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**POSTGRADUATE RESEARCH OPPORTUNITY**

**Department of Sport and Health**

**Project Title:** The effect of 7 days bed rest on body composition, muscle function, whole body metabolism and novel biomarkers of insulin resistance in healthy males.

**Project Description:** Over the past 50 years, more than 500 astronauts and cosmonauts have lived and worked in space for up to 6 months. We know that microgravity causes several negative physiological adaptations in the body, which currently limits space exploration. The European Space Agency (ESA) wish to determine how to maintain the health of astronauts in space, and to do this they fund bed rest studies on earth to mimic the effects of microgravity on the body, and investigate countermeasures to offset these effects. These studies are typically 60 days in duration.

Our metabolic research team (AIT and DCU) have recently completed an ESA funded 60-day bed rest study in the German Aerospace Centre in Cologne, and are currently analysing the results. We hypothesise that significant physiological and metabolic disturbances may be evident in the first few days of bed rest and our team wish to study this. Dr Donal O’Gorman (DCU), Dr Diane Cooper (AIT), Dr Brendan Egan (DCU) and their PhD students will conduct a 7-day bed rest study in DCU in 2018 to investigate the physiological and metabolic adaptations to short-term bed rest. This research will add to the work we have done with ESA, but it is also relevant to the inactive and aging populations, who undergo similar adaptations at a slower rate.

Our research team in AIT will specifically investigate the effect of 7 days bed rest on body composition, whole body metabolism and novel biomarkers of insulin resistance.

**Duration of Project:** 21 months

**Funding Agency:** AIT President Seed Funding

**Type of Degree Offered:** M.Sc. by research.

**Minimum Qualifications/Experience Necessary/Any Other Requirements:** Honours degree in a relevant Sports Sciences/Physical Activity/Physical Education/Athletic and Rehabilitation Therapy/Health and Exercise field of study.

**Research Supervisor:** Dr Diane Cooper

**For further information, please contact:** Dr Diane Cooper on dcooper@ait.ie

**Applications: Download Application Form at**

<https://www.ait.ie/research-and-innovation/research-vacancies/>

Or available from Susan Carroll, Office of Research, Tel: (090) 6483061, Email: [scarroll@ait.ie](mailto:scarroll@ait.ie)

The application form must be submitted with a personal statement and a 2-page research summary of the physiological and metabolic adaptations to short duration (up to 14 days) bed rest.

Closing date for receipt of completed applications is 5pm on Friday 17th November 2017.

Completed applications form to be submitted:

By Post to: Susan Carroll, Office of Research, Athlone Institute of Technology, Dublin Road, Athlone Co. Westmeath

By Email to: [scarroll@ait.ie](mailto:scarroll@ait.ie)