Clár-Bríd Tohill

PhD student at the University of Nottingham

CONTACT

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EDUCATION

PhD in Astrophysics
University of Nottingham | 2019 - current

MPhys Physics with Astrophysics - First Class Masters
University of Kent | 2015 - 2019

Study abroad year
University of California San Diego | 2017 - 2018

A - Levels in Math, Physics, French and Sociology
Dominican College Fortwilliam | 2013 - 2015

GCSEs - 11 A*- B
Dominican College Fortwilliam | 2011 - 2013

SKILLS

- Python, Fortran 95
- UNIX, LINUX
- LaTeX
- Machine Learning
- Tensorflow, Keras
- Laboratory experience

RESEARCH EXPERIENCE

PhD RESEARCH

UNIVERSITY OF NOTTINGHAM | NOTTINGHAM | 2019 - current

My PhD work focuses on high redshift galaxies and machine learning. Through this I have been working with data from the Hubble Space Telescope and investigating different types of machine learning algorithms. My current work involves utilising unsupervised machine learning techniques to explore the morphologies of high redshift galaxies with the aim to link this to low redshift in the future to better understand galaxy evolution.

SUPPORT ASTRONOMER AT THE INT

ISAAC NEWTON GROUP (ING) | LA PALMA, SPAIN | 2021- current

I am currently working as a support astronomer for the Isaac Newton Telescope (INT) at the ING on La Palma. My duties involve providing support and assistance to visiting astronomers, taking observations, telescope maintenance and setting up and testing the instrumentation ahead of observation runs.

STUDY ABROAD YEAR

UNIVERSITY OF CALIFORNIA SAN DIEGO | SAN DIEGO, CALIFORNIA | 2017 - 2018

While studying abroad at the University of California San Diego I took part in an observational astrophysics laboratory where I investigated the proper motion of main belt asteroids using data that I took with the Nickel Telescope at the Lick Observatory.

MASTERS PROJECT

UNIVERSITY OF KENT | CANTERBURY, KENT | 2015 - 2019

While undertaking my masters at the University of Kent I investigated the characteristics of aperiodic variable young stars using data from the Beacon Observatory. The Observatory consists of a 3.5 meter all sky dome with a 17" Astrograph telescope. Through this project I developed new methods to constrain the quasi-periodicity of these objects.

PUBLICATIONS

Quantifying Non-Parametric Structure of High-Redshift Galaxies with Deep Learning

Astrophysical Journal (ApJ) | | 2021

- Demonstrating
- Public speaking
- Teaching, marking
- Microsoft Office
- Communication

PROFESSIONAL MEMBERSHIPS

- Fellow of the Royal Astronomical Society (RAS)
- Student member of the Institute of Physics (IOP)

AWARDS

- Academic scholarship - University of Kent
- Pope John Paul II Award (Gold)
- University of West London Grade 6 Pianoforte
- Presidents Award (Bronze)
- GCSE Excellence Award
- St John's Ambulance First Aid Training
- 2011 - 2014 - Member of Glengormley Fire Cadet Scheme, included Anti-sectarianism/Anti-racism training

INTERESTS

Bouldering, Travelling, languages, outreach, Reading, Programming

REFERENCES

Dr Steven Bamford
Associate Professor
University of Nottingham
steven.bamford@nottingham.ac.uk

Professor Christopher Conselice
Professor
University of Manchester
conselice@gmail.com

CONFERENCES, MEETINGS, TALKS

European Astronomical Society (EAS) - Annual Meeting
Poster | June 2021

American Astronomical Society (AAS) - 238th Meeting of the AAS
Talk | June 2021

University of Nottingham - Lunch Talk
Talk | June 2021

Royal Astronomical Society (RAS) - Machine Learning and Artificial Intelligence Applied to Astronomy II
Talk | May 2021

Royal Astronomical Society (RAS) - Early Career Poster Exhibition
Poster | September 2020

University of Nottingham - Lunch Talk
Talk | May 2020

Postgraduate Women in Physics Conference (PgWIPNotts) - University of Nottingham
Poster | May 2020

WORK HISTORY

LAB DEMONSTRATOR/MARKER

UNIVERSITY OF NOTTINGHAM | NOTTINGHAM | 2019 - current

Have worked as a laboratory demonstrator in first year physics labs at the University of Nottingham for the past 2 years. This role includes demonstrating with the labs on a weekly basis and marking lab diaries as well. From this I have gained teaching and marking experience as well as how to improve my science communication.

MANAGER OF THE INFLATIVERSE

UNIVERSITY OF NOTTINGHAM | NOTTINGHAM | 2019 - current

For the past 2 years I have been a manager of the University of Nottingham's inflatable planetarium which we bring to primary schools and other events as part of our outreach programme. Through this we aim to inspire children to remain in education and teach them about our galaxy and the Universe.

SECRETARY OF PHYSICS SOCIETY

UNIVERSITY OF KENT | CANTERBURY, KENT | 2016 - 2017

I was the secretary of PhySoc, the academic physics society at the University of kent. From this role I developed improved organisational and communication skills as I was in charge of the weekly newsletter and any bookings the society needed.