference, 2020 (presented on 21st October 2020).
3. **Bugalia, N.**, Maemura, Y., and Ozawa, K., “Interorganizational coordination and Safety: Operator-Manufacturer relationships in the High-Speed Railway industry,” Local Proceedings of 20th International Conference on Group Decision and Negotiation, 2020
4. **Bugalia, N.**, Maemura, Y., and Ozawa, K., “Towards Proactive Safety Management of Shinkansen,” Proceedings of 12th International Symposium of SSMS 2019, 3725, Tokyo, Sep. 17-18, 2019.
5. **Bugalia, N.**, Maemura, Y., and Ozawa, K., “Demand risk management of Private High-Speed Rail operators: A review of experiences in Japan and Taiwan,” World Conference on Transport Research, Mumbai, May 26-31, 2019. (Recommended to and published in Transport Policy thereafter)
6. **Bugalia, N.**, Maemura, Y., and Ozawa, K., “Safety Culture in High-Speed Railways and the Importance of Top Management Decisions,” Conference on Spillover Effects of High-Speed Rail and Quality of Life, ADBI, Tokyo, November 14-15, 2018. (Published as the Book-Chapter thereafter)

Policy Briefs

1. Oo, P., **Bugalia, N.**, Seetharam, K.E., Ikeda, T., Koike, T., “Frontiers of Water-Related Disaster Management and the Way Forward,” [Policy Brief](#), Asian Development Bank Institute, August 2020.
2. **Bugalia N.**, Yamamoto S., Kim C.J., and Seetharam, K.E., “Revisiting the Public-Private Partnership for rapid progress on Sanitation SDGs,” [Policy Brief](#), Asian Development Bank Institute, May 2020.
3. Seetharam, K.E., Hashimoto, K., and **Bugalia, N.**, “Institutional Mechanisms for Sustainable Sanitation: Learning from Successful Case Studies,” [Policy Brief](#), Asian Development Bank Institute, 2018.

Journals (Under-Review/ Planned)

1. **Bugalia, N.**, Maemura, Y., and Ozawa, K., “A System Dynamic model for reporting behavior in an organization,” Safety Science. (Under Review)
2. **Bugalia, N.**, Maemura, Y., and Ozawa, K., “Complexities of inter-organizational coordination and Safety: Operator-Manufacturer relationships in the High-Speed Railway industry”, Reliability Engineering and System Safety (Under Review)
3. **Bugalia, N.**, Maemura, Y., and Ozawa, K., “A generalized approach for leading indicator operationalization for complex socio-technical systems,” Target Journal: Safety Science. (Manuscript in Preparation)
4. **Bugalia, N.**, Maemura, Y., and Ozawa, K., “Rethinking the Safety Management Principles of the Future Railway” Target Journal: Safety Science. (Manuscript in Preparation)

Short Research Blogs

1. **Bugalia, N.**, Seetharam K.E, “Thinking beyond the suitability of high-speed railway in India,” Asia Pathways, Oct. 2019.
2. **Bugalia, N.**, Seetharam K.E, “Delivering safety for high-speed rail,” Asia Pathways, Aug. 2019.
3. **Bugalia, N.**, Seetharam K.E, “High-Speed Rail: necessary but not sufficient for socio-economic development,” Asia Pathways, Feb. 2019.

4. **Bugalia, N.,** Kelkar, V., Seetharam K.E., “No matter how poor you are, there is always a way to improve sanitation,” Asia Pathways, Nov. 2018.
5. **Bugalia, N.,** ““Theory of change” as a solution to the global sanitation crisis,” Asia Pathways, Oct. 2018.
6. **Bugalia, N.,** “Composite Water Management Index: A pathway to solve the water crisis in India,” Asia Pathways, Aug. 2018.
7. **Bugalia, N.,** ““Commitment” as a success factor for fecal sludge management,” Asia Pathways, Aug. 2018.

TEACHING EXPERIENCE

- Jul 2020 **Construction Quality and Safety Management (CE5130)**, Co-instructor, IIT Madras, India
- 2020, 2019 **Executive Program**, Teaching Assistant, National Graduate Institute for Policy Studies, Japan
Financing Infrastructure Projects, for about 25 professionals
- 2019, 2018 **Construction and Project Management**, Guest Lecturer, Saitama University, Japan
- Apr 2018 **Case Study of International Projects**, Teaching assistant, The University of Tokyo, Japan
- 2015, 2016 **Materials Laboratory**, Teaching Assistant, The University of Tokyo, Japan

STUDENT GUIDANCE

Co-Guide, Ongoing - PhD Student (1), M.Tech (1), B.Tech + M.Tech (1), B.Tech (2)

INVITED LECTURES AND EXTERNAL ENGAGEMENT

- Oct 2020 VAINHAV Summit, Strategies for sustainable road infrastructure – interventions through new materials and monitoring technique, [Panelist](#)
- Oct 2020 **Sustainable Sanitation in India**, Invited Webinar at Mahatma Gandhi Institute for Combating Climate Change
- Oct 2020 **Recycling of Building Materials**, Invited Webinar at Mahatma Gandhi Institute for Combating Climate Change
- Sep 2020 **Complexity, Safety and Leadership**, Diamond Jubilee Seminar, Consulting Engineer Association of India
- May 2020 Featured in, SAFETY ON HIGH-SPEED RAIL: PREVENTING DISASTER AT HUNDREDS OF MILES PER HOUR, by Adele Berti, [Future Rail](#)
- Aug 2019 Magazine Article featured in Best Stories. Title: High-Speed Rail: A sea of opportunities for Indian Industry. Publisher: [Traffic infra Tech](#).

PROFESSIONAL AFFILIATIONS

- **Session Co-Chair**, Graduate School Colloquium, ADBI-Chubu University Virtual Conference on HSR, 12-16 October 2020
- **Reviewer**, 2020 conference of the System Dynamics Society. Reviewed 7 submissions
- **Reviewer**, 2020, Engineering Project Organization Journal
- **Secretary, Special interest group**, titled “High-Speed Rail: Policy, Investments, and Impacts” for World Conference on Transport Research Society, since June 2019

POSITIONS OF RESPONSIBILITY

Conferences Organized

- ADBI-ICHARM Policy Dialogue on Water-Related Disaster Resilience Under Climate Change, 27-28 January 2020, Tokyo, Japan

- Distinguished Seminar Series, 12 September 2019, Tokyo, Japan
- Business Leaders' Policy Dialogue on Accelerating Sanitation for All, 30 August 2019, Tokyo, Japan
- Development Partner Roundtable and Policy Dialogue on Sustainable Sanitation in Asia, 20-22 September 2018, Tokyo, Japan

Organizer, ADBI Special sessions on High-Speed Rail in WCTR, Mumbai Dec 2018 - May 2019

- Worked in a team of 5 members to plan and execute 5 special sessions gathering more than 100 international experts, academics, and senior government officials

Lead Executive, Pan IIT, India-Japan Convention 2017, Tokyo (200 participants) December 2017

President, International Student Association for Civil engineers, UTokyo Aug 2015 - Jul 2016

- Led a team of 5 members to plan and execute yearlong activities for about 100 international students, including a field trip, and the annual symposium; edited the annual magazine

HONORS AND AWARDS

- Two times recipient of the prestigious *MEXT scholarship* from Japanese Government
- Received **Good Samaritan – team player award**, 2014, Fractal Analytics
- Awarded **Academic Excellence Award** from Director IIT-Kanpur for year 2011-12

RELEVANT SKILLS AND EXPERTISE

Simulations: System Dynamics (Vensim)

Methods: STAMP, Un (Semi)- structured interviews, Safety behavior, Organizational psychology and Regulatory factors in safety

PROFESSIONAL TRAININGS

Global Leader Program for Social Design and Management Apr 2017 - Mar 2020

- Developed the problem-forming and problem solving ability for real-world complex challenges by leveraging specialized and broad-spectrum knowledge from a global perspective

The role of Public Policy in Infrastructure Development Program, ADBI and Leadership Academy for Development, Stanford University, 23-28 June 2019, Tokyo.

High-Speed Railway Summer Seminar for International Students, GRIPS, Tokyo, 5-7 September, 2016

REFERENCES

Dr. Kazumasa Ozawa, Professor
Department of Civil Engineering, The University of Tokyo
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Dr. Koichi Maekawa, Professor
Faculty of Urban Innovation, Division of Urban Innovation, Yokohama National University
Email: maekawa-koichi-tn@ynu.ac.jp

Dr. K E Seetharam, Visiting Professor
Center for Spatial Information Science & Institute of Industrial Science, The University of Tokyo
Email: kseetharam@csis.u-tokyo.ac.jp

Dr. Sudhir Misra, Professor
Department of Civil Engineering, Indian Institute of Technology, Kanpur
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Dr. Yu Maemura, Lecturer
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