

Mateusz Bogdan

Ph.D, Normalien

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French
41 years



Work Experience

- Since 2016 **Reasearch Engineer, Project Manager, Team Leader, AREP - L'hypercube**, Paris, France, Leading a team dedicated to urban microclimate, thermal comfort and air quality studies
- Since 2018 **Lecturer, ENS Paris Saclay, ENSAM Paris, INSA Strasbourg**, France
Urban scale climatic studies, Life Cycle Analysis, Numerical Tools for energy analysis (Python)
- 2012 – 2015 **Ph.D., LMT Cachan - ENS Cachan - AREVA NC**, Cachan, France, Morphological multiscale modeling of cementitious materials – Numerical Homogenization of effective diffusive properties
Under the supervision of L. Stefan and Profs. J.-B. Colliat and F. Benboudjema
- 2009 – 2014 **Lecturer and tutoring, ENS Cachan, ESTP, CNAM, USTH universities**, France & Vietnam
Applied acoustics, Cementitious Materials, Material Strength, Master's internships supervision
- 2011 **Master's Internship, LMT Cachan**, France, Morphological modeling of cement based materials – Application to hydration modeling
Supervised by Prof. J.-B. Colliat
- 2010 **Interpreter - Translator, SAFRAN - Hispano-Suiza**, Colombes, France, French-Polish technical translations (CFM-56 mechanical machining workshop)
- 2009 – 2010 **Scientific Advisor, Vietnam Green Building Council**, Hanoï, Vietnam
- 2008 **Bachelor's Internship, University of California - EERC**, Berkeley, U.S.A, Numerical and experimental assessment of a seismic test slab natural frequencies
Supervised by Prof. B. Stojadinović

Education

- 2012 – 2015 **Ph.D., LMT Cachan – ENS Cachan**, France, Morphological multiscale modeling of cementitious materials – Numerical Homogenization of effective diffusive properties
Under the supervision of Profs. J.-B. Colliat and F. Benboudjema
- 2010 – 2011 **Master's degree M.S., ENS Cachan**, France, Civil and Environmental Engineering – Research oriented
Specialized in Materials, Structure Modeling and Computations
- 2006 – 2008 **Bachelor's degree B.S. & “Agrégation”, ENS Cachan**, France, Civil and Environmental Engineering
Specialized in Materials, Structure Modeling and Computations

Selected Publications

Selected Articles

- 2025 **Indoor Environments**, Vol. 2, Comparison of two methods for evaluating the performance of particle filtration systems in underground railway stations
V. Rakotonirinjanahary, S. Crumeyrolle, M. Bogdan, B. Hanoune
- 2025 **Environments**, Vol. 12, Rapid 1D Design Method for Energy-Efficient Air Filtration Systems in Railway Stations
P.-E. Prétot, C. Schulz, D. Chalet, J. Migaud, M. Bogdan

- 2024 **Indoor Environments**, Vol. 1, A novel method for establishing typical daily profile of PM concentrations in underground railway stations
V. Rakotonirinjanahary, S. Crumeyrolle, M. Bogdan, B. Hanoune
- 2020 **Techniques de l'Ingénieur**, C-8131, Calcul des pressions en façade pour la ventilation naturelle dans les espaces semi-ouverts
E. Walther, A. Hubert, A. Sauvageon, M. Bogdan
- 2017 **Science of The Total Environment**, Vol. 607-608, Modelling of airborne particulate matter concentration in underground stations using a two size-class conservation model
E. Walther, M. Bogdan
- 2017 **Transportation Research Part D**, Vol. 56, A novel approach for the modelling of air quality dynamics in underground railway stations
E. Walther, M. Bogdan
- 2015 **European Journal of Environmental and Civil Engineering**, Vol. 19, Cement Paste Morphologies and effective diffusivity Using the Lattice Boltzmann Method
E. Walther, M. Bogdan, C. Desa, R. Bennacer
- Recent Conferences**
- 2025 **ICUC12**, Rotterdam, The Netherlands, Approach to Urban Heat Mitigation Through Bio ANalogous Climate Shelters, T. Gresse, D. David, F. Lefevre, M. Galtier, M. Bogdan, M. Salles, M. Picazo Guerrero, Y. Sun, E. Morlé, K. Lapray
- 2024 **IBPSA France**, La Rochelle - Oléron, France, La distribution de Weibull, un outil utile ou dépassé ? Application au confort au vent, M. Bogdan, E. Walther, A. Hubert
- 2024 **Indoor Air**, Honolulu - Hawaï, USA, A novel method for establishing typical profile of PM concentrations in underground railway stations, Rakotonirinjanahary, S. Crumeyrolle, M. Bogdan, B. Hanoune
- 2022 **IBPSA France**, Châlons-en-Champagne, France, Calcul des facteurs de forme entre polygones - Application à la thermique urbaine et aux études de confort, M. Bogdan, E. Walther, M. Alecian, M. Chapon
- 2021 **17th IBPSA international conference**, Bruges, Belgium, Spatial distribution of thermal comfort: A case study in Paris' station, E. Walther, M. Bogdan, F. Davys-Peyren C. Inard
- 2019 **16th IBPSA international conference**, Rome, Italy, Improving the prediction of natural ventilation by coupling CFD and BES: A case study in Strasbourg train station, E. Walther, A. Hubert, A. Sauvageon, M. Bogdan

Skills

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| Languages | French & Polish: First languages, English: Fluent |
| Programming | Python, Bash, Web (HTML-CSS, some PHP, some Javascript), some C/C++, some Fortran |
| Software | OpenFOAM, ParaView, EnergyPlus, Radiance, Matlab/Scilab, Blender, QGIS, Linux environments |
| Editon | Microsoft/Open Office, Adobe Illustrator/Photoshop, Gimp, L ^A T _E X, Web (Wordpress, HUGO framework) |

Miscellaneous

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| 2006 – 2007 | Student Union Office , ENS Cachan
Co-Manager of the “K-fet” (recreational area - yearly budget 250k€) |
| 2011 – 2012 | “Le Parasol” association , LMT Cachan
Co-Manager of the laboratory coffee room and recreational area (yearly budget 15k€) |
| 2013 | AUGC’13 Conference , ENS Cachan
Organizing committee, Website development contribution |
| Sport | Roller Hockey, Cycling |