Opening Ceremony

Monday: 8:30am-8:45am - Ballroom 104

MONDAY ORAL PRESENTATIONS

PLN 1: Plenary 1

Monday, August 15, 2022
8:45am - 9:30am
Ballroom 104 PLENARY (1120)

8:45am - 9:30am

Multiplexed and Sensitive Bioanalysis using SERS and SESORS

Karen Faulds[1], Duncan Graham[1], Hayleigh Kearns[1], Anastasia Kapara[1], Roy Goodacre[2], Fay Nicolson[1]
[1]University of Strathclyde, United Kingdom; [2]University of Liverpool

BIO-1: Biology and Biomedicine 1

Monday, August 15, 2022
10:00am - 11:50am
101B (207)

10:00am - 10:20am

Raman spectroscopy for on-site medical diagnosis and therapy

Juergen Popp[1,2]
[1]Leibniz Institute of Photonic Technology, Germany; [2]Friedrich-Schiller University, Institute of Physical Chemistry and Abbe School of Photonics, Germany

10:20am - 10:35am

Label-free characterization of rare-cell populations by high-throughput Raman flow cytometry

Kotaro Hiramatsu[1,2], Matthew Lindley[1], Koji Yamada[3], Kengo Suzuki[3], Keisuke Goda[1,4,5]
[1]The University of Tokyo, Japan; [2]Japan Science and Technology Agency, Japan; [3]euglena Co., Ltd., Japan; [4]Department of Bioengineering, University of California, USA; [5]Institute of Technological Sciences, China

10:35am - 10:50am

Looking for significance of lipid droplets in vascular inflammation

Marta Zofia Pacia[1], Natalia Chorazy[1], Magdalena Sternak[1], Stefan Chlopicki[1,2]
[1]Jagiellonian Centre for Experimental Therapeutics (JCET), Jagiellonian University, 14 Bobrzynskiego Str., 30-348 Krakow, Poland; [2]Chair of Pharmacology, Jagiellonian University, 16 Grzegorzecka Str., 31-531 Krakow, Poland

10:50am - 11:05am

Stratification of saliva of healthy, habitués and oral cancer subjects using Raman and FTIR spectroscopic approaches.

Arti Hole[1], Nikita Maheswari[1], Atul Deshmukh[2], ViKram Gota[1], Pankaj Chaturvedi[3], Murali Krishna Chilakapati[1]
[1]TMC-ACTREC, India; [2]Center for Ineterdisciplenary Research, DY Patil University, Navi Mumbai India; [3]Tata Memorial Hospital, Parel India

11:05am - 11:20am

The Impact of Nanoparticle on Early Developing Mammalian Embryos Evaluated using Raman Spectroscopy (Prerecorded talk)

Micahella Sarmiento[1], Alexander Krivoharchenko[2], Susanna Manuel[1,3], Artashes Karmenyan[1], Elena Perevedentseva[1,4], Victor Natochenko[2], Yin-Jeh Tzeng[5], Shih-Che Hung[5], Hsin-Hou Chang[5], C.-H. Lee[3], Chia-Liang Cheng[1]
[1]Department of Physics, National Dong Hwa University, Taiwan; [2]Semenov Institute of Chemical Physics, Russian Academy of Science, Moscow, Russian; [3]Department of LIfe Science, National Dong Hwa University, Taiwan; [4]Lebedev Institute of Physics, Russian Academy of Science, Moscow Russia; [5]Department of Molecular Biology and Human Genetics, Tzu Chi University, Taiwan

11:20am - 11:35am

SERS-detection of osteogenic differentiation in stem cells cultured on simple gold nanoisland substrates

Adrianna Milewska[1,2,3], Olafur E. Sigurjonsson[2,4], Kristjan Leosson[1]
[1]Innovation Center Iceland, Reykjavik, Iceland; [2]The Blood bank, Landspitali University Hospital, Reykjavik, Iceland; [3]University of Iceland, School of Engineering and Natural Sciences, Reykjavik, Iceland; [4]Reykjavik University, School of Science and Engineering, Reykjavik, Iceland

11:35am - 11:50am

In vivo monitoring tissue development in bone scaffolds using Raman spectroscopy

Anders Runge Walther[1], Nicholas Ditzel[2], Moustapha Kassem[2], Morten Østergaard Andersen[1], Martin Aage Barsøe Hedegaard[1]
[1]SDU Biotechnology, Department of Green Technology, University of Southern Denmark, Campusvej 55, 5230 Odense M, DK; [2]Endocrine Research (KMEB), Department of Endocrinology, Odense University Hospital and University of Southern Denmark, J.B. Winsløws Vej 25, 5000 Odense C, DK

MAT-1: Materials 1

Monday, August 15, 2022
10:00am - 11:50am
102B (156)

10:00am - 10:20am

High Pressure Raman study of Novel Carbon Materials

Bingbing LIU
Jilin University, China, People's Republic of

10:20am - 10:35am

Optical tweezing combined with confocal Raman microscopy detects the metastable amorphous intermediate responsible for laser-induced nucleation

Zhiyu Liao, Klaas Wynne
University of Glasgow, United Kingdom;

10:35am - 10:50am

Resonant Raman Scattering "Suppressed" in MoS2 Fullerenes: A high Pressure and Low Temperature Study

Tsachi Livneh[1], Eran Sterer[1], Rita Rosentsveig[2]
[1]NRCN, Israel; [2]Weizmann Institute of Science, Israel

10:50am - 11:05am

High-pressure Raman spectra of L,L-dileucine crystals

Paulo Tarso Cavalcante Freire[1], Cristiano Balbino Silva[1], Gardenia Sousa Pinheiro[2], José Gadelha Silva Filho[3], Francisco Ferreira Sousa[4], Alexandre Magno Rodrigues Teixeira[5]
[1]Universidade Federal do Ceará, Brazil; [2]Universidade Federal do Piauí, Brazil; [3]Universidade Federal do Maranhão, Brazil; [4]Universidade Federal do Pará, Brazil; [5]Universidade Estadual do Cariri, Brazil

11:05am - 11:20am

Raman Enhancement of Copper Phthalocyanine by Twisted Bilayer Graphenes Promoted by Excited State Charge Transfer

Sang-Yong Ju
Yonsei University, Korea, Republic of (South Korea)

11:20am – 11:35am

Monitoring the Unusual Deformation and Fracture in Nanoindented Gallium Telluride Multilayers Via Micro-Raman Spectroscopy

Yan Zhou[1,2], Dong Liu[1], Shi Zhou[3], Yong Xie[4], Mingming Gong[5], Tao Wang[5], Ping-Heng Tan[2], Martin Kuball[1]
[1]Center for Device Thermography and Reliability (CDTR), H. H. Wills Physics Laboratory, University of Bristol, Tyndall Avenue, Bristol BS8 1TL, United Kingdom.; [2]State Key Laboratory of Superlattices and Microstructures, Institute of Semiconductors, Chinese Academy of Sciences, Beijing 100083, China.; [3]University of Science and Technology of China, Hefei, 230026, P. R. China.; [4]State Key Discipline Laboratory of Wide Band Gap Semiconductor Technology, School of Advanced Materials and Nanotechnology, Xidian University, Xi'an, 710071, P. R. China.; [5]State Key Laboratory of Solidification Processing, School of Materials and Engineering, Northwestern Polytechnical University, Xi'an, 710072, P. R. China.

NEWT-1: New Techniques 1

Monday, August 15, 2022
10:00am - 11:50am
102A (156)

10:00am - 10:20am

High-speed multicolor stimulated Raman microscopy

Yasuyuki Ozeki
The University of Tokyo, Japan

10:20am - 10:35am

Human brain meningioma detection using handheld VRR analyzer

Liang Zhang[1], Yan Zhou[2], Shengjia Zhang[3], Binlin Wu[4], Ke Zhu[5], Cheng-hui Liu[6], Robert R. Alfano[6], Xingang Yu[1]
[1]The Department of Neurosurgery, PLA General Hospital, Beijing, 100039, China.; [2]The Department of Neurosurgery, Air Force Medical Center, PLA, Beijing, 100142, China.; [3]JRME Co., Ltd, Taizhou, Jiangsu, 225300, China.; [4]Physics Department and CSCU Center for Nanotechnology, CSC, New Haven, CT 06515, USA; [5]Institute of Physics, Chinese Academy of Sciences (CAS), PO Box 603, Beijing, 100190, China.; [6]Institute for Ultrafast Spectroscopy and Lasers, Department of Physics, CCNY of CUNY, New York, NY 10031, USA

10:35am - 10:50am

Drop Coating Deposition Raman Spectroscopy as a Valuable Tool for Sensitive Detection of Biologically Important Molecules

Eva Kočišová, Alžbeta Kuižová, Mikuláš Přikryl, Marek Procházka, Anna Kuzminova, Ondřej Kylián
Charles University, Faculty of Mathematics and Physics, Czech Republic

10:50am - 11:05am

Non invasive depth determination of target in Ex vivo animal tissues using deep Raman Spectroscopy

Sara Mosca[1], Priyanka Dey[2], Tanveer A. Tabish[2], Francesca Palombo[2], Nick Stone[2], Pavel Matousek[1]
[1]Central Laser Facility, STFC, UKRI, UK; [2]School of Physics, University of Exeter, UK

11:05am - 11:20am

On-Chip Raman Spectroscopy for the Characterisation of Oral Biofilms

Aileen Delaney[1], Deirdre Devine[2], David Head[3], Jonathan Vernon[2], Stephen Evans[1]
[1]School of Physics and Astronomy, University of Leeds, UK; [2]Division of Oral Biology, School of Dentistry, University of Leeds, UK; [3]School of Computing, University of Leeds, UK

NLTR-1: Non-linear and Time Resolved 1

Monday, August 15, 2022
10:00am - 11:50am
103A (144)

10:00am - 10:30am

Vibrational Spectroscopic Imaging to Unveil Hidden Signatures in Living Systems

Ji-Xin Ph.D.
USA, United States of America

10:30am - 10:50am

Tracking Structural Evolutions during Charge Separation Processes with Time-Resolved Impulsive Stimulated Raman Spectroscopy

Dongho Kim
Yonsei University, Korea, Republic of (South Korea)

10:50am - 11:05am

Interfacial self-assembly and water interactions of model bacterial ice nucleators probed by vibrational sum-frequency generation (SFG)

Fani Madzharova[1], Mikkel Bregnhøj[1], Adam Chatterley[1], Taner Drace[2], Lasse Sander Andersen Dreyer[2], Thomas Boesen[2], Tobias Weidner[1]
[1]Department of Chemistry, Aarhus University, Denmark; [2]Department of Molecular Biology and Genetics, Aarhus University, Denmark

11:05am - 11:20am

Direct measurement of mode specific second order nonlinear susceptibility of collagen using vibrational sum frequency imaging

Khokan Roy[1], Yryx Yanet Luna Palacios[2], Israel Rocha Mendoza[3], Eric Potma[4]
[1]University of California Irvine, United States of Ameerica; [2]CICESE, Carretera Ensenada-Tijuana, Ensenada, Mexico; [3]CICESE, Carretera Ensenada-Tijuana, Ensenada, Mexico; [4]University of California Irvine, United States of America

11:20am - 11:35am

Analysis of Microplastics in Consumer Goods via Femtosecond Stimulated Raman Microscopy

Carolin Borbeck, Francisco van Riel Neto, Peter Gilch
Heinrich Heine University Duesseldorf, Germany

SERS-1: Sers/Ters 1

Monday, August 15, 2022
10:00am - 11:50am
101A (207)

10:00am - 10:20am

Controlling Plasmonic Nanogap Chemistry to Tune Analyte Interactions

Hong Wei[1,2], Chloe Groome[1,2], Héctor Pascual Herrero[1,2], William J. Thrift[1], Yixin Huang[1], Allon I. Hochbaum[1,2], Regina Ragan[1,2]
[1]Department of Materials Science and Engineering, University California, Irvine, Irvine, California 92697, USA; [2]Center for Complex and Active Materials, University California, Irvine, Irvine, California 92697, USA

10:20am – 10:35am

Chemically stable surface bound thiolate intermediates in surface enhanced Raman spectroscopy

Xiaobin Yao[1,2], Tanja Deckert-Gaudig[1,2], Volker Deckert[1,2], Christiane Höppener[1]
[1]Leibniz Institute of Photonic Technology, Germany; [2]Friedrich Schiller University Jena, Institute of Physical Chemistry and Abbe Center of Photonics, Germany

10:35am - 10:50am

Surface-enhanced Raman spectroscopic study of nanoparticle catalysis

Wei Xie
Nankai University, China, People's Republic of

10:50am - 11:05am

Tip-enhanced Raman Spectroscopy on Benzenethiol-functionalized Gold Nanoparticle

Hyun Woo Kim[1], Yung Doug Suh[1,2]
[1]Laboratory for Advanced Molecular Probing (LAMP), Korea Research Institute of Chemical Technology, Republic of Korea (South Korea); [2]School of Chemical Engineering, SungKyunKwan University, Republic of Korea (South Korea)

11:05am - 11:20am

Surface-enhanced hyper Raman scattering elucidates adsorption and plasmon-assisted dimer formation of aromatic thiols

Janina Kneipp, Fani Madzharova, Zhiyang Zhang, Zsuzsanna Heiner
Humboldt-Universität zu Berlin, Germany

11:20am - 11:35am

Analyte Co-localization at Electromagnetic Gap Hotspots for Highly Sensitive, Plasmon-Enhanced Spectroscopic Detection of Biomolecular Analytes

Rishabh Rastogi[1,2], Pierre-Michel Adam[2], Sivashankar Krishnamoorthy[1]
[1]Luxembourg Institute of Science and Technology, Luxembourg; [2]University of Technology of Troyes, France

11:35am - 11:50am

Waveguide-Coupled Plasmon Resonance for SERS

Shuping Xu, Yu Tian, Hailong Wang, Weiqing Xu
State Key Laboratory of Supramolecular Structure and Materials, Institute of Theoretical Chemistry, College of Chemistry, Jilin University

PLN 2: Plenary 2

Monday, August 15, 2022
1:45pm - 2:30pm
Ballroom 104 PLENARY (1120)

1:45pm - 2:30pm

Low-wavenumber Raman spectroscopy in multilayer graphene and related van der Waals heterostructures

Ping-Heng Tan
Institute of Semiconductors, Chinese Academy of Sciences, China, People's Republic of

BIO-2: Biology and Biomedicine 2

Monday, August 15, 2022
2:40pm - 4:00pm
101B (207)

2:40pm - 3:00pm

TWO NEW APPROACHES TO BROADBAND STIMULATED RAMAN SCATTERING MICROSCOPY

Alejandro De la Cadena[1], Andrea Ragni[2], Giuseppe Sciortino[2], Federico Vernuccio[1], Carlo M. Valensise[1], Marco Sampietro[2], Giorgio Ferrari[2], Giulio Cerullo[1], Dario Polli[1]
[1]Physics department, Politecnico di Milano; [2]Dipartimento di Elettronica, Informazione e Bioingegneria, Politecnico di Milano

3:00pm - 3:15pm

Decreasing volume, Increasing Impact: A History of Stimulated Raman Scattering Imaging

Richard Prince[1], Eric Potma[2]
[1]East Tennessee State University, United States of America; [2]University of California, Irvine, United States of America

3:15pm - 3:30pm

Raman spectroscopy in monitoring of adipogenesis and carotenoid delivery to adipocytes

Krzysztof Czamara[1], Ewa Stanek[1], Joanna Janus[1,2], Aleksandra Kolodziejczyk[2], Aleksandra Orlef[2], Marta Z. Pacia[1], Aleksandra Wajda[2], Agnieszka Kaczor[1,2]
[1]Jagiellonian Centre for Experimental Therapeutics (JCET), Jagiellonian University, Krakow, Poland; [2]Faculty of Chemistry, Jagiellonian University, Krakow, Poland

3:30pm - 3:45pm

Understanding the Mechanism of Formation of Protein Fibrils for Preventing Neurodegenerative Disease

Anthony Dahdah, Ewan Blanch, Nilamuni Hiranya De Silva, Subashani Maniam
Rmit, Australia

3:45pm - 4:00pm

Surface Enhanced Resonance Raman spectro-electrochemistry of DyP type peroxidases

Smilja Todorovic
ITQB-NOVA Universidade Nova de Lisboa, Portugal

MAT-2: Materials 2

Monday, August 15, 2022
2:40pm - 4:00pm
102B (156)

2:40pm - 3:10pm

Phonons engineering and phonon transport in low dimensional systems

Marta De Luca[1], Claudia Fasolato[2], Milo Y. Swinkels[1], Ilaria Zardo[1]
[1]University of Basel, Switzerland; [2]Università degli Studi di Perugia, Italy

3:10pm - 3:25pm

Ultranarrow lines in Raman spectra of quantum wells due to effective acoustic phonon selection by in-plane wave vector

Alexey Koudinov[2], E.V. Borisov[3], A.A. Shimko[3], Yu.E. Kitaev[2], C. Trallero-Giner[4], T. Wojtowicz[5], G. Karczewski[5], Serguei Goupalov[1,2]
[1]Jackson State University, United States of America; [2]Ioffe Institute, Russia; [3]Saint-Petersburg State University, Russia; [4]Havana University, Cuba; [5]Institute of Physics, Polish Academy of Sciences, Poland

3:25pm - 3:40pm

Resonance Raman Scattering Study of Edge Phonons and Defects in Molybdenum Disulfide

Rafael Nunes Gontijo[1,2,3], Andreij Gadelha[2], Orlando J. Silveira[2], Tianyi Zhang[3], Kazunori Fujisawa[3,4], Ricardo W. Nunes[2], Ana Laura Elias[1], Marcos A. Pimenta[2], Ariete Righi[2], Mauricio Terrones[3], Cristiano Fantini[2]
[1]Binghamton University, United States of America; [2]Universidade Federal de Minas Gerais, Brazil; [3]The Pennsylvania State University, United States of America; [4]Shinshu University, Japan

3:40pm - 3:55pm

Janus Monolayer-Induced Abnormal Interlayer Coupling in 2D Heterostructures

Shengxi Huang[1], Kunyan Zhang[1], Yunfan Guo[2], Jing Kong[2]
[1]The Pennsylvania State University, United States of America; [2]Massachusetts Institute of Technology, United States of America

NEWT-2: New Techniques 2

Monday, August 15, 2022
2:40pm - 4:00pm
102A (156)

2:40pm - 3:00pm

Combined Raman-Dielectrophoresis Method for Real Time Study: from Bacteria to Nanoplastic

Giulia Barzan[1,2], Alessio Sacco[1], Luisa Mandrile[1], Andrea Mario Giovannozzi[1], Chiara Portesi[1], Andrea Mario Rossi[1]
[1]Istituto Nazionale di Ricerca Metrologica, Italy; [2]Politecnico di Torino

3:00pm - 3:15pm

Non-destructive investigation of diffusion of conservation products by micro-SORS

Alessandra Botteon[1,2], Claudia Conti[1], Marco Realini[1], Chiara Colombo[1], Pavel Matousek[3], Chiara Castiglioni[2]
[1]Institute of Heritage Science (ISPC), National Research Council (CNR); [2]Politecnico di Milano, Department of Chemistry, Materials and Chemical Engineering Giulio Natta; [3]Central Laser Facility, Research Complex at Harwell, STFC Rutherford Appleton Laboratory

3:15pm - 3:30pm

Characterization of Fibrotic and Epigenetic Alterations in Endometriosis

Lucas Becker[1,2], Tara Beyer[1], Sahra Steinmacher[3], André Koch[3], Simone Liebscher[1], Daniel Carvajal Berrio[1,2], Eva-Maria Brauchle[1,2,4], Sara Y Brucker[3], Julia Marzi[1,2,4], Martin Weiss[2], Katja Schenke-Layland[1,2,4,5]
[1]Institute of Biomedical Engineering, Department for Medical Technologies and Regenerative Medicine, Eberhard Karls University Tuebingen, 72076 Tuebingen, Germany; [2]Cluster of Excellence iFIT (EXC 2180) Image-Guided and Functionally Instructed Tumor Therapies, Eberhard Karls University Tuebingen, 72076 Tuebingen, Germany; [3]Department of Women's Health, Research Institute for Women's Health, Eberhard Karls University Tuebingen, 72076 Tuebingen, Germany; [4]NMI Natural and Medical Sciences Institute at the University of Tuebingen, 72770 Reutlingen, Germany; [5]Department of Medicine, Division of Cardiovascular Medicine, University of California, Los Angeles, CA 90095, United States

3:30pm - 3:45pm

Raman Analysis of Nanoparticles in Reflection Mode Nanoaperture Optical Tweezers

Behnam Khosravi, Reuven Gordon
University of Victoria, Canada

3:45pm - 4:00pm

AI Powered Drug Classification by Mobile Phone based Raman Spectroscopy

Un Jeong Kim[1], Suyeon Lee[1], Hyocheol Kim[1], Hyungbin Son[2], Hyuck Choo[1]
[1]Samsung Advanced Institute of Technology, Korea, Republic of (South Korea); [2]Chung-Ang University, Korea, Republic of (South Korea)

SERS-2: SERS/TERS: Application to Biological Systems 2

Monday, August 15, 2022
2:40pm - 4:00pm
101A (207)

2:40pm - 2:55pm

Nanoscale Structural Characterization of Biological Systems Using Combined Nano-Raman and Nano-Infrared Spectroscopices

Dmitry Kurouski
Texas A&M University, United States of America

2:55pm - 3:10pm

Transforming Treatment of Patients with Drug Induced Liver Injury using SERS based Lateral Flow Testing

Sian Sloan-Dennison[1], Benjamin Clark[1], Kathleen Scullion[2], James Dear[2], Dieter Bingemann[3], Paul Fineran[2], David Creasey[3], Cicely Rathmell[3], Karen Faulds[1], Duncan Graham[1]
[1]University of Strathclyde, United Kingdom; [2]University of Edinburgh, United Kingdom; [3]Wasatch Photonics, USA

3:10pm - 3:25pm

Fabrication of SERS active substrates through Langmuir–Blodgett and self assembly techniques for screening human cancer cell lines

Joydeep Chowdhury
Jadavpur University, India

3:25pm - 3:40pm

SERS, a Single-molecule and Label-free Technique for Drug Discovery

Lamyaa M. Almehmadi[1,2], Vibhav A. Valsangkar[1,2], Ken Halvorsen[2], Qiang Zhang[1], Jia Sheng[1,2], Igor K. Lednev[1,2]
[1]University at Albany, SUNY, United States of America; [2]RNA Institute, College of Arts and Science, University at Albany, SUNY

3:40pm - 3:55pm

Detection of DNA Bases and Monitoring ssDNA Hybridization by Noble Metal Nanoparticles Decorated Graphene Nanosheets as Ultrasensitive G-SERS Platforms

Sanju Gupta
Penn State University, United States of America

TH-1: Fundamentals and Theory 1

Monday, August 15, 2022
2:40pm - 4:00pm
103A (144)

2:40pm - 3:00pm

Strong field Raman spectroscopy; tracking electronic coherences using high harmonics

Konstantin Dorfman
East China Normal University, China, People's Republic of

3:00pm - 3:20pm

Entangled light in Raman excitation, two-photon absorption and black hole radiation

Marlan Scully
Texas A&M University, United States of America

3:20pm - 3:35pm

Theory for photoluminescent background in SERS experiments

Evgeny S. Andrianov[1,2], Vladislav Yu. Shishkov[1,2], Alexander A. Pukhov[1,2,3], Alexey P. Vinogradov[1,2,3], Alexander A. Lisyansky[4,5]
[1]Dukhov Research Institute of Automatics (VNIIA), Russian Federation; [2]Moscow Institute of Physics and Technology (MIPT), Russian Federation; [3]Institute for Theoretical and Applied Electromagnetics, Russian Federation; [4]Department of Physics, Queens College of the City University of New York, USA; [5]The Graduate Center of the City University of New York, USA

BIO-3: Biology and Biomedicine 3

Monday, August 15, 2022
4:30pm - 6:00pm
101B (207)

4:30pm - 5:00pm

Towards Simple, Real-Time Spectroscopic Coherent Raman Imaging of Biology

Marcus T Cicerone, Xavier P Audier, Wei-Wen Chen, Ronit Sharon-Frilling, Jessica Zahn
Georgia Institute of Technology, United States of America

5:00pm - 5:15pm

Multimodal coherent Raman and multiphoton nonlinear optical microscopy to monitor the risk of cancer relapse in human tumors after therapy

Arianna Bresci[1], Francesco Manetti[1], Silvia Ghislanzoni[2], Federico Vernuccio[1], Benedetta Talone[1], Chiara Ceconello[1], Alejandro De la Cadena[1], Renzo Vanna[3], Italia Bongarzone[2], Giulio Cerullo[1,3], Dario Polli[1,3]
[1]Politecnico di Milano, Italy; [2]IRCCS Istituto Nazionale dei Tumori Foundation; [3]CNR Institute for photonics and nanotechnologies (IFN)

5:15pm - 5:30pm

Development of Raman Spectroscopic analysis techniques to assess quality biomarkers in fish

Jeremy D Landry, Peter J Torley, Ewan W Blanch
RMIT University, Australia

5:30pm - 5:45pm

Gut microbiota and adipose tissue: another pieces in the obesity puzzle

Zuzanna Majka[1,2], Krzysztof Czamara[1], Joanna Janus[2], Ewa Stanek[1], Agnieszka Krawczyk[3], Dominika Salamon[3], Tomasz Gosiewski[3], Agnieszka Kaczor[1,2]
[1]Jagiellonian Centre for Experimental Therapeutics (JCET), Jagiellonian University, Krakow, Poland; [2]Faculty of Chemistry, Jagiellonian University, Krakow, Poland; [3]Department of Molecular Medical Microbiology, Faculty of Medicine, Jagiellonian University Medical College, Krakow, Poland

MAT-3: Materials 3

Monday, August 15, 2022
4:30pm - 6:00pm
102B (156)

4:30pm - 5:00pm

Micro- versus nano-Raman spectroscopy in two-dimensional systems

Ado Jorio[1,2], Cassiano Rabelo[2], Hudson Miranda[2], Thiago L. Vasconcelos[3], Luiz Gustavo Cançado[1,2]
[1]Physics Department, UFMG, Brazil; [2]Electrical Engineering, UFMG, Brazil; [3]Inmetro, Brazil

5:00pm - 5:15pm

Solving the Computational Puzzle: Towards a Pragmatic Pathway for Modeling Low-Energy Vibrational Modes of Pharmaceutical Crystals

Karlis Berzins[1], Joshua J. Sutton[1], Sara J. Fraser-Miller[1], Thomas Rades[2,3], Timothy M. Korter[4], Keith C. Gordon[1]
[1]University of Otago, New Zealand; [2]University of Copenhagen, Denmark; [3]Åbo Akademi University, Finland; [4]Syracuse University, USA

5:15pm - 5:30pm

Electronic Raman scattering in layered NiPS3

Xi Ling, Hikari Kitadai
Boston University, United States of America

5:45pm - 6:00pm

Quantitative Raman Imaging for Crystal Orientation Analysis

Oleksii Ilchenko[1,2], Yuriy Pilgun[2,3], Florian Bachmann[4], Anja Boisen[1]
[1]Technical University of Denmark, Denmark; [2]Lightnovo ApS, Birkerød, Denmark; [3]Faculty of Radio Physics, Electronics and Computer Systems, Taras Shevchenko National University of Kyiv, Kyiv, Ukraine; [4]Xnovo Technology ApS, Koge, Denmark

NEWT-3: New Techniques 3

Monday, August 15, 2022
4:30pm - 6:00pm
102A (156)

4:30pm - 5:00pm

Structural Analysis of Complex Biomolecules Using Raman Optical Activity (ROA)

Ewan William Blanch
RMIT University, Australia

5:00pm - 5:15pm

Frontiers of synchrotron-based UV Resonance Raman spectroscopy for exploring biological macromolecules

Barbara Rossi
Elettra Sincrotrone Trieste, Italy

5:15pm - 5:30pm

Light Sheet Integral Field Raman Microspectroscopy

Alejandra Zegarra-Valverde[1], Walter Hauswald[1], Rainer Heintzmann[1,2]
[1]Leibniz Institute of Photonic Technology, Jena, Germany; [2]Institute of Physical Chemistry, Friedrich Schiller University Jena, Germany

5:30pm - 5:45pm

Shifted Excitation Raman Difference Spectroscopy as a Promising Tool for Precision Agriculture

Kay Sowoidnich, Martin Maiwald, Bernd Sumpf
Ferdinand-Braun-Institut (FBH), Leibniz-Institut für Höchstfrequenztechnik, Germany

5:45pm - 6:00pm

Tip Enhanced Two-Photon Absorption/Emission and Raman Spectroscopy

Bharathi Rajeswaran, Yaakov R Tischler
Department of Chemistry, Bar-Ilan University Israel

NLTR-2: Non-linear and Time Resolved: Novel Developments for Biology 2

Monday, August 15, 2022
4:30pm - 6:00pm
103A (144)

4:30pm - 4:45pm

Discrimination of Metastatic State in Prostate Cancer Cells by Identifying Metabolic Changes with Coherent Raman Imaging and Machine Learning

Jessica Lynn Zahn, Marcus T Cicerone, Ronit Sharon-Friling, Wei-Wen Chen, Rajas Poorna
Georgia Institute of Technology, United States of America

4:45pm - 5:00pm

Label-free stimulated Raman scattering imaging reveals silicone breast implant material in tissue

Ludo van Haasterecht, Liron Zada, Robert W. Schmidt, Freek Ariese
LaserLab Amsterdam, Department of Physics and Astronomy, Faculty of Sciences Vrije Universiteit Amsterdam, The Netherlands

5:00pm - 5:15pm

DO-SRS Multiplex Super Resolution Metabolic Imaging in Aging and Diseases

Lingyan Shi, Yajuan Li, Anthony Fung, Wenxu Zhang, Hongje Jang
UCSD, United States of America

5:15pm - 5:30pm

Coherent Raman scattering-guided real-time precision molecular control

Matthew Clark, Gil Gonzalez, Yiyang Luo, Mark Carlsen, Greg Eakins, Mingji Dai, Chi Zhang
Purdue University, United States of America

5:30pm - 5:45pm

A fingerprint of amyloid plaques in a bitransgenic animal model of Alzheimer's disease obtained by hyperspectral Raman data

Emerson Fonseca[1], Lucas Lafeta[1], Renan Cunha[1], Hudson Miranda[2], João Campos[1], Helton Medeiros[3], Marco Romano-Silva[4], Raigna Silva[1,5], Alexandre Barbosa[1,6], Rafael Vieira[7], Ado Jorio Jorio[1], Leandro Malard[1]
[1]Universidade Federal de Minas Gerais, Brazil; [2]bPrograma de Pós-Graduação em Engenharia Elétrica, UFMG, Belo Horizonte, MG 31270-901, Brazil; [3]cDivisão de Metrologia de Materiais, Inmetro, 25250-020, Duque de Caxias, RJ, Brazil; [4]Departamento de Saúde Mental-Faculdade de Medicina, UFMG, Belo Horizonte, MG 30130-100, Brazil; [5]eInstituto de Física, UFU, Uberlândia, MG 38400-920, Brazil; [6]fDepartamento de Oftalmologia, Faculdade de Medicina, HC/UFMG, Belo Horizonte, MG 30130-100, Brazil; [7]gDepartamento de Bioquímica e Imunologia, UFMG, CEP 30161-70 Belo Horizonte, Minas Gerais, Brazil

SERS-3: Sers/Ters 3

Monday, August 15, 2022
4:30pm - 6:00pm
101A (207)

4:30pm - 5:00pm

Novel SERS and PIERS substrates for designing bioanalytical platforms

Kamilla Malek
Jagiellonian University in Krakow, Poland

5:00pm - 5:15pm

Surface Modification of Plasmonic nanostructures: Enabling SERS Detection of Weakly Interacting Analytes

Li-Lin Tay, Shawn Poirier, Ali Ghaemi, John Hulse
National Research Council Canada, Canada

5:15pm - 5:30pm

Graphene Oxide – Silver Nanoparticles Composites for SERS Detection of 4-aminothiophenol

Mateusz Kasztelan[1,2], Anna Studzińska[1], Grażyna Zofia Żukowska[2], Barbara Pałys[1]
[1]University of Warsaw, Poland; [2]Warsaw University of Technology

5:30pm - 5:45pm

Porous carbon nanowires for metal-free SERS

Kotaro Hiramatsu[1], Nan Chen[2], Ting-Hui Xiao[1], Zhenyi Luo[1], Yasutaka Kitahama[1], Naoki Kishimoto[3], Tamitake Itoh[4], Zhenzhou Cheng[5], Keisuke Goda[1,6,7]
[1]University of Tokyo; [2]Beijing Institute of Technology; [3]Tohoku University; [4]National Institute of Advanced Industrial Science and Technology; [5]Tianjin University; [6]Wuhan University; [7]University of California, Los Angeles

TUESDAY ORAL PRESENTATIONS

PLN 3: Plenary 3

Tuesday, August 16, 2022
8:45am - 9:30am
Ballroom 104 PLENARY (1120)

8:45am - 9:30am

Spatially Offset Raman Spectroscopy (SORS)

Pavel Matousek
STFC Rutherford Appleton Laboratory, United Kingdom

BIO-4: Biology and Biomedicine 4

Tuesday, August 16, 2022
10:00am - 11:50am
101B (207)

10:00am - 10:20am

Detecting drugs in cells and tissues by Raman/SERS microscopy

Katsumasa Fujita
Osaka University, Japan

10:20am - 10:35am

Monitoring of metabolic alterations in tumor microenvironment by surface-enhance Raman scattering

Javier Plou[1,2], Isabel Garcia[1], Mathias Charconnet[1], Arkaitz Carracedo[2,3], Luis Liz-Marzan[2,3]
[1]CIC BiomaGUNE, Spain,; [2]CIC BioGUNE, Spain; [3]Ikerbasque, Basque Foundation for Science, 48013 Bilbao, Spain

10:35am - 10:50am

Spontaneous and Stimulated Raman Scattering of amyloid-beta plaques in post-mortem human AD brain tissue

BENjamin Lochocki[1], Freek Ariese[1], Jeroen J. M. Hoozemans[2], Johannes F. de Boer[1]
[1]VU Amsterdam; [2]Amsterdam UMC

10:50am - 11:05am

Single-cell Raman coupled with stable isotope labelling to study antibiotic resistance and its spread

Li Cui, Hong-Zhe Li, Kai Yang, Yong-Guan Zhu
Institute of Urban Environment, Chinese Academy of Sciences, P. R. China

11:05am - 11:20am

Effects of sulfation and the environment on the structure of chondroitin sulfate studied via Raman optical activity

Vaclav Profant[1], Christian Johannessen[2], Ewan Blanch[3], Petr Bouř[4], Vladimír Baumruk[1]
[1]Faculty of Mathematics and Physics, Charles University, Prague, Czech Republic; [2]Department of Chemistry, University of Antwerp, Belgium; [3]School of Science, RMIT University, Melbourne, Australia; [4]Institute of Organic Chemistry and Biochemistry, Academy of Sciences, Prague, Czech Republic

11:20am - 11:35am

Using Raman Spectroscopy to Differentiate Between Various Genospecies of Borrelia in Mouse Blood

Nicolas King Goff, Tianyi Dou, Artem Rogovskyy, Dmitry Kurouski
Texas A&M University, United States of America

11:35am - 11:50am

Structure-function correlation studies of a non-canonical heme oxygenase from Mycobacterium tuberculosis

Piotr J. Mak, Samuel N. Snyder
Saint Louis University, United States of America

MAT-4: Materials 4

Tuesday, August 16, 2022
10:00am - 11:50am
102B (156)

10:00am - 10:20am

Raman Spectroscopy Studies of 1D Systems: Carbon and Sulfur Chains

Antonio G Souza Filho
Universidade Federal do Ceará, Brazil

10:20am - 10:40am

Electron-phonon processes in twisted bilayer graphene and low symmetry 2D materials investigated by resonance and polarized Raman spectroscopy

Marcos Pimenta
UFMG, Brazil

10:40am - 10:55am

Probing lattice dynamics and electronic resonances in hexagonal Ge and SixGe1-x alloys in nanowires using Raman spectroscopy

Diego de Matteis[1], Marta De Luca[1], Elham Fadaly[2], Marcel Verheijen[2], Miquel López-Suárez[3], Riccardo Rurali[3], Erik Bakkers[2], Ilaria Zardo[1]
[1]Departement Physik, Universität Basel, 4056 Basel, Switzerland; [2]Department of Applied Physics, Eindhoven University of Technology, 5612AP Eindhoven, The Netherlands; [3]Institut de Ciència de Materials de Barcelona (ICMAB–CSIC), Campus de Bellaterra, 08193 Bellaterra, Barcelona, Spain

10:55am - 11:10am

Raman scattering obtained from laser excitation of MAPbI3 single crystal

Hagit Aviv, Tal Ben-Uliel, Yaakov R. Tischler
Bar Ilan University, Israel

11:10am - 11:25am

Raman scattering study of phase transition in methyl ammonium lead halide perovskite single crystals

Trang Thi Thu Nguyen[1], Yejin Kim[1], Hye Ri Jung[1], William Jo[1], Won Seok Woo[2], Chang Won Ahn[2], Shinuk Cho[2], Ill Won Kim[2], Maryam Bari[3], Zuo-Guang Ye[3], Seokhyun Yoon[1]
[1]Ewha womans university, Seoul, Republic of (South Korea); [2]University of Ulsan,Ulsan, Korea, Republic of (South Korea); [3]Simon Fraser University, Burnaby, Canada

NEWT-4: New Techniques 4

Tuesday, August 16, 2022
10:00am - 11:50am
102A (156)

10:00am - 10:20am

Arrayed Nanoplasmonic Sensors and Actuators

Wei-Chuan Shih
University of Houston, United States of America

10:20am - 10:35am

Hyperspectral and chemically-selective 2D and 3D imaging in mid-infrared

Dave Knez, Eric Potma, Dmitry Fishman
UC Irvine, United States of America

10:35am - 10:50am

A Raman filter-based system, operating in ambient light through lock-in amplification for real-time, accurate assessment of disease markers

Hao Guo[1], Alexey Tikhomirov[1], Alexandria Mitchell[1], Ian Alwayn[2], Haishan Zeng[3], Kevin Hewitt[1]
[1]Dalhousie University, Halifax, Nova Scotia, Canada; [2]Leiden University Medical Centre, Leiden, Netherlands; [3]BC Cancer Research Centre, Vancouver, BC, Canada

10:50am - 11:05am

Exploring new ways of studying photodegradation by means of Raman spectroscopy inside a liquid core waveguide exposure cell

Iris Groeneveld[1], Govert W. Somsen[1], Maarten R. van Bommel[2], Freek Ariese[3]
[1]Vrije Universiteit Amsterdam, Netherlands, The; [2]University of Amsterdam, Netherlands, The; [3]LaserLab, Vrije Universiteit Amsterdam, Netherlands, The

11:05am - 11:20am

Monitoring phytoplankton population using NIR Raman spectroscopy, excitation/emission spectroscopy and chemometric analysis

Nina Igorevna Novikova
The University of Auckland, New Zealand

11:20am - 11:35am

Raman Spectroscopy for Detecting Traces of Explosives at Security Checkpoints

Lisa B. Dreier, Anja Köhntopp, Christoph Kölbl, Frank Duschek
German Aerospace Center, Germany

11:35am - 11:50am

Fluorescence guided photothermal infrared microscopy at single-cell resolution

Yeran Bai[1], Xinran Tian[1], Andrew Longhini[1], Zhongyue Guo[2], Ji-Xin Cheng[2], Kenneth Kosik[1], Craig Prater[3]
[1]Neuroscience Research Institute, University of California Santa Barbara, Santa Barbara CA 93105, USA; [2]Biomedical Engineering, Boston University, Boston, MA 02215; [3]Photothermal Spectroscopy Corporation, Santa Barbara, CA 93101, USA

NLTR-3: Non-linear and Time Resolved 3

Tuesday, August 16, 2022
10:00am - 11:50am
103A (144)

10:00am - 10:20am

Raman Vibrational Coherence Spectroscopy and Proton Tunneling in Green Fluorescent Protein

Paul Morris Champion
Northeastern University, United States of America

10:20am - 10:40am

Accessing excited potential energy surfaces by Raman excitation profiles measured via time-domain Raman spectroscopy

Batignani Giovanni[1,2], Sansone Carlotta[1], Mai Emanuele[1], Ferrante Carino[2,3], Fumero Giuseppe[1], Mukamel Shaul[4], Scopigno Tullio[1,2,5]
[1]Dipartimento di Fisica, Universitá di Roma "La Sapienza", Roma I-00185, Italy; [2]Istituto Italiano di Tecnologia, Center for Life Nano Science @Sapienza, Roma I-00161, Italy; [3]ENEA, FSN-FISS-SNI Laboratory, Casaccia R.C. Via Anguillarese 301, 00123 Roma, Italy; [4]Department of Chemistry, University of California, Irvine, California 92623, United States; [5]Istituto Italiano di Tecnologia, Graphene Labs, Via Morego 30, I-16163 Genova, Italy

10:40am - 10:55am

Transient Raman study of excited state dynamics of 1,9'-bianthryl

Palas Roy[1], Faisal Al-Kahtani[1], ndrew N. Cammidge[1], Stephen R. Meech[1]
[1]School of Chemistry, University of East Anglia, Norwich Research Park, Norwich NR4 7TJ, U.K.

10:55am - 11:10am

Low-Wavenumber Fourier-Transform Impulsive Stimulated Raman Spectrometer with Single Femtosecond Oscillator

Mauro Falconieri[1], Michele Marrocco[1], Serena Gagliardi[1], Flaminia Rondino[1], Yejun Wang[2], Waruna Kulatilaka[2], Eugenio DelRe[3], Fabrizio Di Mei[3], Ludovica Falsi[3]
[1]ENEA, Italy; [2]Texas A&M University, USA; [3]Università "Sapienza", Italy

11:10am - 11:25am

Liquid-Liquid Phase Separation in Synthetic Polymers via Femtosecond Stimulated Raman Microscopy

Francisco van Riel Neto, Carolin Borbeck, Peter Gilch
Heinrich Heine University, Germany

SERS-4: Sers/Ters 4

Tuesday, August 16, 2022
10:00am - 11:50am
101A (207)

10:00am - 10:20am

Tip-enhanced Raman scattering - high resolution and beyond

Volker Deckert[1,2,3], Christiane Höppener[2]
[1]University of Jena, Germany; [2]Leibniz Institute of Photonic Technology, Jena, Germany; [3]IQSE, Texas A&M University, College Station, USA

10:20am - 10:35am

Highly sensitive SERS sensor based on Ag nanoparticles for heavy metals detection in water

Verónica Montes-García[1], Sara Gullace[1,2], Giuseppe Calogero[3], Stefano Casalini[1,4], Paolo Samorì[1]
[1]Institut de Science et d'Ingénierie Supramoléculaires (I.S.I.S.) Université de Strasbourg & CNRS, 8, allée Gaspard Monge, Strasbourg (France); [2]Department of Chemical, Biological, Pharmaceutical and Environmental Sciences, University of Messina, V.le F. Stagno d'Alcontres 31, 98166, Messina (Italy); [3]IPCF-CNR, Istituto per i Processi Chimico-Fisici, V.le F. Stagno d'Alcontres 37, 98158, Messina (Italy); [4]Università degli Studi di Padova, Dipartimento di Scienze Chimiche, via Marzolo 1, 35131 Padova (Italy) (current address)

10:35am - 10:50am

Nanoscale Chemical Imaging of Supported Lipid Monolayers using Tip-Enhanced Raman Spectroscopy

Yashashwa Pandey[1], Naresh Kumar[1], Guillaume Goubert[2], Renato Zenobi[1]
[1]ETH Zurich, Switzerland; [2]Université du Québec à Montréal

10:50am - 11:05am

Low-Level Organic Detection on Icy Worlds using the Compact Integrated Raman Spectrometer (CIRS)

James Lambert, Tuan Vu, Mark Anderson
Jet Propulsion Laboratory, United States of America

11:05am - 11:20am

Observation of nano-confinement-induced ice nucleation: Ice-vii to ice-ih transition

Jonggeun Hwang[1], Dongha Shin[1,2], Xingcai Zhang[3,4], Wonho Jhe[1]
[1]Center for 0D Nanofluidics, Institute of Applied Physics, Department of Physics and Astronomy, Seoul National University, Seoul 08826, Korea; [2]Department of Chemistry and Chemical Engineering, Inha University, Incheon 22212, Korea; [3]John A. Paulson School of Engineering and Applied Sciences, Harvard University, Cambridge, MA, 02138, USA; [4]School of Engineering, Massachusetts Institute of Technology, Cambridge, MA, 02139, USA

PLN 4: Plenary 4

Tuesday, August 16, 2022
2:25pm - 3:10pm
Ballroom 104 PLENARY (1120)

2:25pm - 3:10pm

Structural and optical properties of 2D van-der-Waals materials

Janina Maultzsch
Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany

PD-1: Post Deadline 1

Tuesday, August 16, 2022
3:20pm – 3:50pm
101A (207)

Beyond the Tunneling Limit of Quantum Plasmonics in Tip-Induced GO-Enhanced Raman Spectroscopy

Dmitri Voronine
University of South Florida, United States of America

PD-2: Post Deadline 2

Tuesday, August 16, 2022
3:20pm – 3:50pm
101B (207)

Functional stimulated Raman imaging for complex sub-cellular analysis

Lu Wei
California Institute of Technology, United States of America

BIO-5: Biology and Biomedicine 5

Tuesday, August 16, 2022
4:30pm - 6:00pm
101B (207)

4:30pm - 5:00pm

Clinical Raman spectroscopy - a potential panacea (or just a pretty good compliment to current clinical diagnostics)?

Nick Stone[1,2,3]
[1]University of Exeter; [2]Gloucestershire Hospitals NHS Foundation Trust; [3]Royal Devon and Exeter NHS Foundation Trust

5:00pm - 5:15pm

Racing to cross the "Valley of Death" – a comparative Raman and IR study of blood serum for clinical diagnosis

Deb Roy[1], Edward Duckworth[1], Matt Mortimer[2], Murali Krishna[3], Venkat Kanamarlapudi[4], Bilal Al-Sarireh[2]
[1]Department of Chemistry, Swansea University, Singleton Park, SA2 8PP; [2]Department of Surgery, Morriston Hospital, ABM University Health Board, Swansea.SA6 6NL; [3]Advanced Center for Treatment, Research and Education in Cancer (ACTREC), Tata Memorial Center (TMC), Navi Mumbai – 410210, INDIA; [4]Swansea Medical School, Swansea University, Singleton Park, SA2 8PP

5:15pm - 5:30pm

In vivo monitoring disease progression in rodent models of inflammatory arthritis using fibre-optic Raman spectroscopy

Anders Runge Walther[1], Elzbieta Stepula[2], Nicholas Ditzel[3], Moustapha Kassem[3], Mads Bergholt[2], Martin Aage Barsøe Hedegaard[1]
[1]University of Southern Denmark, DK; [2]King's College London, UK; [3]Odense University Hospital, SDU, DK

MAT-5: Materials 5

Tuesday, August 16, 2022
4:30pm - 6:00pm
102B (156)

4:30pm - 5:00pm

Magneto-Raman Spectroscopy to Identify Spin Structure in Low-Dimensional Quantum Materials

Angela R. Hight Walker
Physical Measurement Laboratory, National Institute of Standards and Technology (NIST), Gaithersburg, Maryland 20899, USA

5:00pm - 5:15pm

Distinct Magneto-Raman Signatures of Spin-Flip Phase Transitions in 2D Magnet CrI3

Amber McCreary[1], Thuc Mai[1,2], Franz Utermohlen[2], Jeffrey Simpson[1,3], Kevin Garrity[1], Xiaozhou Feng[2], Dmitry Shcherbakov[2], Yanglin Zhu[4], Jin Hu[5], Daniel Weber[2], Kenji Watanabe[6], Takashi Taniguchi[6], Joshua Goldberger[2], Zhiqiang Mao[4], Chun Ning Lau[2], Yuanming Lu[2], Nandini Trivedi[2], Rolando Valdes Aguilar[2], Angela Hight Walker[1]
[1]National Institute of Standards and Technology, United States of America; [2]The Ohio State University, United States of America; [3]Towson University, United States of America; [4]The Pennsylvania State University, United States of America; [5]The University of Arkansas, United States of America; [6]National Institute for Materials Science, Japan

5:15pm - 5:30pm

Theoretical Design, Synthesis and Characterization of Novel Thermochromic Materials

Bernardo Albuquerque Nogueira[1,2], Alberto Milani[2], Rita Cardoso[1], José António Paixão[3], Chiara Castiglioni[2], Rui Fausto[1]
[1]CQC, Department of Chemistry, University of Coimbra, Portugal; [2]CMIC, Dipartimento di Chimica, Materiali e Ingegneria Chimica "G. Natta", Politecnico di Milano, Italy; [3]CFisUC, Department of Physics, University of Coimbra, Portugal

NEWT-5: New Techniques 5

Tuesday, August 16, 2022
4:30pm - 6:00pm
102A (156)

4:30pm - 5:00pm

Versatile Applications of Two-Dimensional Correlation Analysis in Raman Spectroscopy

Yeonju Park[1], Isao Noda[2], Young Mee Jung[1]
[1]Kangwon National University, Korea, Republic of (South Korea); [2]University of Delaware (USA)

5:00pm - 5:15pm

Full Spectrum Raman Excitation Mapping: Rapid Raman Spectroscopy of Nanocarbons from visible to near-IR

Paul Finnie[1], Jianying Ouyang[1], Jianfu Ding[1], Jeff Fagan[2]
[1]National Research Council Canada, Canada; [2]National Institute of Standards and Technology

5:15pm - 5:30pm

Raman Spectroscopy on Europa: A Radiation Challenge

Lauren R Doherty, Ian B Hutchinson, Melissa McHugh, Hannah N Lerman
University of Leicester, United Kingdom

5:30pm - 5:45pm

RLS, a Raman Spectrometer for Mars Exploration

Fernando Rull[1], Andoni Moral[2], Guillermo Lopez[1], Carlos Perez[2], Jose Antonio Manrique[1], Laura Seoane[2], Marco Veneranda[1], Jose Antonio Rodriguez[2], Pablo Rodriguez[2]
[1]Unidad Asociada UVA-CSIC, University of Valladolid, Valladolid, Spain; [2]Instituto de Técnica Aeroespacial (INTA), Madrid, Spain

5:45pm - 6:00pm

Spectral focusing coherent Raman scattering microscopy using the triple output dual optical parametric oscillator CRONUS-2P

Dominykas Gudavičius[1,2], Wolfgang Langbein[1]
[1]Cardiff University, School of Physics and Astronomy, The Parade, Cardiff CF24 3AA, United Kingdom; [2]Light Conversion, Keramiku st. 2B, LT-10233 Vilnius, Lithuania

SERS-5: Sers/Ters 5

Tuesday, August 16, 2022
4:30pm - 6:00pm
101A (207)

4:30pm - 5:00pm

Tip-enhanced Raman Spectroscopy for Nanoscale Characterization of Two-Dimensional Materials

Teng-Xiang Huang, Si-Si Wu, Kai-Qiang Lin, Yi-Fan Bao, Xiang Wang, Bin Ren
State Key Laboratory of Physical Chemistry of Solid Surfaces, Collaborative Innovation Center of Chemistry of Energy Materials, College of Chemistry and Chemical Engineering, Xiamen University, Xiamen, China

5:00pm - 5:15pm

DNA Origami Directed Plasmonic Hot-Spot for Studying Molecular State and Spin Crossover by Single Molecule SERS

Anushree Dutta[1], Kosti Tapio[2], Antonio Suma[3], Amr Mostafa[1], Yuya Kanehira[1], Vincenzo Carnevale[4], Giovanni Bussi[5], Ilko Bald[1]
[1]UNIVERSITY OF POTSDAM, Germany; [2]University of Jyväskylä, Finland; [3]Universita degli Studi di Bari Aldo Moro, Italy; [4]Temple University, USA; [5]Scuola Internazionale Superiore di Studi Avanzati, Italy

5:15pm - 5:30pm

Parametric Nanopore Array fabrication for visible spectrum SERS of molecule translocation

Devin B. O'Neill, Marzia Iarossi, Angela de Fazio, Stoyan Yordanova, Erick Ulin-Avila, Francesco Tantussi, Francesco de Angelis
Italian Institute of Technology, Italy

TH-2: Fundamentals and Theory 2

Tuesday, August 16, 2022
4:30pm - 6:00pm
103A (144)

4:30pm - 5:00pm

Raman Scattering in the Quantum Domain: Entangling Light and Matter

Ian Walmsley
Imperial College London, United Kingdom

5:00pm - 5:20pm

Quantum advantage of seeded, squeezed light in stimulated Brillouin Spectroscopy and Imaging

girish agarwal
Texas A & M University, United States of America

5:20pm - 5:35pm

Selective Enhancement of Peptide Raman Signals explained by Synchrotron Resonance Raman Experiments and Simulations

Sara Gomez[1], Franco Egidi[1], Tommaso Giovannini[1], Barbara Rossi[2], Chiara Cappelli[1]
[1]Scuola Normale Superiore di Pisa, Italy; [2]Elettra Sincrotrone Trieste S.C.p.A.

5:35pm - 5:50pm

Raman and Raman Optical Activity of amino acids in aqueous solution: a computational investigation

Chiara Sepali, Piero Lafiosca, Tommaso Giovannini, Chiara Cappelli
Scuola Normale Superiore, Italy

5:50pm - 6:05pm

Theory of Abnormal Raman Bands of Wagging Vibrational Modes in Aromatical Amine and Benzyl Radicals

De-Yin Wu, Xiao-Ru Shen, Jia Liu, Jian-Zhang Zhou, Zhong-Qun Tian
Xiamen University, China, People's Republic

WEDNESDAY ORAL PRESENTATIONS

PLN 5: Plenary 5

Wednesday, August 17, 2022
8:45am - 9:30am
Ballroom 104 PLENARY (1120)

8:45am - 9:30am

Atomic limit in microscopy & photon confinement

V. Ara Apkarian
UCI, United States of America

BIO-6: Biology and Biomedicine 6

Wednesday, August 17, 2022
10:00am - 11:50am
101B (207)

10:00am - 10:20am

Label-free identification of human T cells activation using Raman spectroscopy

Aleksandra Borek-Dorosz[1,2], Anna Maria Nowakowska[1], Paulina Laskowska[3], Maciej Szydłowski[3], Piotr Mrówka[3,4], Piotr Juszczyński[3], Malgorzata Baranska[1,2], Katarzyna Majzner[1]
[1]Jagiellonian University, Faculty of Chemistry, Krakow, Poland; [2]Jagiellonian University, Jagiellonian Centre for Experimental Therapeutics (JCET), Krakow, Poland; [3]Department of Experimental Hematology, Institute of Hematology and Transfusion Medicine, Warsaw, Poland; [4]Department of Biophysics, Physiology and Pathophysiology, Medical University of Warsaw, Warsaw, Poland

10:20am - 10:40am

Raman signature of SARS-CoV-2

Bayden Wood
Monash University, Australia

10:40am - 10:55am

Non-invasive monitoring maturation process of hepatocytes by Raman Microscopy

Menglu Li[1,2], Yasunori Nawa[1,2], Satoshi Fujita[1,3], Katsumasa Fujita[1,2]
[1]AIST-Osaka University Advanced Photonics and Biosensing Open Innovation Laboratory (PhotoBIO-OIL), National Institute of Advanced Industrial Science and Technology, Japan; [2]Department of Applied Physics, Graduate School of Engineering, Osaka University, Japan; [3]The Institute of Scientific and Industrial Research (ISIR), Osaka University, Japan

10:55am - 11:10am

The Biochemical Profile of Breast Cancer - Diagnosing with Raman Spectroscopy

Adriana P. Mamede[1,3], Inês P. Santos[1], Ana L.M. Batista de Carvalho[1], Luís P.Q. Rei[2], Maria Silva[4], Paulo Figueiredo[5], Maria P.M. Marques[1,3], Luís A.E. Batista de Carvalho[1]
[1]Unidade de I&D Química-Física Molecular, University of Coimbra, Portugal; [2]Portuguese Oncology Institute Francisco Gentil (IPOFG, Coimbra, Portugal); [3]Department of Life Sciences, University of Coimbra, Portugal; [4]Surgery Department, Portuguese Oncology Institute Francisco Gentil (IPOFG, Coimbra, Portugal); [5]Pathology Department, Portuguese Oncology Institute Francisco Gentil (IPOFG, Coimbra, Portugal)

11:10am - 11:25am

Three-Dimensional Scaffolds for Monitoring Drug Diffusion and Cell Death Events by Surface-Enhanced Raman Scattering

Pablo S. Valera[1,2,3], Javier Plou[1,2,3], Beatriz Molina-Martínez[1], Isabel García[1,3], Arkaitz Carracedo[3,4,5], Luis M. Liz Marzán[1,2,3]
[1]CIC biomaGUNE, Basque Research and Technology Alliance (BRTA), Paseo de Miramón 182, 20014 Donostia - San Sebastián, Spain; [2]Biomedical Research Networking Center in Bioengineering, Biomaterials, and Nanomedicine (CIBER-BBN), 20014 Donostia-San Sebastián, Spain; [3]CIC bioGUNE, Basque Research and Technology Alliance (BRTA), 48160 Derio, Spain; [4]Ikerbasque, Basque Foundation for Science, 48013 Bilbao, Spain; [5]Biomedical Research Networking Center in Oncology (CIBERONC), 48160 Derio, Spain

11:25am - 11:40am

Identification of immune cell phenotypes to study cell-material and tumor-immune interactions

Julia Marzi[1,2,3], Nora Feuerer[1,2], Daniel Carvajal Berrio[1,3], Martin Weiss[2,4], Peter Loskill[2,5], Katja Schenke-Layland[1,2,3,6]
[1]Institute of Biomedical Engineering, Department for Medical Technologies & Regenerative Medicine, Eberhard Karls University Tübingen, Germany; [2]NMI Natural and Medical Sciences Institute at the University of Tübingen, Reutlingen, Germany; [3]Cluster of Excellence iFIT (EXC 2180) "Image-Guided and Functionally Instructed Tumor Therapies", Eberhard Karls University Tübingen, Germany; [4]Department of Women's Health, Eberhard Karls University Tübingen, Germany; [5]Institute of Biomedical Engineering, Department for Microphysiological Systems, Eberhard Karls University Tübingen, Germany; [6]Dept. of Medicine/Cardiology, University of California Los Angeles (UCLA), Los Angeles/CA, USA

NEWT-6: New Techniques 6

Wednesday, August 17, 2022
10:00am - 11:50am
102A (156)

10:00am - 10:20am

Ultrafast Raman Spectroscopy in the Single Phonon Regime: Entangling Light and Vibration

Christophe Galland
EPFL, Switzerland

10:20am - 10:35am

Raman Spectroscopy for Blue Bioeconomy

Simona Cinta Pinzaru
Babes-Bolyasi University, Romania

10:35am - 10:50am

Improving SERS Reproducibility and Throughput by Affordable Custom-Made Spinning Cell Device

Nicolò Simone Villa[1], Federica Iacoe[1], Chiara Zanchi[1], Paolo Maria Ossi[2], Matteo Tommasini[1], Andrea Lucotti[1]
[1]Department of Chemistry, Materials and Chemical Engineering "G. Natta", Politecnico di Milano, Italy; [2]Department of Energy, Politecnico di Milano, Italy

10:50am - 11:05am

Raman spectroscopy for biodegradation monitoring of anthropogenic organic contaminants in a diffusive fluid matrix

Mario Marchetti[1], Marc Offroy[2], Patrice Bourson[3], Ferroudja Abdat[3], Guillaume Casteran[4]
[1]MAST-FM2D, Univ Gustave Eiffel, IFSTTAR; [2]Université de Lorraine, CNRS, LIEC; [3]LMOPS/CentraleSupelec EA 4423, Université de Lorraine; [4]Direction Générale de l'Aviation Civile—Service Technique de l'Aviation Civile

11:05am - 11:20am

Quantitative analysis of the hyperfine structure of binary sodium silicate glasses and their melts by Raman spectroscopy jointly with NMR

Jinglin You
State Key Laboratory of Advanced Special Steel & Shanghai Key Laboratory of Advanced Ferrometallurgy & School of Materials Science and Engineering, Shanghai University, China

11:20am - 11:35am

Sensing dopamine with Fe(III)-sensitised AuNP monolayer 1nm-gap SERS films

Marika Niihori[1], Tamas Foldes[2], Rakesh Arul[1], David-Benjamin Grys[1], Charlie Readman[1], Bart de Nijs[1], Edina Rosta[2], Jeremy J Baumberg[1]
[1]Nanophotonics Centre, Dept of Physics, Cavendish Laboratory, University of Cambridge, UK; [2]Dept of Physics and Astronomy, University College London, UK

NLTR-4: Non-linear and Time Resolved 4

Wednesday, August 17, 2022
10:00am - 11:50am
103A (144)

10:00am - 10:30am

Ultrafast dynamics at the water interfaces revealed by femtosecond phase-sensitive nonlinear vibrational spectroscopy

Tahei Tahara
RIKEN, Japan

10:30am - 10:50am

Probing Reaction Dynamics in Higher-Lying States using Transient Stimulated Raman Spectroscopy

Timothy J. Quincy, Matthew S. Barclay, Marco Caricato, Christopher G. Elles
University of Kansas, United States of America

10:50am - 11:05am

Chemically resolved pump-probe investigations of molecular dynamics

Riccardo Mincigrucci, Emiliano Principi, Claudio Masciovecchio
Elettra Sincrotrone Trieste, Italy;

11:05am - 11:20am

Ultrafast spectroscopy of oriented single crystals of [2.2]Paracyclophane: Time resolved springing of a molecular "trap"

Omer Shalom Haggag, Noam Levinsky, Sanford Ruhman
The Hebrew University of Jerusalem, Israel

11:20am - 11:35am

Vibrational sum-frequency generation spectroscopy reveals glycosaminoglycan structure and its interaction with lipid membranes

Gergo Peter Szekeres[1,2], Szilvia Krekic[3,4,5], Rebecca L. Miller[6], Mark Mero[7], Kevin Pagel[1,2], Zsuzsanna Heiner[3]
[1]Institut für Chemie und Biochemie, Freie Universität Berlin, Germany; [2]Department of Molecular Physics, Fritz-Haber-Institut der Max-Planck-Gesellschaft, Berlin, Germany; [3]School of Analytical Sciences Adlershof, Humboldt-Universität zu Berlin, Berlin, Germany; [4]Institute of Biophysics, Biological Research Centre, Szeged, Hungary; [5]Doctoral School of Multidisciplinary Medical Sciences, University of Szeged, Hungary; [6]Copenhagen Center for Glycomics, Department of Cellular and Molecular Medicine, Faculty Sciences, University of Copenhagen, Denmark; [7]Max Born Institute for Nonlinear Optics and Short Pulse Spectroscopy, Berlin, Germany

SERS-6: Sers/Ters 6

Wednesday, August 17, 2022
10:00am - 11:50am
101A (207)

10:00am - 10:20am

SERS detection schemes in complex biological matrices

Dana Cialla-May[1,2,3], Juergen Popp[1,2,3]
[1]Leibniz Institute of Photonic Technology, Germany; [2]Friedrich Schiller University Jena; [3]Research Campus Infectognostic

10:20am - 10:35am

Tip-enhanced Raman Spectroscopy (TERS) of core-shell block copolymer micelles with a cross-linked core

Christiane Höppener[1], Johannna Katrin Elter[2], Felix Helmut Schacher[2,3], Volker Deckert[1,3,4]
[1]Leibniz Institute of Photonic Technologies (IPHT) and Institute of Physical Chemistry Lessingstraße 10, D-07743 Jena, Germany; [2]Institute of Organic Chemistry and Macromolecular Chemistry (IOMC), Friedrich-Schiller-University Jena, Lessingstraße 8, D-07743 Jena, Germany; [3]Jena Center for Soft Matter (JCSM), Friedrich-Schiller-University Jena, Philosophenweg 7, Germany; [4]Abbe Center of Photonics, Friedrich-Schiller-Universität Jena, Lessingstraße 10, D-07743 Jena, Germany and Institute of Quantum Science and Engineering, Texas A&M University, College Station, TX 77843-4242, USA

10:35am - 10:50am

Nanostars for label-free SERS

Cecilia Spedalieri, Janina Kneipp
Humboldt-Universität zu Berlin, Germany

10:50am - 11:05am

Reliable determination of SERS enhancement factor: molecular quantification through reference-free X-ray fluorescence

Eleonora Cara[1], Luisa Mandrile[1], Federica Celegato[1], Alessio Sacco[1], Andrea Mario Giovannozzi[1], Andrea Mario Rossi[1], Philipp Hoenicke[2], Yves Kayser[2], Burkhard Beckhoff[2], Natascia De Leo[1], Davide Marchi[3], Alberto Zoccante[3], Maurizio Cossi[3], Michele Laus[3], Micaela Castellino[4], Luca Boarino[1], Federico Ferrarese Lupi[1]
[1]Istituto Nazionale di Ricerca Metrologica, INRiM, Italy; [2]Physikalisch-Technische Bundesanstalt, PTB, Germany; [3]Università del Piemonte Orientale, UPO, Italy; [4]Politecnico di Torino, PoliTO, Italy

11:05am - 11:20am

Detection of induced chirality by surface-enhanced Raman optical activity

Debraj Gangopadhyay[1], Moumita Das[1,2], Jaroslav Šebestík[1], Josef Kapitán[3], Petr Bouř[1,2]
[1]Institute of Organic Chemistry and Biochemistry, Academy of Sciences, Flemingovo náměstí 2, Prague 16610, Czech Republic; [2]Department of Analytical Chemistry, University of Chemistry and Technology, Technická 5, Prague 16628, Czech Republic; [3]Department of Optics, Palacký University Olomouc, 17. listopadu 12, Olomouc, 77146, Czech Republic

5:05pm - 5:20pm

Development of a Versatile SERS Sensor using Tyramine-medicated Crosslinking Chemistry

Hyejin Chang[1,2]
[1]Division of Science Education, Kangwon National University, Chuncheon 24341, Republic of Korea; [2]Kangwon Radiation Convergence Research Support Center, Kangwon National University, Chuncheon 24341, Republic of Korea

11:35am - 11:50am

Tip-Enhanced Raman Spectroscopic Imaging of Phenyl and Benzyne on Cu(100)

Benjamin N. Taber[1], Nuvraj K. Bilkhu[2], V. Ara Apkarian[1], Joonhee Lee[1]
[1]University of Nevada, Reno, United States of America; [2]Department of Physics, University of Nevad

TH-3: Fundamentals and Theory 3

Wednesday, August 17, 2022
10:00am - 11:50am
103B (144)

10:00am - 10:30am

Computational resonant Raman spectroscopy of 2D materials: Exciton-phonon coupling and non-adiabatic effects

Ludger Wirtz, Sven Reichardt
University of Luxembourg, Luxembourg

10:30am - 10:50am

2D Impulsively Stimulated Resonant Raman Spectroscopy of Molecular Excited States

Giuseppe Fumero[1,2], Christoph Schnedermann[3,4], Giovanni Batignani[1], Torsten Wende[3], Matz Liebel[3,5], Giovanni Bassolino[3], Carino Ferrante[1,6], Shaul Mukamel[7], Philipp Kukura[3], Tullio Scopigno[1,6]
[1]Department of Physics, Sapienza University of Rome, Rome, Italy; [2]Department of Basic and Applied Sciences for Engineering, Sapienza University of Rome, Rome, Italy; [3]Physical and Theoretical Chemistry Laboratory, University of Oxford, Oxford, United Kingdom; [4]Cavendish Laboratory, University of Cambridge, United Kingdom; [5]ICFO - Institut de Ciencies Fotoniques, Barcelona, Spain; [6]Istituto Italiano di Tecnologia, Center for Life Nano Science @Sapienza, Roma, Italy; [7]Department of Chemistry and Physics and Astronomy, University of California, Irvine, USA

10:50am - 11:05am

Anti-Stokes Raman scattering and sound velocity of monolayer graphene

Xin Cong[1], Ping-Heng Tan[1], Pedro Venezuela[2]
[1]Institute of Semiconductors, Chinese Academy of Sciences, People's Republic of China; [2]Instituto de Física, Universidade Federal Fluminense, Niterói, Brazil

11:05am - 11:20am

Moiré phonons in twisted bilayer MoS2

Miao-Ling Lin, Qing-Hai Tan, Ping-Heng Tan
State Key Laboratory of Superlattices and Microstructures, Institute of Semiconductors, Chinese Academy of Sciences, Beijing, China

11:20am - 11:35am

The Raman to rationalize the electrochemical mechanisms of the positive electrodes of Li-ion batteries

Mouna Ben Yahia
ICGM-University of Montpellier, France

THURSDAY ORAL PRESENTATIONS

PLN 6: Plenary 6

Thursday, August 18, 2022
8:45am - 9:30am
Ballroom 104 PLENARY (1120)

8:45am - 9:30am

Making Raman spectroscopy ultrafast

Philipp Kukura
University of Oxford, United Kingdom

NEWT-7: New Techniques 7

Thursday, August 18, 2022
10:00am - 11:50am
102A (156)

10:00am - 10:20am

Timing is Everything: A Quest for More Information from Coherent Raman Spectroscopy and Imaging

Vladislav V Yakovlev
Texas A&M University, United States of America

10:20am - 10:40am

Probing Spectral Fluctuations and SERS Imaging at High Speed

Alexandre Brolo[1], Nathan Lindquist[2]
[1]University of Victoria, Canada; [2]Bethel University

10:40am - 10:55am

Simplified FM CARS and FM SRS with up to 18-fold contrast improvement

Kristin Wallmeier[1], Thomas Würthwein[1], Tim Hellwig[2], Max Brinkmann[2], Nick Lemberger[1], Carsten Fallnich[1,3]
[1]University of Münster, Münster, Germany; [2]Refined Laser Systems GmbH, Münster, Germany; [3]Cells in Motion Interfaculty Centre, University of Münster, Münster, Germany

10:55am - 11:10am

Efficient and adaptable sampling techniques for rapid and accurate determination of complex samples by Surface Enhanced Raman Spectroscopy

Zhuomin Zhang
Sun Yat-sen University, China, People's Republic of

11:10am - 11:25am

Using a flight-like Raman spectrometer to identify redox couples: a potential energy source for life.

Melissa McHugh, Ian Hutchinson, Hannah Lerman
University of Leicester, United Kingdom

11:25am - 11:40am

Unsupervised Raman spectroscopy imaging of bio-interfaces in analogue samples in preparation for space missions

Cedric MALHERBE[1], Lucas DEMARET[1], Ian B. HUTCHINSON[2], Gauthier EPPE[1]
[1]University of Liège, Belgium; [2]University of Leicester, United Kingdom

NLTR-5: Non-linear and Time Resolved 5

Thursday, August 18, 2022
10:00am - 11:50am
103A (144)

10:00am - 10:20am

Dependence of Vibrational Energy Transfer on Distance in a Four-helix Bundle Protein

Yasuhisa Mizutani
Osaka University, Japan

10:20am - 10:35am

Removing Non-Resonant Background from CARS spectra via Deep Learning

Carlo Michele Valensise[1], Alessandro Giuseppi[2], Federico Vernuccio[1], Alejandro De la Cadena[1], Giulio Cerullo[1], Dario Polli[1]
[1]Physics Department, Politecnico di Milano, Italy; [2]DIAG, University of Rome "La Sapienza"

10:35am - 10:50am

High-speed fingerprint broadband CARS with supercontinuum generation in bulk media and deep learning spectral denoising

Federico Vernuccio[1], Arianna Bresci[1], Alejandro De la Cadena[1], Benedetta Talone[1], Chiara Ceconello[1], Francesco Manetti[1], Renzo Vanna[2], Giulio Cerullo[1,2], Dario Polli[1,2]
[1]Department of Physics, Politecnico di Milano, P.zza Leonardo da Vinci 32, 20133 Milan, Italy; [2]CNR-Institute for Photonics and Nanotechnologies (IFN-CNR), P.zza Leonardo Da Vinci 32, 20133 Milan, Italy

10:50am - 11:05am

Nanoscale coherent Raman detection via the local field enhancement at a single plasmonic nanorod

Martina Elisena Recchia[1], Dafydd Sion Harlow[1], Wolfgang Langbein[2], Paola Borri[1]
[1]Cardiff University School of Biosciences, Museum Avenue, Cardiff CF10 3AX, United Kingdom; [2]Cardiff University School of Physics and Astronomy, The Parade, Cardiff CF24 3AA, United Kingdom.

11:05am - 11:20am

Broadband Hadamard spectral acquisition for a high speed and high spectral resolution Stimulated Raman Microscope

Luca Genchi, Andrea Bucci, Siarhei Laptenok, Carlo Liberale
Biological and Environmental Science and Engineering Division, King Abdullah University of Science and Technology, Saudi Arabia

11:20am - 11:35am

Assessment of formulated product performance with stimulated Raman scattering microscopy

Natalie Anne Belsey[1], Dimitrios Tsikritsis[1], Richard Guy[2]
[1]National Physical Laboratory, United Kingdom; [2]University of Bath, United Kingdom

11:35am - 11:50am

Towards excited state Raman scattering studies of single-molecules

Jana Ockova
The Institute of Photonic Sciences in Barcelona (ICFO), Spain

SERS-7: Sers/Ters: Applications to Biological Systems 7

Thursday, August 18, 2022
10:00am - 11:50am
101A (207)

10:00am - 10:20am

Bringing SERS to the Clinic: A Nanomaterials Chemistry Approach to Plasmonics (Prerecorded talk)

Supriya Atta[1], Manjari Bhamidipati[1], Kholud Dardir[1], Ted V. Tsoulos[2], Hao Wang[1], Zhaolin Xue[1], Laura Fabris[1]
[1]Rutgers University, United States of America; [2]École Polytechnique Fédérale de Lausanne

10:20am - 10:35am

Raman fingerprint as biomarker for the diagnosis of neurodegenerative diseases

Cristiano Carlomagno, Alice Gualerzi, Silvia Picciolini, Marzia Bedoni
Fondazione Don Gnocchi, Italy

10:35am - 10:50am

Nanostars – decorated microfluidic devices for SERS targeting of biomolecules in liquid samples

Caterina Dallari[1], Caterina Credi[1,2], Elena Lenci[3], Andrea Trabocchi[3], Riccardo Cicchi[1,4], Francesco Saverio Pavone[1,4,5]
[1]European Laboratory for Non Linear Spectroscopy (LENS); [2]Department of Industrial Engineering, University of Florence; [3]Department of Chemistry, University of Florence; [4]National Institute of Optics, National Research Council (INO-CNR); [5]Department of Physics, University of Florence

10:50am - 11:05am

Spatial Separation of Plasmonic Hot Electron Generation and a Hydrodehalogenation Reaction Center using a DNA Wire

Sergio Kogikoski Junior, Anushree Dutta, Ilko Bald
University of Potsdam, Germany

11:05am - 11:20am

SERS-active nanostructures for biomedical diagnostics and pathogen detection: towards the development of a portable SERS analyzer.

Agnieszka Kaminska[1], Evelin Witkowska[1], Krzysztof Niciński[1], Aneta Kowalska[1], Sylwia Berus[1], Marta Czaplicka[1], Tomasz Szymborski[1], Dorota Korsak[2], Joanna Trzcińska-Danielewicz[3], Anna Skoczyńska[4]
[1]Institute of Physical Chemistry, Polish Academy of Sciences, Poland; [2]University of Warsaw, Faculty of Biology, Institute of Microbiology, Applied Microbiology, Miecznikowa 1, 02-096 Warsaw, Poland; [3]Department of Molecular Biology, Institute of Biochemistry, Faculty of Biology, University of Warsaw, Miecznikowa 1, 02-096 Warsaw, Poland; [4]National Medicines Institute, Chełmska 30/34, 00-725 Warsaw, Poland

11:20am - 11:35am

Characterisation of the Cyanate Inhibited State of Cytochrome c Oxidase with surface-enhanced resonance Raman spectroscopy (SERRS)

Fabian Kruse[1], Inez Weidinger[1], Anh Duc Nguyen[2], Jovan Dragelj[2], Maria Andrea Mroginski[2], Joachim Heberle[3], Ramona Schlesinger[3]
[1]Technische Universität Dresden, Institute of Chemistry, Germany; [2]Technische Universität Berlin, Department of Chemistry, Germany; [3]Freie Universität Berlin, Department of Physics, Germany

SERS-8: Sers/Ters: Applications to Material Science 8

Thursday, August 18, 2022
10:00am - 11:50am
101B (207)

10:00am - 10:15am

SPPs controlling and plasmonic catalysis on nanomaterials

Zhenglong Zhang, Hairong Zheng
Shaanxi Normal University, China, People's Republic of

10:15am - 10:30am

Tip-enhanced Raman Spectroscopy Protocol for Nanoscale Chemical Imaging of Commercial Functionalized Few-layer Graphene

Naresh Kumar[1], Barry Brennan[1], Bert Weckhuysen[2], Thomas Howe[3], Lee Edwards[3], Andrew Wain[1], Andrew Pollard[1]
[1]National Physical Laboratory, Hampton Road, TW11 0LW Teddington, United Kingdom; [2]Utrecht University, Universiteitsweg 99, 3584 CG Utrecht, the Netherlands; [3]Haydale Limited, Clos Fferws, Parc Hendre, SA18 3BL Ammanford, United Kingdom

10:30am - 10:45am

Study of chemical enhancement mechanism in various semiconductor substrates based Surface enhanced Raman spectroscopy (SERS)

Jayeong Kim[1], Yujin Jang[1], Suyeun Baek[1], Eunji Ko[1], Nam-Jung Kim[2], Heehun Kim[2], Gyu-Chul Yi[2], Po-Cheng Tsai[3], Shih-Yen Lin[3], Yukyung Shin[4], Myung Hwa Kim[4], Seokhyun Yoon[1]
[1]Department of Physics, Ewha womans university, Seoul, Republic of (South Korea); [2]Department of Physics and Astronomy, Seoul National University, Seoul, Korea; [3]Research Center for Applied Sciences, Academia Sinica, Taipei, Taiwan; [4]Department of Chemistry and Nanoscience, Ewha Womans University, Republic of Korea

10:45am - 11:00am

Correlated KPFM and TERS Imaging to Elucidate Defect-induced Inhomogeneities in Oxygen Plasma Treated 2D MoS2 Nanosheets

Sanju Gupta
Penn State University, United States of America

11:00am - 11:15am

ULF TERS imaging –a novel technique for assessing the layer interaction in vertical heterostructures of 2D semiconductors.

Alvaro Rodriguez[1], Andrey Krayev[2], Matěj Velický[1], Peng Chen[3], Xiangfeng Duan[4], Patrick El-Khoury[5], Otakar Frank[1]
[1]J. Heyrovský Institute of Physical Chemistry, Czech Republic; [2]HORIBA Scientific, USA; [3]School of Microelectronics, Southern University of Science and Technology, China; [4]Department of Chemistry and Biochemistry and California NanoSystems Institute, University of California, Los Angeles, USA; [5]Physical Sciences Division Pacific Northwest National Laboratory, USA

11:15am - 11:30am

Sub-diffraction nanoscale Raman imaging of the interface in a 2D semiconductor heterostructure

John Pierce Fix[1], Sourav Garg[2], Andrey Krayev[3], Connor Flanery[1], Michael Colgrove[1], Audrey Sulkanen[4], Minyuan Wang[4], Gang-Yu Liu[4], Patrick Kung[2], Nicholas J Borys[1]
[1]Department of Physics, Montana State University, Bozeman Montana; [2]Department of Electrical and Computer Engineering, University of Alabama, Tuscaloosa Alabama; [3]HORIBA Scientific, Novato California; [4]Department of Chemistry, University of California Davis, Davis California

11:30am - 11:45am

SERS spectroelectrochemical study of the first stages of electrochemical and chemical aniline oxidation at different pH

Zuzana Morávková, Ivana Šeděnková, Patrycja Bober
Institute of Macromolecular Chemistry, CAS, Czech Republic

XRR-1: X Ray Raman 1

Thursday, August 18, 2022
10:00am - 11:50am
103B (144)

10:00am - 10:25am

Probing elementary molecular events by stimulated X -ray Raman spectroscopy

Shaul Mukamel
University of California - Irvine, United States of America

10:25am - 10:50am

Resonant Inelastic X-Ray Scattering of condensed matter

Faris Gelmukhanov
Royal Institute of Technology, Sweden

10:50am - 11:15am

X ray Raman FEL based opportunities

James Cryan
SLAC National Accelerator Laboratory, United States of America

11:15am - 11:40am

A novel photo-induced lattice instability in SnSe observed by femtosecond x-ray scattering

Yijing Huang[1], Shan Yang[2], Samuel Teitelbaum[1], Gilberto De la Peña[1], Takahiro Sato[1], Matthieu Chollet[1], Diling Zhu[1], Jennifer Niedziela[2], Dipanshu Bansal[2], Andrew May[3], Aaron Lindenberg[1], Olivier Delaire[2], David Reis[1], Mariano Trigo[1]
[1]Stanford University/SLAC National Accelerator Laboratory, United States of America; [2]Duke University, United States of America; [3]Oak Ridge National Laboratory, United States of America

PD-3: Post Deadline 3

Thursday, August 18, 2022
2:30pm - 4:00pm
101A (207)

2:30pm - 3:00pm

Nonlocal Nonlinear Phononics

Meredith Henstridge[1,2], Michael Först[2], Edward Rowe[2], Michael Fechner[2], Andrea Cavalleri[2,3]
[1]SLAC National Laboratory, Menlo Park, CA, United States of America; [2]Max Planck Institute for the Structure and Dynamics of Matter, Hamburg, Germany; [3]Department of Physics, Clarendon Laboratory, University of Oxford, Oxford, United Kingdom

3:00pm - 3:30pm

Picosecond energy transfer in a transition metal dichalcogenide–graphene heterostructure revealed by transient Raman spectroscopy

Carino Ferrante[1,2,3,4], Giorgio Di Battista[4,5,6], Luis E. Parra Lopez[5], Giovanni Batignani[3,4], Etienne Lorchat[5], Alessandra Virga[3,4], Stephane Berciaud[5], Tullio Scopigno[4,1,3]

[1]Graphene Labs, Istituto Italiano di Tecnologia, I-16163 Genova, Italy; [2]Innovative Nuclear Systems Laboratory, Fusion and Technology for Nuclear Safety and Security Department, "Italian National Agency for New Technologies, Energy and Sustainable Economic Development," Casaccia, 00123 Roma, Italy; [3]Center for Life Nano Science @Sapienza, Istituto Italiano di Tecnologia, I-00161 Roma, Italy; [4]Dipartimento di Fisica, Università di Roma "La Sapienza," 00185 Roma, Italy; [5]Institut de Physique et Chimie des Matériaux de Strasbourg, UMR 7504, Université de Strasbourg, CNRS, F-67000 Strasbourg, France; [6]Fakultät für Physik, Ludwig-Maximilians-Universität München, Geschwister-Scholl-Platz 1, 80539 München, Germany

3:30pm - 4:00pm

Covariance-based stochastic Raman spectroscopy

Daniele Fausti

University of Trieste and University of Erlangen-Nuremberg, Italy

PD-4: Post Deadline 4

Thursday, August 18, 2022
2:30pm - 4:00pm
101B (207)

2:30pm - 3:00pm

Gold nanomesh for wearable SERS

Kotaro Hiramatsu[1], Limei Liu[1,2], Pablo Martinez Pancorbo[1], Ting-Hui Xiao[1], Saya Noguchi[1], Machiko Marumi[1], Julia Gala de Pablo[1], Siddhant Karhadkar[1], Hiroki Segawa[3], Yasutaka Kitahama[1], Tamitake Itoh[4], Junle Qu[2], Kuniharu Takei[5], Keisuke Goda[1,6,7]

[1]University of Tokyo, Japan; [2]Shenzhen University; [3]National Research Institute of Police Science; [4]National Institute of Advanced Industrial Science and Technology; [5]Osaka Metropolitan University; [6]Wuhan University; [7]University of California, Los Angeles

3:00pm - 3:30pm

In vivo biomolecular imaging of zebrafish embryos using confocal Raman specytroscopy

Håkon Høgset[1], Conor C. Horgan[1], James P.K. Armstrong[1], Mads S. Bergholt[1], Vincenzo Torraca[2], Qu Chen[1], Timothy J. Keane[1], Laurence Bugeon[1], Margareth J. Dallman[1], Serge Mostowy[2], Molly M. Stevens[1]

[1]Imperial College London; [2]London School of Hygiene and Tropical Medicine

3:30pm - 4:00pm

Quantification in Stimulated Raman scattering microscopy through water normalization

Dan Fu

University of Washington, United States of America

BIO-7: Biology and Biomedicine 7

Thursday, August 18, 2022
4:30pm - 6:00pm
101B (207)

4:30pm - 5:00pm

Machine learning and chemometrics as tools for bio-medical Raman data analysis

Thomas Wilhelm Bocklitz[1,2]

[1]Leibniz Institute of Photonic Technology (Leibniz-IPHT), Member of Leibniz Health Technologies, Jena, Germany; [2]Institute of Physical Chemistry and Abbe Center of Photonics (IPC), Friedrich-Schiller-University

5:00pm - 5:15pm

Visualizing cell wall dynamics during yeast sporulation process by Raman microspectroscopy and MCR-ALS technique

ohammad Imrul Hossain[1], Hemanth Noothalapati[2,3], Tatsuyuki Yamamoto[1,2]

[1]Faculty of Life and Environmental Science, Shimane University, Ma; [2]Raman project center for medical and biological applications, Shimane University, Matsue, Japan; [3]Research Administration office, Shimane University, Matsue, Japan

5:15pm - 5:30pm

Raman spectroscopy and semi-supervised learning for the investigation of biochemical response in patients receiving HDR-brachytherapy

Kirsty Milligan[1], Xinchen Deng[1], Ramie Ali-Adeeb[1], Phillip Shreeves[2], Juanita M. Crook[3], Alexandre G. Brolo[4], Julian J. Lum[5], Jeffrey L. Andrews[2], Andrew Jirasek[1]

[1]Medical Physics, The University of British Columbia, Canada; [2]Department of Mathematics and Statistics, The University of British Columbia, Canada; [3]BC Cancer, Centre for the Southern Interior, Kelowna, Canada; [4]Department of Chemistry, The University of Victoria, Canada; [5]BC Cancer, Victoria, Canada

MAT-6: Materials 6

Thursday, August 18, 2022
4:30pm - 6:00pm
102B (156)

4:30pm - 4:50pm

Development of novel techniques for the analysis of microplastics using Raman imaging

Jovan Badzoka[1], Martin Brunner[1], Maria Moll[2], Christian Huck[1]

[1]Leopold-Franzens University of Innsbruck, Austria; [2]Medical University of Innsbruck, Austria

4:50pm - 5:05pm

Multi-Wavelength Raman Spectroscopy of Poly(Furfuryl Alcohol)

Francesco D'Amico[2], Maurizio Ermanno Musso[1], Raphael J.F. Berger[1], Nicola Cefarin[2], Durval Bertoldo Menezes[3], Andreas Reyer[1], Letizia Scarabattoli[1,6], Thomas Sepperer[4], Gianluca Tondi[4,5], Thomas Schnabel[4], Lisa Vaccari[2]
[1]University of Salzburg, Department of Chemistry and Physics of Materials, Salzburg, Austria; [2]Elettra-Sincrotrone Trieste S.C.p.A., Basovizza (TS), Italy; [3]Federal Institute of Triângulo Mineiro, Uberlândia, Minas Gerais, Brazil; [4]Salzburg University of Applied Sciences, Forest Products & Biogenic Technology, Kuchl, Austria; [5]Land, Environment, Agriculture and Forestry Department, University of Padova, Legnaro (PD), Italy; [6]Università degli Studi di Perugia, Department of Chemistry, Perugia, Italy

5:05pm - 5:20pm

Renewable Hybrid Plasmonic Materials as Platforms for Chemical Reactions

Sivoney Ferreira de Souza
University of Potsdam, Germany

5:20pm - 5:35pm

Vibrational and electronic properties of sp-carbon chains probed by synchrotron-based UV resonance Raman spectroscopy

Pietro Marabotti[1], Matteo Tommasini[2], Chiara Castiglioni[2], Patrick Serafini[1], Mariagrazia Tortora[3], Barbara Rossi[3], Sonia Peggiani[1], Andrea Li Bassi[1], Valeria Russo[1], Carlo Spartaco Casari[1]
[1]Micro and Nanostructured Materials Laboratory - NanoLab, Department of Energy, Politecnico di Milano via Ponzio 34/3, I-20133, Milano, Italy; [2]Department of Chemistry, Materials and Chem. Eng. 'G. Natta', Politecnico di Milano Piazza Leonardo da Vinci 32, I-20133, Milano, Italy; [3]Elettra Sincrotrone Trieste, S.S. 114 km 163.5, Basovizza, 34149 Trieste, Italy

NEWT-8: New Techniques 8

Thursday, August 18, 2022
4:30pm - 6:00pm
102A (156)

4:30pm - 4:50pm

Compact Fiber Lasers for Coherent Raman Scattering Microscopy and Spectroscopy

Khanh Kieu
University of Arizona, United States of America

4:50pm - 5:05pm

Miniaturized dual laser Raman spectrometer with real-time spectral and intensity calibration for in-vivo skin diagnostics

Yurii Pilhun[1,2], Oleksii Ilchenko[1,3], Andrii Kutsyk[1,2,4]
[1]Lightnovo ApS, Denmark; [2]Taras Shevchenko National University of Kyiv, Faculty of Radio Physics, Electronics and Computer Systems, Ukraine; [3]Technical University of Denmark, Department of Health Technology, Denmark; [4]Technical University of Denmark, Department of Energy Conversion and Storage, Denmark

5:05pm - 5:20pm

Application of LC-Raman method to sugar analysis

Liang-Hung Weng, Hirotsugu Hiramatsu
National Yang Ming Chiao Tung University, Taiwan

NLTR-6: Non-linear and Time Resolved 6

Thursday, August 18, 2022
4:30pm - 6:00pm
103A (144)

4:30pm - 5:00pm

Ballistic of photoisomerization in 13-cis, 15-syn microbial rhodopsins: finally a predictive structure / photodynamic correlation?

Partha Malakar, Sanford Ruhman
Hebrew University, Israel

5:00pm - 5:15pm

Fluorescence-Encoded Time-Domain Coherent Raman Spectroscopy

Phillip Charles McCann[1], Kotaro Hiramatsu[1,2,3], Keisuke Goda[1,4,5]
[1]Department of Chemistry, The University of Tokyo, Tokyo 113-0033, Japan; [2]Research Centre for Spectrochemistry, The University of Tokyo, Tokyo 113-0033, Japan; [3]PRESTO, Japan Science and Technology Agency, Saitama 332-0012, Japan; [4]Department of Bioengineering, University of California, Los Angeles, California 90095, USA; [5]Institute of Technological Sciences, Wuhan University, Hubei 430072, China

5:15pm - 5:30pm

Ultrafast structural changes of large [Au(CN)2-] oligomers in triplet excited state observed by time-domain Raman spectroscopy

Li Liu[1], Hikaru Kuramochi[1,2,3], Munetaka Iwamura[4], Koichi Nozaki[4], Tahei Tahara[1,2]
[1]Molecular Spectroscopy Laboratory, RIKEN, Japan; [2]Ultrafast Spectroscopy Research Team, RIKEN Center of Advanced Photonics (RAP), RIKEN; [3]Research Center of Integrative Molecular Systems, Institute for Molecular Science; [4]Graduate School of Science and Engineering, University of Toyama

R-Quiz: Raman Quiz

Thursday, August 18, 2022
4:30pm - 6:00pm
101A (207)

FRIDAY ORAL PRESENTATIONS

BIO-8: Biology and Biomedicine 8

Friday, August 19, 2022
8:45am - 10:35am
101B (207)

8:45am - 9:05am

785 nm SERS of metalloporphyrins: Chemical enhancement, Herzberg-Teller coupling and forensics

Harrison Ingraham[1,2], Ranjith Premasiri[1,2], James McNeeley[1,2], Lawrence Ziegler[1,2]
[1]Boston University, United States of America; [2]Photonics Center, Boston University

9:05am - 9:20am

Raman Metrology for Live Cell Imaging

Caitlin Thomson[1,2], Dimitrios Tsikritsis[2], Duncan Graham[1], Natalie Belsey[2]
[1]University of Strathclyde, United Kingdom; [2]National Physical Laboratory, United Kingdom

9:20am - 9:35am

Raman Microscopy of Microalgae: New Challenges and Opprotunities in the World of Photosynthetic Microorganisms

Peter Mojzeš[1,3], Šárka Moudříková[1], Jana Pilátová[2], Lu Gao[3], Ladislav Nedbal[3], Kateřina Bišová[4], Alexei Solovchenko[5]
[1]Charles University, Faculty of Mathematics and Physics, Czech Republic; [2]Charles University, Faculty of Science, Czech Republic; [3]Forschungszentrum Jülich, Germany; [4]Centre Algatech, Institute of Microbiology, Czech Republic; [5]Moscow State University, Faculty of Biology, Russia

9:35am - 9:50am

Detection of Diseases Using SERS: Coupling of Magnetic Concentration and Principal Component Analysis for Zika Virus Detection

Raisa Lacerda Silveira[1], Sergio Hiroshi Toma[1], Koiti Araki[1], Alexandre Guimaraes Brolo[2], Paola Corio[1], Jonnatan Julival Santos[1]
[1]University of Sao Paulo, Brazil; [2]University of Victoria

9:50am - 10:05am

Hydration Water Character on Atomically Dislocated Surfaces Revealed by Surface Enhanced Raman Spectroscopy

dongha shin
Inha University, Korea, Republic of (South Korea)

MAT-7: Materials 7

Friday, August 19, 2022
8:45am - 10:35am
102B (156)

8:45am - 9:05am

Exciton-Phonon Coupling in CdSe Nanoplatelets from Resonance Raman Intensity Analysis

Anne Kelley
Univ of California - Merced, United States of America

9:05am - 9:20am

Electrospun Membrane doped with Gold Nanorods for Surface-enhanced Raman Spectroscopy

Ziwei Wang[1], Andrea Lucotti[1], Luigi Brambilla[1], Matteo Tommasini[1], Chiara Bertarelli[1,2]
[1]Politecnico di Milano, Italy; [2]Center for Nano Science and Technology @PoliMi, Istituto Italiano di Tecnologia, Italy

NEWT-9: New Techniques 9

Friday, August 19, 2022
8:45am - 10:35am
102A (156)

8:45am - 9:15am

Surface enhanced coherent Raman scattering: blessing or curse?

Eric Olaf Potma
University of California, Irvine, United States of America

9:15am - 9:30am

Research progress of trace uranyl ions detection by SERS-based microfluidic devices

XUAN HE, YU LIU, XIAOLIN WANG
China Academy of Engineering Physics, Mianyang 621900, China;, China, People's Republic of

9:30am - 9:45am

A study on the effect of functional groups of NIR Raman reporter dyes in quantitative analysis by NIR-SERRS-based LFA

Namhyun Choi, Mujo Adanalic, Asen Dankov, Roland Grzeschik, Sebastian Schlücker
Department of Chemistry and Center for Nanointegration Duisburg-Essen (CENIDE), University of Duisburg-Essen, Germany

9:45am - 10:00am

Raman Lidar Spectrometer: Vertically-Resolved Identification of Chemical Compounds in Atmospheric Pollution

Boyan Tatarov, Detlef Mueller
University of Hertfordshire, United Kingdom

10:00am - 10:15am

N-acetyl-β-D-glucosaminidase activity assay for monitoring insulin-dependent diabetes using Ag-porous Si SERS substrates

Narsingh Nirala, Giorgi Shtenberg
Institute of Agricultural Engineering, Agricultural Research Organization, Volcani Institute, Rishon LeZion, Israel

NLTR-7: Non-linear and Time Resolved 7

Friday, August 19, 2022
8:45am - 10:35am
103A (144)

8:45am - 9:05am

Single-shot femtosecond stimulated Raman histology of gastroscopic biopsy

Zhijie Liu, Jianpeng Ao, Minbiao Ji
Fudan University, China, People's Republic of

9:05am - 9:20am

Coherent Anti-Stokes Raman Scattering-Raman Optical Activity Spectroscopy of a Chiral Organocatalyst in Achiral Solvents

VIKAS KUMAR[1], Till Reichenauer[1], Dennis Jansen[2], Jochen Niemeyer[2], Sebastian Schluecker[1]
[1]Department of Chemistry (Physical Chemistry), Center for Nanointegration Duisburg-Essen (CENIDE) University of Duisburg-Essen, Essen, Germany; [2]Department of Chemistry (Organic Chemistry), Center for Nanointegration Duisburg-Essen (CENIDE) University of Duisburg-Essen, Essen, Germany

9:20am - 9:35am

BCARS down to the nanometer length scale

Franz Hempel[1], Federico Vernuccio[2], Michael Rüsing[1], Giulio Cerullo[2], Dario Polli[2], Lukas M. Eng[1,3]
[1]Institut für Angewandte Physik, Technische Universität Dresden, 01062 Dresden, Germany; [2]Dipartimento di Fisica, Politecnico Milano, 20133 Milano, Italy; [3]ct.qmat: Dresden-Würzburg Cluster of Excellence—EXC 2147, TU Dresden, 01062 Dresden

9:35am - 9:50am

Random Illumination Wide-field Coherent Anti-Stokes Raman Scattering Microscopy

Eric Michele Fantuzzi[1], Sandro Heuke[1], Dominykas Gudavičius[2,3], Randy Bartels[4], Karolis Neimontas[2], Anne Sentenac[1], Hervé Rigneault[1]
[1]Aix Marseille Univ, CNRS, Centrale Marseille, Institut Fresnel, Marseille, France; [2]Light Conversion, Keramiku st.2B LT-10233 Vilnius, Lithuania; [3]Cardiff University, School of Physics and Astronomy, The Parade, Cardiff CF24 3AA, United Kingdom; [4]Colorado State University, Fort Collins, USA

9:50am - 10:05am

Vibrational tags for Raman and infrared-based imaging

Yong Li, Katherine Townsend, Robert Dorn, Jennifer Prescher, Eric Potma
Department of Chemistry, University of California, Irvine

10:05am - 10:20am

Super-multiplex flow cytometry by cyanine-based Raman tags

Ryo Nishiyama[1], Kotaro Hiramatsu[1], Shintaro Kawamura[2], Kosuke Dodo[2], Wei Min[3], Mikiko Sodeoka[2], Keisuke Goda[1]
[1]Department of Chemistry, The University of Tokyo, Tokyo, Japan.; [2]RIKEN Cluster for Pioneering Research, Saitama, Japan.; [3]Department of Chemistry, Columbia University, New York, USA.

10:20am - 10:35am

Robust, high speed low frequency coherent Raman microscopy

Randy Bartels[1], David Smith[1], Siddarth Shivkumar[2], Hervé Rigneault[2]
[1]Colorado State University, United States of America; [2]Fresnel Institute, Marseille, France

SERS-10: Sers/Ters 10

Friday, August 19, 2022
8:45am - 10:35am
101A (207)

8:45am - 9:15am

Plasmonic core-shell nanostructures for in-situ probing surface reactions

Jin-Chao Dong, Hua Zhang, Jian-Feng Li
Xiamen University, China

9:15am - 9:30am

Molecular platform for frequency upconversion at the single-photon level

Philippe Roelli[1], Wen Chen[2], Huatian Hu[3], Diego Martin-Cano[4], Tobias J. Kippenberg[2], Christophe Galland[2]
[1]Nano-optics Group, CIC nanoGUNE, Spain; [2]EPFL, Institute of Physics, Switzerland; [3]Wuhan Institute of Technology, China; [4]Universidad Autónoma de Madrid, Spain

9:30am - 9:45am

New approaches in preparation of metallic nanostructures for SERS by means of low-pressure plasma

Marek Prochazka, Anna Kuzminova, Ondrej Kylian
Charles University, Czech Republic

9:45am - 10:00am

Integrating Sphere Measurements for Paper SERS Sensors

Li-Lin Tay, Shawn Poirier, Ali Ghaemi, John Hulse
National Research Council Canada

10:00am - 10:15am

Multiplexed Spatial Profiling of Cancer Enabled by SERS Nanoparticles
Olga Eremina[1,2], Alexander Czaja[1,2], Augusta Fernando[1,2], Cristina Zavaleta[1,2]
[1]Department of Biomedical Engineering, University of Southern California, 3650 McClintock Ave, Los Angeles, CA 90089, United States; [2]Michelson Center for Convergent Bioscience, University of Southern California, 1002 Childs Way, Los Angeles, CA 90089, United States

PLN 7: Plenary 7

Friday, August 19, 2022
11:05am - 11:50am
Ballroom 104 PLENARY (1120)

11:05am - 11:50am

Stimulated Raman Scattering Imaging: the Next Frontier of Light Microscopy
Wei Min
Columbia University, United States of America

Closing Ceremony and Poster Winner Announcements

Friday: 11:50 am - 12:30 pm - Ballroom 10

TUESDAY POSTER PRESENTATIONS

Poster TUE-A: Poster Session Tuesday Afternoon

Tuesday, August 16, 2022
11:50am - 2:25pm

Probing Zeolite H-ZSM-5 Deactivation using Correlative Hyperspectral Confocal Raman, Fluorescence and Tip-enhanced Fluorescence Spectroscopies
Siiri Bienz[1], Sophie van Vreeswijk[2], Naresh Kumar[1], Bert Weckhuysen[2], Renato Zenobi[1]
[1]ETH Zurich, Switzerland; [2]Utrecht University, Netherlands

Characterization of the cathode material of lithium-ion batteries by Raman spectroscopy
Sergey Mamedov, Michelle Nicole Sestak
HORIBA Scientific, United States of America

Characterising Graphene and 2D Materials by Confocal Raman and Photoluminescence Microscopy
Angela Flack
Edinburgh Instruments, United Kingdom

Circular polarization effects on diesel Raman spectra
J. D. Berrones-Guerrero, C. Frausto-Reyes, M. Ortiz-Morales, M. H. De la Torre
Centro de Investigaciones en Optica, A.C., Mexico

Use of complementary techniques for depth profiling of mobile screen protection covers
Bernd Bleisteiner[1], Sofia Gaiaschi[2], Thibault Brulé[2]
[1]HORIBA Jobin Yvon GmbH, Germany; [2]HORIBA France SAS, France;

AFM-TERS measurements in liquid environment with side illumination/collection
Patrick Hsia[1], Pierre Burgos[2], Marc Chaigneau[1]
[1]Horiba France SAS, France; [2]Horiba UK Ltd., UK

Cavity Enhanced Transmission Raman for Content Uniformity Analysis of Low Dosage Pharmaceutical Tablets
Jun Zhao, Christopher Kautz
B&W Tek, United States of America

Development of a new unique concept for accurate sample measurement across different microscope based molecular spectroscopy system
Kohei TAMURA[1], Carlos MORILLO[2], Yuji HIGUCHI[1], Erika TAIRA[1], Kento AIZAWA[1], Satoko SUZUKI[1], Ken-ichi AKAO[1]
[1]JASCO Corporation, Japan; [2]JASCO Incorporated

Graphene and Phthalocyanine Heterostructures for Surface Enhanced Raman Spectroscopy
Angela Luis Matos, Soraya Y. Flores Chalco, Muhammad Shehzad Sultan, Brad Weiner, Gerardo Morell
University of Puerto Rico Rio Piedras, Puerto Rico (U.S.)

Study of SERS of pharmaceutically significant organic molecule 4, 5-Dicianoimidazole adsorbed on Au nanocolloids: Theoretical modelling using DFT
Subhendu Chandra
Victoria Institution (College), India

TERS Investigation of Combustion-generated Ultrafine Particulate Matter
Ophélie Lancry[1], Jennifer A. Noble[2], Sébastien Legendre[1], Marc Chaigneau[1]
[1]Horiba, France; [2]PIIM, Aix-Marseille Université, France

Confocal Raman Particle Analysis on the Micron Scale Applied to Microplastics, Bacteria and 2D Materials

Thomas Dieing, Miriam Böhmler, Harald Fischer, Matthias Finger, Olaf Hollricher
WITec GmbH, Germany

De-noising and differentiation of low-SNR Raman-spectra of EV's

Mathias Novik Jensen, Benjamin Ricaud, Olav Gaute Hellesø
Dept. of physics and technology, UiT The arctic university of Norway, Norway

Optimizing SERS Structures beyond the monochromatic E4-Model

Henriette Maaß[1,2], Thien Anh Le[1,2], Enno Schatz[1,2], Thorsten Feichtner[1], Bert Hecht[1]
[1]NanoOptics & Biophotonics group, Experimental Physics 5, University of Wuerzburg, Germany; [2]NanoStruct GmbH, Wuerzburg, Germany

Multi-technique assessment of the SERS adsorption isotherm approximation

Evandro Ivanov, Paola Corio
University of São Paulo, Brazil;

SmartSamplingTM: a revolution in Raman imaging

Thibault Brulé, Sébastien Laden, Ludivine Fromentoux, Jérémy Brites
HORIBA France SAS, France

Deep Ultra-Violet Raman Spectroscopy for Eyesafe Standoff Chemical Threat Detection

Shayne Harrel, Adam Wise, Jenny Goulden
Andor Technologies, Belfast, UK

Raman spectroscopy evaluation of indomethacin stability loaded into microcontainers – influence of shape and size

Chiara Mazzoni, Roman Slipets, Oleksii Ilchenko, Lasse Højlund Eklund Thamdrup, Line Hagner Nielsen, Anja Boisen
The Danish National Research Foundation and Villum Foundation's Center for Intelligent Drug Delivery and Sensing Using Microcontainers and Nanomechanics (IDUN), Department of Health Technology, Technical University of Denmark

The impact of graphene derivatives additives on polymer membranes analysed by Raman microspectroscopy

Aleksandra Weselucha-Birczynska[1], Anna Kołodziej[1], Emilie Gérouville[1], Małgorzata Świętek[2], Elżbieta Długoń[3], Marta Błażewicz[3]
[1]Jagiellonian University, Poland; [2]Czech Academy of Sciences, Czech Republic; [3]AGH - University of Science and Technology, Poland

Cl- only capped silver nanoparticles obtained by AgCl photoreduction

Andrei Stefancu[1,2], Stefania Dana Iancu[1,2], Loredana Florina Leopold[2], Nicolae Leopold[1]
[1]Faculty of Physics, Babeș-Bolyai University, Cluj-Napoca, Romania; [2]Faculty of Food Science and Technology, University of Agricultural Sciences and Veterinary Medicine, Cluj-Napoca, Romania

Visualizing Surface Phase Separation in PS-PMMA Polymer Blends at the Nanoscale using Tip-Enhanced Raman Spectroscopy

Dušan Mrđenović[1], Daniel Abbott[1], Victor Mougel[1], Weitao Su[2], Naresh Kumar[1], Renato Zenobi[1]
[1]ETH Zürich, Switzerland; [2]Hangzhou Dianzi University, China;

Rapid Detection of Ciprofloxacin in Milk by a Hand-held Raman Spectrometer

Jing Miao[1], Xingyu Si[2]
[1]The King's School, Canterbury, UK; [2]JINSP Company Limited, China, People's Republic of

Raman Spectroscopic Study in Identifying Carotenoids upon Illumination of Light during Carrot growth stages

Pooja Manik Badgujar, Yu Chun Wang, Chia-Liang Cheng
National Dong Hwa Univeristy, Taiwan

Surface-Enhanced Raman Spectroscopy-Based Detection of SARS-CoV-2 Through In Situ One-pot Electrochemical Synthesis of 3D Au-Lysate Nanocomposite Structures on Plasmonic Electrodes

Iris Baffour Ansah[1,2], Dong-Ho Kim[1,2], Sung-Gyu Park[1]
[1]University of Science and Technology, Korea, Korea, Republic of (South Korea); [2]Korea Institute of Material Science

Studying Variations of Consolidated Dyed Harakeke Fibres Using Raman and Infrared Spectroscopy combined with Chemometrics

Piumika Samanali Garagoda Arachchige[1,4], Henry Dunne[1], Brownyn J. Lowe[2], Catherine A. Smith[3], Sara Jane Fraser-Miller[1,4], Keith Christoper Gordon[1,4]
[1]Department of Chemistry, University of Otago, Dunedin, New Zealand; [2]Centre for Materials Science and Technology, University of Otago, Dunedin, New Zealand; [3]Archaeology, School of Social Sciences, University of Otago, Dunedin, New Zealand; [4]The Dodd- Walls Centre for Photonic and Quantum Technologies, University of Otago, New Zealand

Simultaneous Raman and Infrared testing for better microplastic identification

Jay Anderson, Mustafa Kansiz, Christoph Krafft
Photothermal Spectroscopy Corp, United States of America

Raman Analyses of Planetary Analogue Materials in Preparation for Future Exploration Missions

Ian Hutchinson
University of Leicester, United Kingdom

RamAIn: Automatic Analysis of Microscopic Raman Spectral Maps

Jana Pilátová[1,2], Filip Peška[1], Martin Pilát[1], Peter Mojzeš[1]
[1]Faculty of Mathematics and Physics, Charles University, Ke Karlovu 5, CZ-12116 Prague 2, Czech Republic; [2]Faculty of Science, Charles University, Viničná 5, CZ-12844 Prague 2, Czech Republic

Raman Spectroscopy in Extreme Environments

Hannah N Lerman, Ian B Hutchinson, Melissa McHugh
University of Leicester, United Kingdom

The SERS effect of uranyl ions on the Ag substrate and its application in the trace analysis of uranyl ions

Shaofei Wang
China Academy of Engineering Physics, China, People's Republic of

Simultaneous Raman and Optical Photothermal Infrared Spectroscopy of Bioplastics at Submicron Spatial Resolution

Curtis Marcott[1,2], Isao Noda[1,3]
[1]University of Delaware, United States of America; [2]Light Ligh Solutions, United States of America; [3]Danimer Scientific, United States of America

Calcite - aragonite alternating layers in recent mineral spring pisoliths from Corund, Romania

Zoltan Ferenc Pal, Tudor Tamas, Simona Cinta Pinzaru
Babes-Bolyai University, Romania

A Versatile DNA Origami-Based Plasmonic Nanoantenna for Label-Free Single-Molecule Surface-Enhanced Raman Spectroscopy.

Kosti Tapio[1], Amr Mostafa[1], Yuya Kanehira[1], Antonio Suma[2], Anushree Dutta[1], Ilko Bald[1]
[1]University of Potsdam, Germany; [2]Temple University, United States

Application of Raman spectroscopy in studies on mechanisms of phase transitions in lead halide hybrid perovskitoids templated by hydrazinium derivatives

Jan Albert Zienkiewicz[1], Karolina Kałduńska[2], Katarzyna Fedoruk[3], Tadeusz Muziol[2], Maciej Ptak[1]
[1]Institute of Low Temperature and Structure Research, Polish Academy of Sciences, Wroclaw, Poland; [2]Faculty of Chemistry, Nicolaus Copernicus University in Torun, Torun, Poland; [3]Institute of Physics, Wroclaw University of Science and Technology, Wroclaw, Poland

Detecting Hydrogen Passing Through Graphene by Surface-Enhanced Raman Spectroscopy of 4-Nitrothiophenol

Younghyun Wy, Sang Woo Han
KAIST, Korea, Republic of (South Korea)

Development of dual SERS substrates using silver nanoshells and two kinds of graphene quantum dots

Han Yeong Lee[1], Hyejin Chang[1,2]
[1]Division of Science Education, Kangwon National University, Republic of Korea; [2]Kangwon Radiation Convergence Research Support Center, Kangwon National University, Chuncheon 24341, Republic of Korea

Development of a new Raman measurement system for in situ measurements during high temperature microwave synthesis of inorganic materials

John Jamboretz[1], Andreas Reitz[1], Christina Birkel[1,2]
[1]Arizona State University, United States of America; [2]Department of Chemistry and Biochemistry, Technische Universitaet Darmstadt

Limitations in the detection of Cancerous Human Colorectal Tissues by micro-Raman Spectroscopy

Maria Karnachoriti[1,2], Ioannis Stathopoulos[3], Maria Anthi Kouri[3,4], Ellas Spyratou[2,3], Nikolaos Danias[3], Nikolaos Arkadopoulos[3], Marianthi Panagopoulou[1], Stavros Venetis[5], Efstathios P. Efstathopoulos[3], Yannis S. Raptis[1], Ioannis Seimenis[3], Athanassios G. Kontos[1]
[1]National Technical University of Athens, Greece; [2]Democritus University of Thrace; [3]National & Kapodistrian University of Athens; [4]University of Massachusetts Lowell; [5]Alpha Information Technology S.A., Software & System Development

Raman study of undoped and Si-doped orthorhombic κ-Ga2O3 thin-films

Giulia Spaggiari[1,2], Piero Mazzolini[1,2], Anna Sacchi[2], Danilo Bersani[2], Antonella Parisini[2], Francesco Mezzadri[3], Marcella N. Marggraf[4], Markus R. Wagner[4], Zsolt Fogarassy[5], Ildikò Cora[5], Béla Pécz[5], Luca Seravalli[1], Matteo Bosi[1], Roberto Fornari[1,2]
[1]Dept. of Mathematical, Physical and Computer Sciences, University of Parma, Parma (Italy); [2]Institute of Materials for Electronics and Magnetism (IMEM), CNR, Parma (Italy); [3]Dept. of Chemistry, Life Sciences and Environmental Sustainability, University of Parma, Parma (Italy); [4]Technische Universität Berlin, Institute of Solid State Physics, Berlin (Germany); [5]Centre for Energy Research, Hungarian Academy of Sciences, Institute for Technical Physics and Materials Science, Budapest (Hungary)

Tunable aluminum nanocrescents as a platform for circular dichroism spectroscopy and surface-enhanced Raman spectroscopy

Anh Nguyen, Amy Morren, Jennifer Shumaker-Parry
The University of Utah, United States of America

Spectral Characterization of High-Speed SERS Fluctuations

Makayla M Schmidt[1], Marit A Engevik[1], Nathan D Lemke[1], Alexandre G Brolo[2], Nathan C Lindquist[1]
[1]Bethel University, United States of America; [2]University of Victoria, Canada

A Portable SERS-based Lateral Flow Assay Strip for Rapid and Sensitive Detection of SARS-CoV-2 Antigen

Younju Joung, Kihyun Kim, Jaebum Choo
Chung-Ang University, Korea, Republic of (South Korea)

Characterization of PHBHx-based SPEs for Li polymer battery

SUJIN LEE[1], YEONJU PARK[2], ISAO NODA[3,4], YOUNG MEE JUNG[1,2]

[1]Department of Chemistry, Institute for Molecular Science and Fusion Technology, Kangwon National University, Chuncheon 24341, Korea; [2]Kangwon Radiation Convergence Research Support Center, Kangwon National University, Chuncheon 24341, Korea; [3]Department of Materials Science and Engineering, University of Delaware, Newark, DE 19716, USA; [4]Danimer Scientific, 140 Industrial Blvd., Bainbridge, GA 39817, USA

Non-destructive Raman identification of barium ferrite phase in powders and very thin film samples

Francesco Mezzadri[3], Giulia Spaggiari[1,2], Michele Casappa[3], Davide Delmonte[2], Francesco Pattini[2], Stefano Rampino[2], Danilo Bersani[1]

[1]Dept. of Mathematical, Physical and Computer Sciences, University of Parma, Parma (Italy); [2]Institute of Materials for Electronics and Magnetism (IMEM), CNR, Parma (Italy); [3]Department of Chemistry, Life Sciences and Environmental Sustainability, University of Parma, Parma (Italy)

SERS-based microdroplet sensor for sensitive and reproducible detection of SARS-CoV-2

Sohyun Park, Namhyun Choi, Joung-Il Moon, Kang Min Lee, Jaebum Choo

Chung-Ang University, Korea, Republic of (South Korea)

Ag modified porous Silicon SERS substrates for the real-time pathogenic bacteria detection in mastitic milk obtained from infected cattle

Divagar Muthukumar, Giorgi Shtenberg

Institute of agricultural engineering, Agricultural research organization, Israel

Migration study of organotin compounds from food packaging by surface enhanced Raman scattering

Luisa Mandrile[1], Andrea Mario Giovannozzi[1], Martina Vona[1], Jesus Salafranca[2], Gianmario Martra[3], Andrea Mario Rossi[1]

[1]National Instiute of Metrological Research (INRIM), Italy; [2]University of Zaragoza, Spain; [3]University of Torino, Italy

Pigments and aging influence on the common plastics waste Raman signal: sorting algorithm evaluation based on Raman Spectroscopy

Ioana Marica[1], Mihaela Aluaș[1], Ana Maria Hodorogea[2], Simona Cîntă Pînzaru[1]

[1]Babeș-Bolyai University, Physics Faculty, Kogălniceanu 1, RO-400084 Cluj-Napoca, Romania; [2]Babeș-Bolyai University, Faculty of Chemistry and Chemical Engineering, A. János 11, RO-400028 Cluj-Napoca, Romania

Probing Supramolecular Ligands by Ultraviolet Resonance Raman Spectroscopy: Molecular Tweezers

Tim Holtum[1], Philipp Rebmann[2], Vikas Kumar[1], Thomas Schrader[2], Sebastian Schluecker[1]

[1]University Duisburg-Essen, Physical Chemistry I, 45141 Essen, Germany; [2]University Duisburg-Essen, Organic Chemistry, 45141 Essen, Germany

Raman and Surface Enhanced Raman Scattering (SERS) for the Detection of Trace Components in Drug Mixtures

Lea Gozdzialski, Azam Shafiul, Margo Ramsay, Ashley Larnder, Ian Garber, Bruce Wallace, Dennis Hore

University of Victoria, Canada

Characterisation of synthetic inclusions containing CaS, Al2O3, MgO.Al2O3 and calcium aluminate (CaO)x–(Al2O3)y phases found in steels using Raman spectroscopy

Francis Gyakwaa, Matti Aula, Tuomas Alatarvas, Tero Vuolio, Qifeng Shu, Marko Huttula, Timo Fabritius

Universty of Oulu, Finland

Effect of Er interlayer on microstructure and composition of erbium oxide coating on steel

Shiping Zhang, Dan Yan, Ping Wu

School of Mathematics and Physics, University of Science and Technology Beijing, Beijing 100083, China

In situ tracking electrochemical CO2 reduction reaction intermediates on Cu(111) and Cu(110) surfaces by Raman spectroscopy

Li Jian-Feng, Nataraju Bodapp, Zhao Yu

Department of Chemistry, Xiamen University, Xiamen 361005, China

Thermoelectric properties of lower concentration K-doped Ca3Co4O9 ceramics

Ya-nan Li, Ping Wu, Shiping Zhang, Jinguang Yang

School of Mathematics and Physics, University of Science and Technology Beijing, Beijing 100083, China

Blue Phosphorene Nanoscrolls

Yitian Wang[1], Chenghuan Jiang[2], Qian Chen[1], Qionghua Zhou[1], Yuhao Xu[3]

[1]Southeast University, China, People's Republic of; [2]Nanjing Institute of Technology, People's Republic of; [3]Prairie View A&M University, U.S.A.

Defect-induced Raman phonons in the van der Waals bonded ferromagnet Fe2.8GeTe2

Guofeng Cheng

Shanghai Institute of Ceramics, Chinese Academy of Sciences, China, People's Republic of

Charge Transfer in Core-Shell Au NRs-MBA@Cu2O Structure Based on Surface-enhanced Raman Scattering

Lin Guo

Jilin University, People's Republic of China

Experimental vis-à-vis theoretical investigations on self-affine properties of SERS active substrates

Somsubhra Saha, Joydeep Chowdhury

Jadavpur University, India

Finding new chemometric tools for Raman spectra analysis: Fuzzy clustering of bacterial species detected at single-cell level by SERS

Nicoleta Elena Dina[1], Ana Maria Raluca Gherman[1], Alia Colniță[1], Daniel Sorin Marconi[1], Costel Sârbu[2]
[1]National Institute for Research and Development of Isotopic and Molecular Technologies, Cluj-Napoca, Romania; [2]Faculty of Chemistry and Chemical Engineering, Babeş-Bolyai University, Cluj-Napoca, Romania

In situ or colloidal prepared metal nanoparticles on E.coli and cyanobacteria for improved reproducible SERS

Daniel Zimmermann, Vanessa Rumpler, Daniel-Ralph Hermann, David Lilek, Birgit Herbinger, Katerina Prohaska
FHWN, Biotech Campus Tulln, Austria

Novel strategy for hot spots generation using tyramine-mediated crosslinking chemistry

Eungyeong Park[1], Sila Jin[2], Yeonju Park[2], Hyejin Chang[2,3], Young Mee Jung[1,2]
[1]Department of Chemistry, Kangwon National University, Chuncheon 24341, Korea; [2]Kangwon Radiation Convergence Research Support Center, Kangwon National University, Chuncheon 24341, Republic of Korea; [3]Division of Science Education, Kangwon National University, Chuncheon 24341, Republic of Korea

Raman based detection of ciprofloxacin in pharmaceutical formulations

Chen Liu[1,2], Lisa Müller-Bötticher[3], Dagmar Fischer[3,4], Dana Cialla-May[1,2], Jürgen Popp[1,2]
[1]Leibniz Institute of Photonic Technology Jena - Member of the research alliance "Leibniz Health Technologies", Albert-Einstein-Straße 9, 07745 Jena, Germany; [2]Institute of Physical Chemistry and Abbe Center of Photonics, Friedrich Schiller University Jena, Helmholtzweg 4, 07743 Jena, Germany; [3]Friedrich Schiller University Jena, Pharmaceutical Technology and Biopharmacy, Lessingstraße 8, 07743 Jena, Germany; [4]Jena Center for Soft Matter (JCSM), Friedrich Schiller University Jena, Philosophenweg 7, 07743 Jena, Germany

SARS-CoV-2 Screening Using Raman Spectroscopy Enhanced with Flexible Nanoparticle Substrates

Wangcun Jia, Phuong Le, Robert Brown, George Peavy, Thomas Milner
University of California, Irvine, United States of America

Novel insights into the oxidation behaviour of Nitride Bonded Silicon Carbide (NBSC) by in-situ Raman spectroscopy

Johannes T. Kehren[1], Marcel Bastian[2], Sinje U. Zimmer[1], Christian Dannert[2], Olaf Krause[1]
[1]Hochschule Koblenz, Materials Engineering Glas & Ceramics, Höhr-Grenzhausen, Germany; [2]Forschungsgemeinschaft Feuerfest e.V., Höhr-Grenzhausen, Germany

Depolarization ratios and intensity redistribution in methane Raman spectrum as a function of pressure

Dmitry Petrov, Ivan Matrosov, Aleksandr Tanichev
Institute of monitoring of climatic and ecological systems, Russian Federation

Animal Feedstuff Inspection using Shifted Excitation Raman Difference Spectroscopy

Kay Sowoidnich[1], Michael Oster[2], Klaus Wimmers[2], Martin Maiwald[1], Bernd Sumpf[1]
[1]Ferdinand-Braun-Institut, Berlin, Germany; [2]Forschungsinstitut für Nutztierbiologie, Dummerstorf, Germany

Biochemical Origin of Raman-Based Diagnostics of Huanglongbing in Grapefruit Trees

Tianyi Dou[1], Lee Sanchez[1], Shankar Pant[2], Sonia Irigoyen[2], Nicolas Goff[1], Zhongliang Xing[1], Prakash Niraula[2], Kranthi Mandadi[3], Dmitry Kurouski[1]
[1]Department of Biochemistry and Biophysics, Texas A&M University, College Station, TX, United States; [2]Texas A&M AgriLife Research and Extension Center at Weslaco, Weslaco, TX, United States; [3]Department of Plant Pathology and Microbiology, Texas A&M University, College Station, TX, United States

A SERS-based capillary sensor for Galactose Detection using 4-Mercaptophenylboronic Acid-Immobilized Silver Nanoshells

Eun Hae Heo[1], Hyejin Chang[1,2]
[1]Division of Science Education, Kangwon National University, Chuncheon 24341, Republic of Korea; [2]Kangwon Radiation Convergence Research Support Center, Kangwon National University, Chuncheon 24341, Republic of Korea

Raman spectroscopy quantitative analysis of triclosan incorporated in nanofibrous layers

Michal Knor, Adela Kotzianova, Kristyna Skuhrovcova, Lenka Bardonova, Ondrej Zidek, Vladimir Velebny
Contipro a.s., Czech Republic

Taxonomic identification of Campylobacter spp. by Surface-enhanced Raman Scattering according to the International Organization for Standardization (ISO) methods.

Krzysztof Niciński
Institute of Physical Chemistry Polish Academy of Science, Poland

Particle Size-dependent Onset of Quantum Regime in Ideal Dimers of Gold Nanospheres

Sebastian Schlücker, Jesil Jose, Ludmilla Schumacher, Mandana Jalali, Jan Taro Svejda, Daniel Erni
University of Duisburg-Essen, Germany

Kitaev Magnetism and Fractionalized Excitations in Double Perovskite Sm2ZnIrO6

Birender Singh[1], Michael Vogl[2], Sabine Wurmehl[2,3], Saicharan Aswartham[2], Bernd Büchner[2,3], Pradeep Kumar[1]
[1]Indian Institute of Technology Mandi, India; [2]Leibniz-Institute for Solid State and Materials Research, IFW-Dresden, 01069 Dresden, Germany; [3]Institute of Solid State Physics, TU Dresden, 01069 Dresden, Germany

Salivary glands analyzed by Raman spectroscopy and surface-enhanced Raman spectroscopy (SERS): Towards development of the novel tool for clinical diagnosis

Marta Czaplicka[1], Aneta Aniela Kowalska[1], Ariadna Barbara Nowicka[1], Wojciech Kukwa[3], Zuzanna Gronkiewicz[2], Dominik Kurzydłowski[2], Agnieszka Kamińska[1]
[1]Institute of Physical Chemistry PAS, Poland; [2]Otolaryngology Department of the Dentistry Division, Czerniakowski Hospital, Warsaw; [3]Faculty of Mathematics and Natural Sciences, School of Exact Sciences, Cardinal Stefan Wyszyński University, Warsaw

Deep UV Raman spectroscopy for bio-pharma cleaning validation

Krishnakumar Chullipalliyalil, Liam Lewis, Michael McAuliffe
Center for Advanced Photonics and Process Analysis (CAPPA), Cork Institute of Technology, Ireland.

UVRR monitoring of temperature and water effects on choline based DES

Mariagrazia Tortora[1], Barbara Rossi[1], Monica Ferro[2], Greta Colombo Dugoni[2], Maria Enrica Di Pietro[2], Andrea Mele[2]
[1]Elettra Sincrotrone Trieste; [2]Politecnico di Milano, Department of Chemistry, Materials and Chemical Engineering "Giulio Natta"

Soft polyacrylamide hydrogels as a cell culture matrix for mechanical and spectroscopic study of glioblastoma development

Katarzyna Pogoda, Ewa Pięta, Klaudia Suchy, Czesława Paluszkiewicz, Wojciech Kwiatek
Institute of Nuclear Physics Polish Academy of Sciences, Poland

The impact of surface-roughness in SERS assessed by a fully quantum mechanical approach

Amirhassan Khodadadi[1], Raul D. Rodriguez[2], Evgeniya Sheremet[2], Stefanie Gräfe[1], Stephan Kupfer[1]
[1]Friedrich Schiller University of Jena, Germany; [2]Tomsk Polytechnic University, Russia

Tuning the Water Vapor Adsorption Properties of UiO-66 via Cr-doped

Sen Chen, Ping Wu, Guodong Fu, Shiping Zhang, Shang Liu
University of Science and Technology Beijing, China, People's Republic of

Vibrational properties of PbI2: from bulk to monolayer

Ariete Righi, Thiago Seniuk, Rafael N. Gontijo, Joyce C. C. Santos, Bernardo R. A. Neves, Marcos A. Pimenta
Departamento de Física, UFMG, Brazil

Gold nanotriangle-based SERS biosensor for adiponectin detection for early diagnosis of gestational diabetes mellitus

Wansun Kim[1], Ayoung Bang[1], Hyerin Lee[1], Sujeong Lee[2], Yeon-Hee Kim[2], Samjin Choi[1]
[1]Department of Biomedical Engineering, College of Medicine, Kyung Hee University, Seoul, Republic of Korea; [2]Department of Obstetrics & Gynecology, Uijeongbu St Mary's Hospital, College of Medicine, The Catholic University of Korea, Gyeonggi-do, Republic of Korea

Electro-Inductive Effect—Electrodes That Act as Functional Groups to Control Electronic Properties and Chemical Reactivities of a Molecule

Hojin Ahn, Sang Woo Han
KAIST, Korea, Republic of (South Korea)

High-speed time-domain Raman spectral imaging with compressed sensing

Shigekazu Takizawa[1], Kotaro Hiramatsu[1], Shunsuke Ono[2], Kesuke Goda[1,3,4]
[1]The University of Tokyo, Japan; [2]Tokyo Institute of Technology, Japan; [3]University of California, Los Angeles, USA; [4]Wuhan University, China

Enhanced Raman Scattering on Nine 2D van der Waals Materials

Hikari Kitadai[1], Xingzhi Wang[1], Nannan Mao[2], Shengxi Huang[3], Xi Ling[1,4,5]
[1]Boston University, United States of America; [2]Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge, MA 02139, United States; [3]Department of Electrical Engineering, The Pennsylvania State University, University Park, Pennsylvania 16802, United States; [4]Division of Materials Science and Engineering, Boston University, Boston, Massachusetts 02215, United States; [5]The Photonics Center, Boston University, Boston, Massachusetts 02215, United States

THURSDAY POSTER PRESENTATIONS

Poster THU-A: Poster Session Thursday Afternoon

Thursday, August 18, 2022
11:50am - 2:25pm

Hyper-Raman Spectroscopy of Chiral Nanostructures: Shining Circularly Polarised Light on the Elusive Forbidden Raman Modes

Robin Raffe Jones[1], Ventsislav K Valev[1], Daniel Wolverson[1], Tim Batten[2], Brian Smith[2]
[1]University of Bath, United Kingdom; [2]Renishaw Plc, Wotton-under-Edge, United Kingdom

Metrology considerations in coherent Raman scattering microscopy

Dimitrios Tsikritsis, Beth Hinchliffe, Natalie Anne Belsey
National Physical Laboratory, United Kingdom

Frequency modulation CARS imaging with a fiber optical parametric oscillator

Tim Hellwig[1], Maximilian Brinkmann[1], Carsten Fallnich[2]
[1]Refined Laser Systems GmbH, Germany; [2]Institute of Applied Physics, University of Münster, Germany

A label-free multimodal nonlinear microscope for biological applications

Arianna Bresci[1], Benedetta Talone[1], Francesco Manetti[1], Valentina Parodi[2], Martina Recchia[1], Carlo Valensise[1], Giulio Cerullo[1], Dario Polli[1]
[1]Department of Physics, Politecnico di Milano, Italy; [2]Department of Chemistry, Materials and Chemical Engineering "G. Natta", Politecnico di Milano, Italy

Phonon hydrodynamic transport in 2D materials by ultrafast laser-based techniques

Grazia Raciti
University of Basel, Switzerland

Surface-Enhanced Femtosecond Stimulated Raman Spectroscopy: Effects of the Energy of Plasmon Resonances on Dispersive Line Shapes in Spectra

Patryk Pyrcz, Sylwester Gawinkowski
Institute of Physical Chemistry Polish Academy of Sciences, Poland

Ferrocene appended Porphyrins; a Spectroscopic and Computational study

Joseph Mapley
University of Otago, New Zealand

Excited State Dynamics of Arylazopyrazole Photoswitches

Till Reichenauer[1], Vikas Kumar[1], Katharina Ziegler[2], Bart Jan Ravoo[2], Sebastian Schlücker[1]
[1]Department of Chemistry and Center for Nanointegration Duisburg-Essen (CENIDE), University Duisburg-Essen, Essen, Germany; [2]Organic Chemistry Institute and Center for Soft Nanoscience, Westfälische Wilhelms-Universität Münster, Münster, Germany

At-Line Monitoring of Downstream Process by Time-gated Raman technology

Mari Tenhunen, Amutha Daniel
Timegate Instruments Oy, Finland

Low Frequency Raman microscopy for API polymorphisms analysis

Thibault Brulé, Céline Eypert, Massimiliano Rocchia
HORIBA France SAS, France

Towards explainable AI using molecular weight windows to probe disease biomarkers using vibrational spectroscopy

Edward Duckworth[1], Deb Roy[1], Murali Krishna[2], Venkat Kanamarlapudi[1], Matt Mortimer[3], Bilal Al-Sarireh[3]
[1]Swansea University, United Kingdom; [2]Advanced Center for Treatment, Research and Education in Cancer (ACTREC), India; [3]Morriston Hospital, United Kingdom

Raman microspectroscopy highlights new features on hair greying.

Raoul VYUMVUHORE[1], Laurie VERZEAUX[1], Sophie GILARDEAU[1], Sylvie BORDES[1], Elodie AYMARD[1], Michel MANFAIT[2], Brigitte CLOSS[1]
[1]SILAB, R&D Department, Brive la Gaillarde, France; [2]BioSpecT (Translational BioSpectroscopy) EA 7506, Université de Reims Champagne-Ardenne, Reims, France

Raman spectroscopy for rapid at-line assessment of pluripotency in stem cells

Jeppe Hagedorn[1,2], Caroline Halloin[1], Lars Poulsen[1], Martin A.B. Hedegaard[2]
[1]R&ED, Novo Nordisk A/S, 2760 Maaloev, Denmark; [2]Section for Biotechnology, Technical Faculty, University of Southern Denmark, 5230 Odense M

Ultraviolet resonance Raman (UVRR) spectroscopy for label-free monitoring of peptide recognition by supramolecular ligands

Tim Holtum, Luca Vincenzo Supovec, Jens Voskuhl, Michael Giese, Thomas Schrader, Sebastian Schlücker
University of Duisburg-Essen, Germany

Shedding Light into the effect of Fusarium circinatum fungus on pines

Inês P. Santos[1], Daniel Martín[1], Glória Pinto[2], Pedro Monteiro[2], Maria P. Marques[1], Luís Batista de Carvalho[1]
[1]University of Coimbra, Portugal; [2]University of Aveiro, Portugal

Degradation of Insulin Amyloid Fibrils Analyzed by Atomic Force Microscopy and Surface-Enhanced Raman Spectroscopy

Erwan Yudiar Darussalam[1,2], Péterfi Orsolya[4], Tanja Deckert- Gaudig[1], Volker Deckert[1,2,3]
[1]Leibniz Institute of Photonic Technology (IPHT), Germany; [2]Institute of Physical Chemistry (IPC), Friedrich Schiller Universität Jena, Germany; [3]Institute of Quantum Science and Engineering,Texas A&M University, College Station, USA; [4]George Emil Palade University of Medicine, Pharmacy, Science, and Technology of Târgu Mureș, Romania

In vitro enzymatic activity sensing platform based on surface enhanced Raman scattering

Gyudo Lee[1], Yoochan Hong[2]
[1]Korea University, Korea, Republic of (South Korea); [2]KIMM, Korea, Republic of (South Korea)

Interactions of phospholipid vesicle with Fe3O4 nanoparticle: FTIR and Raman vibrational spectroscopies study

Gyeong Bok Jung[1], Seong Jin Back[1], Jisun You[2], Jeunghee Park[2]
[1]Chosun University, Korea, Republic of (South Korea); [2]Korea University Sejong Campus, Korea, Republic of (South Korea)

In search of spectroscopic signatures of Alzheimer's disease: the investigation of Porphyromonas gingivalis by SERS coupled with Principal Component Analysis.

Evelin Witkowska
Institute of Physical Chemistry Polish Academy of Science, Poland

Who's who? Discrimination of Breast Cell Lines by Raman Microspectroscopy

I.P. Santos[1], C.B. Martins[1,2], L.A.E. Batista de Carvalho[1], M.P.M. Marques[1,2], A.L.M. Batista de Carvalho[1]
[1]Unidade de I&D Química-Física Molecular. Department of Chemistry, University of Coimbra; [2]Department of Life Sciences, University of Coimbra

A spectroscopic – based approach for the early assessment of the drug induced phospholipidosis in endothelium

Ewelina Bik[1,2], Jagoda Orelanska[2], Lukasz Mateuszuk[1], Stefan Chlopicki[1,3], Malgorzata Baranska[1,2], Katarzyna Majzner[1,2]
[1]Jagiellonian Centre for Experimental Therapeutics (JCET), Jagiellonian University, 14 Bobrzynskiego Str., 30-348 Krakow, Poland; [2]Faculty of Chemistry, Jagiellonian University, 2 Gronostajowa Str., 30-387 Krakow, Poland; [3]Chair of Pharmacology, Jagiellonian University, 16 Grzegorzecka Str., 31-531 Krakow, Poland

Machine Learning Analysis of Spectral Data using Bacterial Metabolic Networks for Signal Amplification

Hong Wei, Yixin Huang, Peter Santiago, Allon Hochbaum, Regina Ragan
UC Irvine, United States of America

Real-time monitoring of mammalian cell culture by Time-gated Raman Spectroscopy

Amuthachelvi Daniel, Mari Tenhunen
Timegate Instruments, Finland

Enhanced Tri-modal Optical-Photothermal Infrared (O-PTIR) Spectroscopy – Advances in Spatial Resolution, Sensitivity & Tri-modality (IR, Raman & Fluorescence)

Mustafa Kansiz
Photothermal Spectroscopy Corp., United States of America

Single-photon-sensitive infra-red luminescence spectroscopy of live cells

Sergey V. Pereverzev
Lawrence Livermore National Laboratory, United States of America

Identification of Enantiomers Using Low-Frequency Raman Spectroscopy

Vinayaka Harshothama Damle, Hagit Aviv, Yaakov R Tischler
Bar-Ilan University, Israel

Nanoscale optical microscopy and spectroscopy – from real space observation of polaritons to chemical identification on biomaterials

Philip Schaefer, Nicolai Hartmann
neaspec GmbH, Germany

CARS endomicroscopic imaging probe enabled by a double-core double-clad fiber and related focus-combining micro-optical concept

Ekaterina Pshenay-Severin[1], Gregor Matz[1], Karl Reichwald[1], Jörg Bierlich[2], Jens Kobelke[2], Hyeonsoo Bae[2], Tobias Meyer[2], Bernhard Messerschmidt[1], Jürgen Popp[2,3]
[1]GRINTECH GmbH, Germany; [2]Leibniz Institute of Photonic Technology, Germany; [3]Institute of Physical Chemistry and Abbe Center of Photonics, Friedrich Schiller University Jena, Germany

Saliva Raman Spectroscopy: Exploring stratification of subjects with oral premalignant disorders

ARTI HOLE[1], NIKITA MAHESHWARI[2], SHEETAL CHOUDHARY[3], ATUL DESHMUKH[2], MURALI KRISHNA CHILAKAPATI[1]
[1]ACTREC,TMC,KHARGHAR,NAVI MUMBAI , INDIA, India; [2]D. Y. Patil University, Navi Mumbai, India; [3]Yerala Dental College, Kharghar, Navi Mumbai,India

Defects in polymer multilayer films: a new way to investigate based on Raman microscopy

Thibault Brulé, Céline Eypert, Massimiliano Rocchia
HORIBA France SAS, France

Induced thermal effects correlated to strain analysis on Through Silicon Vias by means of Raman Spectroscopy

Aura Daniela Lubio Cervantes[1,2], Andreas Dörfler[2,3], Julien Plathier[2], Thomas Dequivre[1], Gitanjali Kolhatkar[2], Serge A. Charlebois[1], Andreas Ruediger[2]
[1]Université de Sherbrooke, Canada; [2]Institut National de la Recherche Scientifique; [3]Munich University of Applied Sciences

Transportable high-performance Raman system for arts and cultural heritage analysis

Tim Batten[1], Riccardo Tagliapietra[2], Tim Prusnick[1]
[1]Renishaw plc, United Kingdom; [2]Renishaw S.p.A, Italy

Low-frequency Raman spectroscopy facilitated by a novel narrow linewidth 785 nm diode laser with enhanced spectral purity

Magnus Rådmark, Gunnar Elgcrona, Håkan Karlsson, Peter Jänes
Cobolt AB, Sweden

Rapid identification of different subtypes of the same bacteria based on Raman spectroscopy

睿明 赵[1], 粪 龚[2]

[1]塔里木大学, China, People's Republic of; [2]北京服装学院 ,china,people's Republic of

Optimising and understanding the spectroscopic signatures associated with planetary surface processes

Sidhi Karavadra, Ian B Hutchinson, Hannah N Lerman, Melissa McHugh

University of Leicester, United Kingdom

Raman Hetero Two-Dimensional Correlation Spectroscopy: A powerful technique for monitoring active centres in complex environments

Julian Hniopek[1,2], Michael Schmitt[2], Jürgen Popp[1,2], Thomas Bocklitz[1,2]

[1]Leibniz Institute of Photonic Technologies, Jena, Germany; [2]Friedrich Schiller University Jena, Jena, Germany

Rapid method for analyzing the biochemical content of the honeys produced by Tetrigona sp and Apis mellifera

Bibin Bintang Andriana[1], Pampang Parikesit[2], Susanti Withaningsih[2], Pradjna Novedya Paramitha[1], We Nurdiana[3], Hidetoshi Sato[1]

[1]Department of Biomedical Chemistry, Graduate school of Science and Technology, Kwansei Gakuin University. 2-1 Gakuen, Sanda-shi, Hyogo-ken, 669-1337. Japan.; [2]Department Biology, Center for Environment and Sustainability Science, Padjadjaran University. Jl Sekeloa Selatan No. 1 Bandung 40132, West Java, Indonesia.; [3]Sintang Orangutang Center, Jl. M. Saad No.8-Sintang 78611 Kelurahan Tanjung Puri, West Kalimantan, Indonesia.

Insights on the dehydration process of PNiPAAm based hydrogels using 2D Raman correlation spectroscopy

Yeonju Park[1], Minkyoung Kim[2], Hoeil Chung[3], Young Mee Jung[1,2]

[1]Kangwon Radiation Convergence Research Support Center, Kangwon National University, Chuncheon 24341, Republic of (South Korea); [2]Department of Chemistry, Institute for Molecular Science and Fusion Technology, Kangwon National University, Chuncheon 24341, Republic of (South Korea); [3]Department of Chemistry and Research Institute for Convergence of Basic Science, Hanyang University, Seoul 04763, Republic of Korea

Drop Coating Deposition Raman Spectroscopy of Liposomes on Substrates with Different Roughness

Alžbeta Kuižová[1], Anna Kuzminova[2], Ondřej Kylián[2], Eva Kočišová[1]

[1]Institute of Physics, Faculty of Mathematics and Physics, Charles University, Ke Karlovu 5, 121 16 Prague, Czech Republic; [2]Department of Macromolecular Physics, Faculty of Mathematics and Physics, Charles University, V Holešovičkách 2, 180 00 Prague, Czech Republic

Raman Spectroscopy Study of Commercial Activated Carbons Aging Processes

Sari Katz, A. Pevzner, V. Shepelev, S. Marx, H. Rotter, T. Amitay-Rosen, I. Nir

On Sabbatical leave from Soreq NRC

Effects of types of reduction and optimization in graphene oxide multilayers under influence laser power

Adela Aurora Pérez Carreño[1,2], Lucy Marleny Huayllacayan Mallqui[3], Juan Abraham Méndez Velasquez[4], Larissa Zoraya Hinojosa Vidal[3], Carmen Sandra Guzman Calcina[1]

[1]Universidad Ricardo Palma, Perú; [2]Universidade Federal Do ABC, Brazil; [3]Pontificia Universidad Católica del Perú, Perú; [4]Universidad del Callao, Perú

Raman Imaging System for 2D Materials Characterization

Sergej Shashkov, Valery Kopachevsky, Alexander Kudryakov, Alexander Grigorenko

SOL instruments, Belarus

Application of Raman Imaging to the Chemical Characterization and Dating of Paper

Enrico Pigorsch, Antje Harling

Papiertechnische Stiftung (PTS), Germany

Raman Spectroscopy Study of 95.5%AgNbO3-4.5%LiTaO3 Ceramics

Svetlana Krylova

Kirensky Institute of Physics Federal Research Center KSC SB RAS, Russian Federation

Rh-P25 Photocatalysts for degradation of glyphosate

Jennyffer Stefania Martinez Quimbayo[1], Manoj Ghosalya[2], Bryan Heilala[3], Samuli Urpelainen[2], Satu Ojala[1]

[1]Environmental and Chemical Engineering, Faculty of Technology, University of Oulu, Oulu, Finland.; [2]Nano and Molecular Systems Research Unit, University of Oulu, Oulu, Finland; [3]Timegate Instruments Inc, Oulu, Finland.

Mechanisms of the phase transition in imidazolium lead bromide perovskites studied using Raman spectroscopy

Szymon Piotr Smolka, Anna Gągor, Dawid Drozdowski, Maciej Ptak, Mirosław Mączka

Institute of Low Temperature and Structure Research Polish Academy of Sciences, Poland

Raman spectroscopy: A tool for analyzing phase transitions in hypophosphite coordination polymers under high pressure

Maciej Ptak[1], Mirosław Mączka[1], Szymon Sobczak[2], Mikołaj Kryś[2], Fabio Furtado Leite[3], Daniel Linhares Militão Vasconcelos[4], Waldeci Paraguassu[3], Paulo Tarso Cavalcante Freire[4], Andrzej Katrusiak[2]
[1]Institute of Low Temperature and Structure Research Polish Academy of Sciences, Poland; [2]Faculty of Chemistry, Adam Mickiewicz University, Poznań, Poland; [3]Physics Department, Federal University of of Pará, Belém, Brazil; [4]Physics Department, Federal University of Ceará, Fortaleza, Brazil

Automated and Reproducible Synthesis of Gold Nanoparticles for SERS

Roland Grzeschik, Asen Dankov, Laurin Hensen, Sebastian Schlücker
Universität Duisburg-Essen, Germany

Doping Effect of Conducting Polymer Investigated by in-situ Raman Spectroscopy

Xinxin Song, Butian Zhang, Youwei Zhang, Shun Wang
MOE Key Laboratory of Fundamental Physical Quantities Measurement & Hubei Key Laboratory of Gravitation and Quantum Physics, School of Physics, Huazhong University of Science and Technology, Wuhan 430074, China

In situ study of the mineral reactions during hydration in calcium aluminate cements (CAC)

Sinje U. Zimmer[1], Olaf Krause[1], Kerstin Hauke[2], Thorsten Geisler[2]
[1]Hochschule Koblenz, Materials Engineering Glas & Ceramics, Höhr-Grenzhausen, Germany; [2]University Bonn, Institute of Geoscience, Bonn, Germany

Study on Water Vapor Adsorption Properties of Mn-Doped MIL-101 (Cr)

Shang Liu, Ping Wu, Shiping Zhang, Guodong Fu, Dan Yan
School of Mathematics and Physics, University of Science and Technology Beijing, Beijing 100083, China

In Situ Observe Silicon Nitriding Process Using Raman Spectroscopy

Jinguang Yang, Ping Wu, Dan Yan, Shiping Zhang, Ya-Nan Li, Li Wang
University of Science and Technology Beijing, China, People's Republic of

Dielectrophoretic trap made via femtosecond laser micromachining for separation of bacteria from fluids and SERS detection

Tomasz R. Szymborski[1], Yuriy Stepanenko[1,2], Patrycja Piecyk[1], Krzysztof Niciński[1], Dorota Korsak[3], Ariadna Nowicka[1], Agnieszka Kamińska[1]
[1]Institute of Physical Chemistry of the Polish Academy of Sciences, Kasprzaka 44/52, 01-224 Warsaw, Poland; [2]Fluence sp. z o.o., Kasprzaka 44/52, 01-224 Warsaw, Poland; [3]Faculty of Biology, Department of Applied Microbiology, Institute of Microbiology, University of Warsaw, Miecznikowa 1, 02-096, Warsaw, Poland

Raman-scattering studies of pressure-induced phase transitions in perovskite-like dicyanamide frameworks

Mirosław Mączka[1], Maciej Ptak[1], Anna Gągor[1], Fabio Furtado Leite[2], Waldeci Paraguassu[2]
[1]Institute of Low Temperature and Structure Research, Polish Academy of Sciences, Poland; [2]Faculdade de Fisica, Universidade Federal do Para, 66075-110 Belem, Brazil

Ensemble-level single particle characterisation of SERS nanoparticles

Jana Ockova
The Institute of Photonics Sciences Barcelona (ICFO), Spain

Transfer of chirality from chiral capped silver nanoparticles to achiral adsorbate evidenced by surface-enhanced resonance Raman optical activity

Moumita Das[1,2], Debraj Gangopadhyay[1], Petr Bouř[1,2]
[1]Institute of Organic Chemistry and Biochemistry, Academy of Sciences, Flemingovo náměstí 2, Prague 16610, Czech Republic; [2]Department of Analytical Chemistry, University of Chemistry and Technology, Technická 5, Prague 16628, Czech Republic

SERS-PCR ASSAYS OF SARS-COV-2 USING AU NANOPARTICLES-ANCHORED AU NANODIMPLE SUBSTRATES

Hajun Dang[1], Yixuan Wu[1], Sung-Gyu Park[2], Jaebum Choo[1]
[1]Department of Chemistry, Chung-Ang University, Seoul, South Korea; [2]Advanced Nano-Surface Department, Korea Institute of Materials Science (KIMS), South Korea

Monocrystalline Gold Platelets as a Platform for Reproducible High-Performance SERS Substrates

Thien Anh Le[1,2], Henriette Maaß[1,2], Enno Schatz[1,2], Thorsten Feichtner[1], Bert Hecht[1]
[1]NanoOptics & Biophotonics group, Experimental Physics 5, University of Wuerzburg, Germany; [2]NanoStruct GmbH, Wuerzburg, Germany

Gold Nanocrystals on Glass Nanopipette for In-situ Intracellular Surface-Enhanced Raman Spectroscopy

Guili ZHAO, Aleix Guell
Ecole Polytechnique, France

Point of Care Detection of Drug Induced Liver Injury using a SERS Based LIFA Device

Benjamin Clark[1], Sian Sloan-Dennison[1], Kathleen Scullion[3], James Dear[3], Dieter Bingemann[2], Paul Fineran[3], David Creasey[2], Cicely Ramthmell[2], Karen Faulds[1], Duncan Graham[1]
[1]University of Strathclyde, United Kingdom; [2]Wasatch Photonics, United States of America; [3]University of Edinburgh, United Kingdom

Structural Orientation of Aromatic Thiols on Au(111) Surface: Experiment and Theory

Joscha Hekele, Matthias Linke, Thomas Keller, Jesil Jose, Marvin Hille, Eckart Hasselbrink, Sebastian Schluecker, Peter Kratzer
University of Duisburg-Essen, Germany

SERS-based Kinetic Monitoring of the Platinum-catalyzed Hydrogen Reduction of the Three Nitrothiophenol Constitutional Isomers (2/3/4-NTP)

Daniel Schäfer, Jesil Jose, Roland Grzeschik, Sebastian Schlücker
Universität Duisburg-Essen, Germany

SERS-based study assisted by chemometric methods as a tool for differential diagnosis of vaginal infections

Sylwia Berus[1], Beata Młynarczyk-Bonikowska[2], Monika Adamczyk-Popławska[3], Agnieszka Kamińska[1]
[1]Institute of Physical Chemistry, Polish Academy of Science, Kasprzaka 44/52, 01-224 Warsaw, Poland; [2]Department of Dermatology and Venerology, Medical University of Warsaw, Koszykowa 82a, 02-008 Warsaw, Poland; [3]Department of Biology, University of Warsaw, Miecznikowa 1, 02-096 Warsaw, Poland

SERS-like effect using hexagonal Boron Nitride as substrate

Jessica Santos Lemos[1], Andreij de Carvalho Gadelha[1], Cristiano Fantini Leite[1], Eliel Gomes da Silva Neto[2]
[1]Federal University of Minas Gerais, Brazil; [2]Federal University of Bahia, Brazil

SERS-active Fe3O4@TiO2-Au nanocomposites as a Reusable Photocatalyst

Sila Jin[1], Shuang Guo[2], Eungyeong Park[2], Yeonju Park[1], Lei Chen[3], Young Mee Jung[1,2]
[1]Kangwon Radiation Convergence Research Support Center, Kangwon National University, Korea; [2]Kangwon National University, Republic of Korea; [3]Jilin Normal University, P.R. China

New Insight of Charge Transfer Enhancement: Carrier Density Effect

Lei Chen[1], Shuang Guo[2], Sila Jin[2], Young Mee Jung[2]
[1]Jilin Normal University, [2]Kangwon National University

Effect of conductivity and SERS activity by temperature-mediated crystallinity changes of PEDOT:PSS organic semiconductor

Shuang Guo[1], Eungyeong Park[1], Sila Jin[2], Chen Lei[3], Yeonju park[2], Young Mee Jung[1,2]
[1]Department of Chemistry, Institute for Molecular Science and Fusion Technology, Kangwon National University Chuncheon 24341, Republic of Korea;; [2]Kangwon Radiation Convergence Research Support Center, Kangwon National University, Chuncheon 24341, Republic of Korea;; [3]Key Laboratory of Preparation and Applications of Environmental Friendly Materials (Jilin Normal University), Ministry of Education, Changchun 130103, P.R. China

Development of the surface enhanced=Raman spectroscopy substrate using convective self-assembly method

Munsik Choi[1], Soogeun Kim[2], Kyung min Byun[1]
[1]Kyung Hee University, Yongin, Korea, Republic of (South Korea); [2]Kyung Hee University, Seoul, Korea, Republic of (South Korea)

Theoretical Investigation of 3D Near-Field Probes

Kourosh Rezaei[1,2], Volker Deckert[1,2,3]
[1]Leibniz-Institute of Photonic Technology (IPHT), Albert-Einstein-Straße 9, D-07745 Jena, Germany; [2]Institute of Physical Chemistry and Abbe Center of Photonics, Friedrich-Schiller-University Jena, Helmholtzweg 4, 07743 Jena, Germany.; [3]Institute of Quantum Science & Engineering, Texas A&M University, College Station, TX 77843-4242 , USA

Sample extraction and detection methods for SERS-based food safety applications

Tomas Rindzevicius[1], Marlitt Viehrig[1], Simindokht Rostami[1,2], Sriram Thoppe Rajendran[1], Kuldeep Sanger[1], Tommy Sonne Alstrøm[1], Demi Zhai[3], Lidia Morelli[1], Jørn Smedsgaard[3,5], Michael Stenbæk Schmidt[4], Kinga Zor[1], Anja Boisen[1]
[1]Center for Intelligent Drug Delivery and Sensing Using Microcontainers and Nanomechanics (IDUN), Department of Health Technology, Technical University of Denmark, Kgs Lyngby, Denmark; [2]Department of Analytical Chemistry, Faculty of Chemistry, K. N. Toosi University of Technology, Tehran, Iran; [3]National Food Institute, Technical University of Denmark, Kgs, Lyngby, Denmark; [4]Silmeco ApS, Kenny Drews Vej 101, 2450, Copenhagen, Denmark; [5]Foss Analytical A/S, Niels Foss alle 1, 3400, Hillerød, Denmark

Dynamic DNA Origami/Gold Nanoparticle Hybrid Device for Distance-controllled Dimer Assembly

Michael Erkelenz[1], Richard Kosinski[2], Helene Giesler[1], Oliver Sritharan[1], Jesil Jose[1], Barbara Saccà[2], Sebastian Schlücker[1]
[1]Department of Chemistry, University of Duisburg-Essen, Germany; [2]Department of Biology, University of Duisburg-Essen, Germany

Determination of the limit of detection of multiple pesticides utilizing surface enhanced Raman spectroscopy (SERS)

Anne-Marie Dowgiallo, Derek Guenther
Ocean Insight, United States of America

TERS and TEPL imaging of 2D Materials

Marc Chaigneau, Agnès Tempez, Ophélie Lancry
HORIBA Scientific, France

Studying phase separation in Lipid Bilayers Mixture and detection of femtomolar graphene solution in bilayers using TERS

Agnès TEMPEZ[1], Pierre BURGOS[2], Marc CHAIGNEAU[1]
[1]HORIBA FRANCE SAS; [2]HORIBA UK Ltd

Tip enhanced Raman spectroscopy and chemical imaging of cyclo[18]carbon by density functional theory

Shafqat Hussain[1,2], Zhenglong Zhang[1], Hairong Zheng[1]
[1]School of Physics and Information Technology, Shaanxi Normal University, 710119, Xi'an, China; [2]Nanomaterials Research Group, Physics Division, PINSTECH, 44000, Islamabad, Pakistan

Multifunctional Copper Nanocubes: A Platform for SERS Activity and Specific CO2 Reduction

ESTER MIRANDA, DIERIC DOS SANTOS ABREU, DOUGLAS DOS SANTOS LOPES, PAOLA CORIO
UNIVERSITY OF SÃO PAULO, Brazil

Deep-UV SERS of Bio- and Explosive Molecules using Rhodium Nanoparticles

Govind Kumar, Ravi Kant Soni
Indian Institute of Technology Delhi, India

Evaluation and Metrology of Surface-Enhanced Raman Scattering (SERS) substrates

Arash Azarakhshi[1,3], Li-Lin Tay[2], Alexandre G. Brolo[1,3,4]
[1]Department of Chemistry, University of Victoria, BC, Canada; [2]Metrology Research Centre, National Research Council Canada, Ottawa, ON, Canada; [3]Department of Physics and Astronomy, University of Victoria, BC, Canada; [4]Center for Advanced Materials and Related Technologies (CAMTEC), University of Victoria, BC, Canada

DNA origami assisted gold dimers as SERS substrates on optical fiber tips for direct miRNA detection using hairpin probes

Anisha Pathak, Anushree Dutta, Ilko Bald
Department of Chemistry, University of Potsdam, Germany

Plasmonic catalysis of different molecules on Au/Ag nanoarrays monitored by surface-enhanced Raman spectroscopy

Shashank Gahlaut, Ilko Bald
Dept. of Chemistry, University of Potsdam, Germany

Surface-enhanced Raman spectra of KFeO2 nanoparticles

Ankush Kumar[1], Gurmeet Singh Lotey[2]
[1]Sant Baba Bhag Singh University, Jalandhar, India; [2]Nano Research Lab, Department of Physics, DAV University, Jalandhar, Punjab, India.

The charge density wave state in 4H-NbSe2: Effect of dimensionality, proximity, and magnetic field

Suvodeep Paul, Devesh Negi, Saheb Karak, Bommareddy Poojitha, Chandan Patra, R. P. Singh, Ravi Shankar Singh, Surajit Saha
Indian Institute of Science Education and Research Bhoapl, India

Vibrational spectroscopic investigation of molecular structure, hindered-rotation, vibrational properties and other molecular characteristics of 1-Methoxy-4-(2-tosylvinyl) benzene supported by DFT analysis

SRISHAILAM K[1], Balakrishna A[2], Venkatram Reddy B[3], Ramana Rao G[4]
[1]Department of Physics, SR University, Warangal, Telangana, India; [2]Department of Chemistry, Indian Institute of Technology , Roorkee, Uttarakhand, India; [3]Department of Physics, Kakatiya University, Warangal, India; [4]Department of Physics, Kakatiya University, Warangal, India

Comparison of Gold and Silver nano thin films for chemical sensing of Tenofovir using Surface Enhanced Raman Spectroscopy.

Setumo Lebogang Thobakgale[1,2], Saturnin Ombinda Lemboumba[1], Yaseera Ismail[2], Patience Mthunzi-Kufa[1,2]
[1]National Laser Centre, Council for Scientific and Industrial Research, P.O. Box 395, Pretoria 0001, South Africa;; [2]University of KwaZulu- Natal, School of Chemistry and Physics, Quantum Research group, University Road, Westville, Durban 4000 , South Africa.

Synthesis monitoring of Silver/Gelatin crosslinker nanocomposites on silver nano thin films, for molecular sensor applications using Raman spectroscopy.

Setumo Lebogang Thobakgale[1,2], Saturnin Ombinda-Lemboumba1[1], Yaseera Ismail[2], Patience Mthunzi-Kufa[1,2]
[1]CSIR, South Africa; [2]UKZN

Line-Scanning VSFG Hyperspectral Microscopy for Imaging Self-Assembled and Biomimetic Materials

Zishan Wu, Jackson Wagner, Wei Xiong
UCSD, United States of America

The harmful effects of Mg segregation on InGaN/GaN light- emitting diodes

TAEYOUNG PARK
UNI-RISCO LED center, United States of America