

# STEM WORKSHOPS IN GERMAN

WEDNESDAY  
27 NOVEMBER 2019  
9.30 AM – 1.30 PM



**WORKSHOPS** *Working in small groups you will explore the real life applications of science, technology and engineering.*

## Design Products for a Circular Economy

**Dr Martin Brueckner (Murdoch University)**

Today, most of our everyday items end up as waste at the end of their 'life', and they either get buried in landfill or are burnt. While some products (eg bottles) are being recycled, recycling often requires a lot of energy and amounts to downcycling, meaning materials end up in lower value products that eventually get discarded as well. Not only is this an inefficient use of our natural resources it also creates massive environmental problems. How can we re-design our products so that they do not end up as waste? In this workshop you will look at everyday items and rethink their design to make them a part of a circular economy.

## Design a Passive Solar Home

**Patric Przeradzki (Plus Architecture)**

Passive solar homes take advantage of a building's site, climate and materials to minimise energy use. In this workshop, you will design a home that needs as little energy as a hairdryer to keep you warm in winter and cool in summer.

## DNA's Hidden Code

**Dr Andrea Ducki & Dr Thea Linke (Murdoch University)**

All living organisms use the same universal code in their genetic make-up to grow, function and reproduce. This information is stored in the form of a bio-molecule called DNA. The unique arrangement of this information identifies all species (and reveals how close we are related to each other). You will be able to isolate and even touch this amazing DNA molecule and then learn how to read its secret code.

## You Are Not Alone: You Live With Billions of Bugs

**Dr Karl Gruber (Biologist and Science Writer)**

You may not be aware of them, but every part of your body, inside and out, is laced with microbes. Most of them live inside your gut, but others live in your skin, eyes and mouth. But, don't worry, most of them are good, and are keeping you healthy – as long as you keep them happy. In this workshop, we will learn about the bugs living in our body and why you should keep them happy. We will also do a fun 'GlitterBug' experiment, which highlights the abundance of bugs that live in our environment, such as those that reside on our hands.

## Health and Safety Training Using Virtual Reality

**Dr Torsten Reiners (Curtin University)**

You probably know about 3D simulations from computer games, but they are also used to create training environments. Dr Torsten Reiners will use 3D spaces in his workshop to help you reflect on day-to-day Health and Safety measures and to develop your own virtual training platform. And you'll get to see a VR city from above.

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