

## **Graphitization of Surfaces of Single Crystal Diamonds: Electronic and atomic structures**

In collaboration between the research groups of the LPMS, Université de Cergy-Pontoise led by Prof. Karol Hricovini, and of the PNM University of Vienna led by Dr. Viera Skakalova, we will continue in our previous collaborative research aiming a structural modification of the surface of diamond under conditions of ultrahigh vacuum and high temperature. We expect surface reconstruction which will lead to formation of graphene. This will significantly change the electronic properties of the surface and create an interface between insulating diamond and semi-metallic graphene. The variation of surface properties will be studied by a number of spectroscopy and microscopy techniques, namely XPS, Raman, ARPES spectroscopies and STEM and HRTEM. Electronic transport will be also evaluated after a successful structural transformation will be achieved.