

# Tianyi Yang

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## EDUCATION

- University of Edinburgh** **Edinburgh, UK**  
2020-now  
*PhD of Physics and Astronomy*
- Relevant Projects: Feedback-driven anisotropy in the circumgalactic medium for quenching galaxies in the SIMBA simulations (**Python, Excel, Shell Scripting, Slurm, ~30 TB data set, Data Visualization, Parallel programming**)
  - Understanding the Sunyaev-Zeldovich decrement versus halo mass with the Simba and TNG Simulations (**Python, Excel, Shell Scripting, Slurm, ~30 TB data set, Data Visualization, Parallel programming, Time Series Analysis, Regression, Statistics Interference, Machine Learning**)
  - A Universal Profile for Stacked Filaments from Cold Dark Matter Simulations (**Python, Excel, Shell Scripting, Slurm, ~7 TB data set, Data fitting, Regression, Parallel programming, Machine Learning**)
- University of Waterloo** **Waterloo, Canada**  
2018-2020  
*Master of Physics and Astronomy* | GPA: 3.9/4.0 (86.5/100);
- Relevant Projects: The Mass-to-Light Ratios of Filaments in the Cosmic Web (**Python, Excel, SQL, Shell Scripting, ~1 TB data set, Data Visualization, Parallel programming, Regression, Statistics Interference**)
  - Gravitational Potential from Small-Scale Clustering in Action Space: Application to Gaia DR2 (**Python, Excel, C++, ~1 TB data set, Data fitting, Regression, Statistics Interference, Machine Learning**)
- University of Waterloo** **Waterloo, Canada**  
2013-2018  
*B.S.in Physics (Astrophysics specialization)* | GPA: 4.0/4.0 (90.0/100)
- Relevant Courses: Statistics; Probability; Computational Physics

Other Educational Experience: **Perimeter Institute** (Associate graduate student); **The Canadian Astronomical Society** (Graduate student member)

## PROFESSIONAL EXPERIENCE

- Research Assistant** **Waterloo, Canada**  
2018  
*University of Waterloo*
- Star Formation in the Low-Metallicity Environment in the Early Universe (Language: **Python, Excel, MATLAB**)
  - Gas-to-Dust Temperature Ratio in Star-Forming Regions with JCMT (Language: **Python, Excel, MATLAB**)
- Teaching Assistant** **Edinburgh, UK**  
2022  
*University of Edinburgh*
- Data Analysis and Machine Learning (Language: **Python, Excel, C++, TensorFlow, scikit-learn, NLP**)
  - Introduction for Astrophysics
  - Observational Astronomy Lab
  - Electromagnetism 1
- University of Waterloo* **Waterloo, Canada**  
2018-2019
- Introductory Astronomy
- Digital Research Services Ambassadors** 05/2022-08/2022  
**Edinburgh, UK**  
*University of Edinburgh*
- Analysis of Twitter data on Fetal Alcohol Spectrum Disorders
  - Analysis of the role of diversity in football, based on 10 years of premier league player data
  - Data modelling and visualization for The Peace and Conflict Resolution Evidence Platform
- Hackathon in data exploration and analysis** 08/2022  
**Edinburgh, UK**  
*University of Edinburgh*
- How various types of conflict evolved with time ( maps making:  
<https://drive.google.com/drive/folders/1Q4NbPA5UW1ux7MdqU0MclrD1hNcgCdfO?usp=sharing> )
- ELCOM** 02/2023-05/2023  
**Edinburgh, UK**
- Trade map visualization (with GeoPansas), text analysis (with spaCy) of Edinburgh

## SELECTED PUBLIC TALKS AND IN POPULAR CULTURE

- **Astroseminar, invited talk, Universidad Aut'onoma de Madrid** 2023
- **Matter and light distribution of stacked filament between group-mass halo pairs: insights from observations and simulations** 2023  
European Astronomical Society Annual Meeting
- **Feedback-driven anisotropy in the CGM for SIMBA galaxies** 2023  
The ThreeHundred Project Annual Meeting
- **Probing the impact of AGN feedback on gas distribution with SIMBA and illustris TNG** 2023  
SIMBA Collaboration Meet
- **Understanding the Sunyaev-Zeldovich decrement versus halo mass with the SIMBA and TNG Simulations** 2023  
European Astronomical Society Annual Meeting
- **AGN on the beach, the many facets of fuelling and feedback in jetted AGN** 2023
- **Understanding the Sunyaev-Zeldovich decrement versus halo mass with the SIMBA and TNG Simulations** 2022  
The ThreeHundred Project Annual Meeting
- **How Dark are Filaments in the Cosmic Web** 2023  
19<sup>th</sup> Durham-Edinburgh Extragalactic Workshop
- **How Dark are Filaments in the Cosmic Web** 2021  
17<sup>th</sup> Durham-Edinburgh Extragalactic Workshop, virtual conference
- **The Mass-to-light Ratios of Filaments in the Cosmic Web** 2019  
2019 annual general meeting of the Canadian Astronomy Society
- **"How dark is the cosmic web?"** in [Live Science](#) 2020

## HONOURS

- Principal's Career Development Scholarship at the University of Edinburgh
- Marie Curie Graduate Student Award
- International Master's Student Award
- Dean List at the University of Waterloo

## LANGUAGES

- **Python (fluent); Excel (fluent); MATLAB (fluent); C++ (intermediate); SQL, R Language (basic)**
- **Chinese (native); English (fluent);** Russian (advanced intermediate); Spanish (intermediate); German, French (basic)