Research-informed teaching:

Engaging students through fieldwork

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Research-informed teaching

- Transition from School to University
- Research defines a University to some extent
- Students have a right to expect research-informed teaching
- Shows 'real world' relevance/practical application
- Teaching students to be enquiring/research based is essential:

  "…the changing world to be faced by today's students will demand unprecedented skills of intellectual flexibility, analysis and enquiry". Jenkins *et al*., 2007.

- Inspiring and enthusing students

The Feegletscher Project

- Provide an accessible opportunity for students to undertake field-based research in support of their educational and career goals
- Support student research projects by making available logistical, equipment and academic support and guidance in the field
- Provide training and guidance for students in field, laboratory and analytical techniques relevant to pure and applied research
- Environmental awareness
- Resolution of ‘real-world’ problems

Canon
Canon

Fieldwork for Students

Geography & Environmental Science

Fieldwork For Students By Students

Fieldwork Videos

Doing any data collection for your Undergraduate Dissertation? Not quite sure how ? Take a look and see if the students have covered the technique you are intending to use.

Top Tips for Fieldwork

Gallery

Most of our Fieldwork was carried out in Saas Fee, Switzerland.

The gallery features a variety of photographs from the project. Some of the photos are of the glacial

http://sarahnolan15.wix.com/fieldworkforstudents

Fieldwork for Students

Video Menu

Simply follow the link provided under each fieldwork technique:

Lichenometry

Go to link

Dendrochronology

Go to link

Measuring Air Temperature

Go to link

http://sarahnolan15.wix.com/fieldworkforstudents#!video-menu/cupt


JuraSel
Speisesalz
Sel de cuisine
classic · classique
500 g

Dye Tracing/Fluorometry

An Overview:

Dye Tracing can be used to collect information on the velocity of water, concentration peaks and dispersion. It is a useful way of tracing paths of water and can be used in tracing under cover water systems such as englacial water and underground water. The main two dyes used are fluorescein and rhodamine.

Dye tracing is a valuable technique and is used by companies to trace pipe leakages, monitor pollution and analyse rivers. Before carrying out this technique, local regulations need to be checked and permission from the local authorities should be gained.

Possible Student Projects:

- Comparison of accuracy and repeatability of river gauging techniques (e.g. velocity area vs. salt dilution vs. dye tracing)
- Calculation of lake throughflow rates.
- Studying flow routes and throughflow rates in karstic landscapes.

Useful Resources:

• Snow wetness measurement by fluorescent dye dilution by Robert E. Davis & Jeff Dozier, found at: http://www.igsoc.org/journal.old/30/106/igs_journal_vol30_issue106_pg362-363.pdf

• Bingham RG, Nienow PW, Sharp MJ, Boon S. 2005. Subglacial drainage processes at a High Arctic polythermal valley glacier. Journal of Glaciology 51: 15–24: http://www.sages.ac.uk/home/homes/rgroves/nienowpub3.pdf

• Investigation of water drainage through an alpine glacier by tracer experiments and numerical modelling by Thomas Schuler (2002) found at: http://e-collection.library.ethz.ch/eserv/eth:26092/eth-26092-02.pdf

About the Project:

This project engaged undergraduate students in filming and editing a series of short videos on fieldwork techniques. The fieldwork techniques and filming were carried out on an expedition to the Swiss Alps and cover a wide variety of fieldwork in the Geography & Environmental Science discipline.

These step by step instructional videos are designed to encourage undergraduate students to carry out their own individual fieldwork.

We would very much welcome any feedback. If you would like any further information about the project please get in touch.

Contact us

Student Testimonial:

"The fieldwork videos have equipped me with the knowledge & confidence to carry out my own fieldwork and data collection for my Dissertation "

Fieldwork for Students

Top Tips for Fieldwork

The following Videos are a series of handy Top Tips that you should consider when undertaking Fieldwork

Uses of Duct Tape

Using Photography in Fieldwork

Uses of Cable Ties

Safety

Recording Data

Field Sketching

SEVEN YEARS IN SAAS FEE

Student fieldwork in a warming world

Project leader:
Dr Philip Porter
Edited and Produced by: Martin Smart
Richard Lauberts
James Martin

Narrated and produced by three University of Hertfordshire students, *Seven Years in Saas Fee* is a short film showcasing the fieldwork that has been undertaken during the past seven years in and around Saas Fee, Switzerland by students and staff from the Division of Geography and Environmental Science at the University of Hertfordshire. The fieldwork has been undertaken to collect data for a range of scientific studies by students and staff in order to investigate the environmental impacts of a changing climate. From receding glaciers to the development of potentially dangerous glacial lakes, the students will take you on a scientific journey to the spectacular mountains and glaciers of Saas Fee. They will also discuss some of the potential impacts of a warming world much closer to home in Hertfordshire...

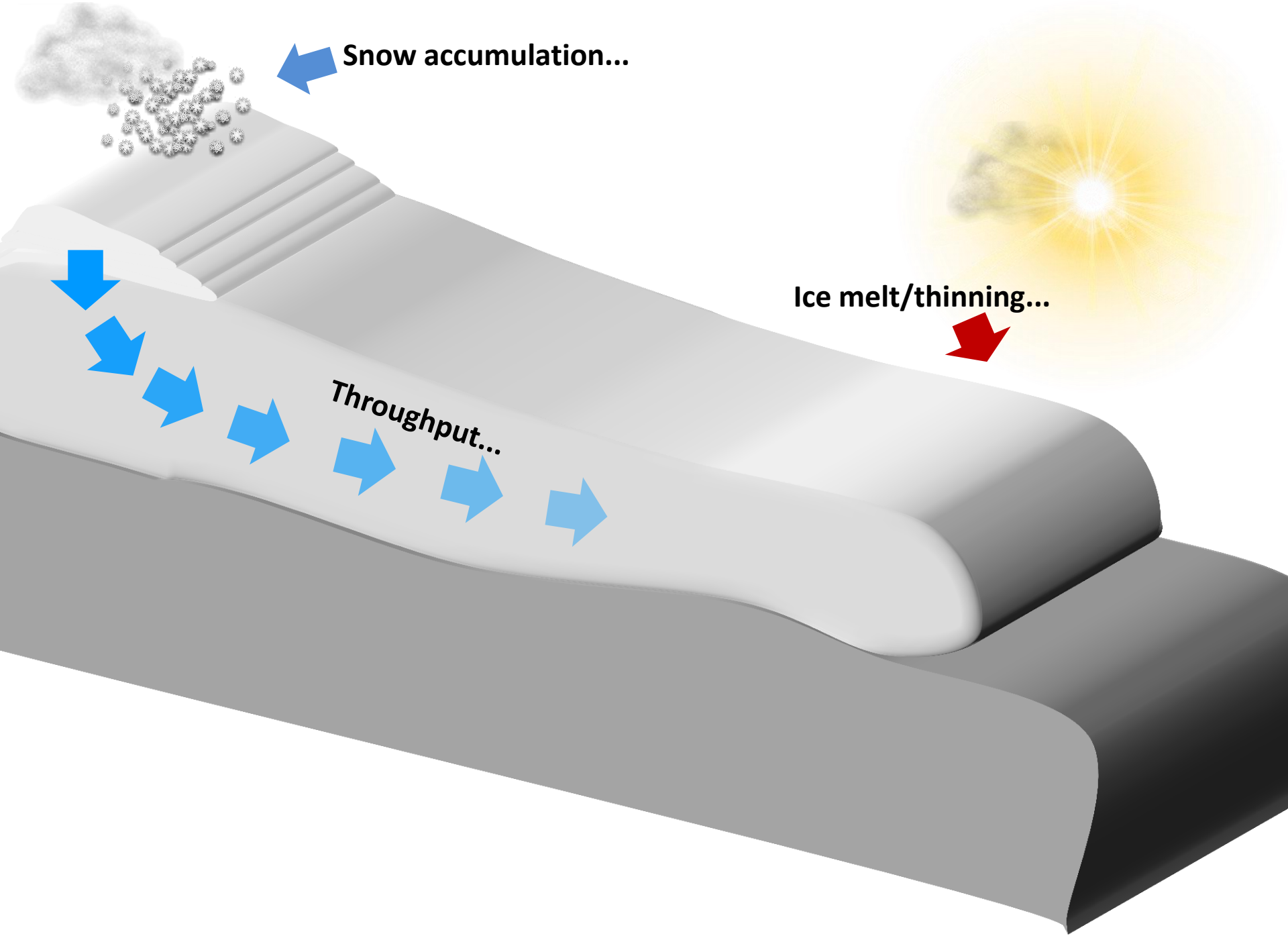
Seven Years in Saas Fee: *Student fieldwork in a warming world*

SEVEN YEARS IN SAAS FEE

Student fieldwork in a warming world

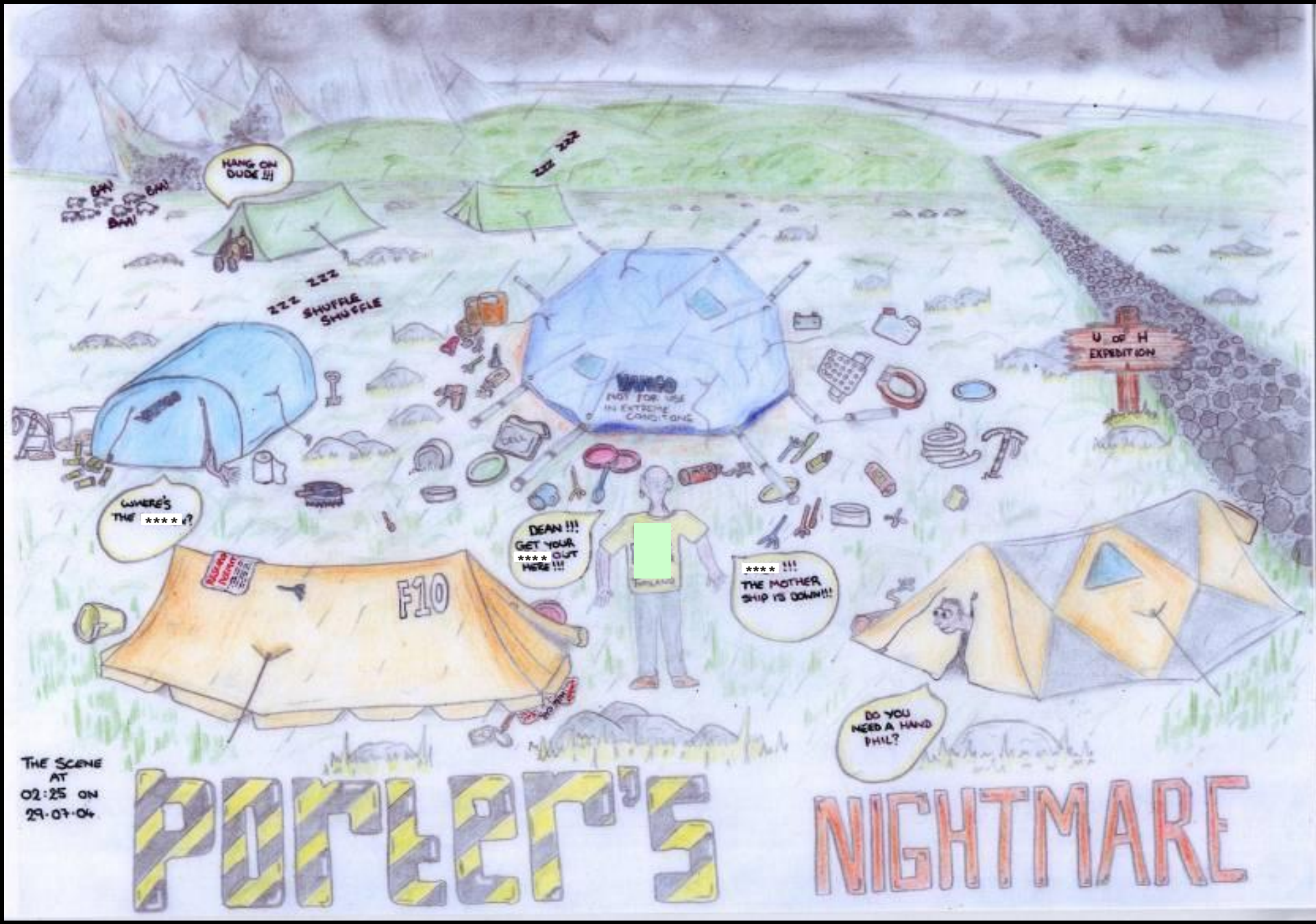
Division of Geography & Environmental Sciences
University of Hertfordshire
United Kingdom

Image ©Oliver Perrot


Snow accumulation...
Ice melt/thinning...
Throughput...

The challenges!


MOUNTAIN
EQUIPME


HANG ON DUDE !!!
BAH! BAH! BAH!
ZZZ ZZZ
ZZZ ZZZ
SHUFFLE SHUFFLE
U OF H EXPEDITION
WHERE'S THE ***** ?
DEAN !!! GET YOUR **** OUT HERE !!!
**** !!! THE MOTHER SHIP IS DOWN !!!
DO YOU NEED A HAND PHIL?
F10
THE SCENE AT 02:25 ON 29-07-04
PORTER'S NIGHTMARE

Why fieldwork ‘works’ for RIT

- Independence
- Inspirational and memorable(!)
- Applied and transferable skills
- ‘Real world’ research problems
- Staff-student engagement
- The ‘process’ of research

The missing eighth principle?

"What is taught….is at least as important as how it is taught. In contrast to the long history of research in teaching and learning, there is little research on the college curriculum. We cannot, therefore, make responsible recommendations about the content of good undergraduate education. That work is yet to be done."

Chickering and Gamson, 1987.

Seven Principles for Good Practice in research-informed teaching!

Good practice…

1…includes outcomes of recent research in the curriculum;

2…develops an understanding of the history & role of research in the discipline;

3…engages students in discipline-specific research processes;

4…engages students in generic research processes;

5…fosters an environment where research is encouraged, promoted and valued;

6…engages students in enquiry-based activities;

7…draws on pedagogic research to enhance teaching and research.

…& the results are mutually beneficial.