



Research and Innovation Centre

Training opportunity - PhD Doctoral offer	Vacancy Code 059_AMB_DPEEL
Job title	Research fellowship to support a PhD in Paleo-Ecology of European lakes
Job description	<p>The present research activity will focus on the study of sub-fossil diatoms and cladocera remains, which represent very powerful tools able to provide a statistically robust reconstruction of past ecological conditions, thanks to their good conservation even in old sediments, the well developed taxonomy, and the highly species-specific responses to environmental drivers, including nutrients. The data obtained will be supported by information on sediment geochemistry and subfossil pigments, which will be investigated within the project EULAKES. Resting eggs of cladocera accumulated into the lake sediments offer the opportunity to study antique DNA and to perform hatching experiments, in order to refine trophic classification and to study long term evolution of zooplankton populations in relation to human driven environmental changes.</p>
Duties / Tasks	<p>Sampling of a set of sediment cores from the deepest region of Lake Garda. Sub-sampling and sub-sample treatment for dating and SCPs (Spheroidal Carbonaceous Particles) analyses. Determination of dry weight (DW), and lost on Ignition (LOI). Preparation and microscopic (optical and SEM microscope) analysis of biological proxies, i.e. diatoms and cladocera. Data elaboration, statistical analyses and application of transfer functions for the reconstruction of past total phosphorus (TP) and other environmental variables (e.g. pH, water temperature). Comparison of results with neo-limnological data (ca. 1990-2009).</p> <p>Analyses of antique DNA isolated from cladoceran ephippia preserved in the lake sediments, hatching experiments with cladoceran ephippia, and taxonomical and genetic characterisation of the strains obtained, in order to check taxonomical determination and confirm temporal variations of key taxa.</p> <p>Data elaboration and dissemination of results (papers, seminars, national and international congresses)</p>
Keywords	Paleolimology, Paleoecology, Ecology, Lake Garda, European lakes, long-term ecological evolution, diatoms, cladocera, antique DNA, hatching experiments
Contract type and length	<p>The Mach Foundation is funding a research fellowship to support a PhD program in collaboration with national and international universities. The research project will be carried out at the research centre of the Edmund Mach Foundation with a grant in the frame of a PhD course in internationally recognized Universities. The grant is for three years with a possible extension of one year. Requirement for the grant is the admission to a PhD school individuated by FEM within the first year of the</p>



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	fellowship. Registration costs for the PhD course will be covered by FEM.
Languages knowledge	English.
IT knowledge	Software for classical and multivariate (e.g. Canoco) statistical analyses, for processing of stratigraphic data (e.g. Tilia, Tiliagraph, C2) and for use and development of transfer functions (e.g. WinTran, Ernie, C2). The basic knowledge of capacity to use R and its specific packages for “analogues analysis” will be considered as a plus.
Required title to join the selection	5 year Master degree
Type of title	Degree in Biological Sciences, Natural Sciences, Environmental Sciences
Required experience	Direct experience in limnology (theory, sampling techniques) and aquatic ecology, with special reference to plankton taxonomy and ecology. Basic knowledge in molecular biology. Direct experience in paleolimnology will be considered as a plus.
Psychosocial skills	Strong motivation of the applicant to improve his/her scientific experience and skills, and to embark upon a career as a researcher. Ability to be collaborative and to work in a team.
Supervisor	Local: dr. Monica TOLOTTI (FEM); the 2nd tutor will be identified after admission of the student to the PhD course at the University.



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Application

To apply for the position the applicants should send a message mentioning in the subject the code (059_AMB_DPEEL) to the email account **risorseumane.centroricerca[AT]iasma.it** including the following items:

1. an up-to-date CV (Please add the following phrase to your CV otherwise your application will not be considered: I consent to the use of my personal data in accordance with the provisions of decree 196/2003). Save your file in this way: **Surname Name_cv.doc** or .pdf;
2. the filled application form available online (059_AMB_DPEEL_Application). Save your file in this way: **Surname Name_af.doc**;

The deadline for the submission of the applications has been postponed until the 25th July 2010
– we will accept speculative applications after this date.

Short list candidates

FEM will short-list the applicants. The selected and non selected candidates will be notified. Short-listed candidates will be contacted for a phone interview or invited for interview in San Michele.

Information about CRI

The Research and Innovation Centre of the foundation (CRI), with more than 200 employees, has a mission to promote and enhance the Trentino land-based economy through studies and innovation that improve agricultural and environment products and enhance the quality and nutritional value of food products. It sustains the region's environmental resources through development and promotion of low-impact agricultural practices, study and preservation of biodiversity, and characterisation of alpine and subalpine ecosystems. The centre operates fully integrated research programs and state-of-the-art platform technologies to deliver innovative solutions and competitive products for our stakeholders and end-user communities. The CRI concentrates its actions in three main areas of interest: 1) agriculture: 2) food and 3) environment. In carrying out its programme, the CRI will maintain a firm territorial basis to its operations, with full acknowledgement of the global dimension of research and the necessity for competition in international contexts.

Equal opportunities

The position is open to both genders, Law n. 903, 9/12/1977, art. 1. The policy and practice of the Edmund Mach Foundation require that all staff are offered equal opportunities within employment.

Data treatment

All data supplied by applicants will be used only for the purposes of determining their suitability for the position and will be held in accordance with the principles of the Personal Data Protection Code, Legislative Decree no. 196 of 30 June 2003. By sending the Cv and application, the candidate consent and authorize the Foundation to the use of his/her personal data.