



Eurasia School of Solid Earth Geosciences

1st International Elite PhD Course

Deep Earth Processes and their Surface Expression



Invitation to participate in a PhD course at Eurasia Institute of Earth Sciences, Istanbul Technical University (ITU) Monday 22 to Friday 26 January 2018.

Lecturers: Professor Peter Molnar, University of Colorado at Boulder
Professor Antony Watts, Oxford University

Organisers: Professor Irina Artemieva
Professor Hans Thybo

This course will provide participants with an overview of the frontiers of our understanding of the interplay between deep Earth and surface processes and their importance for topographic variation. We envisage a course with vivid discussion among participants based on insightful lectures by the guest teachers on scientific challenges and visions.

The two lecturers are chosen for their world-leading professional standing in the geoscience community, broad knowledge of science, fundamental knowledge of the topic and related scientific disciplines, and for their ability to stimulate debates in the community. Both lecturers are highly respected broadly among geoscientists, which is clearly reflected in their publications, professional distinctions, and invited lectures at leading universities worldwide.

Peter Molnar's research focuses largely on two questions: (1) how large-scale geodynamics cause deformation of the Earth's crust, including earthquakes and the building of mountain ranges, and (2) how shifting continents, emergence of islands, growth of mountains, etc. affect climate on geologic time scales. His work has included fieldwork in remote parts of the world, and numerical calculations of processes that obey rules of fluid mechanics, but he is incompetent, and unwelcome, in a laboratory. Peter Molnar is the 2014 recipient of the Crafoord Prize from the Royal Swedish Academy of Sciences.

Antony Watts is a marine geologist and geophysicist interested in the structure and evolution of the world's ocean basins and their margins. His current focus is on lithospheric flexure, its effect on gravity, topography and crustal structure and its role in surface processes such as intraplate volcanism, sedimentary basin formation and landscape evolution. His book on "Isostasy and Flexure of the Lithosphere" has become a classical textbook in solid Earth geophysics. Tony Watts is the 2008 recipient of the Arthur Holmes Medal and Honorary Membership from European Geophysical Union.

Programme and practical considerations

Based on our experience from a series of similar international PhD courses, organized in Copenhagen, the programme will include lectures that will form the background for discussion among all participants in the morning and afternoon each day.

On the last day of the course, the discussion will be centred on one of the Grand Challenges to geosciences. The objective is to provide all participants with a new understanding that may help giving perspective to their research. We plan an Oxfordian discussion, where participants will be divided into two teams that will defend each their point of view on a major scientific debate. We have received very good feed-back on this approach after our previous international PhD courses.

The course will be held over a period of five days. Successful completion of the course will give 5 ECTS.

We plan a geological-tectonic excursion Saturday 27 to Tuesday 30 January mainly on the coast of Turkey. The theme will be tectonic imprints of the movement and deformation of the Anatolian plate. Participants will also have the opportunity to visit some of the unique archaeological sites related to the Greek civilisation in this area. The excursion planning will be led by Professor Çelal Şengör, who holds unique knowledge of geology and tectonics as well as history and evolution of civilisation and science.

The course will be held on 22-26 January 2018 at the enclosed Maslak campus of Istanbul Technical University, 30 minutes by metro from the city centre. We will try and book inexpensive on-campus accommodation for those who first indicate their wish to stay in the guest house. Participation is free, but participants should arrange their own travel, accommodation and meals (except for the tea-breaks during the course). Participants in the excursion should cover own expenses for air ticket and accommodation. We will later provide details on this part of the course.

The number of participants is restricted. We recommend early registration to the organisers at i.artemieva@gmail.com and h.thybo@gmail.com. Please send us your CV with a letter of motivation, and state if you are interested in participating in the excursion. Final deadline for registration is 10 December 2017.

Organising committee at ITU:

Professor Irina Artemieva
Professor Hans Thybo
Vice-Rector, Professor Alper Ünal
Professor Attila Çiner
Professor Çelal Şengör
Dr. Gülsen Ucarkus
Dr. Oğuz H. Göğüş