

NIR – Network on Impact Research RESEARCH TRAINING COURSE

SMALL QUATERNARY CRATERFORMS - GEOPHYSICAL AND ECOLOGICAL ASPECTS

Värskä and Kaali, Estonia, September 28. – October 2., 2008

In the course we will discuss the prerequisites, mechanisms and ecological influence of formation of meteorite impact structures. The course includes theory and field-work with GPR (Ground Penetrating Radar) and magnetometer in Ilumetsa, Tsõõrikmäe and Kaali structures. Active participation in course, fieldwork and delivering of accepted written report will be evaluated to 10 ECTS points (University of Tartu).

PROGRAMME

September 27th Saturday

Meeting in Tartu, moving to Värskä (SE Estonia)

September 28th Sunday

Lectures: Introduction to Estonian geology and craterforms (J. Plado)

Environmental effects of marine impacts and post-impact sedimentation (H. Dypvik)

Ground Penetrating Radar: Principles and applications (S.-E. Hamran)

Excursion to Piusa sand caves - target for Ilumetsa and Tsõõrikmäe structures

Introduction to georadar "Zond-12e" and proton precession magnetometer "G-856"

September 29th Monday

Field-works (J. Plado, A. Jõeleht):

Measurements of the magnetic field over Ilumetsa and Tsõõrikmäe structures

GPR studies of Ilumetsa and Tsõõrikmäe structures

Interpretation of the results

Depending on weather, schedules for 29th and 30th may be switched or mixed!

September 30th Tuesday

Lectures: Impact cratering in the Solar System (W.U. Reimold)

Impact processes, impactites and shock metamorphism (W.U. Reimold)

Geochemistry and geochronology of impact structures (W.U. Reimold)

Atmospheric effects in impact cratering: simplified theory

and a few peculiar examples (N. Artemieva)

October 1st Wednesday

Excursion through southern Estonia to Saaremaa

Field-works (J. Plado, A. Jõelet)

Measurements of the magnetic field over Kaali structures

Georadar studies of Kaali structures

Interpretation of the results

October 2nd Thursday

Lectures: Kaali - present state of investigations (S. Veski)

Field-works (J. Plado, A. Jõelet)

Measurements of the magnetic field over Kaali structures

GPR studies of Kaali structures

Interpretation of the results

Student presentations

Public lecture

October 3rd Friday

Travel to Tallinn

COURSE DESCRIPTION

Level: Research students and fresh post-graduates; 10 ECTS credits.

Cost: Participants from NIR participating countries register for free; participants from outside the NIR region may be considered for vacant seats.

Maximum number of participants: 15

Deadline for application: August 1.

Arrival: September 27.

Departure: October 3.

Venue: Värskä, SE Estonia (Silla 4, Värskä vald 64001, Põlvamaa)
Kaali, Saaremaa Island, W Estonia (Kaali küla, Pihla vald 94102, Saaremaa)

Organizers: Jüri Plado and Ulla Preeden, University of Tartu.

Instructors: Natalia Artemieva, Russian Academy of Sciences;
Henning Dypvik, University of Oslo;
Svein-Erik Hamran, University of Oslo;
Argo Jõelet and Jüri Plado, University of Tartu;
Wolf Uwe Reimold, Humboldt-Universität zu Berlin;
Siim Veski, Tallinn University of Technology

Course reports: Deadline October 31.

APPLICATION: The application should include name, age, address of home institution, e-mail address and phone number along with the title of thesis and name of supervisor. In addition a short description (max. 200 words) expressing scope of interest and current projects. Application form and additional course information are found at <http://www.geo.uio.no/nir/>. The application should be sent to Jüri Plado (juri.plado@ut.ee) no later than August 1.