



# Il Corso di Laurea @ informa

*The newsletter of the Undergraduate Course in Protection and Enhancement of the Mountain Territory and Environment*

**n° 24 – 11th December 2009**

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## News

In this newsletter there is an article about the recent experiences of some lecturers of the Faculty of Agriculture involved in a research project at the "Pyramid" laboratory/observatory, situated at the foot of Mount Everest.

You can also find information about the many events planned at the Mountain University Campus.

For further information on events at the Edolo Campus please contact us via e-mail [corso.edolo@unimi.it](mailto:corso.edolo@unimi.it) or phone 0364.71324

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### **NEXT EVENTS:**

**18th December 2009 at 9.30a.m.** → Conference ***"How the idea of mountains changes over time"***

**From 18th December 2009 to ...** → Exhibition ***Images of the Italian Mountains, Trademarks, books and maps from 1869 to 1930***, at the Ge.S.Di.Mont. Interdepartmental Centre.

**13th January 2010 at 9.00** → Seminar ***"Molecular genetics for mountain zootechny"*** – Paola Crepaldi (Università degli Studi di Milano)

**From 20th January 2010** → ***"CAD Workshop"*** – Natalia Fumagalli (Università degli Studi di Milano)

**February – March 2010** → Improvers level course ***"GIS for mountain territory"***

For further information see the sections "News" and "Extra activities".

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## OUR LECTURERS AT THE FOOT OF THE HIMALAYAS



As mentioned in our last newsletter, 6 researchers from the Faculty of Agriculture: Fabrizio Adani, Daniele Daffonchio, Carlo Lozzia, Anna Giorgi, Barbara Scaglia and Eleonora Rolli went to the foot of Everest to carry out research entitled: *"Study of primary colonisation and soil neogenesis mechanism in deglaciating environments at high altitude and low latitude"*.

The researchers worked at the **International "Pyramid" laboratory/observatory**, at 5050 a.s.l., in the Khumbu valley. The Laboratory is run by the **"Ev-K2-CNR Committee"** which has been carrying out technological and scientific research at high altitude for the last twenty years, renowned for its excellent results at an international level.

Our researchers were able to carry out their work also thanks to the logistic and technological support offered by the pyramid organization, under the excellent management of the Ev-K2-CNR Committee staff made up of a group of Nepalese technicians operating under the precise and constant guidance of Italian technicians who, thanks to the pyramid's technological equipment, are linked to the pyramid on a daily basis. The staff's continuous support made our researchers stay as comfortable as possible, considering the difficulties due to the high altitude.

**Link** Ev-K2-Cnr Committee <http://www.ev2cnr.org/cms/it/home.html>

On 27th October there was a **videoconference link** between the Pyramid (with the research group and the pyramid manager Dr. Laxman Adhikari) and the Mountain University in Edolo, with the presence of Dr. Andrea Lami (EV-K2-CNR Research Unit and CNR researcher) and Prof. Claudio Smiraglia (Università degli Studi di Milano and Scientific Council of the Ev-K2-Cnr Committee).



It was an extremely positive experience both from a scientific and personal point of view. We hope to see more of these activities in future so as to benefit the Edolo Campus of the Faculty of Agriculture with further knowledge of mountains and to stimulate our students, who may then be able to deal with activities related to these topics for their internship.

A brief report on the research carried out:

### **RESEARCH TOPICS**



The **local researchers** involved were Dr. K Das Shrestha and Dr. H. Shrestha of the NAST, Mr. Tenzing Chhotar Sherpa, Mr. Pema Sherpa and Mr. Chhimi Tenji Sherpa.

All of the pyramid staff showed great interest in the scientific topics which the research group intended to study. They helped in identifying sites, in sampling and collecting data in the field and with the relative laboratory analysis of the samples performed in the pyramid.

The research was part of the **Ev-K2-CNR Project** in collaboration with the Nepal Academy of Science and Technology as provided for in the Memorandum of Understanding between Nepal and Italy and thanks to the contribution of the National Research Council and the Foreign Affairs Ministry.

It should also be remembered that the Faculty of Agriculture of Milan University has been studying these topics regarding the arctic environment for several years both in the *Department of Food and Microbiological Science and Technology* and the *Department of Plant Production*.

## PROJECT OBJECTIVES

The aim of the project is to study the processes of primary plant colonization and of soil neogenesis in deglaciating environments at high altitude and low latitude (Nepal). The projects aims to study and understand the microbiological and chemical processes behind colonization phenomena as well as to evaluate the vegetational aspects of the sites studied.

The volatile organic emissions (scents) of some plant species used ritually by the Sherpa population were also sampled during the mission.



## FIELD WORK

Field work was divided into different stages:

1. *Exploration of the Lobuche and Khumbu glaciers to find sites of scientific interest.*
2. *Definition of the georeferenced geographic coordinates of the study areas and photographic documentation of the sites using GPS equipment.*
3. *Transection.*
4. *Sampling* Soil samples were taken at transect points. Three surface samples (0-5 mm) and three deeper samples (1-2 cm) were taken for each point to examine the microbiological and chemical components. Water samples were also taken in each site. The qualitative and quantitative data for flora present in the study sites and surrounding areas were recorded. Findings were grouped into vascular and non-vascular plants and then classified.
5. *in-situ measurements*  
Field instruments were used in both sites to record solar radiation, redox potential and the temperature and humidity at sampling points, and in general.
6. *Measurements*  
The area, the perimeter and the altitude of the two sites were measured.
7. *Field data analysis*  
Field data were initially analyzed at the Pyramid.
8. *Preliminary laboratory work for correct conservation of samples*  
After sampling the soil and water specimens were processed so as to ensure their preservation for subsequent laboratory analysis. Entomological research was also performed , soil samples with plant cover were taken in 16 stations near the Pyramids. A Berlese trap was then used to extract fauna, arthropods and nematodes. A malaise trap was placed and left at the Pyramid to capture flying insects.



## EQUIPMENT USED

During the sampling procedures GPS equipment, a redox potential gauge, a Hygrometer, a Solar Radiation gauge a Thermometer, an oximeter and fibres to capture volatile organic emissions were used

## PRELIMINARY RESULTS AND FURTHER ACTIVITIES

Only the field data are available for the moment, as well as the first gas-chromatographic results of the volatile organic emissions of the plants. As regards the entomologic aspect, although the timing of the collection of ground insects was a little late the *malaise* trap captured flying insects of the order Diptera (Culicidae) unforeseen at such high altitude.



Scientific research will continue with the characterization of the samples collected, data analysis and publication.

The research group is interested in continuing work in the Khumbu valley, further to the research already carried out with particular reference to plants present at high altitude both from a systematic and physiological point of view, and in further research into the production of secondary metabolites in species present at high altitude and used by the local people. Moreover it would in general also be useful to further and complete the work, in agreement with the Everest K2 –CNR Committee, by extending research to other sites after analysing the data and samples collected so far.



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## 18th DECEMBER 2009: "HOW THE IDEA OF MOUNTAINS CHANGES OVER TIME"

On 18th December 2009, at the Mountain University Undergraduate Course in Protection and Enhancement of the Mountain territory and Environment, there will be the inauguration of the exhibition ***Images of the Italian Mountains Trademarks, books and maps from 1869 to 1930*** created by the Istituto Nazionale della Montagna (now the Ente Italiano della Montagna) together with the Italian State Archives and the Italian Geographic Society.

### **PROGRAMME:**

#### **9.30: Official Greetings**

- Vittorio Marniga, *Mayor of Edolo and President of the Board of Supervision of the Undergraduate Corse*
- Daniele Molgora, *President Province of Brescia*
- Corrado Tomasi, *President Comunità Montana di Valle Camonica*
- Massimo Chiesa, *Vice President B.I.M. Valle Camonica*
- Gian Maria Rizzi, *Camera di Commercio Industria Artigianato Agricoltura di Brescia Chamber of Commerce, Industry Artisans and Agriculture*

**10.10 a.m.: Introduction - Franco Sangiorgi - President of the Undergraduate Course in Protection and Enhancement of the Mountain territory and Environment**

***1st part: "The Italian mountains between yesterday's images and today's perspectives"***



**10.30 a.m:** The discovery of the mountains of the "Belpaese" - Francesco Cardarelli (*Ente Italiano della Montagna*)

**10.55 a.m:** Mountains and advertising: trademarks - Margherita Martelli (*Italian Central Archives*)

**11.20 a.m:** Coffee break

**11.40 a.m. 2<sup>nd</sup> part: "Research and culture for territory development"**

Round table guests:

- Davide Caparini, *President of the Parliamentary Commission for Regions*;
- Massimo Romagnoli, *President of the Ente Italiano della Montagna*;
- Franco Salvatori, *President of the Italian Geographic Society*;
- Anna Giorgi, *Interdepartmental Centre for the Sustainable Management and Protection of the Mountains – Faculty of Agriculture, Milan's Università degli Studi*

**1 p.m.:** The role of an Interdepartmental Centre for research in the mountains - Giuseppe Carlo Lozzia, *Ge.S.Di.Mont. Manager*

**1.15 p.m: Inauguration of the exhibition on Mountain Trademarks.**

**The seminar is open to the public and is free of charge, all are invited**

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## **CORSO DI PERFEZIONAMENTO "GIS PER IL TERRITORIO MONTANO"**



The Faculty of Agriculture of Università degli Studi di Milano has set up an improvers course for the academic year 2009-2010: **GIS for the mountain territory.**

The Course which lasts 50 hours will take place from **12th February to 26th March 2010** at the Edolo Campus of the Faculty of Agriculture, via Morino 8, Edolo (BS).

The lessons and the GIS workshop will be held in the IT room which has 20 workspaces.

Course training objectives are:

- Provide basic knowledge of Geographic Information Systems (functions of capturing, analyzing and presentation of data linked to location) from a theoretical and practical point of view
- Develop territory analysis by means of GIS technology in order to make land planning choices.
- Train experts able to make use of the enormous potential offered by information technology (and not just a software user).

The Course is for a maximum of 24 participants..

The University reserves the right to cancel the course if there are less than 15 participants

You must enrol by **18th January 2009.**

**On the site [www.mastergis.it](http://www.mastergis.it) you can find further information: topics, teachers, lesson timetable, cost and enrolment procedures.**

For further information please contact:

- *Dipartimento di Ingegneria Agraria*  
Via Celoria 2 Milano - Tel 02 50316860/61 – Fax 02 50316845 - Cell. 3773100879  
[giulio.senes@unimi.it](mailto:giulio.senes@unimi.it)  
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- *Secretariat - Edolo Campus*  
Via Morino 8 Edolo – Tel. and Fax 0364.71324 – [corso.edolo@unimi.it](mailto:corso.edolo@unimi.it)

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## **25th NOVEMBER 2009: II DEGREE SESSION 2008/2009**

On Wednesday **25th November 2009 at 9.30 a.m.** there was the 2<sup>nd</sup> degree session of the academic year 2008/2009 at the Edolo campus. The Commission chaired by prof. Franco Sangiorgi assessed 7 new graduates:

### **Baldini Daniela (Endine Gaiano – BG)**

Thesis: "Az. Agricola Le Piane: planning and economic analysis"

Supervisor: Sali Guido (Department of Economics and Environmental and Agri-food Agricultural Policy )

### **Boldrini Stefano (Sarezzo – BS)**

Thesis: "Metadata in mapping: Catalogue of data of the Association of Councils of the Alta Valle Camonica"

Supervisor: Toccolini Alessandro (Department of Agricultural Engineering)

### **Borzi Matteo (Sorico – CO)**

Thesis: "The influence of alpine pasture on "Bitto" cheese"

Supervisor: Bocchi Stefano (Department of Plant Production)

### **Compagnoni Veronica (Valfurva – SO)**

Thesis: "Detrital flows: preliminary investigation to stabilize monte Reit in Alta Valtellina"

Supervisor: Bischetti Gian Battista (Department of Agricultural Engineering)

### **Gaggi Alice (Faedo Valtellino – SO)**

Thesis: "The giant blueberry: new openings for the Valtellina"

Supervisor: Mignani Ilaria (Department of Plant Production)

### **Pennacchio Marco (Sale Marasino – BS)**

Thesis: "Energy exploitation of *Miscanthus* in disused roads"

Supervisor: Fiala Marco (Department of Agricultural Engineering)



### **Volpi Francesco (Aprica – SO)**

Thesis: "Assessment of the analytical characteristics of some vineyards and wines of the Valtellina"

Supervisor: De Noni Ivano (Department of Food and Microbiological Science and Technology)

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## **A SEMINAR IN ENGLISH**

On Thursday **26 November 2009 at 3.45 p.m.** in the Main Hall of the Edolo Campus there was a seminar entitled *Multifunctionality in mountain farming: a personal experience "Strawberry fields from the very beginning"*.

During the seminar, held entirely in English, *Jane Sutherland* spoke about the activities on her farm where she grows soft fruits, potatoes and chestnuts and organizes themed days and weeks in English

Considering the importance of foreign languages as of the academic year 2008/2009 the English Course has been expanded from 3 to 6 credits. The extra time is dedicated to enabling students to apply their knowledge of the language to the subjects part of the undergraduate course study plan, increasing their specialist vocabulary and ability to understand scientific texts and contexts.

The seminar therefore enabled students to put into practice what they have learnt over the last few months, trying out their knowledge and skills in an authentic context. Moreover the seminar was a good example of "C.L.I.L." *Content Language Integrated Learning* a teaching method which uses the foreign language to teach another subject. This helps to highlight the fact that a language is a means of communication and a way to acquire knowledge and not just a series of grammar rules.

As the seminar was a success some lessons in English may be added to Undergraduate course

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## ***Extra activities***

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### **13th JANUARY 2010: MOLECULAR GENETICS FOR MOUNTAIN ZOOTECHNY**

On Wednesday **13th January 2010 at 9.00** a.m. in the Main Hall of the Edolo Campus there will be a Seminar entitled "*Molecular genetics for mountain zootechny*" held by Prof.ssa Paola Crepaldi of Università degli Studi di Milano.

New knowledge of animal genomes offers new instruments for increasing the importance of animal products and populations in mountain areas: from biodiversity to traceability, to the characterization of qualitative aspects specific to mountain zootechny.

**The seminar is open to the public and is free of charge, all are invited**

### **CAD WORKSHOP FOR EDOLO STUDENTS**

From **20th January to 10th February 2010** dott.ssa *Natalia Fumagalli* of the Department of Agricultural Engineering of Università degli Studi di Milano, will be holding a course on **CAD (COMPUTER AIDED DESIGN)**.

The workshop for a total of 16 hours will be held in the Computer Room of the new building and will centre on AutoCad2009 software.

The aim is to provide some basic notions on drawing and the use of CAD software.

The course is reserved for students of the Undergraduate Course in Undergraduate Course in Protection and Enhancement of the Mountain territory and Environment, who must enrol by 14th January 2009 at the Secretary's Office, Edolo.

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## ***VAL.TE.MO. Association***

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### **VALTEMO: MEMBERSHIP 2009**

You can now join the **VAL.TE.MO. Association** for 2010.

With 5 euro you can become a member of the association and contribute to promoting the knowledge, enhancement and protection of the mountains by taking an active part in the members' meetings and association activities.

The Valtemo membership card, valid until 31/12/2010, also provides:

- discount of € 5,00 on the daily ski pass for the Adamello Ski Ponte di Legno-Tonale skiing area from 05.12.2009 to 08.12.2009 and from 07.01.2010 to 11.04.2010;
- 10% discount on photocopying card at the Edolo Undergraduate Course

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- 10% discount on Edolo lesson notes (on sale from 2010);  
The association hopes to add more offers for members soon.

All those persons (natural or juridical) who share the Association's objectives, and intend to contribute to their realization can join the Association.

If you wish to join the Association you must fill in the application form and hand it in to the Secretary's Office at Edolo together with the membership fee of € 5,00.

At <http://valtemo.g2k.it/> you can find the statute and events as well as a forum to find out more or make your contribution.

For further information phone 0364/71324 or e-mail [valtemo@tiscali.it](mailto:valtemo@tiscali.it)

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## **VALTEMO ASSOCIATION CURRENT PROJECTS**

### ***THE HERB GARDEN: A JOURNEY THROUGH SHAPES, FRAGRANCES, COLOURS AND THE HISTORY OF THEIR USE IN THE MOUNTAINS***

The project plans to create a **herb garden** of officinal, medicinal and tinctorial plants for educational and teaching purposes in order to highlight the special environmental and cultural characteristics of mountain areas and in particular the Valle Camonica. The garden will be situated **next to the Mountain University** and will provide guided tours and workshops aimed at students of all ages and the general public who wish to discover the world of herbs.

At the moment the garden is being designed, the species chosen and the soil analysed. Students have analysed soil samples to ascertain main characteristics as part of the course of Soil Chemistry during the Undergraduate Course in Protection and Enhancement of the Mountain territory and Environment.

**The project receives support from Fondazione Bresciana and Cassa Rurale Alta Val di Pejo Val di Sole.**

In order to support the project or for further information on this and other activities organized by the Val.Te.Mo. Association send an e-mail to [valtemo@tiscali.it](mailto:valtemo@tiscali.it) or visit the Association's site: <http://valtemo.g2k.it/> or phone 0364.71324.

### ***Note-saver***

This idea aims to save and recycle the notes made by students of the Undergraduate Course in Protection and Enhancement of the Mountain territory and Environment. Often after an exam has been passed the notes are laid aside and forgotten.

**As of 26th October 2009** students' notes have been collected. The notes are now being compared, selected, rewritten and put together to create a "notebook" for the subject.

**From 7th January 2010** the notes can be bought and used to follow and study the subjects of the 2<sup>nd</sup> and 3<sup>rd</sup> term 2009/2010.

**N.B.:** discounts are available for students who handed in their own notes or are Val.Te.Mo. Association members.

For further information see <http://valtemo.g2k.it/IT/News/135/parteilprogettosalvaappunti.htm>

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## ***News about us...***

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This month:



- "Alta Valle, arriva il catalogo digitale" published by *Giornale di Brescia* on 3rd December 2009 [CLICK HERE](#)

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**The Undergraduate Course in  
Protection and Enhancement of the  
Mountain territory and Environment  
wishes you**



**Please note that the Edolo Campus  
will be closed from 23rd December  
2009 to 6th January 2010.**

**All activities will resume as normal  
on Wednesday 7th January 2010.**

**If necessary you can send an e-mail  
to [corso.edolo@unimi.it](mailto:corso.edolo@unimi.it)**

***FOR FURTHER INFORMATION ON THE ABOVE-MENTIONED NEWS ITEMS WRITE TO***

**[corso.edolo@unimi.it](mailto:corso.edolo@unimi.it)**

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