

Srdečně tímto zveme všechny zájemce na přednášku Michaela G. S. Londesborougha, Ph.D.,

z Ústavu anorganické chemie AV ČR v Řeži

na téma:

PRVNÍ BORANOVÝ LASER (THE FIRST BORANE LASER)

která se uskuteční ve čtvrtek **25. 9. 2014** od **13.00** hodin na PŘF UJEP,
v učebně **CN221**, České mládeže 8, Ústí nad Labem.



Emission from electronically excited species forms the basis for an important class of light sources, that of lasers. Most commercially available solution-processed laser materials are based on conjugated carbon-based (organic) compounds. These materials have, however, several significant limitations, including low solubility, low chemical- and photo-stability, and uncompetitive prices. Here we report a novel and competitive alternative to these existing laser materials that is based on the boron hydrides; inorganic cluster compounds with a rich and diverse chemistry. We demonstrate^{1,2} that solutions of the borane *anti*-B₁₈H₂₂ show, under pulsed excitation, blue laser emission at 406 nm with efficiency (ratio of output/ input energies) of 9.5 % and a photostability superior to the commercial laser dye diphenylstilbene (DPS) that has overlapping absorption and emission bands with *anti*-B₁₈H₂₂. This demonstration opens the doors to a new class of laser materials based on a previously untapped resource for laser technology – the boranes.

Přednáška bude vedena v anglickém jazyce a je určena pro všechny zájemce, zejména pro studenty a pracovníky UJEP.

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