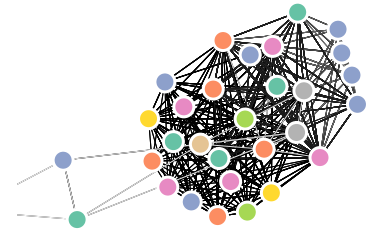


EUGENE HICKEY

I specialise in providing machine learning solutions to a wide variety of problems. With experience across multiple domains of knowledge, I find I can provide novel approaches to existing areas of research.

I teach students to use data analysis to see scientific investigations from a new perspective. In particular I emphasise the use of data visualisations to gain new insight.



EDUCATION

1992 1988	PhD Laboratoire de Chimie de Solide <ul style="list-style-type: none">• Heavy Fermion Intermetallics• Distinction	📍 Université de Bordeaux I
1988 1987	DEA (MSc) Laboratoire de Chimie de Solide <ul style="list-style-type: none">• URu_2Si_2 and ULr_2Si_2 intermetallic Properties• Distinction	📍 Université de Bordeaux I
1987 1982	B.Sc (hons) Physics Department <ul style="list-style-type: none">• Undergraduate qualification in experimental physics• H_2 award	📍 Trinity College Dublin

View this CV online with links at eugene-cv.netlify.app/

CONTACT

✉ eugene.hickey@tudublin.ie
🐦 [eugene100hickey](https://twitter.com/eugene100hickey)
🌐 [eugene100hickey](https://eugene100hickey.netlify.com)
🔗 bioscience.netlify.com
in [eugene-hickey-769b2b1](https://www.linkedin.com/in/eugene-hickey-769b2b1)

RESEARCH EXPERIENCE

present 2018	Postgraduate Supervisor Centre of Applied Science for Health <ul style="list-style-type: none">• Investigating the role of schizophrenia-associated gene expression in the developing human brain using Machine Learning• Uses data from the Allen Brain Atlas to track the expression profile of genes associated with SZ across neurodevelopmental stages	📍 Technological University Dublin
present 2017	Postgraduate Supervisor Department of Applied Science <ul style="list-style-type: none">• 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	📍 Technological University Dublin

LANGUAGE SKILLS

R
C
Python
SQL

Made with the R packages [pagedown](#) and [datadrivencv](#).

The source code is available on github.com/eugene100hickey/cv.

Last updated on 2020-09-03.

2017
|
2015

Postgraduate Supervisor

Department of Applied Science

📍 Technological University 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

📍 Technological University 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

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

📍 Technological University Dublin

- Installation of Grid mini-gateway
- connecting ITTD to Grid Ireland

2016
|
2014

Presidents Research Award

Department of Applied Science

📍 Technological University Dublin

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

2011
|
2009

PhD Continuation Fund

Department of Applied Science

📍 Technological University 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

📍 Technological University 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

📍 Technological University Dublin

- Member of management team
- Representative from Tallaght 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 Hospital and Beaumont Hospital

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 Pharmaceutical 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
|
2020

Tidyverse Instructor'

Rstudio.com

- instructor
- Teaching a new generation of R users

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 Transcriptomic Data using the scratrch 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 Them²

- 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 Theorem³

- Statistical analysis of set scores from ATP matches
- Demonstrated visualization-based inference for large data.

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 Quasars⁵

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 photometry⁶

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 0000-0001-9813-9323⁴

- 2020 **The Locus Algorithm II: A robust software system to maximise the quality of fields of view for Differential Photometry**⁷
Astronomy & Computing
• Authored with Oisin Creaner and Kevin Nolan.
- 1995 **Specification and initial evaluation of a multiple application teleradiology system**⁸
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 $U_2\{Ru_{1-x}Rh_x\}_3Si_5$** ⁹
Journal of Magnetism and Magnetic Materials
• Authored with B Chevalier, T Roisnel, L Piraux, and J Etourneau.



SELECTED PRESENTATIONS

- 2019 **TUD Scientific Computing Group**¹⁰
TUD Workshop on Physical and Data Sciences in Health and Environment
- 2011 **Grid-computing based data-mining of the Sloan Digital Sky Survey**¹¹
Royal Irish Academy



LINKS

- 1: education.rstudio.com
- 2: rpubs.com/eugene100hickey/393509
- 3: rpubs.com/eugene100hickey/365812
- 4: <https://orcid.org/0000-0001-9813-9323>
- 5: <https://doi.org/10.1093/mnras/staa2494>
- 6: <https://arxiv.org/abs/2003.04582>
- 7: <https://arxiv.org/abs/2003.04574>
- 8: <https://www.birpublications.org/doi/10.1259/0007-1285-69-824-735>
- 9: <https://www.sciencedirect.com/science/article/abs/pii/S0304885394006083?via%3Dihub>
- 10: <https://rpubs.com/eugene100hickey/498663>
- 11: https://github.com/eugene100hickey/cv/blob/master/RIA_Talk_final_2011.ppt