

Laura-Hélène Rivellini

22 square Marie Curie, 59150 Wattrelos – France

Mobile phone: (+33)6 03 69 94 10

✉ laura.rivellini21@gmail.com

Work Experience

- | | |
|------------------|---|
| Since Oct. 2014 | <p>PhD student between the Department of Atmospheric Science and Environment Engineering (SAGE), Mines Douai Engineering school, and the Atmospheric Optics Laboratory (LOA), University of Lille.</p> <ul style="list-style-type: none">- <u>Field campaign in Senegal</u>, implementation and control of 4 instruments (ACSM, aethalometer, TEOM-FDMS and CO₂ analyser)- Statistical analysis of submicronic aerosol <u>chemical composition</u> and <u>source apportionment</u> by source-receptor modelling (PMF)- Link between aerosols <u>chemical composition</u> and in situ, vertically integrated and vertically distributed <u>optical properties</u> retrieved from passive (photometer) and active (LIDARs) remote sensing observations- <u>Volunteer teaching assistant for lab section (in English) to first year Engineer students (68 hours)</u>: (i) determination of a solid specific surface area using BET and (ii) VOCs analysis with a GC-MS- <u>Workshop SoFi (PSI, Switzerland ; 1 week)</u>: Source Finder (SoFi) software formation and application to ACSM measurements |
| Feb. – Jun. 2014 | <p>Internship, Atmospheric Optics Laboratory, University of Lille</p> <ul style="list-style-type: none">- Comparison between measured and modelled aerosol properties and radiative effects over MBOUR. Analysis of AERONET and MODIS data. Use of CHIMERE-dust model, statistic estimation of model performance |
| Mar. – Jun. 2013 | <p>Internship, Geosystems Laboratory (analytical chemistry research team), University of Lille</p> <ul style="list-style-type: none">- Treatment of wastewater from chemistry practical work. Pollutant characterization by ICP-AES and development of pollutant treatment protocol |
| 2012/2013 | <p>Part-time job, education and multimedia department (SEMM), University of Lille</p> <ul style="list-style-type: none">- Website development assistant, update of online courses with Scenari |
| Dec. - Feb. 2012 | <p>Internship in the Physical chemistry of combustion processes Laboratory (PC2A), University of Lille</p> <ul style="list-style-type: none">- Introduction to theoretical chemistry IT tools, thermodynamic calculation using quantum chemistry software |

Education and Qualifications

Since Oct. 2014	PhD (defense 12 december 2017) of <i>University of Lille</i>, <i>thesis financed by CaPPA labex</i> <u>Subject</u>: Western Africa aerosols: physico-chemical characterization, optical properties and source apportionment - <u>Python programming formation (3 days)</u>: language basics and initiation to scientific data treatment modules (numpy, scipy and matplotlib) - <u>Additional Master 2 courses</u>: (1) Physical methods in spatial remote sensing and (2) remote sensing application to aerosols
2014	International Master Degree in Atmospheric Environment - Observation systems for atmospheric monitoring - Advanced spectroscopic techniques for environmental analysis
2012	Bachelor Degree in Chemistry - Initiation to air pollution impacts and methods to reduce anthropogenic emissions
2009	1st year of biology - Bachelor Degree

Skills

Languages	French: native speaker English: fluent (speaking, writing, reading), TOEIC: 800 (in 2014)
Computer	Operating system: Linux, Windows, Mac OS Programming languages: Igor Pro (advanced), Python (basics), bash (basics)

Articles and communications

Articles:

L.-H. RIVELLINI, I. CHIAPELLO, E. TISON, M. FOURMENTIN, A. FERON, A. DIALLO, T.-M. N'DIAYE, P. GOLOUB, F. CANONACO, A. S. H. PREVOT, V. RIFFAULT, *Chemical characterization and source apportionment of submicron aerosols measured in Senegal during the 2015 SHADOW campaign*, Atmospheric Chemistry and Physics 17, 10291-10314 (2017), DOI 10.5194/acp-2016-1127

J.-C. PERE, **L.-H. RIVELLINI**, S. CRUMEYROLLE, I. CHIAPELLO, F. MINVIELLE, F. THIEULEUX, M. CHOEL *Simulation of African dust properties and radiative effects during the 2015 SHADOW campaign in Senegal*, Atmospheric research, 199(Supplement C), 14–28,doi:10.1016/j.atmosres.2017.07.027, 2018

S. CRUMEYROLLE, P. AUGUSTIN, **L.-H. RIVELLINI**, V. RIFFAULT, I. CHIAPELLO, M. CHOEL, K. DEBOUDT, *Investigation of aerosol variability induced by atmospheric dynamics in a coastal area of Senegal, North-Western Africa*, in preparation

Oral presentations:

L.-H. RIVELLINI, E. TISON, I. CHIAPELLO, V. RIFFAULT, S. CRUMEYROLLE *Chemical composition and optical properties of aerosols measured in Senegal during the SHADOW campaigns, IRePSE PhD day, July 13th, 2017, Villeneuve d'Ascq (France)*

L.-H. RIVELLINI, E. TISON, I. CHIAPELLO, V. RIFFAULT, *Real-time chemical characterization of submicron particles in M'Bour, Senegal during the 2015 dry season*, European Aerosol Conference, September 4th-9th, 2016, Tours (France).

P. CODDEVILLE, **L.-H. RIVELLINI**, V. RIFFAULT, *Aérosols en Afrique de l'Ouest : caractérisation physico-chimique, propriétés optiques et identification des sources*, Communication orale, 5^{ème} Colloque international "Environnement et Développement Durable" - Changements climatiques : causes, impacts atténuation et adaptation, October 10th-15th, 2016, Rabat (Maroc).

L.-H. RIVELLINI, E. TISON, I. CHIAPELLO, **V. RIFFAULT**, *Source apportionment of submicron particles in West Africa using Positive Matrix Factorization*, International Conference on Atmospheric Dust, June 12th-17th, 2016, Castellaneta Marina (Italia).

L.-H. RIVELLINI, E. TISON, I. CHIAPELLO, **V. RIFFAULT**, *Investigating the contribution of dust particles in the submicron fraction at a West African site*, International Conference on Atmospheric Dust, June 12th-17th, 2016, Castellaneta Marina (Italia).

L.-H. RIVELLINI, V. RIFFAULT, I. CHIAPELLO, E. TISON, M. FOURMENTIN and the SHADOW-2 team, *Chemical characterization and source apportionment of submicron particles during the SHADOW-2 campaign*, 3rd scientific day of CaPPA Labex, February 25th, 2016, Villeneuve d'Ascq (France).

Posters:

L.-H. RIVELLINI, I. CHIAPELLO, S. CRUMEYROLLE, P. GOLOUB, T. PODVIN, E. TISON, V. RIFFAULT, *Chemical composition and optical properties of aerosols measured in Senegal during the SHADOW campaign*, International Conference on Aerosol Cycle, March 21th-23th 2017, Villeneuve d'Ascq (France).

L.-H. RIVELLINI, V. RIFFAULT, P. CODDEVILLE, I. CHIAPELLO, S. CRUMEYROLLE, P. GOLOUB, T. PODVIN, E. TISON, *Chemical characterization and optical properties of submicron particles measured in M'Bour, Sénégal during 2015/2016 dry season*, 5th international symposium "Environnement et Développement Durable" - Changements climatiques : causes, impacts atténuation et adaptation, October 10th-15th, 2016, Rabat (Maroc).

L.-H. RIVELLINI, I. CHIAPELLO, S. CRUMEYROLLE, E. TISON, V. RIFFAULT, *Chemical characterization and optical properties of submicron particles measured in M'Bour, Senegal during 2015/2016 dry season*, European Aerosol Conference, September 4-9th, 2016, Tours (France).

L.-H. RIVELLINI, V. RIFFAULT, I. CHIAPELLO, *Estimating the dust contribution to submicron aerosols observed at a West African site using absorption measurements*, Atelier thématique « Propriétés et impacts des poussières terrigènes sur le climat et l'environnement », March 2nd-3rd, 2016, Créteil (France).

P. AUGUSTIN, S. CRUMEYROLLE, **L.-H. RIVELLINI**, M. FOURMENTIN, V. RIFFAULT, K. DEBOUDT, Y. DERIMIAN, M. CHOËL, I. CHIAPELLO, L. BLAREL, V. BOVCHALIUK, H. DELBARRE, A. DIALLO, E.

DIEUDONNE, C. GENGEMBRE, P. GOLOUB, R. LOISIL, T. NDIAYE, T. PODVIN, A. SOKOLOV, D. TANRE, E. TISON, B. TORRES, F. UNGA, I. VESELOVSKII, *Harmattan, sea breeze, Nocturnal Low-Level Jet dynamics and aerosol variability in a coastal area of Senegal, Western Africa*, Atelier thématique « Propriétés et impacts des poussières terrigènes sur le climat et l'environnement », March 2nd-3rd, 2016, Créteil (France).

L.-H. RIVELLINI, V. RIFFAULT, I. CHIAPELLO, E. TISON, S. CRUMEYROLLE, P. GOLOUB, A. DIALLO, T.-M. NDIAYE, *Instrumentation in situ pour les mesures chimiques, physiques et optiques de la pollution particulaire durant la campagne SHADOW*, April 2015, M'Bour (Senegal).

L.-H. RIVELLINI, V. RIFFAULT, I. CHIAPELLO, E. TISON, S. CRUMEYROLLE, P. GOLOUB, *Preliminary analysis of in situ and optical measurements of particulate pollution during winter 2014/2015 at Lille*, 2nd Scientific Day of CaPPA Labex, February 17th, 2015, Villeneuve d'Ascq (France).

Other activities

Participation to the 2016 edition of « Fête de la Science », stand conception and animation on the theme aerosol life cycle, from October 6 to 9, 2016, Lille

Student representative at the round table of Lille university conference about climate change presented by Mireille DELMAS-MARTY (original title of the conference « Le dérèglement climatique, une chance pour l'Humanité ? »), September 22th, 2016, Lille

Participation to Lille University Open days, animation for the CaPPA Labex stand, February 2014, Villeneuve d'Ascq