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PhD in Chemistry from Moscow State

Academy of Fine Chemical Technology,

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Professional Background:

PhD in Chemistry from Lomonosov's Moscow State Academy of Fine Chemical Technology, Moscow, Russia, 1997

Postdoctoral training: JSPS postdoctoral fellow at the Institute of Multidisciplinary Research for Advanced Materials (Tohoku University, Sendai, Japan);

Princeton University, Department of Chemistry, Princeton, NJ, USA.

Research Summary:

- Functional nanobio materials with design of interfacial chemistry
- Nano-Bio Interfacing for molecular signal transduction
- Synchrotron X-ray imaging of cellular bioenergetic processes at nanoscale
- Bio-inspired catalysis and photocatalysis, metal centers in complex biological systems

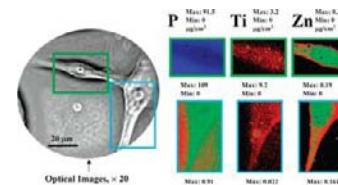
Selected Recent Publications:

Rozhkova, E.A., Dimitrijevic, N. Rajh, T Titanium dioxide nanoparticles in advanced imaging and nanotherapeutics.

Book Chapter *Biomedical Nanotechnology: Methods and Protocols*. Springer. Humana Press **2011**

Rajh, T. Dimitrijevic, N. M. Elhofy, A., **Rozhkova, E. A.** Biofunctionalized TiO₂ based nanocomposites.

Handbook of Nanophysics, Satter, K.D. ed., CRC, *Functional Nanomaterials* **2010**



D.-H. Kim, **E. A. Rozhkova***, I. V. Ulasov, S. D. Bader, T. Rajh, M. S. Lesniak & V.

Novosad* "Biofunctionalized magnetic-vortex microdisks for targeted cancer-cell destruction" *Nature Materials* **2010** 9, 165

E. A. Rozhkova; V. Novosad, V.; D.-H. Kim; J. Pearson; R. Divan; T. Rajh; S. D. Bader.

"Ferromagnetic Microdisks as Carriers for Biomedical Applications," *J. Appl. Phys.* **2009**, 105, 07B306.



N. M. Dimitrijevic; **E. A. Rozhkova**; T. Rajh "Dynamics of Localized Charges in Dopamine-Modified TiO₂ and their Effect on the Formation of Reactive Oxygen Species," *J. Am. Chem. Soc.* **2009**, 131, 2893.

E. A. Rozhkova; I. Ulasov; B. Lai; N. M. Dimitrijevic; M. Lesniak; T. Rajh. "A High Performance Nano-Bio Photocatalyst for Targeted Brain Cancer Therapy," *Nano Letters* **2009**, 9, 3337.



E. A. Rozhkova; J.-C. Chae; G. J. Zylstra; E. M. Bertrand; M. Alexander-Ozinskas; D. Deng; L. A. Moe; J. B. van Beilen; M. Danahy; J. T. Groves; R. N. Austin. "Profiling Mechanisms of Alkane Hydroxylase Activity in Vivo Using the Diagnostic Substrate Norcarane," *Chem. Biol.* **2007**, *14*, 165.