Klimov receives Alexander von Humboldt award

May 16, 2013

Victor Klimov of Physical Chemistry and Applied Spectroscopy (C-PCS) received the Alexander von Humboldt award from the foundation of the same name. The German government grants the award in recognition of a researcher whose discoveries, theories or insights have had a significant impact on his or her own discipline and who is expected to continue producing cutting-edge achievements in the future. The 60,000 Euro award finances extended research visits to Germany. Klimov is an expert in nanocrystal quantum dots and optical amplification in nanocrystals. Quantum dots are semiconductors whose electronic characteristics are closely related to the size and shape of the individual crystal. Klimov plans to conduct collaborative research at the Dresden University of Technology and the Ludwig Maximilian University of Munich during 2013 and the summer of 2014.

Research achievements

Klimov completed doctor of philosophy (Ph.D.) and doctor of science (D.Sc.) degrees in Russia at Moscow State University, where he studied condensed matter physics and laser optics. He then went to the Institute for Semiconductors in Aachen, Germany as an Alexander von Humboldt Research Fellow. In 1995, Klimov joined Los Alamos as a technical staff member.

The theme of Klimov's research is the role of carrier-carrier interactions in quantum-confined semiconductors. His work has established that these interactions govern multiexciton decay in nanocrystals. Klimov and his team have introduced the concept of singe-exciton lasing, "wireless" energy-transfer pumping of nanocrystals, and "blinking-free" quantum dots. He has published 169 peer-reviewed papers that have been cited in the literature more than 16,000 times. Klimov is the Director of the multi-institutional Center for Advanced Solar Photophysics (a DOE Office of Basic Energy Sciences —Energy Frontier Research Center). The Center exploits the unique properties of nanomaterials to boost the efficiency of solar energy conversion. A LANL Fellow, Klimov also is a Fellow of the American Physical Society and the Optical Society of America.

About the Alexander von Humboldt Foundation

Alexander von Humboldt (1769-1859) was a nature researcher and explorer, scientist, and patron. The German government created the Humboldt Foundation to promote international cooperation between German institutes of higher learning and those in other countries. Every year, the Foundation enables more than 2,000 researchers from all over the world to spend time researching in Germany. The Foundation maintains a network of more than 26,000 Humboldtians from all disciplines in over 130 countries worldwide, including 49 Nobel Laureates.