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GORDON RESEARCH CONFERENCES *frontiers of science*
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Nancy Ryan Gray, Ph.D.
Director

**2011 GORDON RESEARCH CONFERENCE
on PHOTOSYNTHESIS**

**FINAL PROGRESS REPORT
DEPARTMENT OF ENERGY
GRANT NO. DE-SC0006421**

The Gordon Research Conference on PHOTOSYNTHESIS was held at Davidson College in Davidson, North Carolina, June 12-17, 2011. The Conference was well-attended with 129 participants (attendees list attached). The attendees represented the spectrum of endeavor in this field coming from academia, industry, and government laboratories, both U.S. and foreign scientists, senior researchers, young investigators, and students. Of the 129 attendees, 51 voluntarily responded to a general inquiry regarding ethnicity which appears on our registration forms. Of the 51 respondents, 24% were Minorities – 2% Hispanic, 22% Asian and 0% African American. Approximately 34% of the participants at the 2011 meeting were women.

The Gordon Research Seminar on PHOTOSYNTHESIS was held at Davidson College in Davidson, North Carolina, June 11-12, 2011. The Conference was well-attended with 34 participants (attendees list attached). The attendees represented the spectrum of endeavor in this field coming from academia, industry, and government laboratories, both U.S. and foreign scientists, senior researchers, young investigators, and students. Of the 34 attendees, 18 voluntarily responded to a general inquiry regarding ethnicity which appears on our registration forms. Of the 18 respondents, 6% were Minorities – 0% Hispanic, 6% Asian and 0% African American. Approximately 41% of the participants at the 2011 meeting were women.

In designing the formal speakers program, emphasis was placed on current unpublished research and discussion of the future target areas in this field.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. Attached is a copy of the formal schedule and speaker program and the poster program. 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.

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.

Sincerely,
Krishna K. Niyogi, GRC Conference Chairperson
UNIVERSITY OF CALIFORNIA
Sophia Johnson-Worrell, GRS Conference Chairperson
RUTGERS UNIVERSITY

PHOTOSYNTHESIS

June 12-17, 2011
Davidson College
Davidson, NC

Chair:
Krishna K. Niyogi

Vice Chair:
Richard J. Debus

Related Meeting Information

The Photosynthesis Gordon Research Conference was held in conjunction with the **Photosynthesis Gordon Research Seminar**. Please refer to the Photosynthesis GRS web page for more information.

Photosynthesis is the biological process that converts solar energy into chemical energy. Elucidation of the mechanisms of photosynthetic energy conversion at a molecular level is fundamentally important for understanding the biology of photosynthetic organisms, for optimizing biological solar fuels production, and for developing biologically inspired approaches to solar energy conversion. The 2011 Gordon Conference on Photosynthesis will present cutting-edge research focusing on the biochemical aspects of photosynthesis, including:

- structure, assembly, and function of photosynthetic complexes
- the mechanism of water splitting by PSII
- light harvesting and quenching
- alternative electron transport pathways
- biosynthesis of pigments and cofactors
- improvement of photosynthesis for bioenergy and food production

Reflecting the interdisciplinary nature of photosynthesis research, a diverse group of invited speakers will represent a variety of scientific approaches to investigate photosynthesis, such as biochemistry, molecular genetics, structural biology, systems biology, and spectroscopy. Highly interactive poster sessions provide opportunities for graduate students and postdocs to present their work and exchange ideas with leaders in the field. One of the highlights of the Conference is a session featuring short talks by junior investigators selected from the poster presentations. The collegial atmosphere of the Photosynthesis GRC, with programmed discussion sessions as well as informal gatherings in the afternoons and evenings, enables participants to brainstorm, exchange ideas, and forge new collaborations.

For the second time, this Conference will be immediately preceded by a Gordon Research Seminar on Photosynthesis (June 11-12, 2011, at the same location), with a focus on "Photosynthesis, Bioenergy, and the Environment." The GRS provides an additional opportunity for graduate students and postdocs to present their research, and it provides a mechanism to encourage active participation by junior scientists interested in photosynthesis and its applications.

Contributors



International Society of
Photosynthesis Research



SUNDAY

2:00 pm - 9:00 pm Arrival and Check-in ([Office Closed 6:00 pm - 7:00 pm](#))

6:00 pm Dinner

7:30 pm - 7:40 pm Welcome / Introductory Comments by GRC Site Staff

7:40 pm - 9:30 pm **PSII Structure and Water Splitting**

Discussion Leader: **Richard Debus** (University of California, Riverside)

7:45 pm - 8:30 pm Keynote Lecture: **Jian-Ren Shen** (Okayama University)
"Atomic structure of photosystem II that enables photosynthetic water-splitting"

8:30 pm - 8:50 pm Discussion

8:50 pm - 9:20 pm **Johannes Messinger** (Umeå University)
"Biophysical perceptions of the structure and mechanism of the water-oxidizing complex in photosystem II"

9:20 pm - 9:30 pm Discussion

MONDAY

7:30 am - 8:30 am Breakfast

8:30 am Group Photo

9:00 am - 12:30 pm	Photosystem Assembly and Dynamics
9:00 am - 9:20 am	Discussion Leader: Carolyn Wetzel (Smith College)
9:20 am - 9:50 am	Jörg Nickelsen (Ludwig-Maximilians-Universität München) "Coordination of photosystem II assembly in cyanobacteria"
9:50 am - 10:00 am	Discussion
10:00 am	Coffee Break
10:30 am - 11:00 am	Peter Nixon (Imperial College London) "Structural aspects of photosystem II assembly and repair"
11:00 am - 11:10 am	Discussion
11:10 am - 11:40 am	Ralph Bock (Max Planck Institute of Molecular Plant Physiology) "Assembly factors for photosystem I biogenesis in higher plants"
11:40 am - 11:50 am	Discussion
11:50 am - 12:20 pm	Alexander Vener (Linköping University) "Combinatorial protein phosphorylation controlling composition and dynamics of thylakoid complexes"
12:20 pm - 12:30 pm	Discussion
12:30 pm	Lunch
1:30 pm - 4:00 pm	Free Time
4:00 pm - 6:00 pm	<u>Poster Session</u>
6:00 pm	Dinner
7:30 pm - 9:30 pm	Light Harvesting
7:30 pm - 7:50 pm	Discussion Leader: Dion Durnford (University of New Brunswick)
7:50 pm - 8:20 pm	Greg Engel (University of Chicago) "Exploring and exploiting the robustness of coherent energy transfer in photosynthetic antenna complexes"
8:20 pm - 8:30 pm	Discussion
8:30 pm - 9:00 pm	Roberta Croce (University of Groningen) "Light-harvesting in the supercomplexes - influence of antenna size and composition on excitation energy transfer"
9:00 pm - 9:10 pm	Discussion
9:10 pm - 9:30 pm	General Discussion (including posters)

TUESDAY

7:30 am - 8:30 am	Breakfast
9:00 am - 12:30 pm	Photo-oxidative Stress, Signaling, and Photoprotection
9:00 am - 9:20 am	Discussion Leader: Diana Kirilovsky (CEA Saclay)
9:20 am - 9:50 am	Matt Johnson (Queen Mary University of London) "Light harvesting regulation - a structural perspective"
9:50 am - 10:00 am	Discussion

10:00 am	Coffee Break
10:30 am - 11:00 am	Thuy Truong (University of California, Berkeley) "LHCSRs and qE in <i>Chlamydomonas reinhardtii</i> "
11:00 am - 11:10 am	Discussion
11:10 am - 11:40 am	Michael Hippler (University of Muenster) "The chloroplast calcium sensor CAS is required for photoprotection in <i>Chlamydomonas reinhardtii</i> "
11:40 am - 11:50 am	Discussion
11:50 am - 12:20 pm	Shunichi Takahashi (The Australian National University) "Dark side of sunlight: photoinhibition and photoprotection mechanisms"
12:20 pm - 12:30 pm	Discussion
12:30 pm	Lunch
1:30 pm - 4:00 pm	Free Time
4:00 pm - 6:00 pm	<u>Poster Session</u>
6:00 pm	Dinner
7:30 pm - 9:30 pm	Pigment Biosynthesis and Turnover
7:30 pm - 7:50 pm	Discussion Leader: Don Bryant (Pennsylvania State University)
7:50 pm - 8:20 pm	Yuichi Fujita (Nagoya University) "Structure-based functional analysis on dark-operative protochlorophyllide reductase"
8:20 pm - 8:30 pm	Discussion
8:30 pm - 9:00 pm	Shizue Matsubara (Forschungszentrum Juelich) "Homeostatic control of carotene levels in leaves"
9:00 pm - 9:10 pm	Discussion
9:10 pm - 9:30 pm	General Discussion (including posters)

WEDNESDAY

7:30 am - 8:30 am	Breakfast
9:00 am - 12:30 pm	Electron Transport Pathways
9:00 am - 9:20 am	Discussion Leader: David Kramer (Plant Research Laboratory/Michigan State University)
9:20 am - 9:50 am	Catherine de Vitry (Institut de Biologie Physico-Chimique, Paris) "Compromised heme-binding to cytochrome <i>b</i> ₆ / <i>f</i> : a functional and biochemical characterization"
9:50 am - 10:00 am	Discussion
10:00 am	Coffee Break
10:30 am - 11:00 am	Stefano Santabarbara (Università degli Studi di Milan) "Control of electron transfer directionality in photosystem I"
11:00 am - 11:10 am	Discussion

11:10 am - 11:40 am	Toshiharu Shikanai (Kyoto University) "Machinery and assembly of PSI cyclic electron transport"
11:40 am - 11:50 am	Discussion
11:50 am - 12:20 pm	Steve Rodermel (Iowa State University) "Suppressors of <i>immutans</i> provide insight into alternate pathways of photosynthetic electron transport"
12:20 pm - 12:30 pm	Discussion
12:30 pm	Lunch
1:30 pm - 4:00 pm	Free Time
4:00 pm - 6:00 pm	<u>Poster Session</u>
6:00 pm	Dinner
7:00 pm - 7:30 pm	<u>Business Meeting</u> <i>Nominations for the next Vice Chair; Fill out Conference Evaluation Forms; Discuss future Site & Scheduling preferences; Election of the next Vice Chair</i>
7:30 pm - 9:30 pm	Genomics and Systems Approaches
7:30 pm - 7:50 pm	Discussion Leader: Sabeha Merchant (University of California, Los Angeles)
7:50 pm - 8:20 pm	Himadri Pakrasi (Washington University) "Systems level analysis of photosynthetic life styles of cyanobacteria"
8:20 pm - 8:30 pm	Discussion
8:30 pm - 9:00 pm	Ladislav Nedbal (Institute of Systems Biology and Ecology, Czech Republic) "E-photosynthesis: Web based platform for modeling of complex photosynthetic processes"
9:00 pm - 9:10 pm	Discussion
9:10 pm - 9:30 pm	General Discussion (including posters)
THURSDAY	
7:30 am - 8:30 am	Breakfast
9:00 am - 12:30 pm	Biofuels from Photosynthetic Microbes
9:00 am - 9:20 am	Discussion Leader: Alison Smith (University of Cambridge)
9:20 am - 9:50 am	Nanette Boyle (University of California, Los Angeles) "Desperately Seq-ing nitrogen on the way to biodiesel"
9:50 am - 10:00 am	Discussion
10:00 am	Coffee Break
10:30 am - 11:00 am	Wim Vermaas (Arizona State University) "Cyanobacteria as solar-powered biocatalysts for fatty acid production"
11:00 am - 11:10 am	Discussion
11:10 am - 11:40 am	Anastasios Melis (University of California, Berkeley)

"Photosynthesis for hydrogen and isoprene production"

11:40 am - 11:50 am Discussion

11:50 am - 12:20 pm **Ursula Goodenough** (Washington University)

"Chloroplast involvement in Chlamydomonas lipid-body formation"

12:20 pm - 12:30 pm Discussion

12:30 pm Lunch

1:30 pm - 4:00 pm Free Time

4:00 pm - 6:00 pm Poster Session

6:00 pm Dinner

Recognition of Junior Investigators

7:30 pm - 7:40 pm Short Talk (selected from posters)

7:40 pm - 7:45 pm Discussion

7:45 pm - 7:55 pm Short Talk (selected from posters)

7:55 pm - 8:00 pm Discussion

8:00 pm - 8:10 pm Short Talk (selected from posters)

8:10 pm - 8:15 pm Discussion

8:15 pm - 8:25 pm Short Talk (selected from posters)

8:25 pm - 8:30 pm Discussion

Improving Photosynthesis

8:30 pm - 9:10 pm Keynote Lecture: **Don Ort** (USDA/ARS, University of Illinois)

"Photosynthetic efficiency: limits and opportunities"

9:10 pm - 9:30 pm Discussion

FRIDAY

7:30 am - 8:30 am Breakfast

9:00 am Departure

Photosynthesis (2011)

Name	Organization	Participation	Status
ALLEN, JAMES P	ARIZONA STATE UNIVERSITY	Poster Presenter	Registered
ANANYEV, GENNADY M	RUTGERS UNIVERSITY	Poster Presenter	Registered
BASSI, ROBERTO	UNIVERSITÀ DI VERONA	Poster Presenter	Registered
BECK, WARREN F	MICHIGAN STATE UNIVERSITY	Poster Presenter	Registered
BELGIO, ERICA	QUEEN MARY UNIVERSITY OF LONDON	Poster Presenter	Registered
BERERA, RUDI	VRIJE UNIVERSITEIT	Poster Presenter	Registered
BERNAT, GABOR	RUHR-UNIVERSITY BOCHUM	Poster Presenter	Registered
BLANKENSHIP, ROBERT E	WASHINGTON UNIVERSITY IN ST. LOUIS	Poster Presenter	Registered
BOCK, RALPH	MAX-PLANCK-INSTITUTE OF MOLECULAR PLANT PHYSIOLOGY	Speaker	Registered
BOYLE, NANETTE	UNIVERSITY OF CALIFORNIA, LOS ANGELES	Speaker	Registered
BRICKER, TERRY M	LOUISIANA STATE UNIVERSITY	Poster Presenter	Registered
BRINKERT, KATHARINA	UPPSALA UNIVERSITY	Attendee	Registered
BRUDVIG, GARY W	YALE UNIVERSITY	Attendee	Registered
BRYANT, DONALD A	THE PENNSYLVANIA STATE UNIVERSITY	Discussion Leader	Registered
BURGESS, STEVEN J	IMPERIAL COLLEGE LONDON	Poster Presenter	Registered
BURNAP, ROBERT L	OKLAHOMA STATE UNIVERSITY	Poster Presenter	Registered
CARRILLO, LETICIA R	MICHIGAN STATE UNIVERSITY	Poster Presenter	Registered
COLLINS, AARON M	SANDIA NATIONAL LABORATORIES	Poster Presenter	Registered
COOLEY, JASON W	UNIVERSITY OF MISSOURI_COLUMBIA	Poster Presenter	Registered
COX, NICHOLAS J	MAX PLANCK INSTITUTE FOR BIOINORGANIC CHEMISTRY	Poster Presenter	Registered
CROCE, ROBERTA	VU UNIVERSITY AMSTERDAM	Speaker	Registered
DAVID, LIRON	TECHNION, ISRAEL INSTITUTE OF TECHNOLOGY	Poster Presenter	Registered
DE VITRY-DELEPELAIRE, CATHERINE	IBPC	Speaker	Registered
DEBUS, RICHARD J	UNIVERSITY OF CALIFORNIA, RIVERSIDE	Vice Chair	Registered

DILBECK, PRESTON L	OKLAHOMA STATE UNIVERSITY	Poster Presenter	Registered
DUFFY, CHRISTOPHER D.	QUEEN MARY UNIVERSITY OF LONDON P.	Poster Presenter	Registered
DURNFORD, DION	UNIVERSITY OF NEW BRUNSWICK	Discussion Leader	Registered
ENDOW, JOSHUA K	UNIVERSITY OF CALIFORNIA, DAVIS	Poster Presenter	Registered
ENGEL, GREG	UNIVERSITY OF CHICAGO	Speaker	Registered
FAUNCE, THOMAS A	AUSTRALIAN NATIONAL UNIVERSITY	Poster Presenter	Registered
FRISTEDT, RIKARD	LINKOEPING UNIVERSITY	Poster Presenter	Registered
FUJITA, YUICHI	NAGOYA UNIVERSITY	Speaker	Registered
GOODENOUGH, URSULA W	WASHINGTON UNIVERSITY	Speaker	Registered
GOVINDJEE,	UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN	Poster Presenter	Registered
GUNNER, MARILYN	CITY COLLEGE OF NEW YORK	Attendee	Registered
GUPTA, ALKA	BHABHA ATOMIC RESEARCH CENTRE	Attendee	Registered
HADDY, ALICE	UNIVERSITY OF NORTH CAROLINA, GREENSBORO	Poster Presenter	Registered
HALL, JEREMY D	AUSTRALIAN NATIONAL UNIVERSITY	Poster Presenter	Registered
HEINNICKEL, MARK L	CARNEGIE INSTITUTE OF SCIENCE	Poster Presenter	Registered
HIPPLER, MICHAEL	UNIVERSITY OF MUENSTER	Speaker	Registered
HOLZWARTH, ALFRED	MAX-PLANCK-INSTITUTE BIOINORGANIC CHEMISTRY	Poster Presenter	Registered
HOU, HARVEY JIAN-MIN	UMASS DARTMOUTH	Poster Presenter	Registered
HOUILLE-VERNES, LAURA	INSTITUT DE BIOLOGIE PHYSICO-CHIMIQUE	Poster Presenter	Registered
INOUE, KENTARO	UC DAVIS	Poster Presenter	Registered
JENSEN, POUL E	UNIVERSITY OF COPENHAGEN	Poster Presenter	Registered
JOHNSON, MATTHEW P	QUEEN MARY UNIVERSITY OF LONDON	Speaker	Registered
JOHNSON, XENIE A	IBPC CNRS UMR7141	Poster Presenter	Registered
JOHNSON-WORRELL, SOPHIA	RUTGERS UNIVERSITY	Attendee	Registered
KALLAS, TOIVO	UNIVERSITY OF WISCONSIN-OSHKOSH	Poster Presenter	Registered
KATO, YUKI	UNIVERSITY OF TOKYO	Poster Presenter	Registered
KIANG, NANCY Y	COLUMBIA UNIVERSITY	Poster	Registered

		Presenter	
KIM, SUNG JOON	WASHINGTON UNIVERSITY	Poster Presenter	Registered
KING, JEREMY D	WASHINGTON UNIVERSITY IN ST. LOUIS	Poster Presenter	Registered
KIRCHHOFF, HELMUT	WASHINGTON STATE UNIVERSITY	Poster Presenter	Registered
KIRILOVSKY, DIANA	CEA-CNRS	Discussion Leader	Registered
KOHZUMA, KAORI	MICHIGAN STATE UNIVERSITY	Poster Presenter	Registered
KOMENDA, JOSEF	INSTITUTE OF MICROBIOLOGY	Poster Presenter	Registered
KRAMER, DAVID	MICHIGAN STATE UNIVERSITY	Discussion Leader	Registered
KRAUSZ, ELMARS R	AUSTRALIAN NATIONAL UNIVERSITY	Poster Presenter	Registered
LAKSHMI, K V	RENSSELAER POLYTECHNIC INSTITUTE	Poster Presenter	Registered
LASSEN, LÆRKE MARIE MUNTER	UNIVERSITY OF COPENHAGEN	Poster Presenter	Registered
LEBEDEV, NIKOLAI	US NAVAL RESEARCH LABORATORY	Poster Presenter	Registered
LEE, PHILIP A	SAPPHIRE ENERGY	Attendee	Registered
LIU, HAIJUN	WASHINGTON UNIVERSITY IN ST. LOUIS	Poster Presenter	Registered
LO, CYNTHIA S	WASHINGTON UNIVERSITY IN ST. LOUIS	Poster Presenter	Registered
LOHMILLER, THOMAS	MAX-PLANCK-INSTITUTE FOR BIOINORGANIC CHEMISTRY	Poster Presenter	Registered
LU, YAN	MICHIGAN STATE UNIVERSITY	Poster Presenter	Registered
LUBER, SANDRA	YALE UNIVERSITY	Poster Presenter	Registered
MATSUBARA, SHIZUE	IBG-2: PFLANZENWISSENSCHAFTEN	Speaker	Registered
MAXWELL, BRIDEY	MONSANTO	Poster Presenter	Registered
MCLEAN, GAIL	DEPARTMENT OF ENERGY	Attendee	Registered
MCNEELY, KELSEY	EXXONMOBIL	Attendee	Registered
MELIS, ANASTASIOS	UNIVERSITY OF CALIFORNIA, BERKELEY	Speaker	Registered
MERCHANT, SABEEHA	UCLA	Discussion Leader	Registered
MESSINGER, JOHANNES	UMEA UNIVERSITY	Speaker	Registered
MIYATA, KAZUNORI	THE UNIVERSITY OF TOKYO	Poster Presenter	Registered
MOKVIST, FREDRIK H.E	UPPSALA UNIVERSITY	Poster Presenter	Registered

MOORE, GARY F	YALE UNIVERSITY	Poster Presenter	Registered
NAGARAJAN, APARNA	OKLAHOMA STATE UNIVERSITY	Poster Presenter	Registered
NEDBAL, LADISLAV	INSTITTUE OF SYSTEMS BIOLOGY & ECOLOGY	Speaker	Registered
NEGI, SANGEETA	DONALD DANFORTH PLANT SCIENCE CENTER	Poster Presenter	Registered
NICKELSEN, JOERG	LMU MUNICH DEPARTMENT BIOLOGY I	Speaker	Registered
NIEDERMAN, ROBERT A	RUTGERS UNIVERSITY/NEW BRUNSWICK	Poster Presenter	Registered
NIKLAS, JENS	ARGONNE NATIONAL LABORATORY	Poster Presenter	Registered
NIXON, PETER J	IMPERIAL COLLEGE LONDON	Speaker	Registered
NIYOGI, KRISHNA K	UNIVERSITY OF CALIFORNIA	Chair	Registered
OLSHANSKY, LISA	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	Poster Presenter	Registered
OLSON, TIEN L	ARIZONA STATE UNIVERSITY	Poster Presenter	Registered
ORT, DONALD	UNIVERSITY OF ILLINOIS	Speaker	Registered
PACE, RONALD J	AUSTRALIAN NATIONAL UNIVERSITY	Poster Presenter	Registered
PAKRASI, HIMADRI B	WASHINGTON UNIVERSITY	Speaker	Registered
PAN, JIE	THE BIODESIGN INSTITUTE ATARIZONA STATE UNIVERSITY	Poster Presenter	Registered
PARK, HEECHUL	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	Poster Presenter	Registered
POLIVKA, TOMAS T	UNIVERSITY OF SOUTH BOHEMIA	Poster Presenter	Registered
PUTNAM-EVANS, CINDY	EAST CAROLINA UNIVERSITY	Poster Presenter	Registered
REDDING, KEVIN E	ARIZONA STATE UNIVERSITY	Poster Presenter	Registered
ROMERO, ELISABET	VU UNIVERSITY AMSTERDAM	Poster Presenter	Registered
ROOSE, JOHNNA	LOUISIANA STATE UNIVERSITY	Poster Presenter	Registered
ROSS, NICHOLAS E	UNIVERSITY OF CAMBRIDGE	Poster Presenter	Registered
RUTHERFORD, ALFRED W	CNRS	Poster Presenter	Registered
SACILOTTI, MARCO ANTONIO	UNIVERSITÉ DE BOURGOGNE & UNIV. FED. PERNAMBUCO	Poster Presenter	Registered
SAINIS, JAYASHREE K	BHABHA ATOMIC RESEARCH CENTRE	Poster Presenter	Registered
SAVIKHIN, SERGEI	PURDUE UNIVERSITY	Poster Presenter	Registered

SHEN, JIAN-REN	OKAYAMA UNIVERSITY	Speaker	Registered
SHIKANAI, TOSHIHARU	KYOTO UNIVERSITY	Speaker	Registered
SILVER, SUNSHINE C	ARGONNE NATIONAL LABORATORY	Poster Presenter	Registered
SJOHOLM, JOHANNES	UPPSALA UNIVERSITY	Poster Presenter	Registered
SKIZIM, NICHOLAS J	RUTGERS UNIVERSITY	Poster Presenter	Registered
SMITH, ALISON G	UNIVERSITY OF CAMBRIDGE	Discussion Leader	Registered
SOLOMON, LEE A	UNIVERSITY OF PENNSYLVANIA	Poster Presenter	Registered
SPETEA WIKLUND, CORNELIA	UNIVERSITY OF GOTHENBURG	Poster Presenter	Registered
STICH, TROY A	UNIVERSITY OF CALIFORNIA, DAVIS	Poster Presenter	Registered
STRAND, DESERAH	MICHIGAN STATE UNIVERSITY	Poster Presenter	Registered
SZYJKA, SHAWN J	SAPPHIRE ENERGY	Attendee	Registered
TAKAHASHI, SHUNICHI	RESERCH SCHOOL OF BIOLOGICAL SCIENCES	Speaker	Registered
TANG, KUO-HSIANG	WASHINGTON UNIVERSITY IN ST. LOUIS	Poster Presenter	Registered
TRUONG, THUY	UNIVERSITY OF CALIFORNIA, BERKELEY	Speaker	Registered
UTSCHIG, LISA M	ARGONNE NATIONAL LABORATORY	Poster Presenter	Registered
VAN AMERONGEN, HERBERT	WAGENINGEN UNIVERSITY	Poster Presenter	Registered
VENER, ALEXANDER	LINKOPING UNIVERSITY	Speaker	Registered
VERMAAS, WIM F.J.	ARIZONA STATE UNIVERSITY	Speaker	Registered
VINYARD, DAVID J.	RUTGERS UNIVERSITY	Poster Presenter	Registered
WAHADOSZAMEN, MD	FREE UNIVERSITY	Poster Presenter	Registered
WETZEL, CAROLYN M	SMITH COLLEGE	Discussion Leader	Registered
WIENTJES, EMILIE IE	UNIVERISTY OF GRONINGEN	Poster Presenter	Registered
YAMAMOTO, HIROSHI	KYOTO UNIVERSITY	Poster Presenter	Registered
YANO, JUNKO	LAWRENCE BERKELEY NATIONAL LABORATORY	Poster Presenter	Registered
YUE, HAI	WASHINGTON UNIVERSITY IN ST. LOUIS	Poster Presenter	Registered
ZHAN, WEI	AUBURN UNIVERSITY	Attendee	Registered

129 Attendees

PHOTOSYNTHESIS
Gordon Research Seminar
Photosynthesis, Bioenergy and the Environment

June 11-12, 2011
Davidson College
Davidson, NC

Chair:
Sophia Johnson-Worrell

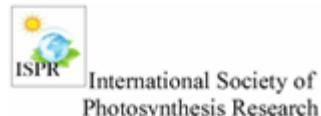
Related Meeting Information

The Photosynthesis Gordon Research Seminar was held in conjunction with the **Photosynthesis Gordon Research Conference**. Please refer to the Photosynthesis GRC web page for more information.

The Gordon Research Seminar on Photosynthesis is a unique forum for graduate students, post-docs, and other scientists with comparable levels of experience and education to present and exchange new data and cutting edge ideas.

This meeting will focus on two topics: 1) hydrogen production and solar cell; and 2) the bio-physics, engineering, and toxicological factors that affects the capability/quantity/efficiency of capturing, converting, and storing solar energy (utilization of solar energy as a sufficient energy source).

Contributors



SATURDAY

1:00 pm - 5:00 pm Arrival and Check-in

3:30 pm - 3:45 pm	Introductory Comments by GRC Site Staff / Welcome by the GRS Conference Chair
3:45 pm - 4:30 pm	<p>Introductory Session</p> <p>Discussion Leader: Sophia Johnson-Worrell (Rutgers University)</p>
3:45 pm - 4:15 pm	Desmond Lun (Rutgers University)
4:15 pm - 4:30 pm	Discussion
4:30 pm - 6:00 pm	<u>Poster Session I</u>
6:00 pm	Dinner
7:30 pm - 9:30 pm	<p>Applied Photosynthesis for Bioenergy Technology</p> <p>Discussion Leader: Kelsey McNeely (Exxon Mobil)</p>
7:30 pm - 7:50 pm	<p>Joomi Kim (Rutgers University)</p> <p>"The trade-off between growth and lipid synthesis in the diatom <i>Phaeodactylum tricornutum</i>"</p>
7:50 pm - 8:00 pm	Discussion
8:00 pm - 8:20 pm	<p>Alka Gupta (Bhabha Atomic Research Centre)</p> <p>"Comparative studies on interfacial electron transfer dynamics in phycocyanobilin sensitized TiO₂ nanoparticles and phycocyanin sensitized ZnO quantum dots"</p>
8:20 pm - 8:30 pm	Discussion
8:30 pm - 8:50 pm	<p>Lee Solomon (University of Pennsylvania)</p> <p>"Mechanism and kinetics of assembly of a synthetic photosystem protein"</p>
8:50 pm - 9:00 pm	Discussion
9:00 pm - 9:20 pm	<p>Steven Burgess (Imperial College London)</p> <p>"Solar driven hydrogen production in the green algal <i>Chlamydomonas reinhardtii</i>"</p>
9:20 pm - 9:30 pm	Discussion

SUNDAY	
7:30 am - 8:30 am	Breakfast
9:00 am - 11:00 am	<p>Photosynthesis and the Environment</p> <p>Discussion Leader: Preston Dilbeck (Oklahoma State University)</p>
9:00 am - 9:20 am	<p>Jeana Drake (Rutgers University)</p> <p>"Partitioning of carbon in hermatypic coral skeletons and skeletal organic matrix"</p>
9:20 am - 9:30 am	Discussion
9:30 am - 9:50 am	<p>Preston Dilbeck (Oklahoma State University)</p> <p>"The mutation D1-D61N in <i>Synechocystis</i> sp. PCC 6803 allows the observation of intermediates in the formation and release of O₂ from Photosystem II"</p>
9:50 am - 10:00 am	Discussion

10:00 am - 10:20 am **Armando Azu** (Pontificia Universidad Catolica de Chile)
"How to photosynthesize in the Atacama Desert, the driest of the world"

10:20 am - 10:30 am Discussion

10:30 am - 10:50 am **Erica Belgio** (Queen Mary University of London)
"Photoprotection in systems with reduced amount of reaction centres"

10:50 am - 11:00 am Discussion

11:00 am - 12:30 pm Poster Session II

Coffee will be served in the poster area from 11:00 am - 11:30 am

12:30 pm Lunch

1:30 pm - 2:30 pm **Mentorship Session**

Panel Presentation on Grant Writing and Junior Investigator Programs

2:30 pm - 3:00 pm Evaluation Period

Fill out GRS Evaluation Forms

3:00 pm Gordon Research Seminar ends. For those attending the associated Gordon Research Conference, please check in at the GRC Office beginning at 4:00 pm.

Photosynthesis (GRS) (2011)

Name	Organization	Participation	Status
BELGIO, ERICA	QUEEN MARY UNIVERSITY OF LONDON	Speaker	Registered
BURGESS, STEVEN J	IMPERIAL COLLEGE LONDON	Poster Presenter	Registered
DAVID, LIRON	TECHNION, ISRAEL INSTITUTE OF TECHNOLOGY	Poster Presenter	Registered
DEBUS, RICHARD J	UNIVERSITY OF CALIFORNIA, RIVERSIDE	Poster Presenter	Registered
DILBECK, PRESTON L	OKLAHOMA STATE UNIVERSITY	Discussion Leader	Registered
DRAKE, JEANA L	RUTGERS UNIVERSITY	Speaker	Registered
EGEN, DENNIS E	RUTGERS UNIVERSITY, CAMDEN	Poster Presenter	Registered
GUPTA, ALKA	BHABHA ATOMIC RESEARCH CENTRE	Speaker	Registered
HALL, JEREMY D	AUSTRALIAN NATIONAL UNIVERSITY	Poster Presenter	Registered
HARROLD, JOHN	RUTGERS UNIVERSITY	Attendee	Registered
HOUILLE-VERNES, LAURA	INSTITUT DE BIOLOGIE PHYSICO-CHIMIQUE	Poster Presenter	Registered
JOHNSON-WORRELL, SOPHIA	RUTGERS UNIVERSITY	Chair	Registered
KIM, JOOMI	RUTGERS UNIVERSITY	Speaker	Registered
KING, JEREMY D	WASHINGTON UNIVERSITY IN ST. LOUIS	Poster Presenter	Registered
LASSEN, LÆRKE MARIE MUNTER	UNIVERSITY OF COPENHAGEN	Poster Presenter	Registered
LEE, PHILIP A	SAPPHIRE ENERGY	Poster Presenter	Registered
LOHMILLER, THOMAS	MAX-PLANCK-INSTITUTE FOR BIOINORGANIC CHEMISTRY	Poster Presenter	Registered
LUN, DESMOND S	RUTGERS UNIVERSITY	Poster Presenter	Registered
MAXWELL, BRIDEY	MONSANTO	Poster Presenter	Registered
MCLEAN, GAIL	DEPARTMENT OF ENERGY	Poster Presenter	Registered
MCNEELY, KELSEY	EXXONMOBIL	Discussion Leader	Registered
MIELKE, STEVEN P	NASA GODDARD INSTITUTE FOR SPACE STUDIES	Poster Presenter	Registered
MOORE, GARY F	YALE UNIVERSITY	Poster Presenter	Registered
NAGARAJAN, APARNA	OKLAHOMA STATE UNIVERSITY	Poster Presenter	Registered
NIKLAS, JENS	ARGONNE NATIONAL LABORATORY	Poster Presenter	Registered

NIYOGI, KRISHNA K	UNIVERSITY OF CALIFORNIA	Poster Presenter	Registered
OLSHANSKY, LISA	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	Poster Presenter	Registered
PEERS, GRAHAM	J. CRAIG VENTER INSTITUTE	Poster Presenter	Registered
SILVER, SUNSHINE C	ARGONNE NATIONAL LABORATORY	Poster Presenter	Registered
SKIZIM, NICHOLAS J	RUTGERS UNIVERSITY	Poster Presenter	Registered
SOLOMON, LEE A	UNIVERSITY OF PENNSYLVANIA	Speaker	Registered
SZYJKA, SHAWN J	SAPPHIRE ENERGY	Poster Presenter	Registered
VINYARD, DAVID J.	RUTGERS UNIVERSITY	Poster Presenter	Registered
YUE, HAI	WASHINGTON UNIVERSITY IN ST. LOUIS	Poster Presenter	Registered

34 Attendees