

Lawrence Edward Bilton

✉ lawrence.bilton@gmail.com

☎ +44 (0)7852323145

🐦 @Lawrious

🌐 <http://www.observationalastronomer.com/>

Research Interests

- 📖 **The evolution of galaxies.**
- 📖 **The evolution of Large-scale structure and the effects on their members.**
- 📖 **The evolution and interactions of AGN-hosting galaxies.**
- 📖 **Kinematics and dynamics of cluster galaxies.**

Education

- 2016 – 2020 📖 **Ph.D., Physics** The University of Hull, UK.
Thesis title: *'The Motions of Galaxies within Large-Scale Structures.'*
Supervisor: Dr. Kevin Pimbblet.
- 2014 – 2016 📖 **M.Phil., Astronomy** The Open University, UK.
Thesis title: *'Tracing Star Formation around QSOs with Polycyclic Aromatic Hydrocarbons.'*
Supervisors: Dr. Jeronimo Bernard-Salas & Prof. Stephen Serjeant.
- 2011 – 2014 📖 **B.Sc. (Hons) Natural Sciences** The Open University, UK.

Employment History

- 2016 – 2021 📖 **Teaching Assistant** The University of Hull, UK.
- 2015 – 2016 📖 **FutureLearn MOOC Facilitator** The Open University, UK.
- 2014 – 2016 📖 **Night Duty Astronomer** The Open University, UK.

Research Publications

Journal Articles

- 1 Keegans, J. D., Stancliffe, R. J., **Bilton, L. E.**, Cashmore, C. R., Gibson, B. K., Kristensen, M., ... Congchitnan, S. (In Press). Project ThaiPASS: International outreach blending astronomy and python. *Physics Education*.
- 2 **Bilton, L. E.**, Pimbblet, K. A., & Gordon, Y. A. (2020). The impact of disturbed galaxy clusters on the kinematics of active galactic nuclei., *499*(3), 3792–3805. 🔗 doi:10.1093/mnras/staa3154. arXiv: 2010.04498 [citations: 0]
- 3 **Bilton, L. E.**, Hunt, M., Pimbblet, K. A., & Roediger, E. (2019). The rotational profiles of cluster galaxies., *490*(4), 5017–5032. 🔗 doi:10.1093/mnras/stz2927. arXiv: 1910.03453 [citations: 2]
- 4 **Bilton, L. E.**, & Pimbblet, K. A. (2018). The kinematics of cluster galaxies via velocity dispersion profiles., *481*(2), 1507–1521. 🔗 doi:10.1093/mnras/sty2379. arXiv: 1808.10381 [citations: 10]

Presentations


Talks

- June 2020 📖 **E.A. Milne Centre Seminar** The University of Hull, UK
'The Motions of Galaxy Cluster Sub-Populations: Rotation Profiles & AGN.'

Presentations (continued)

Dec 2018  **E.A. Milne Centre Seminar** The University of Hull, UK
'The Kinematics and Properties of Cluster Galaxies'.





Posters

July 2019  **Tracing Cosmic Evolution with Clusters of Galaxies** Sexten/Sesto, Italy.






Dec 2017  **Hull Postgraduate Symposium** The University of Hull, UK.

Teaching Experience

I have had a healthy mix of opportunities to teach undergraduate and postgraduate students via dedicated Distance Learning Methods, traditional methods and more recently ad hoc online sessions. An example of the modules I have assisted with may be found below:





-  **Fundamentals of Data Science** (UK Masters Level), Teaching Assistant
The University of Hull
-  **Using Python for Data Science** (UG Years 2-4), Teaching Assistant
The University of Hull
-  **Mathematics for Physics** (UG Years 1 and 2), Teaching Assistant
The University of Hull
-  **Remote Observational Astronomy** (UG Years 2 and 3), Night Duty Astronomer
The Open University

Skills

- | | |
|--------------------|--|
| Languages |  Native level English with strong reading, writing and speaking competencies. |
| Programming |  Python (expert), UNIX (proficient), R (proficient), IDL (proficient) and SQL (proficient). |
| Astronomy Packages |  AstroPy, MaximDL, SAO DS9 and TOPCAT. |
| Other Software |  Use of operating systems (i.e. Windows, Mac OS and Linux), use of common software packages (e.g. MS Office). |
| Misc. |  Academic research, teaching, consultation, \LaTeX typesetting and publishing into academic journals. |

Outreach

Throughout the past several years I have engaged in helping to deliver the E.A. Milne Centre's outreach programme, an important component in engaging with local communities to disseminate to lay persons and inspire future generations. Examples of outreach activities I have engaged in are below:

-  Several talks to local astronomical societies on both historical and modern astronomical topics.
-  Cafe Scientifique - informal, interactive and ad lib science talks in the setting of a cafe or bar.
-  University-hosted local school days - Using solar telescopes and planetarium with local school children.
-  Co-Designing and delivering a week-long workshop programme to teach python in the context of astronomy to inspire Thai teenagers into STEM subjects (ThaiPASS).

References

Dr. Kevin Pimblet

Senior Lecturer
The University of Hull
Cottingham Road
Hull
HU6 7RX
UK

✉ k.pimblet@hull.ac.uk

Prof. Brad Gibson

HoD of Physics & Mathematics
The University of Hull
Cottingham Road
Hull
HU6 7RX
UK

✉ brad.gibson@hull.ac.uk

Prof. Stephen Serjeant

Professor of Astronomy
The Open University
Walton Hall
Milton Keynes
MK7 6AA
UK

✉ stephen.serjeant@open.ac.uk

Dr. Gareth Few

Lecturer
The University of Hull
Cottingham Road
Hull
HU6 7RX
UK

✉ G.Few@hull.ac.uk