

Miquel Àngel Martínez Botí

Ph.D. Student

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Personal details

Date of Birth: 12th August 1980

Place of Birth: Vinaròs (País Valencià), Spain.

Languages: Catalan and Spanish (Native),
English (Fluent)

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Education

2007-date	PhD in Environmental Sciences, ICTA, UAB. <i>Expected defense April 2009.</i>
2007	Master in Environmental Studies and Diploma of Advanced Studies (DEA) in Ecology, ICTA, UAB. Master thesis: <i>Testing the Fidelity of Foraminiferal Mg/Ca and Cd/Ca ratios as Temperature and Nutrient Proxies</i> Supervisor: Dr. P. Graham Mortyn
2005	Diploma in Specialized Studies of Climate Change and Global Change, ICTA, UAB.
2004	B.Sc. in Environmental Sciences, UAB.
1996-2000	Secondary Education, <i>IES Leopoldo Querol, Vinaròs.</i>
1986-1994	Primary Education, <i>C.P Misericòrdia, Vinaròs.</i>

Research interests

Oceanography, paleoceanography and paleoclimatology, marine geochemistry, planktonic foraminiferal-based geochemical proxies (Mg/Ca, Sr/Ca, Cd/Ca, $\delta^{18}\text{O}$, ϵ_{Nd})

Research experience

- 2005 - date** FPU (*Research Teacher Training*) PhD-scholarship/contract awarded by the Spanish Ministry of Science and Education. Within the research group GEPOC (*Ocean and Climate Processes Study Research Group*) located at the ICTA-UAB.
- Supervisor: Dr. P. Graham Mortyn
- 15th September - 15th December 2008** Research internship at the Department of Earth Sciences, University of Bristol (UK). A fellowship for short visits to foreign research institutions was granted by the Spanish Ministry of Science and Education. The aim of the internship was the determination of trace element/calcium ratios and Neodymium isotopes in planktonic foraminifera.
- Supervisor: Dr. Derek Vance

Participation in oceanographic cruises

- 15th March - 3rd April 2006** **La Palma de Gran Canaria (Spain) - Messina (Italy)**
Oceanographic expedition POS334 on board of the R/V *Poseidon* (IFM-Geomar). Collection of planktonic foraminifera, coccolithophores, water and sediment samples for proxy calibration and validation
- 21st June - 18th September 2005** **Bremerhaven (Germany) - Longyearbyen (Svalbard) - Bremerhaven**
Legs ARK-XXIa and ARK-XXIb of the research expedition to the Arctic Ocean on board of the R/V POLARSTERN (Alfred Wegener Institute, AWI). Participating in the projects:
- *Sampling of Planktonic Foraminifera and Coccolithophores for Proxy Validation Studies.*
 - *Characterization of the Main Water Masses Within the Fram Strait With Respect to Plutonium (Pu) and Cesium (Cs) Isotopes.*

Participation in research projects

July 2006 - date. CAVAPROX (CALibration and VALidation of Geochemical PROXies for SST: Toward Improved Paleoclimatic Reconstructions of Upper Ocean Parameters). Principal Investigator: Dr. P.G. Mortyn. Spanish Ministry of Science and Education.

Publications

N. Caillon, M. Greaves, H. Rebaubier, G. Bartoli, S. Bohaty, I. Cacho, L. Clarke, P. Delaney, P. de Menocal, A. Dutton, S. Eggins, H. Elderfield, E. Goddard, J. Groeneveld, D. Garbe-Schoenberg, D. Hastings, E. Hathorne, K. Katsurori, G. Klinkhammer, L. Labeyrie, D. Lea, T. Marchitto, **M.A. Martínez-Botí**, G. Mortyn, Y. Ni, D. Nuernberg, G. Paradis, L. Pen, T. Quinn, Y. Rosenthal, A. Russell, T. Sagawa, R. Sherrell, L. Stott, K. Tachikawa, E. Tappa, R. Thunell, P. Wilson. Interlaboratory comparison study of calibration standards for foraminiferal Mg/Ca thermometry. *Geochemistry, Geophysics, Geosystems*, submitted.

P.G. Mortyn and **M.A. Martínez-Botí**, 2007. Planktonic foraminifera and their proxies for the reconstruction of surface-ocean climate parameters. *Contributions to Science*, **3** (3): 373-386. DOI: 10.2436/20.7010.01.

D. Barreras-Biesot, **M.A. Martínez-Botí**, A. Martínez-García, J. Prats-Segura, 2006. *Anàlisi de la pressió antròpica en el Parc Natural del Montnegre i el Corredor*, in M. Boada and J. Rieradevall (Coord.), *Diagnosi Ambiental del Parc Natural del Montnegre i el Corredor*, Monografies (parcs naturals) 39, Diputació de Barcelona, Barcelona, 2005, ISBN: 84-9803-082-X.

Contributions to international meetings

Martínez-Botí, M.A., Vance, D., Mortyn, P.G., 2008. Nd/Ca ratios in plankton-towed and core-top foraminifera confirm the water column acquisition of Nd. *European Geosciences Union, General Assembly 2008. Abstract EGU2008-A-07934. Vienna, 13-18 April 2008.*

Martínez-Botí, M.A., Mortyn, P.G., Vance, D., Field, D.B., Schmidt, D.N., 2008. Factors influencing the Mg/Ca ratio in planktonic foraminifera: new evidence from plankton tows. *European Geosciences Union, General Assembly 2008. Abstract EGU2008-A-08323. Vienna, 13-18 April 2008.*

Martínez-Botí, M.A., P.G. Mortyn, D. Vance, D.B. Field, 2007. Water column planktonic foraminiferal Mg/Ca versus surface ocean temperature: observations and implications. *9th International Conference on Paleoceanography, Shanghai, 3-7 September 2007.*

Mortyn, P.G., **Martínez Botí, M.A.**, Herguera, J.C., 2007. ENSO-related SST reconstructions for the past century and calibration from the Anthropocene to the Holocene: planktonic foraminiferal Mg/Ca evidence at quasi-annual resolution from San Lázaro basin (NE Pacific). *9th International Conference on Paleoceanography, Shanghai, 3-7 September 2007.*

Caillon, N., Greaves, M., and others, 2007. Interlaboratory comparison study of calibration standards for foraminiferal Mg/Ca thermometry. *9th International Conference on Paleoceanography, Shanghai, 3-7 September 2007.*

Martínez-Botí, M.A., Mortyn, P.G., Vance, D., 2006. Water column study of planktonic foraminiferal Cd/Ca temperature-nutrient dependency: plankton tow results from the NE Pacific, *Eos Trans. AGU*, 87(52), Fall Meet. Suppl., Abstract PP11B-04. San Francisco, 11-15 December 2006.

Mortyn, P.G., **Martínez-Botí, M.A.**, Vance, D., 2006. Further water column evidence for complexity in planktonic foraminiferal Mg/Ca: challenges for better understanding the paleotemperature tracer. *Eos Trans. AGU*, 87(52), Fall Meet. Suppl., Abstract PP11B-08. San Francisco, 11-15 December 2006.

Courses and workshops

PROPER courses (*Proxies in Paleoclimatology: Education and Research*) from the Marie Curie teaching Network:

- *Preservation potential of climate signals and ultra high-resolution climate archives in aquatic sedimentary environments*. Barcelona, November 2004.
- *Paleoclimate I: Integrating modern processes, data evaluation and models*. Southampton, April 2005.
- *Paleoclimate III: Rapid Climate Change –data and models*. Giff sur Yvette, November-December, 2005.

Atmospheric CO₂, Ocean Acidification and Ecological changes in Planktonic Calcifying Organisms (workshop). Organized by EuroCLIMATE (ESF). Barcelona, September 2007.

Plio-Pleistocene Climatic Changes, faunal turnovers and human dispersals (workshop). Organized by ICREA. Tarragona, May 2006.

MERF (Quaternary Marine Ecosystem Response to Fertilization: Mediterranean sapropel events and implications for marine carbon uptake) project workshop. Barcelona, February 2006.

Outreach

Participation in the project for the public outreach of climate change science *Caravana del Clima* funded by the CRUE for environmental quality and sustainable development and the *Fundación Biodiversidad*. Talk: "Planktonic foraminifera in climate change studies", Barcelona, February 2008.

Scientific talks at high school *IES Serra d'Irta*, to young students (12-18 years old) about "Climate change and the role of the arctic". Alcalà de Xivert, March 2007.

Professional membership

American Geophysical Union (2005-date)

European Geosciences Union (2008-date)