



PhD Positions – NEO asteroids and Impact Crater Studies

Doctoral School at the University of Vienna, Austria:

Planetology: From Asteroids to Impact Craters

From March 2010, a doctoral school in the planetary sciences will be established at the University of Vienna in Austria. The school, for students in the geosciences and planetary astronomy, deals with the danger and effects of impact events from two different angles: (1) the orbital evolution of asteroids that are, or could be, on potentially Earth-crossing orbits will be investigated with the newest techniques in celestial mechanics; (2) geological and mineralogical investigations on impact craters, impactites, and ejecta deposits will be used to study impact craters and constrain the physical parameters associated with the formation of these craters. This interdisciplinary program will be of interest for earth and planetary scientists, astronomers, physicists, space researchers, and others.

Within the doctoral school, seven (7) positions for PhD students are available. These positions are for 3 years (the duration of PhD studies at the University of Vienna) and include a monthly stipend to cover the time used for research, as well as a waiver of the study fees.

Of those 7 positions, 5 are in the earth sciences (with Profs. Koeberl, Libowitzky, and Ntaflös) and 2 in astronomy (Prof. Dvorak).

(1, 2): two PhD positions in planetary astronomy (investigation of the orbits of Near-Earth objects) should have the following qualifications: Besides a profound background in physics, mathematics and astronomy the applicants should be well skilled in numerical methods of solving problems of orbit determination, long term evolution of orbits and analytical treatment of close encounters.

(3) PhD positions in geosciences. The topic of this thesis is to obtain precise minor- and trace-element profiles in glasses and olivine phases in chondritic and achondritic meteorites. Required is a good knowledge in mineralogical and geochemical investigation methods (knowledge of optical microscopy, electron-beam microanalysis, X-ray fluorescence, ICP-MS, would be ideal), and experience in the handling of geochemical data.

(4-7) PhD positions in geosciences. The topics of these theses deal with various studies related to the petrography, mineralogy, and geochemistry of meteorite impact craters. One of the theses involves the use of cosmogenic nuclides (^{10}Be) in impactites and requires a good background in (analytical) chemistry besides the geosciences. Other topics involve (e.g.) the use of siderophile elements in impactites to determine the presence of an extraterrestrial component, the use of electron and optical microscopy (including the universal stage) for shock metamorphic investigations, as well as the use of a variety of mineralogical (e.g., XRD, Raman spectroscopy, cathodoluminescence microscopy) and geochemical methods. A good background in mineralogy, petrography, and geochemistry is important.

A Master's (or diploma) degree in a relevant field (e.g., geosciences, astronomy, chemistry...) is necessary. Support for attending meetings, field work, etc., is available. The language of the school will be English. For further details, please see: <http://lithosphere.univie.ac.at/>

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