

PROGRAMME CERG INTENSIVE COURSE 2002

Lectures and Excursions
Presented in Dornbirn and Vorarlberg (W-Austria)
14 - 21 July 2002

Organisation:

RESEARCH FOUNDATION FOR ALPINE AND SUBALPINE ENVIRONMENTS

VORARLBERGER NATURSCHAU *i n a t u r a*

INTRODUCTION

The one-week, CERG-Intensive Course will be presented in Vorarlberg from 14 to 21 July 2002. This course is primarily meant for advanced-level students and accompanying staff members from CERG. This course immediately follows the one-week Summer-School from 7 to 13 July (organized under the sponsorship of UNESCO) and the IAG Symposium on Sunday 14 July 2002. As far as field-excursions are concerned the two one-week courses partly show a supplementary programme.

- The CERG-Intensive Course is organized on the initiative of the '**Research Foundation for Alpine and Subalpine Environments**' - RFASE, founded March 2001 by staff members from the former 'Alpine Geomorphology Research Group', University of Amsterdam - with the full scientific, logistic and financial support of the '**Vorarlberger Naturschau**' (*i n a t u r a* - Dornbirn, W-Austria).
- The CERG-programme also became feasible through a substantial financial donation by the firm **Doppelmayr A.G** (Wolfurt, Vorarlberg).
- The manifestation will run under the aegis of **CERG** (Centre Européen sur les Risques Geomorphologiques, Council of Europe, Strasbourg) and will be supported by the **IAG** (International Association of Geomorphologists). CERG also contributes to meet the costs of the excursions.
- Within the framework of the '**International Year of Mountains**' (IYM-2002) the CERG Intensive Course will be preceded by the **IAG-Symposium** on Sunday 14 July 2002, thus linking the foregoing UNESCO Summer-School - scheduled from 7-13 July 2002, also organized by RFASE and *i n a t u r a* (Vorarlberger Naturschau) - with the CERG Intensive-Course. Free admittance to the IAG-Symposium is given for all participants of the CERG Intensive-Course (and of the Summer-School).

JUSTIFICATION

The organisation and presentation of the CERG-'Intensive Course' in Vorarlberg by RFASE and *i n a t u r a* has been undertaken to distribute unique knowledge and field

experience obtained during decades of student training, research and contract work in this part of the northern Alps. Some past achievements and recent activities are:

- Geomorphological mapping (at scale 1 : 10,000) has been carried out over extensive areas in and around Vorarlberg. Mapping proved to be a powerful tool in landscape and project-site analysis. Two series of 12 map sheets (A-2) with natural hazard and geo-technical overlays have been published, providing an important data base for further research, other derivative maps, GIS, contract work and EU-funded projects (e.g. Cartesian, 2000).
- Knowledge of the glaciation history of the Rhine Glacier system in and around Vorarlberg has substantially increased. Climate reconstructions of the Upper Würm are in progress.
- Much experience has been gained with slope stability problems (fossil and active mass movements) and with related hazard and risk analysis.
- A 'Geotopinventar' (inventory of unique geo-sites, prepared in 1988) recently attracted renewed attention by the Government of Vorarlberg. This inventory will be modernized and has to be completed for all communities during the coming years.
- Since the early eighties, a number of detailed case studies (partly contract work for engineering and forestry departments) were carried out in Austria, Liechtenstein and Switzerland, now offering splendid sites for demonstration and instruction.

There are several other reasons to select Vorarlberg as an international centre for earth scientific educational projects like the CERG-Intensive Course:

- Vorarlberg is considered to be most suitable for earth-scientific and landscape-ecological training and research. The alpine and subalpine environments in this northern section of the Alps are highly dynamic and show much variation. Its geology and geomorphology is rich and complex. Moreover, the different landscape types are very well preserved: Fields are only slightly modified by agriculture, as traditional land-use is cattle farming and forestry.
- Additional advantages can be mentioned. Most of the valleys and research areas in and around Vorarlberg are well accessible. Aerial photographs are available. Private accommodation during fieldwork is not too expensive and can easily be arranged. *inatura* (the 'Vorarlberger Naturschau') and other cooperating institutions are offering modern facilities and support for lecturing and in preparing for excursions and fieldwork.

In general: A good knowledge of materials, processes and landforms is fundamental to understand the evolution of dynamic and vulnerable environments. Integrated geological, geomorphological and environmental (landscape-ecological) field training is nowadays rarely part of the university curricula in geosciences, but should be considered as a 'must'. Integrated training also is of great value to bridge gaps with related disciplines.

Therefore, the **aim of this course** is to demonstrate how detailed knowledge on alpine and subalpine environments can be obtained, as well as to increase field experience in geosciences, with emphasis on slope stability problems and natural hazards and risks:

Course participants will be learned 'to read landscapes' in complex settings and to evaluate field conditions in the context of various scientific and practical demands.

TARGET GROUP AND SUBSCRIPTION

The CERG-Intensive Course is primarily open for CERG members and their students, though a few other selected persons will participate as well. All participants must have a general interest in alpine and subalpine environments, especially in general survey and inventory techniques, next to a keen interest in slope stability problems and hazard and risk analyses.

FURTHER INFORMATION

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After 25 Juni, please contact Mrs. Eva Pammer, Vorarlberger Naturschau, Marktstrasse 33, A-6850 DORNBIRN, Austria. Tel. +43-5572-23235-12. E-mail: eva.pammer@dornbirn.at

ACCOMMODATION and COSTS

For most participants accommodation is arranged in the Kolpinghaus in Dornbirn, from Saturday-evening 13 July to Monday-morning 21 July (2-bed rooms; breakfast included). The one-week CERG-programme in Vorarlberg will accommodate about 35 participants. Further details:

- **Students** attending the one-week Intensive Course have to pay a **contribution of € 100.-** (to be paid cash at the registration desk on Monday 15 July), which includes materials, excursions, accommodation from 13-21 July, as well as participation in the IAG-Symposium. Some lunches/buffets/dinners are provided as well (see programme).
- **Accompanying CERG staff members** have to pay for their own (hotel) accommodation. In case additional two-bed rooms can be made available in the Kolpinghaus, some of the younger staff members may stay there as well and then have to pay the same contribution of € 100.- as the student participants.
- **Travelling costs** to/from Vorarlberg is not paid for.

PROGRAMME

The CERG Intensive Course starts at Saturday-evening 13 July, in order to take part in the IAG-Symposium on Sunday 14 July 2002. The course will end on Saturday-night, 22 July 2002.

Introductory and special guest lectures are concentrated on Monday. Two evening lectures are on Tuesday, one on Wednesday and a few introductory lectures on geophysical methods will be presented on Friday-morning.

(Preliminary programme and time-table):

Saturday 13-7

16.00-22.00 Arrivals, accommodation and informal meeting of staff and participants.

Sunday 14-7

IAG-Symposium, organized within the framework of the "International Year of Mountains", as the year 2002 is officially declared by the UN. The programme is in preparation by the IAG and will be forwarded later to the course participants.

Monday 15-7:

08.30-09.15 Registration of participants at the Vorarlberger Naturschau.

A **poster session** will be presented during the day, from 08.30 onwards.

09.15-09.45 **Opening ceremony** with representatives of the Government of Vorarlberg, 'Stadt Dornbirn', CERG, IAG, the sponsoring Firma Doppelmayr (Wolfurt, Vorarlberg), and the organizing institutions ('Vorarlberger Naturschau' and 'RFASE').

09.45-10.00 Coffee-break, poster session.

10.00-10.10 Short introduction into the course programme (president RFASE).

10.10-12.30 **Introductory lectures** (25 min.+ 10 min. discussion each):

10.10- FRIEBE, G. (Vorarlberger Naturschau, Dornbirn):
- *Regional geology: Geolog. zonation, stratigraphic table, cross sections.*

10.45- DE JONG, M. (RFASE, Amsterdam):
- *Overview of the glaciation history of the Upper Würm; sediment types.*

11.20- DE GRAAFF, L. (RFASE, Amsterdam):
- *Pleistocene sedimentation patterns and valley glaciation models.*

11.55- SOLDATI, M. (Modena):
- *Landslides and climate changes in the Alps since the Late-Glacial.*

12.30-13.30 Buffet 'in the house' offered by the Vorarlberger Naturschau, poster session.

13.30-17.15 **Introductory and special guest lectures** (25 min.+ 10 min. each):

13.30- MANTOVANI, F. (Ferrara):
- *Remote sensing techniques and landslide detection and monitoring.*

14.05- CORSINI, A. (Modena):
- *GIS as a tool for landslide susceptibility mapping.*

14.40- SEIJMONSBERGEN, H. (IBED-Physical Geography, Amsterdam):
- *Slope instability and hazard zoning in mountainous environments.*

15.15-15.30 Coffee/tea-break. Poster session.

15.30- MAIER, B. (Forestry department 'Stand Montafon', SE-Vorarlberg):
- *Protection function of forests and subsequent forest management.*

16.05- SCHMIDT, R. (Wildbach- und Lawinenverbauung, Bregenz):
- *Georisks in Vorarlberg*

- 16.40-17.30** Information on the excursion/fieldwork-programme. Poster session.
19.00- Evening dinner for staff members and participants, offered by the Vorarlberger Naturschau in Dornbirn with visit to the site of the new *inatura*.

Tuesday 16-7

- 08.15-17.30** Excursion: **Northern Bregenzerwald.** Presentation Leo de Graaff & Mat De Jong, with contributions of Georg Friebe, Herman Hyden, Else Kolströp, Harry Seijmonsbergen and/or others.
 Topics: Tilted and folded Molasse; glaciation history (Quaternary sediment sequences and landforms); deposition of travertine, active mass movements processes.
 Lunch: Self-service in Rankweil (at own costs).
 Dinner: Evening dinner in the Kolpinghaus (drinks at own costs).
Evening lectures in the Vorarlberger Naturschau:
 1) by prof. dr. Else Kolstrup, Uppsala, Sweden), on "Geomorphologic mapping in Sweden", and
19.15-21.15 2) by prof. dr. Helmut Völk (Heidelberg, Germany) on "A case study of massive rock creep in the Easter Alps, Warmatsgund Valley, German-Austrian border, near Oberstdorf".

Wednesday 17-7

- 08.15-17.30** Excursion: **Northern Bregenzerwald (Lecknertal, Bolgenachtal, Sibratsgfäll).** Presentation: Harry Seijmonsbergen & Luuk Dorren, Leo de Graaff & Mat De Jong, Walther Bauer, Georg Friebe, Else Kolströp and/or others.
 Topics: Flysch and Helvetic rocks; mass movements and hazard & risk analyses (prehistoric 'Sturzstrom' Lecknertal and Bolgenach landslides; Rindsberg landslide >180 ha, east of Sibratsgfäll).
 Lunch: Packed lunches will be provided by the Kolpinghaus.
 Dinner: Evening dinner in the Kolpinghaus (drinks at own costs).
20.15-21.00 **Evening lecture (open to public) at the Vorarlberger Naturschau by prof. dr. Edmund Krauter (Geo-Center Mainz) on: *Landslides, types and risk assessment.***

Thursday 18-7

- 08.15-18.00** Excursion: **Two case studies of active mass movements:**
 1) the Widentobel (Altstätten, Switzerland). Presentation: Jan Rupke, Harry Seijmonsbergen, Luuk Dorren) and
 2) the Schlucher catchment (Malbun, Liechtenstein). Presentation Emanuel Banzer, Leo de Graaff & Harry Seijmonsbergen, Jörg Zürcher.
 Lunch: Packed lunches will be provided by the Kolpinghaus.
18.30-21.30 Evening reception and dinner in Malbun, offered by the 'Amt für Wald, Natur und Landschaft', Fürstentum Liechtenstein.

Friday 19-7

- 08.15-17.30** **Lectures and Fieldwork:**
 Friday-morning: Introductory lectures on geophysical technics by Olivier Maquaire, Strasbourg; Dick Biewinga, The Netherlands; Manuel Lauterbach, Mainz; Matthias Schuh, Freiburg; Leo de Graaff, Amsterdam.

The lectures will be followed by the practical demonstration and application of geophysical methods in the impact area of the historical rockfall avalanches at the foot of the Breitenberg, Dornbirn.

Fieldwork presentation, Friday-afternoon: Dick Biewinga, Matthias Schuh, Leo de Graaff, Emanuel Lauterbach, Jan Rupke, Harry Seijmonsbergen, a. o..

Methods: penetrometer testing, ground-radar, geo-electrical and geomagnetic profiling, electro-magnetic pulse radiation measurements (a newly developed technique).

Lunch: Lunch at own costs (in the Kolpinghaus or elsewhere).

19.00-22.30 Reception and dinner (Haslach) offered by the city council of Dornbirn and evaluation of the CERG-Intensive Course. Certificates of attending the CERG-Intensive Course will be provided to the student-participants.

Saturday 20-7

08.15-18.30 Excursion: **The landslide area of Flims (Switzerland):** the largest pre-historic landslide complex in the Alps (10-15 km³ of material, covering an area of over 50 km². Presentation: Dr. Andreas von Poschinger (Geolog. Landesamt, München).

Lunch: Packed lunches will be provided by the Kolpinghaus.

Sunday 21-7

Departure of CERG participants.

N.B. !: Some of the excursion routes may bring us in rough or wet mountainous terrain. Moreover, weather conditions in the Alps may change rapidly. Therefore, next to a professional field-geological outfit, an umbrella, weather-resistant clothes and mountain-proof shoes are strongly advised.

Amsterdam - Dornbirn, June 2002.