Geological Graduate School announces a November 7-11, 2011 training course

Geochemical Modelling in Igneous Petrogenesis: Concepts and Hands-on Workshop
Introducing GCDkit & Short Course of the ℝ Language as a Bonus

Course theme and format

This is a combined theoretical and practical course that (1) trains the participants to basic and advanced concepts of modern high-temperature geochemistry and (2) introduces the GCDkit software package that offers an interface for both standard and custom geochemical applications. The course features a one-week workshop designated for postgraduate (as well as senior undergraduate) students. The emphasis is on practical examples and exercises and the total duration is circa 35 hours in several blocks.

Teachers and venue

The course is given by Prof. Jean-François Moyen (Université Jean-Monnet, Saint-Etienne) and Dr. Vojtech Janousek (Czech Geological Survey, Charles University). The course will be held at the Kumpula campus of the University of Helsinki. Travel expenses will be covered for graduate school members from outside the Helsinki metropolitan area.

Program

▶ MONDAY, NOVEMBER 7

9–12.30 Introducing GCDkit: a tool for plotting and interpretation of geochemical data from igneous rocks using the R language
Lunch
13.30–15.30   Fundamentals of R syntax, part 1
15.30–17.00   Refreshers of the whole-rock geochemistry: the nature of geochemical data, major- and trace-elements, etc.

▶ TUESDAY, NOVEMBER 8

9–12.30 Fundamentals of R syntax, part 2
Lunch
13.30–16.30 Using R to display geochemical data

▶ WEDNESDAY, NOVEMBER 9

9–12.30 Forward modelling of main petrogenetic processes with major elements, theory

Lunch
13.30–17.00 cont'd (Ecuador problem – least square calculations)

▶ THURSDAY, NOVEMBER 10

9–12.30 Forward modelling of main petrogenetic processes with trace elements, theory
Lunch
13.30–17.00 cont'd (trace element problem, solving strategies)

▶ FRIDAY, NOVEMBER 11

9–12.30 Advanced modelling strategies (to be decided with students; e.g. grid models, bring your own dataset)
Lunch
13.30–17.00 Open slot – to be decided with students

Recommended reading & internet links

Albarède F. (1995): Introduction to Geochemical Modeling. Cambridge: University Press.

Becker R.A., Chambers J.M., Wilks A.R. (1988): The New S Language. London: Chapman & Hall.

Petrelli M., Poli G., Perugini D. & Peccerillo A. (2005). PetroGraph: A new software to visualize, model, and present geochemical data in igneous petrology.

Geochemistry Geophysics Geosystems 6, 15 pp.

Rollinson H.R. (1993): Using Geochemical Data: Evaluation, Presentation, Interpretation. London: Longman.

The R Project for Statistical Computing, http://www.r-project.org

GCDkit ver. 3.0, http://www.gcdkit.org

REGISTRATION   http://blogs.helsinki.fi/geologian-tutkijakoulu/course/