

**POST-DOC POSITION IN THE FIELD OF
“CARBON DOTS – SYNTHESIS, CHARACTERIZATION AND APPLICATIONS”**

jointly supervised by Prof. Radek Zboril, Palacky University,

<http://www.rcptm.com/about/page/radek-zboril/>,

and Prof. Emmanuel Giannelis, Cornell University,

<http://www.mse.cornell.edu/people/profile.cfm?netid=epg2>.

The Regional Centre of Advanced Technologies and Materials (RCPTM; www.rcptm.com) at Palacký University in Olomouc, Czech Republic, and the Giannelis Research Group at Cornell University (<http://people.ccmr.cornell.edu/~giannelis/>) announce the opening of a new postdoc position for scientists experienced in the field of materials chemistry, nanomaterials, and carbon nanostructures.

The successful candidate will receive a three-year contract at Palacký University in Olomouc in the Czech Republic and is expected to spend extended visits with the Giannelis Research Group at Cornell University. This unique position is open immediately for qualified applicants.

The research program will focus on:

- Controlled synthesis of new kinds of organophilic and hydrophilic carbon dots with various surface chemistries;
- Synthesis of multidimensional hybrids combining carbon dots with materials of various dimensionalities including magnetic nanoparticles or graphene towards advanced multifunctional composites (dual imaging, magnetofluorescent agents, etc.);
- Complex size, morphology, chemical, and surface characterization of carbon dots and their hybrids including a detailed study of the fluorescence origin and the effect of the core-shell structures on optical properties of the dots;
- Testing of carbon dots and their hybrids in various biomedical and sensing applications.

Relevant References:

- A.B. Bourlinos, A. Bakandritsos, A. Kouloumpis, D. Gournis, M. Krysmann, **E.P. Giannelis**, K. Polakova, K. Safarova, K. Hola, **R. Zboril**, “Gd(III)-doped carbon dots as a dual fluorescent-MRI probe,” JOURNAL OF MATERIALS CHEMISTRY, vol. 2, iss. 43, pp. 23327-23330, 2012.
- V. Georgakilas, M. Otyepka, A. B. Bourlinos, V. Chandra, N. Kim, C. K. Kemp, P. Hobza, **R. Zboril**, and K. S. Kim, “Functionalization of Graphene: Covalent and Non-Covalent Approaches, Derivatives and Applications,” CHEMICAL REVIEWS, vol. 112, iss. 11, pp. 6156-6214, 2012.

- M. J. Krysmann, A. Kelarakis, P. Dallas and **E. P. Giannelis**, "Formation mechanism of carbogenic nanoparticles with dual photoluminescence emission", *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*, 134, 747–750, 2012
- Z. Markova, A. B. Bourlinos, K. Safarova, K. Polakova, J. Tucek, I. Medrik, K. Siskova, J. Petr, M. Krysmann, **E. P. Giannelis**, and **R. Zboril**, "Synthesis and properties of core-shell fluorescent hybrids with distinct morphologies based on carbon dots," *JOURNAL OF MATERIALS CHEMISTRY*, vol. 22, iss. 32, pp. 16219-16223, 2012.
- A.B. Bourlinos, A. Stassinopoulos, D. Anglos, **R. Zboril**, V. Georgakilas, **E.P. Giannelis**, "Photoluminescent carbogenic dots," *CHEMISTRY OF MATERIALS*, vol. 20, pp. 4539-4541, 2008.
- A. B. Bourlinos, **R. Zboril**, J. Petr, A. Bakandritsos, M. Krysmann, and **E. P. Giannelis**, "Luminescent Surface Quaternized Carbon Dots," *CHEMISTRY OF MATERIALS*, vol. 24, iss. 1, pp. 6-8, 2012.
- A.B. Bourlinos, A. Stassinopoulos, D. Anglos, **R. Zboril**, M. Karakassides, **E.P. Giannelis**, "Surface functionalized carbogenic quantum dots," *SMALL*, vol. 4, pp. 455-458, 2008.

We offer a stimulating environment, attractive salary, and a unique opportunity to join two well-known research groups with state of the art instrumentation including cryoHRTEM, AFM, STM, SEM, SQUID, PPMS, XPS and advanced Raman spectroscopy, Mössbauer spectroscopy, NMR, and fluorescence spectroscopy.

Formal requirements:

PhD or equivalent in any field of Chemistry; good publication record, excellent oral and written English; experience in materials research, nanomaterials or carbon chemistry.

Submit an application including a curriculum vitae and a list of publications to: radek.zboril@upol.cz. Arrange for a letter of recommendation to be sent directly to the same email address.

Deadline for application: January 10th, 2013

Screening of applicants will resume immediately. Selected applicants will be invited for an interview.