

# **SEMINARIUM Z MAGNETYZMU I NADPRZEWODNICTWA**

Uprzejmie zawiadamiamy, że w **poniedziałek**

**14 września 2015 r., o godz. 11:00**

**w sali 203 (bud. 1) odbędzie się seminarium, na którym**

**Dr. Antoine Barbier**

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wyłosi referat na temat:

## **"Epitaxial spintronics dedicated oxide thin films studied by synchrotron radiation techniques"**

Magnetic oxide thin films exhibit a large panel of physical properties along with major long range spin orderings like ferromagnetism, ferrimagnetism and antiferromagnetism. Insulating layers allow imaging genuine behaviors that let expect new devices especially when coupled with metallic magnetic electrodes. Including ferroelectric layers widens even more the range of perspectives. Such new structures have high application potentials in various technological relevant fields such as magnetic tunnel junction, sensors, memory cells, multiferroics etc. Our approach consists in growing single crystalline epitaxial magnetic oxide layers by atomic oxygen assisted molecular beam epitaxy, having adequate magnetic properties and allowing an in depth investigation using state of the art synchrotron radiation techniques like surface X-ray diffraction and diffusion, micro-X-ray diffraction, spectromicroscopies... I will present several studies dealing with magnetic oxide/oxide and metal/oxide interfaces. A first part will be dedicated to magnetic exchange coupling investigations of ferromagnetic metallic Co coupled with antiferromagnetic hematite layers. The second part of the talk will devoted to multiferroic interfaces involving epitaxial BaTiO<sub>3</sub> as ferroelectric layer. We considered in particular doping with magnetic ions as well as interfaces with ferrite magnetic oxides like CoFe<sub>2</sub>O<sub>4</sub>.

Serdecznie zapraszamy

Roman Puźniak  
Henryk Szymczak  
Andrzej Wiśniewski