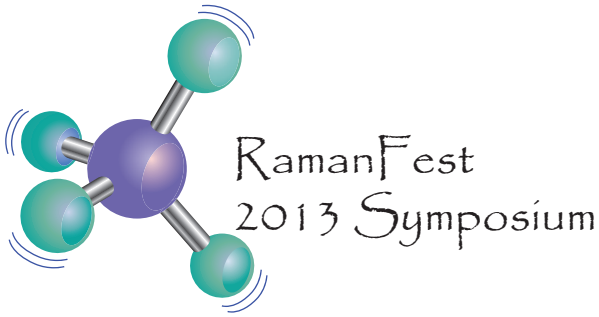
RamanFest
2013 Symposium

Program

First Conference on Advanced Applied Raman Spectroscopy

RFS2013

www.RamanFest.org



RamanFest 2013 Symposium

The RamanFest 2013 Symposium is a two day conference addressing cutting edge Raman techniques including life science applications, imaging and TERS (Tip Enhanced Raman Spectroscopy). It will encourage discussion on the latest capabilities of Raman spectroscopy, stimulated by key note lectures from internationally renowned scientists, and an accompanying poster session.

RamanFest 2013 Symposium is co-organized by LASIR (Laboratoire de Spectrochimie Infra-rouge et Raman, UMR8516, Université Lille 1, France) and HORIBA Scientific.

Book of abstracts

Gala Dinner

The gala Dinner will be held at 7pm at the restaurant
«Le Compostelle» in Lille,
4, rue Saint Etienne, 59000 LILLE

Visit of LASIR

The laboratories of LASIR can be visited on Friday 24th, at 15:30.

RamanFest 2013 Symposium

Thursday 23rd May 2013

10:00 **Welcome**

Posters will be on display the whole day. Poster presenters are asked to hang their posters for session 1.

10:15 *Chair: Myriam Moreau, LASIR, Université de Lille 1, Sciences et Technologies, France*

10:15 A meander through Raman spectroscopy developments and applications over the last 30-40 years
John Chalmers, VS Consulting, United Kingdom

11:00 New directions in Raman spectroscopy: wavelength modulation and shaping light
Prof. Kishan Dholakia, School of Physics and Astronomy, University of St Andrews, Scotland

11:45 Life science applications of Raman spectroscopy
Prof. Michel Manfait, MéDIAN, Biophotonique et Technologies pour la Santé, FRE CNRS 3481 MEDyC, Université de Reims Champagne Ardenne, Paris

12:30 **Lunch and first poster session**

14:00 Can Raman microspectroscopy solve the sperm conundrum?
Dr Con Mallidis, Centre for Reproductive Medicine and Andrology, University Clinic Münster, Germany

14:45 Probing single cell bacteria – the application of Raman to microbiology
Dr Wei Huang, Department of Civil and Structural Engineering, University of Sheffield, United Kingdom

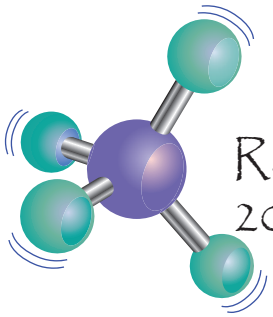
15:30 **Coffee and first poster session**

16:00 Exploring the world of polyconjugated molecules in biological systems
Prof. Giuseppe Zerbi, Dipartimento di Chimica, Materiali e Ingegneria Chimica, Politecnico di Milano, Milan, Italy

16:45 Exploring Raman spectral data using chemometrics
Prof. Ludovic Duponchel, Laboratoire de Spectrochimie Infrarouge et Raman (LASIR), CNRS UMR8516, Université Lille 1, France

17:30 **Open Discussion**

19:00 **Evening Gala Dinner**



RamanFest
2013 Symposium

Friday 24th May 2013

9:30 **Welcome**

Posters will be on display the whole day. Poster presenters are asked to hang their posters for session 2.

Chair: Simon FitzGerald, HORIBA Scientific

9:45 Fast imaging of ultralow frequency modes based on VBG technologies
Prof. Ping Heng Tan, State Key Lab of superlattices and Microstructures, Institute of Semiconductors, Chinese Academy of Sciences, Beijing 100083, P. R. China

10:30 **Coffee and second poster session**

11:00 Factors affecting image quality with 3D Raman mapping
Dr Neil Everall, Company Research Associate, Intertek-MSG, Wilton, United Kingdom

11:45 Tip-Enhanced Raman spectroscopy - surface analysis on the nanometer scale
Dr Volker Deckert, Friedrich-Schiller-Universität Jena, Germany

12:30 **Lunch and second poster session**

14:00 Far- and near-field Raman spectroscopy and polarization: selected case studies
Dr Razvigor Ossikovski, Laboratory of Physics of Interfaces and Thin Films, École Polytechnique, Palaiseau, France

14:45 **Open discussion**

15:15 **Concluding remarks**

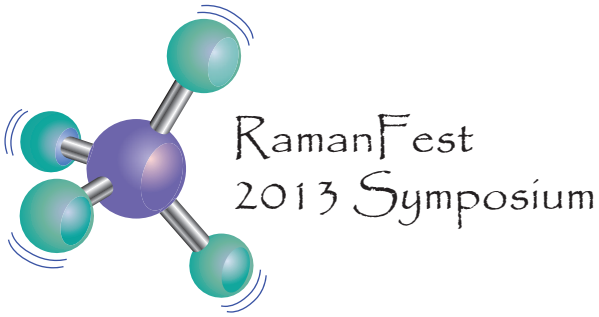
15:30 **End of the Symposium**

Visit to LASIR laboratories (Laboratoire de Spectrochimie Infrarouge et Raman, Lille)

RamanFest 2013 Symposium

Thursday 23rd May 2013: Posters

1. The applications of Raman spectroscopy to study structural phase transition at dynamic temperature regime
   A. Krylov
2. The advantages of the Raman scattering technique for studying the high pressure phase transitions in the single crystals
   A. Krylov, S. Krylova, A. Vtyurin, A. Oreshonkov, S. Goryainov
3. In-situ Raman spectroscopy characterization of polyhydroxyalkanoate (PHA, biodegrable polyester) synthesized by bacterial fermentation of sustainable resources
   M. Yerly, M. Zinn, P. Brodard
4. Raman Imaging of Sub-Micrometer Thin Layers
   B. S. Chernev, G. C. Eder, H. Schröttner, M. Dienstleder
5. Raman measurement of NiO
   C. Baratto
6. Off-line reaction monitoring of the oxidation of alkenes in water at low concentrations using DROP COATING DEPOSITION RAMAN Spectroscopy
   A. Shaghayegh
7. Probing substrate-catalyst-DNA interactions in DNA based asymmetric catalysis with UV and visible resonance Raman Spectroscopy
   A. Draksharapu, A. J. Boersma, G. Roelfes, W. R. Browne
8. Investigating electronic properties of Carbon based nanostructures by Raman spectroscopy
   F. Yaghobian, N. Paradiso, T. Korn, C. Strunk, C. Schüller
9. Multivariate image processing for Raman maps in plant sciences
   H. Hall, J. Felten, B. Sundberg, A. Gorzsás
10. Chemical composition in wood cell walls revealed by multivariate Raman imaging
    J. Felten, H. Hall, B. Sundberga, A. Gorzsás
11. Explanation of the spectra of surface enhanced optical phenomena, based on ideas of tip enhanced spectroscopy
    V.P. Chelibanov A.M. Polubotko
12. Reactivity studies on dinuclear manganese tmtacn complexes
    D. Angelone, J. W. de Boer, W. R. Browne
13. Real-time fluorescent-SERS (Dual modal) endomicroscopic imaging system for multiplexed diagnosis
    S. Jeong, H. Kang, G. Kim, H. Chang, M. Cha, Y. Lee, D. Hong Jeong
14. New possibilities for paper analysis by Raman chemical imaging
    E. Pigorsch, M. Finger, St. Thiele, E. Brunner
15. In situ Raman spectroscopy on Lithium-Oxygen batteries
    S. Lepper, D. Fenske, J. Neumann
16. Sub-spectral evaluation of Raman shifts that define strains and species within the genera *Staphylococci* and *Escherichia*
    J. F.M. Al-Marashi, N. Kapel, T. S. Wilkinson, H. H. Telle
17. Reliable Raman measurements in research, health and industry - New reference procedures supply traceability for SERS and conventional Raman spectrometry
    S. Zakel, B. Güttler, R. Stosch
18. Application of the Raman spectroscopy for the identification of bacteria in the field of Food science
    A. Assaf, G. Thouand
19. Single cell membrane analysis by TERS is reaching nanometer scale
    M. Richter, H. Haschke, M. Hedegaard, T. Deckert-Gaudig, P. Lampen, V. Deckert
20. Development of an environmental levitation cell coupled with Raman micro-spectrometry to probe *in-situ* physical-chemistry processes within atmospheric particles
    Y. Tobon, M. Moreau, S. Sobanska, J. Barbillat



Friday 24th May 2013: Posters

21. Raman microspectrometry for environmental sample characterization - from individual particle analysis to vegetable leaf investigation.
    S. Sobanska, V. Dappe, M. Moreau, Y. Tobon, J. Barbillat
22. Development of a chemometric procedure for evaluating the quality of Raman spectra used in bacterial strains discrimination
    C. Cordella, A. Assaf, G. Thouand, P. Roger, N.D. Rutledge
23. Analysis of single nucleotide mutations in *Yersinia Pestis* bacteria by using SERS monitoring and electrochemical melting
    E. Papadopoulou, S. Goodchild, D. Cleary, S. Weller, NittayaGalea, T. Brown, P. N. Bartletta
24. Raman scattering based analysis of new kesterite photovoltaic materials: correlation with chemical analysis and device properties
    T. Jawhari, X. Fontané, A. Fairbrother, V. Izquierdo-Roca, E.Saucedo, L. Calvo-Barrio, A. Pérez-Rodríguez
25. Micro-Raman characterization of silicon carbide
    N. Piluso, R. Anzalone, M. Camarda, F. LaVia
26. Temperature dependent structural transformations of dimyristoylphosphatidylcholine (DMPC)-water systems investigated by micro-Raman spectroscopy
    A. Fasanella, K. Cosentino, A. Beneduci, G. Chidichimo, E. Cazzanelli, M. Castriota
27. Laser induced aggregation of gold nanorods for SERS biosensing in liquid environment
    B. Fazio, C. D'Andrea, E. Messina, V. Villari, N. Micali, O. M. Maragò, G. Calogero and P. G. Gucciardi
28. Raman imaging of copper ores
    S. Kostudis, M. Hof, S. Kutschke, K. Pollmann
29. Potential of Raman spectroscopy in the diagnosis of urinary tract infections
    F. Michel, I. Espagnon, F. Derepas, D. Leroux
30. Synthesis, FT-IR, FT-Raman and dispersive Raman spectroscopic study of a host molecule (=$C_{52}H_{72}N_4O_{12}Si_2$) which potential applications in sensor devices
    M. Kurt , M. Karabacak, S. Okur, S. Sayin, M. Yilmaz
31. Polymorphism and phase recognition of molecular crystals probes by lattice phonons Raman microscopy
    T. Salzillo, I. Bilotti, E. Venuti, R. Guido Della Valle, A. Brillante
32. Photon-counting Raman spectroscopy of chip-scale photonic devices
    M. J. Collins, C. Grillet, S. Shahnia, A. S. Clark, A. C. Judge, E. C. Magi, P. Grosse, B. Ben Bakir, S. Menezo, J. M. Fedeli, C. Xiong, M. J. Steel, D. J. Moss, B. J. Eggleton, C. Monat
33. The study of electronic exitations in the high critical temperature superconductors by Raman scattering
    S. Benhabib
34. Determination of the composition of cryolitic melts involved in the Hall-Héroult process by Raman spectroscopy
    C. Malherbe, G. Eppe, B. Gilbert
35. Development of a quantitative approach to measure phospholipids indried drops by Raman spectroscopy
    C. Malherbe, L. Jadoul, B. Gilbert, E. De Pauw, G. Eppe
36. The effect of zirconium doping on the thermal decomposition of hydrotalcites
    G. Weightman, E. Dvininov, H. Stephenson, A. Lepkin