

INSTITUTE OF ELECTRICAL ENGINEERING SAS,
INSTITUTE OF PHYSICS SAS,
STU CENTRE FOR NANODIAGNOSTICS



Cordially invite you to attend a lecture by

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„CARBON NANO-ENGINEERING FOR IMPROVED HYBRID STRUCTURES“

Friday 20 October 2017 at 10 AM, IEE SAS Dúbravská
cesta 9 Bratislava, Meeting Room 101 (1st floor)

Carbon materials have great potential for advanced nanotechnology. They exist in various allotropes in several dimensions, such as 0D of C60 family and graphene quantum dots, 1D of carbon nanotube (CNT), graphene nanoribbon (GNR) and carbon fiber (CF), and 2D of graphene related materials. Each of these allotropes shows unique and interesting properties making them representative nano-materials. Recently, hybrid system of those different carbon allotropes has great attentions to achieve an improved and synergetic properties. Making 3D hybrid structure gives many enhanced properties, such as high integrity, interconnectivity, porosity, conductivity and mechanical strength. New strategy to connect different carbon allotropes with covalent bonding allows us to fabricate more advanced structure which was not possible previously and to understand novel properties of materials.

In this talk, researches for carbon nano-engineering for the hybrid structure with improved interfacial properties will be presented. (1) Fabrication strategy, properties, and application of seamlessly connected 3D graphene and carbon nanotube hybrid structures (G/CNT) will be introduced. And (2) energy storage performance of heteroatom doped single wall carbon nanohorn and effect of bottom-up functionalization method will be discussed. Then (3) noble microwave assisted strategy for making carbon/polymer composite with strong interfacial interaction will be also discussed.

