Simone Mora (he/him) | green card holder

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Research Scientist, Senseable City Lab, Department of Urban Studies and Planning, MIT
Adjunct Associate Professor, Dept. of Computer Science, Norwegian University of Science and Technology

I'm a PI of projects in the field of pervasive computing and urban sensing – with focus on the development of scalable methods to capture hyperlocal variations in environmental indicators, such as air quality, noise, and thermal flux of the built environment. I have 15+ years' experience in sketching with code and electronics to prototype sensors and user interfaces. I'm familiar with hardware manufacturing processes.

Projects I have led have been published in Nature Sustainability, Nature Cities, Nature Humanities Social Sciences Communications, IEEE Sensors Journal, IEEE IoT Journal. They have been exhibited at the 2023 Venice Biennale of Architecture and MIT museum; and have been featured by media outlets including Fast Company, the World Economic Forum. I'm a co-inventor of an ideation toolkit to tackle the UN's Sustainable Development Goals https://tilestoolkit.io.

**Professional Experience**

Massachusetts Institute of Technology (2020-now)
*Research Scientist*
*City Scanner Research Initiative, lead*

PI of projects in the field of urban sensing involving collaborations with research institutes and companies in the US, Netherlands, Germany, Spain, Italy, UAE, Japan.
Leading the sensing research team at Senseable City Lab, including postdocs, research fellows, research assistants, visiting PhD.
Instructor of DUSP course 11.320 "Digital City Workshop" (2025, 2020).
Responsible for presenting research in novel sensing technologies to the lab's sponsors and collaborators.
Responsible for the lab's IT infrastructure.

Norwegian University of Science and Technology (2022-now)
*Adjunct Associate Professor*

Lecturer and seminar organizers on topics urban science, ubiquitous computing and HCI
Advisor for PhD and MSc students

**Education and Training**

| *Institution and Location* | *Degree* | *Completion* | *Field of Study* |
|---|---|---|---|
| Massachusetts Institute of Technology | Postdoc | 06/2020 | Computer Science, Urban studies |
| Norwegian University of Science and Technology | Postdoc | 05/2018 | Computer Science, Human-Computer Interaction |
| Norwegian University of Science and Technology<br>- Visiting student at MIT<br>- Visiting student at City London University (UK) | PhD | 06/2015 | Computer Science, Sensing technologies |
| University of Bergamo, Italy | MSc | 12/2009 | Computer Engineering |
| University of Bergamo, Italy | BSc | 03/2006 | Industrial Engineering |

**Projects lead at MIT** (selection)

*Octopus*, an open-source, low-cost platform for makers to develop personal sensing projects https://senseable.mit.edu/octopus/

*Flatburn*, empowering communities to monitor their environments with 3D-printed low-cost sensors Exhibited at 2023 Venice Biennale and MIT museum. https://senseable.mit.edu/flatburn/

*City Scanner*, turning city fleets vehicles into environmental sensing. Honorable mention at the Fast Company Innovation by Design Award. IEEE IoT Best Paper Award. https://senseable.mit.edu/city-scanner/

*Breathing Disparities*, revealing demographic disparities in exposure levels using pervasive sensors and big mobility data. Nature Cities publication. https://senseable.mit.edu/breathing-disparity/

**Selected Publications** (full list at https://scholar.google.com/citations?hl=en&user=FcRSf0IAAAAJ)

Tools and methods for monitoring the health of the urban greenery. Akshit Gupta, Simone Mora, Yakir Preisler, Fàbio Duarte, Venkatesha Prasad, Carlo Ratti. *Nature Sustainability*. 2024.

Big mobility data reveals hyperlocal air pollution exposure disparities in the Bronx, New York. Iacopo Testi, An Wang, Sanjana Paul, Simone Mora, Erica Walker, Marguerite Nyhan, Fábio Duarte, Paolo Santi, Carlo Ratti. *Nature Cities*. 2024

Mapping sidewalk accessibility with smartphone imagery and Visual AI: a participatory approach. Diego Morra, Xiaosheng Zhu, Chang Liu, Kyle Fu, Fábio Duarte, Simone Mora, Zhengbing He, Carlo Ratti. *Philosophical Transactions A*. 2024.

GreenScan: Towards large-scale terrestrial monitoring the health of urban trees using mobile sensing. Akshit Gupta, Simone Mora, Fan Zhang, Martine Rutten, R Venkatesha Prasad, Carlo Ratti. *IEEE Sensors*. 2024.

Hyperlocal environmental data with a mobile platform in urban environments. An Wang, Simone Mora, Yuki Machida, Priyanka deSouza, Sanjana Paul, Oluwatobi Oyinlola, Fábio Duarte, Carlo Ratti. *Nature Scientific Data*. 2023.

Air Quality Monitoring in Coal-Centric Cities: A Hybrid Approach. Simone Mora, Priyanka deSouza, Fábio Duarte, An Wang, Sanjana Paul, Antonio Berrones, Carlo Ratti. *MDPI Sustainability*. 2023.

Leveraging machine learning algorithms to advance low-cost air sensor calibration in stationary and mobile settings. An Wang, Yuki Machida, Priyanka deSouza, Simone Mora, Tiffany Duhl, Neelakshi Hudda, John L Durant, Fábio Duarte, Carlo Ratti. *Atmospheric Environment*. 2023.

Evaluating the Meteorological Effects on the Urban Form–Air Quality Relationship Using Mobile Monitoring. Ye Tian, An Wang, Simone Mora, Priyanka deSouza, Xiaobai Yao, Fábio Duarte, Hui Lin, Carlo Ratti. *Environmental Science & Technology*. 2022.

Key themes, trends, and drivers of mobile ambient air quality monitoring: a systematic review and meta-analysis. An Wang, Sanjana Paul, Priyanka Desouza, Yuki Machida, Simone Mora, Fábio Duarte, Carlo Ratti. *Environmental Science & Technology. 2021*

Towards large-scale drive-by sensing with Multi-Purpose City scanner nodes. Simone Mora, Amin Anjomshoaa, Tom Benson, Fábio Duarte, Carlo Ratti. *IEEE World Forum on Internet of Things. Best Paper Award*. 2019.