### POZVÁNKA

na přednášku

#### **Marina Davydova**

Fyzikální ústav AV ČR, Oddělení funkčních materiálů

která se koná v úterý 10. 12. 2019 v 10:40 hod. v rámci závěrečného semináře projektu MOBILITY FZU Sekce 2 v prostorách Battistovy cihelny, Prácheňská 24, Praha 8 - Ďáblice

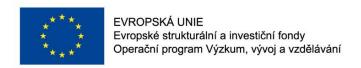
# Direct laser deposition of hybrid metal oxide-nanocrystalline diamond layers for sensing applications

Projekt OP VVV Mobilita výzkumných pracovníků FZU, reg. č. CZ.02.2.69/0.0/0.0/16 027/0008215

The current trends in sensor technologies require fast, low-cost processing, reliable and precise deposition techniques for the fabrication of gas sensor devices, while there is a growing need for advanced integration complexity with reduced component size. Recently, laser printing technology has progressed owing to its unique advantages that include the high spatial resolution, the ability to transfer materials both in liquid and solid phase as well as the non-contact and non-destructive approach of the deposition.

In this talk I am going to present the research efforts in fabrication of different metal-oxide sensing structures using Laser induced forward transfer and pulsed leaser deposition technique. The effect of ultraviolet light illumination as well as gas sensing properties of hybrid metal oxide- nanocrystalline diamond gas sensor will be discussed.

Petr Šittner za vedení semináře Petr Šittner ved. oddělení funkčních materiálů vedoucí sekce 2





### POZVÁNKA

na přednášku

#### Lucie Drbohlavová

Fyzikální ústav AV ČR, Oddělení funkčních materiálů

která se koná v úterý 10. 12. 2019 v 11:10 hod. v rámci závěrečného semináře projektu MOBILITY FZU Sekce 2 v prostorách Battistovy cihelny, Prácheňská 24, Praha 8 – Ďáblice

## Production of N-terminally His-tagged bacteriophage's fiber tails for biosensing applications

Projekt OP VVV Mobilita výzkumných pracovníků FZU, reg. č. CZ.02.2.69/0.0/0.0/16\_027/0008215

Detection of pathogenic bacteria is an inherent part of environmental and industrial safety. In spite of good selectivity of conventional methods, they are time-consuming and labor-intensive, which makes them also expensive. Biosensors are good candidates to replace conventional detection methods, as they offer short detection times and possibility of real-time monitoring. Biosensors are devices comprising biorecognition element coupled with a signal transducer. The very important task in the process of biosensor's development is choice of bioreceptor. Bacteriophage's fiber tails are proteins that bacteriophage uses to select the right bacterium for infection – it binds to the bacterial membrane. Thanks to selectivity of bacteriophages, their fiber tail proteins are in focus of researchers to use them as a bioreceptor.

In this talk I am going to present a method for production of N-terminally His-tagged bacteriophage's fiber tails proteins. Binding activity of produced proteins were checked using immunofluorescence assay and confocal microscopy with different bacterial strains — Escherichia coli, Salmonella enterica and Staphyloccoccus aureus.

Petr Šittner za vedení semináře Petr Šittner ved. oddělení funkčních materiálů vedoucí sekce 2

