

**Biographical Sketch: Alexei V Tivanski**, Assistant Professor of Chemistry

**I. Professional Preparation:**

Ph.D. (Physical Chemistry) University of Pittsburgh, 2005

M.S. (Physics and Mathematics) Moscow Institute of Physics and Technology, Moscow, Russia, 2001

**II. Appointments:**

Assistant Professor of Chemistry, University of Iowa; 2007- Present

Postdoctoral Research Associate, Lawrence Berkeley National Laboratory; 2005 – 2007

**III. Awards:**

2009-2010 Old Gold Summer Fellowship, University of Iowa

2008-2010 American Chemical Society: Petroleum Research Fund Type G Award

2002-2003 Andrew Mellon Foundation Pre-Doctoral Fellowship, University of Pittsburgh

**IV. Selected Ten Highest Impact Publications (28 total):**

1. Ditzler, L.R.; Sen, A.; Gannon, M.; Kohen, A.; Tivanski, A.V. Self-assembled Enzymatic Monolayer Directly Bound to a Gold Surface: Activity and Molecular Recognition Force Spectroscopy Studies. *Journal of American Chemical Society*, **2011**, *133*, 13284-13287.
2. Karunatilaka, C.; Bučar, D.K.; Ditzler, L.R.; Friščić, T.; MacGillivray, L.R.; Tivanski, A.V. Softening and Hardening of Macro- and Nano-Sized Organic Cocrystals in a Single-Crystal Transformation. *Angewandte Chemie International Edition*, **2011**, *50*, 8642-8646.
3. Ghorai, S.; Laskin, A.; Tivanski, A. V. Spectroscopic Evidence of Keto–Enol Tautomerism in Deliquesced Malonic Acid Particles. *Journal of Physical Chemistry A*, **2011**, *115*, 4373-4380.
4. Kapadia, P. P.; Ditzler, L.R.; Baltrusaitis, J.; Swenson, D.C.; Tivanski, A.V.; Pigge, C.F. Semiconducting Organic Assemblies Prepared from Tetraphenylethylene Tetracarboxylic Acid and Bis(pyridine)s via Charge-Assisted Hydrogen Bonding. *Journal of American Chemical Society*, **2011**, *133*, 8490-8493.
5. Hamilton, T. D.; Bučar, D. K.; Baltrusaitis, J.; Flanagan, D. R.; Li, Y.; Ghorai, S.; Tivanski, A. V.; MacGillivray, L. R. Thixotropic Hydrogel Derived from a Product of an Organic Solid-State Synthesis: Properties and Densities of Metal-Organic Nanoparticles. *Journal of American Chemical Society*, **2011**, *133*, 3365-3371.
6. Ghorai, S.; Tivanski, A. V. Hygroscopic Behavior of Individual Submicrometer Particles Studied by X-ray Spectromicroscopy. *Analytical Chemistry*, **2010**, *82*, 9289-9298.
7. Ditzler, L.R.; Karunatilaka, C.; Donuru, V.R.; Liu, H; Tivanski, A.V. Electromechanical Properties of Self-Assembled Monolayers of Tetrathiafulvalene Derivatives Studied by Conducting Probe Atomic Force Microscopy. *J. Phys. Chem. C*, **2010**, *114*, 4429-4435.
8. Galgano, J.J.; Karunatilaka, C.; Rethwisch, D.J.; Tivanski, A.V. Atomic Force Microscopy Study of Photoreversible Nanoscale Surface Relief Grating Patterns on Side Chain Dendritic Polyester Thin Films. *Colloids and Surfaces. A*, **2010**, *360*, 167-174.
9. Tivanski, A. V.; Li, J. K.; Walker, G. C. Pressure-Induced Restructuring of a Monolayer Film Nanojunction Produces Threshold and Power Law Conduction. *Langmuir*, **2008**, *24*, 2288-2293.
10. Tivanski, A.V.; Hopkins, R.J.; Gilles, M.K. Oxygenated Interface on Biomass Burn Tar Balls Determined by Single Particle Scanning Transmission X-ray Microscopy. *Journal of Physical Chemistry A*, **2007**, *111*, 5448-5458.

**V. Synergistic Activities:**

1. Active Member in Interdisciplinary Research Centers. Professor Tivanski is a member of the Center for Biocatalysis and Bioprocessing (CBB) and also a member of Nanoscience and Nanotechnology Institute at the University of Iowa.
2. Educational Activities. Professor Tivanski co-organized several exhibit presentations at the Iowa State Fair, participated by over one thousand children of all ages (K-12). Tivanski serves as a research mentor for undergraduate students as part of the summer nanoscience undergraduate

research program funded by the NSF-REU. Additionally, he is involved in the Secondary Student Training Program (SSTP) at the UI, serving as a research mentor for high school students.

3. Reviewer for Scientific Journals. Professor Tivanski is actively reviewing papers for the following journals *Journal of American Chemical Society, Analytical Chemistry, NanoLetters, Langmuir, Journal of Physical Chemistry A, B, C, Environmental Science and Technology, Journal of Geophysical Research.*

**VI. Engagement:**

1. Symposium co-organizer
  - a. AGU 2012 Fall Meeting; "Chemical Imaging Analysis of Atmospheric Particles" 2012
2. Workshop participant:
  - a. DOE, Compact X-ray Light Source Workshop at PNNL, 2011
3. ACS PRF proposal reviewer
4. journal reviews for:
  - a. J. Am. Chem. Soc.
  - b. NanoLetters, Langmuir
  - c. Journal of Physical Chemistry A,B,C,
  - d. Environmental Science & Technology
  - e. Analytical Chemistry
  - f. JGR

**Total Number of Graduate Students Advised: 7**

**Total Number of Postdoctoral Scholars Advised**