

Podcast Questions: The End of the Universe

1. Who is the podcaster interviewing today?

She is interviewing Katie Mack's an astrophysicist at North Carolina State University. And she has a new book out called "The End Of Everything (Astrophysically Speaking).

2. What does Katie think about regarding the universe?

Katie thinks about the universe, the beginning of the universe, the end of the universe, what the universe is made of, how it works - all of the kind of questions about the nature of the cosmos, how it's changing over time and generally our whole cosmic story.

3. What is dark energy doing to the universe?

Dark energy is helping the universe expand at a faster and faster rate over time.

4. Why is dark energy weird?

Dark energy is weird because it doesn't behave like anything else scientists have observed.

5. One of Katie's theories is called the heat death. What is the heat death?

If the universe keeps expanding farther and farther, then all of the stars and planets will get further apart and there will be no heat.

6. What is the second theory Katie talks about? Can you explain it?

The second theory is called "The big Rip". In this theory, dark energy is not a constant, but something that grows in intensity and so after some time it would split everything apart, including atoms.

7. Why is the "Big Rip" scarier than the "Heat Death?"

It's scarier because you would be able to see it coming and you wouldn't be able to stop it.

8. The third theory is called vacuum decay. What is it about?

This theory says that there could be a bubble created in the universe where the laws of physics are different. This bubble would grow until it occupied everything and whatever is inside the bubble would not function properly.

9. Which theory does Katie like the most and why?

She likes the vacuum decay the most because it's kind of random and less straightforward than the others.

10. What reason is there to studying the end of the universe?

Mostly curiosity. It's also a good way to test physics and see if they can predict what's going to happen in the future.

Extra Questions:

1. Have you ever thought about the universe? What did you think about?
2. Is it important to study the end of the universe? Why, why not?
3. What do you think about the study of Astrophysics?
4. If the universe was ending now, what would you do?
5. Does studying the universe make you feel big or small? Why?