

Seminar in Microbiology

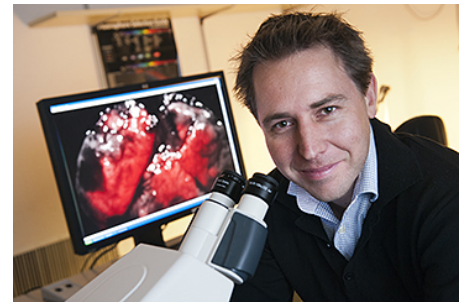
Monday, February 6, 2017

Salle de séminaire, E07.3347.a, CMU

11:30 – 12:30

Benjamin Marsland

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The impact of the microbiome and immune maturation on lung diseases

Until recently, the airways were thought to be sterile unless infected; however, a shift towards molecular methods for the quantification and sequencing of bacterial DNA has revealed that the airways harbour a unique steady-state microbiota. This paradigm shift is changing the way that respiratory research is approached, with a clear need now to consider the effects of host-microorganism interactions in both healthy and diseased lungs. We propose that akin to recent discoveries in intestinal research, dysbiosis of the airway microbiota could underlie susceptibility to, and progression and chronicity of lung disease.

References:

- 1) Microbiota Promotes Chronic Pulmonary Inflammation by Enhancing IL-17A and Autoantibodies. Yadava K, Pattaroni C, Sichelstiel AK, Trompette A, Gollwitzer ES, Salami O, von Garnier C, Nicod LP, Marsland BJ. *Am J Respir Crit Care Med*. 2016 May 1;193(9):975-87.
- 2) Host-microorganism interactions in lung diseases. Marsland BJ, Gollwitzer ES. *Nat Rev Immunol*. 2014 Dec;14(12):827-35.
- 3) Lung microbiota promotes tolerance to allergens in neonates via PD-L1. Gollwitzer ES, Saglani S, Trompette A, Yadava K, Sherburn R, McCoy KD, Nicod LP, Lloyd CM, Marsland BJ. *Nat Med*. 2014 Jun;20(6):642-7.
- 4) Dysregulation of allergic airway inflammation in the absence of microbial colonization. Herbst, T, A. Sichelstiel, C. Schar, K. Yadava, K. Burki, J. Cahenzli, K. McCoy, N. Harris*, **B.J. Marsland**. *Am J Respir Crit Care Med*. 2011 Jul 15;184(2):198-205.

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