

Sébastien Bertrand, Ph.D.

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Nationality: Belgian
Civil status: single

Date of birth: 12 June 1979
Place of birth: Namur, Belgium



Research interests

- o Multiproxy sedimentary record of climate change and tectonics (lakes and continental margins)
- o Paleoclimatology of southern South America
- o Inorganic geochemistry, bulk organic geochemistry, grain-size, mineralogy, physical properties of sediments

Education

February 2005	Ph.D. Geology (Quaternary sedimentology and paleoclimatology)	University of Liège , Highest honors (suma cum laude)
September 2002	M.Sc. Geology (DEA)	University of Liège , High honors
September 2001	B.Sc. Geology (Licence)	University of Liège , Highest honors

Professional experience

Research

Nov. 2006 – Present	EU Marie Curie Postdoctoral research fellow at the Woods Hole Oceanographic Institution, USA. CLIVASA project: The multi-proxy study of Chilean fjord sediments: a high-resolution record of CLimate VARIability in South America since the end of the Last Glacial Maximum. Advisor: K. Hughen.
Nov. 2005 – Nov. 2006	BAEF Postdoctoral research fellow at the Woods Hole Oceanographic Institution, USA. Late Holocene paleoclimate variability of southern Chile inferred from Chilean fjord sediments (44-47°S). Advisor: K. Hughen.
Mar. 2005 – Oct. 2005	Research Assistant at Brunel University (West London, UK) in the framework of the European RELIEF project (post doctoral research stay). Reconstruction of the seismo-tectonic activity of Turkey from lake and lagoon sediments. Advisor: S. Leroy. EU contract.
Oct. 2001 – Feb. 2005	PhD student. Sedimentation in Icalma and Puyehue lakes (Southern Chile, 40°S) since the Last Glacial Maximum: reconstruction of climate variability and seismotectonic activity. Supervisor: N. Fagel (ULg). OSTC grant.
Oct. 2001 – Sep. 2002	Master student. Characterization of lacustrine sedimentary sources in the Chilean Lake District. Example of Icalma and Puyehue lakes (40°S). Supervisor: N. Fagel (ULg)
July 2000 – Sep. 2001	Graduate student. Holocene depositional history and profile type mapping of the central part of the IJzer palaeovalley (Belgian coastal plain). Supervisors: C. Baeteman (Belgian geological survey) and F. Boulvain (ULg)

Teaching and supervision

May 2008 – Aug. 2008	Training of WHOI research assistant Justin Ossolinski and summer Guest Student Kate Furby - trace element analysis of coral samples by ICP-AES
January 2008	Teaching of 3 classes ("Sedimentological proxies", "Paleoclimate reconstructions in southern Chile" and "Practical activities") during the Summer School "Cambio climático global: Una Perspectiva Paleoambiental" at the University of Concepción, Chile.

May 2007 – Aug. 2007	Co-supervision and training of WHOI summer Guest Student Alysha Coppola (trace element analysis of coral samples by ICP-AES: sample preparation, method development and data analysis).
Sep. 2003 – Sep. 2004	Supervision of the graduate thesis of Julie Castiaux (ULg) and of the training stay in Belgium of Alvaro Barrientos (Chilean student).
Sep. 2000 – Apr. 2001	Student assistant at the Sedimentary Petrology Research Unit of the University of Liège, Prof. F. Boulvain. Teaching the practical course "Sedimentary Petrology" (3 rd year in Geology).

Fieldwork

January 2008	Coring of lakes in Chilean Patagonia (Cochrane, Chile, 47°S) in collaboration with the EULA research center (Concepcion, Chile), 10 days.
January 2007	Coring of lakes in Chilean Patagonia (Coyhaique, Chile, 46°S) in collaboration with the EULA research center (Concepcion, Chile) and the "Centro de Investigación en Ecosistemas de la Patagonia" (CIEP, Coyhaique, Chile). 15 days.
July 2005	Fieldwork in the watershed of Hersek Lagoon and Lake Sapanca (Turkey). Sampling in the framework of the EU RELIEF project, 10 days.
Dec. 2003	Fieldwork in the watersheds of Puyehue and Icalma lakes, Chile, 10 days.
May-Jun. 2003	PICASSO and SEDICAR missions on board of the R/V Marion Dufresne, 40 days. Mission chiefs: C. Laj (LSCE, PICASSO mission) and J.-F. Bourillet (IFREMER, SEDICAR mission). Coring in the North Atlantic in the framework of the IMAGES program between Cancun (Mexico) and Brest (France).
May 2002	Geology of Pyrenees and Massif Central, France, 10 days. Leaders: E. Poty, F. Boulvain and J. Thorez.
Dec. 2001 – Mar. 2002	Sampling and coring in the Chilean Lake District, in the framework of the OSTC project "A Late Holocene Record of ENSO Variability in Southern Chile", 80 days. Project coordinator: M. De Batist (U. Ghent).
June 2001	Co-leader (with C. Baeteman) of the Geologica Belgica Fieldmeeting: The western belgian coastal plain, part 1: IJzer palaeovalley, Holocene geology and mapping.
May 2001	Geology of the armorican massif, Brittany, France, 5 days. Leaders: J-C Duchesne & J. Vander Auwera.
Apr - May 2001	Littoral geomorphology and quaternary sedimentology of northern Sardinia, 12 days. Leader: A. Ozer.
April 2000	Endogenous and metamorphic petrology of the Maures Massif, Southern France, 5 days. Leader: J-C Duchesne.

External Research activities and participation to workshops

Sep. 2008	IODP-ICDP Workshop "Acquiring high to ultra-high resolution geological records of past climate change by scientific drilling", Potsdam, Germany, 3 days.
April 2008	ESF EuroCLIMATE Spring School on "Late Quaternary timescales and Chronology", Piran, Slovenia, 5 days.
May 2005	Workshop "Marine and continental paleoclimate records of Chile and Argentina". Gent, Belgium, 2 days.
April 2005	High resolution physical properties analysis of sediments (40 m of cores) with a Geotek multi-sensor track, GFZ, Potsdam, Germany, 5 days.
Dec. 2003	Analysis of the biogenic silica content of Puyehue Lake sediments by alkaline extraction. EULA Research Center, Concepción, Chile (Prof. R. Urrutia), 3 weeks.
May 2002	High resolution physical properties analyses of sediments (90 m of cores) with a Geotek multi-sensor track, GFZ, Potsdam, Germany, 7 days.

Professional affiliations

European Geosciences Union (EGU), American Geophysical Union (AGU), Quaternary Research Association (QRA), Association des Sédimentologues Français (ASF), Geologica Belgica

Skills

Technical experience

- Inorganic geochemistry: ICP-AES (JY Ultima-C, mono- and polychromator), iTrax XRF core scanner, ARL 9400 X-ray spectrometer
- Bulk and clay mineralogy: X-ray diffraction (Bruker D8 Advance, Philips PW3710)
- Grain-size: Laser particle analyzer (Malvern Mastersizer 2000 and Coulter LS13320) and sieving
- Magnetic susceptibility, p-wave velocity and γ -density: Geotek multisensor track and Bartington MS meter.
- Organic geochemistry: Elemental analyzer and IR-MS (TOC, TON, $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$), ASE (Accelerated Solvent Extractor), chromatographic separation.

Informatics

- Good knowledge of: Word, Excel, Power Point, Frontpage, Grapher, Origin, Endnote, Arcview GIS, Adobe Photoshop and CorelDraw.
- Realization and maintenance of the URAP lab web page (2001-2005): www.ulg.ac.be/urap
- Responsible of the URAP network (2001-2005)

Languages

French (mother tongue); English (fluent knowledge); Spanish (functional knowledge); Dutch (basic knowledge)

Publications

A. International magazines

1. **BERTRAND, S.**, & BAETEMAN, C. (2005) — Sequence mapping of Holocene coastal lowlands. The application of the Streif's classification system in the Belgian coastal plain. *Quaternary International*, **133-134**, 151-158.
2. **BERTRAND, S.**, BOËS, X., CASTIAUX, J., CHARLET, F., URRUTIA, R., ESPINOZA, C., CHARLIER, B., LEPOINT, G., & FAGEL, N. (2005) — Temporal evolution of sediment supply in Lago Puyehue (Southern Chile) during the last 600 years and its climatic significance. *Quaternary Research*, **64/2**, 163-175.
3. CHIRINOS, L., URRUTIA, R., FAGEL, N., **BERTRAND, S.**, GAMBOA, N., ARANDEA, A., & ZAROR, C. (2005) — Chemical profiles in lake sediment of Laguna Chica de San Pedro (Bio-Bio Region, Chile). *Journal of the Chilean Chemical Society*, **50 (4)**, 697-710.
4. CRUCES, F., URRUTIA, R., PARRA, O., ARANEDA, A., TREUTLER, H., **BERTRAND, S.**, FAGEL, N., TORRES, L., BARRA, R., & CHIRINOS, L. (2006) — Changes in diatom assemblages in an Andean lake in response to a recent volcanic event. *Archiv für Hydrobiologie*, **165 (1)**, 23-35.
5. ARNAUD, F., MAGAND, O., CHAPRON, E., **BERTRAND, S.**, BOËS, X., CHARLET, F., & MÉLIÈRES, M.A. (2006) — Radionuclides dating (^{210}Pb , ^{137}Cs , ^{241}Am) of recent lake sediments in a highly active geodynamic setting (Lakes Puyehue and Icalma, Chilean Lake District). *Science of the Total Environment*, **366**, 837-850.
6. URRUTIA, R., ARANEDA, A., CRUCES, F., TORRES, L., CHIRINOS, L., TREUTLER, H., FAGEL, N., **BERTRAND, S.**, ALVIAL, I., BARRA, R., & CHAPRON, E. (2007) — Changes in diatom, pollen, and chironomid assemblages in response to a recent volcanic event in Lake Galletué (Chilean Andes). *Limnologia*, **37**, 49-62.
7. ARANEDA, A., CRUCES, F., TORRES, L., **BERTRAND, S.**, FAGEL, N., TREUTLER, H., CHIRINOS, L., BARRA, R., URRUTIA, R. (2007) — Changes of sub-fossil chironomid assemblages associated with volcanic sediment deposition on an Andean lake (38°S), Chile. *Revista Chilena de Historia Natural*, **80**, 141-156.
8. CHAPRON, E., JUVIGNÉ, E., MULSOW, S., ARIZTEGUI, D., MAGAND, O., **BERTRAND, S.**, PINO, M., & CHAPRON, O. (2007) — Recent clastic sedimentation in Lake Puyehue (Chilean Lake District, 40.5°S). *Sedimentary Geology*, **201 (3-4)**, 365-385.
9. **BERTRAND, S.**, CHARLET, F., CHARLIER, B., RENSON, V., & FAGEL, N. (2008) — Climate variability of Southern Chile since the Last Glacial Maximum: a continuous sedimentological record from Lago Puyehue (40°S). *Journal of Paleolimnology*, **39**, 179-195.
10. STERKEN, M., VERLEYEN, E., SABBE, K., TERRYN, G., CHARLET, F., **BERTRAND, S.**, BOËS, X., FAGEL, X., DE BATIST, M., & VYVERMAN, W. (2008) — Late Quaternary climatic changes in Southern Chile, as recorded in a diatom sequence of Lago Puyehue (40°40'S). *Journal of Paleolimnology*, **39**, 219-235.

11. CHARLET F., DE BATIST M., CHAPRON E., **BERTRAND S.**, PINO M., & URRUTIA R. (2008) — Seismic-stratigraphy of Lago Puyehue (Chilean Lake District): new views on its deglacial and Holocene evolution. *Journal of Paleolimnology*, **39**, 163-177.
12. **BERTRAND, S.**, & FAGEL, N. (2008) — Nature, origin, transport and deposition of andosol parent material in south-central Chile (36-42°S). *Catena*, **73** (1), 10-22.
13. **BERTRAND, S.**, CHARLET, F., CHAPRON, E., FAGEL, N., & DE BATIST, M. (2008) — Reconstruction of the Holocene seismotectonic activity of the Southern Andes from seismites recorded in Lago Icalma, Chile, 39°S. *Palaeogeography, Palaeoclimatology, Palaeoecology*. **259** (2-3), 301-322.
14. JUVIGNÉ, E., **BERTRAND, S.**, HEUSCHEN, B., & TALLIER, E. (2008) — Tephrostratigraphy of lake sediments located in an active geodynamic setting: Lessons from Lake Icalma (Chile, Southern Volcanic Zone, 38°S). *Quaternaire*, **19** (2), 179-193.
15. **BERTRAND, S.**, CASTIAUX, J., & JUVIGNÉ, E. (2008) — Tephrostratigraphy of the Late Glacial and Holocene sediments of Puyehue Lake (Southern Volcanic Zone, Chile, 40°S). *Quaternary Research*. DOI 10.1016/j.yqres.2008.06.001
16. REBOLLEDO, L., SEPÚLVEDA, J., LANGE, C., PANTOJA, S., **BERTRAND, S.**, HUGHEN, K., & FIGUEROA, D. — Late Holocene marine productivity changes in Northern Patagonia-Chile inferred from a multi-proxy analysis of Jacaf channel sediments. *Estuarine, Coastal and Shelf Sciences*, in press. DOI 10.1016/j.ecss.2008.08.016
17. SEPÚLVEDA, J., PANTOJA, S., HUGHEN, K., **BERTRAND, S.**, FIGUEROA, D., & LANGE, C. — Late Holocene temperature and precipitation variability in Northern Patagonia, Chile: Regional connections evidenced from the Jacaf fjord (44°S). *Quaternary Research*, accepted.
18. SCHWAB, M., WERNER, P., DULSKI, P., MCGEE, E., NOWACZYK, N., **BERTRAND, S.**, & LEROY, S. — Palaeolimnology of Lake Sapanca: identification of historic earthquake signals at the Northern Anatolian Fault Zone (Turkey). Submitted to *Quaternary Science Reviews*.
19. FAGEL, N., **BERTRAND, S.**, MATTIELLI, N., GILSON, D., CHIRINOS, L., LEPOINT, G., URRUTIA, R. — Geochemical evidence (C, N and Pb isotopes) of recent anthropogenic impact in South-Central Chile from two contrasted lake sediment records. Submitted to *Journal of Quaternary Science*.
20. **BERTRAND, S.**, STERKEN, M., VARGAS-RAMIREZ, L., DE BATIST, M., VYVERMAN, W., LEPOINT, G., & FAGEL, N. — Bulk organic geochemistry of sediments from Puyehue Lake and its watershed (Chile, 40°S): Implications for paleoenvironmental reconstructions. Submitted to *Palaeogeography, Palaeoclimatology, Palaeoecology*.

B. In preparation

1. **BERTRAND, S.**, CAGATAY, N., DONER, L., SANCAR, U., AKCER, S., LEROY, S. — Late Holocene evolution of the sedimentary infill of Hersek coastal lagoon (Turkey, Izmit Bay): Relationships with tsunamis in the Sea of Marmara. *Marine Geology*.
2. **BERTRAND, S.**, HUGHEN, K., SEPÚLVEDA, J., PANTOJA, S., & LANGE, C. — Spatial variability of sediment composition in the fjords of Northern Chilean Patagonia (44-47°S): Implications for paleoclimate reconstructions. *Limnology and Oceanography*.

C. Abstract of meetings

1. **S. BERTRAND** (2001) — Holocene depositional history and profile type mapping of the IJzer palaeovalley (Belgian coastal plain). Abstract and oral communication. Abstract published in *Geologica Belgica*, **5** (1-2), p. 62.
2. **S. BERTRAND** & N. FAGEL (2003) — Use and limits of paleoclimatological proxies in lacustrine sediments: The case study of the volcanically active Lake District area (Southern Chile). IGBP, Punta Arenas, Chile. Abstract and Poster
3. E. CHAPRON, M. DE BATIST, N. FAGEL, M. PINO, R. URRUTIA, F. CHARLET, R. BRÜMMER, W. SAN MARTIN, A. MORA, K. DE RYCKER, **S. BERTRAND**, X. BOES, L. VARGAS, C. BECK, F. ARNAUD, V. LIGNIER, F. DEVLEESCHOUWER, O. MAGAND, M.F. LOUTRE, V. RENSON, M. TARDY, E. JUVIGNÉ, E. ROCHE. (2003) — Multidisciplinary study of Holocene sedimentation in lakes Icalma and Puyehue (Chilean Lake District, SW Andes): First results and implications for climate variability reconstructions. IGBP, Punta Arenas, Chile. Abstract and oral communication.
4. F. CHARLET, **S. BERTRAND**, E. CHAPRON, N. FAGEL & M. DE BATIST (2003). Characterization of the sedimentary environments in Lago Puyehue and Lago Icalma (Chilean Lake District, SW Andes). 3rd International Limnogeology Congress (ILIC3), Tucson (Arizona). Abstract.

5. DE BATIST M., CHAPRON E., FAGEL N., PINO M., URRUTIA R., CHARLET F., BRÜMMER R. SAN MARTIN W., MORA A., DE RYCKER K., **BERTRAND S.**, BOES X., VARGAS L., BECK C., ARNAUD F., LIGNIER V., DEVLEESCHOUWER F., MAGAND O., LOUTRE M.L., RENSON V., TARDY M., JUVIGNÉ E. AND ROCHE E. (2003). Multidisciplinary study of Holocene sedimentation in lakes Icalma and Puyehue (Chilean lake district , SW Andes): First results and implications for climate variability reconstructions. 3rd International Limnogeology Congress (ILIC3), Tucson (Arizona). Abstract
6. **S. BERTRAND**, N. FAGEL & THE ENSO-CHILE TEAM (2003) - Search for continuous paleoclimatic record in Holocene lacustrine sediments from the Lake District, Chile (40°S). EGS-AGU-EUG Joint Assembly, Nice. Abstract and oral communication.
7. F. CHARLET, **S. BERTRAND**, E. CHAPRON, N. FAGEL & M. DE BATIST (2003) - Geophysical characterization of the sedimentary environments in Lago Puyehue and Lago Icalma (Chilean Lake District, SW Andes). EGS-AGU-EUG Joint Assembly, Nice. Abstract and Poster.
8. M. DE BATIST, E. CHAPRON, N. FAGEL, M. PINO, R. URRUTIA, M.F. LOUTRE, F. CHARLET, K. DE RYCKER, **S. BERTRAND**, X. BOËS, F. DE VLEESCHOUWER, E. JUVIGNÉ, V. RENSON, E. ROCHE, L. VARGAS, R. BRÜMMER, A. MORA, W. SAN MARTIN, F. ARNAUD, C. BECK, V. LIGNIER, O. MAGAND & M. TARDY (2003) - Multidisciplinary study of Holocene sedimentation in lakes Icalma and Puyehue, Chilean Lake District, SW Andes. EGS-AGU-EUG Joint Assembly, Nice. Abstract and Poster.
9. N. FAGEL, M. DE BATIST, E. CHAPRON, E. JUVIGNÉ, M. PINO, R. URRUTIA, M.F. LOUTRE, F. CHARLET, K. DE RYCKER, **S. BERTRAND**, X. BOËS, F. DE VLEESCHOUWER, V. RENSON, E. ROCHE, L. VARGAS, R. BRÜMMER, A. MORA, W. SAN MARTIN, F. ARNAUD, C. BECK, V. LIGNIER, O. MAGAND, M. TARDY, M. STERKEN, E. VERLEYEN, K. SABBE, W. VYVERMAN – A Holocene Record of ENSO changes in lacustrine sediments from meridional Chile (38-40°S). (2003). The XVI INQUA congress, Reno, Nevada, USA. Abstract and Poster
10. **S. BERTRAND**, F. CHARLET, V. RENSON, X. BOES, L. VARGAS-RAMIREZ, F. ARNAUD, V. LIGNIER, E. CHAPRON, C. BECK, O. MAGAND, N. FAGEL & M. DE BATIST (2003) – Holocene sedimentation in Icalma and Puyehue Lakes (Southern Chile): Instantaneous vs continuous records. 10° Congreso Geológico Chileno, Concepcion, Chile. Extended abstract and poster.
11. **S. BERTRAND**, F. CHARLET, V. RENSON, E. CHAPRON, N. FAGEL & M. DE BATIST (2003) – Dépôts événementiels holocènes enregistrés dans les sédiments du lac Icalma (Chili méridional). 9^{ème} Congrès des Sédimentologues Français (ASF), Bordeaux, France. Abstract and Poster
12. **S. BERTRAND**, C. BAETEMAN, L. MARIEN & P.-Y. DECLERCQ (2003) – Cartographie par types de profil des dépôts côtiers holocènes : application d'un système de classification lithogénétique (plaine côtière belge). 9^{ème} Congrès des Sédimentologues Français (ASF), Bordeaux, France. Abstract and poster.
13. N. FAGEL, **S. BERTRAND**, X. BOËS, F. DEVLEESCHOUWER, E. JUVIGNÉ, V. RENSON, E. ROCHE, L. VARGAS, M. DE BATIST, F. CHARLET, E. CHAPRON, F. ARNAUD, M. PINO, R. URRUTIA, M.F. LOUTRE AND ENSO-CHILE TEAM (2003) – A Holocene record of ENSO changes in lacustrine sediments from meridional Chile (38-40°S). Belqua, Louvain-la-Neuve. Abstract and oral communication.
14. **S. BERTRAND**, F. CHARLET, R. URRUTIA, C. ESPINOZA, B. CHARLIER, V. RENSON, M. DE BATIST & N. FAGEL (2004) – Paleoproductivity of Puyehue Lake (Southern Chile) during the Last Millennium: climatic significance. 1st General Assembly European Geosciences Union (EGU), Nice, France. Abstract and Poster.
15. E. CHAPRON, **S. BERTRAND**, F. CHARLET, X. BOES, M. DE BATIST, N. FAGEL, O. MAGAND, F. ARNAUD, M.A. MELIERES, M. PINO, R. URRUTIA – Sedimentary processes in lake puyehue over the last 500 years: implications for paleoenvironmental reconstructions in the chilean Lake District (41°S). GEOSUR, Buenos Aires, Argentina. Abstract.
16. F. CHARLET, C. MARCHAND, **S. BERTRAND**, E. CHAPRON, M. PINO, R. URRUTIA & M. DE BATIST (2004) - Geophysical reconstruction of the sedimentary infill of Lago Icalma (39°S, Chilean Lake District) since the last deglaciation. GEOSUR, Buenos Aires, Argentina. Abstract
17. **S. BERTRAND** (2004) – Climate reconstruction of Southern Chile (40°S) since the Late Glacial: paleolimnological evidences. Quaternary Research Association 3rd International Postgraduate Symposium, Brussels, Belgium. Abstract and oral presentation.
18. E. CHAPRON, F. CHARLET, **S. BERTRAND**, M DE BATIST, M. PINO, F. ARNAUD, O. MAGAND, R. URRUTIA (2005) – Normal versus earthquake-induced clastic sedimentation processes in Lago Puyehue, Chilean Lake District, 41°S. 2nd General Assembly European Geosciences Union (EGU), Vienna, Austria. Abstract
19. **S. BERTRAND**, F. CHARLET, B. CHARLIER, V. RENSON & N. FAGEL (2005) – Climate variability of Southern Chile since the Last Glacial Maximum : a continuous sedimentological record from Lago Puyehue (40°S). 2nd General Assembly European Geosciences Union (EGU), Vienna, Austria. Abstract and oral communication.

20. E. CHAPRON, M. PINO, F. CHARLET, **S. BERTRAND**, O. MAGAND, F. ARNAUD, M. DE BATIST, R. URRUTIA (2005) – Lago Puyehue sedimentary record of Valdivia 1960 major earthquake and associated volcanic eruption in the Chilean Lake District. Holocene environmental catastrophes in South America: from the lowlands to the Andes congress, Argentina. Abstract and poster.
21. M. DE BATIST, F. ARNAUD, X. BOËS, C. BECK, **S. BERTRAND** & 20 OTHERS (2005) – A 18,000-year multiproxy lacustrine record of variations in climate, volcanic activity and seismicity from Lago Puyehue, Chilean Lake District (40°S). New approaches to Quaternary Science in Fuego-Patagonia, Puerto Natales, Chile. Abstract
22. **S. BERTRAND**, F. CHARLET, M. STERKEN, L. VARGAS, X. BOËS, V. RENSON, E. JUVIGNÉ, E. ROCHE, W. VYVERMAN, N. FAGEL & M. DE BATIST (2005) The multi-proxy study of Lago Puyehue sediments: A record of millennial-scale climate variability in Southern Chile since the Last Glacial Maximum. Workshop "Marine and continental paleoclimate records of Chile and Argentina". Gent, Belgium. Oral communication.
23. **BERTRAND, S.**, CAGATAY, N., DONER, L., SANCAR, U., AKCER, S., LEROY, S. (2005) – Evolution of the sedimentary infilling of Hersek lagoon (Tukey, Izmit Bay): Possible relationships with tsunamis in the Sea of Marmara. Dark Nature Como Meeting, Italy. Abstract.
24. **BERTRAND, S.**, BOËS, X., CASTIAUX, J., CHARLET, F., URRUTIA, R., ESPINOZA, C., CHARLIER, B., LEPOINT, G., FAGEL, N. & DE BATIST, M. (2005) – Evolution temporelle des apports sédimentaires dans le lac Puyehue (Chili méridional) au cours des 600 dernières années: Un enregistrement du petit âge glaciaire en Amérique du Sud. 10^{ème} Congrès de l'Association des Sédimentologues Français (ASF), Presqu'île de Giens, France. Abstract and oral communication.
25. **BERTRAND, S.**, CAGATAY, N., DONER, L., SANCAR, U., AKCER, S., LEROY, S. (2005) – Evolution du remplissage sédimentaire de la lagune d'Hersek (Turquie, Golfe d'Izmit) : Relations possibles avec les tsunamis en mer de Marmara. 10^{ème} Congrès de l'Association des Sédimentologues Français (ASF), Presqu'île de Giens, France. Abstract and oral communication.
26. **BERTRAND, S.**, STERKEN, M., LEPOINT, G., VYVERMAN, W., FAGEL, N. (2006) – Paleoclimate variability of Southern Chile during the last 17,900 years reconstructed by organic geochemical properties (C/N, $\delta^{13}\text{C}$) of Lago Puyehue sediments (40°S). European Geosciences Union (EGU), Vienna, Austria. Abstract and poster.
27. **BERTRAND, S.**, HUGHEN, K., GIOSAN, L., TIERNEY, J., SEPÚLVEDA, J., PANTOJA, S. (2006) – Late Holocene climate variability of South America reconstructed by a multi-proxy analysis of Chilean fjord sediments. European Geosciences Union (EGU), Vienna, Austria. Abstract and poster.
28. **BERTRAND, S.**, CAGATAY, N., DONER, L., SANCAR, U., AKCER, S., LEROY, S. (2006) – Evolution of the Late Holocene sedimentary infill of Hersek Lagoon (Turkey, Izmit Bay): Use and limits for the reconstruction of past tsunamis in the Sea of Marmara. European Geosciences Union (EGU), Vienna, Austria. Abstract and oral communication.
29. LANGE, C., PANTOJA, S., REBOLLEDO, L., SEPULVEDA, J., WELLNER, J., ANDERSON, J., HUGHEN, K., **BERTRAND, S.** (2006) – The Chilean fjords. European Geosciences Union (EGU), Vienna, Austria. Abstract and oral communication.
30. **S. BERTRAND**, N. FAGEL, F. CHARLET, G. LEPOINT, M. STERKEN, W. VYVERMAN, & M. DE BATIST (2006) – Climate variability of southern Chile since the Last Glacial Maximum: A continuous multi-proxy sedimentological record from Lago Puyehue (40°S). 10th International Paleolimnology Symposium. Duluth, Minnesota, USA. Abstract and oral communication.
31. URRUTIA R., ARANEDA A., CRUCES F., TORRES L., CHIRINOS L., TREUTLER H.C., FAGEL N., **BERTRAND S.**, BARRA R., ALVIAL I. AND CHAPRON E. (2006). Changes in diatoms, chironomids and pollen assemblages as response to a recent volcanic event in lake Galletue (Chilean Andes). 10th International Paleolimnology Symposium. Duluth, Minnesota, USA. Abstract and poster.
32. **BERTRAND, S.**, HUGHEN, SEPÚLVEDA, J., PANTOJA, S. & LANGE, C. (2007) – Late Holocene climate variability of Northern Patagonia reconstructed by a multi-proxy analysis of Chilean fjord sediments (44-47°S). European Geosciences Union (EGU), Vienna, Austria. Abstract and poster.
33. **BERTRAND, S.**, CHARLIER, B., & FAGEL, N. (2007) – Inorganic geochemical analysis of Lago Puyehue sediments (Chile, 40°S): Reconstruction of the Late Quaternary paleoclimate variability and influence of the volcanic activity on paleoclimate proxies. European Geosciences Union (EGU), Vienna, Austria. Abstract and poster.
34. FAGEL, N., GILSON, D., MATTIELLI, N., **BERTRAND, S.**, LEPOINT, G., CHIRINOS, L., & URRUTIA, R. (2007) – Tracking of anthropogenic influences in the last centuries in Southern Chilean lakes: Organic (C/N, $\delta^{13}\text{C}$) and Pb isotope geochemical signatures of Laguna Chica de San Pedro (36.4°S) and Lago Puyehue (40.7°S) sediments. European Geosciences Union (EGU), Vienna, Austria. Abstract and poster.

35. M. DE BATIST, F. ARNAUD, X. BOËS, C. BECK, **S. BERTRAND** & 20 OTHERS (2007) – An 18,000-year multiproxy lacustrine record of climate variability in south-central Chile (40°S): Lago Puyehue, Chilean Lake District. European Geosciences Union, Vienna, Austria, Abstract and poster.
36. **BERTRAND, S.**, FAGEL, N., & DEBATIST, M. (2007) – Late Quaternary paleoclimate variability of Southern Chile from bulk organic and inorganic geochemical analyses of Lago Puyehue sediments (40°S). 4th International Limnogeology Congress, Barcelona, Spain. Abstract and oral communication.
37. **BERTRAND, S.**, FAGEL, N., GILSON, D., MATTIELLI, N., LEPOINT, G., CHIRINOS, L., & URRUTIA, R. (2007) – Evidence of anthropogenic impact in Southern Chile from the geochemical sedimentary record (Pb isotopes, C/N and d13C) of Laguna Chica de San Pedro (36°S) and Lago Puyehue (40°S). 4th International Limnogeology Congress, Barcelona, Spain. Abstract and poster.
38. URRUTIA R., ARANEDA A., TORREJON, F., AGUAYO, M., TORRES L., CRUCES F., BARRA, R., **BERTRAND S.**, FAGEL N. (2007). Matching the historical evidences of the Little Ice Age (LIA) occurrence in northern patagonia (Chile) with sedimentary lacustrine records. 4th International Limnogeology Congress, Barcelona, Spain. Abstract and poster.
39. **BERTRAND, S.**, HUGHEN, SEPÚLVEDA, J., PANTOJA, S. & LANGE, C. (2007) – Climate variability of southern South America during the Late Holocene: The multi-proxy sedimentary record of Chilean fjord sediments (46°S). American Geophysical Union (AGU) Fall Meeting, San Francisco, USA. Abstract and poster.
40. URRUTIA, R., ARANEDA, A., TORREJON, F., TORRES, L., CRUCES, F., BARRA, R., DE LA FUENTE, M., ALVAREZ, D., **BERTRAND, S.** & FAGEL, N. (2008) – The last 2000-yr in Patagonia, an assessment of climatic and environmental change in Southern Chile: introducing the research project Fondecyt 1070508. European Geosciences Union (EGU), Vienna, Austria. Abstract and poster.
41. **BERTRAND, S.** (2008) – Paleoclimate reconstructions in southern Chile: How to improve the chronology of the Puyehue sedimentary record? ESF Spring School Late Quaternary Timescales and Chronology, Piran, Slovenia. Oral communication.
42. **BERTRAND, S.** (2008) – Sedimentary record of paleoclimate and paleoenvironmental changes during the Late Quaternary in south-central Chile (35-55°S). ESF Spring School Late Quaternary Timescales and Chronology, Piran, Slovenia. Poster.
43. **BERTRAND, S.**, STERKEN, M., FAGEL, N., DE BATIST, M. (2008) – Abrupt climate changes in south-central Chile during the last deglaciation (18-10 kyr) revealed by the bulk organic geochemical record of Puyehue Lake sediments (40°S). 4th Alexander von Humboldt International Conference. The Andes: Challenge for Geosciences, Santiago, Chile. Abstract and poster.
44. **BERTRAND, S.**, DE BATIST, M., STERKEN, M., FAGEL, N. (2008) – Abrupt climate changes in south-central Chile during the last deglaciation (18-10 kyr) revealed by the bulk organic geochemical record of Puyehue Lake sediments (40°S). American Geophysical Union (AGU) Fall Meeting, San Francisco, USA. Abstract and poster.

D. Thesis, reports and field guides

1. BAETEMAN, C. & **BERTRAND, S.** (2001) — IJzer palaeovalley, Holocene geology and mapping. Geologica Belgica Field Meeting, 2nd June 2001, 19 p.
2. **BERTRAND, S.** (2001) — Evolution des environnements sédimentaires holocènes et cartographie par types de profils de la partie centrale de la paléovallée de l'IJzer (plaine côtière belge). Mémoire de licence (Graduate thesis), ULg, 54 p. + appendices.
3. **BERTRAND, S.** (2002) — Caractérisation des apports sédimentaires de la région des lacs, Chili méridional – Exemple des lacs Icalma et Puyehue. Mémoire de DEA (Master thesis), ULg, 51 p. + appendices.
4. **BERTRAND, S.** (2005) — Sédimentation lacustre postérieure du Dernier Maximum Glaciaire dans les lacs Icalma et Puyehue (Chili méridional) : Reconstitution de la variabilité climatique et des évènements sismo-tectoniques. PhD thesis, ULg, 266 p.
5. **BERTRAND, S.** & LEROY, S. (2005) — Sedimentology of Hersek Lagoon, NW Turkey. Relationships with tsunamis in the Sea of Marmara. Report for the European Project RELIEF, 32 p + appendices.
6. **BERTRAND, S.**, Burnett, A., Saunders, K., Striberger, J., Axford, Y., Coulter, S. (2008) — PAGES workshop report - ESF EuroCLIMATE Spring School: "Late Quaternary Timescales and Chronology" PAGES Newsletter 16 (3), 36-37.

E. Seminars and invited talks

- November 2004** – University of Liège, Belgium. Paléoclimatologie en milieu lacustre. Seminars of the Department of Geology.
- September 2005** – Brunel University, UK. The multi-proxy study of Lago Puyehue sediments: A record of millennial scale climate variability in Southern Chile since the Last Glacial Maximum. GESWAT seminars (Geography and Earth Sciences Weekly Afternoon Talks).
- May 2006** – Woods Hole Oceanographic Institution, USA. Climate variability of southern Chile since the Last Glacial Maximum: A multiproxy sedimentological record from Lago Puyehue (40°S). Paleo-lunch seminars.
- September 2006** – Massachusetts Institute of Technology, USA. Climate variability of southern Chile since the Last Glacial Maximum: A multiproxy sedimentological record from Lago Puyehue (40°S). E34 MIT Chemical Oceanography seminar series. Invited.
- September 2006** – Brown University, Providence, Rhode Island, USA. Climate variability of southern Chile since the Last Glacial Maximum: A multiproxy sedimentological record from Lago Puyehue. Geological Sciences department. Invited.
- October 2006** – Woods Hole Oceanographic Institution, MA, USA. Chilean fjord sediments: A high resolution record of paleoclimate variability in southern South America. 3rd WHOI Postdoctoral symposium.
- January 2007** – Centro Atómico Bariloche, San Carlos de Bariloche, Argentina. The sedimentary record of Lago Puyehue. Laboratorio de Análisis por Activación Neutrónica. Invited.
- October 2007** – Woods Hole Oceanographic Institution, MA, USA. Has it always been raining cats and dogs in Chilean Patagonia? Insights from lake and fjord sediments. 4th WHOI Postdoctoral symposium.
- April 2008** – Woods Hole Oceanographic Institution, MA, USA. Paleoclimate reconstructions in Southern Chile: Insights from lake and fjord sediments. Marine Chemistry and Geochemistry Department weekly seminar.
- October 2007** – High resolution paleoclimate reconstructions from lake and fjord sediments of southern Chile. 5th WHOI Postdoctoral symposium.

F. Review of papers

Quaternary International (1); The Holocene (1); Natural Hazards (1)

Other professional activities

- University of Liège, Doctoral college of Geology – PhD student co-representative (2003-2005)
- Organizer of the 4th WHOI Science Postdoctoral symposium (2007)
- WHOI Postdoctoral Association – Elected vice-president (2007-2008)
 - Marine Chemistry & Geochemistry department representative (Elected, 2007-2008)
- WHOI International Committee – Postdoctoral representative (2007-2008)

Awards and grants

- September 2002** — Grant and medal « Clément Guion » for the graduate thesis entitled « Evolution des environnements sédimentaires holocènes et cartographie par types de profils de la partie centrale de la paléovallée de l'IJzer (plaine côtière belge) ».
- June 2005** — BAEF Fellowship (Belgian American Educational Foundation) to support a one-year postdoctoral research stay at the Woods Hole Oceanographic Institution, USA. 40,000 \$
- June 2006** — EU Marie Curie outgoing international fellowship to support a three-year postdoctoral research project at the Woods Hole Oceanographic Institution, USA (outgoing phase) and at the Alfred Wegener Institute, Germany (return phase). 257,000 €

December 2007 — National Geographic Society, Committee for Research and Exploration. Grant supporting a fieldwork expedition in the fjords of Chilean Patagonia. 18,000 \$