

## University of Dundee

### Why Engage?

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School of Life Sciences  
University of Dundee



# Why Engage?



Our staff and students on the  
benefits of public engagement

Gold  
Engage  
Watermark



National  
Co-ordinating  
Centre for  
Public Engagement



Image: Dominic Younger  
Front cover image: Andrew Lim

# Engage, Explain and Learn

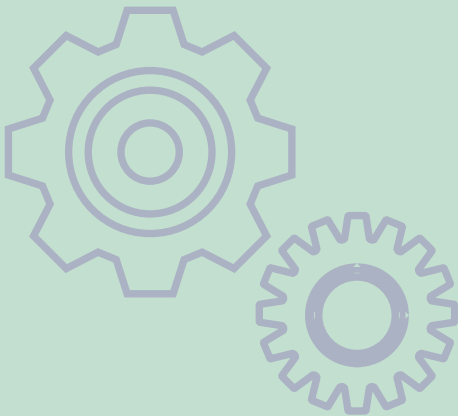
In December 2017 the School of Life Sciences' excellence in public engagement was recognised with a Gold Watermark award from the National Co-ordinating Centre for Public Engagement, the first faculty-level award made in the UK.

“The work we do in the School of Life Sciences has a significant impact on people’s health, our shared economy and environment. Today, making our science accessible through public engagement is part of the responsibility and remit of being a scientist.

“Public engagement is a way for us to interact with people of all ages and backgrounds and listen to what they say in response; it is by definition a two-way process. It helps build relationships and trust between communities and show that science is not a closed endeavour but open to all. It also creates new ways to collaborate with colleagues. This booklet captures experiences of people working in the School of Life Sciences and the School of Medicine.

“We are proud of our Gold Watermark award and hope you will join us to explore public engagement during your time at the University of Dundee. As university staff and students tell us in this booklet, there is much to gain from sharing your science with the wider world.”

**Professor Nicola Stanley-Wall, Academic Lead  
for Public Engagement in the School of Life Sciences.**

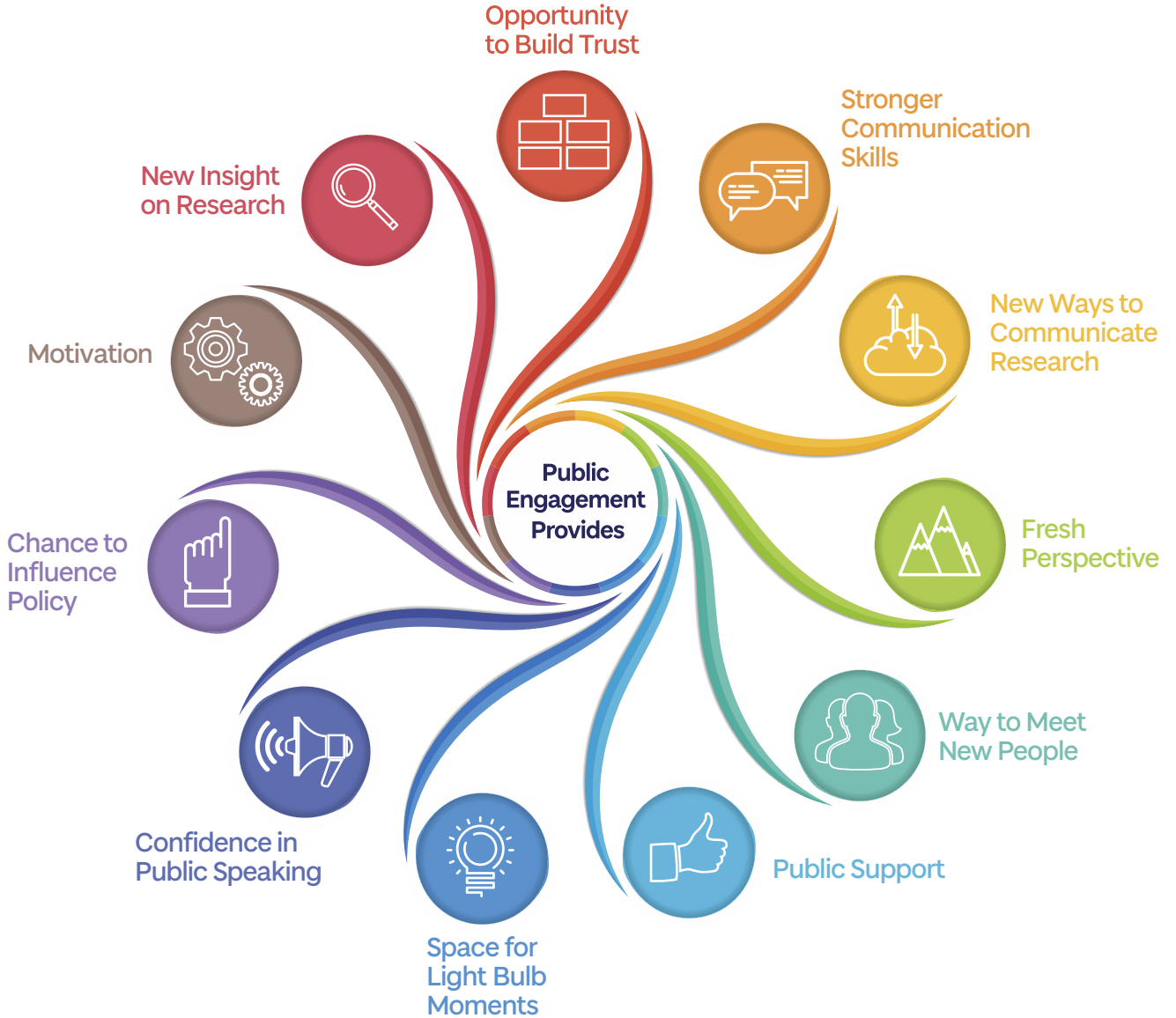


# The Benefits of Public Engagement



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Our staff and students told us what they gain by sharing scientific progress and ideas with public audiences.



# Space for Light Bulb Moments



Image: University of Dundee

Sharing science as comedy with Bright Club was a turning point for PhD student **Senga Robertson-Albertyn**, a microbiologist based at the James Hutton Institute.

“I couldn’t imagine not doing public engagement work. It’s had a huge impact on me. Bright Club helped massively with my public speaking in a way no training course ever has. Being able to present your work is crucial in academia. At every career stage you need to be able to clearly articulate ideas and translate what you are doing in a way that works for a new student, a lab visitor or a professor. Building those communication skills is incredibly important and Bright Club has helped me to do that.

“The greatest reward from public engagement for me, though, is the light bulb moment you get when someone asks a question and it just triggers a new idea or connection.

“I even got a paper out of my undergrad public engagement project, describing an activity that shows how gut bacteria influence health. Publishing a paper definitely gave me the competitive edge when I applied for my PhD.”

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## Chance to Influence Policy

“Impact is really important. The ability to translate what you are doing is important. Your opinion, based on the evidence available, is of enormous value to the public and may influence their actions, that’s why you need to share it. We don’t have time not to.”

Dr Chris Connolly, neurobiologist in the School of Medicine.

Image: University of Dundee



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## It’s Rewarding

“There will always be more experiments to do. Public engagement gives you a chance to step away from the lab and think about something else. It’s fun, rewarding and you gain new skills, that’s why I engage.”

Dr Julia Marchingo, postdoctoral researcher, School of Life Sciences.

Image: University of Dundee



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## New Insight on Research

“I’ve developed leadership skills and a new awareness of the social and ethical implications of research. I’ve had surprising conversations in unexpected places about health research and the environment that have changed my attitude to my work. Everyone has their own ideas about science. By taking part in outreach you can gain a new dimension to your own ideas.”

Dr Xinjin Liang, postdoctoral research assistant, School of Life Sciences.

Image: University of Dundee





# Build Trust in Communities



Image: Andrew Lim

**Lesley-Anne Pearson** and **Dr David Foley**'s demonstrations bring the science of drug discovery to life.

“Presenting science shows to children and adults is a fantastic experience. As a scientist, so much more of your work involves networking than you might first appreciate. You can stand up and give a presentation, but if your presentation is dry and you don't connect with your audience it's a lot harder to share your message. But if you make a connection with people in the audience they're more likely to speak to you afterwards. There's a direct line between drug discovery and public benefit but an increasing separation between experts and the wider public. Scientists are people, we need to show who we are and what we do to build public trust. Being able to share science with people on a spectrum of technical abilities is incredibly important. If you can't explain your work on a really basic level, then what are you doing?” **Lesley-Anne Pearson**, biologist, School of Life Sciences.



## Strengthen Communication Skills

“Taking time to communicate science rekindles passion for it. Learning to simplify complex concepts helps you professionally with writing grants, papers and presentations. Even with scientific audiences there will be people who aren't experts, so being able to give a basic introduction helps everyone.” **Dr David Foley**, medicinal chemist, School of Life Sciences.

Image: University of Dundee



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# Explore New Ways to Communicate Research

Stacks of research journals slammed onto paint won **Dr Nick Schurch** and colleague Dr Chris Cole an art in science prize for Impact Factor, their irreverent comment on research publication.

**“Even in science people struggle to share information across subject areas. I’m interested in visualisation as a challenge for outreach. If you can visualise science in an intuitive way it becomes more approachable. Visualisation makes you think really hard about the best way to present information. By working with artists I’ve seen how other people encapsulate complex information and I’ve learnt how to clarify my own ideas, it has been hugely rewarding for me,”** Dr Nick Schurch.

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Postdoctoral researcher **Dr Gang Wu** introduces local pupils to immunology.

**“As scientists we need to think about how to communicate our work so the public can understand it. We work very hard to make people’s lives better. When you stop using jargon and think about language it helps share your research. That’s the most important thing I’ve learnt from taking part in public engagement.”**

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**Dr Rosie Clarke** is a technical specialist who helped build a toy cell sorter to share the science of cell care.

**“We don’t have to convince people to become scientists; just making it part of their lives by capturing their interest can be enough. Spending time on public engagement is rewarding because it helps make science part of our culture.”**



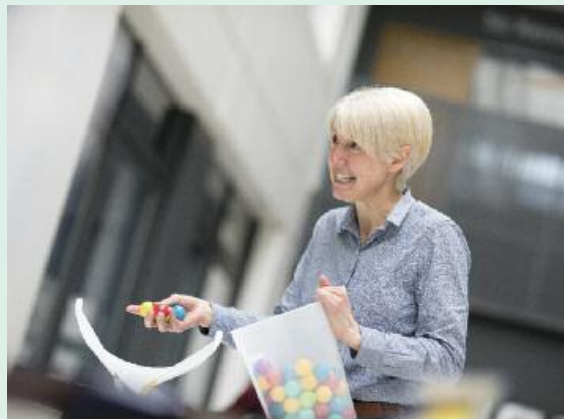
Image: University of Dundee



Image: University of Dundee



Image: University of Dundee



# Fresh Perspective



Image: University of Dundee

Lab manager **Dr Laura Fin** helps deliver practical lab sessions to pupils at Baldrigon Academy in Dundee.

“You have to explain things in a different way to school pupils. Working with them has changed the approach I take with new masters and PhD students in the lab. It’s a lot of fun because the kids ask so many questions. It really makes you think about how science influences everyone. Scientists are great at explaining their work to other scientists, but if we shared more with the public they might be more trusting of expertise. You do feel you can make a difference to these kids, most of them have never spoken to a scientist before and might think science is too difficult, not open to them or that they can’t do it, but actually they can and we can give them the confidence to try. Public engagement is part of my job now.”



Image: University of Dundee

**Maithili Shroff** says running labs for school kids and taking people on tours has influenced her approach to writing her PhD thesis.

“I love meeting new people and public engagement provides a way to interact with people who don’t work at the bench. You can get tunnel vision in the lab. Gaining new perspectives made me question the basis of my lab work and how I write about it. I wouldn’t have done that if I hadn’t taken part in public engagement activities. Being able to articulate ideas well will definitely help when it comes to writing grants in the future too - you have to communicate clearly if you want to persuade people to fund your work.”

# Meet New People

Spotting bacteria in soil samples at Tayport Community Garden during a citizen science workshop gave MSci student **Margarita Kalamara** a new perspective.

“What I do is already quite specialised so having to zoom out of the molecular detail, put it in a wider context and explain it to others was refreshing. As a student I’m usually the one asking questions, so the experience will help when I become a demonstrator in the undergrad labs. It also gave me an insight into career options for someone with my degree.”

Image: Dominic Younger



# Motivation



Image: University of Dundee

PhD student **Andrew Lim** is about to start a post-doc on antimicrobial resistance. He will be working in both Vietnam and Spain.

“By taking part in public engagement you learn how to communicate well. Scientific ideas have to be conveyed effectively across all spectrums of life, from the public all the way to our policy makers. The ability to tailor language to different groups of people is actually crucial. If we as scientists have the skills to master our words, then we have a fantastic tool to influence society because words really are so important in this age.

“Our work is not just about the science of antimicrobial resistance, if it fails on the implementation level, then 10 or 15 years of work goes down the drain.”

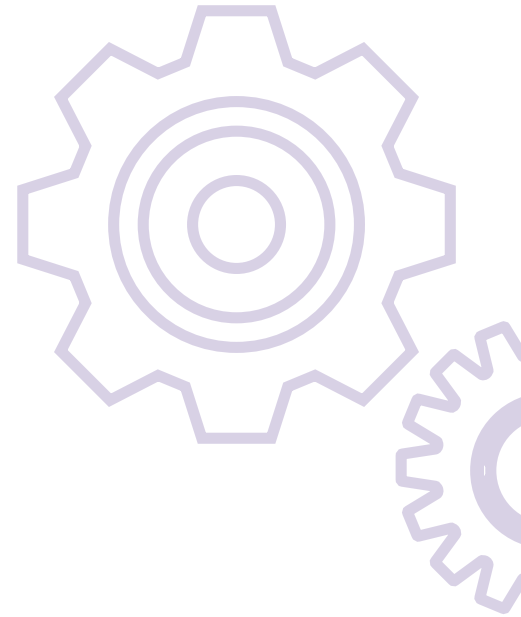




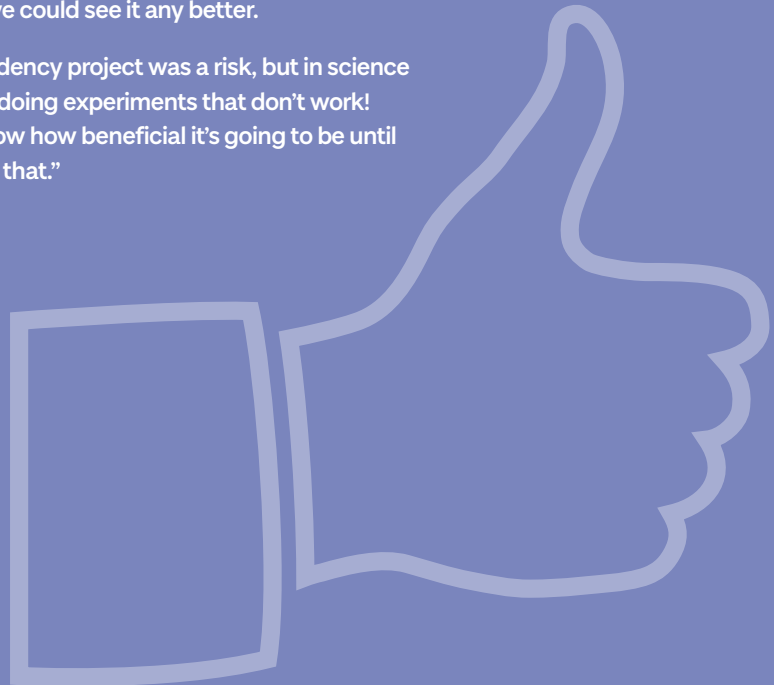
Image: ASCUS Art & Science

# Think differently

Dermatologist and genetics researcher **Professor Sara Brown** welcomed two artists into her lab in the School of Medicine for three months. Beverley Hood used confocal microscopy images to print 3D versions of skin cells 2,000 times life size.

“I work with skin cells all the time but when I held one of Beverley’s 3D cells in my hand I saw skin in a new way and that surprised me. Bev brought something to life that is just part of our everyday work and her questions challenged me to look at my research differently. Scientists don’t always ask each other off-the-wall questions because we already have a group understanding. When an artist comes in and questions absolutely everything, you have to go back to basics so you can explain things and that can improve your science. It made me stop and consider what we’re seeing in the lab, why we’re seeing it, how we’re seeing it and if we could see it any better.

“The amount of time I committed to the art residency project was a risk, but in science we take risks all the time. You can spend a year doing experiments that don’t work! Public engagement is risky in that you don’t know how beneficial it’s going to be until you try, but I think it’s worth taking a chance on that.”



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# Start your public engagement journey

In the School of Life Sciences we use public engagement to:

- > **Inspire young people**
- > **Build creative partnerships**
- > **Explore new ways of communicating research**
- > **Work with communities**

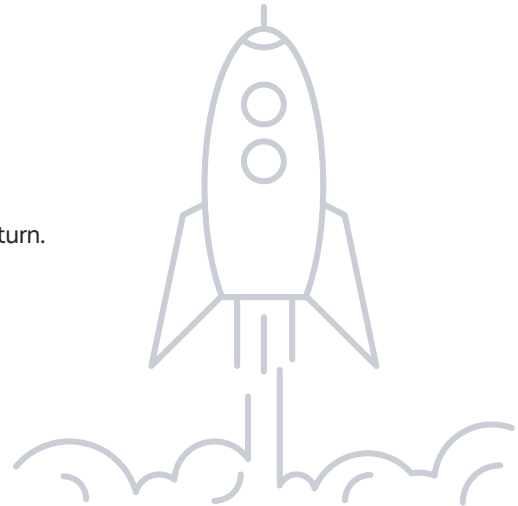
Public engagement is all about sharing science stories and listening in return. Ask yourself the following questions to help focus your first ideas.

**What do you want to say?**

**Who do you want to say it to?**

**Where is your audience?**

**How will you reach them?**



## Final Word

**“At first I thought I had to communicate the real nitty-gritty of my research which would be challenging, then I discovered you can just take a small aspect of your work and build it into a theme that relates to people, so there’s no need to be afraid to get started. There are lots of people at the university who can advise or give help, you just need to join in,”** Professor Jenny Woof, Associate Dean.

Image: University of Dundee







# School of Life Sciences University of Dundee



# Join in

Our public engagement team is ready to help you explore the best way to engage. School of Life Sciences students and staff tell us finding new ways to share scientific ideas is hugely rewarding and a lot of fun.

You won't know what you'll get out of communicating science until you try. We do know that taking part in public engagement gives everyone the chance to gain new skills and experience and that can only benefit your science.

**Pop in to say hello at our public engagement support drop-in.  
10am Discovery Centre Street, 3rd Wednesday of every month.**

Seed funding and training is available.

## Find out more

Email [SLS-PublicEngagement@dundee.ac.uk](mailto:SLS-PublicEngagement@dundee.ac.uk)



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