

	<b>Marie Dumont</b>	<b>FRANCE</b>
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Marie Dumont was born in 1983 and is since 2015 deputy scientific head of Centre d'Etudes de la Neige (Météo - France – CNRS/CNRM/CEN) and head of the research team *Snowpack observations and processes*. Her main research interests are the optical properties of snow from in situ and remote sensing measurements and snow numerical modelling and data assimilation. She co-authored 47 publications in international scientific journal since 2009.

Her researches are mainly gathered around a common thread, the **optical properties of snow** and the subsequent snow-atmosphere feedbacks. During the past ten years, four main scientific axes have structured my researches:

- Linking snow optical properties and snow microstructure using both modelling and measurements (*e.g. Dumont et al., 2010; Libois et al. 2014, 2013 ; Gallet et al., 2014*)
- Method design and implementation for retrieval of snow surface properties from in situ or remotely sensed optical data (*e.g. Dumont et al., 2011, 2014, 2017 ; Masson et al., 2018*)
- Using albedo derived from satellite images as a proxy for glacier mass balance (*e.g. Dumont et al., 2012a ; Sirguey et al., 2016; Davaze et al., 2018*)
- Assimilation of satellite optical reflectance to improve detailed snowpack simulations (*e.g. Dumont et al., 2012b ; Charrois et al., 2016*)

More recently, Marie Dumont dedicated her work to (i) improving our current understanding and modelling of the effect of **light-absorbing impurities** (mainly Saharan dust and soot) in snow, by leading extensive field campaigns in the French Alps, using new satellite capabilities (Sentinel-2) and improved snowpack models (*e.g. Tuzet et al., 2017; Skiles et al., 2018*) (ii) developing an **ensemble satellite assimilation scheme** to simulate and forecast snow cover properties over the French mountain ranges in order to mitigate uncertainties originating from different sources of information and (iii) contributing to the design of a 'next generation' **snow model** that aims at closing the gap between snow physics and current detailed snow modelling.

Her research is mainly conducted within CNRM/CEN but also builds on national (e.g. IGE, Grenoble) and international collaborations (e.g. Canada, USA, Finland, Norway, Great Britain, Switzerland, Italy, Denmark, Germany, Russia).

#### HISTORY OF EMPLOYMENT

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<b>2017</b>	<b>Habilitation thesis</b> ("Habilitation à diriger des recherches"): <i>On the colour of snow: measurements, modelling and applications</i> , Grenoble-Alpes University
<b>2015 – present</b>	<b>Researcher, Deputy Scientific Head</b> of Centre d'Etudes de la Neige (Météo France – CNRS/CNRM/CEN), <b>Head of research team</b> <i>Snowpack observations and processes</i> (9 permanent positions)
<b>2011-2015</b>	<b>Researcher</b> at CEN
<b>2011</b>	<b>Post-doctoral position</b> at Norwegian Polar Institute during 6 months (Tromsø, Norway)
<b>2007-2010</b>	<b>PhD thesis</b> in Environmental sciences: <i>Retrieval of snow and ice covered area from remotely-sensed data</i> - Laboratoire de Glaciologie et de Géophysique de Environnement (LGGE), Grenoble, France, Paris University.

#### HONORS

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<b>2018</b>	<b>Arne Richter Award for Outstanding Early Career Scientists</b> (European Geoscience Union) and <b>Early Career Scientist Awards of the International Union of Geodesy and Geophysics</b> (IUGG)
<b>2011</b>	<b>Aguirre-Basualdo price</b> for best PhD thesis (Paris University, national award)
<b>2006</b>	<b>Rivot price</b> of « Académie des sciences » (best student in mathematics and physics)