

PhD in Physics scholarship at NSSTC / UAE University

The National Space Science and Technology Center (NSSTC) at UAE University (UAEU) in Al Ain invites applications from enthusiastic, ambitious, and hard-working Emirati nationals for a graduate scholarship leading to a PhD in Physics, to start in Fall 2022 (exceptional candidates may be able to begin in Spring 2022). Supervision of the PhD thesis will be done jointly between NSSTC and UAEU's Department of Physics.

The PhD project is linked to the Emirates Mars Mission (EMM), which arrived at Mars on 9 February 2021. The area of study will be "Assimilation of EMM-Hope and Mars lander observations into high-resolution mesoscale and local models". This project would suit a theoretical/computational person with an interest in exploring Mars' atmosphere using state-of-the-art numerical methods and the most recent observations. There are very few UAE nationals qualified to PhD level in planetary science, and with the arrival of EMM at Mars, NSSTC is very keen to recruit Emirati nationals as PhD students in this area.

In this project, we will investigate Mars' lower atmosphere and boundary layer by assimilating data from EMM's thermal infrared instrument EMIRS and from other landers and rovers into high-resolution local simulations created using the LMD Mars Mesoscale/Microscale Model. Assimilating data into such models will allow us to investigate many poorly-understood atmospheric phenomena. Of particular interest is the region to the south and west of Elysium Mons, where the landing sites for *Curiosity*, *InSight*, and *Perseverance* are located. The student will join the EMM science team and work alongside Emirati and international scientists to achieve the project goals. Please see <https://www.uaeu.ac.ae/en/cgs/phd-project-1.pdf> for a full description of the scientific aspects of this project.

The accepted candidate for this NSSTC Scholarship will be supported by NSSTC for four years with a stipend of about 11,000 AED/month. For formal admission to UAEU's PhD program, the applicant will also need to apply through UAEU's College of Graduate Studies. We will discuss this with the candidate directly. Separate scholarships are also available to cover tuition fees - please see <https://www.uaeu.ac.ae/en/cgs/scholarship.shtml> for details.

Information about UAEU's PhD in Physics can be found at <https://tinyurl.com/ckf9w5tv>. There is a significant coursework component to this program. Excellent applicants who do not have the background in physics to take these core courses are still welcome to apply, and we can discuss alternative PhD programs with you.

For further information, please contact Dr Roland Young at roland.young@uaeu.ac.ae or +971 3 713 6143. Applications for entry in Fall 2022 need to be received by the end of November 2021 to meet the University's deadline of 31 December 2021. Applications for entry in Spring 2022 need to be received as soon as possible (the University's deadline is likely to be sometime in October 2021).

Minimum Qualification: Emirati nationality. Bachelor's and Master's degree in a relevant subject: Physics, Mathematics, Astrophysics, Space Science, Atmospheric Science, Planetary Science, Meteorology, Computer Science, or similar. Bachelor GPA 2.50, Master GPA 3.00 (or equivalent). IELTS Academic 6.5, assessed in the last two years (see link for exceptions). See <https://www.uaeu.ac.ae/en/cgs/admission.shtml> for full PhD admission requirements.

Preferred Qualification: Master's degree in Physics. Bachelor GPA 3.50+, Master GPA 3.50+, IELTS Academic 7.0+.

Rank/Experience/Skill Set: A keen interest in space exploration and planetary science. A strong aptitude for computing work and programming. Strong mathematical ability. Excellent communication skills in English, both verbal and written. Ability to self-motivate and work independently. An ideal candidate will have taken courses in atmospheric physics and fluid dynamics.

College/Department: Department of Physics and NSSTC.

Instruction to Applicant: Submit the following via Jobs@UAEU at <https://jobs.uaeu.ac.ae> (please don't email): Motivation letter (max 2 pages). CV (max 2 pages). Certified University diplomas and transcripts. IELTS exam certificate. Two letters of recommendation from professionals familiar with your academic work. Copy of Passport and Khulasat Al-Qaid.