

Curriculum Vitae of Dr.-Ing. Mrinali Rochlani:

1) General Information

Dr. -Ing. Mrinali Rochlani

✉ Transportation Engineering Division
Department of Civil Engineering,
Indian Institute of Technology Madras (IITM)
600036 Chennai

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Visiting Assistant Professor in Design and Mechanical Characterization of Pavement Materials

Research field: Rheology, Recycled Pavement Materials, Innovative Pavement Materials

2) Education and Training

- 2022 – 2019 Pavement Engineering, Civil Engineering, TU Dresden, Germany
Dr.-Ing., Supervisor: Prof. Frohmüt Wellner (Grade Summa Cum Laude)
- 2018 – 2016 Advanced Computational Civil Engineering and Structural Studies
(ACCESS) TU Dresden, Germany
Master of Science (MSc.), Supervisor: Prof. Michael Kaliske, Prof.
Frohmüt Wellner (Grade 1.3)
- 2010 – 2014 Civil Engineering, Bharati Vidhapeeth University, India
Bachelor of Technology, Supervisor: Prof. Milind Gidde (Grade 88.8%)

3) Work Experience

- 2023 – Present Visiting Assistant Professor in Design and Mechanical Characterization
of Pavement Materials, Transportation Engineering, Indian Institute of
Engineering Madras, India
- 2020 – 2022 International Product Specialist for Civil Engineering Applications, Anton
Paar GmbH, Ostfildern, Germany
- 2020 Visiting Scientist, Pontificia Universidad Católica de Chile, Santiago -
Chile
- 2018 – 2020 Scientific Research and Teaching Staff, Institute of Urban Planning and
Pavement Engineering, TU Dresden, Germany
- 2016-2018 Hiwi (Student Research and Teaching Assistant) at Institute of Geotech-
nics, Institute of Building Materials and Institute of Urban Planning and
Pavement Engineering, TU Dresden, Germany
- 2014 – 2016 Junior Civil Engineering, Paradise Group, Mumbai, India

4) Memberships

- 2020 – Present Member of Young Asphalt Crew (YAC)
- 2019 – 2020 Member of the Academy of Pavement Science and Engineering (APSE)

5) Honors and Awards

- 2020 Erasmus Research Scholarship awarded for three months stay in Chile
- 2019-2020 Stipendium for Early Career Female Scientists at TU Dresden
- 2018 Best Master's Thesis Industry Award by Kemna Bau GmbH
- 2015 Jawaharlal Nehru Award for Exceptional Academic Performance
- 2014 Gold Medalist Award for Bachelor of Technology

6) Projects

As Participant

- 2018 – 2021 German Research Foundation (DFG), FOR2089, Durable Pavements for the Traffic of the Future "Coupled System: Road-Tire-Vehicle", TP2: OE 514/1-1 and OE 514/1-2

7) Publications

a) Books:

- 2023 Co-author of Book 'Bitumen Rheology' with Thomas G. Mezger
- 2021 Chapter in book 'Coupled System Pavement - Tire - Vehicle: A Holistic Computational Approach. Lecture Notes in Applied and Computational Mechanics', Kaliske, M., Oeser, M., Eckstein, L., Leischner, S., Ressel, W., Wellner, F.: Vol. 96, Springer, Berlin, 2021.
Chapter Title: Experimental Methods for the Mechanical Characterization of Asphalt Concrete at Different Length Scales: Bitumen, Mastic, Mortar and Asphalt Mixture.
- 2020 Chapter in Book 'Functional Pavements (1st ed.)', Chen, X., Yang, J., Oeser, M., & Wang, H. (Eds.). (2020). Functional Pavements CRC Press. <https://doi.org/10.1201/9781003156222>.
Chapter Title: Influence of the source on bitumen performance using a DSR

b) Journal Papers:

- 2023 R. Sorge, M. Rochlani, S. Riedl, Influence of Multiple Modifications on the Fatigue Behavior of Bitumen and Asphalt Mixtures, J. Eng. Mater. Technol. 146 (2023). <https://doi.org/10.1115/1.4063801>.
- 2023 F. Pan, Z. Fan, M. Rochlani, G.C. Falla, S. Leischner, M. Oeser, H. Yu, P. Liu, Evaluation of Adhesive Properties of Different Mineral Compositions in Asphalt Mixtures with Experimental and Molecular Dynamics Analyses, Buildings. 13 (2023).
<https://doi.org/10.3390/buildings13051207>.
- 2022 Y.S. Kim, J. Büchner, M.P. Wistuba, J.R. Agudo, M. Rochlani, M. Schäfler, Asphalt Binder Testing at Low Temperature: Three-Point Bending Beam Test in Dynamic Shear Rheometer, Front. Mater. 9 (2022).
<https://www.frontiersin.org/articles/10.3389/fmats.2022.831443>.
- 2021 M. Fernández, G. Canon, S. Leischner, M. Rochlani, J. Norambuena-Contreras, A. González, Effects of Microwave Heating and Long-Term Aging on the Rheological and Chemical Properties of Recovered Bitumen, Materials (Basel). 14 (2021).
<https://doi.org/10.3390/ma14247787>.
- 2021 Z. Zhang, P. Liu, M. Rochlani, G.C. Falla, S. Leischner, M. Oeser, A fuzzy comprehensive evaluation method to select the optimal mineral filler for optimization of the performance of asphalt mastics, Constr. Build. Mater. 298 (2021) 123847.
<https://doi.org/10.1016/j.conbuildmat.2021.123847>.
- 2021 M. Rochlani, G. Canon Falla, S. Caro, S. Leischner, F. Wellner, Understanding the influence of temperature and frequency on the fatigue resistance of bitumen, Constr. Build. Mater. 296 (2021) 123754.
<https://doi.org/10.1016/j.conbuildmat.2021.123754>.
- 2021 M. Rochlani, G.C. Falla, S. Leischner, F. Wellner, Towards a unified performance based characterisation of bitumen and mastic using the DSR, Road Mater. Pavement Des. (2021) 1–18.
<https://doi.org/10.1080/14680629.2021.1906736>.

- 2020 M. Rochlani, G. Canon Falla, F. Wellner, D. Wang, Z. Fan, S. Leischner, Feasibility study of waste ceramic powder as a filler alternative for asphalt mastics using the DSR, *Road Mater. Pavement Des.* (2020). <https://doi.org/10.1080/14680629.2020.1778508>.
- 2020 M. Rochlani, S. Leischner, D. Wareham, S. Caro, G.C. Falla, F. Wellner, Investigating the performance-related properties of crumb rubber modified bitumen using rheology-based tests, *Int. J. Pavement Eng.* (2020). <https://doi.org/10.1080/10298436.2020.1776868>.
- 2019 M. Rochlani, S. Leischner, G.C. Falla, D. Wang, S. Caro, F. Wellner, Influence of filler properties on the rheological, cryogenic, fatigue and rutting performance of mastics, *Constr. Build. Mater.* 227 (2019). <https://doi.org/10.1016/j.conbuildmat.2019.116974>.
- 2019 S. Leischner, G. Canon Falla, B. Gerowski, M. Rochlani, F. Wellner, Mechanical Testing and Modeling of Interlayer Bonding in HMA Pavements, 2019. <https://doi.org/10.1177/0361198119843254>.
- 2015 M. Rochlani, M. Gidde, Why the Improvement of the RBT System is a Better Solution than Building Flyovers for the Traffic Problems of the City of Pune, India, *Res. J. Eng. Technol.* (2015). <https://doi.org/10.5958/2321-581x.2015.00048.3>.

c) Conference Proceedings & Posters:

- 2021 Presentation and Published in Proceedings: M. Rochlani, G.C. Falla, S. Leischner, F. Wellner, Towards a unified performance based characterisation of bitumen and mastic using the DSR. 9th European Asphalt Technology Association Conference - EATA 2021, June 2021
- 2021 Presentation and Published in Proceedings: M. Rochlani, S. Leischner, G. C. Falla, D. Saliko, F. Wellner, The study of the effects of ageing and fillers on bitumen and mastic properties. Eurasphalt & Eurobitume Congress 2020 (E&E) June 2021.
- 2020 Presentation and Published in Proceedings: M. Rochlani, S. Leischner, G. C. Falla, F. Wellner, Influence of Source and Ageing on the Rheological Properties and Fatigue and Rutting Resistance of Bitumen Using a DSR. 9th International Conference on Maintenance and Rehabilitation of Pavements—Mairepav9, June 2020
- 2020 Poster Presentation: M. Rochlani, S. Leischner, D. Wareham, G. C. Falla, F. Wellner, Investigating the rheology and performance related properties of Crumb Rubber modified Bitumen using the DSR. TRB 2020 (Transport Research Board), January 2020
- 2019 Presentation and Published in Proceedings: M. Rochlani, S. Leischner, G. C. Falla, F. Wellner, Ergebnisse von DSR-Versuchen als Grundlage für die Prognose von Asphalteigenschaften. 6. Dresdner Asphalttag Conference Proceedings, December 2019.
- 2019 Presentation: At the DFG International Summer School - Future Challenges in Pavement Design and Tire-road Interaction (Steinfeld, Eifel, Deutschland) 30. September-02. October 2019
- 2019 Presentation and Poster: At the 8th International Transportation Ph.D. Student Symposium on Pavement Engineering and Infrastructure Materials Technology in Aachen, Germany (Hosted by RWTH Aachen), September 2019.