Society of Applied Spectroscopy Speakers Tour 2014 – Tour Candidates
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Seventeen speakers have offered to be considered for the Society of Applied Spectroscopy Spring Speakers Tour. These speakers are geographically as well as topically diverse and will hopefully appeal to the local sections for presentations. Thank you for the opportunity to serve the Society.

1. Mikhail Belkin – University of Texas, Austin, mbelkin@ece.utexas.edu
    a. "Vibration nanospectroscopy with monolayer sensitivity via molecular force detection"

2. Frank Bright – SUNY Buffalo, chefvb@buffalo.edu
    a. "Nanoscale optosensing platforms"
    b. "Micro and nanoscale imaging"

3. Andrea Centrone – NIST, andrea.centrone@nist.gov
    a. "Surface Enhanced Photothermal Induced Resonance (SE-PTIR): A New Method for Imaging near Field Hot Spots and Dark Plasmonic Modes"
    b. "Quantitative Chemical Imaging Beyond the Diffraction Limit with the Photothermal Induced Resonance (PTIR)"

4. Joe Chaiken – Syracuse, jchaiken@syr.edu
    a. "Introducing binary spectronephelometry"
    b. " "Hunting the Deceitful Turkey": Recent progress in noninvasive in vivo blood and tissue analysis by Raman spectroscopy"
        i. Note: I will be presenting a talk in San Francisco in the first week of February and so if we can connect an SAS tour with that we might be able to share some travel expenses…there may be other talks in the spring time-frame but this is what I know at this time. Thanks again and I look forward to hearing from you. My office phone is 315-443-4285 if that might be helpful.

5. Christopher Dreyer – Colorado School of Mines, cdreyer@mines.edu
    a. Spectroscopy in combustion research. This was where I did most of my graduate work and I still do some. It would include Raman. Or it could be focused on one technique, such as just Raman.
    b. In situ optical spectroscopy in space exploration. LIBS, Raman, UV fluorescence, IR absorption. I've been fortunate to get funded by NASA to develop instruments in this area. I 'm not part of any of the instrument teams on MSL, but could talk about what

they are doing and review other work in the field. Could review what is "up and coming" and what are challenges in the field.

c. Spectroscopy of ionic liquid [EMIM][TFSI]. I'm working with a group that just submitted a paper on UV through IR spectrum of this ionic liquid with impurities, and we're finishing up a second paper with a DFT model.

d. Hollow waveguide cavity ringdown spectroscopy. Work on this is not active now, but itlooking to get it restarted. Published on it several years ago and got a patent on it. I imagine that it would not be of as much interest as the other topics.

6. Dan Higgins – Kansas State University, higgins@k-state.edu
    a. "A Random Walk in the Dark: Following Single Molecules to a Better Understanding of Periodic Nanostructured Materials"

7. Glen Jackson – West Virginia University, glen.jackson@mail.wvu.edu
    a. Forensic case report: Spectroscopic methods solve the mystery about 37-year-old suspected trace human remains.
        i. As part of a pilot for a new TV show for the History Channel, Dr. Jackson's research group was asked to identify the nature of a well-known white stain, in the shape of a human body, in a former mental health hospital. The stain could have originated from the death of a former patient at the mental health hospital who was known to have decomposed in the same room as the stain. However, graduate-level art students have occupied the building for decades and could easily have fabricated the stain. Physical and spectroscopic methods including ICP-OES, FTIR, CI-MS and GC-MS were all used to help identify the chemical nature of the stain, which turned out to be...
    b. Forensic applications of isotope ratio mass spectrometry.
        i. Stable isotope ratios such as 13C/12C and 15N/14N can be used as internal markers to track the origin, transport and fate of all kinds of organic materials. They are usually measured using a specialized mass spectrometer. This presentation will discuss a variety of research applications and cases in which stable isotope ratios have been used to answer questions about forensic evidence. The talk will also cover some cutting edge developments in which isotope ratios of human hair are being used for investigative leads such as geolocation and biometric measures.

8. Timothy Keiderling – University of Illinois, Chicago, tak@uic.edu
    a. "Protein folding starting from the ground up. Thermodynamic and kinetic spectroscopic studies of conformations for peptides and proteins with increasing complexity."
        i. This is electronic (CD and fluorescence) and vibrational (IR and VCD mostly) studies that address equilibrium and dynamic structural changes in biomolecules. It is possible to modify the talk to be more technique oriented, applied to biomolecules, but this is what I would prefer.

9. Fred Long – Spectroscopic Solutions (New Jersey), fhlong@optonline.net
    a. "Industrial Applications of Chemometrics & Spectroscopy"

10. Joe Loo – UCLA, jloo@chem.ucla.edu
    a. Protein Mass Spectrometry - As a general topic.
        i. Note: have to work around Spring teaching schedule

11. Nada O'Brien – JDSU (Santa Rosa, CA), Nada.OBrien@jdsu.com
    a. "Recent Advances in Ultra-Compact Near Infrared Spectroscopy for Handheld Applications"

12. John Papanikolas – UNC Chapel Hill, john_papanikolas@unc.edu
    a. "Visualizing Charge Carrier Dynamics in Individual Nanostructures Using Femtosecond Pump-Probe Microscopy"

13. Karly Pitman – Planetary Science Institute, pitman@psi.edu
    a. general overview talks, e.g. Laboratory Spectroscopy: Applications to Astrophysics of Dust and Planetary Surface Analogs Advances in Producing Optical & Dielectric
    b. specific datasets, e.g. Mid-UV to Far-IR Laboratory Spectroscopy of
        i. - Hydrated Mg- and Fe-Sulfates For Mars
        ii. - Silicate Glasses: Analogs to the Interstellar Medium Optical Properties and Applications of Silicon Carbide in Astrophysics but can work up something different, depending on the audience (chemists vs. physicists, etc.).
    c. I work in southern CA and travel all over the U.S., so please feel free to send me to whichever SAS Local Section might be interested to hear more about how spectroscopy

of solids is applied to space. Thanks again for the invitation, and please contact me at pitman@psi.edu or (626) 569-7741 with more details come October.

14. Andre Sommer – Miami University, sommeraj@miamioh.edu
    a. Title TBA (currently on vacation) – Molecular Microscopy Laboratory at Miami Univ. (Ohio)

15. David Thompson – Sam Houston University, det002@SHSU.EDU
    a. Surface Enhanced Raman Sensing: the promise and the challenge
        i. (*This talk takes a broad look at the field. It aims to provide a historical introduction to SERS and its promise; an overview of current challenges in the field of SERS; and examples of creative research that is pushing the boundary of the field forward.*)
    b. Surface Enhanced Raman Spectroscopy on IR Transparent Substrates
        i. (*This talk is specifically focused on the ongoing research in our group in the program that I am developing at Sam Houston State University, and describes our ongoing research to explore the role that surface enhancement in the IR can play in SERS experiments.*)

16. Scott Tilden – Rigaku Raman Technologies (Tucson, AZ) , Scott.Tilden@rigaku.com
    a. "Raman Spectral Searching - how do differing search techniques compare with real-world samples?"

17. Steve Valentine – West Virginia University, Stephen.Valentine@mail.wvu.edu
    a. "Monitoring structural transitions of biological ions in the gas-phase with overtone mobility spectrometry (OMS)"