

A scientist just like me



Dr Caoimhe Rooney

Research Scientist / Mathematician

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Hi there! I am Dr Caoimhe Rooney – A research scientist and mathematician



Where do I work?

I work at the NASA Ames Research Centre in California. I look at exoplanets to see if they could be home to extra-terrestrial life.

What did I like doing when I was at school?

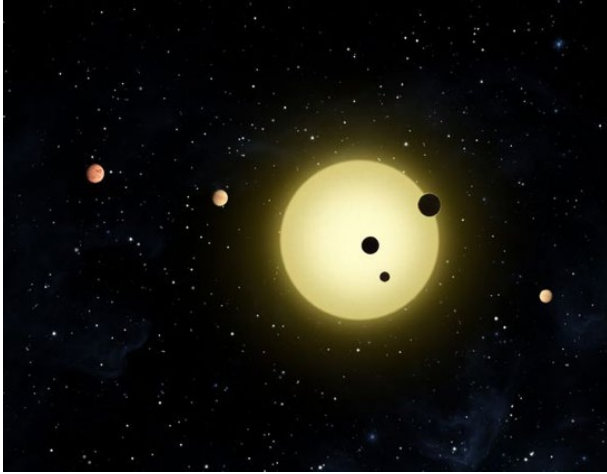
I loved maths, physics and chemistry, although maths wasn't always my favourite subject. It wasn't until after I had finished GCSEs when I fell in love with maths and everything you could do with it!

What do I like doing in my spare time?

I love to play Gaelic football, soccer and basketball. I have a very fluffy dog named Nuala who loves walks and belly scratches.

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What do I do as a research scientist / mathematician?



I use mathematical models to try and understand what exoplanets are made of. I do this by analysing the light in a planet's atmosphere. We look for signs of water or oxygen because that might indicate the potential for life on that planet!

How does what I do make the world a better place?

By studying the other objects in our universe, we can get a better understanding of how our universe formed, what it's made of and uncover the secrets that we don't yet understand. Research into the atmospheres of exoplanets can help scientists studying our own atmosphere. We can use some of this knowledge to understand our climate and fight climate change.

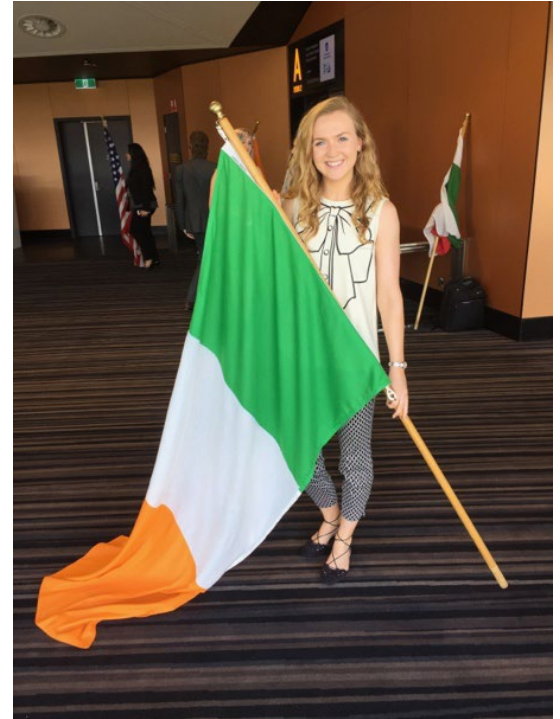
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What I like about my job

I love using maths to solve tricky problems and to learn more about the universe. The planets I study are too far away for us to ever visit, so my mathematical models allow us to understand them from afar. Without maths we would never be able to do that!

Challenges I have faced

Before I began my role at NASA, I didn't know a single other person who had worked there, and certainly didn't know of any female mathematicians working in the space industry. It was challenging to break into this, but I received lots of support from my family and university professors.



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If you want to be a research scientist / mathematician, you need:

- ★ **curiosity** so that you can explore interesting problems and try to understand how they work
- ★ **problem solving skills** because mathematical problems are just like puzzles to be solved and require an inquisitive mind
- ★ **patience** because sometimes it can take some time to get to the bottom of a tricky problem
- ★ **teamwork** because research teams include lots of different types of scientists



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Discussion time

- ✦ Would you like to be a research scientist and mathematician like Dr Caoimhe Rooney?

Why? Why not?

- ✦ What skills and interests do you already have that would help you become a research scientist / mathematician?
- ✦ What new skills and knowledge would you need to develop?



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Free supporting resources for research science / mathematician

I bet you didn't know... articles use cutting-edge science research as a context for learning. Teacher Guides describing the research and activities and investigations for children can be used as classroom presentations. See:

- How to play planetary hide and seek
- One of Saturn's moons may be a home for extra-terrestrial life

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