

CURRICULUM VITAE



Carole NEHME

Vrije Universiteit Brussel
Faculty of Sciences
Pleinlaan 2, 1050, Brussels
Telephone: +32-2-6293395
Mail : Carole.Nehme@vub.ac.be

EDUCATION

Ph.D. in Science. Saint Joseph University of Beirut and Grenoble University France. 2013. "the contribution of Lebanese caves in reconstituting past environments and landscape evolution of Mt Lebanon valleys".

Master in Geography. Environmental science and territorial planning, Saint-Joseph University Lebanon. 2007. Specializations: Geomorphological mapping.

CAREER

- **September 2014 - Present.** Postdoctoral fellowship BELSPO-Marie curie actions fund. Vrije Universiteit Brussel and the Royal Belgian Institute of Natural Science (RBINS), Brussels.
- **May 2013 – February 2014.** Assistant researcher. Saint Joseph University, Lebanon.
- **October 2009 - April 2013.** PhD researcher. Laboratoire EDYTEM : Environnement et DYnamique des TERRitoires de Montagnes CNRS- UMR 5204. Université de Savoie, France.
- **August 2007 – January 2009.** Project Officer. MAJAL observatory for urban studies and development, Académie Libanaise des Beaux-Arts, Beirut, Lebanon.

CURRENT AND FORMER RESEARCH

- **2014.** Research project proposal on environmental analysis and dating of detrital deposits in Kanaan and Jeita caves (Lebanon). Saint Joseph University (Lebanon) and EDYTEM Laboratory, University de Savoie, France
- **2014.** Research project proposal on climate reconstitution inferred from Lebanese speleothems with RBINS, the British Geological Survey, Saint-Joseph University (Lebanon) and EDYTEM Laboratory (France).
- **2010 - 2014.** ANR- LIBRIS project (ANR-09-RISK-006) - contribution to seismic hazard assessment in Lebanon. A co-joint project between ISTERRE, IPGP, EDYTEM and RESONNANCE laboratories with the AUB, NDU, USJ universities and the CNRS-L. Collaboration under the task 1.3. "Speleoseismicity and the Lebanese endokarst".
- **2013.** Participating in new scholar manual on the geography of Lebanon: Worksheets editing on Lebanese karst. Geography Department, Saint-Joseph University, Lebanon.
- **2007.** Database for endemic plants of Lebanon Mapping the endemic plants of Lebanon: project for the faculty of science (Biology department) in Saint-Joseph University, Lebanon.
- **2004.** Environmental monitoring of Beirut River Basin Project: Digitizing land use cover for Beirut river basin. Geography Department, Saint Joseph University, Lebanon.

SCIENTIFIC AWARD

- **2013.** IAG young geomorphologist award. 8th International congress of the Association of Geomorphology, Paris, France.
- **2010.** Research grant. University of Savoie, France.

- **2009.** Doctoral fellowship (3 years), Saint-Joseph University, Lebanon.
- **2003.** National award for the 2002 national baccalaureate. Ministry of Education and Higher Education, Lebanon.
- **2002.** National scholarship award (3 years), National Council for Scientific Research (CNRS-L), Lebanon.

MEMBERSHIP

- **2009 – Present.** Lebanese Association for Speleological Studies (ALES). Member.
- **2014.** French Association for Quaternary Research (AFEQ). Member.
- **2013 – Present.** French Association of Karstology (AFK). Vice-Secretary.

ON-GOING PROJECT

Keywords: Speleothems, landscape evolution, global warming, paleogeomorphology, karst, geochemistry.

September 2014 – March 2016. Postdoctoral Fellowship. Royal Belgian Institute of Natural Science (RBINS), Geological Survey of Belgium.

The post-doc project “**Reconstruction of the Eemian climate in the northern Levant**” is related to the ongoing project ‘reconstruction of Eemian climate and environment of the Belgian coast in the context of ongoing global warming: (www.naturalsciences.be/geology/research/environment/bispeem).

The research work aims to reconstruct the Eemian climate of northern Levant region using a collected stalagmite. The stalagmite from the Kanaan cave (available at RBINS) will be investigated. A detailed petrographic description of the speleothem, samples for additional U/Th dating and stable isotopic measurements are under construction in collaboration with VUB, Belgium.

Time-series analysis will be first compared to those obtained in the Southern Levant speleothems and secondly to those obtained in the Belgian speleothems: The Eemian period will be compared as registered in the RSM17 speleothem and the Han-sur-Lesse stalagmite with the constructed time-series from the Kanaan stalagmite. The warmest Eemian period will be also compared to the Holocene period as recorded in Lebanese and Belgian speleothems.

The post-doc project will be integrated in the second phase of BiSpEem project, involving: i) the paleoclimatic interpretation of climate evolution from a Belgian Last Interglacial (Eemian) stalagmite; ii) A paleogeomorphological study of the Han-sur-Lesse cave, Belgium in order to contextualize the results on speleothems of the BiSpEem project in a larger regional geomorphological and environmental view.

LIST OF PUBLICATIONS

Currently in Print

- **DELANNOY J.-J.,** BOCHE E., CAILHOL D., COUCHOUD I., CHALMIN E., DRYSDALE R., DUVAL-MASSALOUX M., DZIKOWSKI M., GAUCHON C., HOBLEA F., JAILLET S., LIGNIER V., MALGAT C., NEHME C., PERRETTE Y., POULENARD J., QUIERS M., SADIÉ B., 2014 - L’objet emblématique Karst, paysages, mémoires de L’environnement et des hommes. Dix années de recherches au Laboratoire EDYTEM, *Collection EDYTEM - n° 16 – 2014*, pp. 1-32.
- **NEHME C.,** VOISIN C., MARISCAL A., GERARD P.C., CORNOU C., JABBOUR-GEDEON B., AMHAZ S., SALLOUM N., BADARO-SALIBA N., ADJIZIAN-GERARD J., DELANNOY J.-J., 2013 - The use of passive seismological imaging in speleogenetic studies; an example from Kanaan Cave, Lebanon. *International Journal of Speleology*, 42 (2) 97 -108. Tampa, FL (USA) ISSN 0392-6672.
- **NEHME C.,** JABBOUR-GEDEON B., GERARD P.-C., SADIÉ B., DELANNOY J.J. 2009 – Reconstitution sepéléogénique de la grotte de Kanaan (Antelias, Liban): contribution à la

morhogenèse du Nahr Antélias, *Karstologia*, Vol. 54, pp. 21-30.
NEHME C., JABBOUR-GEDEON B., GERARD P.-C., 2009b - La topographie à grande échelle des cavités souterraines : Intérêt Scientifiques, *Spéléorient*, Vol. 5, pp. 71-77.

Accepted for publications

- NEHME C., JAILLET S., ADJIZIAN-GERARD J., VOISIN C. and DELANNOY J.-J. 2014 - New insights on Kanaan, Kassarat and Jeita cave systems: contribution to the reconstitution of valleys in central Mount-Lebanon. Manuscript under 3rd round revision, *Geomorphology*. Ref. No. GEOMOR-4593-R2.
- NEHME C., JAILLET S., ADJIZIAN-GERARD J., ARZOUNI M., COMATY T., STEPHAN R. and DELANNOY J.-J. 2014 - Subsurface influx adjustments and speleogenesis as inferred from sediment traps in Jeita and Kassarat caves, Lebanon. Manuscript under 1st round revision, *Acta Carsologica Karst Research Institute, ZRC-SAZU, Postojna, Slovénia*, Ref. ID 824.

Conference papers

- NEHME C., DELANNOY J.-J., ADJIZIAN-GERARD J., 2014 - Contribution of Kanaan, Kassarat and Jeita cave systems study in the morphogenesis reconstitution of karstic valleys, Mt-Lebanon: case study of Kalb and Antelias valleys. *The Interdisciplinary meeting on climate change and seismic hazards during the Holocene in the Mediterranean*, 7th and 8th July 2014, CEREGE, Aix-En-Provence, France.
- NEHME C., DELANNOY J.-J., ADJIZIAN-GERARD J., JAILLET S., 2013 - Morphogenesis reconstitution on Kelb valley, Lebanon: contribution of Jeita cave speleogenesis and karst landforms study. *8th International congress of geomorphology, 27-31 August 2013, Paris, France*. Abstract Book IAG Paris 2013, p. 322.
- NEHME C., 2013 – L'étude spéléogénique de la grotte de Kassarat, Liban : *Apports à la compréhension du fonctionnement hydrologique actuel du système karstique d'Antelias*. Actes de colloques des 23^{ème} journées d'octobre 2013, le Châtelard, Savoie, France, pp. 13-20.
- NEHME C., DELANNOY J.-J., JAILLET S., ADJIZIAN-GERARD J., HELLSTROM J., COMATY T., ARZOUNI M., MATTA P., 2013 - *Sedimentary study and U-Th datations contribution in the reconstitution of the Junction Chamber morphodynamic, Kassarat cave, Nabay, Lebanon: A geomorphological approach for palaeohydrological records analysis*. Proceedings of the 16th International Congress of Speleology, July 21–28, Brno. Volume 3, Czech Speleological Society. Praha, pp. 384-389.
- NEHME C., DELANNOY J.-J., ADJIZIAN-GERARD J., HELLSTROM J., 2012 - Late Pleistocene evolution of Antelias valley (Lebanon): speleogenic approach applied on Kassarat cave system with implication of U/Th datations records, « *20th International karst school* », 18-22 June 2012, *Karst Research Institute, ZRC-SAZU, Postojna, Slovénia*, pp. 65-66.
- LACAVERE C., SADIER B., DELANNOY J.-J., NEHME C. and EGOZCUE J.-J., 2012 - The use of speleothems to better constrain long return period seismic hazard in Lebanon. *Proceedings of the 15th World Conference on Earthquake Engineering, Lisboa, Portugal. Paper no. 354*.
- NEHME C., DELANNOY J.-J., ADJIZIAN-GERARD J., JAILLET S., 2012 - Geomorphology research in Jeita cave, Lebanon: speleogenesis study for a scientific valorization of a touristic cave. *International congress for "SCIENTIFIC RESEARCH IN SHOW CAVES"*, 13th to 15th September 2012, Škocjan, Slovenia.
- NEHME C., DELANNOY J.-J., ADJIZIAN-GERARD J., 2012 - Reconstitution of the groundwater palaeoflow of Kassarat cave, Antelias valley, Lebanon: A geomorphological approach in palaeohydrological records analysis. *International Quaternary Association Congress, Bern, Switzerland, 2011*. Quaternary International, Volumes 279–280, 16 November 2012, p. 349.
- NEHME C., GERARD P.-C., JABBOUR-GEDEON B., 2009 - The Geomorphologic mapping of Kanaan cave: a new approach in paleoenvironmental record analysis in Lebanon. *European Geosciences Union, General Assembly 2009, Vienna*, *Geophysical Research Abstracts*, Vol. 11, 732-2.

- **NEHME C., 2009** - The speleogenesis of Kanaan Cave, Lebanon: geomorphological interpretation and paleoenvironment records of Antelias region. *2009 International Congress of Speleology proceedings, Kerrville, Texas, USA*, Vol. 2, pp. 930-935