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Catalysis Club of Philadelphia

Thursday October 16th, 2014

DoubleTree Hotel
4727 Concord Pike Wilmington, DE 19803

CCP Annual Student Poster Contest

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**UOP Advanced MTO Technology – A New
Route for the Production of Light Olefins**

Paul T. Barger

UOP LLC, a Honeywell Company, Des Plaines, IL USA

Posters & Social Hour: 5:00 PM

Dinner: 6:30 PM

Meeting: 7:30 PM

Members: \$35.00

Walk Ins & Non-members: \$40.00

Student & Retired Members: \$20.00

Menu

Buffet Menu

Meeting reservations - Please

notify your company representative
or Eyas Mahmoud (eyas@udel.edu)
by **Thursday October 9th**, or register
online:

[http://catalysisclubphilly.org/
program/meeting-registration/](http://catalysisclubphilly.org/program/meeting-registration/)

*(if you do not receive an automatic
confirmation email, please register
manually by contacting Eyas
Mahmoud)*

Company Representatives – We
would like to encourage you to
make meal/meeting reservations to
your company representative.

Membership - Dues for the 2014-15
season will be \$25.00 (\$5.00 for the
local chapter and \$20.00 for the
national club). Dues for students,
post-docs and retirees will be
\$10.00 (\$5.00 for local club and
\$5.00 for national club).

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UOP Advanced MTO Technology – A New Route for the Production of Light Olefins

Paul T. Barger

UOP LLC, a Honeywell Company, Des Plaines, IL USA

Abstract:

The UOP Advanced Methanol-to-Olefins (MTO) Technology combines the UOP/Hydro MTO process for the conversion of methanol to light olefins with the Total Petrochemicals/UOP Olefin Cracking Process (OCP) to convert C4+ by-products into additional ethylene and propylene. The overall process provides a cost-advantaged route for the utilization of natural gas, coal or biomass to produce these high volume petrochemicals. Fundamental understanding of catalyst structure-performance relationships and the MTO reaction mechanism have guided the development of this technology. The integration of the MTO and OCP processes provides close to 90% overall carbon selectivity to ethylene and propylene from methanol. Recent progress on the commercialization of this technology will also be reviewed.

Leading reference:

“Various Routes to Methane Utilization – SAPO-34 Catalysis Offers Best Option”
B.Vora, J.Chen, A.Bozzano, B.Glover and P.Barger, Catalysis Today 141 (2009) 77-83,
doi:10.1016/j.cattod.2008.05.038

Speaker Bio:

Paul Barger joined the UOP Research Center in 1983 after completing his Ph.D. in Organometallic Chemistry at the California Institute of Technology (with Prof. John Bercaw) and B.S. in Chemistry at the University of Minnesota. He has spent most of his career with UOP in catalysis research, focusing on catalyst preparation and testing, process conceptualization, design and optimization. He has led research projects in the areas of aromatic alkylation, transalkylation and isomerization; paraffin alkylation; olefin isomerization, oligomerization and hydration; methanol-to-olefins, detergents, catalytic reforming and desulfurization. He is currently a leader in UOP's Exploratory Research group, involved in the invention and

development of technologies outside of UOP's core business areas as well as facilitating the proof-of-principle evaluation of new ideas developed by UOP's technical staff.

