SYMPOSIUM:
Analytical Challenges in the Nanosciences (101)
Convener: Malcolm Smyth, Dublin City University, Republic of Ireland

PROGRAMME

Thursday morning, Room: Ness

Session Chair: Malcolm Smyth, Dublin City University, Ireland

10:30 **KEYNOTE**
(S101_001) **Nanostructured organic electrodes: the impact on medical bionics**
Gordon G. Wallace, University of Wollongong, Australia

11:10 **AWARD WINNER (RSC Edward Harison Memorial Prize 2007)**
(S101_002) **Surface Redox Chemistry of Diamond Nanoparticles**
Katherine B. Holt, University College London, UK

11:50 (S101_003) **Study the transport of ions through the nanopore filled with electroactive polymer**
Binh T.T. Nguyen, National University of Singapore, Singapore

12:10 (S101_004) **Towards selective electrospun nanofibers for sample handling**
Nelson Torto, Rhodes University, South Africa

12:30 Lunch and Informal Networking

Thursday afternoon, Room: Ness

Session Chair: Malcolm Smyth, Dublin City University, Ireland

14:00 **KEYNOTE**
(S101_005) **Satellite Nanoscopes and Molecular Optogenetics**
Luke P. Lee, University of California, Berkeley, USA

14:40 (S101_006) **Observing the Silent Observer: Where is it and is it silent?**
Jonathan W. Aylott, University of Nottingham, UK

15:00 (S101_007) **Targeted low level detection of biologically significant molecules with the aid of multi-reagent chemiluminescence**
Xavier A. Conlan, Deakin University, Australia

15:20 Tea and Coffee

15:50 (S101_008) **Raman based detection of Staphylococcus Aureus utilizing single domain antibody coated SERS active nanoparticle probes and magnetic trapping**
Philip Drake, Industrial Technology Research Institute, Japan

16:10 (S101_009) **Methods for the design and application of optimal SERS substrates**
David A. Eustace, D3 Technologies Ltd, UK

16:30 Flash Poster Presentations

17:00 Plenary Lecture (Clyde)

Friday morning, Room: Ness

Session Chair: Malcolm Smyth, Dublin City University, Republic of Ireland

09:00 **KEYNOTE**
(S101_010) **Analysis at the Nanometre Scale**
Graham J. Leggett, University of Sheffield, UK

09:40 (S101_011) **Single molecule detection on the nanoscale**
Joshua B. Edel, Imperial College London, UK

10:00 (S101_012) **Observing, Quantifying and Controlling Rotation at the Single-Molecule Level**
E. Charles H. Sykes, Tufts University, USA

10:20 Tea and Coffee

10:50 (S101_013) **Quantitative mapping of microfluidic temperature with sub-degree resolution using fluorescence lifetime imaging microscopy**
Anita C. Jones, University of Edinburgh, UK

11:10 (S101_014) **Chiroptical and Magneto-Analysis of Microparticles and Interfaces**
Hitoshi Watarai, Osaka University, Japan

11:30 Plenary Lecture (Clyde)

POSTER SESSION

18:00 - 20:00
Thursday, Hall 5

(P101_001) **Determination of 11b,17a, 21-trihydroxypregn-4-ene-3,20-dione residues on manufacturing equipment surfaces using HPLC**
Ghulam Shabir, Abbott Laboratories, UK

(P101_002) **Discrimination between ATP and ADP in water using methyl orange and cationic peptide lipid**
Naoya Ryu, Graduate School of Engineering, Sojo Univ., Japan

(P101_003) **Electrocatalytic behavior of cobalt phthalocyanine complexes immobilized on glassy carbon electrode towards the reduction of dicrotophos**
Sibulelo Vilakazi, Mintek, South Africa

(P101_004) **Electrochemical stripping analysis of nanomolar levels of copper in natural water**
Estrella Espada Bellido, University of Cádiz, Spain

(P101_005)
Preparation gas sensor based on nano structure poly pyrrole and its appelication to detect some pollutions
Sajad Pirsa, Tarbiat Modares University Tehran, Iran

(P101_006) **A novel impedimetric biosensor for hydrogen peroxide based on biocatalysis of catalase in a nanocomposite material of multi-walled carbon nanotube and a room temperature ionic liquid**
Mojtaba Shamsipur, Razi University, Iran

(P101_007) **Electrochemical behaviour of furazolidone, using a multi-walled nanotubes composite film-glassy carbon electrode**
Lida Fotouhi, Alzahra University, Iran

(P101_008) **Electrocatalytic activity of 7H-thiazolo [3,2-b]-trazin-7-one derivative/multi-wall carbon nanotubes immobilized on carbon paste electrode for NADH oxidation**
Lida Fotouhi, Alzahra University, Iran

(P101_009) **Separation and preconcentration of trace amount of Pb(II) by core-shell magnetic nanoparticles**
Masoomeh Emadi, University of Isfahan, Iran

(P101_011) **Ultra sensitive detection of sotalol based on electrooxidation on copper nanoparticles catalyst**
Ali Jabbari, K.N. Toosi University of Techechnology, Iran

(P101_012) **Physio-chemical properties of gibbsite nano-crystals**
Chanaka K. Kumara, Institute of Fundamental Studies, Sri Lanka

(P101_013) **Synthesis and Characterization of gama-Fe_2O_3 Nanoparticles**
Lakmal Jayarathna, Institute of Fundamental Studies, Sri Lanka

(P101_014) **Spectroscopic analysis of surface modifications of wool fabrics by UV excimer laser irradiation treatment**
Aurelia Grigoriu, "Gh. Asachi" Technical University, Romania

(P101_015) **Alzheimer's disease & amyloid fibrils: Detecting β-Amyloid aggregation using its intrinsic fluorescence**
Mariana Amaro, University of Strathclyde, UK

(P101_016) **Development and validation of a HPLC method for the analysis of nonylphenoxy-polyethylleneoxy-ethanol**
Ghulam Shabir, Oxford Brookes University, UK

(P101_017) **Nanomaterials-based immunosensing platforms for the detection of doping substances**
José M Pingarrón, Complutense University, Spain

(P101_019)
Methanol electrooxidation at glassy carbon modified with NI(II)-Salen complex and also with carbon nanotubes
Jahan Ghasemi, K.N. Toosi University of Technology, Iran

(P101_020) **Development and validation of a HPLC method for the analysis of 1,7,7-trimethyl-bicyclo(2,2,1) heptan-2-one**
Ghulam Shabir, Oxford Brookes University, UK

(P101_021) **Simultaneous multi-parameter mapping of microfluidic devices using fluorescence lifetime imaging microscopy, micro-particle imaging velocimetry, optical tweezers and time-correlated single photon counting.**
Mathieu Bennet, University of Edinburgh, UK

(P101_022) **Spontaneous Fibril Formation during Melanin Synthesis from 3,4-Dihydroxyphenylalanine**
Ross McQueenie, University of Strathclyde, UK

(P101_023) **Surface characterisation of as-received and modified carbon nanotubes via inverse gas chromatography**
Robert Menzel, Imperial College London, UK

(P101_024) **Ruthenium complex conjugates: An oligonucleotide system and a triangular silver nanoplate system**
Gemma Keegan, Trinity College Dublin, Republic of Ireland

SYMPOSIUM:
Astrochemistry (102)
Convener: Helen Fraser, University of Strathclyde, Glasgow, UK

PROGRAMME

Monday morning, Room: Carron 1

Session Chair: Ian Simms, University of Rennes 1, France

10:30 **KEYNOTE**
(S102_001) **Chemistry during star- and planet formation**
Ewine van Dishoeck, Leiden University, The Netherlands

11:10 (S102_002) **Surface science investigations of OCS containing model interstellar ices**
Wendy A. Brown, University College London, UK

11:30 (S102_003) **A new modified-rate method for surface chemistry: comparison with Monte Carlo results**
Robin T. Garrod, Cornell University, USA

11:50 (S102_004) **From PAH molecules to carbon particles in circumstellar envelopes: insights from laboratory experiments**
Ludovic Bienner, Université de Rennes 1, France

12:10 (S102_005) **A solution to earth's missing carbon**
Edwin A. Bergin, University of Michigan, USA

12:30 Lunch and Informal Networking

Monday afternoon, Room: Carron 1

Session Chair: Martin McCoustra, Heriot-Watt University, UK

14:00 **KEYNOTE**
(S102_006) **Calculations on Surface Reactions and their Astrophysical Implications**
David C. Clary, University of Oxford, UK

14:40 (S102_007) **2D mapping of ice species in molecular cores**
Jennifer A. Noble, University of Strathclyde, UK

15:00 (P102_033) **Methanol in young stellar objects**
Lars Kristensen, Leiden University, The Netherlands

15:20 Tea and Coffee

15:50 (S102_009) **Deuterium chemistry and gas-grain interactions in star- forming regions**
Helen Roberts, Queen's University Belfast, UK

16:10 (S102_010) **Mobility of D-atoms on porous amorphous water ice surfaces**
Emanuele Congiu, Université de Cergy-Pontoise & Observatoire de Paris, France

16:30 Flash poster presentations
17:00 Plenary Lecture (Clyde)

Tuesday morning, Room: Carron 1

Session Chair: June McCombie, University of Nottingham, UK

10:30 **KEYNOTE**
(S102_011) **Laboratory investigations of Titan chemistry**
Stephen R. Leone, University of California, Berkeley and Lawrence Berkeley National Laboratory, USA
11:10 (S102_012) **New THz spectroscopic tools for tracing prebiotic interstellar chemistry**
Susanna L. Widicus Weaver, Emory University, USA
11:30 (S102_013) **Exploring the chemical and physical structure of terrestrial planet-forming zones in protoplanetary disks with CO line profiles**
J. Bast, Leiden University, The Netherlands
11:50 (S102_014) **Experimental studies of the morphology of water and its implications under interstellar conditions**
François Dulieu, Universite de Cergy-Pontoise, France
12:10 (S102_015) **C-Chain anions as tracers of circumstellar chemistry**
M. Guélin, IRAM, France
12:30 Lunch and Informal Networking

Tuesday afternoon, Room: Carron 1

Session Chair: Ruth Lynden-Bell, Queen's University Belfast, UK

14:00 **KEYNOTE**
(S102_025) **Molecular anions in the laboratory and in space**
M.C. McCarthy, Harvard-Smithsonian Center for Astrophysics, USA
14:40 (S102_017) **Ices around extragalactic young stellar objects**
Takashi Shimonishi, University of Tokyo, Japan
15:00 (S102_018) **Chemical reactivity at extremely low temperatures: rate coefficients for S(1D) + H_2 down to 5.8 K**
Ian R. Sims, Universite de Rennes 1, France
15:20 Tea and Coffee
15:50 (S102_019) **Nitrile chemistry in Interstellar Clouds and Titan's atmosphere**
Wolf D. Geppert, Stockholm University, Sweden
16:10 (S102_020) **Thermal desorption from porous dust grain surfaces**
Mark P. Collings, Heriot-Watt University, UK
16:30 Flash poster presentations
17:00 Plenary Lecture (Clyde)

Wednesday morning, Room: Carron 1

Session Chair: Helen Fraser, University of Strathclyde, UK

10:30 **KEYNOTE**
(S102_021) **The current status of chemical networks for simulating interstellar chemistry**
Eric Herbst, The Ohio State University, USA
11:10 (S102_022) **The chemistry of protoplanetary disks**
Catherine Walsh, Queen's University Belfast, UK
11:30 (S102_023) **Molecular Hydrogen Formation in the Interstellar Medium**
Liv Hornaeker, University of Aarhus, Denmark
11:50 (S102_024) **Laboratory investigation on water formation routes in interstellar ices analogues**
Claire Romanzin, Leiden University, The Netherlands
12:10 (S102_027) **Thermal and photoinduced processes at interstellar ices: a computational chemist's view**
Stefan Andersson, SINTEF, Norway
12:30 Lunch and Informal Networking

POSTER SESSION

18:00 - 20:00
Tuesday, Hall 5

(P102_001) **Quantum mechanical and quasi-classical trajectory scattering calculations for the OH + O --> H + O_2 reaction**
Mohamed Jorfi, University of Franche-Comté, France

(P102_002) **Properties of interstellar PAHs in the Milky Way, the large magellanic cloud and nearby galaxies based on observations with Infrared Camera(IRC) onboard AKARI**
Itsuki Sakon, University of Tokyo, Japan

(P102_003) **Towards understanding the formation of water in the interstellar medium**
Victoria Frankland, Heriot-Watt University, UK

(P102_004) **Surface processes on interstellar grains: linking laboratory data with models**
Herma Cuppen, Leiden University, Netherlands

(P102_005) **Modeling chemical evolution of warm cores around solar-like stars**
Zainab Awad, University College London, UK

(P102_007) **Spectroscopic studies of laboratory analogues of interstellar dust produced in a flame**
Yvain Carpentier, LPPM - CNRS, France

(P102_008) **The adsorption of C_6H_6 on surfaces of astrophysical relevance**
John Thrower, Heriot-Watt University, UK

(P102_009) **Ab initio characterization of C_4- and C_4H- anions**
Senent Maria Luisa, CSIC, Spain

(P102_010) **CCSD(T) study of the far-infrared spectrum of various isotopomers of ethyl-methyl-ether**
Senent Maria Luisa, CSIC, Spain

SCIENTIFIC PROGRAMME Analysis & Detection

(P102_011) **Rotational excitation of SO_2 by H_2 at low temperatures**
Senent Maria Luisa, CSIC, Spain

(P102_012) **Accurate calculation of anharmonic quantum densities of states: application to IR spectroscopy of large molecules**
Marie Basire, CNRS-LPPM, France

(P102_013) **Simple hydrogen-bearing molecules in translucent molecular clouds**
Tomasz Weselak, Casimir The Great University, Poland

(P102_014) **Broadening of the 6196A diffuse interatellar band and excitation temperature of C_2**
Maja Kazmierczak, Torun Centre for Astronomy of the Nicolaus Copernicus University, Poland

(P102_015) **Computation of Infrared Spectra of [SiPAH]+ Complexes of Astrophysical Interest: Quantum Chemistry and Molecular Dynamics Approaches**
Baptiste Joalland, Univ. Toulouse III - CNRS, France

(P102_016) **Kinetics of the OH + acetone reaction from 69 - 112 K studied using a pulsed Laval nozzle**
Dwayne Heard, University of Leeds, UK

(P102_017) **C_2H in prestellar cores**
Marco Padovani, INAF-Osservatorio Astrofisico di Arcetri, Italy

(P102_018) **Possible role of the metastable anions of the ortho benzyne in the PAHs interstellar medium formation: quantum scattering calculations**
Fabio Carelli, University of Rome "La Sapienza", Italy

(P102_019) **Thermal formation of methylammonium methylcarbamate in interstellar ice analogs: a glycine salt precursor under VUV irradiation.**
Jean-Baptiste Bossa, Université de Provence, PIIM laboratory, France

(P102_020) **Water, O_2, and ice in interstellar molecular clouds**
David Hollenbach, NASA Ames Research Center, USA

(P102_021) **Hydrogen/deuterium exchange in H_2O:XD ice mixtures**
Alexandre Faure, Laboratoire d'Astrophysique de Grenoble, France

(P102_022) **Ultraviolet spectra of interstellar molecules**
Theodore Snow, University of Colorado, USA

(P102_023) **Dissociative recombination of organic molecular ions**
Erik Vigren, AlbaNova, Stockholm University, Sweden

(P102_024) **Rovibrational energy levels of H_3^+ with energies above the barrier to linearity**
Ralph Jaquet, University Siegen, Germany
(P102_025) **Reaction pathways for growth of polycyclic (aromatic) hydrocarbons**
Robert Barthel, Institut des Sciences Moleculaires, France

(P102_026) **Molecular dynamics simulations of ice photochemistry at different temperatures.**
Carina Arasa, Leiden Observatory, Netherlands

(P102_027) **A systematic laboratory study of CO, CO_2, N_2 and O_2 containing interstellar water ice analogues**
Ankan Das, Leiden University, Netherlands

(P102_028) **How the second law of thermodynamics may determine the evolution of stars**
Anthony Coogan, Republic of Ireland

(P102_029) **Molecular probes of star formation physics**
Matthijs Van der Wiel, Kapteyn Astronomical Institute, Netherlands

(P102_030) **Chemistry of a protoplanetary disk with grain settling and Lyman alpha radiation**
Jeffrey Fogel, University of Michigan, USA

(P102_031) **Modeling Hot Cores in the Interstellar Medium**
Mary Miller, Queen's University Belfast, UK

(P102_032) **Detection of C_2 in the Red Rectangle nebula - a combined observational and laboratory study**
Nadine Wehres, Kapteyn Astronomical Instittute, Netherlands

(P102_034) **Laboratory evidence for efficient water formation in interstellar ices**
Sergio Ioppolo, Leiden University, Netherlands

(P102_035) **Ortho/Para spin conversion of D_2 on a porous water ice surface at 10K in the presence of O_2 traces**
Jean Louis Lemaire, Observatoire de Paris & Université de Cergy-Pontoise, France

(P102_036) **Changes in the morphology of interstellar ice analogues after hydrogen atom exposure**
Mario Accolla, Università degli studi di Catania, Italy

(P102_037) **Coupled gas-surface chemistry in the early solar nebula**
Stefan Kupper, German Aerospace Center, Germany

(P102_038) **The optical spectrum of thiozone**
Damian Kokkin, Harvard Smithsonian Center for Astrophysics, USA

(P102_039) **Formation and analysis of organic residues that produce the 3.4 micrometer infrared band.**
Zan Peeters, NASA/GSFC, USA

(P102_040)
C_2 and the red rectangle bands
Damian Kokkin, Harvard Smithsonian Center for Astrophysics, USA
(P102_041) **Thermal Dynamics of Interstellar Ice Analogues**
Edith Fayolle, Leiden Observatory, Netherlands

(P102_042) **A systematic laboratory study of polluted interstellar water ice analogues**
Ankan Das, Leiden University, Netherlands

(P102_043) **Single pulse infrared laser induced desorption of doped amorphous solid water**
Oscar R. Rebolledo-Mayoral, University of Southern California, USA

(P102_044) **Astrochemistry**
Mika Kindaichi, PRSAVC, Thailand

(P102_045) **A Unified Monte Carlo Treatment of Gas-Grain Chemistry in Clouds and Disks**
Anton Vasyunin, Max-Planck-Institute for Astronomy, Germany

SYMPOSIUM:
Forensic Science (103)
Convener: Sarah Cresswell, University of Strathclyde, UK

PROGRAMME

Thursday morning, Room: Carron 1

Session Chair: Sarah Cresswell, University of Strathclyde, UK

10:30 **KEYNOTE**
(S103_001) **Title TBC**
Robert Kalin, University of Strathclyde, UK
11:10 (S103_002) **δ13C and δD values of leaf wax n-alkanes: A tool for characterizing soil provenance**
Nikolai Pedentchouk, University of East Anglia, UK
11:30 (S103_003) **Monitoring drugs in the environment - forensic use of environmental data**
Barbara Kasprzyk-Hordern, University of Huddersfield, UK
11:50 (S103_004) **Molecularly imprinted solid phase extraction (MISPE) and liquid chromatography - tandem mass spectrometry (LC-MS/MS) analysis of ketamine and norketamine in hair samples**
Norlida Harun, University of Glasgow, UK
12:10 (S103_005) **The differentiation of GHB using Isotope Ratio Mass Spectrometry and Ion Chromatography**
Rachel R. Hughes, Flinders University, Australia
12:30 Lunch and Informal Networking

Thursday afternoon, Room: Carron 1

Session Chair: Robert Kalin, University of Strathclyde, UK

14:00 **KEYNOTE**
(S103_006) **The forensic application of isotope analysis – is the right answer?**
Sean Doyle, Defence Science and Technology Laboratory (Dstl), UK
14:40 (S103_007) **Device for explosive traces vapour detection**
Thierry Maillou, CEA, France
15:00 (S103_008) **The forensic recovery and identification of peroxide explosives traces**
Matthew S. Beardah, Defence Science and Technology Laboratory (Dstl), UK
15:20 Tea and Coffee
15:50 (S103_009) **Detection of gender biomarkers, explosives and nicotine in lifted dusted fingermarks by mass spectrometry**
Angelina Lim, Nanyang Technological University, Singapore
16:10 (S103_010) **Photoacoustic FT-IR spectroscopy: A possible new technique for forensic art analysis?**
Ian S. Butler, McGill University, Canada
16:30 Flash Poster Presentations
17:00 Plenary Lecture (Clyde)

POSTER SESSION

18:00 - 20:00
Thursday, Hall 5

(P103_001) **Extraction and identification of Aldicarb (Temik) from Postmortem tissues samples**
Khaled Ibrahim, Minstry of justice, Egypt

(P103_002) **Determination of β-Hydroxybutyrate (BHB) in blood and urine using Gas-Chromatography-Mass Spectrometry (GC-MS)**
Huda Hassan, Glasgow University, UK

(P103_003) **New tricks for an old dog: fingerprint detection and inkjet-trace imaging using disulfur dinitride**
Roberto King, Loughborough University, UK

(P103_004) **Chemical profiling of soil for forensic application**
Jean Robertson, The Macaulay Institute, UK

(P103_005) **Multi-residue analysis of drugs of abuse in wastewater utilising LC-MS/MS in order to estimate community usage**
David Baker, University of Huddersfield, UK

(P103_006) **The forensic recovery and identification of peroxide explosives traces**
Matthew Beardah, Defence Science and Technology Laboratory, UK

(P103_007) **Forensic characterisation of hydrogen peroxide / organic material (HPOM) mixtures**
Gemma Kyle, Defence Science and Technology Laboratory (Dstl), UK

(P103_008) **Forensic methods development for detection of production markers on chemical and biological materials**
Heather Colburn, Pacific Northwest National Laboratory, USA

SCIENTIFIC PROGRAMME Analysis & Detection

SYMPOSIUM:
Heritage Science (104)
Conveners: Lorraine Gibson, University of Strathclyde, UK and Jim Tate, National Museums Scotland, UK

PROGRAMME

Wednesday afternoon, Room: Carron 1

Session Chair: Lorraine Gibson, University of Strathclyde, UK

14:00 **KEYNOTE**
(S104_001) **Heritage science: policies, definitions and networks**
Jan Wouters, Conservation Scientist, Consultant, Belgium
14:40 (S104_002) **Mark Rothko's murals: materials and their implications**
Katherine Eremin, Harvard Art Museum, USA
15:00 (S104_003) **Non-destructive characterisation of iron gall ink drawings: not such a galling problem anymore**
Matija Strlič, Centre for Sustainable Heritage, University College London, UK
15:20 Tea and Coffee

Session Chair: Jim Tate, National Museums Scotland, Scotland

15:50 (S104_004) **Heritage science at Nuzi: a collaborative approach**
Katherine Eremin, Harvard Art Museum, USA
16:10 (S104_005) **Heritage Science in the U K: Where has it come from? Where is it going?**
May Cassar, AHRC/EPSRC Programme Director for Science and Heritage, UK
16:30 Flash Poster Presentations
17:00 Plenary Lecture (Clyde)

POSTER SESSION

18:00 - 20:00
Wednesday, Hall 5

(P104_001) **Preserving of monument by elevator and separate safety system in excavation**
Haeideh Khamseh, Abhar University, Iran

(P104_002) **A scientific study of the Darnley State Chariot**
Christopher Augerson, Augerson Art Conservation Services UK, UK

(P104_003) **Fluorescence microscopy: applications in conservation and technical art history**
David Blatchford, University of Strathclyde, UK

(P104_004) **Identical books project**
C Horie, British Library, UK

(P104_006) **In-situ investigations of the weathering behavior of non-transparent materials in art by IRRAS and AFM**
Manfred Schreiner, Academy of Fine Arts, Austria

(P104_007) **An investigation of the effects of isopropyl alcohol on collagen in parchment.**
Lee Gonzalez, Cardiff Uinversity, UK

(P104_008) **Organic-inorganic hybrid epoxy adhesives containing polyhedral oligomeric silsesquioxane for stone conservation**
Jongok Won, Sejong University, South Korea

(P104_009) **Fing-Bind-Print: a proposal for an integrated, complementary methodology of identification and quantification of proteinaceous binders in polychrome artworks**
Irina Sandu, Universidade Nova de Lisboa, Faculdade de Ciencias e Tecnologia, Portugal

(P104_010) **Weathering and decay in historic magnesian limestone on York Minster: Application of X-ray techniques to inform cathedral conservation in the 21st century**
Karen Wilson, University of York, UK

(P104_011) **Analytical study of the painting 'Education of Cupid' attributed to Correggio: preliminary results on the provenance, materials and technique**
Olga Katsibiri, National Gallery - Alexandros Soutzos Museum, Greece

(P104_012) **Powder X-ray diffraction studies of 12th century Byzantine ceramics**
Ivana Evans, Durham University, UK

(P104_013) **Heritage Science in the United Kingdom: Where has it come from? Where is it going?**
May Cassar, AHRC/EPSRC Science and Heritage Programme, UK

(P104_014) **The association between genetic polymorphisms of stromal cell-derived factor-1 and CXCR4 and Hepatocellular Carcinoma**
Hsiu-Ting Tsai, Chung Shan Medical University, Taiwan

(P104_015) **Characterisation and provenance of Natural Dyestuffs by PDA- HPLC analysis: the case of the Sheldon tapestry workshop at Barcheston in the mid-16th Century**
Lore Troalen, University of Edinburgh / National Museums Scotland, UK

(P104_016) **Spectroscopic characterization of tannins in new vegetable tanned leathers for conservation purposes: a case study**
Maria Eduarda Araújo, Faculdade de Ciências, Universidade de Lisboa, Portugal

(P104_017) **Mechanical Analysis and Scanning Probe Microscopy of Selected Heritage Materials**
Marianne Odlyha, Birkbeck College, UK

(P104_018) **The Analytical Study on White Pigments of the Dan-chung in Buddhist Temple**
Han-hyoung Lee, National Research Institute of Cultural Heritage, Korea, South Korea

SYMPOSIUM:
Minaturised Electroanalytical Systems (105)
Convener: D.W.M. Arrigan, Tyndall National Institute - University College Cork, Republic of Ireland

PROGRAMME

Wednesday morning, Room: Ness

Session Chairs: Damien Arrigan, Tyndall National Institute - University College Cork, Ireland and Paul W. Bohn, University of Notre Dame, USA

10:30 **KEYNOTE**
(S105_001) **Neurochemical applications of microchip electrophoresis**
Susan M. Lunte, University of Kansas, USA

11:10 (S105_002) **Polymeric ion bridges on microfluidic devices for bioanalytical applications**
Taek Dong Chung, Seoul National University, South Korea

11:30 (S105_003) **Electrochemical impedance detection of hCGβ: Preliminary results and analysis in the development of 'lab on a chip' technology**
Richard H Bayford, Middlesex University, UK

11:50 (S105_004) **Probing chirality electrochemically**
Ritu Kataky, Durham University, UK

12:10 (S105_005) **On-chip electrochemical and mass spectrometric detection**
Leif Nyholm, Uppsala University, Sweden

12:30 Lunch and Informal Networking

Wednesday afternoon, Room: Ness

Session Chairs: John Hart, University of West of England, UK and Susan M. Lunte, University of Kansas, USA

14:00 **KEYNOTE**
(S105_006) **Molecular adsorption/desorption at single atom nanowires prepared by self-limiting electrochemical processes**
Paul W. Bohn, University of Notre Dame, USA

14:40 (S105_007) **Oxygen sensing in oceanography with microdisc electrodes**
Guy Denuault, University of Southampton, UK

15:20 Tea and Coffee

15:00 (S105_008) **The development and characterisation of square microfabricated electrode systems**
Helen Woodvine, University of Edinburgh, UK

15:50 (S105_009) **Development of screen-printed microband biosensors for real-time monitoring of glucose and lactate concentrations in cell metabolism studies**
R.M. Pemberton, University of the West of England, UK

16:10 (S105_010) **A multi-parameter fluidic platform for cytotoxicity monitoring of cells**
Eric Moore, Tyndall National Institute - University College Cork, Republic of Ireland

16:30 Flash Poster Presentations

17:00 Plenary Lecture (Clyde)

POSTER SESSION

18:00 - 20:00
Wednesday, Hall 5

(P105_001) **An Investigation on the Amount of Sulfate in two types of Cements**
Mahdieh Sheikhshoaei, Technical and Soil Mechanics Laboratory of Kerman, Iran

(P105_002) **The Voltammetric Behaviour of Lead at a Microband Screen-Printed Carbon Electrode and its Trace Determination by Stripping Voltammetry**
Kevin Honeychurch, University of the West of England, UK

(P105_003) **Studies towards the development of an amperometric biosensor for phosphate in urine based on a chemically modified screen-printed carbon electrode**
Lucy Gilbert, University of the West of England, UK

(P105_004) **Separation and Quantification of Cellulases by Isotachophoresis and Capillary Zone Electrophoresis**
Ruchi Gupta, University of Manchester, UK

(P105_005) **Microsystem featuring magnetic capture and electrochemical detection**
Francisco Javier Del Campo, Instituto de Microelectrónica de Barcelona (IMB-CNM.CSIC), Spain

(P105_006) **Selective determination of dopamine during in vivo microdialysis using a functionalised carbon nanotube/fibre microelectrode**
Susan Warren, ITT Dublin, Republic of Ireland

(P105_007) **Electrochemical microfluidic chip coupled to external magnetic beads-based ELISA with a simple integrated calibration: a timely analytical tool for controlling Zearalenone in baby foods**
Alberto Escarpa, University of Alcalá, Spain

(P105_008) **Nickel nanowires for electrochemical detection of total carbohydrates using miniaturized flow injection system**
Alberto Escarpa, University of Alcalá, Spain

(P105_009) **Microfluidic chips with carbon nanotube electrochemical detectors for food analysis**
Alberto Escarpa, University of Alcalá, Spain

(P105_010) **Microfluidic-electrochemistry chips for antioxidant activity evaluation *in vitro***
Alberto Escarpa, University of Alcalá, Spain

(P105_011) **Nanostructured cellulose/platinum composite films for electrochemical oxygen sensing**
Soon Y. Liew, The University of Nottingham, UK

SCIENTIFIC PROGRAMME Analysis & Detection

SYMPOSIUM:
Process Analysis (106)
Convener: David Littlejohn, University of Strathclyde, UK

We would like to thank Chemicals Northwest for their support of the Process Analysis symposium

PROGRAMME

Friday morning, Room: Carron 1

Session Chair: David Littlejohn, University of Strathclyde, UK

09:00 **KEYNOTE**
(S106_001) **Future directions in Process Analytics**
J.J. Gunnell, ExxonMobil, UK

09:40 (S106_002) **The role of real-time measurements in drug discovery and development**
Staffan Folestad, AstraZeneca, Sweden

10:00 (S106_003) **Rapid process understanding utilising micro reactor technology**
Paul Watts, University of Hull, UK

10:20 Tea and Coffee

10:50 (S106_004) **Spectral imaging for process investigations**
Rudolf W. Kessler, Reutlingen University, Germany

11:10 (S106_005) **Improved process analysis is essential for Process Industries competitiveness**
Roger Benson FREng, Benson Consulting Ltd, UK

11:30 Plenary Lecture (Clyde)

POSTER SESSION

18:00 - 20:00
Thursday, Hall 5

(P106_001) **A new reversed phase method for determination and validation of Tolterodine tartarat in pharmaceutical dosage forms**
Eskandar Alipour, Azad University, Iran

(P106_002) **Application of counter-current chromatography for improving of inorganic compounds separation efficiency**
Tatiana Maryutina, Vernadsky Institute of Geochemistry and Analytical Chemistry, Russian Federation

(P106_003) **$S_2O_3^{-2}$ anion detection in inactivated samples of bovine serum and viral antigens, utilizing Ag+ íon**
Nelson Beuter Júnior, Universidade Federal do Rio Grande do Sul, Spain

(P106_004) 5**Separation and analysis of Ibuprofen and its enantiomers using HPLC-Mass Spectrometry**
A. Hamdi, Abderrezak University, Algeria

(P106_005) **Process monitoring of a complex aqueous cell culture media multidimensional fluorescence and chemometric methods.**
Boyan Li, National University of Ireland, Galway, Republic of Ireland

(P106_006) **A strategy for rapid Raman characterisation and quality control of cell culture media components.**
Paul W. Ryan, National University of Ireland, Galway, Republic of Ireland

(P106_007) **Adapting Raman spectrometry for process analysis in microreactors**
Alison Nordon, University of Strathclyde, UK

(P106_008) **Applications of *in situ* mid infrared spectrometry**
Alison Nordon, University of Strathclyde, UK

(P106_009) **The use of dispersive and Fourier Transform NIR spectroscopy to monitor antibody production processes**
Mariana Fazenda, Strathclyde University, UK

(P106_010) **Mechanism of the attack of phosphates by acids**
Mohamed Jemal, Applied Thermodynamics Laboratory, Tunisia

(P106_011) **Determination of glucose concentration in cell culture media by Raman spectroscopy and multivariate calibration.**
Bridget Kissane, National University of Ireland, Galway, Republic of Ireland

(P106_012) **Characterisation of pigment/polymer processing using *in-situ* spectroscopy**
David Wilsdon, University of Strathclyde, UK

(P106_013) **Improving process safety through on-line FTNIR measurements**
Carolyn Ribes, Dow Benelux B.V., Netherlands

(P106_014) **Evaluation of particle size measurement tehniques in relation to powder drying**
Peter Hamilton, University of Strathclyde, UK

(P106_015) **On-line measurement of rheology in biotechnology processes.**
Melissa Black, The University of Strathclyde, UK

(P106_016) **Assessing transferability of calibration models for in-line mid-IR analysis with novel silver halide fibre probes**
Allyson McIntyre, University of Strathclyde, UK

(P106_017) **Modeling and Optimal Control of Acetylene Catalytic Hydrogenation Reactor in Olefin Plant Using Artificial Neural Network**
Aligholi Niaei, University of Tabriz, Italy

SYMPOSIUM:
Quality Assurance of Medicines and Detection of Counterfeits (107)
Convener: Tony Moffat, The School of Pharmacy, University of London, UK

PROGRAMME

Monday morning, Room: Gala 2

Session Chair: Tony Moffat, The School of Pharmacy, University of London, UK

10:30 **KEYNOTE**
(S107_001) **The mobile laboratory—A new concept in combating counterfeit medicines in rural areas**
Shaohong Jin, Chinese National Institute for the Control of Pharmaceutical and Biological Products (NICPBP), China

11:10 (S107_002) **Sampling and testing strategies for counterfeit medicines**
Gerard M. Lee, Medicines and Healthcare Products Regulatory Agency, UK

11:30 (S107_003) **Quantification of active ingredients in potentially counterfeit tablets using near-infrared spectroscopy**
Robert A. Watt, The School of Pharmacy, University of London, UK

11:50 (S107_004) **Title TBC**
Mike Claybourn, AstraZeneca, UK

12:10 (S107_005) **Quality assurance of herbal medicines: Indian scenario**
Bhushan K. Patwardhan, Manipal Education, Bangalore, India

12:30 Lunch and Informal Networking

Monday afternoon, Room: Gala 2

Session Chair: Tony Moffat, The School of Pharmacy, University of London, UK

14:00 **KEYNOTE**
(S107_006) **Multidisciplinary Approach to the Detection of Counterfeit Drugs**
Mark R. Witkowski, FDA Forensic Chemistry Center, Cincinnati, USA

14:40 (S107_007) **A compendial approach to detecting counterfeits - USP perspective**
William F. Koch, US Pharmacopeia, USA

15:00 (S107_008) **Analysing medicines in Kenya using the Minilab®**
Samantha R. Gresham, Lloyds Pharmacy, UK

15:20 Tea and Coffee

15:50 (S107_009) **Authentication or fraud detection: Experience of the French Official Medicine Control Laboratory**
Hervé Rebiere, Laboratory and Control Department, AFSSAPS, France

16:10 (S107_010) **Addressing the risk from counterfeit medicines in the supply chain**
Andrew M. Bonser, Pfizer, UK

16:30 Flash Poster Presentations

17:00 Plenary Lecture (Clyde)

POSTER SESSION

18:00 - 20:00
Monday, Hall 5

(P107_001) **Practical guideline on HPLC method development and validation in the pharmaceutical industry**
Ghulam Shabir, Abbott Laboratories, UK

(P107_002) **Simultaneous determination of Venlafaxine and its four related substances in tablet form by High-Performance Liquid Chromatography**
Maryam Hosseini, Pharmacy, Iran

(P107_004) **Development and validation of hptlc and derivative spectrophotometry methods for determination of diazepam and propranolol hydrochloride in combined dosage form**
Paresh Patel, Shree S. K. Patel College of Pharmacy Education & Research, India

(P107_005) **Development and validation of hplc and hptlc methods for simultaneous estimation of gatifloxacin and ornidazole in tablets**
Satish Patel, S. K. Patel College of Pharmaceutical Education & Research, India

(P107_006) **Solubility of Ofloxacin in 1, 2 dichloromethane, chloroform, carbon tetrachloride and water from (293.15 to 313.15) K**
Shipra Baluja, Saurashtra University, India

(P107_007) **Solubility of butylated hydroxytoluene in water and different alcohols at different temperatures**
Shipra Baluja, Saurashtra University, India

(P107_009) **Determination of The pKa Values of Some Angiotensin-Converting Enzyme (ACE) Inhibitors in Organic Solvent-Water Media by The Spectrofluorimetric Method**
S. Beniz Gündüz, Selcuk University, Turkey

(P107_010) **Investigation of The Solvent Effect on The Fluorescence Properties of The Angiotensin-Converting Enzyme (ACE) Inhibitors**
S. Beniz Gündüz, Selcuk University, Turkey

(P107_011) **Pharmaceuticals practices; reality and resonance**
Obaid Ali, Central Drugs Laboratory, Pakistan

(P107_013) **Identification of tablets using handheld near-infrared and Raman spectroscopic instruments**
Sulaf Assi, The School of Pharmacy, UK

(P107_014) **Evacuated blood collection tubes for haematological tests - Quality evaluation prior to their intended use for specimen collection**
Nataša Gros, University of Ljubljana, Slovenia

SCIENTIFIC PROGRAMME Analysis & Detection

(P107_015) **Pre-conditions of development of express-method for analysis of raw material of Laminaria with the purpose of prevention of counterfeit of products**
Inna Vladymyrova, The National University of Pharmacy, Ukraine

(P107_016) **The use of gas chromatography with Mass-Spectrometric detection for exposing the falsified drugs**
Victoriya Georgiyants, The National University of Pharmacy, Ukraine

(P107_017) **Natural Flavonoids as micronutrients, medical preparations and biology active additions**
Alla Glushchenko, The National University of Pharmacy, Ukraine

(P107_018) **Development and validation of the quantitative determination method of flavonoids in the preparations**
Kateryna Khokhlova, National University of Pharmacy, Ukraine

(P107_019) **Development of analytical normative document of control of quality of medications Ex Tempore in Ukraine**
Kseniya Proskurina, National University of Pharmacy, Ukraine

(P107_020) **Quantitative determination of Camphor Racemica and Fir oil**
Liliia Vishnevska, National University of Pharmacy, Ukraine

(P107_021) **Quality assurance of drugs and detection of counterfeits in Ukraine**
Liudmyla Bondarieva, The National University of Pharmacy, Ukraine

(P107_022) **Caffeine stability investigation under physical, chemical and microbiological stress conditions**
Anne Mendes Oustric, PCA, France

(P107_023) **NIR screening for rapid authentication of suspect samples implementation of ASD Inc, equipment and first results**
Kevin Fernandes, ChromSolutions Ltd, UK

(P107_024) **Comparison of degradation behaviour for caffeine tablets and capsules after storage**
Anne Mendes Oustric, PCA, France

(P107_025) **Development and validation of dissolution tests for Cefaclor capsules and Trimetazidine hydrochloride tablets in Korea Pharamceutical Codex**
Jae-Hee Auem, Busan Regional KFDA, South Korea

(P107_026) **Preliminary analysis of medicinal plants used by Bedouin women in Egypt**
Nabila Saleem, Strathclyde University, UK

(P107_027) **Characterization of thermal effects of a thyroid hormone replacements drugs by termogravimetric, spectroscopy and microscopy techniques**
Edgard Resto-Rodriguez, University of Puerto Rico, Puerto Rico