

Heliophysics

2012 Summer School *Heliophysical Exploration*

31 May – 7 June 2012
Boulder, Colorado

Application Deadline: 14 December 2011

Applications are invited for the 2012 Heliophysics Summer School, to be held in Boulder, Colorado. NASA Living with a Star sponsors the Heliophysics Summer Schools, which are administered by the UCAR Visiting Scientist Programs. This series of summer schools helps graduate students and scientists learn and develop the science of heliophysics as a broad, coherent discipline that reaches in space from the Earth's troposphere to the depths of the Sun, and in time from the formation of the solar system to the distant future.

The first three schools produced textbooks for use at universities worldwide. The continuation of the school program each summer will teach new generations of students and develop the complementary materials that support teaching of Heliophysics at both graduate and undergraduate levels.

The Summer School has two principal aims:

- Deepen the appreciation of the basic science of heliophysics for a select group of students as teachers take them through highly interactive seminars and hands-on working groups, and
- Expand the newly-published textbook series to include labs, problem sets and background material, from which heliophysics may be taught at universities worldwide.

The 2012 Heliophysics Summer School will focus on the science underlying current and future heliophysical missions, including but not limited to MMS, Themis, RBSP, IRIS, SDO, and Solar Probe Plus. After providing students with broad overviews of the solar atmosphere, the solar wind, the Earth's magnetosphere and ionosphere, the course will cover the basic concepts and unanswered questions pertaining to magnetic reconnection, shocks, plasma instabilities, turbulence and heating, and the manner in which these concepts and questions affect our understanding of phenomena such as substorms, radiation belt and chromospheric dynamics, solar wind turbulence and particle heating, and heliospheric shocks.

The emphasis of the course will be on the quest for understanding and advancing heliophysical science that has inspired and motivated the missions mentioned above. The course will be based on lectures, laboratories, and recitations from world experts, and will draw material from the three textbooks Heliophysics I-III (<http://www.vsp.ucar.edu/Heliophysics/science-resources-textbooks.shtml>), published by Cambridge University Press.

Approximately 35 students will be selected through a competitive process organized by UCAR VSP. The school lasts for seven days, and each participant receives travel support for air travel, lodging and per diem costs.

Successful candidates are:

- Enrolled as a graduate student in any phase of training, or first or second year postdoctoral fellow, or beginning faculty in four-year liberal arts colleges.
- Majoring in physics with an emphasis on astrophysics, geophysics, plasma physics, and space physics, or experienced in at least one of these areas.
- Pursuing a career in heliophysics or astrophysics.

For additional information on this program and instructions on how to apply, please visit the Heliophysics website at www.vsp.ucar.edu/Heliophysics

For further information, call (303) 497-8649 or e-mail vspapply@ucar.edu



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