



Press Release for Immediate Release - Pittcon Technical Program announcing Pittcon 2007 Symposium

The Pittsburgh Conference
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Novel Biospectroscopy for Amyloid Diseases

Tuesday, February 27, 2007, McCormick Place, Chicago, IL

Organizer: Igor K Lednev, University at Albany, SUNY

Abstract: *The leading experts in the fields of biological NMR, high resolution AFM, fiber diffraction, VCD and Raman spectroscopies will talk about the latest development and application of these novel methodologies for fibrillation problem. The symposium will be of great interest for a broad community of researches in the arias of spectroscopy, bioanalytical chemistry, biochemistry, biomedicine, as well as engineers designing and developing new instrumentation and data analysis methods.*

Overview:

Amyloid depositions consisting of fibrils with a cross- β structure have been found in many neurodegenerative diseases such as Alzheimer's disease, Parkinson's disease, Huntington's disease, and prion diseases, etc. Several mechanisms including inflammatory response, excitotoxicity, synaptic dysfunction, mitochondrial dysfunction, etc. have been proposed for the damaging role of amyloid deposits in the neurodegenerative diseases. Protein structural transformations on the molecular level during *in vitro* fibril formation are accompanied by substantial changes in macroscopic properties, such as formation of a gelatinous phase and the formation of insoluble particles. These changes limit the application of conventional methods for characterizing protein conformational transformations. Several novel spectroscopic approaches have been recently reported for structural characterization of fibrils including those based on solid state nuclear magnetic resonance (NMR), high resolution atomic force microscopy (AFM), fiber diffraction, vibrational circular dichroism (VCD) spectroscopy, Raman and IR spectroscopy. All these methods provide complementary information about the structure and formation mechanism of amyloid fibrils.

Speakers and topics at this symposium will include:

- Robert Tycko, National Institutes of Health, Advanced Solid-State NMR Techniques for Structural Studies of Amyloid Fibrils

- Steven Smith, Stony Brook University, High Resolution Atomic Force Microscopy of Amyloid Fibril Structure, Formation and Inhibition
- Daniel A. Kirschner, Boston College, Fiber Diffraction Approach to Amyloidogenic Peptide Assemblies
- Laurence A Nafie, Syracuse University, Vibrational Circular Dichroism of Protein and Peptide Fibrils: A Sensitive New Probe of Fibrillogenesis and the Progression of Neuro-Degenerative Diseases
- Igor K. Lednev, University at Albany, SUNY, Mechanism of Amyloid Fibril Formation: Deep UV Raman Spectroscopic Study

About Pittcon

Pittcon is the largest and most inclusive educational Conference on Laboratory Science and the premier meeting place for scientists and vendors of instrumentation and laboratory supplies worldwide.

Presented annually by the Spectroscopy Society of Pittsburgh and the Society for Analytical Chemists of Pittsburgh, the Conference features cutting-edge technical programs; informative short courses, an extensive exposition of laboratory equipment; and more, all designed for those in the laboratory sciences.

Proceeds from the Conference provide funds for science education activities from Kindergarten through college levels and beyond. Pittcon and its co-sponsors, the Spectroscopy Society of Pittsburgh and the Society for Analytical Chemists of Pittsburgh, contribute over one million dollars each year to elementary and secondary schools and colleges in the form of science equipment; educational opportunities and scholarships for students; and awards and grants for teachers and professors. Pittcon also offers support to public science centers, libraries and museums.

To learn more about Pittcon, visit the official Conference website at www.pittcon.org.

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