

Mikkel T Kristensen

Curriculum Vitae

Kingston upon Hull

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Doctoral thesis

Title *Environments of dwarf galaxies with AGN characteristics in observations and simulations*

Supervisors Kevin Pimblet & Brad Gibson

Abstract Using the both large scale survey data (NASA-Sloan Atlas, a reworked SDSS catalogue) and simulations (IllustrisTNG), I attempt to answer questions about dwarf galaxies with AGN characteristics. In particular, what circumstances in environment and cosmological history are favourable or common in these active galaxies.

Finishing *Expected late 2021*

Education

2018–now **PhD**, *University of Hull*, Kingston upon Hull, United Kingdom.

Environments of dwarf galaxies with AGN characteristics in observations and simulations

Supervisors Kevin Pimblet & Brad Gibson

Details In addition to performing my research, I have undertaken various other tasks at the university. These tasks include, but is not limited to:

- Organising and developing ThaiPASS – a joint UK-Thai python summer school
- Lecturing or teaching assistance in programming, math, and physics courses
- Organising team meetings and manage external speakers
- Developing public talks and programs for other students to hold
- Speaker at several occasions for e.g conferences and astronomical societies

2013–2016 **Master's Degree in Astrophysics**, *Niels Bohr Institute*, Copenhagen, Denmark.

Rare Emission-line Galaxies in the COSMOS Field

Supervisors Johan P. U. Fynbo & Bo Milvang-Jensen

2010–2013 **Bachelor's Degree in Astrophysics**, *Niels Bohr Institute*, Copenhagen, Denmark.

An investigation of quasar elemental abundances in the UV-band

Supervisors Marianne Vestergaard

Teaching experience

2021 **Temporary lecturer**, *University of Hull*.

Covered lectures for a first year course

Electricity and Magnetism (UG year 1)

2018–2021 **Teaching assistant**, *University of Hull*.

Assisting at tutorials and mark assignments

2018–2021 *Vector calculus* (UG year 2)

2018–2021 Python tutorials in:

- *Quantum Mechanics with Advanced Computation* (UG year 2)
- *Numerical Modelling and Simulation* (UG year 3)

- 2019 **Lecturer**, *ThaiPASS*, Chiang Mai, Thailand.
Assisted with development and holding a summer school in Thailand. Author on paper on project
- 2017 **Lecturer**, *Danish University Extension*, Copenhagen, Denmark.
Development and presentation of a lecture series on galaxies

Vocational experience

- 2016–2018 **Outreach and Learning Officer**, *Tycho Brahe Planetarium*, Copenhagen, Denmark.
Responsible for conducting various outreach events and talks about astrophysics to the public and science communication in general. Development of the school programme and school courses offered by Tycho Brahe Planetarium. Also involvement in projects of many sizes – from a single evening event to EU projects spanning several years.
Detailed achievements:
- Project management or involvement of several projects (a selected few):
 - *Sparks*: 3-year EU project, arranging and coordinating various events locally. Responsible for the travelling exhibition.
 - *National Danish outreach network for astronomy and space*
 - *ESERO (Nordic/DK)*: Partner and contributor to ESERO Nordic and now ESERO DK.
 - *The Martian Robot*: Development and fundraising. A school course for ages 14–18 with focus on programming
 - Speaker at conferences such as the Danish Science Teachers' conference, *Big Bang*
 - Coordinator of explainer staff, including training and hiring
- 2013–2016 **Science Communicator**, *Tycho Brahe Planetarium*, Copenhagen, Denmark.
Student job, which involved giving guided tours, lectures, and general outreach.

Programming skills

Basic	C, C++
Intermediate	HTML, MATLAB, IDL
Advanced	PYTHON, L ^A T _E X, Linux, Mac

Languages

Danish	Native	Oral ●●●●●	Written ●●●●●
English	Fluent	Oral ●●●●●	Written ●●●●●
Spanish	Basic	Oral ●○○○○	Written ●●○○○
German	Basic	Oral ●●○○○	Written ●●○○○
Lithuanian	Basic	Oral ●○○○○	Written ●○○○○

References

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Senior Lecturer
University of Hull
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Johan P. U. Fynbo
Professor
University of Copenhagen
jfyfbo@dark-cosmology.dk

Brad Gibson
Director, E.A Milne Centre
University of Hull
brad.gibson@hull.ac.uk

Tina Ibsen
Former Head of Outreach
Planetarium Copenhagen
tina@tinaibsen.dk

Talks and outreach

Conferences and workgroups.

- July 2020 *Galactic Nuclei* working group at Max Planck Institute - presentation of publication
- Sep 2019 Young Astronomers on Galactic Nuclei - oral presentation of research
- June 2019 National Astronomers Meeting - oral presentation of research
- July 2017 Big Bang Conference - providing teaching material and ideas for teachers
- 2016–2017 Ecsite annual conference - European conference for science comm. and science centres

Group meetings, E.A Milne Centre.

- Feb 2021 *Missing satellites problem*
- Jan 2021 Organised external speaker, Urban Eriksson - “Reading” representations – What does this have to do with teaching and learning physics?
- Jan 2020 *Observational methods for identifying AGN* and my own research

Astronomical societies.

- June 2021 Hibaldstow Astronomical Society
- Feb 2021 York Astronomical Society - *Galaxies and their Neighbourhoods*
- Nov 2020 Hull and East Riding Astronomical Society - *Active Galactic Nuclei and Quasars*
- Sep 2020 Mexborough and Swinton Astronomical Society - *Active Galactic Nuclei and Quasars*
- Nov 2019 Cleethorpes & District Astronomical Society - *Galaxies and their Neighbourhoods*

Publications

2021

1. **Mikkel T. Kristensen**, Kevin Pimbblet, Brad Gibson, Samantha Penny, and Sophie Koudmani. The effect of environment and merger history on AGN activity for dwarf galaxies in IllustrisTNG. *submitted*
2. James D Keegans, Richard J Stancliffe, Lawrence E Bilton, Claire R Cashmore, Brad K Gibson, **Mikkel Theiss Kristensen**, Thomas V Lawson, Marco Pignatari, Iraj Vaezzadeh, Benoit Côté, and Siri Chongchitnan. Project ThaiPASS: international outreach blending astronomy and python. *Physics Education*, 56(3): 035001, February 2021. doi: 10.1088/1361-6552/abdae7. URL <https://doi.org/10.1088/1361-6552/abdae7>

2020

3. **Mikkel T. Kristensen**, Kevin Pimbblet, and Samantha Penny. Environments of dwarf galaxies with optical AGN characteristics. *mnras*, 496(3):2577–2590, August 2020. doi: 10.1093/mnras/staa1719

Older

4. H. Dahle, M. D. Gladders, K. Sharon, M. B. Bayliss, E. Wuyts, L. E. Abramson, B. P. Koester, N. Groeneboom, T. E. Brinckmann, **M. T. Kristensen**, M. O. Lindholmer, A. Nielsen, J. K. Krogager, and J. P. U. Fynbo. SDSS J2222+2745: A Gravitationally Lensed Sextuple Quasar with a Maximum Image Separation of 15."1 Discovered in the Sloan Giant Arcs Survey. *apj*, 773(2):146, August 2013. doi: 10.1088/0004-637X/773/2/146