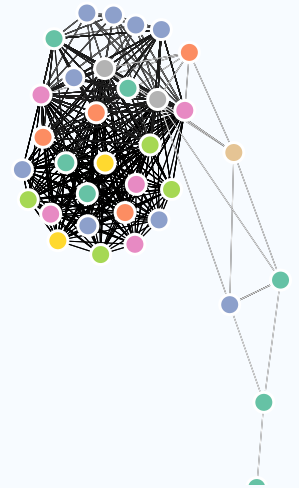# EUGENE HICKEY

I specialise in applying modern technologies to enhance the student experience. Along with colleagues in the City campus and Blanchardstown, I am involved in the DIFTU project on learner analytics, studying the evolving digital landscape in higher education. I collaborate with both national and international institutions, in both industry and education, giving me a unique insight into best practice in student formation.

🎓 EDUCATION

PhD
1992 | 1988

Laboratoire de Chimie de Solide

📍 Universite de Bordeaux I

- Heavy Fermion Intermetallics
- Distinction

DEA (MSc)
1988 | 1987

Laboratoire de Chimie de Solide

📍 Universite de Bordeaux I

- URu_2Si_2 and UIr_2Si_2 intermetallic Properties
- Distinction

B.Sc (hons)
1987 | 1982

Physics Department

📍 Trinity College Dublin

- Undergraduate qualification in experimental physics
- II_2 award

⚡ RESEARCH EXPERIENCE

Postgraduate Supervisor
present | 2018

Centre of Applied Science for Health

📍 Technological University Dublin

- Investigating the role of schizophrenia
- associated gene expression in the developing human brain using Machine Learning

Postgraduate Supervisor
present | 2017

Department of Applied Science

📍 Technological University Dublin

- Regression Studies to Predict Correlation of SDSS SEGUE Spectra
- Uses broadband stellar magnitudes to predict similarity of stellar spectra and thus appropriateness for differential photometry
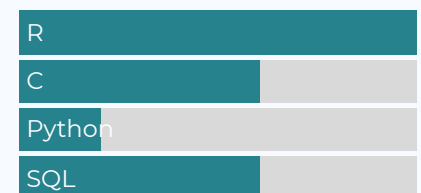
2017
|
2015

Postgraduate Supervisor

Department of Applied Science

📍 Institute of Technology Tallaght, Dublin

· A Survey of the Public Perception of Science in Ireland
· Collected a survey with over 800 responses and performed statistical
  analysis of the results

2017
|
2007

Postgraduate Supervisor

Department of Applied Science

📍 Institute of Technology Tallaght, Dublin

· Data Mining by Grid Computing in the Search for Extrasolar Planets
· Grid analysis of the SDSS catalogue in search of exceptional candidates
  for differential photometry

🌱 RESEARCH FUNDING

2021
|
2020

IMPACT Award

Department of Applied Science   📍 Technological University Dublin

· Data Insights for TU Dublin (DIFTU)
· Project to will inform how technology should be mainstreamed across
  TU Dublin to support a consistent student experience that adheres to
  the principles of TU Dublin's educational model.

2020
|
2018

Presidents Research Award

Department of Applied Science   📍 Technological University Dublin

· Schizophrenia Analysis using Machine Learning on Gene Expression
  Data from the Allen Brain Atlas
· 24 month masters project

2020
|
2018

ICHEC Project

Department of Applied Science   📍 Technological University Dublin

· Schizophrenia Analysis using Gene Expression Data from the Allen Brain
  Atlas
· 12 month access to computer system

2017
|
2007

Grid Ireland

Department of Applied Science

📍 Institute of Technology Tallaght, Dublin

· Installation of Grid mini
· gateway

2016
|
2014

Presidents Research Award

Department of Applied Science

📍 Institute of Technology Tallaght, Dublin

· A Survey of the Public Perception of Science in Ireland
· 24 month masters project

2011 | 2009

PhD Continuation Fund

Department of Applied Science

📍 Institute of Technology Tallaght, Dublin

· Data Mining by Grid Computing in the Search for Extrasolar Planets
· 18 month PhD continuation fund

2009 | 2007

HEA Strand 1 Research Grant

Department of Applied Science

📍 Institute of Technology Tallaght, Dublin

· Data Mining by Grid Computing in the Search for Extrasolar Planets
· 24 month masters project

2007 | 2002

National Centre for Plasma Science and Technology

Department of Applied Science

📍 Institute of Technology Tallaght, Dublin

· Member of management team
· Representative fromTallaght on 8 person board

1992 | 1988

Erasmus Award

Laboratoire de Chimie de Solide

📍 Universite de Bordeaux I

· Doctoral Research Funding

💼 INDUSTRY EXPERIENCE

1994 | 1992

Medical Physicist

Department of Medical Physics

📍 St James's Hospital

· Teleradiology
· Transferring CT, MRI, US and digitised X-rays between St James's and Beaumont Hospitals

I have worked in a hospital environment and have maintained collaborations that have led to fruitful research work since. The main focus has been on medical imaging and diagnostics.

🖥 TEACHING EXPERIENCE

present | 1995

Lecturer in Physics

Department of Applied Science, Tallaght Campus

📍 Technological University Dublin

· Teaching on Pharmaceutical Science, Forensics, Sports Science, and Bioanalysis undergraduate courses
· Emphasis on supervising final year projects in Pharmaeutical Science

present | 2018

Data Visualisation with ggplot

Taught Postgraduate Modules

📍 Technological University Dublin

· Module design and delivery
· Topics covered from essential ggplot to maps and networks

My experience in education spans teaching at undergraduate level, on postgraduate modules and supervision, and on industry led courses. I place particular emphasis on using technology to enhance the learning experience.

present
|
2015

Final Year Projects

Pharmaceutical Science Honours Degree

📍 Technological University Dublin

· Investigation of Clinical Trials Data using the PharmcoGx Bioconductor Package (2020)
· Single Cell RNASeq Analysis of Transciptomic Data using the scrattch Package (2020)
· Epidemiology of Tuberculosis and HIV in Africa (2019)
· Investigation of Autism Genes by Examining Gene Expression Across Different Areas of Healthy Brains (2018)
· Machine Learning Analysis of the Wisconsin Breast Cancer Dataset (2018)
· Classification of Acute Lymphoblastic Leukemia based on Gene Expression Profiles (2017)

1995
|
1994

Lecturer in Physics

Department of Computing and Science

📍 Waterford Institute of Technology

· Teaching Physics modules to undergraduates in science, engineering, and computing
· Development of a new course in materials science

📈 SELECTED DATA SCIENCE WRITING

2018

Meteors, and Where to Find Them[1]

· Using data from NASA's meteorite database to explore their nature and locations
· Lots of data visualisation including interactive leaflet maps.

2018

Tennis Sets, Jimmy's Theorem[2]

· Statistical analysis of set scores from ATP matches
· Demonstrated visualization

I regularly blog about data science and visualization. I enjoy connecting with diverse topics in this way.

📖 SELECTED PUBLICATIONS

2020

A Catalogue of Locus Algorithm Pointings for Optimal Differential Photometry for 23,779 Quasars[4]

Monthly Notices of the Royal Astronomical Society

· Authored with Oisin Creaner, Kevin Nolan, Niall Smith, and David Grennan.

2020

The Locus Algorithm I: A technique for identifying optimised pointings for differential photometry[5]

Astronomy & Computing

· Authored with Oisin Creaner, Kevin Nolan, and Niall Smith.

I have 13 publications in international peer reviewed journals.

My h-index is 6 and my ORCID is 0000-0001-9813-9323[3]

2020 ● **The Locus Algorithm II: A robust software system to maximise the quality of fields of view for Differential Photometry**[6]

Astronomy & Computing

· Authored with Oisin Creaner and Kevin Nolan.

1995 ● **Specification and initial evaluation of a multiple application teleradiology system**[7]

British Journal of Radiology

· Authored with N O'Hare, F Wallis, JMT Kennedy, GJ McDermott, A Dowling, J Murphy, and J Malone.

1995 ● **Magnetic phase diagram of $U_2\{Ru_{1x}Rh_x\}_3Si_5$**[8]

Journal of Magnetism and Magnetic Materials 69

· Authored with B Chevalier, T Roisnel, L Piraux, and J Etourneau.

SELECTED PRESENTATIONS

2020 ● **NHSr Community 2020 Conference**[9]

The Power of Data Visualisations

2019 ● **TUD Scientific Computing Group**[10]

TUD Workshop on Physical and Data Sciences in Health and Environment

2019 ● **Use Open Source Software**[11]

TEDx Ballyroan

2011 ● **Grid computing based data mining of the Sloan Digital Sky Survey**[12]

Royal Irish Academy

LINKS

1: rpubs.com/eugene100hickey/393509
2: rpubs.com/eugene100hickey/365812
3: https://orcid.org/0000-0001-9813-9323
4: https://doi.org/10.1093/mnras/staa2494
5: https://arxiv.org/abs/2003.04582
6: https://arxiv.org/abs/2003.04574
7: https://www.birpublications.org/doi/10.1259/0007
8: https://www.sciencedirect.com/science/article/abs/pii/0304885394006083?via%3Dihub
9: https://nhsrcommunity.com/blog/nhs-r-community-conference-2020/
10: https://rpubs.com/eugene100hickey/498663
11: https://www.youtube.com/watch?v=VsEuOy2kZzs
12: https://github.com/eugene100hickey/cv/blob/master/RIA_Talk_final_2011.ppt