

# ARMI EXTERNAL SEMINAR SERIES 2021



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## Can the microbiota be targeted to enhance immune responses to vaccination?

Professor David Lynn

EMBL Australia Group Leader, SAHMRI, South Australia

### Abstract

Vaccine immunogenicity is frequently suboptimal in the very populations at most risk from infectious disease including infants, the elderly, and those living in low- and medium-income countries (LMICs). While many factors have the potential to influence vaccine immunogenicity, increasing evidence from clinical studies and animal models now suggests that the composition and function of the gut microbiota is a critical factor modulating immune responses to vaccination. In this talk, I will present our Antibiotics and Immune Responses infant study which is employing a systems vaccinology approach to assess links between the composition and metagenomic function of the gut microbiota and responses to immunisation. Furthermore, I will discuss how we are using germ-free mouse models to causally validate these associations and to identify new candidate probiotic species that enhance immune responses to vaccination.

### Bio

Prof Lynn is an EMBL Australia Group Leader and Program Director in the SAHMRI Precision Medicine Theme; Scientific Director of SA Genomics Centre; and Professor at Flinders University. His research team apply systems immunology approaches to investigate how microbes (pathogenic and commensal) modulate the immune system in a range of contexts from infant immunisation to cancer immunotherapy. His research spans from computational modelling and bioinformatics software development to preclinical mouse models (including germ-free mice), to leading clinical studies. For example, he leads a NHMRC-funded systems vaccinology study to investigate the link between the microbiota and vaccine responses in infants. He is also the PI in South Australia for the Gates Foundation-funded BRACE Trial, investigating whether BCG provides non-specific protection against COVID19.



### EVENT DETAILS

#### DATE:

Tuesday, 7 September 2021

#### TIME:

11am AEST

#### ZOOM:

ZOOM LINK: [https://us05web.zoom.us/j/86757801032?](https://us05web.zoom.us/j/86757801032?pwd=OFBadjRFMXFJd0dGd25HY2Q2RTlmQT09)

[pwd=OFBadjRFMXFJd0dGd25HY2Q2RTlmQT09](https://us05web.zoom.us/j/86757801032?pwd=OFBadjRFMXFJd0dGd25HY2Q2RTlmQT09)

Meeting ID: 867 5780 1032

Passcode: wDR8n3

#### HOST:

A/Prof Edwina McGlinn



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