NACS Newsletter

SPRING 2011 • VOLUME XLV, ISSUE 2 • WWW.NACATSOC.ORG

Professor Johannes Lercher named the 2011 Burwell Lecturer



am pleased to announce that Professor Johannes A. Lercher of the Technical University of Munich is the recipient of the 2011 Robert Burwell Lectureship in Catalysis of the North American Catalysis Society, sponsored by Johnson Matthey and administered by The North American Catalysis

Society. It is to be awarded biennially in odd-numbered years. The award consists of a plaque and an honorarium of \$5,000. The plaque will be presented during the closing banquet ceremonies at the 2011 North American Meeting of the Catalysis Society. An additional \$4,500 is available to cover travelling expenses in North America. Professor Lercher will present lectures at the local catalysis clubs and societies during the two-year period covered by this award.

The Robert Burwell Lectureship in Catalysis is given in recognition of substantial contributions to one or more areas in the field of catalysis with emphasis on

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discovery and understanding of catalytic phenomena, catalytic reaction mechanisms and identification and description of catalytic sites and species.

Professor Lercher is being recognized for his ground-breaking contributions to our understanding of the interactions and transformations of molecules on solid catalysts through elegant combinations of physicochemical and kinetic analyses. His studies of the elementary in molecular transport through porous media and the resulting insights into the design of solids to manipulate these steps have led to a successful synthesis of hierarchic materials able to discriminate molecules on the basis of the volume defined by their rotation in the gas space. His studies of the into the structure and thermodynamic properties of hydrocarbons adsorbed within zeolite voids and on polar surfaces led to efficient catalysts for the selective activation of organic molecules. The concepts and learnings developed have stimulated significant experimental and theoretical studies in these areas and the development of novel catalytic chemistries for alkane activation. These chemistries include the functionalization of methane to methyl chloride on chloride surfaces, the oxidative dehydrogenation of ethane to ethene on supported molten chlorides, the stable and selective alkylation of isobutane with linear butenes on acidic zeolites, and the activation and cracking of branched alkanes by zeolites containing accessible lanthanum cations at ambient temperatures.

Enrique Iglesia President, North American Catalysis Society

22nd North American Meeting

"Driving Catalysis Innovation" Detroit, June 5 to 10, 2011

he Michigan Catalysis Society is hosting this year's NAM 22, and the Organizing Committee has been hard at work to prepare for an exciting meeting. Dr. Charlie Kresge (The Dow Chemical Company) is serving as the Honorary Chair, Galen Fisher

support from corporate sponsors for the meeting that can be seen on the meeting web site, www.22nam.org. In the current economic environment, we are especially grateful for this support.

The response to the call for abstracts resulted in a record number

consisting of Robert McCabe (Ford Motor Company), Eric Stangland (The Dow Chemical Company) and Levi Thompson (University of Michigan) set up six parallel sessions of oral presentations, in addition to three poster sessions. A detailed program listing can be found on the



(University of Michigan) as Chair,

and Johannes Schwank (University

of Michigan) as Co-chair. We had

over 1000 attendees registered for

the meeting at the early registration

gathering of the catalysis communi-

ty. We have also had very generous

fee deadline, so this will be a great

of submissions. Each abstract was peer reviewed by at least 3 reviewers, and more than 300 catalyst researchers from all over the world contributed their valuable time to the review process. Since there were so many excellent contributions, the Technical Program Committee





NAM 22 website, www.22nam.org. The plenary lectures will be delivered by three NACS 2011 Award winners:

 Eugene Houdry Award of the North American Catalysis Society - James C. Stevens, The Dow Chemical Company, "Teaching Old Poly-

National Officers: PRESIDENT - Enrique Iglesia, University of California-Berkeley; VICE-PRESIDENT - Bruce R. Cook, BP Products NA, Inc.; SECRETARY - Hong-Xin Li, Zeolyst International; TREASURER - C. Y. Chen, Chevron Energy Technology Co.; LEAD TRUSTEE - John W. Byrne, BASF Catalysts LLC; COMMUNICATIONS DIREC-TOR - Edrick Morales, LyondellBasell Industries.

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Directors-at-Large: Bruce Gates, University of California at Davis; Jingguang G. Chen, University of Delaware; Robert Davis, University of Virginia; Stuart Soled, Exxon Mobil Research and Engineering Co.

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22nd North American Meeting

olefins New Tricks with Modern Catalysts"

- Paul H. Emmett Award in Fundamental Catalysis - Bert M. Weckhuysen, Utrecht University, The Netherlands, "Catalysts Live and Up Close: Insights from In-situ Micro- and Nano-Spectroscopy Studies."
- Michel Boudart Award for Advances in Catalysis - James A. Dumesic, University of Wisconsin - Madison, "Routes for Production of Liquid Transportation Fuels by



Liquid-phase Catalytic Processing"

The topical program areas in will be anchored by **twenty four keynote lectures**:

ENVIRONMENTAL PROTECTION: Catalysis, Materials, and Reaction Engineering

- Haren Gandhi Memorial Symposium
- John Nunan, Umicore, "Overview of Current Emission Control Strategies for Gasoline Engines"
- Aleksey Yezerets, Cummins,
 "Catalysis for Diesel Emissions
 Control The Age of Adolescence"
- Gabriele Centi, Università di Messina, "Opportunities and Gaps in Catalytic Technologies for Converting CO₂ to Fuels and Chemicals"

- Mike Harold, University of Houston, "Probing and Exploiting Interactions between Storage, Reaction and Transport Processes During Lean NOx Reduction"
- Hong He, Chinese Academy of Sciences, "Environmentally-Benign Catalysts for the Selective Catalytic Reduction of NOx"
- Kim Knudsen, Haldor Topsøe, "Hydrotreating catalysis: From Molecular Understanding of Reaction Pathways and Support Interactions to Improved Industrial



Solutions"

• Manos Mavrikakis, University of Wisconsin – Madison, "On the role of Hydrogen in Heterogeneously Catalyzed Reactions"

INDUSTRIAL CHEMICALS: Catalysis, Materials, and Reaction Engineering

• Avelino Corma, Universidad Politecnica de Valencia, "From Zeolites to Mesoporous Structured and Layered Compounds as Catalysts for Chemicals and Fine Chemicals Production, Opportunities for Biomass transformation"

- Bob Davis, University of Virginia, "Selective Oxidation and Reduction of Glycerol over Supported Metal Catalysts in Liquid Water"
 Unni Olsbye, University of Oslo,
- "Oxygenate and Chlorocarbon Conversion to olefins - On the Correlation Between Zeolite Topology and Product Selectivity"
- Alan Vaughan, ExxonMobil, "Single Site Catalyst Activation in Solution and on Supports for ExxonMobil Polyolefins"



ENERGY AND FUELS: Catalysis, Materials, and Reaction Engineering

• Radoslav Adzic, Brookhaven National Laboratory, "Recent Developments in Platinum Monolayer Electrocatalysts for the Oxygen Reduction Reaction and the Electrocatalysts for Ethanol Oxidation to CO,"

22nd North American Meeting

We are looking forward to seeing you in Detroit!

- Alessandra Beretta, Politecnico di Milano, "Gaining Insight into the Short Contact Time CPO of Light Hydrocarbons Through Advanced Experimental and Modeling Techniques"
- Kazunari Domen, University of Tokyo, "Hydrogen Production from Water on Heterogeneous Photocatalysts"
- Maria Flytzani-Stephanopoulos, Tufts University, "Low-temperature Hydrogen Production on Sub-nm Pt-(OH)x and Au-(OH) x Species: Evidence of Single-site Precious Metal Catalysis?"
- Hans Niemantsverdriet, Eindhoven Technical University, "New Mechanistic Insight in Fischer-Tropsch Synthesis Catalysts from Surface Science, Synchrotron and Computational Studies"
- Dan Resasco, University of Oklahoma, "Catalytic Upgrade of Pyrolysis Bio-oil Components in Vapor and Liquid Phases"

EMERGING ISSUES: Novel Materials, Theory, and Experimental Methods

- Wayne Goodman, Texas A&M University, "Insights into Structure-sensitive Reactions using Model Supported Nanoparticles"
- Enrique Iglesia, University of California – Berkeley, "Consequences of Cluster Size and Surface Coordination in Catalysis: Structure Sensitivity and Brønsted-

Evans-Polanyi Relations Revisited"

- Bengt Kasemo, Chalmers Technical University, "Nanoplasmonic Sensing – Applications for Catalysis, Hydrogen Storage and Nanomaterials"
- Alex Katz, University of California Berkeley, "Design of Bioinspired Heterogeneous Catalysts: Synthesis, Characterization, and Performance"
- Jens Nørskov, Stanford University, "Catalysis for Sustainable Energy"
- Bala Subramaniam, University of Kansas, "Gas-expanded Liquids: Pressure-Tunable Solvents for Catalysis"
- Dion Vlachos, University of Delaware, "Advanced Catalytic Reactor Technologies for Energy Applications

The NAM 22 meeting rooms for the six parallel oral sessions are located in close proximity to each other on two floors of the Marriott, to make it easy to move from one session to another. Refreshments during breaks and appetizers and drinks during afternoon receptions will be made available in the exhibit hall, next to the posters and exhibits, to create an environment conducive to interaction between the poster

and exhibit presenters and the attendees.

Don't miss the Opening Reception on Sunday evening, June 5, at the Henry Ford Museum in Dearborn, http://www.thehenryford.org/museum/index.aspx where you can enjoy delicious food and drink in this world-renowned museum of the history of applied technology, from sewing machines to automobiles to locomotives. Buses will take attendees from the Detroit Marriott through the evening to and from the Henry Ford Museum.

Thursday evening we will gather for an elegant and exquisite banquet at the Marriott Hotel.

If you have not already done so, please register for the meeting and for a specially priced hotel room in the fabulous Detroit Marriott at the Renaissance Center. The rooms are filling up fast, so please don't wait.

We are looking forward to seeing you in Detroit!

The F. G. Ciapetta Lectureship in Catalysis

The F.G. Ciapetta Lectureship in Catalysis is sponsored by the Grace Davison operating segment of W.R. Grace & Co. and The North American Catalysis Society. The Society administers this Lectureship. It is to be awarded biennially in even numbered years. The Award consists of a plaque and an honorarium of \$5,000. Travel expenses are provided through a travel escrow fund, administered by the NACS, to be used on a "as needed basis" for the recipients from academia or industrial companies (with < \$100 Million annual sales; up to \$3,000. for employees of larger companies).

The Award is given in recognition of substantial contributions to one or more areas in the field of catalysis with emphasis on industrially significant catalysts and catalytic processes and the discovery of new catalytic reactions and systems of potential industrial importance. The awardee will be selected on the basis of his/her contributions to the catalytic literature and the current timeliness of these research contributions. The recipient may be invited to visit and lecture to each of the affiliated Clubs/Societies with which mutually satisfactory arrangements can be made.

Selection of the awardee will be made without regard to age, sex, nationality, or affiliation. The nomination should contain a critical evaluation of the significance of candidate's qualifications should be made as well as a statement of the particular contribution(s) on which the nomination is based. Nomination documents (nomination letter, CV, justification, and no more than 2 seconding letters) in one complete package should be submitted electronically to the President of the Society. Nominations for the Ciapetta Award will close on 1 November 2011. All nomination packages for the Ciapetta Award should be should be sent to Enrique Iglesia, President, North American Catalysis Society; at iglesia@berkeley.edu. Receipt of any nomination, will be confirmed by an email message sent to any nominator.

The NACS Award for Distinguished Service in the Advancement of Catalysis

Purpose: To recognize an individual (every two years with a \$5,000 prize) who advanced catalytic chemistry or engineering by significant service to the catalysis community in addition to technical accomplishments. Travel costs are provided to the meeting where the award is presented.

Rules of Eligibility: A nominee must have demonstrated extensive contributions to the advancement of catalysis during their career. Service activities recognized by the award may include roles such as teaching, mentoring, writing, editing, and leadership of meetings or organizations. An awardee must have made these contributions to the benefit of the North American catalysis community.

All nomination packages (one ELECTRONIC COPY) for the Service Award should be sent to Enrique Iglesia, President, North American Catalysis Society; at iglesia@berkeley.edu. Nominations for the 2012 Award will close by 17 February 2012. Receipt of any nomination, will be confirmed by an email message sent to any nominator.

Catalysis Club of Chicago

Herman Pines Award

rof. Jingguang Chen (Claire D. LeClaire Professor at the University of Delaware) is the recipient of Catalysis Club of Chicago's 2011 Herman Pines Award. The Award is presented annually to recognize an individual who has made significant contribution to catalysis in either fundamental research or industrial processes. The award includes a plaque, an honorarium of \$1000 and travel reimbursement as a plenary speaker at 2011 Catalysis Club of Chicago Spring Symposium. The award will be presented during the symposium at BP Research Center (Naperville, IL) on May 19, 2011.

Professor Jingguang Chen is a world leader in surface science studies of carbide and bimetallic catalysts and their application to industrial applications. He has made great leaps toward closing the long standing, well-known materials and pressure gaps in heterogeneous catalysis that are essential to convert fundamental surface science studies into industrial practice. This has been achieved by a unique combination of surface science, theoretical modeling, catalysis and in-situ reactor studies leading to the development of novel concepts and catalytic materials for a wide range of chemical reactions. In parallel, Prof. Chen has excelled in a variety of leadership roles to advance surface science and catalysis. He has published over 200 papers in

various catalysis and surface science journals and written critical reviews for several leading review journals, including Chemical Reviews and Surface Science Reports. He is the inventor or co-inventor of 16 United States Patents. As an indication of his high visibility, he has given over two hundred invited and keynote lectures.

Spring Symposium

The 2011 Spring Symposium was held on May 19 at BP Research center in Naperville, IL. Over 140 catalysis researchers from 14 institutes participated in this year's symposium. Prof. Enrique Iglesia and Prof. Charlie Campbell were the invited speakers. Prof. Jingguang Chen delivered the Pine Award receiving lecture.

Catalysis Club of Philadelphia 2011 Award

The Catalysis Club of Philadelphia is pleased to announce the 2011 Excellence in Catalysis Award goes to Professor Chunshan Song of Pennsylvania State University. Professor Song is an internationally renowned scholar and leader in clean fuels and catalysis research with demonstrated leadership in fuel processing, applied catalysis and CO2 capture and utilization. The Clean fuels and Catalysis program he developed at Penn State has become internationally recognized

center of innovative research for his pioneering contributions in several areas; we note but a few here: 1) novel approaches for CO2 capture and separation using 'molecular basket'sorbents consisting of functional polymers and a nonporous matrix; 2) a new approach for design of sulfur and carbon-resistant bimetallic catalysts for low-temperature steam reforming of liquid hydrocarbon fuels and oxygen-assisted water gas shift reaction; 3) designed and developed shape-selective alkylation catalysts for synthesis of precursors to advanced polymeric materials; and 4) development of PSU-SARS, the selective, hydrogen-free adsorption of sulfur from liquid hydrocarbon fuels via direct organic sulfursorbent interaction for ultra-clean transportation fuels. As evidence of Dr Song's productivity, he has published over 200 peer-reviewed articles and book chapters, given 40 plenary or keynote lectures at international conferences, and has given 180 invited lectures at prestigious institutions worldwide. As evidence of the relevenece of his work, Elsevier Science lists Prof. Song as one of the "Top Cited Authors" for the period 2001 through 2007; he has published 4 of the 50 most cited papers in Elsevier's six catalysis journals over the same period.

In addition to his scholarship, Prof. Song also has an outstanding record of service to the scientific community. He has served as Chair of the ACS Petroleum Chemistry Division, Chair and Program Chair of the ACS Fuel Chemistry Divi-

sion, Chair of the Advisory Board for the International Pittsburg Coal Conference, as member of the Organizing and Scientific Committees for the North American Catalysis Society, and as member of the International Conference of Carbon Dioxide Conversion and Utilization. He also serves on the editorial board for several journals, including Energy and Fuels, the Journal of Fuel Chemistry and Technology, Applied Catalysis B: Environmental and Catalysis Today.

In summary Professor Chunshan Song's accomplishments in the field of catalysis with an emphasis on industrially significant catalytic processes are truly exceptional. His contributions to the catalysis literature are numerous, current, and highly cited. Please join us in congratulating Professor Song's addition to the list of distinguished winners of the Excellence in Catalysis Award from the Catalysis Club of Philadelphia.

Michigan Catalysis Society Meeting Schedule

ur 2010-2011 dinner meeting schedule continued in January with an excellent talk by Dr. Susannah Scott from the University of California at Santa Barbara, who spoke on crystalline complex oxides (e.g., perovskites) as catalyst supports. In February, Dr. Enrico Tronconi from the Politecnico di Milano (Italy) gave an equally inter-

esting talk on his investigations into the mechanisms for the "fast" SCR reaction between NH3 and a 50/50 mixture of NO and NO2 over an iron SCR catalyst. Then in March, Dr. Christopher Jones from Georgia Tech University talked about metal salen complexes as catalysts for enantioselective reactions, such as epoxidation, cyclopropanation, and epoxide ring-opening. Our sixth and final lecture for this year will be given in April by Dr. Aditya Bhan from the University of Minnesota, who will speak on the use of zeolites to enhance selectivity in catalytic reactions.

2011 Giuseppe Parravano Award



We are pleased to announce that Dr. Jens Nørskov, Professor of Chemical Engineering at Stanford University, has been selected as the winner of the 2011 Michigan Catalysis Society Guiseppe Parravano Memorial Award for Excellence in Catalysis

Research. Dr. Nørskov was selected for the award based on his introduction of a first principles approach to the field of catalysis as well as his development of predictive theories on catalysis that have led to a number of novel processes. This award is given biennially in odd numbered years to an individual from North America to formally recognize outstanding contributions to catalytic science and technology. A corresponding award is given in even numbered years to a catalyst researcher from the greater Michigan area. Both Parravano awards are sponsored by the Memorial Trust Fund for the late Professor Giuseppe Parravano, which is administered by the Department of Chemical Engineering at the University of Michigan in Ann Arbor, Michigan.

The Parravano award is normally presented at the MCS Spring Symposium, which is held in late spring. However, there will not be a Spring Symposium this year because many MCS members are very busy preparing for NAM22, which will be held June 5-10, 2011 in the Marriott Hotel at the Detroit Renaissance Center. Because of this unique situation, it has been decided to present the Parravano award to Dr. Nørskov at the NAM22 meeting. His keynote lecture will also serve as his Parravano award lecture. The actual award will be presented to Dr. Nørskov at the Banquet on Thursday during a brief ceremony that will occur during a Michigan chapter part of the evening. The Parravano award presentation will be separate from



the NACS awards.

Catalysis Society of Metropolitan New York

The Catalysis Society of Metropolitan New York held their annual Spring Symposium on March 16, 2011 at Rutgers University and it was a great success. We had 7 invited speakers led by Ciapetta Award winner Dr. Jeffery Miller of ANL and 2 presentations from students. We had 105 attendees and 47 poster presentations. During the symposium we had poster judging that produced awards shown below.

1st place Graduate Student Poster: Julie E. Molinari; Lehigh University; "Bridging the Gap between Heterogeneous and Enzyme Catalysis: In Situ Spectroscopic Study of Vanadium Haloperoxidase Enzyme Functional Mimics" Advisor: Professor Israel E. Wachs.

2nd place Graduate Student Poster: Brian M. Moreno; University of Delaware; "Automated Reaction Network Generation for Lignocellulosic Biomass Pyrolysis" Advisor: Professor Michael T. Klein

3rd Place Graduate Student Poster (tie – two given):

- Ankush V. Biradar; Rutgers, The State University of New Jersey; "Synthesis of Supported Gold Nanoparticles and their Oxidation Catalytic Activities" Advisor: Professor Tewodros Asefa
- Zheng Tian; Lehigh University; "Hierarchical Engineering of Tunable Nanoparticulate and Templated Porous Films" Advisor: Mark A. Snyder

Post-Doc Poster Award: Amrita Pal; Stevens Institute of Technology; "Investigation of BPE adsorption on metallic and oxidized silver nanoparticles with Raman spectroscopy and DFT calculations" Advisor: Professor Simon Podkolzin.

2011 Excellence in Catalysis Award

The Green Diesel and Green Jet Fuels from Renewable Feedstocks Team from UOP (Joe Kocal, Peter Kokayeff, John Brady,

Don Eizenga, Vic Patton, Andrea Bozzano, Tim Brandvold, Mike McCall, and Sunny Nguyen) won this year's Excellence in Catalysis Award. This team has developed catalysts and process technology to implement a novel catalytic route to selectively convert bio-derived oils to jet fuels and diesel. Fuels produced using this technology and these feedstocks are fully fungible with the existing fuel distribution system and engines, and provide a practical means to reduce CO, emissions from the transportation sector and reduce dependence on fossil fuels. Most currently existing bio-based routes to produce these fuels (e.g. FAME) are impractical because they produce both by-products and fuels so different in key properties from the existing commercial supply that significant changes in engines and infrastructure are required to absorb them into the marketplace. This presents a huge hurdle for their economic and commercial acceptance. Other alternative technologies under development may overcome some of these difficulties, but require sugar, a foodstock, as feed.

The basic process is covered in US Patent 7,511,181, "Production of Diesel Fuel From Biorenewable Feedstocks". The economic benefits have been demonstrated and a rigorous life cycle analysis has shown that Green Diesel produced from camelina oil has a greenhouse gas reduction of 89% compared to diesel derived from petroleum.

The Excellence in Catalysis Award lecture took place May 18th at the Somerset-Bridgewater, NJ Crowne Plaza where Dr. Joseph Kocal was presented a plaque and cash award on behalf of the team. The

presenter was Dr. Thomas Degnan (at left in the above picture) of ExxonMobil, the sponsor of the award. The chair, Dr. Marco Castaldi, is pictured on the right. For more details, visit www.nycsweb.org.

2011-12 Officers

Elections for the 2011-12 officers were held at the Award meeting. The new officers are:

- Chair: Marco J. Castaldi, Columbia University
- Secretary: Luca Dorazio, BASF Corporation (Iselin, NJ)
- Treasurer: John Brody, Exxon-Mobil Research & Engineering (Clinton, NJ)
- Chair-Elect: Simon Podkolzin, Stevens Institute of Technology
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- Colin Beswick, ExxonMobil Research & Engineering (Clinton, NJ)
- Webmaster: Jennifer Wade, BASF Corporation (Iselin, NJ)
- Representative to NACS: Israel Wachs, Lehigh University

Organic Reactions Catalysis Society

The Organic Reactions Catalysis Society seeks to advance the practical application of catalysis. The 24th Biennial Conference will take place April 15-19, 2012 at the Westin Annapolis in Annapolis, MD. The conference will have sym-

posia on C-H activation for coupling reactions, Olefin Metathesis, Biomass and Renewable Chemicals, Selective Hydrogenations, Catalytic Structures and Supports, and Homogenous Catalysis in Chemical Synthesis. In addition, a half-day short course on oxidation is being offered.

The call for abstracts is now open. Abstract templates can be located and completed abstracts may be uploaded at www.ORCS.org.

Southwest Catalysis Society

he Southwest Catalysis Soci-Lety will hold its annual Spring Symposium on Friday, April 15, 2011 at the Rice University Bioengineering Center in Houston, TX. This year the SWCS officers have collaborated with Texas A&M University to co-sponsor a symposium honoring Prof. Jack Lunsford with an exciting list of speakers including 2010 NACS Ciapetta Lecturer, Jeffrey Miller of Argonne National Labs and 2011 Paul H. Emmett Award winner Professor Bert Weckhuysen. Additionally, the Society will present the inaugural SWCS Award for Excellence in Applied Catalysis to an accomplished scientist. On-site registration will begin at 7:30 AM and the program will begin at 8:00 AM. There will also be a poster session and competition at the Symposium for post-docs and students. For more information regarding the 2011 SWCS Spring Symposium, contact SWCS chair, Michael Reynolds at mike.reynolds@shell.com or SWCS Secretary Andy Moreland at andy.moreland@ valero.com.

Western States Catalysis Club

The 2011 meeting of the WSCC took place Febrauary 18 in Albuquerque, New Mexico. Dr. Jeffrey T. Miller, recipient of the NACS 2010 F.G. Ciapetta Lectureship in Catalysis was the keynote speaker. In all there were 50 attendees from 5 states, 7 universities and 3 national labs. With the kind financial assistance of the NACS all student registration fees were subsidized. We congratulate the award winners April Corpuz, Tyne Johns, Chris Cadigan, and Simon Pang. We thank the judges, and of course- well done to all the presenters- there were many excellent talks and posters.

On the administrative business it was decided that the 2012 meeting will be held in Colorado, location to be determined. Further, Ryan Richards will continue as President until Morris Argyle can take over from him, and Corey Leclerc will in turn take over as secretary-treasurer from Morris. Will Medlin will continue as Representative to NACS until Ryan takes over for him.

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Venue: The University of Glasgow

It is the second oldest university in Scotland and the fourth oldest in the UK. Glasgow students walk in the footsteps of scientist Lord Kelvin, economist Adam Smith and pioneer of television John Logie Baird, among many others.

Founded in the fifteenth century, the University operated from Glasgow Cathedral during its fledgling years. Over the next 400 years it expanded in scope and size and was a centre of both the Industrial Revolution and the Scottish Enlightenment. The University relocated to its present home in the West End of the city in 1870.

The University has more than 6,000 staff, including 2,500 researchers, more than 15,000 undergraduate students, 4,900 postgraduate students and around 5,000 adult learners. It has been voted as having the best campus in Scotland and is a founder member of Universitas 21.

Accommodation

There are over 17,000 rooms in the Metropolitan Glasgow area. All are within easy reach of the conference venue. Choose from international 5 star resorts, attractive boutique style properties or budget and university accommodation.

Social Programme

An exciting programme is being planned. The conference will open in style with a welcome reception. This event is free to all delegates. Day tours can include visits to Stirling Castle, Loch Lomond and Edinburgh, as well as a city tour of Glasgow, featuring the Burrell Collection. A pre or post-congress tour can visit the Highlands and the Isle of Skye, taking in Loch Lomond, Glencoe, Loch Ness, the Spey Valley, distilleries.

Website

www.europacat.co.uk

KEY DATES

- Call for abstracts 1st Nov 2010
- Deadline for submission 28th Feb 2011
- Notification of Acceptance 30th April 2011
- Registration Opens 1st Jan 2011
- Conference 28th August 2nd Sept 2011

CONGRESS THEME

"Catalysis - Across the disciplines"

- Biocatalysis
- Chemical Engineering
- Homogeneous Catalysis
- Heterogeneous Catalysis
- Surface Science

GLASGOW

- Glasgow: Scotland's cultural and shopping capital
- · Access: Three international airports with direct flights from Europe, Middle East and North America
- Compact city: Easy to get around with a comprehensive public transport network
- Taste of Scotland: Over 800 restaurants and bars
- Gateway to Scotland: The Highlands, golf, distilleries and Loch Lomond, all within 35 minutes

THE CITY

At the heart of Scotland, Glasgow is undoubtedly one of Europe's most dynamic cities: steeped in culture, rich in history, with its elegant streets, squares, parks and gardens. Glasgow has the finest civic arts collection in the UK, including the works of Botticelli, Degas, Van Gogh and Rembrandt to whet your appetite. All 27 museums are free. Glasgow, the first UK city to be a Cultural Capital of Europe, is home to Scottish Opera, Scottish Ballet and the Royal Scottish National Orchestra.