

## Tall Poppy Marketing Information Guidelines

Congratulations on being awarded a Young Tall Poppy Award for 2023.

The questions below will be used to create your Tall Poppy profile on our website. The total word count for the whole piece will be 150-180 words max, so keep that in mind when responding. Use language that would be suitable for a general audience and do try to avoid hyperbole when describing your research.

Question 1: What is the problem you are trying to address (i.e., introduce the problem). 1-2 sentences.

Antibiotic resistance is one of the greatest threats to human health today, yet we are in a "discovery void" with very few new antibiotics on the horizon. Through understanding why and how antibiotic resistance occurs, new drugs can be better designed and produced, to allow deadly infectious diseases to become treatable once again.

Question 2: What is your research doing to solve this problem (often in this format: what have you done? What are you researching now?). 1-2 sentences

I use a combination of traditional microbiology, molecular biology and synthetic biology to understand drug resistance, develop new drugs and innovate production methods. Much of my work hinges on using genomics to figure out the role of genes that allow deadly bacteria to become drug resistant, and, on the back on a caterpillar found in beehives, an ethical and flexible animal model helps me to easily screen the effectiveness of new antibiotics, bringing them closer to the clinic.

Question 3: Please list your top 5 public outreach or science communication outputs. (Things to include here include any public policy initiatives that has been taken up that have resulted from your research/advocacy, public science initiatives you have set up, outreach events setup, visits to schools, involvement in the *STEM Professionals in Schools* program, school mentoring programs, public talks, talks to patient groups or other groups impacted by your research, any very widely viewed social media accounts you run)

1. For the last 3 years, director of the JAMS (Joint Academic Microbiology Seminars; <http://jams.org.au/>), a group of microbiologists that meet at a pub once a month to chat about all things microbiology in a social setting.
2. Creator of eJams, an online microbiology gathering established during COVID lockdown.
3. Creator, producer and co-host of the JAMSpod podcast "Getting to know your friendly neighbourhood microbiologist", launched in National Science Week and National Antibiotic Awareness Week (<https://www.buzzsprout.com/1276919>).
4. National Moth Week July 2022, FEMS microbiology blog on the Galleria Model (<https://fems-microbiology.org/femsmicroblog-galleria-greater-wax-moth-as-sciences-next-top-model/>)
5. Organiser of the Australian Society of Microbiology (ASM) Annual Conference for 2022, including the 2022 Public Lecture on Marine Microbiology at the Maritime Museum

Question 4: Year you completed your PhD, name of granting institution, and your current position title and institution.

My PhD was awarded in April 2012 from The University of Sydney  
Currently, I'm an ARC DECRA Fellow and Senior Lecturer at Macquarie University,  
in the School of Natural Sciences and in the ARC Centre of Excellence in  
Synthetic Biology

And finally, what fields would you like included on your Tall Poppy profile? You can have many fields tagged on this page. For example, if you are doing research into materials, you may like to also include chemistry, surface science, synthesis, inorganic chemistry, etc.

Bacterial Genomics  
Synthetic Biology  
Antibiotic resistance  
Molecular Biology  
Drug Development