Job Offer Announcement	**Vacancy Code 129_CRI_BRS**
Job title	Post-Doc in Biodiversity and Remote Sensing Data Analysis
Job description	A Post-Doc position under the supervision of Dr. Duccio Rocchini is available in the GIS and Remote Sensing Platform (Platform chief: Dr. Markus Neteler), Department of Biodiversity and Molecular Ecology of the Research and Innovation Centre. The position is related to the FP/ European Project EU BON Building the European Biodiversity Observation Network (http://www.eubon.eu/). **Focus 1 - Advanced tools for interpreting satellite or aerial imagery using environmental datasets and machine learning methods** Description: Remotely sensed images are typically classified on the basis of spectral reflectance data alone; however other environmental datasets (e.g. DEM, soils) are widely available and have the potential to inform and refine such classifications. Using such data, Random Forest (RF) or other machine learning methods can produce much finer vegetation differentiation and higher accuracy than would otherwise be possible, allowing ecologically detailed habitat mapping over extensive areas. These methods will be further developed to incorporate information about temporal variation in reflectance and in vegetation, and potential extension to marine and freshwater habitat mapping will be explored. Application software will be created, which will be applied to focal observatory sites, applied more generally in WP4, and made available for wider dissemination. **Focus 2 - Integrative analyses of distribution status and trends** The Post-Doc researcher should perform integrative analyses and meta-analyses of species distribution data in relation to land use and climate data, including remotely sensed predictors (based mostly on optical multi- and hyper-spectral imagery as well as LiDAR data) of biodiversity. These analyses will incorporate spatial and also phylogenetic relationships. To address the multi-scale nature of the problem, we will apply existing as well as new methods, including hierarchical models, hybrid models (combining niche models and geometric models) as well as a set of statistical models (AquaMaps, GLM, Boosted Regression Trees). Ultimately we aim to cover various species belonging to different taxa across the terrestrial, freshwater, and marine domains in a single modelling approach.
Duties / Tasks	- Classification of remotely sensed data and advanced modelling techniques - Species Distribution modelling and application of remote sensing for biodiversity estimate - Development of theoretical and empirical algorithms for spatial ecology under free and open source software - Writing papers and reports on spatial statistical achievements

Keywords	Biodiversity, free and open source software, ecological informatics
Contract type and length, Level	Project collaboration contract, 22 months (Contratto di collaborazione coordinata e continuativa a progetto)
Languages knowledge *from Common European Framework of Reference for Languages (CEFR)*	Fluent in spoken and written English (C1). Knowledge of Italian will be considered a plus (B1)
IT knowledge	- GRASS GIS - Possibly, programming skills in C and/or Python - - R package
Required title to join the selection	PhD in Environmental Science, Engineering, Natural Science, geography or affine
Required experience	- Good knowledge of the scientific themes being proposed - Good publication record on the matter - Good knowledge of spatial statistics and their use in ecology
Psychosocial skills	- Good ability in working in a group and in personal Development of scientific ideas - Good capability in idea sharing
Supervisor	Duccio Rocchini
Summary of entry requirements	1. PhD in Environmental Science, Engineering, Natural Science, geoegraphy or affine

Application

To apply for the position the applicants should send a message mentioning in the subject the recruiting code (**129_CRI_BRS**) to the email account **curricula@fmach.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 *129_CRI_BRS_Application*. **Save your file in this way: Surname Name_af.doc;**

Deadline

The deadline for the submission of the applications is **September 30th, 2013.**

Short list candidates

FEM will short-list the applicants. We will notify the short-list candidates for an interview in San Michele or for a phone interview. The other candidates will be notified at the end of the recruiting procedure.

Information about CRI

The Research and Innovation Centre of the foundation (CRI), with more than 300 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.

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.