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Born in Toulouse the 20th of April, 1977
French Citizenship
Associate Professor of Geology, Université de Toulouse
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EDUCATION

2014 UNIVERSITE PAUL SABATIER TOULOUSE 3 – HDR (Habilitation à Diriger les Recherches) in Geology- defense expected in october 2014

2004 UNIVERSITE PAUL SABATIER TOULOUSE 3 - PhD in Geology;

2000 UNIVERSITE BLAISE PASCAL CLERMONT-FERRAND 2 - M.D. in Geosciences;

1999 UNIVERSITE PAUL SABATIER TOULOUSE 3 – B.S. in Geochemistry and Geophysics;

1995 ACADEMIE DE TOULOUSE – High School Diploma;

PROFESIONAL EXPERIENCE

2005-Present: Assistant and Associate Professor of Geology, Université de Toulouse

RESEARCH INTERESTS

Evolution of retro-arc foreland basins

Initial mountain building and mountain belt construction in the Andes

Sediment provenance and routing systems

Petroleum Geology

Fluvial and Coastal sedimentology

RESEARCH TOOLS

Tectonics and sedimentological field studies (Bolivian and Peruvian Subandean zones, Bolivian and Peruvian Amazon basin, Moroccan Meseta basins, North and South Pyrenean belts)

GIS software (MapInfo, Mapbasic, ENVI...);

Mineralogy (SEM, Microprobe analysis, DRX)

Geochemistry (ICP-MS analysis and TIMS analysis (Finnigan MAT 261);

Low temperature thermochronology (AHe and AFTA).

TEACHING EXPERIENCE

2005-present Université Paul Sabatier Toulouse 3

Advanced basin analysis

Sedimentology

Advanced Field work

Introduction to sediment geochemistry

Introduction to Fluvial Sedimentology

GIS and Satellital imagery in Geology

2004 Université Paul Sabatier Toulouse 3- Temporal Teaching and Research Assistant (ATER)

Structural geology
 Introduction to field mapping
 Introduction to Petrography
2001-2003 Université Paul Sabatier Toulouse 3- Temporary Teacher
 Introduction to Petrography
 GIS and Satellital imagery in Geology

STUDENT SUPERVISED

Post-doctoral Scholar

Tristan Rousseau : 2013-2014 « Traçage de la provenance et quantification des volumes de particules fines sédimentés sur les marges équatoriales de l'Amérique du sud (Orénoque, Demerara Amazone, Ceara) : implications pour les modèles de réservoirs en contexte géodynamique transformant »

Supervisors: Martin Roddaz (PI, ISI-FOR), Gérôme Calves (ISI-FOR) et Germain Bayon (EDROME)

Funding : Instituts Carnot ISI-FOR et EDROME (100k€on 1 year)

PhD students

Adrien Eude : 2010-2014 « Déformation et exhumation des Andes du Nord-Pérou et réponse sédimentaire dans le rétro-bassin d'avant-pays ». To be defended the 24th of october.

Supervisors : Martin Roddaz, Stéphanie Brichau and Patrice Baby

Funding : bourse MNRT et TOTAL (180k€sur 3 ans)

Mélanie Louterbach : 2010-2014 « Propagation du front orogénique sud andin et réponse sédimentaire dans le bassin amazonien (Pérou). Implication pour les systèmes pétroliers ». To be defended the 24th of october.

Supervisors : Patrice Baby and Martin Roddaz

Financement : bourse Lasalle-Beauvais et TOTAL/REPSOL (40k€sur 2 ans)

Francisco Parra : 2012-XXX « Reconstitutions environnementales et quantification de l'évolution sédimentaire du retro-bassin d'avant-pays Andes-Amazone »

Supervisors : Patrice Baby (DR IRD), Martin Roddaz and Gustavo Sarmiento (Prof UNC Bogota, Colombie)

Funding : bourse IRD et TOTAL/PALEOSEDES

Graduate students

Caroline Sanchez : « Reconstitution de l'exhumation cénozoïque des Andes Centrales à partir de l'étude de la provenance des sédiments du bassin amazonien (analyses géochimique (majeurs, trace et isotopie Nd-Sr) et minéralogique (RX et minéraux lourds) ». Université de Toulouse, juin 2012

Rabah Sayad : « Evolution plio-quaternaire de l'Arche d'Iquitos (Amazonie nord péruvienne) Étude géomorphologique, minéralogique et géochimique ». Rapport de stage du Master 2 Recherche « Sciences de la Terre et des Planètes Solides ». Université de Toulouse, juin 2008. 31 p.

Brice Campredon. « Etude de la provenance des sédiments de la varzée de Curuaï par l'approche de la géochimie isotopique (Sr et Nd) et de la minéralogie. ». Rapport de stage du Master 1 Master 1 Eaux, Sols, Environnement. Université de Toulouse, mai 2008. 25 p.

Sylvia Ganzerla. « Exhumation de la zone subandine du sud en bolivie (ZSA): apport de la thermochronologie basse temperature ». Rapport de stage du Master 2 Recherche « Sciences de la Terre et des Planètes Solides ». Université de Toulouse, juin 2007. 30 p. Co-encadrement avec Joachim Déramond.

Aymen Said. « Histoire orogénique tertiaire de l'Himalaya occidental: analyses géochimique, isotopique et minéralogique des sédiments des Collines Bugti (Balouchistan, Pakistan)». Université de Toulouse, juin 2007. 30 p.

Jonathan Aparicio. « Etude géochimiques des matières en suspensions (MES) des deux affluents principaux de l'Amazone : le Solimoes et le Madeira ». Rapport de stage du Master 1 Master 1 Eaux, Sols, Environnement. Université de Toulouse, mai 2006. 20 p.

Camille Blondel. « Etude géochimique des sédiments de plaine d'inondation de la Varzea Curuai (Amazonie –Brésil) ». Rapport de stage du Master 1 Master 1 Eaux, Sols, Environnement. Université de Toulouse, mai 2006. 32 p.

OTHER

WP2 coordinator of european project CLIM-AMAZON (FP7 INCO-LAB, www.clim-amazon.eu/) since 2014

Member of Institut Carnot ISI-FOR (<http://carnot-isifor.eu/>) since 2011

PEER-REVIEWED PUBLICATIONS

-In revision-

33.- Adrien Eude, **Martin Roddaz**, Stéphane Brusset, Ysabel Calderon, Patrice Baby, Stéphanie Brichau, Tectonic inheritance control on the exhumation and deformation of the Northern Peruvian Eastern Cordillera and Subandean zone as inferred by Low-Temperature Thermochronology and Balanced Cross-Section. *Tectonics*. In revision

32.- Mélanie Louterbach; **Martin Roddaz**, Patrice Baby, Julien Bailleul, Pierre-Olivier Antoine, Sylvain Adnet, J.H. Kim, E. van Soelen, Francisco Parra, Jean Gérard, Ysabel Calderon, Cyril Gagnaison, J.S. Sinninghe Damsté. Evidence for a late Paleocene marine incursion in Southern Amazonia (Madre de Dios Sub-Andean Zone, Peru). In revision- *Palaeogeography, Palaeoclimatology, Palaeoecology*

2014

31.-Martin Roddaz, Jérôme Viers, Patricia Moreira-Turcq, Camille Blondel, Francis Sontag Jean-Loup Guyot et Luciane Moreira, Evidence for the control of river-water chemical stratification on the geochemistry of Amazonian floodplain sediments. En révision à *Chemical Geology*

30.- Adriana Horbe, Ivaldo Trindade, Elton Dantas, Roberto Santos, **Martin Roddaz** Controls on the provenance of Quaternary and Modern floodplain sediments as inferred from major and trace elements geochemistry and Pb-Sr-Nd isotopes. Volume 411, 1 October 2014, Pages 144-154 *Palaeogeography, Palaeoclimatology, Palaeoecology*.

2013

29.- Benjamin Guillaume, Cécile Gautheron, Thibaud Simon-Labrie, Joseph Martinod, **Martin Roddaz**, Eric Douville, Dynamic topography control on Patagonian relief evolution as inferred from low temperature thermochronology. Volume 364, 15 February 2013, Pages 157-167. *Earth and Planetary Science Letters*

28.- Cécile Gautheron, Nicolas Espurt, Jocelyn Barbarand, **Martin Roddaz**, Patrice Baby, Stéphane Brusset, Laurent Tassan-Got et Eric Douville, Direct dating of thick- and thin-skin

thrusts in the Peruvian Subandean zone through apatite (U-Th)/He and fission track thermochronometers. Volume: 25 Issue: 4 Pages: 419-435 *Basin Research*

27- Pierre-Olivier Antoine, **Martin Roddaz**, Stéphanie Brichau, Julia Tejada-Lara, Rodolfo Sals-Gismondi, Ali Altamirano, Mélanie Louterbach, Luc Lambs, Thierry Otto, Stéphane Brusset. Early middle Miocene vertebrates from the Amazonian Madre de Dios Sub-Andean Zone, Perú . *Journal of South American Earth Sciences*. Volume 42, March 2013, Pages 91-102.

-2012-

26.- Laurent Marivaux, Rodolfo Salas-Gismondi, Julia Tejada, Guillaume Billet, Mélanie Louterbach, Jochem Vink, Julien Bailleul, **Martin Roddaz**, Pierre-Olivier Antoine. A platyrrhine talus from the early Miocene of Peru (Amazonian Madre de Dios Sub-Andean Zone) - *Journal of Human Evolution* Volume: 63 Issue: 5 Pages: 696-703 Novembre 2012 .jhevol.2012.07.005

25.- Martin Roddaz, Frédéric Christophoul, José David Burgos Zambrano et Patrice Baby, Provenance of Oligocene to Quaternary sediments of the Ecuadorian Amazonian foreland basin—*Journal of South American earth Sciences*, Volume 37, August 2012, Pages 136-153

-2011-

24.- Martin Roddaz, Aymen Said, Stéphane Guillot, Pierre-Olivier Antoine, Jean-Marc Montel, François Martin and José Darrozes, Provenance of Cenozoic sedimentary rocks from the Sulaiman Fold and Thrust belt, Pakistan: Implications for the paleogeography of the Indus drainage system – *The Journal of the Geological Society* 168 (2) 499-516 DOI: 10.1144/0016-76492010-100

23.- Nicolas Espurt, Jocelyn Barbarand, **Martin Roddaz**, Stéphane Brusset, Patrice Baby, Marianne Saillard, Wilber Hermoza,. A scenario for the Late Neogene Andean shortening transfer in the Camisea Subandean zone(Peru, 12°S): implications for growth of the northern Andean Plateau – *Geological Society of America Bulletin*. 123 (9-10) 2050-2068 DOI: 10.1130/B30165.1

-2010-

22.- Youssef Driouch, Didier Béziat, Michel Gregoire, Farid Laguenini, Mohamed Ben Abbou, Ahmed Ntarmouchant, **Martin Roddaz**, Mohamed Dahire, Ahmed Bennouna, Mohamed Belkasmi, Stéphane Brusset, Pierre Debat Clinopyroxene trace element compositions of cumulate mafic rocks and basalts from the Hercynian Moroccan Central Meseta: Petrogenetic implications. *Journal of African Earth Sciences*. : 56 (2-3): 97-106.

21.- Carina Hoorn, **Martin Roddaz**, Rodolfo Dino, Emilio Soares, Cornelius Uba, Diana Ochoa-Lozano et Russell Mapes The Amazonian Craton and its influence on past fluvial systems (Mesozoic-Cenozoic, Amazonia) 2010 – *Amazonia, Landscape and Species Evolution* Editors:C. Hoorn, F.P. Wesselingh, Blackwell Ed.

20. Andres Mora, Patrice Baby, **Martin Roddaz**, Mauricio Parra, Stéphane Brusset, Wilber Hermoza et Nicolas Espurt Tectonic history of the Andes and Subandean zones: Implications for the development of the Amazon drainage basin 2010 — *Amazonia, Landscape and Species Evolution* Editors:C. Hoorn, F.P. Wesselingh, Blackwell Ed.

19.. Martin Roddaz, Wilber Hermoza, Andres Mora, Patrice Baby, Mauricio Parra, Frédéric Christophoul, Stéphane Brusset et Nicolas Espurt Cenozoic sedimentary evolution of the Amazonian foreland basin system 2010 – *Amazonia, Landscape and Species Evolution* Editors:C. Hoorn, F.P. Wesselingh, Blackwell Ed.

18.. Nicolas Espurt, Patrice Baby, Stéphane Brusset, **Martin Roddaz**, Wilber Hermoza et Jocelyn Barbarand The Nazca Ridge and uplift of the Fitzcarrald Arch: Implications for regional geology in northern South America 2010– *Amazonia, Landscape and Species Evolution* Editors:C. Hoorn, F.P. Wesselingh, Blackwell Ed.

-2009-

17. Vincent Regard, Renaud Lagnous, Nicolas Espurt, José Darrozes, Patrice Baby, **Martin Roddaz**, Ysabel Calderon et Wilber. Hermoza Geomorphic evidence for recent uplift of the Fitzcarrald Arch (Peru): A response to the Nazca Ridge subduction, *Geomorphology*, Volume 107, Issues 3-4, 15 June 2009, Pages 107-117

16. Benjamin Guillaume, Joseph Martinod, Laurent Husson, **Martin Roddaz**, et Rodrigo. Riquelme, 2009. Neogene uplift of central-eastern Patagonia: dynamic response to active spreading-ridge subduction? *Tectonics*, 28, TC2009, doi:10.1029/2008TC002324.

15. Jean Olivier, Thierry Otto, **Martin Roddaz**, Pierre-Olivier Antoine, Ximena Londoño, Lynn G. Clark, 2008. First macrofossil evidence of a pre-Holocene thorny bamboo cf. *Guadua* (Poaceae: Bambusoideae: Bambuseae: Guaduiniae) in south-western Amazonia (Madre de Dios – Peru), *Review of Palaeobotany and Palynology*. Volume 153, Issues 1-2, January 2009, Pages 1-7

-2008-

14. Jérôme Viers, **Martin Roddaz**, Naziano Filizola, Jean-Loup Guyot, Francis Sondag, Pierre Brunet, Cyril Zouiten, Carole Boucayrand, François Martin, Geraldo Resende Boaventura, 2008. Seasonal and provenance controls on Nd–Sr isotopic compositions of Amazon rivers suspended sediments and implications for Nd and Sr fluxes exported to the Atlantic Ocean, *Earth and Planetary Science Letters*, Volume 274, Issues 3-4, 15 October 2008, Pages 511-523

-2007-

13. Martin Roddaz, Pierre Debat et Serge Nikiéma, 2007. Geochemistry of Upper Birimian sediments (major and trace elements and Nd–Sr isotopes) and implications for weathering and tectonic setting of the Late Paleoproterozoic crust. *Precambrian Research*. 159, 197-211.

12. Nicolas Espurt, Patrice Baby, Stéphane Brusset, **Martin Roddaz**, Wilber Hermoza, Vincent Regard, Pierre-Olivier Antoine, Rodolfo Salas-Gismondi, Rolando Bolanos, 2007. How does the Nazca Ridge subduction influence the modern Amazonian foreland basin? *Geology*. 35: 515-518.

-2006-

11 - Martin Roddaz , Jean-Claude Soula, Mohamed Ben Abbou, Stéphane Brusset , , Pierre Debat , Ahmed Ntarmouchant, Youssef Driouch et Didier Béziat , Comment on “The Moroccan Hercynides” by Hoepffner et al. (Journal of African Earth Sciences, vol. 43, pp. 144–165), *Journal of African Earth Sciences*, 45, 515-517;

10. Martin Roddaz, Stéphane Brusset, Patrice Baby et Gérard Hérail, 2006. Miocene tidal-influenced sedimentation to continental Pliocene sedimentation in the forebulge-backbulge depozones of the Beni-Mamore foreland basin (northern Bolivia), *Journal of South American Earth Sciences*. 20: 351-368.

9. Martin Roddaz, Jérôme Viers, Stéphane Brusset, Patrice Baby, Carole Boucayrand et Gérard Hérail, 2006. Control on weathering and provenance in the Amazonian foreland basin: Insights from major and trace element geochemistry of Neogene Amazonian sediments, *Chemical Geology*. 226: 31-65.

-2005-

8. Martin Roddaz, Jérôme Viers, Stéphane Brusset, Patrice Baby et Gérard Hérail, 2005. Sediment provenances and drainage evolution of the Neogene Amazonian foreland basin, *Earth and Planetary Science Letters*. 239: 57-78.

7. Martin Roddaz, Patrice Baby, Stéphane Brusset, Wilber Hermoza et José Maria Darrozes, 2005. Forebulge dynamics and environmental control in Western Amazonia: The case study of the Arch of Iquitos (Peru), *Tectonophysics*. 399: 87-108.

6. Wilber Hermoza, Patrice Baby, Stéphane Brusset, Willy Gil, **Martin Roddaz**, Nicole Guerrero et Rolando Bolaños, 2005. The Huallaga foreland basin evolution: Thrust propagation in a deltaic environment, northern peruvian Andes, *Journal of South American Earth Sciences*. 19: 21-34.

5. Jussi Hovikoski, Mätti Räsänen, Murray Gingras, **Martin Roddaz**, Stéphane Brusset, Wilber Hermoza, Lidia Romero Pittman et Kalle Lertola, 2005. Miocene semi-diurnal tidal rhytmities in Madre de Dios, Peru, *Geology*. 33: 177-180.

-2003 –

4 - Pierre Debat, Serge Nikiéma, Alain Mercier, Martin Lompo, Didier Béziat, François Bourges, **Martin Roddaz**, Stefano Salvi, Francis Tollon et Urbain Wenmenga, A new metamorphic constraint for the Eburnean Orogeny from Paleoproterozoic formations of the Man shield (Aribinda and Tampelga countries, Burkina Faso), *Precambrian Research*, vol 123 (1), pp. 47-65;

3 - Frédéric Christophoul, Jean-Claude Soula, Stéphane Brusset, Brice Elibana, **Martin Roddaz**, Gilbert Bessière et Joachim Déramond, Time, place and mode of propagation of foreland basin systems as recorded by the sedimentary fill: examples of the Late Cretaceous and Eocene retro-foreland basins of the north-eastern Pyrenees. In *Tracing Tectonic Deformation Using the Sedimentary Record. Geological Society of London, Special Publications n° 208*, pp229-252;

-2002 –

2 - **Martin Roddaz**, Stéphane Brusset, Jean-Claude Soula, Pierre Debat, Mohamed Ben Abbou, Didier Béziat, Youssef Driouch, Frédéric Christophoul, Ahmed Ntarmouchant et Joachim Déramond, Foreland basin magmatism in the Western Moroccan Meseta and geodynamic inferences., *Tectonics* 21(5), 1043, doi:10.1029/2001TC901029;

-2001-

1 – Mohamed Ben Abbou, Jean-Claude Soula, Stéphane Brusset, **Martin Roddaz**, Ahmed N'Tarmouchant, Youssef Driouch, Frédéric Christophoul, Mohamed Bouadbelli, Claude Majesté-Menjoulas, Didier Béziat, Pierre Debat et Joachim Déramond, 2001. Contrôle

tectonique de la sédimentation dans le système de bassins d'avant-pays de la Meseta marocaine-Controls of deposition by thrust-propagation folds in the Moroccan Meseta foreland basin system. *Cr. Acad. Sci. Paris*, 332, 703-709 ;