

Part A. PERSONAL INFORMATION

CV date	20/11/2018
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First and Family name	Hassan Lyamani		
Social Security, Passport, ID number	██████████	Age	47
Researcher numbers	Researcher ID	6507703419	
	Orcid code	orcid.org/0000-0002-6386-1102	

A.1. Current position

Name of University/Institution	University of Granada		
Department	Andalusian Institute for Earth System Research IISTA-CEAMA		
Address and Country	Avd. Mediterráneo s/n E-18071 Granada		
Phone number	██████████	E-mail	hlyamani@ugr.es
Current position	Researcher	From	01/01/2018
Espec. cód. UNESCO			
Palabras clave	Atmospheric physics, atmospheric aerosol, atmospheric radiative forcing, clouds, aerosol-cloud interactions, air quality		

A.2. Education

	University	Year
Ph.D. in Physics	University of Granada	2002
M.Sc in Geophysics and Meteorology	University of Granada	2007
Degree in Science	University of Tetuan	1995

A.3. JCR articles, h Index, thesis supervised...

- JCR articles: 78
- Metrics: Scopus: h-Index=22, citations=1648, i10-index=47
- PhD. Theses: 1 finalized, 1 ongoing

Part B. CV SUMMARY (*max. 3500 characters, including spaces*)

H. Lyamani graduated in Physics by Tetuan University (Morocco) in 1995 with honors and obtained the PhD degree in Physics at Granada University (Spain) with the highest grade in 2002. In 2007 he obtained Master degree in Geophysics and Meteorology at Granada University. His main fields of research are the aerosol characterization, aerosol effects on the Earth radiative balance and air quality. In 2004-2005, he was awarded with a postdoctoral fellowship (on the basis of scientific excellence and independence) of Spanish Agency for International Cooperation. Since 2006, he earned several competitive research contracts, one of them was funded by European ACTRIS project, which have allowed him a great capability of working independently at multidisciplinary research environment, as documented in his publications. In 2015-2017, he hold a Torres Quevedo contract (one of the most prestigious competitive contract in the Spanish scientific field financed by the Spanish Ministry of Science and Innovation) at the Sieltec Canarias Spanish company specialized in atmospheric instrumentation development where he was involved in the design and scientific exploitation of a photometer instrument for measuring aerosol properties. During his research career, he made short research stays at the University of Évora (Portugal), Instituto di metodologia per l'analisi ambientale (Italia), Institute for Experimental Physics (Austria). The candidate has published 78 articles in high-impact journals indexed in Scopus database with 1648 citations and an h-index=22. Furthermore, H. Lyamani has published 1 book, 4 book chapters, more than 40 papers in conference proceedings and more than 100 communications. He has participated and collaborated in 15 national and international projects and has been one of the leading scientists in 11 of them. He also was/is associate member in national and international networks (AERONET, ACTRIS and EARLINET, SPALINET, REDMAAS, and RIMA). H. Lyamani has participated in various international field campaigns and workshops, and in the organization committee in two conferences (Recta

2010 and EAC 2012). Since 2009, he teaches course on Atmospheric Aerosol Physics, Measurement, and Sampling within the Master in Geophysics and Meteorology at University of Granada, Spain. The course gives an overview of the state of the art of the aerosol instrumentation and atmospheric aerosol measurements: Physical, optical, and electrical properties by mobility and aerodynamic size spectrometers, particle counters, integrating nephelometer, absorption photometers. H. Lyamani has achieved a positive assessment by the national Agency for Quality Assessment and Accreditation, included in the European Quality Assurance Register for Higher Education. He supervised one PhD thesis and 6 Master theses and currently he supervises 1 PhD and 1 Master thesis. In recent years, he has actively participated in outreach activities (e.g. Researchers' Night, an activity promoted by the European Commission). The candidate has acted as referee of various international journals. He maintains active collaborations with researchers in USA, Spain, Portugal, Austria, Germany and Italy.

Part C. RELEVANT MERITS

C.1. Publications (including books)

1. Casquero-Vera, J.A., Lyamani, H., Titos, G., Borrás, E., Olmo, F.J and Alados-Arboledas, L. Impact of primary NO₂ emissions at different urban sites exceeding the European NO₂ standard limit. *Science of the Total Environment*, 646, pp. 1117-1125. 2019.
2. Pérez-Ramírez, D., Smirnov, A., Pinker, R.T., Petrenko, M., Román, R., Chen, W., Ichoku, C., Noël, S., Abad, G.G., Lyamani, H., Holben, B.N. Precipitable water vapor over oceans from the Maritime Aerosol Network: Evaluation of global models and satellite products under clear sky conditions. *Atmospheric Research*, 215, pp. 294-304. 2019.
3. del Águila, A., Sorribas, M., Lyamani, H., Titos, G., Olmo, F.J., Arruda-Moreira, G., Yela, M and Alados-Arboledas, L. Sources and physicochemical characteristics of submicron aerosols during three intensive campaigns in Granada (Spain). *Atmospheric Research*, 213, pp. 398-410. 2018.
4. Román, R., Benavent-Oltra, J.A., Casquero-Vera, J.A, Lopatin, A, Cazorla, A, Lyamani, H, Denjean, C, Fuertes, D, Pérez-Ramírez, D, Torres, B, Toledano, C, Dubovik, O, Cachorro, V.E, de Frutos, A.M, Olmo, F.J., Alados-Arboledas, L. Retrieval of aerosol profiles combining sunphotometer and ceilometer measurements in GRASP code. *Atmospheric Research*, 204, pp. 161-177. 2018.
5. Pandolfi, M., Alados-Arboledas, L., Alastuey, A., Andrade, M., Artiñano, B., Backman, J., Baltensperger, U., Bonasoni, P., Bukowiecki, N., Collaud Coen, M., Conil, S., Coz, E., Crenn, V., Dudoitis, V., Ealo, M., Eleftheriadis, K., Favez, O., Fetfatzis, P., Fiebig, M., Flentje, H., Ginot, P., Gysel, M., Henzing, B., Hoffer, A., Holubova Smejkalova, A., Kalapov, I., Kalivitis, N., Kouvarakis, G., Kristensson, A., Kulmala, M., Lihavainen, H., Lunder, C., Luoma, K., Lyamani, H., Marinoni, A., Mihalopoulos, N., Moerman, M., Nicolas, J., O'Dowd, C., Petäjä, T., Petit, J.-E., Pichon, J. M., Prokopciuk, N., Putaud, J.-P., Rodríguez, S., Sciare, J., Sellegri, K., Stamenov, D. B., Swietlicki, E., Titos, G., Tuch, T., Tunved, P., Ulevicius, V., Vaishya, A., Vana, M., Virkkula, A., Vratolis, S., Weingartner, E., Wiedensohler, A., and Laj, P.: A European aerosol phenomenology-6: Scattering properties of atmospheric aerosol particles from 28 ACTRIS sites, *Atmospheric Chemistry and Physics*, 18, 7877–7911. 2018.
6. Alonso-Blanco, E., Gómez-Moreno, F.J., Artíñano, B., Iglesias-Samitier, S., Juncal-Bello, V., Piñeiro-Iglesias, M., López-Mahía, P., Pérez, N., Brines, M., Alastuey, A., García, M.I., Rodríguez, S., Sorribas, M., Águila, A.D., Titos, G., Lyamani, H., Alados-Arboledas, L. Temporal and spatial variability of atmospheric particle number size distributions across Spain. *Atmospheric Environment*, 190, pp. 146-160. 2018.

7. Benavent-Oltra, J. A., Román, R., Granados-Muñoz, M. J., Pérez-Ramírez, D., Ortiz-Amezcuca, P., Denjean, C., Lopatin, A., Lyamani, H., Torres, B., Guerrero-Rascado, J. L., Fuertes, D., Dubovik, O., Chaikovsky, A., Olmo, F. J., Mallet, M., and Alados-Arboledas, L.: Comparative assessment of GRASP algorithm for a dust event over Granada (Spain) during ChArMEx-ADRIMED 2013 campaign, *Atmospheric Measurement Techniques*, 10, 4439–4457. 2017.
8. Patrón, D., Lyamani, H., Titos, G., Casquero-Vera, J.A., Cardell, C., Močnik, G., Alados-Arboledas, L., Olmo, F.J. Monumental heritage exposure to urban black carbon pollution. *Atmospheric Environment*, Volume 170, Pages 22-32. 2017.
9. Perez-Ramírez, D., Andrade-Flores, M., Eck, T., Stein A. F., O'Neill, N. T., Lyamani, H., Gass, S., Whiteman, D. N., Veselovski, I., Velarde, F., Alados-Arboledas, L. Multi year aerosol characterization in the tropical Andes and in adjacent Amazonia using AERONET measurements. *Atmospheric Environment*, 166, 412-432. 2017.
10. Mandija, F, Sicard, M., Comerón, A., Alados-Arboledas, L., Guerrero-Rascado, J.L., Barragan, R., Bravo-Aranda, J.A., Granados-Muñoz, M.J., Lyamani, H., Muñoz Porcar, Rocadenbosch, F., Rodríguez, A., Valenzuela, A., García Vizcaíno, D. Origin and pathways of the mineral dust transport to two Spanish EARLINET sites: Effect on the observed columnar and range-resolved dust optical properties. *Atmospheric Research*, Volume 187, Pages 69-83. 2017.
11. Titos, G, del Águila, A, Cazorla, A, Lyamani, H, Casquero-Vera, J.A, Colombi, C, Cuccia, E., Gianelle, V, Močnik, G, Alastuey, A, Olmo, F.J, Alados-Arboledas, L. Spatial and temporal variability of carbonaceous aerosols: Assessing the impact of biomass burning in the urban environment. *Science of the Total Environment*. 578, pp.613 - 625. 2017.
12. Pérez-Ramírez, D., Lyamani, H., Smirnov, A., Óneill, N.T., Veselovskii, I., Whiteman, D.N., Olmo, F.J., Alados-Arboledas, L. Statistical study of day and night hourly patterns of columnar aerosol properties using sun and star photometry. *Proceedings of SPIE - Proc. SPIE 10001, Remote Sensing of Clouds and the Atmosphere XXI, 100010K* (October 19, 2016); doi:10.1117/12.2242372. 2016.
13. Mandija, F, Guerrero-Rascado, J.L, Lyamani, H, Granados-Muñoz, M.J, Alados-Arboledas, L. Synergic estimation of columnar integrated aerosol properties and their vertical resolved profiles in respect to the scenarios of dust intrusions over Granada. *Atmospheric Environment*, Volume 145, Pages 439-454. 2016.
14. Titos, G, Cazorla, A, Zieger, P, Andrews, E, Lyamani, H, Granados-Muñoz, M.J, Olmo, F.J, Alados-Arboledas, L. Effect of hygroscopic growth on the aerosol light-scattering coefficient: A review of measurements, techniques and error sources. *Atmospheric Environment*, Volume 141, Pages 494-507. 2016.
15. Granados-Muñoz, M., Bravo-Aranda, J.A, Baumgardner, D, Guerrero-Rascado, J.L, Pérez-Ramírez, D, Navas-Guzmán, F, Veselovskii, I, Lyamani, H, Valenzuela, A, Olmo, F.J, Titos, G, Andrey, J, Chaikovsky, A, Dubovik, O, Gil-Ojeda, M, Alados-Arboledas, L. A comparative study of aerosol microphysical properties retrieved from ground-based remote sensing and aircraft in situ measurements during a Saharan dust event. *Atmospheric Measurement Techniques*, Volume 9, Issue 3, 18, Pages 1113-1133. 2016.
16. Horvath, H, Kasahara, M, Tohno, S, Olmo, F.J, Lyamani, H, Alados-Arboledas, L, Quirantes, A, Cachorro, V. Relationship between fraction of backscattered light and asymmetry parameter. *Journal of Aerosol Science*, Volume 91, Pages 43-53, 2016.
17. Gómez-Moreno, F.J, Alonso, E, Artíñano, B, Juncal-Bello, V, Iglesias-Samitier, S, Iglesias, M.P, Mahía, P.L, Pérez, N, Pey, J., Ripoll, A, Alastuey, A, De La Morena, B.A, García, M.I, Rodríguez, S, Sorribas, M, Titos, G, Lyamani, H, Alados-Arboledas,

L, Latorre, E, Tritscher, T, Bischof, O.F. Intercomparisons of mobility size spectrometers and condensation particle counters in the frame of the Spanish atmospheric observational aerosol network. *Aerosol Science and Technology*, Volume 49, Issue 9, Pages 777-7851. 2015.

18. Bravo-Aranda J.A.; TITOS G.; Granados-Muñoz M.J.; Guerrero-Rascado J.L.; Navas-Guzmán F.; Valenzuela A.; Lyamani H.; Olmo F.J.; Andrey J.; Alados-Arboledas L. Study of mineral dust entrainment in the planetary boundary layer by lidar depolarization technique, *Tellus, Series B: Chemical and Physical Meteorology*, 67 (1), 26180. 2015.
19. Titos, G; Lyamani, H; Drinovec, L; Olmo, FJ; Mocnik, G; Alados-Arboledas, L., Evaluation of the impact of transportation changes on air quality. *Atmospheric Environment*, 114, 19-31. 2015.
20. Sorribas, M; Olmo, FJ; Quirantes, A; Lyamani, H; Gil-Ojeda, M; Alados-Arboledas, L; Horvath, H., Role of spheroidal particles in closure studies for aerosol microphysical–optical properties. *Quarterly Journal of the Royal Meteorological Society*, 141, (692), pp. 2700-2707, DOI: 10.1002/qj.2557. 2015.

C.2. Research projects and grants

PROJECT TITLE: Elemental and individual particle analysis of atmospheric aerosols from the Arctic region

FINANCIAL ENTITY: A Fundação para a Ciência e a Tecnologia (Portugal)

PERIOD: 2018

PRINCIPAL INVESTIGATOR: Sandra Isabel Pinto Mogo

PROJECT TITLE: Aerosols, Clouds, and Trace gases Research Infrastructure Network (ACTRIS-2 Integrating Activities) (grant agreement No 262254)

FINANCIAL ENTITY: 7º Programa Marco-EU INFRA-2010-1.1.16 Research Infrastructures for Atmospheric Research

PERIOD: 01/02/2013-31/07/2013

PRINCIPAL INVESTIGATOR: Gelsomina Pappalardo (Istituto di Metodologie per l'Analisi Ambientale, CNR-IMAA, Italy)

PROJECT TITLE: Caracterización del material particulado atmosférico con especial énfasis en sus efectos sobre la salud y el patrimonio histórico (P12-RNM-2409)

FINANCIAL ENTITY: Junta de Andalucía – Plan Andaluz de Investigación (JA – PAI)

PERIOD: 30/01/2014

TO: 30/01/2018

PRINCIPAL INVESTIGATOR: Francisco José Olmo Reyes (Universidad de Granada, Spain)

PROJECT TITLE: Red Española de DMAs Ambientales (ref. CGL2011-15008-E/CLI).

FINANCIAL ENTITY: MINISTERIO DE CIENCIA E INNOVACIÓN

PERIOD: 01/01/2012- 31/12/2012

PRINCIPAL INVESTIGATOR: Francisco J. Gómez Moreno (Ciemat, Spain)

PROJECT TITLE: Caracterización multi-instrumental del aerosol atmosférico en el entorno urbano y rural. Implicaciones sobre la salud y el clima. (TARTESOS). (ref. P10-RNM-6299).

FINANCIAL ENTITY: Consejería de Innovación, Ciencia y Empresa. Junta de Andalucía.

PERIOD: 15/03/2011 - 14/03/2015

PRINCIPAL INVESTIGATOR: Lucas Alados Arboledas (Universidad de Granada, Spain)

PROJECT TITLE: Perfil vertical de las propiedades microfísicas del aerosol atmosférico. aplicación al estudio de la higroscopicidad (ref. CGL2010-18782).

FINANCIAL ENTITY: MINISTERIO DE CIENCIA E INNOVACIÓN.

PERIOD: 01/01/2011 - 31/03/2014

PRINCIPAL INVESTIGATOR: Lucas Alados Arboledas (Universidad de Granada, Spain)