

REPORT DOCUMENTATION PAGE

AFRL-SR-BL-TR-01-

0439

Public reporting burden for this collection of information is estimated to average 1 hour per response, including gathering and maintaining the data needed, and completing and reviewing the collection of information. Send collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Project, Washington, DC 20503.

S,
is
jn

1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE	3. REPORT TYPE AND DATES COVERED Final - 1 January 2001 - 30 June 2001	
4. TITLE AND SUBTITLE 2001 Electrochemistry Gordon Research Conference			5. FUNDING NUMBERS F49620-01-1-0097	
6. AUTHOR(S) Dr. Carlyles B. Storm				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Gordon Research Conferences Inc P.O. Box 984 Kingston, RI 02892-0984			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) AFOSR/NL 801 North Randolph Street, Room 732 Arlington, VA 22203-1977			20010810 115	
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION AVAILABILITY STATEMENT APPROVED FOR PUBLIC RELEASE: DISTRIBUTION UNLIMITED			AIR FORCE OFFICE OF SCIENTIFIC RESEARCH (AFOSR) NOTICE OF TRANSMISSION/DISTRIBUTION REPORT HAS BEEN REVIEWED AND IS APPROVED FOR PUBLIC RELEASE AWAFR 190-12. DISTRIBUTION IS UNLIMITED.	
13. ABSTRACT (Maximum 200 words) The Gordon Research Conference (GRC) on Electrochemistry was held at Holiday Inn, Ventura, CA, January 14-19, 2001. The conference was well attended with 121 participants. 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 In designing the formal speakers program, emphasis was placed on current unpublished research and discussion of the future target areas in this field.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.				
14. SUBJECT TERMS			15. NUMBER OF PAGES 6	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclas	18. SECURITY CLASSIFICATION OF THIS PAGE Unclas	19. SECURITY CLASSIFICATION OF ABSTRACT Unclas	20. LIMITATION OF ABSTRACT	



founded in 1931

GORDON RESEARCH CONFERENCES *frontiers of science*

P.O. BOX 984, WEST KINGSTON, RI 02892-0984

PHONE: 401 783-4011 • FAX: 401 783-7644

E-MAIL: grc@grcmail.grc.uri.edu

WORLD WIDE WEB: <http://www.grc.uri.edu>

2001 GORDON RESEARCH CONFERENCE

on Electrochemistry

FINAL PROGRESS REPORT

AFOSR

F49620-01-1-0097

The Gordon Research Conference (GRC) on Electrochemistry was held at Holiday Inn, Ventura, CA, January 14-19, 2001. The conference was well attended with 121 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.

Debra Rolison
Conference Chair

Electrochemistry

Our theme: If Charge Moves, It's Electrochemistry!

14-19 January 2001
Holiday Inn
Ventura, CA

Chair: **Debra Rolison** [Naval Research Laboratory]
Chair of Vice: **Henry White** [University of Utah]

14 January 2001
Sun p.m.

Getting to Know You

1600-1800 Chair's Reception for all Attendees

1800 Dinner

14 January 2001
Sun p.m.

Energy Transduction via Biological Charge in Motion

Discussion Leader: **Tayhas Palmore** [Brown University]

1930-2100 **Carlo Montemagno** [Cornell University]
Engineering Life into Nanofabricated Systems

2100-2300 Chair's Reception: Part Deux

15 January 2001
Mon a.m.

"Field" Day

Discussion Leader: **Johna Leddy** [University of Iowa]

0900-1000 **Nicholas Leventis** [University Missouri-Rolla]
Magnetohydrodynamic Voltammetry with Disk Millielectrodes

1000 Photo Op

1020-1120 Coffee Break/Poster Session I

1120-1155 **Mike Elliott** [Colorado State University]
Effects of Magnetic Fields on Photogenerated Charge-Separated States of Donor-Chromophore-Acceptor Supramolecular Assemblies

1155-1230 **Ralph Nuzzo** [University of Illinois - Urbana]
Driven Assembly of Electroactive Microstructures

1700-1800 Social Hour/Poster Session I

15 January 2001
Mon p.m.

"Field" Day

Discussion Leader: **Carol Korzeniewski** [Texas Tech]

1930-2030 **Geri Richmond** [University of Oregon]
Hydrogen Bonding at Water Surfaces: Some Surprisingly Weak Interactions

2030-2130 **Eric Stuve** [University of Washington]
Ionization of Water in High Electric Fields at and near a Metal (Electrode) Surface

16 January 2001
Tues a.m.

Electrochemistry / Materials

Discussion Leader: **Nick Abbott** [University of Wisconsin - Madison]

0900-1000 **George Whitesides** [Harvard University]
Electrochemical Generation of Functional Structures

1000-1110 Coffee Break/Poster Session II

1110-1150 **Rebecca Jackman** [MIT]
Microfluidic Reactors for Electrosynthesis

1150-1230 **Werner Kuhr** [UC-Riverside]
Electrochemically Based Computer Memories

1700-1800 Social Hour/Poster Session II

16 January 2001
Tues p.m.

Electrochemistry / Materials

Discussion Leader: **Dick Buck** [UNC-CH]

1930-2010 **Eric Bakker** [Auburn University]
What's New with Ions at Electrified Interfaces?

2010-2050 **Sossina Haile** [Cal Tech]
The Search for Improved Solid-State Proton Conductors

2050-2130 **Dick Crooks** [Texas A&M]
Single File in a Single Pore

17 January 2001
Wed a.m.

Nanoelectronics and Electrochemistry

Discussion Leader: **Dan Feldheim** [NCSU]

0900-1000 **Mark Ratner** [Northwestern University]
The Theory of Electron and Charge Transport in Nanoscopic Wires

1000-1110 Coffee Break/Poster Session III

1110-1150 **Tom Mallouk** [Penn State University]
Nanowires: Synthesis, Characterization, and Assembly

1150-1230 **Cliff Kubiak** [UC-San Diego]
Chemically Gating Current Flow Through Molecular Nanostructures

1700-1800 Social Hour/Poster Session III

17 January 2001
Wed p.m.

Open Session/Mayhem

Discussion Leader: **Henry White** [University of Utah]

1930-2130 10-min talks from selected attendees

18 January 2001 Home Stretch
Thu a.m.

New Efforts in Electrochemical Power Sources

Discussion Leader: **Kathy Ayers** [Eveready Battery Company]

0900-1000 **Marc Koper** [Eindhoven University]
Theoretical and Experimental Investigations of the Electrooxidation of Fuels

1000-1110 Coffee Break/Poster Session IV

1110-1150 **Viola Birss** [University of Calgary]
Sol-Gel-Derived Ion-Insertion Materials for Batteries And Ultracapacitors

1150-1230 **Robert Savinell** [Case Western Reserve University]
Microfabricated Miniature Fuel Cells

1700-1800 Social Hour/Poster Session IV

18 January 2001 Home Stretch
Thu p.m.

Electrochemistry in Unusual Media

Discussion Leader: **John Turner** [NREL]

1930-2020 **Daren Caruana** [University College, London]
Electrochemistry in Flames

2020-2100 **Michael McKubre** [SRI]
Electrochemical Effects in Aircraft Fuel Tank Explosions

2130-0600 WETS PARTY!!!!



Copyright © 2001 Gordon Research Conferences
Last Updated: 1/4/01 by [Jeff Carroll](#)

ELECTROCHEMISTRY

Holiday Inn, Ventura, CA
(14-Jan-01) - (19-Jan-01)

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 a registration packet will be mailed immediately. Please allow 3-5 days for your registration to reach you by mail once your name appears. When your registration packet has been received back in our office, 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
<u>NICHOLAS L ABBOTT</u>	UNIVERSITY OF WISCONSIN	Discussion Leader	Registered
<u>HECTOR ABRUNA</u>	CORNELL UNIVERSITY	Attendee	Registered
<u>NEAL ARMSTRONG</u>	UNIVERSITY OF ARIZONA	Attendee	Registered
<u>KATHERINE E AYERS</u>	EVEREADY BATTERY COMPANY (ENERGIZER)	Discussion Leader	Registered
<u>WENDY S BAKER</u>	TEXAS A&M UNIVERSITY	Poster Presenter	Registered
<u>ERIC BAKKER</u>	AUBURN UNIVERSITY	Speaker	Registered
<u>SOLOMON B BASAME</u>	UNIVERSITY OF NEW MEXICO	Poster Presenter	Registered
<u>MEKKI BAYACHOU</u>	CLEVELAND STATE UNIVERSITY	Attendee	Registered
<u>VIOLA I BIRSS</u>	UNIVERSITY OF CALGARY	Speaker	Registered
<u>ANNA BRAJTER-TOTH</u>	UNIVERSITY OF FLORIDA	Attendee	Registered
<u>SAMUEL E BUAH</u>	UNIVERSITY OF CAPE COAST, GHANA	Attendee	Accepted
<u>RICHARD P BUCK</u>		Discussion Leader	Registered
<u>JAMES D BURGESS</u>	CASE WESTERN RESERVE UNIVERSITY	Attendee	Registered
<u>PAUL R BURGMAYER</u>	BETZDEARBORN	Attendee	Registered
<u>DANIEL A BUTTRY</u>	UNIVERSITY OF WYOMING	Attendee	Registered
<u>HARLAN J BYKER</u>	PLEOTINT, LLC	Attendee	Registered
<u>RICHARD T CARLIN</u>	OFFICE OF NAVAL RESEARCH	Attendee	Registered
<u>DAREN J CARUANA</u>	UNIVERSITY COLLEGE, LONDON	Speaker	Registered
<u>SHAOWEI CHEN</u>	SOUTHERN ILLINOIS UNIVERSITY	Poster Presenter	Registered
<u>W. VES CHILDS</u>	3M	Attendee	Registered
<u>MALGORZATA CISZKOWSKA</u>	BROOKLYN COLLEGE, CUNY	Attendee	Registered
<u>DAVID CLIFFEL</u>	VANDERBILT UNIVERSITY	Poster Presenter	Registered
<u>MARYANNE M COLLINSON</u>	KANSAS STATE UNIVERSITY	Poster Presenter	Registered
<u>STEPHEN E CREAGER</u>	CLEMSON UNIVERSITY	Poster Presenter	Registered
<u>RICHARD M CROOKS</u>	TEXAS A&M UNIVERSITY	Speaker	Registered
<u>XIAOJUN DANG</u>	NORTHWESTERN UNIVERSITY	Poster Presenter	Registered
<u>CARRIE L DONLEY</u>	UNIVERSITY OF ARIZONA	Poster Presenter	Registered
<u>BRUCE DUNN</u>	UNIVERSITY OF CALIFORNIA, LOS ANGELES	Attendee	Registered
<u>C. MICHAEL ELLIOTT</u>	COLORADO STATE UNIVERSITY	Speaker	Registered
<u>DENNIS H EVANS</u>	UNIVERSITY OF DELAWARE	Attendee	Registered
<u>ANDREW G EWING</u>	PENN STATE UNIVERSITY	Attendee	Registered
<u>FRED FAVIER</u>	CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE-CNRS	Poster Presenter	Registered
<u>STEPHEN W FELDBERG</u>	CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE-CNRS	Attendee	Registered
<u>DAN L FELDHEIM</u>	BROOKHAVEN NATIONAL LABORATORY	Discussion Leader	Registered
<u>ROBERT J FORSTER</u>	NORTH CAROLINA STATE UNIVERSITY	Attendee	Registered
<u>XIAOPING GAO</u>	DUBLIN CITY UNIVERSITY	Attendee	Registered
<u>ROSINA M GEORGIADIS</u>	AIR PRODUCTS & CHEMICALS, INC.	Attendee	Registered
<u>SOSSINA M HAILE</u>	BOSTON UNIVERSITY	Poster Presenter	Registered
<u>SUSAN M HENDRICKSON</u>	CALIFORNIA INSTITUTE OF TECHNOLOGY	Speaker	Registered
<u>JOCELYN F HICKS</u>	DAVIDSON COLLEGE	Poster Presenter	Registered
<u>ANDREW C HILLIER</u>	UNC-CHAPEL HILL	Poster Presenter	Registered
<u>SEONGPIL HWANG</u>	UNIVERSITY OF VIRGINIA	Poster Presenter	Registered
<u>REBECCA J JACKMAN</u>	KOREA ADVANCED INSTITUTE OF SCIENCE & TECHNOLOGY	Poster Presenter	Registered
<u>JIRI (ART) JANATA</u>	MIT	Speaker	Registered
<u>GREGORY JERKIEWICZ</u>	GEORGIA INSTITUTE OF TECHNOLOGY	Poster Presenter	Registered
<u>MICHAEL J JOHNSON</u>	UNIVERSITE DE SHERBROOKE	Poster Presenter	Registered
<u>PETER T KISSINGER</u>	UNIVERSITY OF CALIFORNIA, BERKELEY	Poster Presenter	Registered
<u>VLADIMIR KOMANICKY</u>	BIOANALYTICAL SYSTEMS, INC.	Poster Presenter	Registered
<u>MARC KOPER</u>	UNIVERSITY OF CALIFORNIA, DAVIS	Poster Presenter	Registered
	SCHUIT INSTITUTE OF CATALYSIS	Speaker	Registered

<u>CAROL KORZENIEWSKI</u>	TEXAS TECHNICAL UNIVERSITY	Discussion Leader	Registered
<u>KSENIA KRYLOVA</u>	PENNSYLVANIA STATE UNIVERSITY	Attendee	Registered
<u>CLIFFORD P. KUBIAK</u>	UNIVERSITY OF CALIFORNIA, SAN DIEGO	Speaker	Registered
<u>WERNER G. KUHR</u>	UNIVERSITY OF CALIFORNIA, RIVERSIDE	Speaker	Registered
<u>THEODORE KUWANA</u>	UNIVERSITY OF KANSAS	Attendee	Registered
<u>JOHNA LEDDY</u>	UNIVERSITY OF IOWA	Discussion Leader	Registered
<u>NICHOLAS LEVENTIS</u>	UNIVERSITY OF MISSOURI, ROLLA	Speaker	Registered
<u>CHUNZENG LI</u>	DIGITAL INSTRUMENTS/VEECO	Attendee	Registered
<u>HONGTAO LIU</u>	UNIVERSITY OF CALIFORNIA, IRVINE	Attendee	Registered
<u>JEFFREY W. LONG</u>	NAVAL RESEARCH LABORATORY	Poster Presenter	Registered
<u>CYNTHIA A. LUNDGREN</u>	DUPONT, CR&D	Poster Presenter	Registered
<u>LESLIE J. LYONS</u>	GRINNELL COLLEGE	Poster Presenter	Registered
<u>THOMAS E. MALLOUK</u>	PENNSYLVANIA STATE UNIVERSITY	Speaker	Registered
<u>CHARLES R. MARTIN</u>	UNIVERSITY OF FLORIDA	Poster Presenter	Accepted
<u>RICHARD L. MCCREERY</u>	OHIO STATE UNIVERSITY	Attendee	Registered
<u>JAMES A. MCINTYRE</u>	DOW CHEMICAL	Attendee	Registered
<u>MIKE C. MCKUBRE</u>	SRI INTERNATIONAL	Speaker	Registered
<u>CARLO D. MONTEMAGNO</u>	CORNELL UNIVERSITY	Speaker	Registered
<u>ROYCE W. MURRAY</u>	UNIVERSITY OF NORTH CAROLINA, CHAPEL HIL	Attendee	Registered
<u>ZOLTAN NAGY</u>	ARGONNE NATIONAL LABORATORY	Attendee	Registered
<u>KWOK H. NG</u>	UNIVERSITY OF CALIFORNIA, IRVINE	Poster Presenter	Registered
<u>MICHAEL L. NORTON</u>	MARSHALL UNIVERSITY	Poster Presenter	Registered
<u>RALPH G. NUZZO</u>	UNIVERSITY OF ILLINOIS	Speaker	Registered
<u>JOHN J. O'DEA</u>	NORTH CAROLINA STATE UNIVERSITY	Attendee	Registered
<u>ILWHAN OH</u>	KOREA ADVANCED INSTITUTE OF SCIENCE & TECHNOLOGY	Poster Presenter	Registered
<u>G. TAYHAS R. PALMORE</u>	DIVISION OF ENGINEERING BOX D	Discussion Leader	Registered
<u>JEANNE E. PEMBERTON</u>	UNIVERSITY OF ARIZONA	Attendee	Registered
<u>REGINALD M. PENNER</u>	UNIVERSITY OF CALIFORNIA, IRVINE	Attendee	Registered
<u>JEREMY PIETRON</u>	US NAVAL RESEARCH LABORATORY	Poster Presenter	Registered
<u>STEVEN RAGSDALE</u>	BROADLEY-JAMES CORPORATION	Poster Presenter	Registered
<u>MARK A. RATNER</u>	NORTHWESTERN UNIVERSITY	Speaker	Registered
<u>JODY G. REDEPENNING</u>	UNIVERSITY OF NEBRASKA	Poster Presenter	Registered
<u>THOMAS C. RICHARDS</u>	GILLETTE CORPORATE R&D	Attendee	Registered
<u>GERALDINE L. RICHMOND</u>	UNIVERSITY OF OREGON	Speaker	Registered
<u>JASON E. RITCHIE</u>	UNIVERSITY OF MISSISSIPPI	Attendee	Registered
<u>DAVID B. ROBINSON</u>	STANFORD UNIVERSITY	Poster Presenter	Registered
<u>DEBRA R. ROLISON</u>	NAVAL RESEARCH LAB	Chair	Registered
<u>KRISTIAN M. ROTH</u>	UNIVERSITY OF CALIFORNIA	Poster Presenter	Registered
<u>JUDITH F. RUBINSON</u>	GEORGETOWN UNIVERSITY	Attendee	Registered
<u>ISRAEL RUBINSTEIN</u>	WEIZMANN INSTITUTE OF SCIENCE	Poster Presenter	Registered
<u>ANDREA E. RUSSELL</u>	UNIVERSITY OF SOUTHAMPTON	Poster Presenter	Registered
<u>JEFF S. SAKAMOTO</u>	UNIVERSITY OF CALIFORNIA, LOS ANGELES	Poster Presenter	Registered
<u>SHAWN A. SAPP</u>	COLORADO STATE UNIVERSITY	Poster Presenter	Registered
<u>ROBERT F. SAVINELL</u>	CASE WESTERN RESERVE UNIVERSITY	Speaker	Registered
<u>KRISTIAN M. SCABOO</u>	XANTHON INC	Attendee	Registered
<u>EIICHI SHOJI</u>	CALIFORNIA INSTITUTE OF TECHNOLOGY	Poster Presenter	Registered
<u>HERBERT P. SILVERMAN</u>	BROADLEY-JAMES CORPORATION	Attendee	Registered
<u>ANDREW F. SLATERBECK</u>	UNIVERSITY OF CENTRAL FLORIDA	Attendee	Registered
<u>KRZYSZTOF SLOWINSKI</u>	CALIFORNIA STATE UNIVERSITY, LONG BEACH	Poster Presenter	Registered
<u>MARK T. SPITLER</u>	CHEMMOTIF, INC.	Poster Presenter	Registered
<u>KEITH J. STEVENSON</u>	UNIVERSITY OF TEXAS, AUSTIN	Attendee	Registered
<u>JOHN L. STICKNEY</u>	UNIVERSITY OF GEORGIA	Poster Presenter	Accepted
<u>ERIC M. STUVE</u>	UNIVERSITY OF WASHINGTON	Speaker	Registered
<u>DOMENIC J. TIANI</u>	UNIVERSITY OF ARIZONA	Poster Presenter	Registered
<u>JOHN A. TURNER</u>	NATIONAL RENEWABLE ENERGY LAB	Discussion Leader	Registered
<u>ROBERT L. TURNER</u>	3M COMPANY	Attendee	Registered
<u>OLIVIA D. UITTO</u>	UNIVERSITY OF UTAH	Poster Presenter	Registered
<u>RICHARD M. VAN EFFEN</u>	DOW CHEMICAL COMPANY	Attendee	Registered
<u>HAL VAN RYSWYK</u>	HARVEY MUDD COLLEGE	Poster Presenter	Registered
<u>PETR VANYSEK</u>	ACLARA BIOSCIENCES	Attendee	Registered
<u>ALEXANDER VASKEVICH</u>	WEIZMANN INSITUTE OF SCIENCE	Poster Presenter	Registered
<u>JEAN M. WALLACE</u>	NAVAL RESEARCH LABORATORY	Attendee	Registered
<u>WEN-JWU WANG</u>	TAMKANG UNIVERSITY	Poster Presenter	Registered
<u>HENRY WHITE</u>	UNIVERSITY OF UTAH	Vice Chair	Registered
<u>GEORGE M. WHITESIDES</u>	HARVARD UNIVERSITY	Speaker	Registered
<u>ANDRZEJ WIECKOWSKI</u>	UNIVERSITY OF ILLINOIS	Poster Presenter	Registered
<u>MARY BETH WILLIAMS</u>	NORTHWESTERN UNIVERSITY	Poster Presenter	Registered
<u>DAVID O. WIPF</u>	MISSISSIPPI STATE UNIVERSITY	Attendee	Registered
<u>MA. XINHUA</u>	TIANJIN INSTITUTE OF LIGHT INDUSTRY	Attendee	Accepted
<u>MICHAEL P. ZACH</u>	UC, IRVINE	Poster Presenter	Registered
<u>FRANCIS P. ZAMBORINI</u>	UNIVERSITY OF NORTH CAROLINA - CHAPEL HILL	Poster Presenter	Registered
<u>REBECCA A. ZANGMEISTER</u>	UNIVERSITY OF ARIZONA	Poster Presenter	Registered