

# Women *in* Physics

NATIONAL

*Lecture Tour*

PRESENTS

**Dr Karen  
LIVESEY**



## Abstract

Tiny magnets that are one thousand times smaller than the width of a human hair are starting to be used in technologies all around us, including cancer treatments, medical imaging, and even self-repairing paints. Magnets that are shrunk down to the nanoscale behave very differently to the large ones that you have on your fridge, allowing a whole new set of materials to be designed to answer important technological problems. Karen is currently designing new nano-sized magnets to address technological challenges, such as reducing the energy that today's computers use, and heating inoperable cancer tumours to improve health outcomes.

Come along to hear how a theoretical physicist studies nano-magnets and what exciting problems are currently being solved.

## Biography

Theoretical physicist Dr Karen Livesey is designing new nano-sized magnets to address technological challenges, such as reducing the energy that computers use, and heating inoperable cancer tumours.

Dr Karen Livesey was the first in her family to finish high school and studied Physics at the University of Western Australia, completing a PhD in 2010. For almost 10 years she worked at the University of Colorado at Colorado Springs reaching the rank of Associate Professor. While the covid-19 pandemic was raging, she moved to Newcastle NSW with her family in 2020. She is currently a Senior Lecturer of Physics at the University of Newcastle, and an Associate Investigator at the ARC Centre of Excellence in Future Low Energy Electronic Technologies. Throughout her appointments, Karen developed a greater interest in sharing her love of physics and mathematics with others.

Karen has won teaching awards and research grants in the US, Canada, the UK and Australia. In 2023 she is a national Superstar of STEM (Science and Technology Australia) and the AIP Women in Physics lecturer (Australian Institute of Physics).



## LECTURE

**Magnetic Nanoparticles  
for the 21st Century**

## DATE

**12 September 2023**

## TIME

**1:30pm – 2:30pm  
(doors open at 1:00pm)**

## LOCATION

Science Lecture Theatre  
Melba Copland Secondary  
School, College Campus  
97 Verbrugghen St  
Melba, ACT 2615

## CONTACTS

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