

Provisional Gold 2009 Conference Programme

Sunday, 26th July

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| 15:00 | Official Opening & General Interest Plenaries – Room A (Großer Horsaal) |
| 15:30 | Peter Kondos, Barrick Gold Overview of gold mining and extraction issues (title to be confirmed) |
| 16:15 | Christian Hagelüken, Umicore Recycling of gold from electronics |
| 17:00 | <i>coffee break</i> |
| 17:30 | Christiane Eluère, Musee De France Ancient gold of Continental Europe |
| 18:30 | Welcome Reception |

Monday, 27th July

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| 08:25 | Plenary – Room A (Großer Hörsaal) Richard Puddephatt, University of Western Ontario, Canada The Chemistry of Gold |
| 13:40 | Plenary – Room A (Großer Hörsaal) Masatake Haruta, Tokyo Metropolitan University, Japan Chemical Innovation by Gold Catalysts |
| Symposium 1 | Room B |
| 09:05 | Keynote: Avelino Corma, Universidad Politécnica de Valencia, Spain Gold (III)-Metal organic frameworks for bridging the gap between homogeneous and heterogeneous gold catalysts |
| 09:35 | Armin Brandner Synthesis of dihydroxyacetone by continuous aerobic glycerol oxidation using bimetallic gold and platinum catalysts |
| 10:00 | Jose Antonia Lopez-Sanchez Oxidation of polyols using Au-Pd alloy supported nanocrystals |
| 10:25 | <i>coffee break</i> |
| 11:00 | Mike Scurrall Low temperature oxidation of ethanol to acetic acid using gold-based catalysts |
| 11:25 | Tao Zhang Au-Cu alloy nanoparticles as an efficient catalyst for selective oxidation of alcohols |
| 11:50 | Abdullahi Nuhu Ethanol Oxidation over Au/TiO₂ |
| 12:15 | Arne Wittstock Gas-Phase Oxidation of Alcohols with nanoporous Gold |
| 12:40 | <i>lunch break</i> |
| 14:25 | Katharin Heidkamp Oxidation of tensidic alcohols to their corresponding carboxylic acids via Au- and AuPt-catalysts |
| 14:50 | Tamao Ishida Deposition of Au Clusters on Porous Coordination Polymers for the Oxidation of Alcohols and Amines |
| 15:15 | Di Wang On the mechanism of Au-Pd synergistic effect in liquid phase oxidation of alcohols |
| 15:40 | Alberto Villa Gold supported N-functionalized MWCNTs: enhancement of the activity in the oxidation of alcohols by the basicity of the support |
| 16:05 | <i>coffee break</i> |
| 16:30 | Poster session |
| Symposium 2 | Room A |
| 09:05 | Keynote: Jeroen A. van Bokhoven, ETH Zürich, Switzerland Catalytically active species in gold catalysts |
| 09:35 | Nicholas Dummer Oxidative dehydrogenation of cyclohexanes over supported gold catalysts |
| 10:00 | Valérie Caps |

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| | Titania-doped mesostructured silicates as efficient supports for gold PROX catalysts |
| 10:25 | <i>coffee break</i> |
| 11:00 | Bert Chandler Tuning and Understanding Oxygen Activation by Au with Supported Bimetallic NiAu Nanoparticles |
| 11:25 | Andreea Gluhoi Gold, still a surprising catalyst in heterogeneous reactions |
| 11:50 | Mitsutaka Okumura Theoretical investigation of the hetero-junction effect in PVP-stabilized Au clusters |
| 12:15 | Peter Aurora Titania Nanotube Supported Gold Photoelectrodes |
| 12:40 | <i>lunch break</i> |
| 14:25 | Alexander Nijhuis A Transient Kinetic Analysis of the Epoxidation |
| 14:50 | Stefan Vajda Selective Propene Oxidation on Subnanometer Gold Clusters Supported on Amorphous Alumina |
| 15:15 | Jiahui Huang Gas phase Propylene Epoxidation Catalysed by Gold Clusters |
| 15:40 | Valérie Caps Influence of the alkene molecular structure on the mechanism of its aerobic oxidation over gold catalysts |
| 16:05 | <i>coffee break</i> |
| 16:30 | Poster session |
| Symposium 3 | Room C |
| 9:05 | Keynote: Vincent Rotello, University of Massachusetts, USA Gold Nanoparticles as Diagnostics and Therapeutics |
| 9:35 | Qun Huo A Highly Sensitive One-Step Immunoassay Technology Using Gold Nanoparticle Probes Coupled with Dynamic Light Scattering Detection |
| 10:00 | Christophe Alric Gold nanoparticles designed for in vivo SRCT and MRI imaging and X-ray therapy |
| 10:25 | <i>coffee break</i> |
| 10:55 | Keynote: Mikael Käll, Chalmers University of Technology SPR goes nano : using gold nanostructures for efficient refractive index sensing |
| 11:25 | Christophe Humbert Molecular and electronic surface properties of functionalised Gold Nanoparticles probed by non-linear optical spectroscopy |
| 11:50 | Janina Kneipp Gold nanosensors based on one- and two-photon surface-enhanced Raman scattering |
| 12:15 | Michael Cortie Control of optical magnetic fields using plasmonic gold nanostructures |
| 12:40 | <i>lunch break</i> |
| 14:25 | Cyrille Gautier Gold Nanorod Pigments |
| 14:50 | James Johnston Golden Wool – Nanogold as a Novel Colourant in Wool for High Value Textiles and Fashion Apparel |
| 15:15 | Michael Cortie Spectrally selective window coatings using gold nanorods |
| 15:40 | Kaushik Mallick Gold nanoparticles in an inorganic semiconductor: A low-temperature electrical properties study |
| 16:05 | <i>coffee break</i> |
| 16:30 | Poster session |
| Symposium 4 | Room D |
| 9:10 | Mayfair Kung Carbon Monoxide Assisted Epoxidation of Butene |
| 9:35 | Stephanie Cronje Imine donor complexes of gold(I) |
| 10:00 | Hannu Häkkinen Ligand-protected gold cluster superatoms: Robust and well-understood building blocks of |

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| | nano-matter | |
| 10:25 | | <i>coffee break</i> |
| 10:55 | Keynote: Didier Astruc, Université Bordeaux, France Interplay between Gold Nanoparticles and Dendrimers | |
| 11:25 | Ferdinand Gonzaga Citrate surfactants as reducing- and structure-directing agents: synthesis of novel gold nano-architectures. | |
| 11:50 | Julien Boudon (SWI) Liquid-Crystalline Gold Nanoparticles | |
| 12:15 | Laura Ashfield Tools to Enhance Understanding of Gold Nanoparticle Synthesis | |
| 12:40 | | <i>lunch break</i> |
| 14:20 | Keynote: Mohammad Omary, University of North Texas, USA Gold Luminescence | |
| 14:50 | Vivian W. W. Yam Luminescent Gold-Containing Molecular Materials - From Synthesis to Supramolecular Assembly and Functions | |
| 15:15 | Alan Balch Remarkable Aspects of the Chemistry and Luminescence of Crystalline Gold(I) Complexes | |
| 15:40 | Igor Koshevoy Self-assembly of intensely luminescent phosphine-alkynyl Au-I (M = CuI, AgI) clusters | |
| 16:05 | | <i>coffee break</i> |
| 16:30 | Poster session | |

Symposium 5

Room E

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| 09:10 | Kageeporn Wongpreedee Microstructure of Au-Al systems Manipulated by Rapid Solidification Techniques | |
| 09:35 | Delfim Soares Tarnishing resistance of gold alloys with two types of intermetallic compounds | |
| 10:00 | Ulrich E. Klotz Surface engineering of coloured gold alloys | |
| 10:25 | | <i>coffee break</i> |
| 12:40 | | <i>lunch break</i> |
| 14:20 | Keynote: Tobias Müller, W. C. Heraeus GmbH, Germany Gold wire bonding in microelectronics - an overview | |
| 14:50 | Sabina Gade Palladium-Gold Alloys for High Temperature Hydrogen Separation, Production, and Purification | |
| 15:15 | Christian Leinenbach Novel gold based filler metals for soldering highly loaded components | |
| 15:40 | Naruki Endo Hydrogen absorption in the Au-Zr binary intermetallic compounds | |
| 16:05 | | <i>coffee break</i> |
| 16:30 | Poster session | |

Tuesday, 28th July

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| 08:25 | Plenary – Room A (Großer Hörsaal) Dean Toste , UC Berkeley, USA Homogenous Catalysis with Gold: Development, Applications and Enantioselective Catalysis | |
| 13:40 | Plenary – Room A (Großer Hörsaal) Wayne Goodman , Texas A & M University, USA Catalysis by Gold - Palladium Alloys: The role of Isolated Palladium Sites | |
| 15:45 | Plenary – Room A (Großer Hörsaal) Pietro Cavallotti , Politecnico Milano, Italy Gold plating: from a timeless art to an evergreen technology | |

Symposium 1

Room B

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| 09:10 | Geoffrey Bond Formulation of Mechanisms for Gold-catalysed Reactions | |
| 09:35 | Sandra Lang Reactions of Small Gold Cluster Cations with H₂, O₂, and CH₄: Implications for Selective Methane Oxidation | |

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| 10:00 | Christina Della Pina New Routes to high-value chemicals and conducting polymers by Gold Catalysis |
| 10:25 | Coffee break |
| 10:55 | Keynote: Seunghoon Shin, Hanyang University, Seoul, Korea Gold-Catalyzed Azomethine Ylide Generation and [3+2]-Dipolar Cycloaddition via Internal Redox between Nitrene and Alkyne: Examples of Gold-Carbenoid |
| 11:25 | Young Rhee Developing gold(I)-catalyzed reactions of 3-alkoxy-1,6-enynes |
| 11:50 | Mariano Laguna Inter and Intramolecular Addition of OH to Alkynes in Green Solvents |
| 12:15 | Liming Zhang Au-Catalyzed Homogeneous Oxidative Homo-/Cross-Coupling Reactions |
| 12:40 | lunch break |
| 14:20 | Rai-Shung. Liu Gold-Catalyzed 1,3-Addition of sp³-hybridized C-H bond to Alkenylcarbenoid Intermediate |
| 14:50 | Vladimir Golovko Exploring environmentally benign avenues in catalysis by gold |
| 15:15 | Philip Wai Hong Chan Gold-Catalyzed Strategies for Swapping C–OH Bonds for C–C and C–N Bonds |
| 16:05 | coffee break |
| 16:30 | Poster session |
| Symposium 2 Room A | |
| 09:10 | Jeffrey Miller Performance of Au catalysts for the water-gas shift reaction |
| 09:35 | Maria Flytzani-Stephanopoulos Gold-doped Ceria and Iron Oxide as Stable Water-Gas Shift Catalysts |
| 10:00 | Helen Daley Study of Au/CeZrO₄ catalysts for the low temperature Water Gas Shift reaction; identification of the active Au species |
| 10:25 | coffee break |
| 10:55 | Jason McPherson The commercial application of supported gold catalysts for CO oxidation in mainstream cigarette smoke |
| 11:25 | Pankaj Dhingra Commercializing NS Gold™, a gold containing automotive catalyst |
| 11:50 | Caixia Qi Improvement in Long-Term Durability of Gold Catalysts for CO Removal in Ambient Air and Reformate Gases |
| 12:15 | Robert Güttel Ex-Post Size Control of Hollow Sphere Encapsulated Au Nanoparticles - Catalysts for the Investigation of the Activity in CO Oxidation |
| 12:40 | lunch break |
| 14:20 | Laurent Delannoy Pd-Promoted Selective Gas Phase Hydrogenation of p-Chloronitrobenzene over Alumina supported Au |
| 14:50 | Catherine Louis Selective Gas Phase Hydrogenation of Butadiene over Pd-Promoted Alumina Supported Au Catalysts |
| 15:15 | Veronique Pitchon Influence of the Support on the Mechanism of Acetylene Hydrogenation on Gold Catalysts |
| 16:05 | collee break |
| 16:30 | Poster session |
| Symposium 3 Room C | |
| 09:10 | Ramya Jagannathan Functionalizing gold nanoparticles for biomedical applications: from catching crystals at birth to mature activity |
| 09:35 | Cleo. Dodgen Development of nanotechnology-based therapeutic approaches toward the treatment of HIV |
| 10:00 | Ndabenhle Sosibo Some cytotoxicity studies of gold monolayer protected clusters (MPCs) and bioconjugates |
| 10:25 | coffee break |
| 10:55 | Keynote: Brahim Lounis, Université Bordeaux, France |

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| 11:25 | Optical detection of individual Gold Nanoparticles Michael Natan |
| 11:50 | Detection Using Au Nanoparticle Surface Enhanced Raman Scattering Jang-Sik Lee |
| 12:15 | Non-volatile flash memory devices based on the self-assembled gold nanoparticles Michael Wilson |
| 12:40 | Enhancement of the effectiveness of light-activated antimicrobial agents by gold nanoparticles lunch break |
| 14:20 | Keynote: Ulrich Heiz, Technische Universität München Catalysis of Nanoscale Gold |
| 14:50 | Richard Palmer Gold nanocluster deposition: from atomic structure to applications |
| 15:15 | Ulf Prüße Oxidation of carbohydrates – From lab to industry |
| 16:05 | coffee break |
| 16:30 | Poster session |
| Symposium 4 Room D | |
| 09:05 | Keynote: Pekka Pyykkö, University of Helsinki Theoretical chemistry of gold: Aurophilicity, new species and precision spectroscopy |
| 09:35 | Peter Schwerdtfeger Periodic trends and relativistic effects in the group 11 series of elements |
| 10:00 | Richard Heyn Development of Au Catalysts for the Functionalization of Alkanes |
| 10:25 | coffee break |
| 10:55 | John F. Fackler, Jr. Novel Mixed Coordination of Gold to N- and C-Donor Ligands |
| 11:25 | Helen Goitia Gold Compounds with Ferrocene and Thiophene Conjugates of 2-Thiocytosine. Studies of Antitumour Activity |
| 11:50 | Michael Katz Vapoluminescent [Au(CN)₂]-based ammonia sensors |
| 12:15 | Maria Agostina Cinellu Gold(III) N⁺C⁻N pincer complexes: synthesis and reactivity |
| 12:40 | lunch break |
| 14:20 | Keynote: L. Messori, University of Florence, Italy Gold compounds as anticancer agents |
| 14:50 | Telisha Traut Evaluation of Gold(I) P,N Heteroditopic Complexes as Antiviral Agents |
| 15:15 | Thomas Fässler [Au₃Ge₁₈]⁵⁻ and [Au₃Ge₄₅]⁹⁻: Synthesis and Structure of Two Extraordinary Intermetalloide Cluster Ions |
| 16:05 | coffee break |
| 16:30 | Poster session |
| Symposium 5 Room E | |
| 09:05 | Keynote: Boonrat B.Lohwangwatana, Chulalongkorn University Design and Synthesis of Gold Metallic Glass and its Applications |
| 09:35 | Paula Cojocaru Structure of ECD gold micro and nanostructured carbon composite materials with higher mechanical properties |
| 10:00 | Andreas Zielonka Electrochemical Incorporation of Gold-Nanoparticles in Metal-Matrix-Systems |
| 10:25 | coffee break |
| 11:00 | Claire-Marie Pradier Controlled immobilization of gold nanoparticles on dithiol self assembled monolayers. Towards 3D immunosensors |
| 11:25 | Jonathan Edgar Synthesis of highly anisotropic gold nanoparticles |
| 11:50 | Sven Mönninghoff Synthesis of gold nanoparticle oligonucleotide monoconjugates (GNOC) via the utilisation of phosphoramidites of dendritic polythioether “gripper” ligands on the DNA synthesizer |
| 12:15 | Jörg Polte In Situ studies using SAXS, XANES and micro-structured mixers allow new insights of the |

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| 12:40 | nucleation and growth process of gold nanoparticles | |
| | | lunch break |
| 14:25 | Phil Dickens | |
| | Selective Laser Melting (SLM) of 24 Carat Gold (Au) | |
| 14:50 | J.Fischer-Bühner | |
| | Microgranulation of gold and gold alloys | |
| 15:15 | Filipe Siva | |
| | On the Use of a Controlled Solidification Process to Obtain Functionally Graded Materials | |
| 16:05 | | coffee break |
| 16:30 | Poster session | |

**Wednesday, 29th
July**

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| 8:25 | Plenary - Room A (Großer Hörsaal) Paul Mulvaney, University of Melbourne, Australia Gold Nanocrystals - From Plasmonics to Catalysis | |
| 11:55 | Plenary - Room A (Großer Hörsaal) Graham Hutchings, Cardiff University, UK Nanocrystalline Gold and Gold Palladium Alloy Catalysts: a Reflection on Catalyst Discovery and the Nature of Active Sites | |
| 12:30 | Wind-up session | <i>lunch</i> |
| Symposium 1 Room B | | |
| 09:10 | James Aluha Lulizi | |
| | Gold Catalysts with Improved Sulphur Tolerance for Diesel-Engine Exhaust Systems | |
| 09:35 | Arthur Mpela | |
| | Production of Ultra-Clean Fuels (Diesel, Gasoline) from Methanol over Gold-Based Catalysts | |
| 10:00 | LauraPrati | |
| | Gold catalysts operating under acidic conditions | |
| 10:25 | | <i>coffee break</i> |
| 11:00 | Edwin Ntainjua N. | |
| | The influence of acid or halide on the direct formation of hydrogen peroxide over supported Au-Pd catalysts | |
| 11:25 | Christopher Kiely | |
| | Characterizing Supported Au and AuPd Clusters | |
| 12:30 | Wind-up session | <i>lunch</i> |
| Symposium 2 Room A | | |
| 09:10 | Gabriel Veith | |
| | Hydroxyl mediated activity and stability of supported gold catalysts | |
| 09:35 | Alexandre Goguet | |
| | Structural-activity relationships of Au based catalysts for the carbonylation of methanol to acetic acid and methyl acetate: Identification of the active sites | |
| 10:00 | Olga Simakova | |
| | Linoleic acid isomerization over gold catalysts | |
| 10:25 | | <i>coffee break</i> |
| 10:55 | Shamil Shaikhutdinov | |
| | Interaction of gold with cerium oxide supports: CeO₂(111) thin films vs CeOx nanoparticles | |
| 11:25 | Serafin Bernal | |
| | Understanding CO adsorption on ceria-zirconia-supported gold catalysis. A combined volumetric, FRIR, HREM and HAADF-stem study | |
| 12:30 | Wind-up session | <i>lunch</i> |
| Symposium 3 Room C | | |
| 09:10 | Maria Fernanda Cardinal | |
| | Modulating Surface Plasmons in Gold Dumbbells by Coating with Silver | |
| 09:35 | Kurt Geckeler | |
| | Gold Nanocomposites: Novel Design and Challenges | |

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| 10:00 | José M. Pingarrón Gold nanoparticles-structured electrochemical biosensors for applications in the food industry |
| 10:25 | <i>coffee break</i> |
| 10:55 | Vladimir Zaporotchenko Nanocomposite films with embedded Au, Ag and alloy nanoparticles: Optical, antimicrobial properties and release of metal ions. |
| 11:25 | Thalappil Pradeep Sub-nanometer light emitting quantum clusters of gold and silver |
| 12:30 | Wind-up session <i>lunch</i> |
| Symposium 4 | Room D |
| 09:10 | Daniel Leznoff Highly birefringent cyanoaurate-based coordination polymers |
| 09:35 | Vince Catalano Multimetallic Gold(I) N-Heterocyclic Carbene Complexes |
| 10:00 | Christoph Strasser Synthesis of novel gold rNHC, aNHC and Fischer-type carbene complexes |
| 10:25 | <i>coffee break</i> |
| 10:55 | Alexander Pfund Micro-Structured Fuel Cells using a Combination of Lithographic and Electrochemical Processes (<i>Preliminary Feasibility Study</i>) |
| 11:25 | Shin Horiuchi Novel Cyanide-Free Au Electroless Plating with High Adhesion to Plastic Films |
| 12:30 | Wind-up session <i>lunch</i> |