



## 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 sensitizers 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<sub>3</sub> 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 TiO<sub>2</sub> 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 Yatsushashi*

[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] Photovoltaic 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<sub>2</sub> Nanoparticles

*Kei Murakoshi*

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

15.30

**Conference close**