

# MIEGUNYAH DISTINGUISHED FELLOWSHIP PUBLIC LECTURE

## **Biomaterials as tools to study and control immune function**

**Thursday, 9 June, 5.00 - 6.00pm**

The Peter Doherty Institute for Infection and Immunity  
In person or online

Auditorium, 792 Elizabeth Street, Melbourne

Zoom webinar ID: 857 7231 4373 | Passcode 371571



### **Professor Christopher M Jewell**

Fischell Department of Bioengineering  
University of Maryland, USA

Host: Professor Thomas Gebhardt.

Professor Jewell's research combines immunology and biomaterials to understand the interactions between synthetic materials and immune tissues, and to design more selective therapeutic vaccines for cancer and autoimmunity. This presentation will highlight their recent efforts toward these goals combining materials science and bioengineering tools, cell culture, animal models, and samples from human patients. In one example he will discuss new degradable polymer depots that could improve the selectivity of therapies for autoimmune diseases such as multiple sclerosis and diabetes by locally reprogramming the function of lymph nodes –tissues that coordinate immune function. A second area will present the lab's efforts to self-assemble immune signals into modular nanostructures. This rational design approach allows activation of programmable combinations and levels of immune pathways triggered. Modular control over these aspects of immune signaling could help improve the efficacy of vaccines for cancer and infectious disease, and enhance the efficiency of vaccine translation.

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