Catalytic Advances Program

A Membership Program offered by
The Catalyst Group Resources (TCGR)

2019
The Catalyst Group Resources (TCGR) is known for its visionary stance in the identification of novel technologies that lead to the development of new markets and industries. Clients who join our programs/studies benefit by being leaders in these new opportunities for their competitive advantage.
Companies Who Have Benefited from CAP...

CAP is unique and has proven to be of benefit to consortium members since 1995. The membership continues to expand and evolve, with more than a dozen industry leaders reflecting and increasing diversity of interests and pursuits.
**Program Deliverables...**

- **CAP Communications**
  - Stay informed with a timely and focused “window” into the market place of new developments in catalysis
  - Weekly emails capturing the latest global commercial and scientific catalysis developments are annotated with unique insights, observations and recommendations for competitive advantage.

- **CAP Technical Reports**
  - Gain a competitive advantage through confidential “state-of-the art” studies in catalysis
  - Three (3) state-of-the-art reports are produced annually covering R&D and commercial development in catalysis. These exclusive reports are authored and peer reviewed by the world’s leading scientists. Topics are determined by the membership (via ballot) and report scope/content is shaped by member input.

- **CAP Liaison Directory**
  - Initiate joint R&D with another CAP member company
  - Contact information is supplied for the essential point-person at each CAP member company

- **ActiProject Communications**
  - Initiate a drill down study to find your unique opportunity
  - As needed, emails containing exclusive, members-only corporate opportunities are offered to share R&D and strategic partnerships for joint technical and/or commercial development in new technologies/businesses. Additionally, CAP members may also create their own ActiProjects to solicit to the membership.

- **CAP Annual Meeting**
  - Meet CAP members face-to-face to build camaraderie, discuss issues and initiate collaborative (JV/alliance) opportunities
  - An informal, collaborative (JV and alliance building) event is held once a year, exclusively for members, alongside one of the industry’s leading scientific platform conference(s).
Proven Benefits of CAP R&D Technical Reports...

- **Exclusive**
  - Three (3) state-of-the-art R&D technical reports are produced exclusively for members each year covering R&D and commercial development in catalysis.

- **Member Input**
  - Topics are determined by the membership (via ballots)
  - Report scope/content is also shaped by member input (via TOC feedback)

- **Experts**
  - Authored by the world’s leading scientists to include the relevant emerging technologies and also discuss the technical hurdles that must be overcome to achieve commercialization.

- **Quality**
  - Peer reviewed by experts from industry/academia and edited by TCGR to ensure high quality and standards
Recent Technical Report Topics Include...

- **2018**: Advances in Catalyst Synthesis and Characterization, Advances in Catalyst Modelling and Simulation, Catalytic Conversion of Syngas to Chemical Products III
- **2017**: Catalytic Process Scale-Up II, Advances in Octane Enhancement, and Advances in High Throughput Screening (HTS) Methodologies
- **2016**: Advances in Olefin Co-monomer and Polyolefin Production, Advances in On-Purpose Technology for Mono- and Di-Olefins, and Recent Progress in Zeolitic Membranes for Gas Separations and Catalysis
- **2015**: Advances in Aromatics Production, Advances in Methanol to Products, and Advances in Refinery Cracking Catalyst and Processes II
- **2014**: Dehydrogenation and Oxidative Dehydrogenation II, Advances in Olefin Purification via Catalysis and Sorbent Materials, and Advances in Catalyst Supports
- **2013**: Catalytic Conversion of Syngas to Chemicals II, Advances in Catalysis with Precious Metals, and Advances in Catalysis for Oxidation Intermediates and Derivatives

State-of-the-Art CAP reports identify opportunities in catalysis, but they are also a valuable addition to HR as training materials. A full listing of the “library” of reports completed in CAP’s 25 years of operation is available upon request.
Study Topics Under Consideration for 2019 and Beyond …

The following topics, plus those to be provided as “write-in” ideas by members, are under consideration as potential studies in 2019 (and beyond):

- **Advances in Reaction Characterization**
- **Advances in Second Generation (2G) Drop-in Biofuels**
- **Advances in Electrocatalysis and Photocatalysis for Chemicals Production**
- **Advances in Catalytic Reaction Engineering II**
- **Catalysis for Specialty Chemicals, Intermediates and Agrochemicals**
- **Advances in Selective Oxidation**
- **Catalyst Conversion of Syngas to Chemical Products III**

Topics are determined by the membership (via ballot), exclusively for the membership.
Members Benefit from CAP Communications by Staying Informed and Prepared...

- **Global Developments**: Weekly email updates provide a timely and focused “window” into the market place of new developments in catalysis and process technology.

- **Member Input**: Content is determined by member input from Quarterly Conference Calls, Annual Meetings, Report ballots, etc.

- **TCG Notes**: TCG provides insights, analyses and further commentary on selected developments of importance.

CAP Communications
Topics Covered in CAP Communications...

- Refining/Fuel Catalysts and Processing Technology
- Bio-based Catalysts and Process Technology
- Mobile and Stationary Emissions Catalysts
- Developments highlighted in CAP Communications
- Petrochemicals Catalysts and Processing Technology
- Polymer Catalysts and Process Technology
- Hydrogen and Syngas Catalysts and Process Technology
Need/Justification...Getting Your R&D Gears in Motion

According to the IEA, ICCA, and DECHEMA “Technology Roadmap”, catalyst and related process improvements could reduce energy intensity of the 18 most energy intensive chemical products by 40% as a whole by 2050.

Just as it becomes increasingly difficult to push the envelope of technology development, R&D budgets are being constrained. Through CAP, members not only share a common interest in applied catalysis, members also benefit from shared R&D interests.

With CAP, your sources of technical innovation and industry information are broader and deeper than ever.

There is an increasing diversity of approaches used in refining and chemical processing. Investing in the wrong approaches can be quite costly; investing too early (or too late) can be catastrophic.

Combine resources with leading companies to jointly investigate the leading technologies in catalytic research.

Identify the best routes for development.

The growing development of international R&D centers shows that spreading R&D efforts is a sound growth initiative.
Recent Examples of CAP’s Benefits...Circle of Success

- Used the Liaison Directory to identify new clients interested in its HTE equipment.
- Engaged several members to jointly create an ActiProject that studied value-added NGL solutions.
- Identified a new business unit to purchase from a CAP Communications announcement.
- Used CAP technical reports as initial resources to research new R&D projects.
- Used the opportunity to address the membership at the CAP Annual Meeting to bring others to its new R&D center.
Program Options and Fees …

- CAP is an annual consortium with two levels of participation in 2019:
  - Full Membership at $34,000 per year;
  - Associate Membership at $27,000 per year.

- Full membership entitles the subscriber to all three (3) technical reports produced each year. At the Associate level, the company selects two (2) of the three (3) technical reports produced each year. Participation in ActiProjects may require an additional fee.

- Once a company has committed to joining the program for two consecutive years (e.g., 2019-20), they may elect to exchange report selections in a given year for previously completed reports (i.e., those in the CAP “library”). The membership has included this 2-year requirement to avoid companies suspending their memberships without losing report privileges.

- Each member company signs a Corporate Membership Agreement, which fully documents the program content and operation.

- Examples of selected program deliverables (i.e., excerpts of completed reports, weekly CAP Communication emails, member ballots, actual report Tables of Contents, etc.) can be made available upon request. Additionally, testimonials from CAP members are also available.

- Note that at no time are member companies expected to contribute content (e.g., R&D results, technology development progress, etc.) for the reports or other program deliverables. The intellectual property of all member companies remains proprietary to them and program deliverables are based solely on TCGR enhanced publicly available information.
Additional Information and TCGR Contact Details…

The **Catalytic Advances Program** is available on a membership basis from The Catalyst Group Resources (TCGR)

Further details can be obtained at:


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