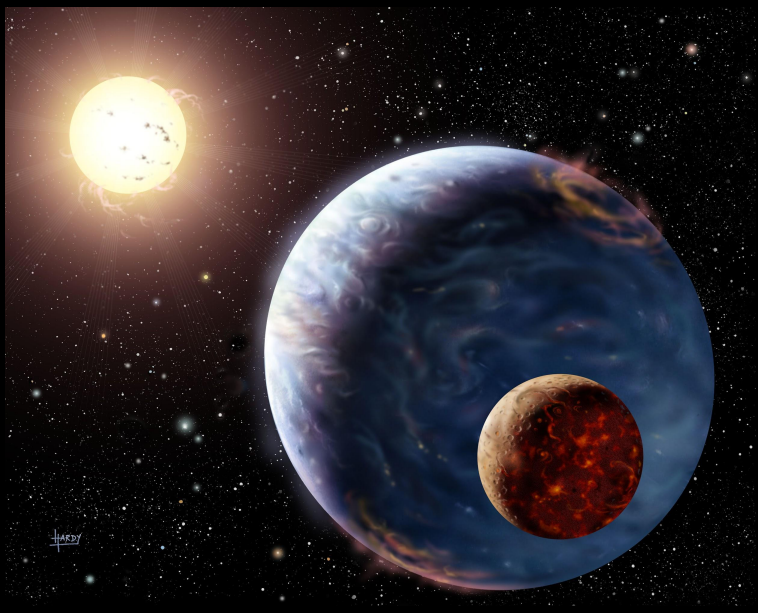
Introduction to Exoplanets

A 7 day online course



Why should you take this course?

By the end of this course, You will gain knowledge about:

1. Exoplanets and their properties
2. Methods to Find Exoplanets
3. Determining Physical parameters like Mass, Size, Temperature, Atmospheres, etc. of Exoplanet.
4. Searching planets that can support life

If you are interested in Physics and Astronomy and would like to learn about how scientists search for life outside our solar system, this course is for you. You will learn about the actual Scientific process behind finding Exoplanets. Exoplanets are planets outside our solar system and chances are that they are habitable.

Here is the detailed curriculum:

DAY	Topic	Sub-topics	Session Duration
Day 1	Why study Exoplanets?	• Astronomical objects • What are exoplanets? • Why is it hard to find them? • Discovery of the first exoplanet	30 min + 5 min Quiz + 10 QnA session
Day 2	How to Find Exoplanets?	• Planetary systems • Star and planet vs. Bottle and rock analogy • Why Star's Dance/wobble?	30 min + 5 min Quiz + QnA session

Day 3	Measuring Star's Dance	• Doppler shift • Change in wavelength of Starlight • Radial velocity method	30 min + 5 min Quiz + 10 min QnA session
Day 4	Transit Exoplanets	• Transit Method • Finding multiple planets	30 min + 5 min Quiz + 10 min QnA session
Day 5	Atmospheres of Exoplanets	• Finding which gases are present there • Spectroscopy	30 min + 5 min Quiz + 10 min QnA session
Day 6	Decoding parameters of Exoplanets	• Determining Mass, Radius, Distance from the star, Temperature of Exoplanet • Which Exoplanet can support life?	30 min + 5 min Quiz + 10 min QnA session
Day 7	What next? : Future missions	• Where do we go next from here? • Future missions for Exoplanet exploration	20 min + 15 min Quiz + 10 min QnA session

More about the course:

1. After every session, Quiz will be conducted to make sure concepts are understood well
2. After each session, short assignments are given as homework to ensure concept check
3. This course contains lots of animations and videos to help students learn visually.
4. QnA sessions after each session will provide students chance to ask questions and have discussions with the Instructor .

Instructor :

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