

CURRICULUM

Surname: **Gargallo Garriga**

Name: **Albert**

CURRENT PROFESSIONAL STATUS

Institution: University Autònoma of Barcelona

Faculty, School or Institute: Faculty of Science and Biosciences, Building C

Dept. / Sec. / Unit str.: Nuclear Magnetic Resonance Service (SeRMN) and CREAM

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RESEARCH AREAS

Development and optimization of methods and protocols based on solution NMR spectroscopy and HPLC-DAD-MS for application in the field of Ecometabonomic.

Methodology will be developed and optimized protocols to follow to study the effect of environmental changes (climate change) in the metabolism of plants through studies aimed at finding correlations between environmental changes and physiological basis (differences in metabolite concentrations, acting as environmental biomarkers).

RESEARCH STAYS OUTSIDE

Research group / host institution: PNNL (Pacific National Northwest Laboratory), USA

Principal researcher in charge at the host institution: Alex Guenther

Research group / host institution: Ecology unit, Brno ; Ecology unit, Bayreuth

Principal researcher in charge at the host institution: Urban Otmar ; Anke Jentsch

Date: 1 month in both cases

Type of funding for the research stay: Europe

Briefly describe your research project during the stay: In the laboratory of Urban Otmar view the instrumentation to use for learning the Orbitrap and spend gathering samples. In Bayreuth only collect the samples.

ACADEMIC BACKGROUND

Higher degree

Study Center

Date

Higher degree	Study Center	Date
Predocctoral Fellowship Researcher Training	Autonomous University of Barcelona	2011-2015
Master's degree in science and Chemistry technology	Autonomous University of Barcelona	2012

Degree in Biochemistry	Autonomous University of Barcelona	2009-2011
MEQ Masters (Masters in Experimental Chemistry)	Autonomous University of Barcelona	2009-2010
Degree in Chemistry	Autonomous University of Barcelona	2004-2009
E.S.O. and bachillerato	School Sant Gervasi	1998-2004

PAST ACTIVITIES OF PROFESSIONAL SCIENTIFIC

Workstation	Institution	Date
Technical Research support	CREAF	01/04/2011 to 30/09/2011
Technical Research support	Universidad Autónoma de Barcelona	01/06/2009 to 30/09/2009

LANGUAGES

Catalan: Native.

Spanish: Native.

English: Good communication.

PUBLICATIONS

Mayans, E., **Gargallo-Garriga, A.**, Álvarez-Larena, Á., Illa, O., & Ortuño, R. M. (2013). Diastereodivergent Synthesis of Chiral vic -Disubstituted-Cyclobutane Scaffolds: 1,3-Amino Alcohol and 1,3-Diamine Derivatives - Preliminary Use in Organocatalysis. *European Journal of Organic Chemistry*, 2013(8), 1425–1433. doi:10.1002/ejoc.201201307

Rivas-Ubach, A., **Gargallo-Garriga, A.**, Sardans, J., Oravec, M., Mateu-Castell, L., Pérez-Trujillo, M., Peñuelas, J. (2014). Drought enhances folivory by shifting foliar metabolomes in *Quercus ilex* trees. *The New Phytologist*, 202(3), 874–85. doi:10.1111/nph.12687

Rivas-Ubach, A., Pérez-Trujillo, M., Sardans, J., **Gargallo-Garriga, A.**, Parella, T., & Peñuelas, J. (2013). Ecometabolomics: optimized NMR-based method. *Methods in Ecology and Evolution*, 4(5), 464–473. doi:10.1111/2041-210X.12028

Sardans, J., **Gargallo-Garriga, A.**, Pérez-Trujillo, M., Parella, T. J., Seco, R., Filella, I., & Peñuelas, J. (2013). Metabolic responses of *Quercus ilex* seedlings to wounding analysed with

nuclear magnetic resonance profiling. *Plant Biology (Stuttgart, Germany)*, 1–9. doi:10.1111/plb.12032

Gargallo-Garriga, A., Sardans, J., Pérez-Trujillo, M., Oravec, M., Parella, T., Peñuelas, J. (2014). Opposite metabolic responses of shoots and roots to drought. *Scientific report*. Submitted.

CONGRESS AND WORKSHOP PARTICIPATIONS

Ona Illa, Albert Gargallo, Rosa M. Ortuño. “New cyclobutanebifunctional thioureas and their application as asymmetric organocatalysts”, “FOLDAMERS. FROM DESIGN TO PROTEIN RECOGNITION”, COST Meeting, Burdeos, Francia, 25-28 January 2010.

Ona Illa, Albert Gargallo, Rosa M. Ortuño. “New cyclobutanebifunctional thioureas and their application as asymmetric organocatalysts”, “ORGANOFLUOR Meeting”, Bolonia, Italia, 24-25 March 2011.

Rivas-Ubach, A., Sardans, Pérez-Trujillo, M., **Gargallo-Garriga, A.**, R., Estiarte, M., J., Peñuelas. Linking seasonal stoichiometry with metabolomics in *Erica multiflora* and the responses to climate change. *Interface-ClimMani – “Nutrient constraints on the net carbon balance”*, Keflavik (Iceland), 14-17 June 2011.

Rivas-Ubach, A., Sardans, J., Pérez-Trujillo, M., **Gargallo-Garriga, A.**, Estiarte, M., Peñuelas, J. Stoichiometric shifts of *Erica multiflora* leaves across year seasons and under climate change and their link with metabolism. 27th New Phytologist Symposium – “Stoichiometric flexibility in terrestrial ecosystems under global change”, Biosphere 2, Oracle, Arizona (USA), 25-28 September 2011.

Jordi Sardans, Albert Rivas-Ubach, **Albert Gargallo-Garriga**, Josep Peñuelas. CSIC, Global Ecology Unit CSIC-CREAF-CEAB. “Dynamics of stoichiometrical and metabolical traits under climate change”. Scaling Climate Change Experiments Across Space and Time. Challenges of informing large-scale models with small-scale experiments. CLIMMANI & INTERFACE (Workshop). Invited Key Speak. June 4-7. 2013. Czechs.

Josep Peñuelas, Jordi Sardans, **Albert Gargallo-Garriga**, Alistair S. Jump. “Nutrients matter most. Genomic, metabolomic and ecophysiological approaches to the study of climate change impacts on communities and ecosystems: from short term to long term responses”. 18-23 August, 2013. ICC London ExCel.

Albert Gargallo-Garriga, Jordi Sardans, Míriam Pérez-Trujillo, Teodor Parella, Roger Seco, Iolanda Filella, Josep Peñuelas. “Metabolomic responses of *Quercus ilex* seedlings to wounding simulating herbivory”. Small Molecule NMR Conference. 22-25 September, 2013. Santiago de Compostela, Spain. (Poster)

Sardans J, Rivas-Ubach A, **Gargallo-Garriga A**, Urbina I, Bartrons M, Pérez-Trujillo M, Parella T, Peñuelas J Phosphorus and stoichiometry equilibrium and imbalances in plant-soil system. Phosphorus Imbalance in the Terrestrial Biosphere Processes from Root to Globe Meeting. 6-7 March 2014. Montpellier. France.

Peñuelas J, Filella I, Estiarte M, LLusià J, Sardans J, Ogaya R, Carnicer J, Rico L, Verger A, Asensio D, Bartrons M, Kefauver S, Barbeta A, Rivas-Ubach A, Achotegui A, **Gargallo-Garriga A**, Sperlich D, Farré G, Liu D, Zhang C, Tao S, Pérez-Trujillo M, Parella T, Quantifying the responses of ecosystems and society in a world increasingly rich in N and C but limited in Phosphorus. Phosphorus Imbalance in the Terrestrial Biosphere Processes from Root to Globe Meeting. 6-7 March 2014. Montpellier. France.

Albert Gargallo-Garriga, Jordi Sardans, Míriam Pérez-Trujillo, Teodor Parella, Josep Peñuelas Stahl, C, PLECO Antwerp, and Global Ecology Unit CREAM-CSIC. 2015. Phosphorus pathways in French Guiana soils. Imbalance-P conference (European Research Council Synergy grant ERC-2013-SyG-610028). Barcelona (Catalonia, Spain), 13-16 January, 2015.

COMPLEMENTARY FORMATION

2008 Course of finances.

2007 Course introduction to basketball.

2006 Course and title of national carrier.

2004 Stay for three weeks in Ireland, Dublin for the purpose of improving the standard of English and a time to become fluent.

2003-2004 Course Excel (spreadsheet) conducted in the School SantGervasi.

2001 Stay for three weeks in the Catalan Pyrenees doing an English course.

EXPERIENCE IN LABORATORY TECHNIQUES

Asymmetric synthesis, catalysis, column chromatography, chiral HPLC, gas chromatography, NMR (1D, 2D), IR, Ms, among others.