

$$T(x) \cdot \frac{\partial}{\partial \theta} f(x, \theta) dx = M \left( T(\xi) \cdot \frac{\partial}{\partial \theta} \ln L(\xi, \theta) \right)$$

$$T(x) \cdot \left( \frac{\partial}{\partial \theta} \ln L(x, \theta) \right) \cdot f(x, \theta) dx = \int_{R_n} T(x) \cdot \left( \frac{\partial}{\partial \theta} \ln L(x, \theta) \right) \cdot f(x, \theta) dx$$

**FMI**

Friedrich Miescher Institute  
for Biomedical Research

Computational Neuroscience Initiative Basel presents:

**Andrew Saxe** | Sainsbury Wellcome Center / Gatsby Computational Unit

Workshop: Tuesday, July 19 | 11:10 - 12:00 (FMI 5.30)

## Learning dynamics in deep linear networks

Seminar: Tuesday, July 19 | 14:00 - 15:00 (FMI 5.30)

## The Neural Race Reduction: Dynamics of nonlinear representation learning

Please register at [www.fmi.ch/CNIB](http://www.fmi.ch/CNIB) and join us for a light lunch with the speaker between the workshop and seminar.



Andrew Saxe is a Joint Group Leader at the Gatsby Computational Neuroscience Unit and Sainsbury Wellcome Centre. He was previously an Associate Professor at the University of Oxford. He did his PhD at Stanford, with Jay McClelland, Surya Ganguli, Andrew Ng, and Christoph Schreiner, and then completed a postdoc with Haim Sompolinsky at Harvard University. His research focuses on understanding the mechanisms underlying the learning processes in deep neural networks, and the application of these mechanisms to improving our understanding of phenomena in neuroscience and psychology.

