

# VISPEC 2019 - Detailed Program

## Wednesday, 11<sup>th</sup> September 2019

09:00 **Registration & Welcome Coffee**

10:00 **I. Alessandri**      **Opening**

### SESSION A

Theory of Raman and IR spectroscopy

Chairman

*S. Abbate*

- 10:20 **V. Barone**  
*Keynote*      Vis-à-vis comparison between computed and experimental Raman and ROA spectra: highlights from a fascinating adventure
- 11:00 **M. Ceotto**  
*Keynote*      Semiclassical Molecular Dynamics: a useful tool for Spectroscopic interpretation
- 11:40 **S. Ghidinelli**      Vibrational Optical Activity and Molecular Dynamics provide a thorough view of solvent effects and aggregation for chiral systems

12:00 **Lunch break**

13:00 **Poster session**

### SESSION B

Surface Enhanced Raman Spectroscopy I: SERS substrates

Chairman

*C. De Angelis*

- 14:00 **J.R. Lombardi**  
*Keynote*      Design of Optimized Surface-Enhanced Raman Scattering Sensors
- 14:40 **L. Litti**      Surface Enhanced Raman Scattering, from labeling toward an analytical technique
- 15:00 **A. Capaccio**      Fabrication of Silver NPs-Coated AFM Probes for Tip-Enhanced Raman Spectroscopy by Solid-State Dewetting
- 15:20 **J. Chowdury**      Fabrication of large area SERS active substrates using Langmuir-Blodgett deposition technique
- 15:40 **M. Żygielo**      Silica coated iron oxide and noble metal based magnetic-plasmonic nanostructures for SERS spectroscopy

16:00 **Coffee break**

### SESSION C

Material Science applications

Chairman

*M. Meneghetti*

- 16:20 **G. Pezzotti**  
*Keynote*      A brief history of mechanical stress and the method of experimental micro mechanics with the Raman microprobe
- 17:00 **B. Rossi**      Structural dynamics of ionic liquids-water solutions investigated by synchrotron-based UV Resonance Raman Spectroscopy
- 17:20 **E. Maggiore**      Raman Spectroscopy of natural Snow: interaction with UV radiation
- 17:40 **A. Shtawa**      Monitoring real time dissolution release from hydrophobic matrices using Raman Spectroscopy mapping
- 18:00 **C. Novara**      In situ Raman analysis of the CO oxidation reaction over ceria nanocatalysts

# Thursday, 12<sup>th</sup> September 2019

## SESSION D

IR & SEIRA

Chairman

*P. Sassi*

- 09:00 **A. Pucci**  
*Keynote* Infrared vibrational signal enhancement with metallic nanostructures
- 09:40 **P. Biagioni**  
*Keynote* Germanium mid-infrared plasmonics for sensing
- 10:20 **M.C. Giordano** Self-organized plasmonic metasurfaces for broadband Infrared Absorption spectroscopy
- 10:40 **B. Bracco** Hydrophobic hydration of model amphiphiles by vibrational spectroscopies: the case of TBA and TMAO

11:00 **Coffee break**

## SESSION E

Surface Enhanced Raman Spectroscopy II: Analytical applications of SERS

Chairman

*I. Alessandri*

- 11:20 **E. Cortés**  
*Keynote* Dynamic of atomic defects revealed by SERS
- 12:00 **R. Pilot** Wavelength dispersion of the near-field in plasmonic nanostructures probed by SERS
- 12:20 **M. Becucci** SERS spectroscopy for food safety
- 12:40 **I. Vassalini** Plasmonic Hydrogels for Pan-Specific Capture and Ultrasensitive Raman Detection of Persistent Organic Pollutants

13:00 **Lunch break**

## SESSION F

Enhanced Vibrational Spectroscopy with Dielectrics

Chairman

*E. Cortés*

- 14:00 **M. Petrov**  
*Keynote* Non-metallic resonant nanostructures as novel functional nanodevices
- 14:40 **M. Gandolfi** Photo-Induced Heat Generation in Non-Plasmonic Nanoantennas
- 15:00 **N. Bontempi** Non-Plasmonic SERS with Silicon: Is It Really Safe? New Insights into the Opto-Thermal Properties of Core/Shell Microbeads

## SESSION E

Raman for Cultural Heritage

Chairman

*J.R. Lombardi*

- 15:20 **G. Moretti** Raman spectroscopy of the photosensitive pigment Prussian blue
- 15:40 **D. Benedetti** Non-invasive SERS analysis of organic dyes on art objects by means of ink-jet and piezo-jet colloid deposition

16:00 **Transfer to Brescia Musei**

17:00 **Brescia Musei Guided Tour**

18:30 **'Pirlo' & Social Dinner**

# Friday, 13<sup>th</sup> September 2019

## SESSION H

Biological applications

Chairman

*S. Federici*

- 09:00 **M. Bergholt**      Biomedical Raman spectroscopy for in vivo diagnosis of cancer  
*Keynote*
- 09:40 **C. Morasso**      Raman spectroscopy of plasma reveals specific biochemical features of Crohn's disease
- 10:00 **P. Sassi**          Homologous and heterologous seeding in protein self-assembling
- 10:20 **N. Tombolesi**      Transmission and ATR micro-FTIR imaging of heart and bone tissues

10:40 **Coffee break**

## SESSION L

Sensing & Biosensing

Chairman

*M. Bergholt*

- 11:00 **K.T. Mader**      Multivariate FTIR microscopic imaging for biomedical applications
- 11:20 **M. Banchelli**      Alzheimer's biomarkers inspected through Raman-based nano-strategies
- 11:40 **C. Novara**          Label-free detection of miRNAs using a SERS-based microfluidic chip

12:00 **Closing remarks & Best Poster Award Ceremony**