Proposal to host the 17th International Congress in Catalysis
by the North American Catalysis Society

San Diego, California
June 14-19, 2020

The North American Catalysis Society:

- a non-profit tax-exempt entity with an educational mission and roots in the Catalysis Club of Philadelphia (1949)
  
  promote and encourage the growth and development of the science and applications of catalysis

  enhance the depth and breadth of our discipline

  nurture young practitioners and ancillary fields of study
Proposal to host the 17th International Congress in Catalysis by the North American Catalysis Society

The North American Catalysis Society:

- a non-profit tax-exempt entity with an educational mission and roots in the Catalysis Club of Philadelphia (1949)
- 14 local affiliates in Canada, Mexico, and the United States
- local chapters (with logistical and financial support from the Society) organize biennial meetings (950-1300 attendees)

International Congress on Catalysis Philadelphia, USA (1956)
Chronology and locations of previous ICC Meetings

ICC 01 (1956) Philadelphia
ICC 02 (1960) Paris
ICC 03 (1964) Amsterdam
ICC 04 (1968) Moscow
ICC 05 (1972) Palm Beach
ICC 06 (1976) London
ICC 07 (1980) Tokyo
ICC 08 (1984) Berlin
ICC 09 (1988) Calgary
ICC 10 (1992) Budapest
ICC 11 (1996) Baltimore
ICC 16 (2016) Beijing
Hotel and Conference Venue

Grand Manchester Hyatt
San Diego, California

1630 rooms and suites
(all with bay or city views)

290 USD/night

Bid Planning and Organization

Chair and Coordinator
Enrique Iglesia
University of California, Berkeley

Program and Agenda
Jingguang Chen
Columbia University (co-chair)

Chuck Peden
Department of Energy, Pacific Northwest National Laboratory

Umit Ozkan
Ohio State University

Suijo Linic
University of Michigan, Ann Arbor

Antonio de los Reyes
Universidad Autonoma

Josephine Hill
University of Calgary

Web site, publicity, bid brochure, videography
Beeta Kiloo
The Dow Chemical Company (chair)

Mike Reynolds
Royal Dutch Shell plc

Aditya Bhan
University of Minnesota

Stuart Soled
ExxonMobil Corporation

Committee Members by year of Ph.D. degree

Fundraising:
Thomas Dignan
University of Notre Dame (chair)

Enrique Iglesia
University of California, Berkeley

Fabio Ribeiro
Purdue University

Cathy Chin
University of Toronto (chair)

Erenda Nilotta
Wayne State University

C.Y. Chen
Chevron Corporation
20/20 Vision … and implications for clarity (in hindsight)

…. reflections on the past, present, and future of catalysis

• did we get it right the last time?
• how do we see it this time?
… even four-years from now (by 2020) – will adapt ….

Topical sessions … as we see them now

<table>
<thead>
<tr>
<th>Materials &amp; Molecules</th>
<th>Mechanisms &amp; Pathways</th>
<th>Reactors &amp; Processes</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1 Chemistry</td>
<td>Functionlization and Conversion of C2-C5 Paraffins</td>
<td></td>
</tr>
<tr>
<td>H₂ Generation and Use</td>
<td>Syngas Conversion</td>
<td>Electro catalysis</td>
</tr>
<tr>
<td></td>
<td>Heteroatom removal</td>
<td>Photocatalysis</td>
</tr>
<tr>
<td>Environmental Catalysis (Gas Phase, Liquid Phase)</td>
<td></td>
<td>Environmental Catalysis</td>
</tr>
<tr>
<td></td>
<td>Carbon-Heteroatom Bond Formation (C-C, C-N, C-S, C-O, etc.)</td>
<td>Heteroatom removal</td>
</tr>
<tr>
<td></td>
<td>Conversion of Biomass and Biomass-derived Molecules</td>
<td></td>
</tr>
<tr>
<td></td>
<td>In-situ and Operando Analysis (Spectroscopy, Microscopy, Tomography, etc.)</td>
<td></td>
</tr>
<tr>
<td>Catalysis with Ordered Porous Materials (MOFs, Zeolites, etc.)</td>
<td></td>
<td>Catalysis for Chemical Synthesis (Commodity, Specialty)</td>
</tr>
<tr>
<td>Theory &amp; Computation in Catalysis</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
20/20 Vision … and implications for clarity (in hindsight)

5 Plenaries/2 Award Lectures (60 min.)
25 Keynote Lectures (40 min.)
25 Invited Talks (20 min.)
450 Contributed Talks (20 min.)
800-1000 Posters

(highly ranked posters will be assigned five-minute summaries in last 20-minute slot immediately before poster sessions)

Hotel and Conference Facilities

**Plenaries**
Seaport Ballroom / 2530

**Oral Sessions (7)**
- Harbor DEF / 400
- Harbor GHI / 500
- Harbor ABC / 500
- Coronado AB / 282
- Coronado DE / 282
- Seaport Ballroom FGH / 500
- Seaport Ballroom DE 525

**Banquet**
Seaport Ballroom / 2220
(or Harbor Ballroom / 1950)
**Hotel and Conference Facilities**

Seven parallel sessions in two adjacent floors

**Satellite Conferences**

- 2020 Gordon Research Conference on Catalysis (New London, NH)
- 2020 Canadian Symposium on Catalysis (Vancouver)
- Mexican Catalysis Club Conferences (Baja California, Puerto Vallarta)
- Pacific Coast Catalysis Club Annual Symposium (Seattle or San Francisco)
Financial Projections and Risk Analysis

Basis for cost estimates
- Binding contracts with hotel and Balboa Park museums
- 2000 registrants all with access to all sponsored activities (40 complimentary)
- Contingency (18,000 USD + 3% on ancillary costs)

San Diego, California
June 14-19, 2020

Financial Projections and Risk Analysis
(Cathy Chin, Eranda Nikolla, C.Y. Chen)

Attendance and Registration

<table>
<thead>
<tr>
<th>Advance Registration</th>
<th>Standard</th>
<th>Student</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>800 USD = 1100</td>
<td>480 USD = 320</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Late Registration</th>
<th>Standard</th>
<th>Student</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>900 USD = 385</td>
<td>500 USD = 80</td>
</tr>
</tbody>
</table>

| On-Site Registration | 995 USD = 10 |
| One-Day Registration | 480 USD = 23 |
| One-Day Registration (Student) | 280 USD = 2 |
| Spouse/Guest Registration | 300 USD = 50 |
| Exhibitor Registration | 0 |

Total:
1,429,050

Industrial Sponsorship: 280,000
Exhibition: 80,000
Banquet Ticket Purchase (students, unregistered guests, etc.): (150 USD x 200) = 30,000

Total Income: 1,819,050

(All amounts in US dollars)
Financial Projections and Risk Analysis
(Cathy Chin, Eranda Nikolla, C.Y. Chen)

Expenses (USD)

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio-visual and Poster Board</td>
<td>105,000</td>
</tr>
<tr>
<td>Printed and Digital Matter</td>
<td>36,000</td>
</tr>
<tr>
<td>Program Book</td>
<td>15,000</td>
</tr>
<tr>
<td>Poster Book</td>
<td>5,000</td>
</tr>
<tr>
<td>Abstracts on Memory Stick</td>
<td>3,000</td>
</tr>
<tr>
<td>Mailing costs</td>
<td>3,000</td>
</tr>
<tr>
<td>Conference Bags</td>
<td>38,500</td>
</tr>
<tr>
<td>Ancillary technical support (website development, app, etc.)</td>
<td>15,000</td>
</tr>
<tr>
<td>Opening Reception</td>
<td></td>
</tr>
<tr>
<td>Facility Rental, Food, Entertainment, Transportation</td>
<td>254,237</td>
</tr>
<tr>
<td>Conference Banquet</td>
<td>364,299</td>
</tr>
<tr>
<td>Coffee Breaks (~ 9)</td>
<td>202,120</td>
</tr>
<tr>
<td>Poster Sessions (~ 2)</td>
<td></td>
</tr>
<tr>
<td>Young Scientist Prize</td>
<td>20,000</td>
</tr>
<tr>
<td>Miscellaneous (security, insurance, registration counter, website, registration fee, electricity)</td>
<td>151,480</td>
</tr>
<tr>
<td>Other Spending in Hyatt (Computing meeting, crew beverage, etc.)</td>
<td>11,437</td>
</tr>
<tr>
<td>NACS Fees</td>
<td>162,380</td>
</tr>
<tr>
<td>IACS Contribution (~10% of registration fee)</td>
<td>147,905</td>
</tr>
<tr>
<td>Contingency funds</td>
<td>18,182</td>
</tr>
<tr>
<td>Total</td>
<td>1,819,050</td>
</tr>
</tbody>
</table>

(All amounts in US dollars)

Financial Projections and Risk Analysis
(Cathy Chin, Eranda Nikolla, C.Y. Chen)

Sensitivity: +/- 30% Industrial Support

.... elasticity brings manageable risks … low fixed costs
Financial Projections and Risk Analysis
(Cathy Chin, Eranda Nikolla, C.Y. Chen)

Sensitivity: spend 10% less per attendee on “meals”

Minimum expenditures at risk

base case

…. elasticity brings manageable risks … low fixed costs

Financial Projections and Risk Analysis

If we hold it ……

will they come?

Registration  800 USD
Hotel rates  290 USD/night
Financial Projections and Risk Analysis

Attendance data at AIChE and ACS meetings

American Institute of Chemical Engineers

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Number of Attendees</th>
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</thead>
<tbody>
<tr>
<td>2006</td>
<td>4000</td>
</tr>
<tr>
<td>2008</td>
<td>5000</td>
</tr>
<tr>
<td>2010</td>
<td>6000</td>
</tr>
<tr>
<td>2011</td>
<td>5000</td>
</tr>
<tr>
<td>2012</td>
<td>6000</td>
</tr>
<tr>
<td>2013</td>
<td>5000</td>
</tr>
<tr>
<td>2014</td>
<td>4000</td>
</tr>
<tr>
<td>2015</td>
<td>5000</td>
</tr>
</tbody>
</table>

American Chemical Society

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Number of Attendees</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>10000</td>
</tr>
<tr>
<td>2012</td>
<td>12000</td>
</tr>
<tr>
<td>2013</td>
<td>14000</td>
</tr>
<tr>
<td>2014</td>
<td>16000</td>
</tr>
<tr>
<td>2015</td>
<td>18000</td>
</tr>
</tbody>
</table>

Total Number of Attendees

Technical, Logistical and Financial Support (Industry and Federal Agencies)

Julie Francis, Sr. R&D Director of FCC, Albemarle Corporation
Peter Whitmer, Senior Vice President, Heterogeneous Catalysis, BASF Corporation
Ronald J. Unerstall, Group Head of Engineering, Vice President Refining Technology and Engineering, Charles A. Damlamides, Vice President, BP Petrochemicals, Angelo Amorelli, Technology Vice President, BP Group Research, BP, p.Lc.
Bob Sexton, Manager - Catalysis, Reactor Science and Separations, Chevron Energy Technology Company
Chandra Ratnasamy, Head of R&D, Clariant Corporation
Aleksy Yezierets, Director - Catalyst Technology, Corporate Research and Technology, Cummins Inc.

Raúl Miranda, Program Manager and Team Lead, Basic Energy Sciences/Chemical Sciences, Geosciences & Biosciences Division, U.S. Department of Energy
Bob R. Hough, R&D Vice President, Performance Plastics & Hydrocarbons, The Dow Chemical Company
Jose G. Santisteban, Manager, Catalyst Technology Division, Kenneth J. Del Rostl, Manager, Process Technology Department, ExxonMobil Research & Engineering Co.
Robert Gate, Vice President, Chief Technologist, W.R. Grace & Co.
James E. Bekoskie, Vice President, Chief Technology Officer, Honeywell UOP LLC
Scott Stevenson, Research Fellow, Corporate R&D, SABIC
Opening Reception at Balboa Park

June 14, 2020; 6:30 pm

San Diego Museum of Natural History

..... adjacent venues with 3,000 maximum capacity

Reuben H. Fleet Science Museum

Closing Banquet and Reception
Manchester Grand Hyatt (June 18, 2020)

Seaport Ballroom / 2220
San Diego

- Direct flights from Japan and UK and most major U.S. cities
- Many flights per day from Los Angeles and San Francisco
- Direct train link from Los Angeles

(16,000 for the 2016 ACS Meeting)
Reaching San Diego …

… and never wanting to leave.

Mean Temperatures Ranges (°C)

San Diego, CA

Nearby attractions and tours

Old Town
Gaslamp district
Balboa Park
San Diego Harbor
Nearby attractions and tours

Torrey Pines State Reserve

La Jolla

Temecula Valley

... the fastest growing wine region in the US

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