

## Was the Christmas Star really a star?

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**Start date** 2 December 2018**End date** 2 December 2018**Venue** Madingley Hall  
Madingley  
Cambridge**Tutor** Dr Sonali Shukla**Course code** 1819NDX016**Director of Academic Centres**

Sarah Ormrod

**For further information on this  
course, please contact**Head of Academic Centre Administration, Zara Kuckelhaus  
[zara.kuckelhaus@ice.cam.ac.uk](mailto:zara.kuckelhaus@ice.cam.ac.uk) or 01223 746204**To book** See: [www.ice.cam.ac.uk](http://www.ice.cam.ac.uk) or telephone 01223 746262

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### Tutor biography

Dr Shukla holds a PhD in astrophysics from Vanderbilt University, USA. Her research areas include understanding the formation of young low-mass stars and disks around young stars and brown dwarfs. She spent a year as a pre-doctoral fellow at the Spitzer Science Center, Caltech, and continued her research as a postdoctoral researcher at Penn State University. She primarily serves in education and public outreach, having served most recently as the Astronomy Outreach Assistant at the Institute of Astronomy at the University of Cambridge. Previously, she served as Assistant Director for the physics department at the University of Maryland, where she developed novel outreach and educational programs, particularly to increase inclusion and diversity of students in the physical sciences. Dr. Shukla has developed inquiry-based practical exercises that incorporate real astronomical data whenever possible. When she is not lecturing astronomy, she advises science students and postdocs at University of Cambridge's Career Services.

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## Course programme

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09:30	Terrace bar open for pre-course tea/coffee
10:00 – 11:15	<b>Historical Evidence of the Christmas Star</b>
11:15	Coffee
11:45 – 13:00	<b>“Stars” in our Solar System: Planets, Meteors, Comets and more</b>
13:00	Lunch
14:00 – 15:15	<b>All about Stars</b>
15:15	Tea
15:30 – 16:45	<b>Extreme Phenomena</b>
16:45	Day-school ends

## **Course syllabus**

### **Aims:**

- Provide an overview of historical astronomical observations and how they fit into modern-day astronomical definitions.
- Outline various astronomical phenomena that have been mistaken for stars both within our solar system and beyond.
- Explore the nature of stars and stellar evolution.
- Investigate the astronomical evidence provided in historical texts to hypothesize the true nature of the Christmas star.

### **Content:**

Legend has it that the wise men followed the Christmas star for miles to Bethlehem. In this course, we investigate historical evidence and modern astronomical theory to discover the true nature of the Christmas star: was it really a star or some other phenomenon? We will look at historical documentation, both from Christian literature and from the astronomical observations of other cultures of the time, to obtain observational clues as to what the Christmas star may have been. Then, we turn to various astronomical phenomena within our solar system (eg, meteors, comets) that were often misclassified as stars. We will also learn about different types of stars and stellar evolution, including star death in the form of extreme stellar phenomena such as novae and supernovae. Finally, we will piece together observational evidence and modern astronomical theory to try and discern if Christmas “star” is a misnomer and what astronomical event may have been observed in the past.

### **Presentation of the course:**

This course will be Tutor-led lectures with some group discussion.

### **As a result of the course, within the constraints of the time available, students should be able to:**

- Understand observational astronomy, both in a historical context and how modern techniques have advanced our understanding.
- Gain a broad perspective on what constitutes a star, and how to differentiate a star from other astronomical phenomena (eg, planets, meteors, comets, novae).

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## Reading and resources list

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Listed below are texts that might be of interest should you wish to supplement your learning on the course. Any essential reading is marked with an asterisk \*

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Author	Title	Publisher and date
Kidger, Mark	The Star of Bethlehem: An Astronomer's View	Princeton University Press 1999

## Website addresses

<https://openstax.org/details/books/astronomy>

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## Additional information

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### Venue

Details of how to find Madingley Hall can be found on our website:  
<http://www.ice.cam.ac.uk/who-we-are/how-to-find-the-institute>

### Refreshments

Tea and coffee and lunch will be provided. If you have any specific dietary requirements or allergies and have not already advised us, please inform our Admissions Team on [ice.admissions@ice.cam.ac.uk](mailto:ice.admissions@ice.cam.ac.uk) or +44 (0)1223 746262.

**Note** Students of the Institute of Continuing Education are entitled to 20% discount on books published by Cambridge University Press (CUP) which are purchased at the Press bookshop, 1 Trinity Street, Cambridge (Mon-Sat 9am – 5:30pm, Sun 11am – 5pm). A letter or email confirming acceptance on to a current Institute course should be taken as evidence of enrolment.

*Information correct as of:* 08 October 2018