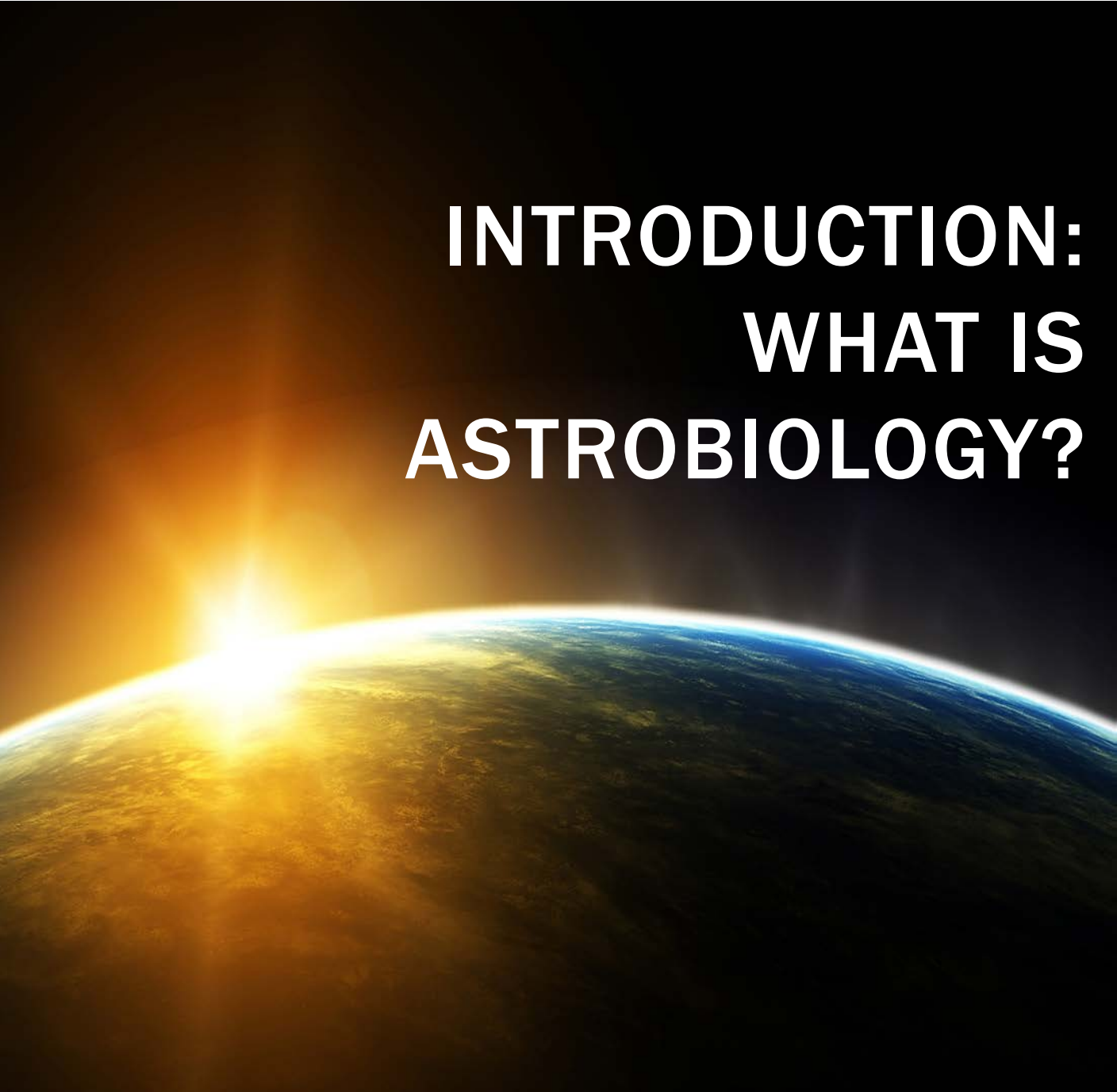




INTRODUCTION: WHAT IS ASTROBIOLOGY?

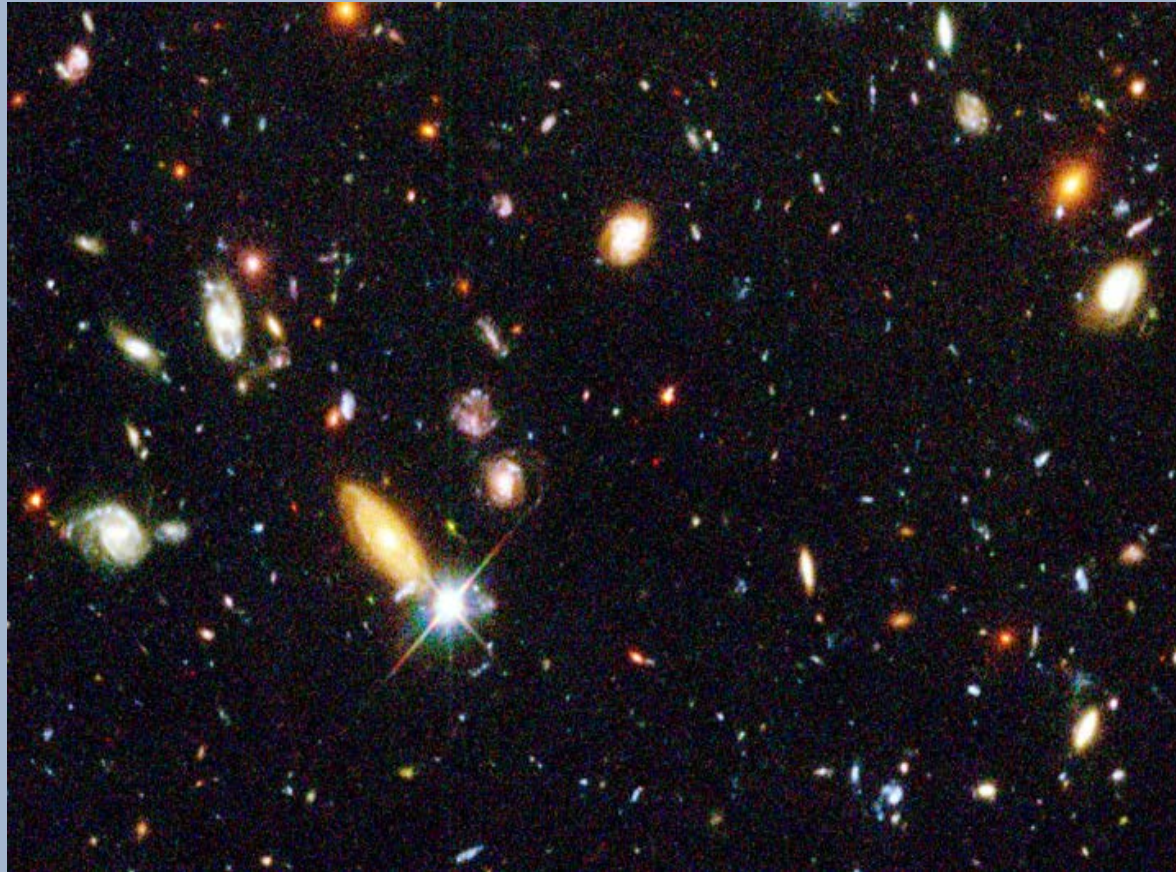
Introduction to
Astrobiology

Are we alone in the Universe?

And we orbit just one star of billions in
our galaxy



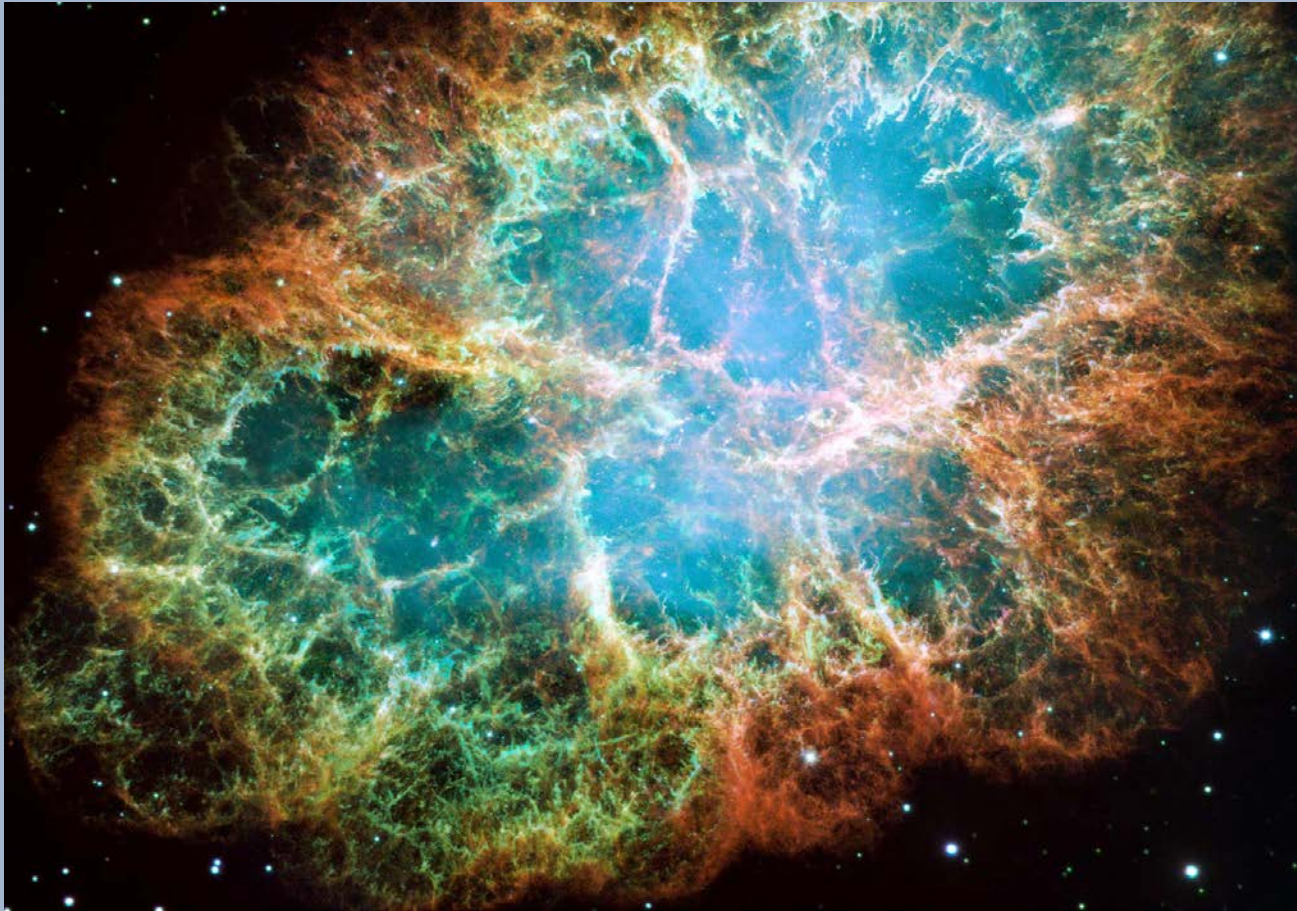
In a Universe of many galaxies...



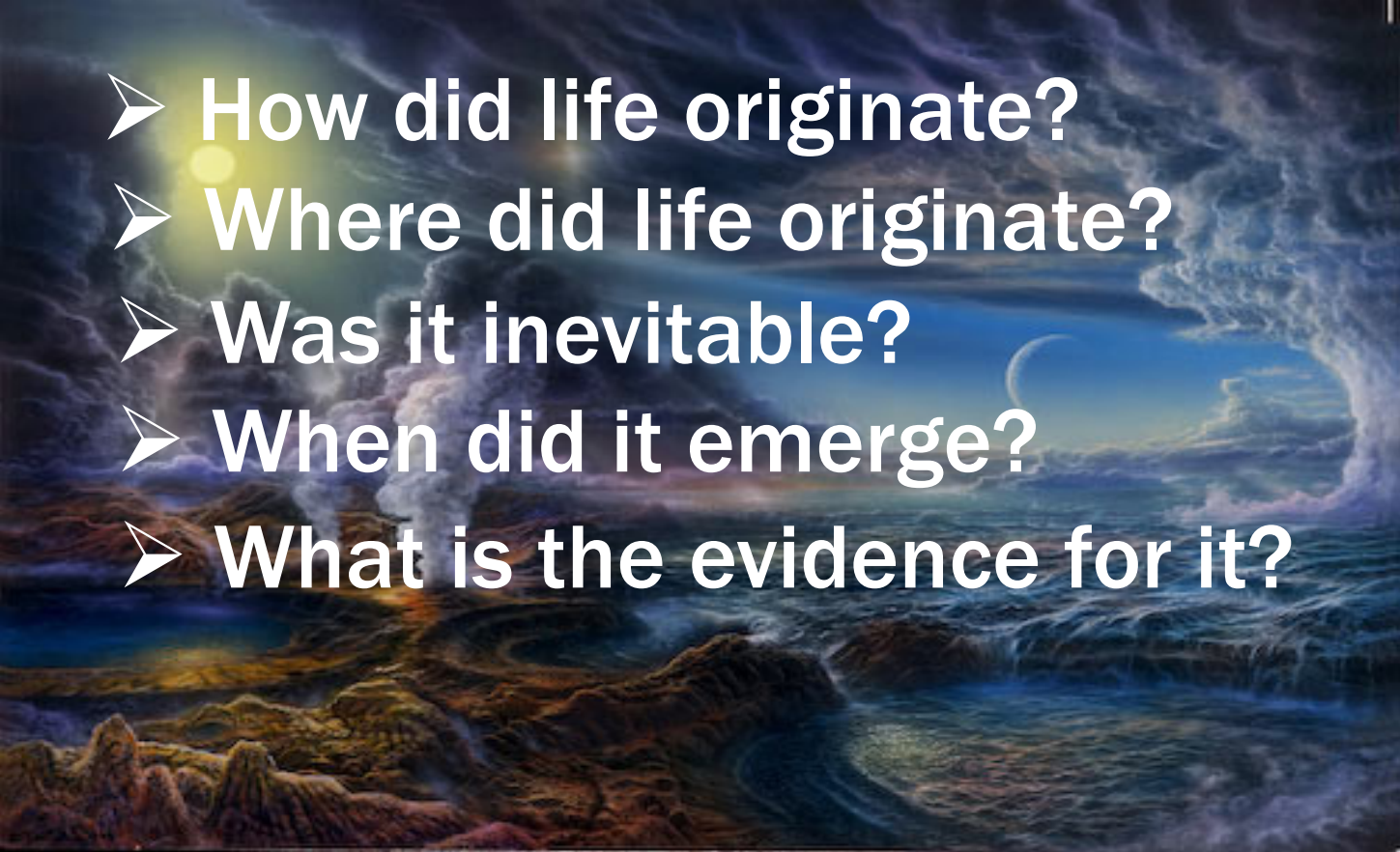
Life on the Earth is linked to space



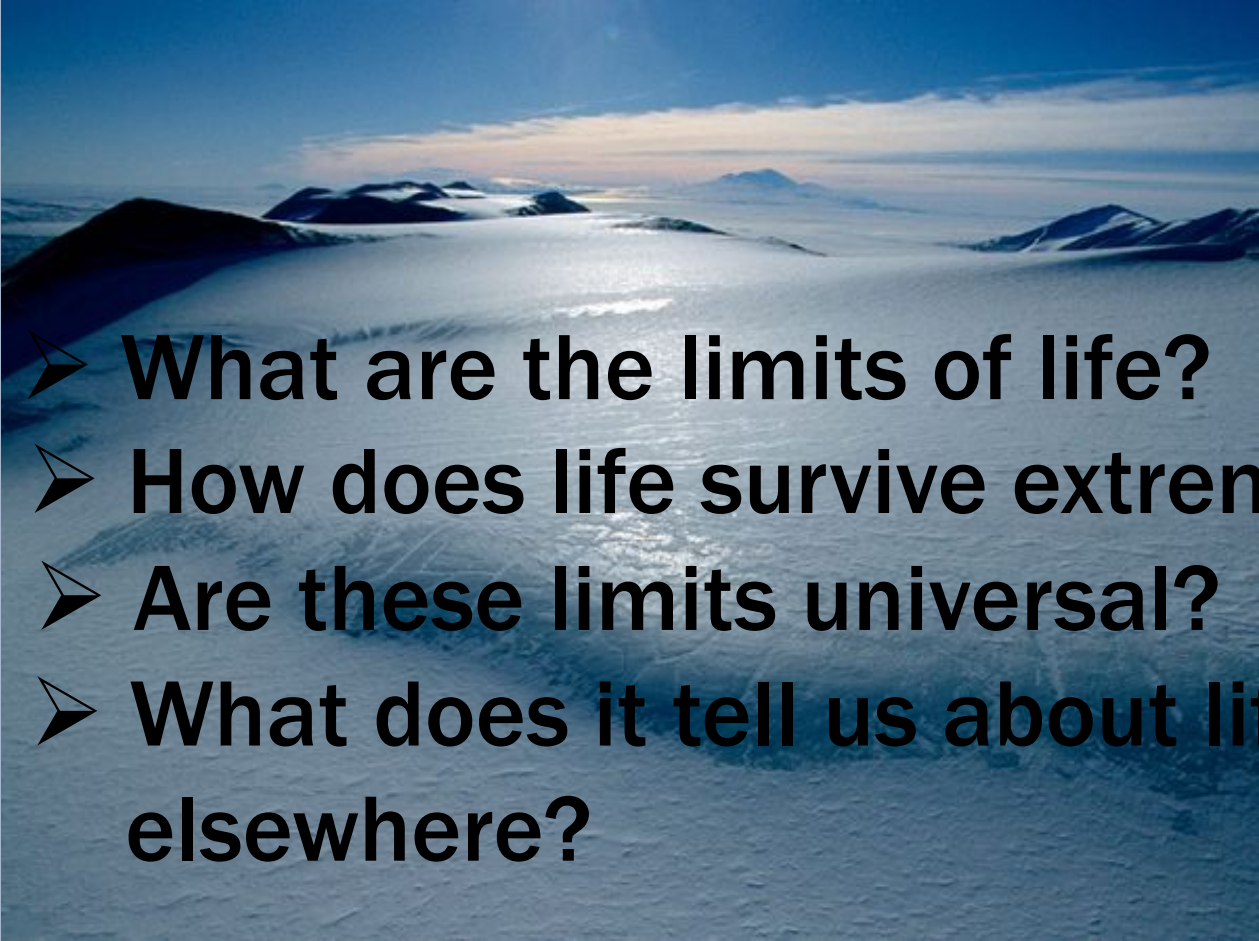
To understand life we need a cosmic perspective



Astrobiology seeks to understand the origin and emergence of life

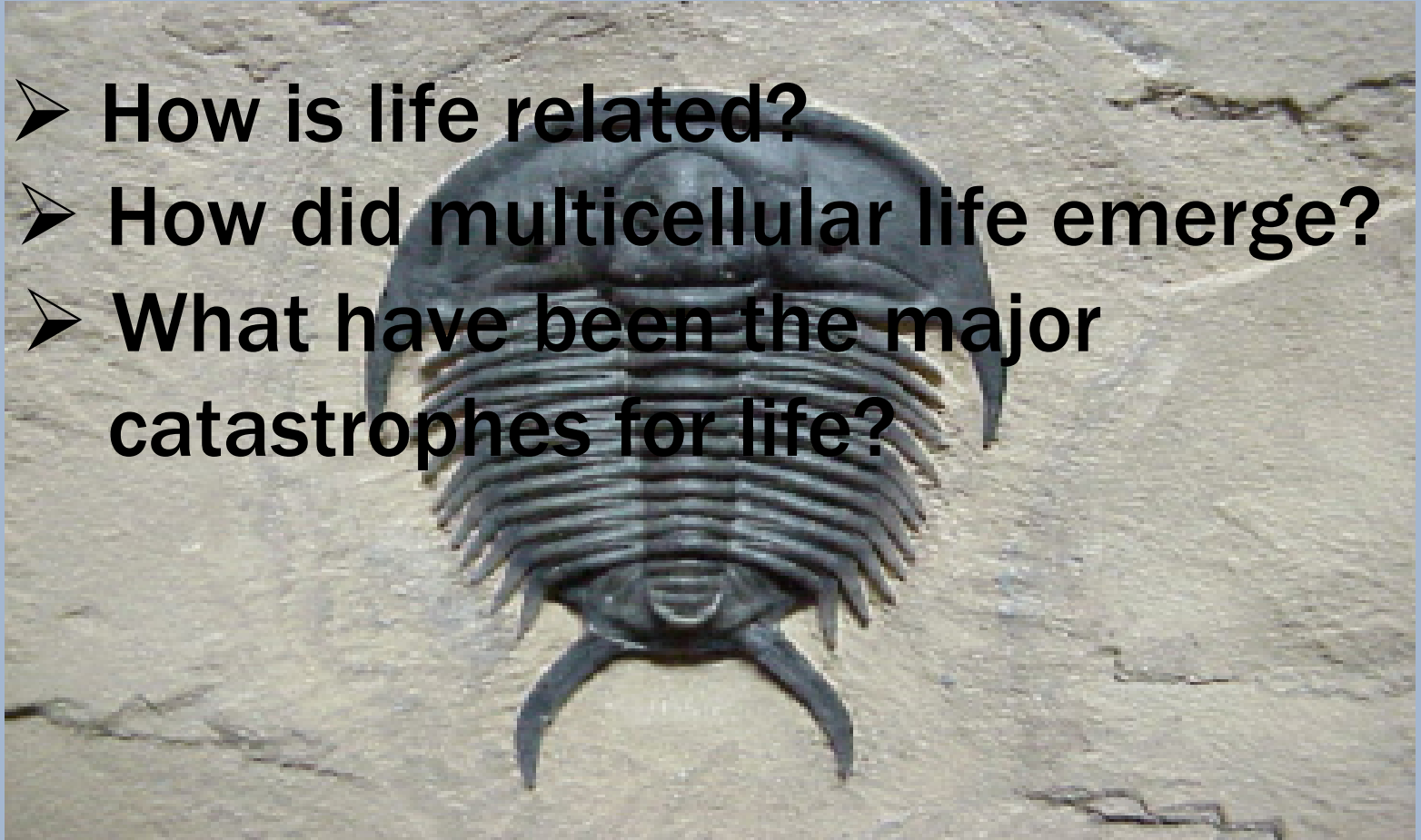
- 
- How did life originate?
 - Where did life originate?
 - Was it inevitable?
 - When did it emerge?
 - What is the evidence for it?

Astrobiology seeks to know the limits to the biosphere

- 
- What are the limits of life?
 - How does life survive extremes?
 - Are these limits universal?
 - What does it tell us about life elsewhere?

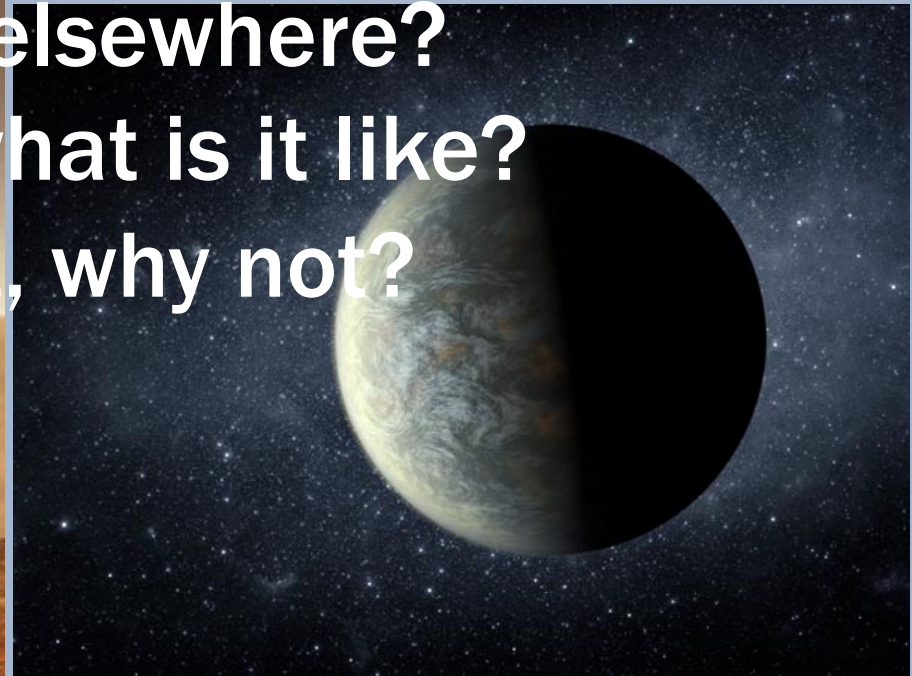
Astrobiology seeks to understand the evolution of life on the Earth

- How is life related?
- How did multicellular life emerge?
- What have been the major catastrophes for life?



Astrobiology seeks to know if life on Earth is unique

- Is there life elsewhere?
- If there is, what is it like?
- If there isn't, why not?



...and if there are other intelligences



- Is intelligence inevitable?
- Can we communicate with it?
- What happens if we do?



Astrobiology seeks to understand the future of humans

- Will humans leave the Earth?
- How do we settle other planets?
- How do we preserve Earth?
- How will we adapt to space?



What you will learn in this course

- Basic concepts that underpin the study of astrobiology
- Some of the history of life on the Earth
- How we search for life beyond the Earth
- The future of human life beyond the Earth
- Some of the social implications of astrobiology
- The difference between science and sensationalism

What have we learned?

- **Astrobiology covers many fields**
- **Astrobiology sets life in its cosmic context**
- **Astrobiology seeks to understand life from how it arose to how intelligent life might one day colonise other planets**
- **Astrobiology, as well as being a science in its own right, is an outstanding vehicle for learning many of the common principles that unite science**



**UK Centre for
Astrobiology**