

Diana BOU KARAM  
PhD in Environmental and Atmospheric  
Sciences.

Birthday: 18/02/1982

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## Working experience

03/2010 - Present	Scientist, Commissariat à l'Énergie Atomique (CEA), Saclay, France.
01/2009 – 02/2010	Scientist, Centre National de Recherche Scientifique (CNRS), Paris, France.

## Education and Diplomas

2009-2010:	Master in Project and Business Management, CNAM, Paris.
2005-2008	PhD in Environmental and Atmospheric sciences, University Paris VI, highest honors. Dissertation title: Meteorological mechanisms involved in dust emissions over West Africa. Defended publically on 18 December 2008. Research work carried out at LATMOS/IPSL/CNRS, Paris.
2004-2005	Master Research degree, «Sciences et Génie de l'Environnement», University Paris VII, highest honors. Thesis title: Evolution of the optical properties of dust aerosols during transport. Research work carried out at LMD/IPSL/CNRS, Ecole Polytechnique, Palaiseau.

2003-2004 Post-graduate diploma on radiation protection and safety of radiation sources from the International Atomic Energy Agency (IAEA, Vienna, Austria).

## **Honors**

Dec. 2009 Nominated for the Young Researcher Price 2010, French Physics Society.

July 2009 Nominated for the Holton Award 2010, AGU Atmospheric Sciences section.

May 2009 & 2010 Nominated for the EGU Outstanding Young Scientist Award 2010.

2009-2010 Research fellowship, CNES (Centre National des Etudes Spatiales).

2005-2008 PhD thesis fellowship, French Ministry for Higher Education and Research.

## **Administrative Responsibilities**

2005-2008 Member of the scientific council of the PhD's School "Sciences de l'Environnement en Ile de France" (ED 129) at University Paris VI.

## **Teaching experience**

2009-2010 Teaching assistant, Versailles Saint-Quentin University, Versailles, France.

## **Professional community involvement**

*Reviewer of manuscripts for* Nature, Elsevier, Journal of Geophysical Research and Quarterly Journal of the Royal Meteorological Society.

*Member of professional societies* American Geophysical Union, European Geophysical Union and American Meteorological Society.

## **Collaborations**

Since the beginning of my PhD, I have established a scientific collaboration network with different scientists at the national and the international levels. Particularly, I collaborate with researchers at MIT (Cambridge, USA), University of Miami (FL, USA), University at Albany (NY, USA), University of Virginia (VA, USA), University of Sussex (UK), University College London (UK), University of Leeds (UK), University of Oxford (UK), University of Cologne (Germany), University of Karlsruhe (Germany), Météo France (Toulouse, France), Laboratoire d'Aérodynamique (Toulouse, France) and IPSL (Paris, France).

In addition to collaborations with individual scientists, my work has been linked with national and international programmes such as the Bodélé Dust Experiment (BoDEx, 2005), the African Monsoon Multidisciplinary Analysis project (AMMA, 2006-2010), the FENNEC project (2010-2011), the ChArMEx project (2012-2013) and the IMPLICC project (2010-2012).

## **Refereed Publications**

### **2010**

Bou Karam D., C. Flamant, J. Cuesta, J. Pelon, E. Williams (2010): Dust emission and transport associated with a Saharan depression: The February 2007 case, *J. Geophys. Res.*, doi:10.1029/2009JD012390.

Bou Karam D., E. Williams, M. McGraw-Herdeg, M. Janiga, J. Cuesta, A. Auby, C. Flamant and C. Thorncroft (2010): Dusty gust fronts at synoptic scale, initiated and maintained by moist convection over the Sahara desert, *QJRMS*, under review.

Bou Karam D., C. Flamant, A. Evan: The radiative impact of airborne dust on the Saharan cyclone on February 2007, *GRL*, under review.

## 2009

Bou Karam D., C. Flamant, P. Tulet, M. C. Todd, J. Pelon and E. Williams (2009a): Dry cyclogenesis and dust mobilization in the Inter Tropical Discontinuity of the West African Monsoon: a case study, *J. Geophys. Res.*, 114, D05115, doi:10.1029/2008JD010952.

Bou Karam D., C. Flamant, P. Tulet, J-P. Chaboureau, A. Dabas, M. C. Todd (2009b): Estimate of Sahelian dust emissions in the Intertropical discontinuity region of the West African Monsoon, *J. Geophys. Res.*, 114, D13106, doi:10.1029/2008JD011444.

Pospichal B., D. Bou Karam, S. Crewell, C. Flamant A. Hünerbein, O. Bock, F. Saïd (2009): Diurnal cycle of the inter-tropical discontinuity over West Africa analysed by remote sensing and mesoscale modelling, *Q. J. R. Meteorol. Soc.* DOI: 10.1002/qj. 435.

## 2008

Bou Karam D., C. Flamant, P. Knippertz, O. Reitebuch, J. Pelon, M. Chong, A. Dabas (2008): Dust emissions over the Sahel associated with the West African Monsoon inter-tropical discontinuity region: a representative case study, *Q. J. R. Meteorol. Soc.* 134: 621–634.

Bou Karam D., C. Flamant, P. Knippertz, O. Reitebuch, M. Chong, A. Dabas, J. Pelon (2008): A newly identified mechanism for dust emissions over the Sahel associated with the West African Monsoon inter-tropical discontinuity, 24<sup>th</sup> International Laser Radar Conference (ILRC), 23-27 June 2008, Boulder, Colorado, USA.

Todd M.C., D. Bou Karam, C. Cavazos, C. Bouet, B. Heinold, G. Cautenet, P. Tulet, C. Perez, I. Tegen, and R. Washington (2008): Quantifying uncertainty in estimates of mineral dust flux: an inter-comparison of model performance over the Bodélé Depression, Northern Chad, *J. Geophys. Res.*, 113, D24107, 2008, doi:10.1029/2008JD010476.

Pelon, J., M. Mallet, A. Mariscal, P. Goloub, D. Tanré, D. Bou Karam, C. Flamant, J. Haywood, B. Pospichal, S. Victori (2008): Characterisation of biomass burning aerosol from microlidar observations at Djougou (Benin) during AMMA-SOP0/DABEX, *J. Geophys. Res.*, 113, D00C18, doi:10.1029/2008JD009976.

## Selected International communications

### 2010

Bou Karam D., C. Flamant, A. Evan, J. Cuesta and E. Williams (2010): The radiative impact of airborne dust on the Saharan cyclone dynamics on February 2007, A-Train Symposium, 25-28 October 2010, New Orleans, Louisiana.

Schwendike J., D. Bou Karam, S. Crumeyrolle, C. Flamant, S.C. Jones, M. Schmidberger, F. Solmon, T. Stanelle, B. Voge, H. Vogel (2010): Mineral dust transport over West Africa in 2006, AMS 29th Conference on Hurricanes and Tropical Meteorology, 10–14 May 2010, Tucson, Arizona.

Bou Karam D., C. Flamant, A. Evan, J. Cuesta and E. Williams (2010): The radiative impact of airborne dust on the Saharan cyclone on February 2007, EGU, General Assembly, Vienna, 1-7 May 2010.

Bou Karam D., E. Williams, M. McGraw-Herdeg, M. Janiga, J. Cuesta, C. Flamant and C. Thorncroft (2010): Dusty gust fronts at synoptic scale, initiated and maintained by moist convection over the Sahara desert, EGU, General Assembly, Vienna, 1-7 May 2010.

Williams E., M. Donovan, Z. J. Luo, C. Kessinger, C. Huaqing, N. Rehak, D. Megenhardt, M. Steiner, D. Bou Karam (2010): Diameters of Cumulonimbi over Land and Ocean and Their Dependence on Cloud Base Height, AMS annual meeting, 17-20 January 2010, Atlanta, Georgia.

Bou Karam D., C. Flamant, P. Tulet (2010): Estimate of dust emissions in the intertropical discontinuity region of the West African Monsoon, AMS annual meeting, 17-20 January 2010, Atlanta, Georgia.

Bou Karam D., C. Flamant, A. Evan, J. Cuesta and E. Williams (2010): The radiative impact of airborne dust on the Saharan cyclone on February 2007, AMS annual meeting, 17-20 January 2010, Atlanta, Georgia.

Bou Karam D., E. Williams, M. McGraw-Herdeg, M. Janiga, J. Cuesta, C. Flamant and C. Thorncroft (2010): Dusty gust fronts at synoptic scale, initiated and maintained

by moist convection over the Sahara desert, *AMS annual meeting, 17-20 January 2010, Atlanta, Georgia.*

## **2009**

Bou Karam D., E. Williams, M. McGraw-Herdeg, M. Janiga, J. Cuesta, C. Flamant and C. Thorncroft (2009): Dusty gust fronts at synoptic scale, initiated and maintained by moist convection over the Sahara desert, *AGU Fall meeting, 14-18 Dec 2009, San Francisco, CA.*

Bou Karam D., C. Flamant, J. Cuesta, J. Pelon, E. Williams (2009): CALIPSO observations on dust emission and transport associated with Saharan depressions: The February 2007 case, *CALIPSO/CloudSat Science Workshop, 27-31 July 2009, Madison, Wisconsin.*

Bou Karam D., E. Williams, M. McGraw-Herdeg, M. Janiga, J. Cuesta, C. Flamant and C. Thorncroft (2009): Dusty gust fronts at synoptic scale, initiated and maintained by moist convection over the Sahara desert, *CALIPSO/CloudSat Science Workshop, 27-31 July 2009, Madison, Wisconsin.*

Bou Karam D., C. Flamant, P. Tulet, J. Pelon (2009): Dust emissions and transport in the intertropical discontinuity region of the west African Monsoon, *3<sup>rd</sup> International AMMA Conference, 20-24 July 2009, Ouagadougou, Burkina Faso.*

Bou Karam D., C. Flamant, P. Tulet, J-P. Chaboureau M. Chong and E. Williams (2009): Dry cyclogenesis in the intertropical discontinuity region of the west African Monsoon, *European Geosciences Union, General Assembly, 19-24 April 2009, Vienna, Austria.*

Bou Karam D., C. Flamant, J. Pelon (2009): CALIPSO observations on the dynamic of dust plumes in the intertropical discontinuity region of West Africa, *European Geosciences Union, General Assembly, 19-24 April 2009, Vienna, Austria.*

## **2008**

Bou Karam D., C. Flamant, P. Tulet, J-P. Chaboureau (2008): Mesoscale modelling of dust emissions over the Sahel associated with the West African Monsoon intertropical discontinuity, *Atelier de Modélisation de l'Atmosphère, Météo France, 22-24 January 2008, Toulouse, France.*

Bou Karam D., C. Flamant, J. Pelon, J. Cuesta (2008): CALIPSO observations and mesoscale modelling on dust emissions and transport over the Sahel associated with the West African Monsoon Inter Tropical Discontinuity *CALIPSO Science Team meeting, Centre National des Etudes Spatiales (CNES), 11-14 Mars 2008, Paris, France.*

Bou Karam D., C. Flamant, P. Knippertz, P. Tulet (2008): A newly identified mechanism for dust emissions over the Sahel associated with the West African Monsoon inter-tropical discontinuity region *European Geosciences Union, General Assembly, 14-18 April 2008, Vienna, Austria.*

Bou Karam D., C. Flamant, J. Pelon, J-P. Chaboureau (2008): CALIPSO observations and mesoscale modelling on dust emissions and transport over the Sahel associated with the West African Monsoon Intertropical discontinuity, *European Geosciences Union, General Assembly, 14-18 April 2008, Vienna, Austria.*

Pospichal B., D. Bou Karam, S. Crewell, C. Flamant (2008): Diurnal cycle of the ITD before the onset of the WAM over Benin: ground-based measurements and mesoscale modelling, *European Geosciences Union, General Assembly, 14-18 April 2008, Vienna, Austria.*

## **2007**

Bou Karam D., C. Flamant, P. Tulet, J-P. Chaboureau (2007): Numerical modelling of Saharan dust impact on the atmospheric dynamics in the Bodélé depression, *European Geosciences Union, General Assembly, 16-20 April 2007, Vienna, Austria.*

Bou Karam D., C. Flamant, P. Tulet, J-P. Chaboureau (2007): Saharan dust lofting by Harmattan and monsoon flows convergence: Numerical Modelling and Lidar observations, *European Geosciences Union, General Assembly, 16-20 April 2007, Vienna, Austria.*

Bou Karam D., C. Flamant, J. Pelon, J-P. Chaboureau, P. Tulet (2007): Saharan dust uptakes associated with the inter-tropical discontinuity dynamics: CALIPSO observations and numerical modelling, *CALIPSO Science Team meeting, June 2007, San Francisco, California, USA.*

Bou Karam D., C. Flamant, J. Pelon, J-P. Chaboureau, P. Tulet (2007): Saharan dust uptakes associated with the inter-tropical discontinuity dynamics: CALIPSO observations and numerical modelling, *Symposium de Lille, 22-26 October 2007, Lille, France.*

Bou Karam D., C. Flamant, P. Tulet, P. Knippertz (2007): Saharan dust uptakes associated with the inter-tropical discontinuity dynamics: Airborne Lidar observations and numerical modelling, *African Monsoon Multidisciplinary Analyses (AMMA) 2nd International Conference, 26-30 November 2007, Karlsruhe, Germany.*

Bou Karam D., C. Flamant, P. Tulet, J-P. Chaboureau, P. Knippertz (2007): Dust emissions over the Sahel associated with the West African Monsoon density current behavior in the inter-tropical discontinuity region, *American Geophysical Union, 10-14 December 2007, San Francisco, California, USA.*