

ARMI EXTERNAL SEMINAR SERIES 2022



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Mechanotransduction in the developing cardiovascular system

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Abstract

Cells act as force sensors and can actively trigger physical changes during embryonic patterning and growth. Defects in these processes can cause catastrophic developmental abnormalities, in particular in the cardiovascular system where blood flow is generating mechanical forces essential for cardiogenesis. Our goal is to understand the dynamics and the roles of biological flow during the development of the zebrafish. We use live imaging techniques, cell biology and genetic analysis to characterize the physical stimuli and the molecular mechanisms that specify cell responses to flow forces during embryogenesis. We will discuss our recent results assessing flow forces affect cardiovascular morphogenesis.

Bio

Julien Vermot leads the biomechanics and signaling lab focusing on the understanding on the impact of mechanical stresses during morphogenetic and regenerative processes. Julien Vermot obtained his PhD in developmental biology from the University of Strasbourg in 2003, where he worked on the role of retinoic acid during embryonic development. He then worked as a visiting scientist the Stowers Institute for Biomedical Research in Kansas City, USA, followed by a post-doctoral position at the California Institute of Technology in Pasadena where he developed new tools to study the role of mechanical forces during development. He was Research Director at the French INSERM before joining the Department of Bioengineering at Imperial College London in 2019.



EVENT DETAILS

DATE:

Tuesday, 26 April 2022

TIME:

5pm AEDT

ZOOM:

Zoom details to be circulated via email on 26 April 2022



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