

Etienne BERTHIER

CNRS Research Director
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GLACIOLOGY & REMOTE SENSING

IN SHORT

76 articles in peer-reviewed journals, 14 as 1st author, 16 as 2nd author.
PI of the SPIRIT international project (> 100 publications) and 6 national project
Scientific Editor for *The Cryosphere*, reviewer of > 130 articles

EDUCATION

2015 **Accreditation to supervise research (HDR)** - *Université Paul Sabatier (Toulouse III)*
2002-2005 **PhD-thesis**, defended 16 September 2005. University of Toulouse
July 2000 **Master Degree** 'Oceanology, Meteorology and Environment', with honours, ranked 1st
July 1999 **'Agrégation'** - Earth & Life Sciences, competitive exam for teachers in France, ranked 1st
1997-1998 **Bachelor Sc. Degree** Earth Sciences, with honours, **Ecole Normale Supérieure** - Paris

RESEARCH EXPERIENCE

2012-2013 Visiting scientist at **IANIGLA - MENDOZA - ARGENTINE**
Andean glaciers: climatic indicator and contributor to water resources

2007- CNRS research scientist **LEGOS - TOULOUSE**
Glaciers & Ice Caps: indicators and actors of climate change

2006 Post-Doctorate: **UNIVERSITY OF BRITISH COLUMBIA - VANCOUVER - CANADA**
Combined remote sensing and modelling approach to assess the past, present and future evolution of Alaska-Yukon glaciers ; with Garry Clarke

2002-2005 PhD: **LABORATOIRE D'ETUDE EN GÉOPHYSIQUE & OCÉANOGRAPHIE SPATIALES - TOULOUSE**
Dynamics and mass balance of mountain glaciers (Alps, Iceland, Himalaya). Contribution of satellite imagery. PhD advisors: Frédérique Rémy (CNRS) & Yves Arnaud (IRD)

Feb-May 2002 Visiting scientist at **UNIVERSITY OF COLORADO - NSIDC - BOULDER - USA**
Measuring the velocity field of the Mertz Ice Stream (Antartica) using multitemporal Landsat satellite images ; with Bruce Raup & Ted Scambos.

Sept 2000-01 Non-military National Service: **HYDRAULIC & HYDROLOGY INSTITUTE - IRD - LA PAZ - BOLIVIA**
Monitoring of a tropical glacier in the Bolivian Andes: meteorological, glaciological & hydrological measurements and processes.

PRICES & AWARDS

Jan 2013 "Karakorum" article in the list of *Top-10 articles in Nature Geoscience* during 2008-2012
Dec 2009 *2009 Best paper award* for *ISPRS Journal of Photogrammetry and Remote Sensing*
Nov 2009: *'Top Reviewer'* for *Remote Sensing of Environment* (Elsevier)
Aug 2008: *'Outstanding referee award'* for *Geophysical Research Letters* (American Geophysical Union)
Nov 2007: *'Prix de la Cartographie'* from the **French Academy of Sciences (Paris)**. Jointly with F. Rémy.
Oct 2006: 'Adrien Gaussail' PhD award from the Toulouse Academy of Sciences.
May 2006: 'Henri Milon' PhD award from the French Hydrological society (SHF)
July 2005: European post-doc fellowship Marie Curie – Outgoing International Fellowship – MORE ICE

REFERENCES

Frédérique Rémy	LEGOS – Toulouse	frederique.remy@legos.obs-mip.fr
Anny Cazenave	LEGOS – Toulouse	anny.cazenave@legos.obs-mip.fr
Ted A. Scambos	NSIDC – Etats-Unis	teds@icehouse.colorado.edu
Andreas Käab	Univ. Oslo	andreas.kaab@geo.uio.no

TEACHING

2009- Annual lecture at "Université du Temps Libre" and for the ENS-Paris Master in Earth Sciences
2002-2005 Graduate assistant in Earth Science, University of Toulouse

SUPERVISION (WITH % OF INVOLVEMENT)

SCIENTIFIC VISITORS

2014 Charles Papasodoro, U. Sherbrooke (2 months) « Mass budget of Baffin Island southernmost ice caps »
2014 Pierre Pitte, IANIGLA (3 months) « Surge of Horcones inferior glacier »

PHD STUDENTS

2016- Ines Dussaillant (80%) *Geodetic mass balance of Andean glaciers (Argentina/Chili)*
2016- Alejandro Blazquez (Ing CNES, 40%) *Ocean/continents water exchange at inter-annual and decadal time scales*
2015- Fanny Brun (50%) *Impact of debris on the evolution of Himalayan glaciers. A multi-scale approach*
2015- Joaquín Muñoz-Cobo Belart (50%) *The mass balance of Icelandic glaciers in variable climate*
2013-2016 Vanessa Drolon (30%) *Snow Monitoring and Glaciers Mass Balance from SPOT/VEGETATION*
2010-2013 Thomas Flament (30%) *Elevation changes of the Antarctic Ice Sheet using radar altimetry*
2009-2012 Julie Gardelle (50%) *Contribution of Pamir- Himalaya glaciers to river flow & sea level rise*

MASTER STUDENTS

2014 Vincent Cabot. *Mass balance of glaciers in the Aconcagua area*
2014 Romain Milan (20%). *Tandem-X DEM for glaciology*
2011 Guillaume Carrie (50%). *Improvement of SPIRIT DEM in Antarctica*
2010 Cyrielle Guérin (50%). *Calving flux of Breidamerkurjökull (Iceland)*
2009 Yoann Drocourt. *Dynamics of Kronebreen Glacier (Svalbard)*
2009 Julie Gardelle (30%) *Recent changes in glacial lakes in the Himalaya*
2007 Raymond Le Bris. *Changes of the Cook Ice Cap (Kerguelen Is) over the last 40 years*
2006 Pâquerette Durand (50%). *Capabilities of HRS for glaciology*

BACHELOR STUDENTS

2011 Lauren Ducret & Yoann Malbeteau. *Mass budget of Cook Ice Cap (Kerguelen) between 2000 & 2009*
2011 Caroline Ripoché (25%). *DEM of Breidamarkujökull from aerial photographs*
2009 Romain Dolques. *Mass balance of Mont-Blanc glaciers between 2003 and 2008 using SPOT5 »*
2008 Laure Mabileau. *Inventory of glaciers on Kerguelen Is.*

SCIENTIFIC RESPONSIBILITIES

2013- Head of the cryospheric branch of CNFGG, French branch of IUGG
2010 Organizer of the SPIRIT international workshop
(<http://etienne.berthier.free.fr/SPIRIT/Home.html>)
2009- Member of the TOSCA Solid Earth group (Advisory board for the French Space Center - CNES)
2007- Scientific PI of the SPIRIT International Polar Year project (<http://www.spotimage.fr/IPY/>)
2008- Steward for Regional Center 26 (Kerguelen Islands) in the GLIMS project (<http://www.glims.org/>)
2007- In charge of the scientific communication in the LEGOS
2005- Member of the accompaniment program (Geophysics) for the ORFEO-PLEIADE satellite mission.
2003-05 In charge of the laboratory **seminars** at LEGOS from 2003 to 2005

Editorial Board: [The Cryosphere](#), [Annals of Glaciology](#) Vol 54(N°63) et Vol57(N°71), [La Météorologie](#)

Article reviews (~130): *Nature, Science, Nature Geoscience, Nature Climate Change, Geophysical Research Letters, Global & Planetary Change, Journal of Geophysical Research, Journal of Hydrology, Remote Sensing of Environment, IEEE Transaction on Geosciences and Remote Sensing Journal of Glaciology, The Cryosphere, Annals of Glaciology, Environ. Res. Lett. (...)*

Application reviews: France: *LEFE, PNTS, ANR, IPEV, CEFIPRA, IRD (DSF fellowships)*
Foreign funding agencies: *NWO – Netherlands; NSERC – Canada; NSF – US; NERC – UK
IRF – Iceland; ISCAR – Italy; CFQCY – Québec; ERC Starting Grant – Europe*

LANGUAGE & E.D.P.

Languages: French: mother tongue English, Spanish: adequate spoken German: notion
E.D.P.: Software: GMT, ENVI, PCI-Geomatica, IDL, Shell
Short-Courses: SAR Interferometry; GIS (ArcView 8.3)

MEMBERSHIPS

2006-: International Glaciological Society – IGS - <http://www.igsoc.org/>
2016-: European Geoscience Union – EGU - <http://www.egu.eu/>