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Nathan Constantine Cooke

Research

- Sep'19- PhD Thesis : Precision Medicine in Crohn's Disease and Ulcerative Colitis: Predicting Disease Flare and Disease Progression
University of Edinburgh
Supervised by Dr Catalina Vallejos and Dr Charlie Lees
- May-Sep'19 MSc Dissertation: Analysis Techniques Applicable to Time-Limited Gene Expression Data
Aberystwyth University
I investigated methods of finding circadian & circatidal rhythms in transcriptomics data from *Talitrus saltator* samples. I was supervised by Dr Kim Kenobi

Work Experience

- 2018-19 Undergraduate Demonstrator
Aberystwyth University
Supporting first-year mathematics students in assignment workshops
- May'18 Student Ambassador
Aberystwyth University
Assisted the Mathematics Department at open days. Answered questions and led guided tours around the campus

Activities & Achievements

- May'17 NUS Society Award Nomination
During my presidency, Aberystwyth Mathematics Society was the only mathematics society nominated at the 2017 NUS society Awards
- Apr'17 UMABERSU Most Improved Society Award
During my presidency, Aberystwyth University's Student Union awarded their Most Improved Society Award to Aberystwyth Mathematics Society
- Mar'17 Stalls
Organized and ran a stall aimed at primary and secondary school pupils for National Science Week. Over 1000 pupils attended the event
- Dec'16 Workshops
Designed and led workshops to promote STEM to Year 9 school pupils
- Nov'16 Conference
Attended The Institute of Mathematics and its Applications' Early Career Mathematicians Autumn Conference at Warwick University
- Mar'16 Posters
Created posters promoting prominent women in mathematics for International Women's Day which were displayed around campus
- 2016-17 Presentations
Gave presentations on student life to prospective students and their families at open days

Curated Selection of Modules Taken

- Master's Machine Learning For Intelligent Systems
Became competent with feature-based and deep-learning methods which was used to detect atrial fibrillation from ECG signals
Frontiers in the Biosciences
Developed a wide understanding of Bioscience topics whilst also gaining a specialized understanding of CRISPR gene editing
- Undergrad Topics in Biological Statistics
Studied Generalized Linear Models, Time Series Analysis, Transcriptomics and Statistical Epidemiology

Education

Precision Medicine
PhD | University of Edinburgh
Present

Statistics for Computational Biology
Distinction
MSc | Aberystwyth University
September 2019

Mathematics
2:1
BSc | Aberystwyth University
August 2018

Skills

Statistics:
Linear & Stochastic Modelling,
Transcriptomics, Data Visualization,
Statistical Epidemiology

Computing Languages:
R, Python, Bash, \LaTeX , Markdown

Mathematics :
Mathematical Biology, Asymptotic
Methods, Partial Differential
Equations

Public Engagement :
Public Speaking, Poster Creation,
Designing & Leading Workshops

Extra-Curricular

President of Aberystwyth
Mathematics Society
|2016-2017
- Chaired meetings
- Represented students & liaised with
staff
-Organized outreach events
- Asked students to provide their
thoughts on university mental health
provisions. I presented these
statistics to staff

Publicity & Events Officer of
Aberystwyth Mathematics Society
|2015-2016
- Booked and arranged speakers and
dining events
- Promoted the Mathematics Society
and the practice of mathematics

