Programme

All conference sessions will take place in Lecture Theatre 1 of Rutherford House

Sunday 14 November, 2010

15.00 – 17.30 **Registration**
Ground Floor of Rutherford House (Bunny Street entrance)

18.00-19.00 **Parliamentary welcome reception hosted by Hon. Dr Wayne Mapp**
Grand Hall
New Zealand Parliament

Monday 15 November, 2010

09.00 Welcome

09.15 Session Chair: Haruo Inoue

Plenary Lecture
Daniel Nocera
[01.2] Personalized Energy for 1 (× 6 Billion)

10.00 **Invited Lecture**
Akihiko Kudo
[01.3] Photocatalysts for solar hydrogen production

10.30 **Morning Tea – Mezzanine Foyer**

11.00 Session Chair: Ken Ghiggino

APA presidents address and awards
Haruo Inoue

11.30 **Contributed oral presentations**
Theme: Solar photovoltaics
Session Chair: Ken Ghiggino

Max Crossley
[01.4/1] – Expanded porphyrins and their use as sensitisers in photochemical upconversion

Justin Hodgkiss
[01.4/2] Geminate charge recombination in polymer:fullerene and polymer:polymer photovoltaic devices

Ming Chen
[01.4/3] - Engineered block copolymers for solar energy conversion

Matthew Reish
[01.4/4] Spectroscopic and Computational Determination of the Electronics of Donor-Acceptor Polymers

12.30 **Lunch – Mezzanine Foyer**
(and APA councillors meeting)

13.30 **Contributed oral presentations**
Theme: Heterogeneous photochemistry
Session Chair: Guoqiang Yang

APA young scientist award winner
Seong-Ju Hwang
[01.5/1] Lattice Engineering Routes to Heterostructured Metal Oxide Nanohybrids with Visible Light Photocatalytic Activity and Tuneable Photochromic Property heterogeneous photocatalysis

Pushkar Kanhere
[01.5/2] Site Specific Optical and Photocatalytic Properties of Bismuth Doped $NaTaO_3$ Powders

Manabu Sugimoto
[01.5/3] Geometric Structures, Electronic Structures, and Photoresponses of Graphitic Carbon Nitride. A Theoretical Study Using Oligomer Models

Koichi Yamashita
[01.5/4] A combined DFT+MBPT study on the excitonic effects of TiO2 surfaces

Sam Lind
[01.5/5] Modelling Interfacial Electron Transfer in Dye Sensitised Solar Cells

15.00 **Afternoon tea – Mezzanine Foyer**

15.30 **Contributed oral presentations**
Theme: Coordination photochemistry
Session Chair: Kenneth Lo

APA young scientist award winner
Keith Man-Chung Wong
[01.6/1] Transition Metal Alkynyl Complexes as Luminescent Materials

Keith Gordon
[01.6/2] The effect on excited state properties on altering communication between charge-transfer and emission centres in rhenium(I) complexes.

Tsutomu Shiragami
[01.6/3] Di(hydroxo)porphyrin Ge(IV) Complex/Silica Gel Composite as Visible Light-assisted - Radical Generator

Chantal Daniel
[01.6/4] Photoisomerization of Rhenium(I) carbonyl diimine complexes: a theoretical exploration

16.45 – 18.30 **Poster session A – Mezzanine Foyer**

Tuesday 16 November, 2010

09.15 Session Chair: Hiroshi Miyasaka

Plenary Lecture
Jim McCusker
[02.1] Ultrafast Excited-state processes in transition metal-based chromophores: From Fundamental Photophysics to Applications in Energy Science

10.00 **Invited lecture**
Guoqiang Yang
[02.2] Photoluminescent materials: structure, property and high pressure effects

10.30 **Morning Tea – Mezzanine Foyer**

11.00 **Contributed oral presentations**
Theme: Ultrafast photochemistry and time-resolved spectroscopy
Session Chair: Minjoong Yoon

APA award winner
Hiroshi Masuhara
[02.3/1] An Exploratory Study with Lasers: From Nanosecond Laser Photolysis to Laser Trapping Crystallization

11.30 *Yukihide Ishibashi*
[02.3/2] Ultrafast Excited-state Dynamics of Biphenyl Bridged Organosilicas in Solid films

Mark Waterland
[02.3/3] Franck-Condon Dynamics in Dipyrrin Excited-States from Resonance Raman intensity analysis

Hiroshi Fukumura
[02.3/4] Laser-Induced X-ray Sources for Time-Resolved Diffraction of Transient States of Solids and in Solutions

Julie Kho
[02.3/5] A new instrument for measuring charge-separated states of synthetic solar energy harvesting complexes

12.30 **Lunch - Mezzanine Foyer**

13.30 Session Chair: Ken Ghiggino

Invited lecture
Keith Millington
[02.4] Studying the photodegradation of materials using chemiluminescence

14.00 **Contributed oral presentations**
Theme: Photodegradation
Session Chair: Ken Ghiggino

Jolon Dyer
[02.5/1] Unravelling Fibrous Protein Photodegradation with Redox Proteomics

Nicholas Stuckey
[02.5/2] Photodegradation of Australian Freshwater Microlayers

Gerald Smith
[02.5/3] Photoproducts of some natural coumarins in water

14.50 **Invited lecture**
Chi-Kung Ni
[02.6] Molecular mechanism on the photostability of amino acid chromophores

15.20 **Afternoon tea - Mezzanine Foyer**

15.45 **Contributed oral presentations**
Theme: Photochemical probes and imaging

Session Chair: Chen-Ho Tung

APA young scientist award winner
Jyotirmay Mohanty
[02.7/1] Supramolecular Assemblies of Thioflavin T with cucurbituril: Demonstration of Fluorescent Molecular Capsule Formation and its Rupture

Nobuhiro Ohta
[02.7/2] Application of fluorescence lifetime imaging spectroscopy to living cells with particular attention to pH dependence and electric field effects

Xiaotao Hao
[02.7/3] Fluorescence lifetime imaging of aggregates and ordering in conjugated light emitting polymer thin films

16.45 – 18.30 **Poster session B – Mezzanine Foyer**

Wednesday 17 November, 2010

09.15 Session Chair: Hiroshi Fukumura

Plenary Lecture
Hiroshi Miyasaka
[03.1] Femtosecond Delocalization Dynamics of Cationic States in Photoconductive Poly(N-vinylcarbazole) Amorphous Solid

10.00 **Invited Lecture**
Cather Simpson
[03.2} A New Twist in the Tale: Ultrafast Dynamics of Diphosphenes and Phosphaalkenes

10.30 **Morning Tea - Mezzanine Foyer**

11.00 **Contributed oral presentations**
Theme: Homogeneous photochemistry
Session Chair: Ken Ghiggino

APA award winner
Yuan-Pern Lee
[03.3/1] IR spectra of unstable species studied with time-resolved Fourier-transform absorption and IR-VUV time-of-flight-mass techniques

11.30 *Kei Ohkubo*
[03.3/2] Photocatalytic Oxygenation and Bromination of Aromatic Compound with Molecular Oxygen by Electron-Transfer State of 9-Mesityl-10-methylacridinium Ion Derivatives

Michael Oelgemoeller
[03.3/3] Green Photochemistry – The Production of Fine Chemicals with Sunlight

Kazuhiko Mizuno
[03.3/4] Intramolecular Photocycloaddition of Alkynes to Cyanonaphthalenes via Exciplexes

Raphael Horvath
[03.3/5] Spectroscopy of Polymeric and Small-Molecule Phosphazenes: Photoluminescence and Spin-Crossover

12.30 **Lunch – Mezzanine Foyer**

13.30 Session Chair: Kyung-Byung Yoon

Invited lecture
George Thomas
[03.4]Optical Properties of Hybrid Nanomaterials

14.00 **Contributed oral presentations**
Theme: Optical devices
Session Chair: Kyung-Byung Yoon

APA young scientist award winner
Seiya Kobatake
[03.5/1] Photoresponsive Property Changes of Photochromic Diarylethene Crystals

Seba Raymond
[03.5/2] Photostability studies on zwitterionic chromophores for nonlinear optics

Anwar Usman
[03.5/3] Laser-induced dynamic cooperative motions in nematic liquid crystals

Minjoong Yoon
[03.5/4] Waveguiding and Lasing Actions in Porphyrin Rectangular Microtubes

Thitiporn Rungsimanon
[03.5/5] Crystallization and polymorph control of glycine in solution by photon pressure of a focused near infrared laser beam

15.20 **Afternoon tea – Mezzanine Foyer**

15.45 **Contributed oral presentations**
Theme: Photochemistry and photophysics in high fields
Session Chair: Kazuhiko Mizuno

APA young scientist award winner
Tomoyuki Yatsuhashi
[03.6/1] Formation and Fragmentation of Highly Charged Molecular Ion by Intense Femtosecond Laser Pulses

Yu Nabetani
[03.6/2] Reversible Morphology Change Of Nano-layered Hybrid Materials By Photo-irradiations

Tatsuya Shoji
[03.6/3] Localized-Surface-Plasmon-Assisted Optical Trapping of Nanoparticles under Resonant and Non-resonant Conditions

Yasuyuki Tsuboi
[03.6/4] Optical Trapping of Nanoparticles Based on Excitation of Gap-Mode Surface Plasmon

Kosei Ueno
[03.6/5] Quantitative Analysis of Plasmon-Assisted Two-Photon Photochromic Reactions on Gold Nanoparticles

19.00 – late **Conference Dinner**
Te Papa Museum

Thursday 18 November, 2010

09.15 Session Chair: Chi-Kung Ni

Plenary Lecture
Kenneth Lo
[04.1] Luminescence and Biological Properties of New Cyclometallated Iridium(III) Polypyridine Complexes

Invited Lecture
Kyung Byung Yoon
[04.2] Photovolotaic effects of zeolite-encapsulated CDS and PBS Quantum Dots

10.30 **Morning tea – Mezzanine Foyer**

11.00 **Contributed oral presentations**
Theme: Supramolecular photochemistry
Session Chair: Gerald Smith

Jinping Chen
[04.3/1] Photosensitized Oxidation of Alkenes with Dendrimers as Microreactors: Controllable Selectivity between Energy and Electron Transfer Pathway

Yi Li
[04.3/2] Photophysical and Photochemical Processes within Dendrimers

Li-Zhu Wu
[04.3/3] Efficient Electronic Communication-Driven Photoinduced Electron-Transfer and Charge-Separation in 2-Ureido-4[1H]-Pyrimidinone Quadruple Hydrogen-Bonded N,N-Dimethylaniline-Anthracene Assemblies

Qingzheng Yang
[04.3/4] A Molecular Force Probe

Yi Zeng
[04.3/5] Shape-persistent Vesicles Consisting of Amphiphiles for Stepwise Photorelease via UV Irradiation

Takuya Nakashima
[04.3/6] Size- and temperature-dependent photoluminescence of CdTe nanocrystals in an ionic liquid

12.30 **Lunch – Mezzanine Foyer**

13.30 Session Chair: Haruo Inoue

Invited Lecture
Tetsuro Majima
[04.4] Photoinduced Charge-Transfer Processes on Metal-Organic Framework

14.00 **Contributed oral presentations**
Theme: Single molecule spectroscopy
Session Chair: Haruo Inoue

APA young scientist award winner
Vasudeva Biju
[04.5/1] Single semiconductor quantum dots: From blinking suppression to lighting up biomolecular functions

Toby Bell
[04.5/2] Substituted Amino Naphthalene Diimides for Single Molecule Applications

Edwin Yeow
[04.5/3] Wide-field Fluorescence Microscopy Reveals New Insights into Polymer Science

Morihiko Hamada
[04.5/4] Blinking Control of CdSe/ZnS Single Quantum Dots by Electron Transfer to TiO_2 Nanoparticles

Kei Murakoshi
[04.5/5] Plasmon-Assisted Photochemical Reaction of Single-Walled Carbon Nanotube at Metal Nanogap

15.30 **Conference close**