

# Mateusz Bogdan

Ph.D, Normalien

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French  
40 years



## Work Experience

- Since 2016 **Research Engineer and Project Manager**, AREP - L'hypercube, Paris, France, Project manager for urban climate and air quality studies, research engineer
- 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, Hanoi, 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

- 2024 **Indoor Environments, Vol. 1, A novel method for establishing typical daily profile of PM concentrations in underground railway stations**  
V. Rakotonirinjahanahary, 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 - Hawaiï, USA, **A novel method for establishing typical profile of PM concentrations in underground railway stations**, Rakotonirinanahary, 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
- 2022 **CSEE'22 - 7th World Congress on Civil, Structural, and Environmental Engineering**, Lisbon, Portugal, **Fast Method to Design Air Filtration Solution at Low Energy Cost in Subterranean Train Stations**, P.-E. Pretot, C. Schulz, D. Chalet, J. Migaud, M. Bogdan
- 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
- 2017 **Air Pollution 2017**, Cadiz, Spain, **A Novel Approach For The Modelling Of Air Quality Dynamics In Underground Railway Stations**, E. Walther, 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 <sup>A</sup> T <sub>E</sub> X, Web (Wordpress, HUGO framework) |

## Miscellaneous

- 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