MARCH 2020

UNIVERSITY OF BIRMINGHAM OBSERVATORY

In Partnership with:

The University of Birmingham Astronomical Society
Birmingham Astronomical Society
Knowle Astronomical Society
The Alumni and Friends of the University of Birmingham

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ASTRONOMY IN THE CITY

WELCOME to Astronomy in the City. We are delighted to be able to share the wonder of the night sky with you.

Tonight starts with short talks introducing the Observatory, and highlights of the night sky during the beginning of the year. After this, Doctor Denis Martynov will discuss his work in a talk titled: “How do we observe and utilise gravitational waves?”.

At the end of the talk and demonstration, you’ll have a chance to ask our panel of experts questions about anything Astronomy related! After refreshments we hope to go observing using telescopes volunteered by our partners for tonight, and to offer the chance to visit the newly acquired planetarium.

Thank you for coming and we hope you enjoy the night!

- The University of Birmingham Observatory Team

AGENDA

6:15 PM - 6:20 PM	**Welcome to the University of Birmingham Observatory**
6:20 PM - 6:35 PM	**Talk:** **Speaker:**
6:35 PM - 7:05 PM	**Talk:** **Speaker:**
7:05 PM - 7:20 PM	**Ask our experts your astronomical questions**
7:20 PM - 7:25 PM	**Planetarium announcements & break for refreshments**
7:25 PM - 9:15 PM	**Observing (weather permitting)** • Telescope around Chancellor's Court • The Grubb Telescope on Ponyting Building roof **Planetarium (limited availability)** • Meet us at the welcome desk
9:15 PM	**Close**

All talks are given in *Poynting Large Lecture Theatre*.
Refreshments will be available in the *Poynting Coffee Lounge* throughout the night.
In the case of bad weather we will operate on a revised programme. Observing activities will move inside with an indoor telescope workshop.

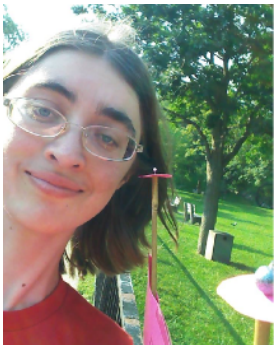
ASK THE EXPERTS

We offer a number of opportunities throughout the evening to ask the experts any burning astronomical questions you may have. Here's a quick list of who to look out for and their specialities.

DENIS MARYNOV

Senior Lecturer

I work to improve the performance of gravitational wave detectors, to observe intermediate-mass black holes and post-merger oscillations of neutron stars, and on the design of the future instruments.



ELINORE ROEBBER

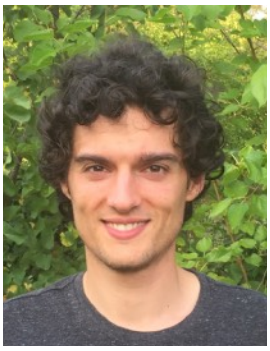
Post-Doctoral Researcher

I develop data analysis techniques for detecting gravitational waves with pulsar timing arrays and the future space-based detector LISA. I am also interested in large scale structure cosmology and the growth of supermassive black holes.

SIMON WOODING

Physics MSci Student

I'm the Equipment and Observations Officer for AstroSoc this year. I'm a first year Physics and Astrophysics student, and my current interests are playing folk music, science fiction novels and trying to assemble telescopes without breaking them.



MATTEO BIANCONI

Post-Doctoral Researcher

I investigate the processes influencing the birth of stars in galaxies, in particular in local galaxy groups and clusters.

ASK THE EXPERTS

EDDIE ROSS
PhD Student

LUCY THOMAS
PhD Student

GEORGE SMETANA
PhD Student

EMMA WILLET
PhD Student

DANIEL RYCZANOWSKI
PhD Student

RICCARDO MAGGIORE
PhD Student

CRESSIDA CLELAND
PhD Student

ELIOT FINCH
PhD Student

MATTHEW MOULD
Phd Student

ASTROSOC COMMITTEE

OBSERVING

CHANCELLOR'S COURT

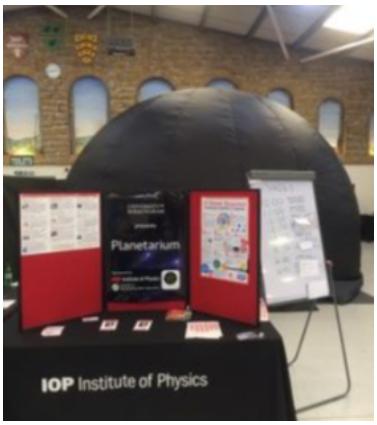
Join us in the shadow of the Clock Tower where local astronomical societies will share with us their telescopes and knowledge of all things celestial.

THE GRUBB TELESCOPE

The night's observing also allows use of The University of Birmingham Astronomical Society's historic Grubb Telescope. This will run on a first-come-first-served basis in groups of 8 every 20 minutes. Please meet by the welcome desk.

OBSERVATORY TRIPS

For the lucky winners of our lottery, a ~60 minute round trip to the observatory provides the opportunity learn more about its history and if clear to use the new telescope (not available in Mar/20).



PLANETARIUM

We are happy to present you our newly acquired planetarium. Join us in flight through the Cosmos! (sign-in for the ballot at the welcome desk).

FROM THE DIRECTOR

Welcome to the last Astronomy in the City event of the 2019/2020 season. We have an exciting line-up of science to share with you today.

In the last few months, the star Betelgeuse has been the subject of a wide range of news stories. Betelgeuse is normally about the 10th brightest star in the sky, and has a prominent position in the easily noticeable constellation of Orion. As a red supergiant star with a total mass of about 10 times our Sun, it would have run out of its core hydrogen in about 10 million years. It's likely that the next stage in its life will be to explode as a supernova. If a star so nearby goes supernova, it would be a spectacular display in the night sky, and an excellent opportunity to learn much more about stellar evolution.

In October of 2019, astronomers started to notice that Betelgeuse was becoming dimmer. This dimming continued for months, with Betelgeuse eventually becoming 2.5 times fainter than it previously was. Astronomers, and media, around the world have speculated that this dimming is a sign that it is about to explode very soon, or more exotically, that it was a sign of alien life around Betelgeuse.

While this seems like the beginning of a Hollywood movie, Betelgeuse has now begun to brighten again, and shows every sign of being stable. Indeed, it's quite likely that the dimming was caused by a momentary dust cloud passing in front. As exciting as it would have been to watch a supernova explode, we will have to go back to waiting… It's still expected to happen in the next 100,000 years.

I'd love to hear feedback on our events and the observatory. You can reach the Director at smcgee@star.sr.bham.ac.uk. We hope you enjoy the evening.

Sean McGee

Director of the University of Birmingham Observatory

Play Space-Time Quest and design your own gravitational-wave detector. Can you beat our scientists at their own game? Free to download for Android, iOS and PC.

https://www.laserlabs.org LASER LABS