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2002 GORDON RESEARCH CONFERENCE

on Organometallic Chemistry

FINAL PROGRESS REPORT

DOE

DE-FG02-02ER15321

The Gordon Research Conference (GRC) on Organometallic Chemistry was held at Salve Regina, Newport, Rhode Island, July 21-26, 2002. The conference was well attended with 112 participants (list enclosed). The attendees represented the spectrum of endeavor in this field coming from academia, industry, and government laboratories, both US and foreign scientists, senior researchers, young investigators, and students.

In designing the formal speakers program, emphasis was placed on current unpublished research and discussion of the future target areas in this field. There was a conscious effort to stimulate lively discussion about the key issues in the field today. Time for formal presentations was limited in the interest of group discussions. In order that more scientists could communicate their most recent results, poster presentation time was scheduled. In addition to these formal interactions, "free time" was scheduled to allow informal discussions. Such discussions are fostering new collaborations and joint efforts in the field (program enclosed).

I want to personally thank you for your support of this Conference. As you know, in the interest of promoting the presentation of unpublished and frontier-breaking research, Gordon Research Conferences does not permit publication of meeting proceedings. If you wish any further details, please feel free to contact me. Thank you.

Peter Wolczanski
Conference Chair

Organometallic Chemistry

July 21-26, 2002
Salve Regina University
Newport, RI

Chair: **Peter Wolczanski** (Cornell)
Vice-Chair: **Morris Bullock** (Brookhaven Natl. Lab.)

Sunday, July 21

Evening

Discussion Leader: **Morris Bullock** (Brookhaven Natl. Lab.)

7:30 Welcome and Announcements

7:45 **Cliff Kubiak** (UC San Diego)

Electron Transfer on the IR Time Scale: It Looks Like Dynamic NMR, But a Billion Times Faster

8:15 Discussion

8:30 **Stephen Lippard** (MIT)

Methane Monooxygenase: C-H Activation without M-C Bonds

9:00 Discussion

9:30 Chair's Reception

Monday, July 22

Morning

Discussion Leader: **Al Sattelberger** (Los Alamos Natl. Lab.)

9:00 **Jackie Kiplinger** (Los Alamos Natl. Lab.)

Interesting Diversions Along the Path Towards an Actinide Alkylidene Complex

9:30 Discussion

9:45 Coffee / Photo

10:15 **Paul Weider** (Shell)

Hydroformylation of Ethylene Oxide and the Development of a Process Route to 1,3-Propanediol

10:45 Discussion

11:00 **Ken Moloy** (DuPont)

Recent Advances in Catalyst Immobilization

11:30 Discussion

11:45 **Ross Widenhoefer** (Duke Univ.)

Palladium-Catalyzed Addition of Stabilized Carbon Nucleophiles to Unactivated Olefins

12:15 Discussion

Evening

Discussion Leader: **Jennifer Green** (Oxford)

7:30 **Sason Shaik** (Hebrew Univ.)

Two State Reactivity of Heme Protein Enzyme in Bond Activation

8:00 Discussion

8:15 **Daniel Stack** (Stanford)

C-H Bond Activations in Bioinorganic Systems

8:45 Discussion

9:00 **Greg Hillhouse** (Univ. Chicago)

The Chemistry of Three-Coordinate Nickel

9:30 Discussion

9:45 Poster Session #1

Tuesday, July 23

MorningDiscussion Leader: **Steve Nolan** (Univ. New Orleans)9:00 **Daniel Dubois** (NREL)

Thermodynamics of N-H Bonds in Solution: Measurements, Models, and Applications

9:30 Discussion

9:45 **François P. Gabbaï**

Organometallic Polydentate Lewis Acids

10:15 Discussion

10:30 Coffee

11:00 **Miwako Mori** (Hokkaido Univ.)

Synthesis of Carbo- and Heterocyclic Compounds Using Transition Metals

11:30 Discussion

11:45 Poster Presentation #1

12:00 Discussion

12:10 Poster Presentation #2

12:25 Discussion

EveningDiscussion Leader: **Bill Jones** (Univ. Rochester)7:30 **Clark Landis** (Univ. Wisconsin)

Mechanistic and Kinetic Aspects of Metallocene-Catalyzed Alkene Polymerization

8:00 Discussion

8:15 **Jack Kruper** (Dow)

New Activators in Ziegler Natta Catalysis

8:45 Discussion

9:00 **Peter Chen** (ETH Zurich)

Organometallic Chemistry by Electrospray Ionization Tandem Mass Spectrometry

9:30 Discussion

9:45 Poster Session #1

Wednesday, July 24

MorningDiscussion Leader: **David H. McConville** (Exxon)9:00 **Charles Winter** (Wayne State)

Metal Complexes Containing 5-Membered Nitrogen Heterocyclic Ligands: Toward Pentazolato Complexes

9:30 Discussion

9:45 **Matt Holtcamp** (Exxon)

Aluminum Based Non-Coordinating Anions: Activators for Olefin Polymerization Catalysts

10:15 Discussion

10:30 Coffee

11:00 **Craig A. Merlic** (UCLA)

Arene Complexes and Reactive Intermediates: Teaching Old Dogs New Tricks

11:30 Discussion

11:45 Poster Presentation #3

12:00 Discussion

12:10 Poster Presentation #4

12:25 Discussion

EveningDiscussion Leader: **Joyce Corey** (University of Missouri-St. Louis)

- 7:30 **Donna Blackmond** (Univ. Hull)
Kinetic Insights Into Complex Organic Reactions
- 8:00 Discussion
- 8:15 **Lanny Liebeskind** (Emory)
Bioinspired Organometallic Chemistry
- 8:45 Discussion
- 9:00 **Roger Alberto** (Zurich)
The Combination of Organometallic Complexes and Biological Vectors: An Inspiring Field from Technetium Chemistry
- 9:30 Discussion
- 9:45 Poster Session #2

Thursday, July 25**Morning**

Discussion Leader: **Scott Gilbertson** (Washington Univ.)

- 9:00 **Dalibor Sames** (Columbia)
C-H Bond Activation in Complex Organic Synthesis
- 9:30 Discussion
- 9:45 **Stephen Buchwald** (MIT)
Transition-Metal Catalyzed Coupling Processes: Progress, Applications and Mechanistic Studies
- 10:15 Discussion
- 10:30 Coffee
- 11:00 **Didier Astruc** (Bordeaux)
Dendrimers and Metathesis: Organometallic Chemistry at the Nanoscopic Scale
- 11:30 Discussion
- 11:45 Poster Presentation #5
- 12:00 Discussion
- 12:10 Poster Presentation #6
- 12:25 Discussion

Evening

Discussion Leader: **Russell Hughes** (Dartmouth)

- 7:30 Election of Vice Chair for 2003 Conference and Other Business
- 7:45 **Malcolm L. H. Green** (Oxford)
Chemistry of Carbon Nanotubes: The World's Smallest Crystals
- 8:15 Discussion
- 8:30 Announcement of Election and Conference Overview
- 8:45 **Henry Bryndza** (DuPont)
Perspectives of Organometallic Chemistry from Chemical Industry
- 9:15 Discussion
- 9:30 Poster Session #2



ORGANOMETALLIC CHEMISTRY

Salve Regina University
Jul 21-26, 2002

NOTE: Receipt of Application does not guarantee acceptance to a Conference. Applications are reviewed by the Conference Chair. If the Chair approves your application, you become **Accepted** and you will be sent a personalized link to the GRC online registration site. When you complete the online registration, you become **Registered**.

Only those who have been **Accepted** or **Registered** will have their names listed below. Names of people who have only applied and have yet to be accepted will NOT appear.

Name	Organization	Participation	Status
LUTZ ACKERMANN	UC BERKELEY	Poster Presenter	Registered
ROGER ALBERTO	UNIVERSITY OF ZURICH	Speaker	Registered
CELEDONIO M ALVAREZ	IOWA STATE UNIVERSITY	Poster Presenter	Registered
DIDIER ASTRUC	UNIVERSITY OF BORDEAUZ 1	Speaker	Registered
DONNA G BLACKMOND	HULL UNIVERSITY	Speaker	Registered
JAMES M BLACKWELL	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	Poster Presenter	Registered
JAIME R BLANTON	UNIVERSITY OF TENNESSEE	Poster Presenter	Registered
JAMES M BONCELLA	UNIVERSITY OF FLORIDA	Poster Presenter	Registered
JANET BRADDOCK-WILKING	UNIVERSITY OF MISSOURI-ST. LOUIS	Poster Presenter	Registered
RICHARD D BROENE	BOWDOIN COLLEGE	Poster Presenter	Registered
NICOLE M BRUNKAN	UNIVERSITY OF ROCHESTER	Poster Presenter	Registered
HENRY E BRYNDZA	DUPONT CENTRAL RESEARCH & DEVELOPMENT	Speaker	Registered
STEPHEN L BUCHWALD	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	Speaker	Registered
MORRIS BULLOCK	BROOKHAVEN NATIONAL LABORATORY	Vice Chair	Registered
EMILIO E BUNEL	ELI LILLY	Attendee	Registered
DAVID J BURKEY	SAN DIEGO STATE UNIVERSITY	Poster Presenter	Registered
CHRISTOPHER J CHANG	MIT	Poster Presenter	Registered
PETER CHEN	ETH HONGGERBERG	Speaker	Registered
PAUL J CHIRIK	CORNELL UNIVERSITY	Poster Presenter	Registered
JASON A CLYBURNE	SIMON FRASER UNIVERSITY	Poster Presenter	Registered
NICK J CONTI	BECTON DICKINSON	Attendee	Registered
JOYCE Y COREY	UNIVERSITY OF MISSOURI-ST. LOUIS	Attendee	Registered
IAN R CROSSLEY	UMIST	Poster Presenter	Registered
OLAFS DAUGULIS	UNC - CHAPEL HILL	Poster Presenter	Registered
LINDA H DOERRER	BARNARD COLLEGE	Poster Presenter	Registered
BERNADETTE T DONOVAN-MERKERT	UNIVERSITY OF NORTH CAROLINA CHARLOTTE	Poster Presenter	Registered
DAN DUBOIS	NATIONAL RENEWABLE ENERGY LABORATORY	Speaker	Registered
PAUL B DUVAL	UNIVERSITY OF MISSOURI-COLUMBIA	Poster Presenter	Registered
RICHARD EISENBERG	UNIVERSITY OF ROCHESTER	Poster Presenter	Registered
ULRICH FEKL	UNIVERSITY OF WASHINGTON	Poster Presenter	Registered
MARK J FINK	TULANE UNIVERSITY	Poster Presenter	Registered
RICHARD A FISHER	MATERIA, INC.	Poster Presenter	Registered
FRANCOIS P GABBAI	TEXAS A&M UNIVERSITY	Speaker	Registered
MARK GANDELMAN	THE WEIZMANN INSTITUTE OF SCIENCE	Poster Presenter	Registered
JUVENTINO J GARCIA	NATIONAL AUT UNIVERSITY OF MEXICO	Poster Presenter	Registered
APRIL D GETTY	PACIFIC NORTHWEST NATIONAL LABORATORY	Poster Presenter	Registered
SCOTT R GILBERTSON	WASHINGTON UNIVERSITY	Discussion Leader	Registered
GREGORY GIROLAMI	UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN	Attendee	Registered
ALAN S GOLDMAN	RUTGERS UNIVERSITY	Poster Presenter	Registered
MALCOLM L. H GREEN	OXFORD UNIVERSITY	Speaker	Registered
JENNIFER C GREEN	OXFORD UNIVERSITY	Discussion Leader	Registered
TIMOTHY A HERZOG	DOW CHEMICAL COMPANY	Poster Presenter	Registered
ALAN F HEYDUK	CALTECH	Poster Presenter	Registered
GREGORY L HILLHOUSE	UNIVERSITY OF CHICAGO	Speaker	Registered
PAUL V HINKLE	EXXONMOBIL CHEMICAL	Attendee	Registered

T KEITH HOLLIS	UNIVERSITY OF CALIFORNIA, RIVERSIDE	Poster Presenter	Registered
MATTHEW W HOLT CAMP	EXXONMOBIL CHEMICAL CO	Speaker	Registered
RUSSELL P HUGHES	DARTMOUTH COLLEGE	Discussion Leader	Registered
GEOFF J IRVINE	SIGMA-ALDRICH CORPORATION	Attendee	Registered
CARL N. IVERSON	LOS ALAMOS NATIONAL LABORATORY	Poster Presenter	Registered
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LI L JIA	LEHIGH UNIVERSITY	Poster Presenter	Registered
ADAM R JOHNSON	HARVEY MUDD COLLEGE	Poster Presenter	Registered
WILLIAM D JONES	UNIVERSITY OF ROCHESTER	Discussion Leader	Registered
JAQUELINE L KIPLINGER	LOS ALAMOS NATIONAL LABORATORY	Speaker	Registered
JENNIFER KRUMPER	UNIVERSITY OF CALIFORNIA	Poster Presenter	Registered
WILLIAM J KRUPER	DOW CHEMICAL COMPANY	Speaker	Registered
CLIFFORD P KUBIAK	DEPARTMENT OF CHEM. & BIOCHEM.	Speaker	Registered
FOLAMI T LADIPO	UNIVERSITY OF KENTUCKY	Attendee	Registered
CLARK R LANDIS	UNIVERSITY OF WISCONSIN	Speaker	Registered
MARGARETE K LECLERC	SYMYX TECHNOLOGIES, INC	Speaker	Registered
LANNY S LIEBESKIND	EMORY UNIVERSITY	Speaker	Registered
STEPHEN J. LIPPARD	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	Speaker	Registered
JANIS LOUIE	UNIVERSITY OF UTAH	Poster Presenter	Registered
LISA MCELWEE-WHITE	UNIVERSITY OF FLORIDA	Poster Presenter	Registered
CHRISTIAN P MEHNERT	EXXONMOBIL RESEARCH AND ENGINEERING COMPANY	Poster Presenter	Registered
RORY MELENKIVITZ	UNIVERSITY OF CHICAGO	Poster Presenter	Registered
CRAIG A MERLIC	UNIVERSITY OF CALIFORNIA	Speaker	Registered
FORREST E MICHAEL	UNIVERSITY OF CALIFORNIA, BERKELEY	Poster Presenter	Registered
KARLA A MILLER	UNIVERSITY OF MICHIGAN	Poster Presenter	Registered
KENNETH G MOLOY	DU PONT CR&D	Speaker	Registered
JILLIAN R MONCARZ	MARIETTA COLLEGE	Attendee	Registered
ERIC J MOORE	BP CHEMICALS	Attendee	Registered
DAVID MORALES-MORALES	UNIVERSIDAD NACIONAL AUTONOMA DE MEXICO.	Poster Presenter	Registered
MIWAKO MORI	HOKKAIDO UNIVERSITY	Speaker	Registered
SONBINH T NGUYEN	NORTHWESTERN UNIVERSITY	Poster Presenter	Registered
DANIEL G NOCERA	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	Attendee	Registered
STEVEN P NOLAN	UNIVERSITY OF NEW ORLEANS	Discussion Leader	Registered
JACK R NORTON	COLUMBIA UNIVERSITY	Poster Presenter	Registered
AARON L ODOM	MICHIGAN STATE UNIVERSITY	Poster Presenter	Registered
CARLOS G ORTIZ	DUPONT DOW ELASTOMERS L.L.C.	Attendee	Registered
OLEG V OZEROV	BRANDEIS UNIVERSITY	Poster Presenter	Registered
ROCCO PACIELLO	BASF AKTIENGESELLSCHAFT	Attendee	Registered
GERARD PARKIN	COLUMBIA UNIVERSITY	Poster Presenter	Registered
JONAS C PETERS	CALTECH	Poster Presenter	Registered
ALLAN R PINHAS	UNIVERSITY OF CINCINNATI	Poster Presenter	Registered
NORA S RADU	DUPONT CO.	Attendee	Registered
CATHERINE E RADZEWICH	DUPONT	Poster Presenter	Registered
DANIELA RAIS	UNIVERSITY OF CALIFORNIA, BERKELEY	Poster Presenter	Registered
STEFAN REINARTZ	CORNELL UNIVERSITY	Poster Presenter	Registered
KEMPE RHETT	UNIVERSITY OF OLDENBURG	Poster Presenter	Registered
DALIBOR SAMES	COLUMBIA UNIVERSITY	Speaker	Registered
ALFRED P SATTELBERGER	LOS ALAMOS NATIONAL LABORATORY	Discussion Leader	Registered
MARCEL SCHLAF	UNIVERSITY OF GUELPH	Poster Presenter	Registered
SASON SHAIK	LISE MEITNER-MINERVA CENTER FOR COMPU. QUANT. CHE	Speaker	Registered
JEREMY M SMITH	UNIVERSITY OF ROCHESTER	Poster Presenter	Registered
MITCH R SMITH	MICHIGAN STATE UNIVERSITY	Poster Presenter	Registered
MICHAEL B SPONSER	SYRACUSE UNIVERSITY	Poster Presenter	Registered
DANIEL STACK	STANFORD UNIVERSITY	Speaker	Registered
SHANNON STAHL	UNIVERSITY OF WISCONSIN	Poster Presenter	Registered
GEORGE G STANLEY	LOUISIANA STATE UNIVERSITY	Poster Presenter	Registered
ROBERT A STOCKLAND	BUCKNELL UNIVERSITY	Poster Presenter	Registered
JEFFREY M STRYKER	UNIVERSITY OF ALBERTA	Poster Presenter	Registered
JOSEPH L TEMPLETON	UNIVERSITY OF NORTH CAROLINA - CHAPEL HILL	Attendee	Registered
DANIEL D VANDERLENDE	THE DOW CHEMICAL COMPANY	Poster Presenter	Registered
ADAM S VEIGE	MIT	Poster Presenter	Registered
JOHN F WALZER	EXXONMOBIL CHEMICAL CO.	Attendee	Registered
PAUL R WEIDER	WESTHOLLOW TECHNICAL CENTER	Speaker	Registered

ROSS A WIDENHOEFER
CHARLES H WINTER
PETER T WOLCZANSKI
ANTONY P WRIGHT

DUKE UNIVERSITY
WAYNE STATE UNIVERSITY
CORNELL UNIVERSITY
STREM CHEMICALS

Speaker	Registered
Poster Presenter	Registered
Chair	Registered
Attendee	Registered

