



PROFESSIONAL CERTIFICATE IN BIOINFORMATICS

FULL DETAILS AT

<https://www.ucd.ie/vetmed/study/graduateprogrammes/professionalcertinbioinformatics/>

WHEN

Monday 24 July - Friday 4 August 2023 (in person)

WHERE

University College Dublin
School of Veterinary Medicine
Belfield Campus, Dublin 4, Ireland

APPLY BY Friday 9 June (see webpage ABOVE)

OUTLINE Course objectives include:

- Knowledge and understanding of
- Scripting, next generation sequencing, protein structure modelling, molecular evolution and genetics, SNP data and use in GWAS
- Application of knowledge to genomic data sets
- Critical analysis and evaluation of data
- Communication of conclusions and knowledge
- Implementation of experimental design to future projects

INDICATIVE PROGRAMME OF TOPICS

- Genome structure, sequencing, assembly and annotation
- Next-generation sequencing LINUX/UNIX
- Biostatistics and exploratory data analysis in R
- Intro to evolutionary selection Population genomics
- Genome Wide Association Studies (GWAS)
- Scripting for evolutionary simulation
- Population genetics, drift and selection
- Refining evolution Sims
- Tree-thinking/Darwin's big idea Phylogenetics
- Network biology—Theory and Cytoscape
- Metabolic modelling/FBA Protein structure prediction

COURSE INSTRUCTORS

- Gavin Conant, North Carolina State University
<https://bio.sciences.ncsu.edu/people/gconant>
- Rafael Guerrero, North Carolina State University
<https://bio.sciences.ncsu.edu/people/rfguerre>

CONTACT

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COST €2,000 (for those who are not UCD research students)

ENTRY REQUIREMENTS

Must have completed an undergraduate degree in Agriculture, Life Sciences or Veterinary Medicine