PROGRAM

International Conference on Tetrapyrrole Photoreceptors of Photosynthetic Organisms (ICTPPO 2009)

July 26-31, 2009
Asilomar Conference Center
Pacific Grove, CA

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Daily Program

7:30-8:30 AM  Breakfast
9:00-12:00 PM  Morning Scientific Session
12:00-1:00 PM  Lunch
1:00-5:00 PM  MW: Recreation Time/Excursion
2:00-5:00 PM  TuTh: Afternoon Scientific Session
5:00-6:00 PM  MTW: Poster Sessions with Authors
6:00-7:00 PM  Dinner
7:30-10 PM  Evening Scientific Session
10 PM  Posters and Recreation Time

Special Event Times

Sunday  3:00 PM-  Registration Upon Arrival
       6:00-7:00 PM  Dinner
       10 PM-12:00 AM  Bonfire Reception
Mon-Weds  5:00-6:00 PM &  Poster Viewing & Snack Bar Hours
           10 PM-12 midnight
Tuesday  1:30 pm  Group Photograph
Wednesday  1:00-5:30 PM  Excursions
Thursday  4:00-6:00 PM  Wine and Hors d’oeuvres Reception
             6:00-7:30 PM  Banquet
Thursday  8:00-9:30 PM  Breakfast
Friday  9:00 AM  Departure after breakfast
            Checkout by 12 noon
SUNDAY, JULY 26TH

ALPHA SESSION, MERRILL HALL

7:30-7:45 PM Welcoming Remarks

7:45-8:30 PM Alpha Lecturer Bob Blankenship
Washington University in St. Louis
"Evolutionary Diversity of Photosynthetic Organisms"

8:30-8:45 PM Discussion

EVENING SESSION 1: NEW DEVELOPMENTS FROM YOUNG INVESTIGATORS
Discussion Leader: Antony F. McDonagh, UC San Francisco

8:45-9:00 PM Markus Bröcker
Technische Universität Braunschweig, Germany
"ATP-driven chlorophyllide formation by nitrogenase-like dark-operative protochlorophyllide oxidoreductase"

9:00-9:10 PM Discussion

9:10-9:25 PM Paul Jaschke
University of British Columbia, Vancouver Canada
"Zinc-bacteriochlorophyll in Rhodobacter sphaeroides: consequences for photosystem function and a proposed biosynthetic pathway"

9:25-9:35 PM Discussion

9:35-9:50 PM Cheng Yao
Arizona State University, Tempe USA
"Lifetimes of chlorophyll and chlorophyll-binding proteins in the cyanobacterium Synechocystis sp. PCC 6803"

9:50-10:00 PM Discussion

SUNDAY EVENING BONFIRE (10 PM - MIDNIGHT)

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MONDAY, JULY 27TH

MORNING SESSION 2: TETRAPYRROLE BIOSYNTHESIS & ITS REGULATION

9:00-9:45 AM Plenary Lecturer Alison Smith
University of Cambridge, Cambridge UK
"Regulation of tetrapyrrole biosynthesis in higher plants"

9:45-10:00 AM Discussion

10:00-10:30 AM Coffee Break
MONDAY, JULY 27TH (CONT)

10:30-10:50 AM  Robert Willows  
Macquarie University, Sydney Australia  
"Subunit interactions and mechanism of the Rhodobacter capsulatus magnesium chelatase complex: Insights from enzyme kinetic studies"

10:50-11:00 AM  Discussion

11:00-11:20 AM  Roman Sobotka  
Institute of Microbiology, South Bohemia Czech Republic  
"Cyanobacterial ferrochelatases: structural and functional roles of the C-terminal domain containing a putative chlorophyll-binding motif"

11:20-11:30 AM  Discussion

11:30-11:50 AM  Krishna Niyogi  
University of California, Berkeley USA  
"Yellow-in-the-dark mutants identify novel nuclear genes required for light-independent chlorophyll biosynthesis in Chlamydomonas reinhardtii"

11:50-12:00 noon  Discussion

1 PM - 5 PM: free time

MONDAY AFTERNOON POSTER SESSION (5-6 PM)

EVENING SESSION 4: TETRAPYRROLE CATABOLISM & ITS REGULATION

7:30-8:15 PM  Plenary Lecturer Ayumi Tanaka  
Hokkaido University, Sapporo Japan  
"Tetrapyrrole metabolism of photosynthetic organisms: degradative pathways & their regulation"

8:15-8:30 PM  Discussion

8:30-8:50 PM  Thomas Mueller  
University of Innsbruck, Innsbruck Austria  
"Chlorophyll breakdown in higher plants: unexpected diversity of catabolites"

8:50-9:00 PM  Discussion

9:00-9:20 PM  Gopal K. Pattanayak  
University of Chicago, Chicago USA  
"The role of Arabidopsis ACD2 in programmed cell death"

9:20-9:30 PM  Discussion

9:30-9:50 PM  Shih-Long Tu  
Academia Sinica Institute of Plant and Microbial Biology, Taipei Taiwan  
"Biosynthesis of phytobilins in green photosynthetic eukaryotes"

9:50-10:00 PM  Discussion
TUESDAY, JULY 28TH

MORNING SESSION 4: THE PHOTOSYNTHETIC LIGHT HARVESTING APPARATUS

9:00-9:45 AM  Plenary Lecturer C. Neil Hunter
University of Sheffield, Sheffield UK
"Architecture of the photosynthetic light harvesting apparatus"

9:45-10:00 AM  Discussion

10:00-10:30 AM  Coffee Break

10:30-10:50 AM  Alfred Holzwarth
Max-Planck-Institut Bioanorganische Chemie, Muelheim a.d. Ruhr Germany
"Molecular structure of a chlorosome solved: alternating syn-anti bacteriochlorophylls form concentric helical nanotubes in chlorosomes"

10:50-11:00 AM  Discussion

11:00-11:20 AM  Antoine Royant
Institut de Biologie Structurale, Grenoble France
"Crystal structure of plant light-harvesting complex shows the active, energy-transmitting state"

11:20-11:30 AM  Discussion

11:30-11:50 AM  Wendy Schluchter
University of New Orleans, New Orleans USA
"Phycobiliprotein biosynthesis in cyanobacteria: Structure and function of enzymes involved in bilin addition"

11:50-12:00 noon  Discussion

ICTPPO 2009 GROUP PHOTOGRAPH (1:30 PM)

AFTERNOON SESSION 5: ELECTRON TRANSFER REACTIONS

2:00-2:45 PM  Plenary Lecturer Gary Brudvig
Yale University, New Haven USA
"The light side: Photosynthetic energy/electron transfer"

2:45-3:00 PM  Discussion

3:00-3:20 AM  Andrew Fisher
University of California, Davis USA
"Structural insight into the radical intermediate of phytobilin biosynthesis by the ferredoxin dependent bilin reductase enzyme PcyA"

3:20-3:30 PM  Discussion
TUESDAY, JULY 28TH (CONT)

3:30-3:50 PM  Stefan Stoll  
University of California, Davis USA  
"Substrate radical intermediates in cyanobacterial bilin reductases"

3:50-4:00 PM  Discussion

4:00-4:20 PM  Jürgen Moser  
Institute for Microbiology, Braunschweig Germany  
"Chimeric nitrogenase-like enzymes of (bacterio)chlorophyll biosynthesis"

4:20-4:30 PM  Discussion

TUESDAY AFTERNOON POSTER SESSION (5-6 PM)

EVENING SESSION 6: GENOMICS & SYNTHETIC BIOLOGY

7:30-8:15 PM  Plenary Lecturer Donald A. Bryant  
Pennsylvania State University, University Park USA  
"Synechococcus sp. PCC 7002: a robust and versatile cyanobacterial platform for biofuels development"

8:15-8:30 PM  Discussion

8:30-8:50 PM  Beverley Green  
University of British Columbia, Vancouver Canada  
"Genomes of diatoms and other marine algae reveal some tetrapyrrole surprises"

8:50-9:00 PM  Discussion

9:00-9:20 PM  Tohru Tsuchiya  
Kyoto University, Kyoto Japan  
"Production of a novel chlorophyll in the chlorophyll d-dominated cyanobacterium Acaryochloris marina MBIC 11017"

9:20-9:30 PM  Discussion

9:30-9:50 PM  Dror Noy  
Weizmann Institute of Science, Rehovot Israel  
"Coupling a water soluble de-novo designed chlorophyll-binding protein to a natural allophycocyanin antenna"

9:50-10:00 PM  Discussion
WEDNESDAY, JULY 29TH
MORNING SESSION 7: TETRACYRROLE SIGNALING IN PLANTS

9:00-9:45 AM  Plenary Lecturer Joanne Chory
The Salk Institute and HHMI, La Jolla USA
"Do tetrapyrroles play a role in retrograde signaling from the chloroplast?"

9:45-10:00 AM  Discussion

10:00-10:30 AM  Coffee Break

10:30-10:50 AM  Bernhard Grimm
Humboldt University, Berlin Germany
"Do regulatory factors control distribution of 5-aminolevulinic acid for chlorophyll and heme synthesis?"

10:50-11:00 AM  Discussion

11:00-11:20 AM  Tatsuru Masuda
The University of Tokyo, Tokyo Japan
"Coordinated regulation of chlorophyll biosynthesis by light and phytohormones in Arabidopsis"

11:20-11:30 AM  Discussion

11:30-11:50 AM  Jesse Woodson
The Salk Institute, La Jolla USA
"A new genetic screen using Arabidopsis thaliana to identify proteins involved in chloroplast to nucleus organelle signaling"

11:50-12:00 noon  Discussion

WEDNESDAY BOX LUNCH & EXCURSIONS

EVENING SESSION 8: LIGHT SIGNALING IN PLANTS & ITS REGULATION

7:30-8:15 PM  Plenary Lecturer J. Clark Lagarias
University of California, Davis USA
"Exploiting a constitutively activated phytochrome allele for all it’s worth"

8:15-8:30 PM  Discussion

8:30-8:50 PM  Noritoshi Inagaki
National Institute of Agrobiological Sciences, Tsukuba Japan
"Characterization of a pale green phenotype observed in rice phytochrome B mutants grown under red light irradiation"

8:50-9:00 PM  Discussion
WEDNESDAY, JULY 29TH (CONT)

9:00-9:20 PM  Baisnab Tripathy
Jawaharlal Nehru University, New Delhi India
"Involvement of phytochrome A in near-etiolation photomorphogenesis in rice"

9:20-9:30 PM  Discussion

9:30-9:50 PM  Pill-Soon Song
Jeju National University, Jeju Korea
"Phytochrome A transgenic turf grasses"

9:50-10:00 PM  Discussion

THURSDAY, JULY 30TH

MORNING SESSION 9: BILIPROTEIN STRUCTURE, ASSEMBLY AND ENGINEERING I

9:00-9:45 AM  Plenary Lecturer Roger Y. Tsien
University of California and HHMI, San Diego USA
"Mammalian Expression of Infrared Fluorescent Proteins Engineered from a Bacteriophytochrome"

9:45-10:00 AM  Discussion

10:00-10:30 AM  Coffee Break

10:30-10:50 AM  Lars-Oliver Essen
Philipps University, Marburg Germany
"Structural and functional analysis of two types of cyanobacterial phytochromes"

10:50-11:00 AM  Discussion

11:00-11:20 AM  Wolfgang Gärtner
Max-Planck-Institut Bioanorganische Chemie, Muelheim a.d. Ruhr Germany
"Conformational changes of phytochrome chromophore combining time-resolved absorption spectroscopy and solid state NMR techniques"

11:20-11:30 AM  Discussion

11:30-11:50 AM  Jyotishman Dasgupta
University of California, Berkeley USA
"Tracking Structural Changes within the Bilin Chromophore during Light Sensing in Phytochrome using Femtosecond Stimulated Raman Spectroscopy"

11:50-12:00 noon  Discussion
THURSDAY, JULY 30TH (CONT)

AFTERNOON SESSION 10: BILIPROTEIN STRUCTURE, ASSEMBLY AND ENGINEERING II

Discussion Leader: Nicole Frankenberg-Dinkel, Ruhr-University Bochum Germany

2:00-2:20 PM  
Rei Narikawa  
University of Tokyo, Tokyo Japan USA  
"Spectral and structural characterization of a novel cyanobacteriochrome-type photoreceptor AnPixJ"

2:20-2:30 PM  Discussion

2:30-2:50 PM  
Beronda L. Montgomery  
Michigan State University, East Lansing USA  
"Biliprotein-regulated photoperception and photomorphogenesis in cyanobacteria"

2:50-3:00 PM  Discussion

3:00-3:20 PM  
Jessica Wiethaus  
Ruhr-University, Bochum Germany  
"Chromophorylation of phycoerythrin by the lyase CpeS in Prochlorococcus marinus"

3:20-3:30 PM  Discussion

3:30-3:50 PM  
Richard M. Alvey  
Pennsylvania State University, University Park USA  
"Biosynthesis of unnatural biliproteins"

3:50-4:00 PM  Discussion

RECEPTION & BANQUET (5:00-7:30 PM)

OMEGA SESSION, MERRILL HALL

8:00-8:30 PM  Business Meeting and General Discussion

8:30-9:15 PM  Omega Lecturer Thomas A. Moore  
Arizona State University, Tempe USA  
"The evolution of engineered and artificial photosynthesis"

9:15-8:30 PM  Discussion

FRIDAY, JULY 31ST

9:00 AM  Departure (checkout by 12 noon)