 

**PHD OPPORTUNITY AT THE HAMILTON INSTITUTE, MAYNOOTH UNIVERSITY, KILDARE, IRELAND**

The Hamilton Institute at Maynooth University are seeking to recruit a funded PhD student in the area of statistical and machine learning applied to wheat genomics. The Hamilton Institute is dedicated to providing a bridge between mathematics and its applications in ICT, biology and other disciplines. Founded in 2001 with support from Science Foundation Ireland, the Hamilton Institute has been internationally recognized for its work across communication networks, machine learning, mathematical biology and fundamental mathematics.

The ethos of the Institute is the application of mathematics to solve real-world problems. Researchers at the Institute have strong industry links and have worked on national and international projects funded by groups including SFI, the HEA, the EU's Horizon 2020,  and Enterprise Ireland. Other collaborators have included researchers at IBM, CERN and MIT. The Institute continues to tackle complex questions across multiple areas of research and industry with a number of significant successes over the last 15 years.

**Title: Statistical and machine learning for wheat genomics (supervisor Prof Andrew Parnell)**

The successful student will work with Professor Andrew Parnell’s research group as part of the new European Union Horizon 2020 project INNOVAR which aims to deliver new, integrated, user-friendly systems using molecular, genomic, phenomic, and machine learning techniques to augment and improve the efficacy and accuracy of European crop variety testing and on-farm decision-making. INNOVAR is a collaboration between 22 different partners across Europe.

The student is expected to develop new statistical and machine learning techniques to deal with large genomic data sets of irregular type. This may include Bayesian methods, multivariate responses, missingness mechanisms, and longitudinal, and mixed effects type models.

**All applicants must have**

* Relevant 2:1 degree (or higher) in Mathematics, Engineering, Computer Science, Statistics, Machine Learning, Data Science, or similar
* Strong coding ability in R or Python
* Strong linear algebra and calculus skills
* Excellent written and verbal communication and presentation skills in English

The studentships are for 48 months and include a tax free stipend of €18,000 p.a. and the payment of academic fees, as well as a laptop computer and generous travel allowance.

**Application Procedure:** send a curriculum vitae and a cover letter to hamilton@mu.ie with **INNOVAR PHD** in the subject line indicating the desired PhD project.

**Closing Date:** 30th July 2019

**Interview:** Candidates will be expected to complete a short quiz prior to interview.Interviews will be held in August 2019 with an expected start date of September 2019.