

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

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 **Defect and Diffusion Forum**, Vol. 362, Effective Permeability and Transfer Properties in Fractured Porous Media
G. Rastiello, R. Bennacer, G. Nahas, 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**
- 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 |