Seminar: “Geochemistry of chromites and Cr-rich spinels in Antarctic micrometeorites: clues to parent body compositions”

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AMGC Seminar Thursday June 14 2018 – 16.00 h

By Glen Peeters “Geochemistry of chromites and Cr-rich spinels in Antarctic micrometeorites: clues to parent body compositions”

Cosmic spherules are micrometeorites which have completely molten while entering the Earth’s upper atmosphere. They consist of a variety of minerals including olivine, magnetite and glass. This study will focus on cosmic spherules containing chromite ($FeCr_2O_4$) mineral grains. Chromites have previously been found in sedimentary deposits from the Ordovician and Eocene and have provided more information on the different types of extraterrestrial material arriving on Earth through geological time. The micrometeorites (containing chromite grains) investigated during this study were collected in the Antarctic Sør Rondane Mountains and have an approximate age of ~1-2 Ma based on the average accumulation rate of extraterrestrial material. We aim to perform major element analyses on a collection of chromite grains using calibrated Scanning Electron Microscope – Energy Dispersive Spectroscopy (SEM-EDS) at the University of Lund (Sweden) to identify the parent body precursors of chromite-bearing micrometeorites, and compare the contemporary flux of extraterrestrial material with that from different geological periods.