Seminar/Talk

Forcing trees into shape: How blood vessels self-organize

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Host: Carl-Philipp Heisenberg

The vasculature is the first organ system to function during embryogenesis and is important for the distribution of oxygen and nutrients to all parts of the body. It consists of a ramified network of tubes of different sizes optimized for efficient liquid transport. The heart pumps the blood through the arterial side of this network into the body's periphery before it is being returned via the venous circulation. I will present our recent results on artery formation with an emphasis on the question how hierarchical blood vessel structures are being generated. I will furthermore discuss how physical forces, such as blood flow mediated shear stress, interact with genetic pathways on the cellular level in order to ensure optimal blood vessel sizes. Together, our data suggest that self-organizing principles underlie developmental blood vessel patterning.

Monday, November 20, 2017 11:00am - 12:00pm
Meeting room 2nd floor / Bertalanffy Bldg. (I04.2OG - LAB)

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