Section 4: CV of the experienced researcher

Jérémy Bernard

French Open Archive:
https://cv.archives-ouvertes.fr/jeremy-bernard
GitHub: https://github.com/j3r3m1
GitLab: https://gitlab.com/J3r3m1
ORCID: https://orcid.org/0000-0001-7374-5722

Born: 1989-06-06 in Bourg-en-Bresse (France)
Phone: +33 (0)6 61 67 31 13

email: jeremy.bernard@zaclys.net

Professional experience

Since 2018-10-01	**Self-entrepreneur**	Self-employment
	Service for the CNRS Lab-STICC for the need of the European project Urclim) - Work with laboratories, study offices and local authorities - Leader of the CoolParks research project from June 2019	
2018-07-15 to 2018-09-30	**Unemployment period**	
	Organisation of meetings - Writing grant proposals (along with my new region laboratories, study offices and local authorities)	
2017-06-14 to 2018-06-15	**Post-doc in urban climatology**	Lab-STICC, Vannes (France), CNRS
		European research project Urclim
	Geographical data processing to calculate geographical indicators useful for climate model simulation	
2016-10-01 to 2017-05-31	**Post-doc in urban climatology**	Centrale Innovation, Nantes (France)
		Funder: ADEME
	Scientific review of the solutions existing to cool urban areas	
2014 (seldom)	**Expert support during my PhD**	21-MED Engineering
		Study sponsor: City of Paris
	Micro-meteorological measurement campaigns and data analysis to evaluate the cooling performances of several green and blue solutions (Paris parks and canals) to decrease urban heat island	
2013-01-10 to 2016-09-30	**PhD student**	AAU-CRENAU and IRSTV, Nantes (France)
		Funders: ADEME et Pays de la Loire region
	Observation campaigns to measure the urban heat island intensity in three West France cities - Geographical data processing to calculate geographical indicators useful as explicative variables of the air temperature empirical modeling - Statistical analysis for empirical modeling	
2013-02-08 to 2013-08-31	**Temporary worker (handler)**	Randstad, Montréal (Canada)
2013-02-05 to 2013-12-31	**Internship and then engineer in building, energy and climate**	BURGEAP, Grenoble (France)
	Elaboration of energetic strategies at territory and neighborhood scales - Development of tools dedicated to energetic and economic calculation	

Education

2013-10-01 to 2017-01-11	**Civil engineering PhD**	École Centrale, Nantes (France)
	Title : Geographic and weather signature of the spatial and temporal air temperature variations within an urban area	
2011-01-20 to 2011-05-28	**ERASMUS semester**	Chalmers University of Technology, Gothenburg (Sweden)

Energy systems modeling and planning (courses in English)

2009-09-07 to 2012-11-28 **Engineer in energy, water and environment** ENSE3, Grenoble (France)

Energy production, management and markets

2007-09-05 to 2009-07-12 **Physical measures technician** Auvergne university, Clermont-Ferrand (France)

Two-year diploma from an university institute of technology in physical measures and instrumentation

Other scientific trainings

2019 (5 days) **Flux measurement fundamentals** KIT, Garmisch-Partenkirchen (Germany)

Micrometeorological methods to obtain and analyze fluxes of momentum, heat and gases by eddy-covariance

2018 (3 days) **SURFEX model training** CNRM, Toulouse (France)

Numerical simulation of the surface processes at regional scale

2014 (4 days) **OrbisGIS training** IRSTV, Nantes (France)

Spatial data handling through GIS

2013 (4 days) **Solene-Microclimat training** AAU-CRENAU, Nantes (France)

Numerical simulation of urban climate at neighborhood scale

Teaching experiences

2019 **Lecturer and tutor for hydraulic courses** Grenoble Alpes University, Grenoble (France)

Engineer students (L3 level) - 20h

2016 **Instructor (Solene-Microclimat week)** AAU-CRENAU, Nantes (France)

Researchers, urbanists, architects and engineers - 8h

Organization along with three research colleagues a training dedicated to the use of the tools developped by our laboratory (I have also prepared a session specific to the use of my thesis work)

2013 to 2016 **Tutor for acoustic courses** ENSA, Nantes (France)

Architects students (L3 level) - 68h

2013 to 2015 **Tutor for fluid mecanic courses** École Centrale, Nantes (France)

Engineer students (L3 level) - 24h

2013 to 2015 **Tutor of supervised study projects** École Centrale, Nantes (France)

Engineer students (L3 level) - 24h

Publications

2019	[9] Robert Schoetter, Valéry Masson, Alexandre Amossé, **Jérémy Bernard**, Erwan Bocher, et al.. Caractérisation du tissu urbain français pour la modélisation du climat urbain et de son interaction avec la consommation énergétique dans les bâtiments. La Météorologie, Météo et Climat, 2019, pp.48-57. access	Cited: 0
	[8] **Jérémy Bernard**, Pascal Kéravec, Benjamin Morille, Erwan Bocher, Marjorie Musy, et al.. Outdoor Air Temperature Measurement: A Semi-Empirical Model to Characterize Shelter Performance. Climate , MDPI, 2019, 7 (2), pp.26. access	Cited: 0
2018	[7] Erwan Bocher, Gwendall Petit, **Jérémy Bernard**, Sylvain Palominos. A geoprocessing framework to compute urban indicators: The MApUCE tools chain. Urban Climate, Elsevier, 2018, 24, pp.153-174. access	Cited: 8
	[6] Marie-Hélène Azam, **Jérémy Bernard**, Benjamin Morille, Marjorie Musy, Hervé Andrieu. A pavement-watering thermal model for SOLENE-microclimat: development and evaluation. Urban Climate, Elsevier, 2018, 25, pp.22-36. access	Cited: 2
	[5] **Jérémy Bernard**, Erwan Bocher, Gwendall Petit, Sylvain Palominos. Sky View Factor Calculation in Urban Context: Computational Performance and Accuracy Analysis of Two Open and Free GIS Tools. Climate, MDPI, 2018, Urban Overheating - Progress on Mitigation Science and Engineering Applications, 6 (3), pp.60. access	Cited: 2
	[4] **Jérémy Bernard**, Auline Rodler, Benjamin Morille, Xueyao Zhang. How to Design a Park and Its Surrounding Urban Morphology to Optimize the Spreading of Cool Air?. Climate, MDPI, 2018, 6 (1), access	Cited: 4
2017	[3] Marie-Hélène Azam, Benjamin Morille, **Jérémy Bernard**, Marjorie Musy, Fabrice Rodriguez. A new urban soil model for SOLENE-microclimat: Review, sensitivity analysis and validation on a car park. Urban Climate, Elsevier, 2017, access	Cited: 3
	[2] **Jérémy Bernard**, Marjorie Musy, Isabelle Calmet, Erwan Bocher, Pascal Kéravec. Urban heat island temporal and spatial variations: Empirical modeling from geographical and meteorological data. Building and Environment, Elsevier, 2017, 125, pp.423-438. access	Cited: 13
2015	[1] Anne Bernabé, **Jérémy Bernard**, Marjorie Musy, Hervé Andrieu-, Erwan Bocher, et al.. Radiative and heat storage properties of the urban fabric derived from analysis of surface forms. Urban Climate, Elsevier, 2015, 12, pp.205-218. access	Cited: 8

PRESENTATIONS IN INTERNATIONAL CONFERENCES (the presenter is underlined)

2018 **Jérémy Bernard**, Pascal Kéravec, Benjamin Morille, Marjorie Musy, Isabelle Calmet, et al.. A semi-empirical model to characterize the error of air temperature measurement induced by the shelter used. EMS Annual Meeting: European Conference for Applied Meteorology and Climatology, European Meteorological Society, Sep 2018, Budapest, Hungary. pp.2018 - 744. access

2017 **Jérémy Bernard**, Erwan Bocher, Pascal Kéravec, Marjorie Musy, Isabelle Calmet. Towards processing chains to estimate the urban heat island intensity using FOSS tools. European Conference for Applied Meteorology and Climatology 2017, European Meteorological Society, Sep 2017, Dublin, Ireland. access

2015 Charles-Edouard Revaud, **Jérémy Bernard**, Karim Touili, Audrey Salomon, Marie Gantois, et al.. Thermoregulatory effect of green spaces and wetlands in Paris. ICUC9 -9 th International Conference on Urban Climate jointly with 12 th Symposium on the Urban Environment, Jul 2015, Toulouse, France. access

2015 (continue) **Jérémy Bernard**, M. Musy, I. Calmet, E. Bocher, P. Keravec. Urban heat island and inertial effects : analyse from field data to spatial analysis. 9th International Conference on Urban Climate (ICUC9), Jul 2015, Toulouse, France. 6 p. access

2014 Anne Bernabé, **Jérémy Bernard**, Pascal Kéravec, Isabelle Calmet, Marjorie Musy, et al.. Radiative and heat storage properties of the urban fabric derived from analysis of surface forms. Third International Conference on Countermeasures to Urban Heat Island, Université de Modène et de Reggio d'Émilie, Oct 2014, Venise, Italy. access

Scientific supervision

2016 (6 months) **Co-supervision of Xueyao Zhang** Master internship (ESIEE)

Supervising rate : 50%

Simulation of the cool air diffusion around parks - lead to publication ([4])

2015 (6 months) **Co-supervision of Marie-Hélène Azam** Master internship (ISA BTP)

Supervising rate : 50%

Optimisation and validation of a soil model dedicated to urban climate simulation at neighborhood scale - lead to publication ([3] and [6])

2015 (6 months) **Co-supervision of Sara Benchlih** Master internship (ECN)

Supervising rate : 50%

Development of a methodology to estimate outdoor air temperature measurement - lead to publication ([8])

Measurement campaigns

2013 to 2015	**Fixed air temperature measurement network**	URBIO regional project
	Nantes, Angers et La Roche-sur-Yon conurbations (France)	
	Experimental procedure definition - Identification of the measurement sites location - Communication with local authorities - Equipment preparation - Newspaper communication - Implementation and maintenance of the equipment	
Summer 2015	**Intercomparison campaign of solar radiation shelters**	Training period of Sara Benchlih
		Nantes university campus (France)
	Experimental procedure definition - Identification of the equipment - Equipment implementation	
Summer 2015	**Fixed micrometeorological measurement network**	Expert support of 21-MED engineering
		City of Paris (France)
	Site location selection - Equipment selection	

Management activities

2015 to 2017	**Board member**	ADEME PhD student association (21D-ADEME)
	Organisation of the PhD student conference - Organisation of the ADEME network meeting	
2015 to 2016	**Laboratory PhD student representative**	AAU-CRENAU, Nantes
	Laboratory meeting participation - Interdisciplinary research seminar organisation	
2014 to 2015	**President**	ADEME PhD student association (21D-ADEME)
	Organisation of the PhD student conference - Organisation of the ADEME network meeting	

Communication and dissemination

October 2016	**Participation to a short video about vegetation and climate interactions**	Culture Sciences, Nantes
	Presentation (from 3’25 to 5’00 in the movie) of the UHI phenomenon and of the air temperature measure- ment network implemented during my PhD thesis (the movie was funded by the region to promote science and research actions)	
September 2016	**Presentation of research results to Federation of local authorities**	FNCCR, Paris (France)
	Presentation about the implementation of an air temperature measurement network within a city to measure the urban heat island phenomenon (the local authorities were interested about this aspects in order to deal with cooling networks establishment)	
October 2015	**Article in the public newspaper Place Publique**	Place publique, Nantes (France)
	Article about urban climate issues (Place publique is a two-month frequency newspaper dealing with public issues dedicated to citizens	
Summer 2015	**Organization and participation to Le train du climat association**	Le train du climat, Nantes
	Presentation to citizens of the research activities lead by the research federation where I have done my PhD thesis (the event took place in the train stations of the major French cities in order to debate and discuss with citizens about climate issues and actions	