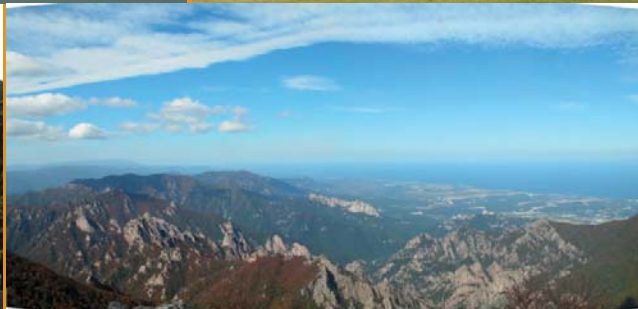
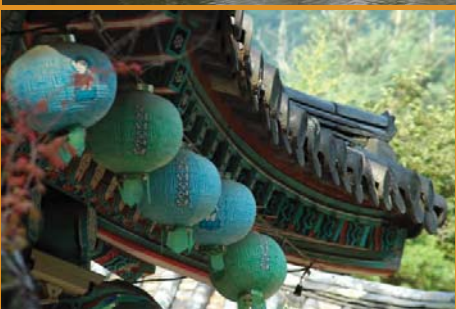




The Asian and Oceanian Photochemistry Association

Regional Focus Korea





Front cover and inside cover photos from Maxim V. Kiryukhin




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2. Sponsors Page

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The 15th Asian Chemical Conference

19th-23rd August 2013, Singapore.

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Pride in Precision

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to attend this conference and would like to invite you to take advantage of our experience in pioneering developments in fluorescence spectroscopy, stretching over 35 years with Universities and leading research laboratories worldwide.

<http://15acc.org/>

3. Preface by the President of the APA

This, the third APA Newsletter, provides one means of providing APA members with news on the photochemical sciences occurring in the Asia and Oceania region and also further afield. The Newsletter Editor Jonathan Hobley welcomes contributions for future editions and I encourage all members to forward to him items that would be of interest to members including conference notifications, short articles, conference reviews and other news. As one of the objectives of the Association is to encourage co-operation between photochemists in the region members might wish to use the Newsletter to promote collaboration including Fellowships, exchanges and collaborative research funding opportunities. There are now a number of schemes available that support international exchange of scientists and graduate students and choosing an appropriate institution or laboratory can be challenging.



Professor Ken Ghiggino

Through the Regional Focus articles in this Newsletter it is hoped members will become more aware of the research that is being conducted in the various laboratories in our region and this will facilitate contacts. A further means for keeping up to date with the APA activities is through the website at <http://www.asianphotochem.com/>.

During 2013 a number of photochemistry related conferences are being held. I recently attended the 26th International Conference on Photochemistry in Leuven, Belgium where I met many other APA members. There were over 700 attendees at this meeting and an important announcement at the conclusion of the conference was that the next ICP is to be held in our region. I congratulate our colleagues in Korea for their successful bid to hold ICP between 28 June and 3 July in 2015 at Jeju Island. Other regional conferences are also taking place this year and are advertised elsewhere in this Newsletter. Following the highly successful 7th Asian Photochemistry Conference held in Osaka planning is in progress for the next APC to be held in Trivandrum, Kerala, India November 9-13, 2014. I urge all APA members to place the dates of this next APA conference in their dairies and I hope as many members as possible will plan to attend.

I take this opportunity to draw APA members' attention to the excellent article published by Prof Haruo Inoue on the history of the Asian and Oceanian Photochemistry Association published in Volume 40 of Photochemistry (Royal Society of Chemistry DOI:10.1039/9781849734882-00230). In this article the origins and purposes of the Association are outlined and it is made clear how the Association has assisted development of photochemistry in our region. Of course the future planning of the APA activities relies on input from all members and I welcome feedback from members on additional ways we can assist promote the objectives of the Association.

Ken Ghiggino
President, APA
ghiggino@unimelb.edu.au

4. Forward

For this forward I would simply like to highlight a couple of innovative things that I have noticed going on in Asia, which show incredible simplicity and effectiveness.

<http://aliteroflight.org/>; <http://www.bbc.co.uk/news/world-asia-pacific-14967535>

Recently I noticed an old September 2011 BBC News article “How water bottles create cheap lighting in Philippines”. It was yet another example of genius in the form of innovation to solve problems of poverty and a PET bottle. It reminded me of one of the subjects that has recently evolved from photochemistry. I am sure you are all aware of the SODIS method for making water fit for drinking in poorer regions. SO – DIS stands for SOLar DISinfection of water. It is achieved by putting your potentially contaminated water in a bottle (PET or glass) and throwing it onto your roof (not a slanting roof – for obvious safety reasons) and leaving it there for long enough that the sun will destroy any microbes in the bottle. As usual Wikipedia provides a good description of the method.

http://en.wikipedia.org/wiki/Solar_water_disinfection

This really is an excellent concept that could really change and save the lives of many people and the beauty of it is that it is based on what many in the so called developed world would consider to be rubbish; namely the disposable glass or plastic PET bottle.

So I was very much intrigued by the “litre of light” concept as it too proposed to change the lives of people using PET bottles. The “litre of light” concept works on the principle of using a PET bottle filled with water as an alternative to an electric light, for use in slum and unofficial housing areas where electricity is not always available and when it is it is too expensive for poor people to afford. Such places can be crowded, and inside the dwellings it can be too dark, even during daylight hours, for people to go about their daily needs or even do any small-scale commercial home-based work, such as sewing, manufacture or repairs.

The solution comes by cutting (or otherwise creating) a small hole in the roof and ceiling of the dwelling and inserting a PET bottle, filled with water, into it. The filled water bottle then acts as a light guide to bring refracted sunlight into the room and created illumination equivalent to a 50-60W electric light bulb. Not only is this clever and cheap, but it also reduces CO₂ emissions.

I wonder if one day the concept of SODIS and the Litre of Light could be combined to produce safe drinking water and cheap and CO₂ emission-free lighting? I really take my hat off to the people who develop such clever ideas.

Also in the Philippines I recall that local people were using cloth rags to gather fuel oil floating on the surface of sea water. They collected the oil and water together in the cloth by skimming it across the water surface and then rang out the cloth contents into a container. The water was then separated from the dirty oil. This oil was then sent for purification to create recovered fuel oil that had a clear yellow color. Although not photochemistry, it is yet another example of necessity leading to useful invention, which in the process also cleans up some of the water and helps the environment. Such ideas truly inspire me.

This issue’s regional focus is Korea. Please enjoy learning about photochemistry in Korea and also enjoy the wonderful scenes in the cover photos. From these pictures I have decided that Korea is a must see destination.

Finally, thanks to Edinburgh Instruments for sponsoring this issue and thanks to all of the people who have contributed.

5. News.

i. 27th International Conference on Photochemistry (ICP 2015)

June 28 – July 3, 2015 at ICC JEJU, Jeju Island, Korea (See also Regional Focus Korea for details)

It has been decided that ICP 2015 (the 27th International Conference on Photochemistry) shall be held at ICC JEJU, Korea on June 28 – July 3, 2015. This final decision was made during ICP 2013 which was held at Lueven, Belgium in July 2013.

ii. APA-Prize for Young Scientist 2013

Call for applications: the APA Prize for young scientists.

For application form visit APA WebSite: <http://www.asianphotochem.com/>

The Asian and Oceanian Photochemistry Association (APA) recognizes young scientists by creating the APA-Prize for Young Scientists.

The following are the guidelines for the Prize and the list of requirements for the application.

1. Photo-scientists who are *less than 40 years of age as at the end of December of the year (2013)* are eligible for this prize.
2. The number of prizewinners should be a maximum of three within a period of one year.
3. The prize shall be of a value of ca. US\$500 per scientist and will be awarded to assist attendance at the forthcoming Asian and Oceanian Photochemistry Conference, APC- 2014 (Scheduled for November 2014, in Trivandrum, India).
4. The reviewing and selection of the prizewinner shall be based upon the application and his/her selected papers (maximum of five) published in the past five years.
5. The criteria used in the review process should include the originality, impact, and novelty of the candidate's scientific activity. Other factors such as the balance of research field, regional area, as well as a consideration of the infrastructure/scientific environment surrounding the candidates should also be taken into account in the review process.
6. The candidates should apply for the prize by themselves and should submit a signed application form (**APA-Y-1**) by airmail and an unsigned copy (pdf) by e-mail, to the APA office (aopa2011@laser.chem.es.osaka-u.ac.jp). Application forms (APA-Y-1) will be available on the APA website (<http://www.asianphotochem.com/>)
7. A maximum of five selected papers published within the past five years (in pdf) should be sent by e-mail to the APA office.
8. The APA councilors will be the reviewers for the prize and the prizewinners shall be decided by a vote among the APA Councilors.
9. Schedule for the APA-Prize for Young Scientists:
August, 2013: Announcement and call for recommendation of the award.
October 30, 2013: Deadline for nominations.
November, 2013: Decision of the prizewinners.
The prizewinners shall be awarded at the APC-2014.
10. All correspondence should be sent to the APA office.

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iii. Selected from the internet.

From semiconductor today, 28th May 2013: New Process for Gallium Nitride on Silicon Developed in South East Asia. Photochemistry is always being advanced by new light sources, so you may be interested in the following advance in the technology of Gallium Nitride (GaN) on Silicon, which has applications, not only to high power amplifiers, but also to mass production of cheaper LEDs. It is also interesting to note that some of the most advanced technology for GaN mass production has been developed in South East Asia.

LayTec's EpiCurveTriple TT used for 200mm GaN-on-Si: By in-situ metrology and characterization of the growth of the GaN on Si, the team was able to demonstrate crack-free 8" (200mm) GaN on Silicon. According to Dr Tripathy's team, in-situ metrology was the key to unlocking the best procedure for the epitaxial growth. When this approach is compared with ex-situ testing, which is time-consuming and destructive (cross-section transmission electron microscopy (TEM) analysis) the in-situ method allows one to monitor in real-time, giving information on growth thickness and homogeneity. LayTec says that its system has significantly reduced R&D cycles for epitaxial growth optimization and that this will enable faster industrialization of GaN-on-silicon (GaN-on-Si) technology. So we can look forward to higher performance and cheaper light sources in the future. For the full story visit:

http://www.semiconductor-today.com/news_items/2013/MAY/LAYTEC_280513.html

From Chemical and Engineering News 1st July 2013: Diamonds Mediate Photochemistry. Taking advantage of the negative electron affinity of hydrogen capped diamond it is possible to generate solvated electrons under UV irradiation of diamond in nitrogen saturated water. This means that reactions, such as the transformation of nitrogen to ammonia, which normally requires temperatures near to 500 °C and pressures of between 150- to 250-atm, can occur efficiently at room temperature. This can lead to great savings in energy. For the full story visit:

<http://cen.acs.org/articles/91/i26/Diamonds-Mediate-Photochemistry.html>

From BBC News 13th August 2013: Bottled Light. The origin of the "litre of light" concept (See Forward) was revealed in a recent BBC News article. In fact it was Brazilian mechanic Alfredo Moser who introduced the concept of using a bottle installed in the roof as a light guide to illuminate rooms. Alfredo came up with this concept in 2002 when his country was suffering from frequent blackouts. According to Alfredo "It's a divine light. God gave the sun to everyone, and light is for everyone. Whoever wants it saves money. You can't get an electric shock from it, and it doesn't cost a penny." Illac Angelo Diaz, executive director of the MyShelter Foundation in the Philippines found out about Alfredo's invention and now the bottled light is installed in 140,000 homes. Alfredo has made no money from his invention and is proud to be poor. I recall that early experiments in Photochemistry were carried out by Giacomo Luigi Ciamician on the rooftop of Bologna University, who even had the first rooftop solar panel installed to illuminate his lab. For the full story visit: <http://www.bbc.co.uk/news/magazine-23536914>

6. Solar Chemicals from and for Tropical Australia

Follow-up article to Regional Focus–Australia & New Zealand

Matthew Bolte, Kilian Klaeden, Alkit Beqiraj, Christopher Glasson and Michael Oelgemöller*
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Australia. Email: michael.oelgmoeller@jcu.edu.au
http://www.jcu.edu.au/phms/chemistry/staff/JCUPRD1_059861.html

Introduction

At its beginning in the 19th century, synthetic organic photochemistry was a purely solar research area and photochemical reactions were performed ‘outdoors’ on the roofs of chemical institutes.ⁱ Despite the often simplified protocols and setups, the potential of solar photochemistry was recognized over 100 years ago by Giacomo Ciamician, the father of modern photochemistry. In his visionary lecture entitled “*The Photochemistry of the Future*” he envisaged the replacement of harmful, at that time coal-based, chemical processes with clean, solar-driven alternatives.ⁱⁱ A century has passed and his vision remains largely unfulfilled. Recently, solar photochemistry has seen a remarkable revival within the area of Green Chemistry.ⁱⁱⁱ Modern solar reactors furthermore allow a concentration of sunlight, which in return yields to faster reaction rates and subsequently higher space-time-yields.^{iv} Cost estimation studies for selected photochemical processes have furthermore shown that solar operations can compete economically with lamp-driven processes.^v Compared to these traditional ‘indoor’ processes, solar illuminations often proceed more cleanly with fewer side products, thus reducing the need for exhaustive purification and separation steps.



Figure 1: Solar reactors at James Cook University. The red color of the photosensitizer rose Bengal can be clearly seen.

At James Cook University (JCU) in Townsville, Australia, the *Applied and Green Photochemistry Group* utilizes both of tropical North Queensland’s abundant natural resources: sunlight and biomass.^{vi} Townsville receives over 300 days of direct sunshine per year, which makes it an optimal location for solar research. Likewise, the local sugar and essential oil industry offers a broad portfolio of renewable

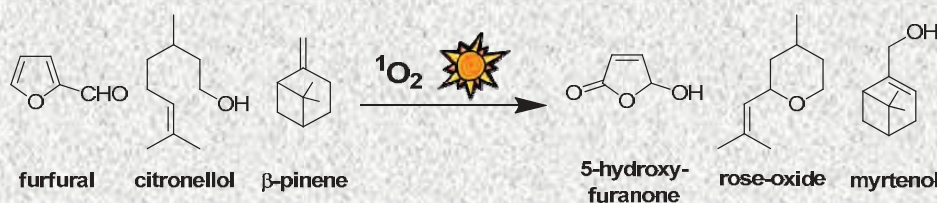
materials. The *Solar Chemicals from and for the Tropics* activities of the group subsequently focus on the production of commercially important commodity chemicals from these materials.

Solar Reactors

The research group at JCU is equipped with a number of non-concentrating solar reactors (**Figure 1**). Their differing capacities allow for a rapid transfer from demonstration to pilot-scales. The traditional ‘flask in the sun’ approach of Ciamician is still followed for solar exposures on laboratory-scales. Scale-up is realized in custom-made 1 m² flatbed reactors (<8 L scale) or in a commercially available 2 m² Compound Parabolic Collector (CPC; <50 L scale). Both reactor models operate in circulation mode and can harvest direct as well as diffuse sunlight. Using these advanced solar reactors, the *Applied and Green Photochemistry Group* has already conducted several kilogram-scale syntheses of valuable commodity chemicals within 1-3 days of illumination. Located in costal North Queensland, the group is furthermore investigating applications of ‘solar floats’.^{vii} Developed by Prof. Liu at the University of Hawaii, these devices use natural water-reservoirs as heat-sinks, which make them interesting for environmental applications.

Solar Reactions

Photooxygenations are especially suitable model reactions for solar photochemistry. These industrially relevant transformations utilize catalytic amounts of an organic dye, commonly rose bengal, and air for the construction of oxygenated products.^{viii} The targeted commodity chemicals examined within the *Solar Chemicals from and for the Tropics* initiative are of particular interest for the Australian economy and allow for value-adding to existing processes and products (**Scheme 1**).



Scheme 1: Solar photooxygenations investigated.

The local sugar industry, for example, offers an easy access to bioethanol and furfural, a sugarcane bagasse-derived compound.^{ix} The solar photooxygenation of furfural into the important C5-building block hydroxyfuranone has been realized successfully at JCU on kg-scales.^x At elevated temperatures, this compound is readily converted *in situ* into its corresponding alkoxy-derivatives, which are useful fragrances. The introduction of solar thermal conditions into the solar photochemical key-process thus opens innovative new markets on demand. Similarly, the Australian essential oils industry is interested in value adding and diversification of its product portfolio. The solar conversion of essential oils into valuable fragrances thus offers a range of new and ‘green’ products. Two representative processes are currently examined. The conversion of citronellol into the important fragrance rose oxide is performed industrially (<100 t/a) using artificial light.^{xi} At JCU, the three-step procedure incorporating a solar-driven photooxygenation step was realized successfully on large-scale. The transformation of β-pinene to the low volume (<10 t/a) fragrance myrtenol is likewise examined but requires prolonged exposure times.^{xii}

Conclusion

Tropical North Queensland offers favourable climatic conditions and versatile biomass resources for solar photochemical studies. Dye-sensitized photooxygenations in particular use renewable materials from the

local agriculture and forestry industry and convert these sustainable starting materials into high-value chemicals of economic importance to the region. Solar photochemistry can thus contribute substantially to a *Green Chemical Industry*.

Acknowledgement

This work was financially supported by James Cook University (FAIG 2009/2011 and Pathfinder 2012).

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7. Upcoming Conferences^{*}

^{*} see also regional focus Korea

i. Annual Meeting on Photochemistry 2013

Ehime Japan

September 11th – 13th 2013

Chair: Hideko KOSHIMA



Conference-website: <http://photochemistry.jp/2013/en/index.html>

Location websites:

<http://www.ehime-u.ac.jp/english/about/location/index.html>

<http://www.city.matsuyama.ehime.jp/lang/en/>

Organized by the Japanese Photochemistry Association.

Co-organized by The Chemical Society of Japan, Photochemistry Division, The Chemical Society of Japan

Venue: Johoku Campus, Ehime University (3 Bunkyo-cho, Matsuyama, Ehime).

Online Registration for Participation

April 23 (Tue.) - September 6 (Fri.), 2013

Early Bird registration: April 23 (Tue.) - July 16 (Tue.), 2013.

^{*} Please note that you must complete payment within this period.

Early Bird Fee will be applied to the Registration made between April 23 (Tue.) - July 16 (Tue.), 2013.

Registration for Presentation: April 23 (Tue.) - June 4 (Tue.), 2013

Abstract Submission: June 25 (Tue.) - July 16 (Tue.), 2013

^{*}Recommendation Submission: June 25 (Tue.) - July 16 (Tue.), 2013

^{*}Only as for the person who entered The best presentation award for students

Greetings

Annual Meeting on Photochemistry 2013 will be held for three days between September 11 (Wed.) and 13 (Fri.) at Johoku Campus, Ehime University. Since the First Meeting on Photochemistry held in 1960, this will be the first Meeting held in the Shikoku region as the 52nd Meeting.

Annual Meeting on Photochemistry is the most important gathering where we, researchers on photochemistry, present and discuss our research works. It is also an occasion where we broaden our knowledge on the unfamiliar fields and exchange information in person as well as enhance interaction. In the 21st century of "the era of light", Photochemistry needs further development in basic studies and applied techniques in various fields. It is also important to discover and cultivate innovative researches focusing on the future. We hope Annual Meeting on Photochemistry provides opportunities for the

researchers to meet together to enthusiastically discuss various topics on photochemistry and gain energy for the future researches.

Annual Meeting on Photochemistry 2013 basically follows the meeting style taken last year. Same as last year, we plan to hold Oral Presentation Sessions in three rooms in addition to Symposiums at a separate room. The main Symposium will be held basically under open proposal system. Themes of the Symposium could include important fields where we need to discuss intensively at Annual Meeting on Photochemistry, unexplored fields that have not been obvious, fields that could take boundary disciplines and the areas that had not been covered often in the past Meetings.

We also plan to have another Symposium mainly featuring young researchers and female researchers. We will not hold an independent International Session this time, however, we decided to ask presenters to choose the language at the time of registration for Oral, Poster and Symposium presentation. Then we will make English presentation sessions gathering presentations in the relative fields. Also same as last year, we will welcome Oral Presentation by students and will provide "Best Presentation Award for Students" each for Oral and Poster presentations. We will hold an award lecture by "The JPA Award for Young Photochemists 2012" awardee for the first time.

The host city Matsuyama is a historical sightseeing place famous for Dogo Spa and Shiki Matsuoka, a famous "haiku" poet. It is also blessed with ocean and mountain fare and scenic beauty. Easily accessed by air and highway busses and many good accommodations are available. From Ehime University, the venue of the Meeting, it only takes 15-minute walk to reach Matsuyama-jo castle and Dogo Spa. It will be a good opportunity to take advantage of the Meeting to refresh yourselves.

We would like to call for many and active participation in Annual Meeting on Photochemistry 2013 in September. Your contribution to the Meeting is highly appreciated.

Chair of Local Organizing Committee, Annual Meeting on Photochemistry 2013
Hideko KOSHIMA, Ehime University

Contact

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Chair of the Local Organizing Committee for Annual Meeting on Photochemistry 2013
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Secretariat of Annual Meeting on Photochemistry 2013
✉annualmtg2013 @photochemistry.jp

ii. RACI PhysChem 2013, December 4-6, 2013

The Tasmanian School of Art on the waterfront of Hobart, Tasmania

Chairs: Tak W. Kee & Evan Bieske

<http://www.physchem2013.com.au/>



It is a great pleasure to invite you to attend the Royal Australian Chemical Institute conference, PhysChem 2013. The aim of this conference is to gather physical chemists from Australia and abroad to discuss their latest research. Focus areas of the conference will include photochemistry, nonlinear optical spectroscopy, molecular spectroscopy, semiconductor nanomaterials, mass spectrometry, molecular dynamics and quantum simulations, biophysics, computational chemistry, time resolved spectroscopy, and atmospheric chemistry.

Aside from the scientific program, the conference will include social activities and the chance to explore Hobart and its surroundings.

Hobart is the capital city of Tasmania, and is spectacularly situated between the Derwent estuary and surrounding mountains.

Important Dates:

Pre-Conference Workshop - 3 December 2013

Conference Program - 4 - 6 December 2013

Welcome Reception & Poster Session - 4 December 2013

Conference Dinner - 6 December 2013

Call for Abstracts Distribution - 13 May 2013

Registration Released - Monday 13 May 2013

Call for Abstracts Deadline - 5 August 2013

Early Bird Registration Closes - 30 August 2013



iii. Frontiers in Photochemistry - A summer school centered on photochemistry

Villars-sur-Ollon, Switzerland

<http://www.frontiers-in-photochemistry.com/>

This meeting will bring together researchers and professionals who are interested in photochemistry, and who would like to expand on their skills and learn more about recent advances.

Lectures include subjects related to:

Current topics in photochemistry

Introductions on principles and techniques

The meeting will also target young researchers, advisors and professionals from related disciplines to present their work in poster sessions and short talks.

No extensive knowledge in photochemistry is needed by those attend the meeting.

The registration fee is 560 CHF in a double room and 660 CHF in a single room. The deadline for registration is 15 July 2013. <http://www.frontiers-in-photochemistry.com/registration.php>

Contact

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Dr. Alexandre Fürstenberg
alexandre.fuerstenberg@unige.ch

Important deadlines:

Oral contributions: 30 June 2013

Registration: 15 July 2013

Other abstracts: 31 July 2013

iv. 7th International Symposium on Photochromism

23-26 September 2013

Berlin, Germany

Humboldt-Universität zu Berlin, Campus Mitte, Unter den Linden 6, 10099 Berlin, Germany

Tel.: +49 30 2093 66530

Fax: +49 30 2093 66531

<http://www.isop2013.org/index.php?conference=isop&schedConf=isop2013>

Chairs

Stefan Hecht, Rainer Herges

Email: isop2013@iris-adlershof.de

The ISOP series is a triannual event that has been hosted by different continents to showcase research on (organic) photochromism. The last two symposia were 2007 in Vancouver and 2010 in Yokohama. The event in Berlin will continue the ISOP tradition by highlighting recent results and trends in the area of photochromism.

Confirmed Speakers: Jiro Abe (Aoyama Gakuin University, Kanagawa, Japan), Takuzo Aida (University of Tokyo, Japan), Joakim Andréasson (Chalmers University, Gothenburg, Sweden) Damien

Baigl (Ecole Normale Supérieure, Paris, France) **Neil Branda** (Simon Fraser University, Vancouver, Canada) **Franz Faupel** (Christian-Albrechts-Universität zu Kiel, Germany) **Ben Feringa** (University of Groningen, The Netherlands) **Tomiki Ikeda** (Chuo University, Tokyo, Japan) **Andres Jäschke** (Universität Heidelberg, Germany) **Tsuyoshi Kawai** (Nara Institute of Technology, Japan) **Rafal Klajn** (Weizman Institute, Rehovot, Israel) **Olaf Magnussen** (Christian-Albrechts-Universität zu Kiel, Germany) **Klaus Meerholz** (University of Cologne, Germany) **Massimo Olivucci** (Bowling Green University, U.S.A.) **Peter Saalfrank** (Universität Potsdam, Germany) **Paolo Samorì** (ISIS Strasbourg, France) **Nobuyuki Tamaoki** (Hokkaido University, Sapporo, Japan) **Petra Tegeder** (Universität Heidelberg, Germany) **Friedrich Temps** (Christian-Albrechts-Universität zu Kiel, Germany) **He Tian** (East China University of Science and Technology, Shanghai, China) **Philipp Tinnefeld** (Technische Universität Braunschweig, Germany) **Dirk Trauner** (Ludwig-Maximilians-Universität München, Germany) **Felix Tuczek** (Christian-Albrechts-Universität zu Kiel, Germany) **Martin Weinelt** (Freie Universität Berlin, Germany) **Andrew Woolley** (University of Toronto, Canada) **Yasushi Yokoyama** (Yokohama National University, Japan)

Deadline for submission of abstracts

May 15, 2013 (oral presentations)

August 1, 2013 (poster presentations)

v. 6th International Congress on Photobiology

8-12 September 2014

Cordoba City, Argentina

Chair: Gerardo Argüello

<http://www.photobiology2014.com.ar/>

The 16th International Congress on Photobiology is going to be held in the City of Córdoba in Argentina from the 8th to the 12th September 2014, in the University (<http://www.unc.edu.ar/english>). This congress is organized every five years. The last one was held in Düsseldorf, Germany, in 2009. This will be a multidisciplinary meeting which will bring together scientists in many different disciplines, such as physicists, chemists, plant physiologists, biologists, biochemists, ecologists, physicians, engineers.

The Congress will address all areas of Photobiology such as photosensors, photosynthesis, photomovement, photomorphogenesis, cryptochromes, LOV, BLUF and retinal proteins and domains, vision, circadian rhythms, environmental photobiology, UV influence on plankton, UV damage, protection and repair of DNA, photoreceptors in extremophiles (at high altitudes and in the Antarctic and Arctic regions), photoaging, photocarcinogenesis, photomedicine, synthetic and natural photosensitizers, photodynamic therapy, PUVA, vitiligo, molecular basis of the medical uses of lamps and lasers, artificial tanning, optogenetics, optical technology, photophysics and photochemistry of natural compounds, modelling photosynthesis with man-made compounds.

Plenary Lectures: **Nathan Nelson** (Israel) : “Evolution of the Photosynthetic Apparatus”, **Karl Deisseroth** (USA): “Optogenetics”, **Thomas Schwarz** (Germany): “Photoimmunology”,

Special Lectures: **Winslow Briggs** (USA): “Blue-Light Photosensors”, **Phil Hanawalt** (USA): “History of the DNA Photodamage and Repair”

Keynote Speakers: **Mario Guido** (Argentina): “Circadian Rhythms”, **Carlos Ballaré** (Argentina): “Canopy Light and Plant Health”, **Rosalie Crouch** (USA): “Mechanism of Vision” **Anderson Garbuglio**

de Oliveira (Brazil): “Fungus Bioluminescence”, **Dimitra Markovitsi** (France): “UV Damage Mechanism of DNA”, **Hideki Kandori** (Japan): “Molecular mechanism of Spectral Tuning in Vision”, **Horacio Zagarese** (Argentina): “Lakes as Sentinels of Climate Change”.

Fellowships: A limited number of fellowships will be available to support the attendance to the Congress of graduate students and early-career scientists from Argentina and other Latin-American countries.

vi. XXV IUPAC Symposium on Photochemistry

July 2014

Bourdeaux, France

<http://www.iupac.org/>

Website not yet open.

vii. The 6th International Symposium on Microchemistry and Microsystems Biomedicine, Sensors and Engineering

30 July - 1 August 2014 in Singapore

Chairs: KHOO Boo Cheong & Ser WEE

www.ismm2014.net

The ISMM is a series of conferences that started in Kanazawa, Japan in 2009. It is now an annual international symposium which is held in Asia and Oceania regions: in Hong Kong in 2010, Seoul Korea in 2011, Taiwan in 2012, and Xiamen China in 2013. ISMM 2014 will be held in Singapore, from July 30th to August 1st. The symposium will focus on biomedicine, sensors and engineering. It covers a wide range of topics as stated below. We are anticipating more than 300 international renowned scholars and scientists to participate in this symposium which is to held in the vibrant city of Singapore.

MAIN SCOPE: Chemistry and Biology, on a chip Micro/Nano Fluidic Systems, Biosensors, optics and detection, NanoBio Engineering and Materials, Point of care diagnostics, Environmental applications, Security and Safety applications, Other applied Microsystems

viii. PRSI Welcomes you to the 8th Asian Photochemistry Conference

November 9-13, 2014 at Trivandrum, Kerala, India



Photsociences Research Society of India (PRSI) warmly welcomes you to the 8th Asian Photochemistry Conference from November 9-13, 2014 at Trivandrum (Thiruvananthapuram), Kerala, India. The conference will be organized jointly by the Indian Institute of Science Education and Research Thiruvananthapuram (IISER-TVM) and the CSIR-National Institute for Interdisciplinary Science and Technology (CSIR-NIIST), Thiruvananthapuram in a resort at Kovalam beach, Thiruvananthapuram.

The conference will cover all fields of photosciences including physical, chemical and biological aspects. Some of the anticipated topics include theoretical, coordination, supramolecular and biophysical aspects of photochemistry, photochemical reactions and mechanisms, ultrafast spectroscopic techniques, photophysics of semiconductor quantum dots, plasmonic materials, photonic, photovoltaic and optoelectronic materials. Plenary and invited lectures, poster presentations and active discussions will provide an intellectual platform for the research students to interact with leaders in this area. Selected young investigators will be provided an opportunity to present their findings as short talks.

About the Place: Kerala (Keralam), as the very name suggests is the land of coconut palms, abundantly enriched with natural beauty and a rich cultural heritage. Its swaying coconut palms, golden beaches and tranquil backwaters make it a breathtakingly beautiful natural wonder adorning the southern tip of the Indian peninsula. Fondly called 'God's own country,' this land of pristine beauty truly lives up to its name. The National Geographic Traveler has selected Kerala as 'one of the 50 must see destinations of a lifetime.'

Block your calendar from November 9-13, 2014 for the 8th APC and welcome you to Trivandrum

8. Conference Reports.*

*See also regional Focus Korea

i. 2013 Spring Symposium of Photochemistry Association in Taiwan

2013.1.15-16

Soochow University, Taipei, Taiwan

This symposium was organized by the Department of Chemistry, Soochow University, Taipei, Taiwan. There were 5 invited talks, 12 contributing talks and a poster session. The invited talks covered the topics of “Harnessing the Excited-State Properties in Condensed Phases”, “VUV Photoluminescence of Diamond Materials”, “Photonic Crystals for Optical Sensing, Surface-Enhanced Raman Spectroscopy, and Solar Energy Conversion”, “Low-Power Energy Up-conversion”, and “Tuning Porphyrins for Efficient Dye-Sensitized Solar Cells”. Three awards of oral presentation and five awards of poster presentation were selected among the participants by a review committee. The participants included professors, postdoctoral fellows, research assistants, graduate and undergraduate students, etc. The number of the total participants was 153. The next (2013 fall) symposium will be held in TamKang University.



Dr. Jim Jr-Min Lin

Research Fellow, Institute of Atomic and Molecular Sciences Academia Sinica, Taipei, Taiwan 10617

ii. 2nd International Gigaku Conference, IGCN2013

21st June (Fri) – 23rd June (Sun), 2013

Nagaoka University of Technology, Japan

The 2nd International GIGAKU Conference in Nagaoka (IGCN) was designed and organized to provide a cross-border, cross-sector, cross-disciplinary forum for those researchers, educators and industrial leaders who are creating and practicing GIGAKU. So, what is GIGAKU? GIGAKU is a term often used for a type of scary mask for drama-dance performance, which was imported into Japan during the Asuka period. However in the context of IGCN2013 the term composed of two Japanese word-roots; GI and GAKU. The word GI [技] literally stands for all kinds of arts and technology, and GAKU [学] stands for scientific disciplines in general when used as a suffix.

The term was originally created in 1976 to describe the fundamental philosophy of education and research of Nagaoka University of Technology (NUT) at the birth of the university. Through this term the NUT

founders wanted to highlight that real-world technical challenges can only be solved with a scientific approach. The essence of GIGAKU is common to NUT researchers and the researchers of the organizing committee of this conference.



Views of Nagaoka.



Some of the participants.

Nagaoka, the conference venue, is the birthplace of the legend of “One hundred sacks of rice” (Kome Hyappyo (米百俵))

Nagaoka was largely destroyed during the Boshin War during the Meiji Restoration in the 1860s resulting in the loss of most of their food-production capability. However, neighboring Mineyama (now Maki in Nishikanbara District, Niigata) gave help by donating one hundred sacks of rice for hunger relief. However, Kobayashi Torasaburō, who was one of the chiefs of Nagaoka, proposed an alternative plan to sell the rice and then to use the money for education. Initially the Samurai clan leaders as well as the starving public against this proposal. However, Kobayashi told them all that "If hundred bags of rice are eaten, they are lost instantly, but if they are put towards education, they will become the ten-thousand or one million bags of tomorrow." Kobayashi won the debate and the rice was sold to finance the construction of the Kokkan Gakko school.

The conference was highly multidisciplinary with topics covering social and technological sciences. The sessions were divided into several categories highlighted below.

GIGAKU & Green: Keywords ; Green Technology, Renewable Energy, Environment, Biomass, Biological engineering, Waste regeneration, Water treatment, Sustainability

GIGAKU & Material Design: Keywords ; Ultrahigh reliability, Processing-structure-property relationship, High performance structural materials, Multi-scale analysis, Highly-functional materials

GIGAKU & Innovation: Keywords ; Multi-disciplinary, Target Driven, Volume up of innovation, Make a Difference, Challenging Exploratory Research, Social Reform, Improve the vitality from the region, Exceed Expectations, Future Perspective and Design, Frontier, New Concept Oriented Research

GIGAKU & Education: Keywords ; Collaborate Education, Twinning Degree Program, Double Degree Program, Japanese for Engineering, Advanced Engineering Education

GIGAKU & Safety: Keywords ; Risk Assessment, Risk Management, Safety Regulation, International Safety Code, Functional Safety, Complex System, Common Cause Failure, Hazard Identification, Disaster Prevention Planning, Nuclear System safety

If you have never been to Nagaoka before please keep a look out for this conference. There were several topics in applied photochemistry that were presented as oral and poster presentations.

Conference homepage: <http://igcn.gigaku.org/home>

Conference Transactions (Free): <http://voice.nagaokaut.ac.jp/transactions-on-gigaku/index.html>

This year's transactions are being prepared as we speak.



One the stage breaking Sake-barrels (left) and receiving Poster Prizes (right).

Conference statistics.

Number of attendees from overseas 68

Number of attendees from Japan 447 (including 285 students) Number of presentations Plenary 5 Oral 95 Poster 118

Nationality of the attendees were; Australia, China, Germany, Korea South, Malaysia, Mexico, Mongolia, Myanmar, Singapore, Taiwan, Thailand, United Kingdom, United States, Vietnam

Chair: Koichi Niihara, President, Nagaoka University of Technology, Japan

Vice-chair: Tamio Mori, Mayor, Nagaoka City, Yoshiharu Mutoh, Vice President, Nagaoka University of Technology (NUT) Yoshiki Mikami, Vice President (International Affairs), NUT
Steering Committee Chair: Yoshiki Mikami, Vice President (International Affairs), NUT

9. Regional Focus – Korea.

Regional Focus by The Korean Society of Photoscience (KSP)

(Website: <http://photos.or.kr>)

i. Brief History

With the upcoming milestone of 20 years, KSP (the Korean Society of Photoscience) was founded on September, 23rd, 1993 by the late president Sang Chul Shim*. The names of subsequent presidents were Pill-Soon Song, Jin Jung, Young-Nam Hong, Minjoong Yoon, In-Soo Kim, Ung Chan Yoon, Tae-Ryong Hahn, Kyu Ho Chae, Chin Bum Lee, Kyung Byung Yoon and Jae Sung Lee.

The KSP focuses on photoscience and other related fields with the goal of developing as well as contributing to this new acquired field in order to distribute this technology to other scientists, who may benefit from our findings. To accomplish this, we accompanied 250 scientists within Korea to participate in this society. Previously photochemistry and photobiology were the major fields of research in this society. Now, other scientists from the field of photo-materials as well as photocatalysts have joined the society. Recently, the scientific activities in the fields of photophysics, photomedicine and others are slowly increasing. An office has been located at Daeduk Research Complex in Daejeon, and is currently managed by the president of Choon-Hwan Lee in some efforts to make the 2nd revolution of KSP.

ii. Objectives

The objective of KSP is to promote activities in photoscience and related fields and spread the technological information acquired from the research, thus to contribute to the advancement of science and technology of Korea.

iii. Major Activities

KSP members pursuit a) Academic meetings, colloquia, & lectures, b) Publication of academic journal – RCP (Rapid Communication in Photoscience), c) International cooperation – KJFP (Korea-Japan Symposium on Frontiers Photoscience), Asian Photochemistry Conference, International Union of Photobiology Congress on Photobiology, etc, d) Cultivate mutual friendship among members. e) Co-ownership for the Journal, Photochemical and Photobiological Sciences (JPPS) published from the Royal Society of Chemistry. Dr. Minjoong Yoon and Dr. Choon-Hwan Lee are working as Associate Editors in the field of Photochemistry and Photobiology, respectively.

a) Annual Meetings for KSP

The 20th Annual Meeting for Korean Society of Photoscience (KSP), 28-29 June 2013, Seoul, Korea (<http://photos.or.kr>)

A special attention was focused on the role of the photoscience and technology at this post-genomic and proteomic era. As you all are very well aware, the photoscience is providing a new paradigm in the 21st century for a unique interdisciplinary research opportunity including chemistry, biology, physics, engineering, and medicine.



Image: Sogang University, Seoul Korea

Since 1994, the annual KSP meetings were held in Korea. The 2013 meeting emphasized a newly growing field of future generation materials for solar cell and artificial photosynthesis, as well as photochemistry and photobiology.

The meeting took place on the beautiful Sogang University campus in Seoul, Korea, offering graduate students, postdocs, and junior faculty the chance to interact in an intimate setting with leaders in the field from around the world. The program included about 24 platform talks and poster session. There were two plenary talks from Prof. Pill-Soon Song who introduced our history of KSP and his 40 years' works in the field of photoscience and Prof. Kyung Byung Yoon who introduced the big project on Artificial Photosynthesis.

b) Colloquium

There are 2-3 colloquia every year since 1994. The first Photochemistry colloquium was held at Gyeongsang National University on June 20, 2013. Four professors and experts gave a seminar on photo-energy conversion on solar cells. The 2nd colloquium will be held at POSTECH in September about photo-material and the 3rd will be held at KAIST in November about photobiology.

c) KJFP (Korea-Japan Symposium on Frontiers Photoscience)

The symposium has been held every year jointly by photoscientists in both Korea and Japan since 2007. The purpose of the symposium is to provide scientists, and researchers with chances to exchange research information and to gain insight into the state of the techniques and the future R&D directions in the rapidly developing nanotechnology and photochemistry, and furthermore to share the friendship between two countries. Many leading scientists are invited from these two countries to present the most recent progresses in the photoscience-related fields. The official symposium consists of three and half days of oral and poster presentations for invited and contributed papers, respectively. An excursion program is also available between the regular sessions.

It is our great pleasure to invite you to attend the **2013 Korea-Japan Symposium on Frontier Photoscience (KJFP 2013)** to be held in Seoul from 24 to 27 of November, 2013 (Chair: Prof. Soo Young Park (Seoul National University) and Co-chair: Prof. Tetsuro Majima (Osaka University)). This

symposium is aimed to discuss present scientific progress and future perspective for photochemistry and nanotechnology. Because nanotechnology is one of the key words for future technology to be developed, various approaches have been examined to attain progress in nanotechnology. Over the recent decades, nanotechnology has been also under intense research and development in the fields of photoscience such as photochemistry, photophysics, and photobiology. Therefore, this symposium is focused on photochemistry and nanotechnology covering with photochemistry and photophysics of nanosize molecule; (1) Photochemical Reactions, (2) Photonic Materials, (3) Photobiology, (4) Spectroscopy, (5) Photocatalysis, (6) Photofunctional Materials, (7) Nanoscopic Materials, (8) Solar Cells and (9) Organic Light Emitting Diode and related subjects.

d) RCP (Rapid Communication in Photoscience)

Last year, the Korean Society of Photoscience (KSP) launched a new English language photoscience Journal entitled “Rapid Communication in Photoscience (RCP)”, in order to present results from specific research in photoscience and to share the ideas with international community. KSP basically publishes Rapid Communication in Photoscience four issues a year. Rapid Communication in Photoscience (RCP) is published quarterly by the Korean Society of Photoscience. Its aim is to report both experimental and theoretical researches in rapid communications dealing with all aspects of photosciences. Appropriate subjects include photochemistry, photobiology, photomaterials, photocatalyst, photovoltaic materials and process, photoactive biomolecules, photoinduced electron (charge) and energy transfer, photomedicine, photographic chemistry, photomorphogenesis, photomovement, singlet oxygen in chemistry, biology, and medicine, photonics, quantum dot and nanophotonics, photoreception, photochromic materials and molecular switches, photosensitization, photosynthesis, phototechnology, spectroscopy, ultraviolet radiation effects, and vision. Rapid review processes for submitted manuscripts will be completed within 10 days. Once they have been accepted and proofs corrected by authors, they are published on the web with their volumes and page numbers. The details for submission of communication papers can be accessed through the KSP website (<http://photos.or.kr/>).

e) Introduction of Korean Scientists in the Photochemistry Field

The Korea Center for Artificial Photosynthesis (KCAP, Director: Prof. Kyung Byung Yoon) was established in Sogang University on September 30th 2009 supported by the Ministry of Science, ICT & Future Planning (MSIP) through the National Research Foundation of Korea (NRF). The ultimate goal of KCAP is to contribute to the human welfare through production of cheap environmentally benign energy by developing and commercializing the artificial photosynthesis process. KCAP is collaborating with the Helios-Solar Energy Research Center (SERC) of the Lawrence Berkeley National Lab (LBNL) in the U.S. In order to boost the collaborative research, KCAP and LBNL SERC signed an MOU on international collaboration in May 2010. On July 24, 2010 the 1st Artificial Photosynthesis Workshop organized by KCAP was held at Sogang University. On August 30, 2010, KCAP signed an agreement with POSCO to undertake a joint research on the commercialization of artificial photosynthesis and the construction of POSCO Francisco Hall (KCAP Building) began on August 29, 2011. On November 9, 2011 KCAP-Helios SERC Workshop took place at Sogang University and prominent scientists from LBNL visited KCAP for the workshop. The construction of POSCO Francisco Hall was completed in January 2013 and KCAP Conference on Artificial Photosynthesis to celebrate the opening of KCAP Building successfully took place on May 27-28, 2013. KCAP's missions are (i) contributing to the human welfare through production of cheap environmentally benign energy, (ii) terminating the use of fossil fuels, and (iii) educating and

train future leaders in artificial photosynthesis research. Every KCAP member is dedicated to develop nanotechnology for the fabrication of the artificial photosynthesis device under the strong international collaboration with LBNL SERC.

At UNIST (Eco-friendly Catalysis and Energy Lab., Prof. Jae Sung Lee), the research is focused on the photoelectrochemical (PEC) water splitting and CO₂ reduction for production of solar hydrogen and fuels. Of particular interest is the development of active and stable photoanode materials made of earth-abundant elements for PEC water oxidation including using Fe₂O₃, BiVO₄, WO₃, or layered double hydroxides (LDHs).

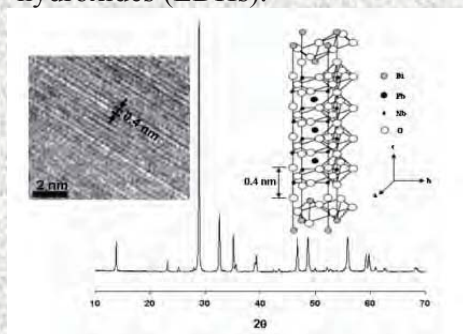


Image: Schottky Junction
Pt/PbBi₂Nb₂O₉
J.Am.Chem.Soc.(2004)

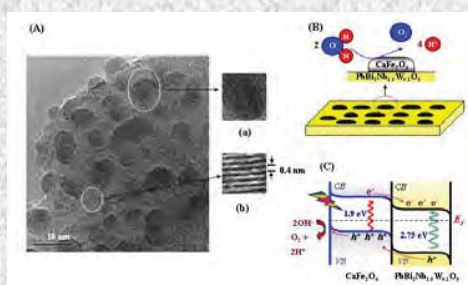


Image: Heterojunction
p-CaFe₂O₄/n-PbBi₂Nb_{1.9}W_{0.1}O₉
Angew.Chem.Int.Ed. (2005)

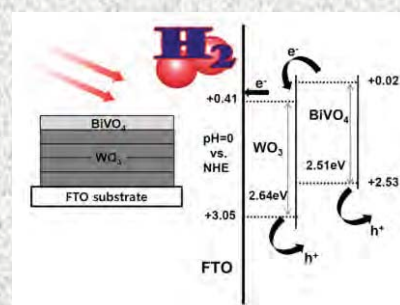


Image: Heterojunction
BiVO₄/WO₃
Energy Environ. Sci. (2011)

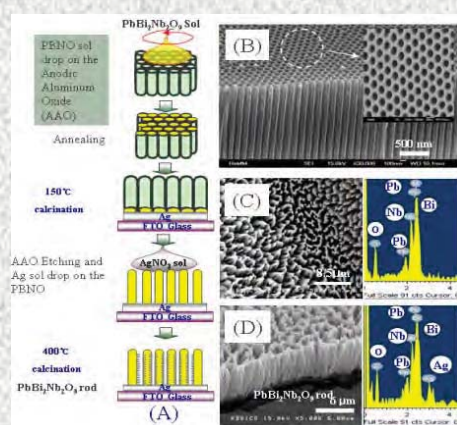


Image : Nanorod
PbBi₂Nb₂O₉ Perovskite
Adv.Mater.(2011)

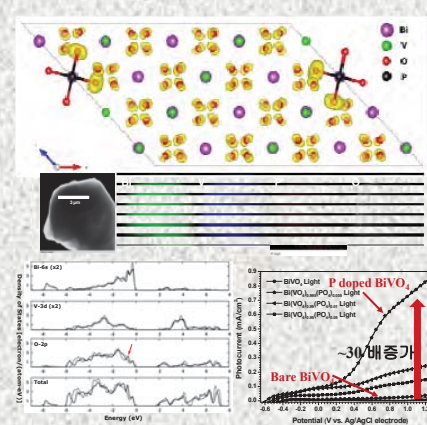


Image: Doping
PO₄ doped BiVO₄
Angew.Chem.Int.Ed. (2012)

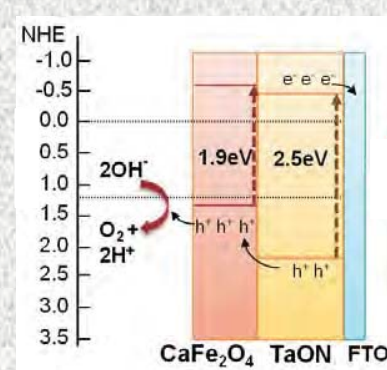
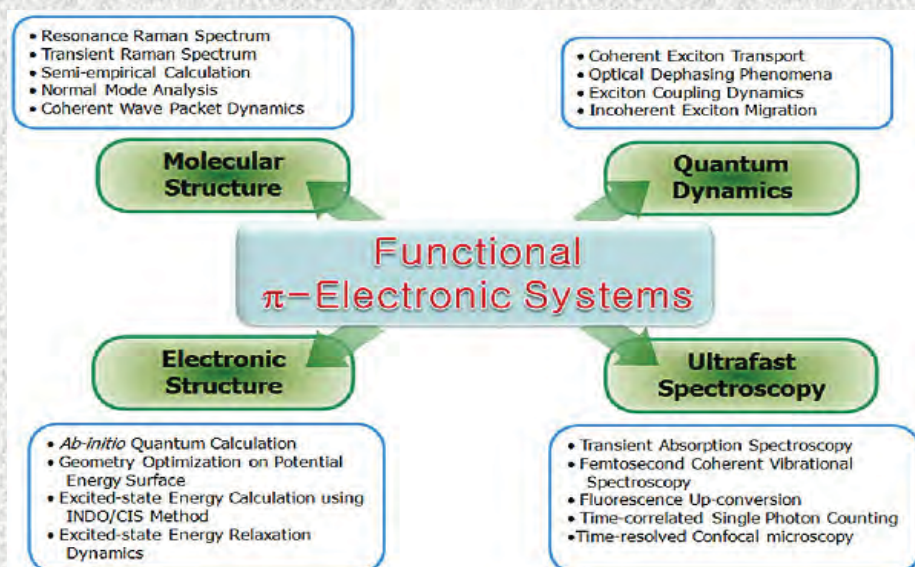


Image: Heterojunction
p-CaFe₂O₄/n-TaON
J.Am.Chem.Soc.(2013)

The group is also interested in the synthesis of non-platinum electrocatalyst for PEC devices. Sunlight is a clean, renewable and abundant energy source on the earth. Its conversion to hydrogen has been considered a promising solution to counter the depletion and environmental problems of fossil fuels. PEC water splitting is an ideal technology for the purpose, since H₂ could be produced directly from abundant and renewable water and solar light from the process. The key to the technology is photoelectrodes of high efficiency, high stability, and low cost. In addition to the discovery of new materials, the structure and morphology of the known materials could be designed to enhance the performance of the photoelectrodes. Hence the group has developed strategies for design of efficient photoelectrodes of photoelectrochemical

(PEC) cells for visible light water splitting: i) Nanoparticles electrodes to minimize the diffusion length of the minority carrier, ii) p-n heterojunction photoanodes for effective electron-hole separation, iii) electron highway to facilitate interparticle electron transfer, iv) metal doping to improve conductivity of the semiconductor, and v) one-dimensional nanomaterials for vectoral electron transfer. High efficiency has been demonstrated for all these examples due to efficient electron-hole separation.

At Yonsei University (Prof. Dongho Kim), a major source of inspiration for the design and synthesis of optical nano-structures comes from the light-harvesting antenna complexes of natural photosynthetic systems. The antenna complexes are comprised of a large number of pigments that are arranged in a rigid three-dimensional matrix. The natural antenna complexes absorb light and funnel the resultant energy to the reaction centers by means of excited-state energy transfer processes. The versatile optical (absorption and emission), redox, and photochemical properties of porphyrins make them ideally suited as components of artificial photosynthetic nanostructures. Continuing efforts to realize the mimicry of solar energy harvesting complexes have enabled the design and synthesis of various types of covalently linked porphyrin arrays with the goal of applying these arrays to molecular photonic/electronic devices and artificial photosynthesis systems.



The recent success in elaborating various porphyrin architectures using several types of linkers via meso position attachment has brought up the issues on the electronic coupling, of which the extent is largely determined by the interconnection length and relative orientation between the adjacent porphyrin moieties. Molecular electronics constitutes a multidisciplinary research area

focusing on the potential utilization of molecular scale systems and molecular materials for electronic or optoelectronic applications.

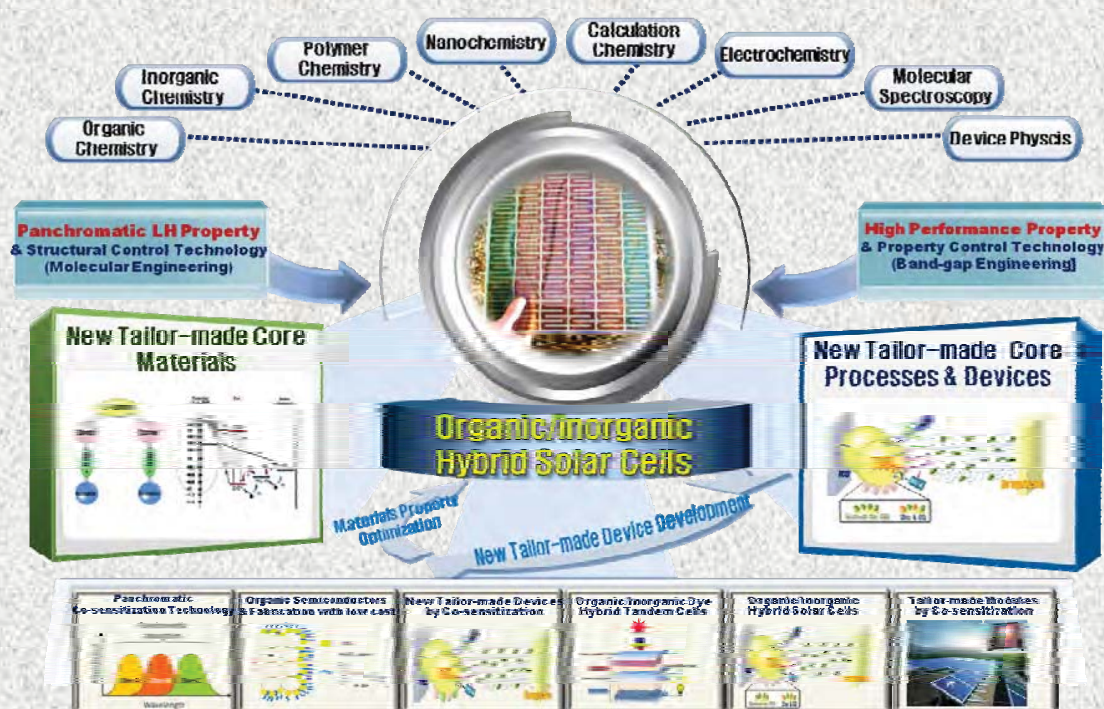
There are two main optical methods for characterizing molecular systems for the application as molecular photonic/electronic devices. One is ultrafast spectroscopic measurement, which characterizes the functionality of target systems. Although there have been several successful approaches in ultrashort optical pulse generation and characterization technologies, a full characterization of ultrashort optical pulses (intensity and phase) can lead to the realization of coherent coupling/dynamics experiments in condensed phase to reveal dynamic vibrational mode coupling in photo-excitation/relaxation processes. The other is space-resolved measurement, which examines the morphologies and single molecular level properties. Although the space-resolved spectroscopic measurement has already been established as a spotlighted method, especially in biology and for specification of micro-structured semiconductor devices, it is still at a rudimentary stage to combine with time-resolved spectroscopic measurements for the characterization of molecular-scale photonic/electronic materials. We will devote our efforts to build up

time-resolved confocal microscopy by improving the time resolution as well as extending the applicable spectral range. Our strong point over other groups in the characterization of molecular photonic/electronic devices is that we have a lot of experiences with molecular systems that can function as active elements in molecular-size electronics.

We believe that our group will be able to contribute to the actualization of molecular photonic/electronic devices by time- and space-resolved spectroscopic characterization.

At Korea University (Sejong) (Prof. Hwan Kyu Kim & <http://getfl.korea.ac.kr>), the Global Green Energy Technology(GET)-Future Lab in the Department of Advanced Materials Chemistry was founded through "Center for Advanced Photovoltaic Materials (IT Research Center).

Global GEF-Future Laboratory at KU



Our major research efforts emphasize on creating and developing advanced organic semiconductor materials, supramolecules and polymers for tomorrow's energy science and technology. Our research works cover both fundamental and applied aspects of advanced organic semiconductor materials. Therefore, our research involves three stages (i) the design and synthetic stage with the molecular architecture engineering, and the preparation of model compounds and target molecules; (ii) the characterization stage including the photophysical and electrochemical studies for the establishment of structure-property relationship; and (iii) the application stage with the fabrication and the performance testing of dye-sensitized, organic and hybrid solar cells in tomorrow's energy science and technology. The major objectives of our research efforts are to develop advanced organic semiconductor materials, investigate the principle of photodynamics and energy transfer mechanism for advanced organic semiconductor materials, determine the relationship between advanced organic semiconductor material and photophysical property, and develop solar cell devices, such as dye-sensitized, organic and hybrid

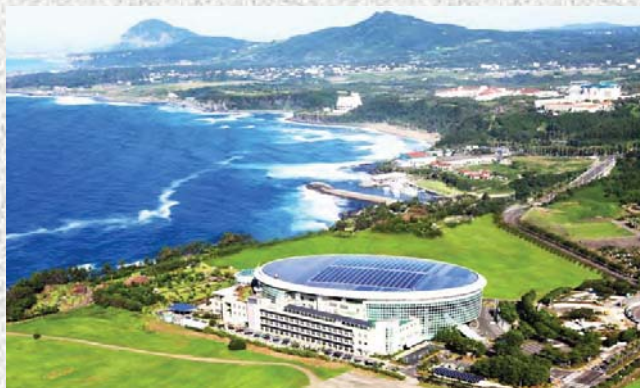
solar cells. Our research efforts will provide the fundamental clue and the milestone for realizing advanced energy technology.

The following research subjects have been performed and investigated in our laboratory: 1) New Design & Synthesis of Organic Semiconductor Materials for Highly Efficient Dye-sensitized Solar Cells; 2) New Design & Synthesis of Organic Hole Transporting Materials for Highly Efficient Solid-state Dye-sensitized Solar Cells; 3) New Design & Synthesis of D-p-A Copolymers for Highly Efficient Organic Solar Cells; New Design & Synthesis of Quantum-Dot Materials for Highly Efficient Hybrid Solar Cells; 4) Structure-Property and Device Performance Relationship Determination; 5) New Device Architecture Design and Optimization for Commercialization.

iv. Other Advertisement

27th International Conference on Photochemistry (ICP 2015)

June 28 – July 3, 2015 at ICC JEJU, Jeju Island, Korea



It has been decided that ICP 2015 (the 27th International Conference on Photochemistry) shall be held at ICC JEJU, Korea on June 28 – July 3, 2015. This final decision was made during ICP 2013 which was held at Lueven, Belgium in July 2013.

ICP 2015 will cover all areas of photochemistry: basic photochemistry, inorganic and theoretical photochemistry, labels, novel developments in spectroscopy and microscopy, single molecule spectroscopy, photochemistry

in biology, photochemistry in polymers and material science, photochemistry in sustainable technology, plasmonics and photonics, ultrafast spectroscopy.

Jeju Island is located at the center of northeast Asia, on the path connecting Asia and the Pacific Ocean. With its mild climate and cobalt blue ocean, Jeju Island is renowned for as the world's first recipient of UNESCO's triple crowns. Top-class facilities for conferences and a range of lodging facilities of Jeju Island will also make ICP 2015 the best event for researchers and students in the field of photochemistry.

The official website and more information on ICP 2015 will be announced soon.

Organizing Chair: Kyung Byung Yoon (Sogang Univ. & Email: yoonkb@sogang.ac.kr)

Co-chairs: Kwang-Jin Hwang (Hongik Univ.); Dongho Kim (Yonsei Univ.); Hwan Kyu Kim (Korea Univ.); Soo Young Park (Seoul National Univ.)

General Secretary: Wan In Lee (Inha Univ.)

10. Submission of Materials to the APA Newsletter

Materials can be submitted to the APA Newsletter either directly to the Newsletter Editor or through the regional representative (councilor) of the APA members APA chapter. It is not guaranteed all materials submitted for the newsletter will be published. Prior to publication the contents will be screened for their appropriateness for inclusion in the newsletter. If material is of a controversial or possibly illegal nature it will be assessed by the Editor and other members of the APA council before a decision is made on whether to publish. However please see the disclaimer below.

Types of contributions that will be considered include; letters, opinions, discussions, articles, technical reports, mini-reviews, local and national photochemistry reports and news, historical articles, R&D opportunities, obituaries, conference announcements, conference reports, book reviews, abstract of thesis in photochemistry, news, instrument reports and technical notes, and others (please contact the Editor). Additionally any educational or instructive articles that propagate correct practice in photochemistry are welcome.

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