

Inaugural lesson

Chaires d'Alembert

Université Paris-Saclay

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Date, time

DECEMBER 13th 2018

11:00

Place

CENTRE DE NANOSCIENCES ET DE NANOTECHNOLOGIES
AVENUE DE LA VAUVE
91120 PALAISEAU

A new spin on magnetism with applications in information processing

Andrew Kent

Andrew Kent is a Professor of Physics and Director of the Center for Quantum Phenomena at New York University. His research interests are in the physics of magnetic nanostructures, nano-magnetic devices and magnetic information storage. In 2007 he founded Spin-Transfer Technologies, a startup company developing spin torque magnetic random access memory devices, and based in Silicon Valley. He received the French Jean d'Alembert Research Fellowship in 2017.

Summary

Recent advances in magnetism research are likely to have an important impact on electronics and information processing. These advances use the electron's magnetic moment (spin) to transmit, change and store information. They enable new devices that could operate at high speed with very low energy consumption. The information

is stored in the orientation of electron magnetic moments in magnetic materials and can persist without power; energy is only needed to change the information. In this talk, I will highlight the new physics concepts and materials that have enabled these advances and discuss some of their applications in information processing.

Host Laboratory

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