

## CURRICULUM VITAE

### Sandrine Bony

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### Education and Professional Experience

- 2010-present: CNRS Director of Research, Habilitation (Paris-6 University).
- 1999-2001: Visiting scientist at MIT (Massachusetts Institute of Technology, Cambridge, USA).
- 1996-2010: CNRS (National Centre for Scientific Research) Research Scientist, LMD/IPSL, Paris.
- 1994-1996: CNES (Centre National d'Etudes Spatiales) post-doctoral fellowship; Visiting scientist in the Climate and Radiation Branch of the NASA GSFC (Greenbelt, USA); Visiting scientist at the Center for Clouds, Chemistry and Climate (San Diego, USA)
- 1991-1993: PhD, LMD and University Pierre et Marie Curie (Paris 6, France): "Analysis of the role of clouds and water vapor in the seasonal variation of the Earth Radiation Budget; Implications for climate sensitivity"
- 1988-1990: Magistère Inter-universitaire de Physique (Paris Universities and Ecole Normale Supérieure), including a Master in Quantum Physics.

### Research Interests

Role of clouds and water vapor in climate change, climate variability and atmospheric dynamics; Response of clouds, atmospheric circulation and precipitation to climate change; Parameterization and evaluation of clouds and convection in climate models; Use of water isotopologues to study atmospheric processes and climate.

### Selected Professional Activities, Services and Awards

- **World Climate Research Programme (WCRP)** : Co-Lead coordinator of the WCRP Grand Challenge on "Clouds, Circulation and Climate Sensitivity" (2012-); Co-Chair of the Working Group on Coupled Models (WGCM, 2008-); Member of the WCRP Modelling Advisory Council (WMAC, 2012-); Coordinator of the Cloud Feedback Model Intercomparison Project (CFMIP, 2006-2012);
- **Intergovernmental Panel on Climate Change (IPCC)** : Lead Author of the 4th Assessment Report; Member of the scoping meeting of the 5th Assessment Report; Contributing Author of the 3rd and 5th Assessment Reports;
- **American Meteorological Society** : Editor for the Journal of Climate (2005-2008); Editor for the Bulletin of the American Meteorological Society (2008-2012); Bernhard Haurwitz Memorial Lecturer Award (2012); Member of the American Meteorological Society (2006-).

- **Other international committees, panels or jury** : Member of the GFDL external review panel, Princeton, USA (2014); Member of the Scientific Advisory Board of the "High Definition Clouds and Precipitation for Climate Prediction" project HD(CP)<sup>2</sup>, Germany (2012-); Member of the Center for Multi-Scale Modeling of Atmospheric Processes (CMMAP)'s External Advisory Panel, NSF Science and Technology Center, CO, USA (2007-2008); International partner investigator of the Australian Center for Excellence on Climate Change (2011-); Jury member, "Frontiers of Knowledge Award", BBVA Foundation, category Climate Change (2012-).
- **France** : Head of the LMD/IPSL climate modelling group EMC3 (Study and Modelling of Climate and Climate Change, 2012-); Member of the french scientific committee CNRS/LEFE (IDAO 2008-2011, IMAGO 2012-); Member of the IPSL scientific committee (2010-); Expert member for international cooperations, french ministry of research (Direction Générale de la Recherche et de l'Innovation du Ministère de la Recherche, 2008-2011)
- 2015 Highly-Cited Researcher, Thomson Reuters (ISI Web of Knowledge)

## Selected Publications

Bony S., B. Stevens, D. M. W. Frierson, C. Jakob, M. Kageyama, R. Pincus, T. G. Shepherd, S. C. Sherwood, A. P. Siebesma, A. H. Sobel, M. Watanabe, and M. J. Webb, 2015: Clouds, Circulation and Climate Sensitivity. *Nature Geoscience*, 8, 261-268, doi:10.1038/ngeo2398.

Sherwood, S. C., S. Bony and J.-L. Dufresne, 2014 : Spread in model estimates of climate sensitivity traced to atmospheric convective mixing. *Nature*, 505, 37-42.

Bony S., G. Bellon, D. Klocke, S. Sherwood, S. Fermepin and S. Denvil, 2013 : Direct effect of carbon dioxide on future tropical circulation and regional rainfall. *Nature Geoscience*, 6, 447-451.

Bony S., B. Stevens, I. Held, J. Mitchell, J.-L. Dufresne, K. Emanuel, P. Friedlingstein, S. Griffies and C. Senior, 2013 : Carbon Dioxide and Climate : Perspectives on a Scientific Assessment. Monograph on Climate Science for Serving Society: Research, Modeling and Prediction Priorities, Springer, G.R. Asrar and J.W. Hurrell (eds.), pp 391-413, Springer.

Stevens, B. and S. Bony, 2013 : What are climate models missing? *Science*, 340 (6136), 1053-1054.

Bony S, C Risi and F Vimeux, 2008: Influence of convective processes on the isotopic composition ( $\delta^{18}\text{O}$  and  $\delta\text{D}$ ) of precipitation and water vapor in the tropics: Part 1. Radiative-convective equilibrium and TOGA-COARE simulations. *J. Geophys. Res.*, 113, D19305, doi:10.1029/2008JD009942.

Bony S, R Colman, V M Kattsov, R P Allan, C S Bretherton, J-L Dufresne, A Hall, S Hallegatte, M M Holland, W Ingram, D A Randall, B J Soden, G Tselioudis and M J Webb, 2006: How well do we understand and evaluate climate change feedback processes ?, *J. Climate*, 19 (15), 3445-3482.

Bony S and J-L Dufresne, 2005: Marine boundary layer clouds at the heart of tropical cloud feedback uncertainties in climate models, *Geophys. Res. Lett.*, 32, No. 20, L20806, doi:10.1029/2005GL023851.

Bony S and K A Emanuel, 2005: On the role of moist processes in tropical intraseasonal variability: cloud-radiation and moisture-convection feedbacks. *J. Atmos. Sci.*, 62 (8), 2770-2789.