

**Agenda: IUPAC Division of Organic and Biomolecular Chemistry**  
**Division-III Committee Meeting: Istanbul, Turkey**  
**10-08-13**  
**Harbiye Military Museum**

1. Welcome and apologies for absence
2. Call for additional agenda items
3. Confirmation of the Puerto Rico minutes (2011 Division meeting); refer pp 2-9
4. Business arising out of the Minutes that is not covered elsewhere in the Agenda
5. Presidential report for the Bureau meeting in Germany (April 2012); refer pp 10-16; Presidential report to Council Istanbul (August 2013) refer pp 17-19
6. Reports from the Sub-Committees;
  - a. Sub-committee on Organic Synthesis
  - b. Sub-committee on Biomolecular Chemistry
  - c. Sub-committee on Photochemistry
  - d. Sub-committee on Green Chemistry
  - e. Sub-committee on Structural and Mechanistic Chemistry
  - f. Sub-committee on Biotechnology
7. Review of the membership of Sub-committees
8. Divisional elections and outcome of recent ballot ; refer pp 20
9. Discussion of existing project proposals and dissemination of results;  
*Projects in progress*  
*Approved during 2012-2013 biennium*  
*Projects currently in review*
10. Discussion of new project proposals
11. Financial planning and budget allocations to projects
12. Division Brochure and Newsletter
13. IUPAC Prizes;- Thieme and CHEMRAWN
14. Future symposia and congresses
15. Any other business
16. Venue and timing of next Division meeting

**Axel Griesbeck**  
Secretary Division III  
August 2013

## IUPAC DIVISION-III

### MINUTES OF THE DIVISIONAL MEETING, ORGANIC & BIOMOLECULAR CHEMISTRY, SAN JUAN, JULY 29 & 30, 2011

*Laguna I Room, Sheraton Hotel, San Juan, Puerto Rico*

1. **THE MEETING** convened at 0900 h. on July 29.

**PRESENT: DIVISIONAL MEMBERS AND/OR SUB COMMITTEE  
REPRESENTATIVES AND NATIONAL REPRESENTATIVES:**

Professors G.J. Koomen (President Division III), P.R. Tundo (Past President), K. Ganesh (President-Elect), M.J. Garson (Secretary), D. St. C. Black (Secretary-General, IUPAC), M.A. Brimble (TM), M.C. Cesa (AM) F. Nicotra (Chair, Biotechnology S/C), A.M. Rauter (Secretary, Biomolecular S/C), A. Al-Aboudi (Jordan), M. Mozihuzzaman (Bangladesh), Z. Zakaria (Malaysia). **OTHER ATTENDEES (INCLUDING YOUNG ATTENDEES):** E. Friel (RSC, UK), V. Gubala (Ireland), M. Li (China), J. Youngblood (USA), C. Faler (USA), J.M. Reddy (India), A. Vavasori (Italy), V. Gomes Zuin (Brazil).

**APOLOGIES FROM DIVISIONAL OR SUB COMMITTEE MEMBERS AND NATIONAL REPRESENTATIVES** were received from Professors A. Al-Awadi (Kuwait), B. Han (China), M.A. Hashem (Bangladesh), M. Isobe (Japan/Taiwan), C.C. Liao (Taiwan), F. MacDonald (USA), N. Nifantiev (Russia), and E. Uggerud (Norway).

The Division President welcomed all those present, in particular the various Young Observers.

2. **ADDITIONAL AGENDA ITEMS**

None were received.

3. **CONFIRMATION OF MINUTES FROM GLASGOW 2009 MEETING**

These minutes were agreed in Bergen, 2010, and had been placed on the website.

4. **CONSIDERATION AND CONFIRMATION OF THE MINUTES FROM BERGEN 2010 DIVISION MEETING**

These minutes were reviewed, and following minor spelling or grammar changes, were approved. It was agreed to place these minutes on the Division webpage

5. **BUSINESS ARISING OUT OF THE MINUTES (NOT COVERED ELSEWHERE)**

Prof Cesa reported that the American Chemical Society (ACS) and IUPAC had recently arranged talks between individual Division Presidents. Thus the President of Division IV (Polymer) of IUPAC had recently met his ACS counterpart.

6. **PRESIDENT'S REPORT** from Professor Koomen.

Professor Koomen tabled his report (refer agenda papers pp 20-25, and reproduced in Appendix One of these Minutes) that he had prepared for the 90<sup>th</sup> Bureau meeting held in Warsaw, Poland, dealing with major items of business including projects. Professor Koomen did not attend the Bureau meeting, and Professor Ganesh was restricted in his travel by injury and so also unable to represent the Division. A major discussion point at the Bureau meeting was the International Year of Chemistry.

Professor Koomen referred to recent minutes to explain Division business, and explained that the Division budget was broken down 70:30 between Projects and Operations.

7. **REPORTS OF SUB-COMMITTEES**

- (a) **Organic Synthesis.** Report –see Agenda papers p.26. In his report, Professor McDonald summarised the ICOS series of meetings (ICOS18 Bergen, Norway, 2010; ICOS19 Melbourne July 1-6 2012; ICOS20-Budapest (agreed) 2014). Bids to host ICOS-21 in Vancouver, Canada or in Glasgow, UK had been received. The OMCOS series of meetings (2007 Japan, 2009 Geneva, OMCOS16 2011 Shanghai) were also of interest to this Sub Committee. A new chair is needed for this S/C, and Professor Brimble was proposed as Acting Chair in the interim, with the S/C reconvening in Melbourne in 2012 at ICOS19. The contributions of Professor MacDonald were acknowledged.
- (b) **Biomolecular Chemistry.** Report – see Agenda papers p.26-27. Professor Ganesh spoke to the report of the S/C Secretary Professor Rauter. He suggested that Professor Blackburn might resume his role as Chair of this S/C as he had been elected as a TM of the Division for the 2012-2013 biennium.
- (c) **Photochemistry.** Report – see Agenda papers p27.
- (d) **Green Chemistry.** Report - see Agenda papers p27-28.
- (e) **Structural and Mechanistic Chemistry.** Report - see Agenda papers p28-29; no member of this S/C present at the San Juan General Assembly.
- (f) **Biotechnology.** Report – see Agenda papers p. 29-30. Professor Nicotra spoke to the report, and reviewed the arrangements and outcomes associated with the successful IBS2010 meeting held in

Rimini, Italy (Sept 14-18, 2010). Brazil (venue: Forteleza) was proposed as the host of the IBS meeting in 2014, and Prof. Osvaldo Carioca would be present on July 30 to provide some details to the S/C. Prof Nicotra mentioned the need to renew S/C membership, and to maintain contact with past and future conference chairs.

The work and commitment of the six Sub Committees and their membership was acknowledged.

#### **8. REVISION OF THE MEMBERSHIP OF SUB COMMITTEES**

Details of this item relating to individual S/Cs had been covered under item 7. During discussion of item 9 below, it was pointed out that S/C chair positions should be held by TMs where possible.

#### **9. DIVISIONAL ELECTIONS AND OUTCOME OF RECENT BALLOT**

The result of the recent ballot for TM and officer positions for the 2012-2013 biennium was tabled (See Appendix Two of these Minutes).

Professor Garson (Australia) was elected as Vice President and Professor Griesbeck (Germany) as Division Secretary, and retained their TM positions. Professor Brimble (New Zealand) continued as a TM, while Professors Brandi (Italy), Carell (Germany), Han (China) and Nicotra (Italy) were appointed as new TMs for 2012-2013. Dr Cesa (USA), Professor Dimitrov (Bulgaria), Jacobs (Jamaica), Kang (Korea), Orfanopoulos (Greece) and Sladić (Serbia) were appointed as AMs.

Professor Koomen advised the meeting that Professor Juaresti (Mexico) had been proposed as either an AM/NR, however since Mexico had not yet paid its membership dues, he could only be considered as a PM for 2012-2013.

Discussion followed about the election process. Professor Black spoke to this topic and reminded the meeting that the election process should provide the best, most committed representatives who would work on behalf of the Division. Other Divisions put in place a structured ballot paper that avoided more than one candidate from a particular geographical region, or with a particular field of expertise, being elected, thereby ensuring a broad spread of interests and representation. The Division was reminded that names of potential NRs are put forward by their country of origin, but that they needed to be selected by the Division from countries different to those that provided TM or AM representatives.

The Division resolved to run the next TM election taking into account the geographic representation as well as field of interest of potential candidates. Professor Youngblood also pointed out the need to consider academic v. industry representation. Professor brimble suggested that one possibility might be to retain one TM slot for an industry representative.

Professor Tundo reminded the meeting of the importance of ensuring representation from developing countries.

The meeting discussed if the number of votes cast for each potential TM should be tabled, but there was general agreement that these were confidential.

The IUPAC Council was due to approve the list of Proposed Division Officers at its meeting in San Juan on August 3-4, while the IUPAC Executive would approve the Division list at its October meeting.

The Division acknowledged Professor Ganesh and other members of the Nomination Committee (Professors Cossey, Griesbeck, and Ivanov) for their contribution to the election process.

*[Secretarial Note: Subsequent to the Division Meeting, Professor Cesa was elected Vice-President and President-Elect of IUPAC for 2012-2013.*

*Professor Cesa indicated that he would like to retain his position as an AM within Division III for the biennium. The Division congratulates Professor Cesa on his appointment].*

## 10. DISCUSSION OF EXISTING PROJECT PROPOSALS AND DISSEMINATION OF RESULTS

*Projects approved during 2008-2009 biennium*

Reports on the following projects funded during 2008-2009 were included in the agenda papers (pp. 38-41) for the Division meeting.

- a. 2008-016-1-300; **Making the online journal of green chemistry: Green Rapid Internet Communications** (Tundo; \$3.5k; start date 08-11-08); Professor Tundo advised that 25 manuscripts had been received and that contributions could be received up to late September 2011.
- b. 2008-026-1-300; **Strategic planning for a new East and SouthEast Asian Network for Organic Chemistry** (Isobe; \$5k; start date 03-11-08);
- c. 2009-002-1-300; **Update of IUPAC Glossary of Physical Organic Chemistry** (Perrin, USA; \$4.8k; start date 04-06-09);
- d. 2008-018-2-300; **Translation in Greek and dissemination of a monograph for secondary schools on Global Climate Change** (Siskos, \$3.0k; start date 03-11-09); project now completed.

Reports on the following funded projects were not available at the time of the Division meeting and information on them is available from the IUPAC website:

- e. 2008-006-3-100; **Thermodynamic Study on Hydrogen Storage Materials: Metal Organic Frameworks and Metal or Complex Hydrides** (Sun, China; \$1k; start date 13-03-09); see <http://www.iupac.org/web/ins/2008-006-3-100> for an update.

- f. 2008-017-4-300; **Green Chemistry – creation and implementation of international cooperation in teaching and investigations** (Lunin; \$3.5k; start date 20-07-09); see <http://www.iupac.org/web/ins/2008-017-4-300>.
- g. 2009-007-2-300; **Evaluation of measurement methods and QA/QC for PCDD/F, PCB and PAHs in environmental matrices (air quality, soil, sediments and wastes) used in estimation of global pollution** (Raccanelli, \$7.5k, start date 16-10-09); see <http://www.iupac.org/web/ins/2009-007-2-300>.
- h. 2009-014-2-300; **Green Chemistry: Sustainable Education and Environmental Development (SEED) in Latin America** (Vasquez, \$5.0k; start date 14-10-09); see <http://www.iupac.org/web/ins/2009-014-2-300>. [Secretarial Note: a useful update on this project was published in the Sept-Oct 2011 issue of Chem. Int.]

*Projects approved during 2010-2011 biennium prior to Division meeting*

- a. 2008-037-2-300; **Standard photochemical processes** (Griesbeck, \$5k; start date 01-08-10; joint with Division I); see <http://www.iupac.org/web/ins/2008-037-2-300>.
- b. 2009-021-3-300; **Towards a guideline and a framework of genochemistry** (Zhang, \$5k approved; start date 01/05/10); see <http://www.iupac.org/web/ins/2009-021-3-300>. An update was included in the agenda papers of the Division meeting.

*Projects approved at 2011 Division meeting*

- a. 2011-021-3-300; **Strategic Planning for a new network for Heterocyclic Chemistry among Countries of the Mediterranean Sea Area, Including Europe and Northern Africa** (Florio, \$15k requested, \$10k approved by Division meeting (see below); [Secretarial note: Note that project acceptance letter from IUPAC secretariat records amount allocated as \$5k, and a start date as 01/09/11); see <http://www.iupac.org/web/ins/2011-006-2-300>.]

There was insufficient time to discuss each project in detail (a matter which needs to be addressed in future Divisional meetings).

## 11. DISCUSSION OF NEW PROJECT PROPOSALS

Professor Brimble advised that there was a strong demand from the synthetic chemistry community for systematization of nomenclature for protecting groups, and undertook to develop this project proposal. An earlier grouping (including Professors Black, Sydnes, and Koomen) within the Division had worked on a protecting group project, but the output had previously been rejected by ICTNS. It was agreed that she and Professor Rauter would meet with Professor Herald of ICTNS during the San Juan meeting, and to deal with any issues that might prevent this project proposal moving forward.

Another project proposal considered was guidelines/recommendations for presentation of NMR data, since journals varied in their “house” style for data tabulation.

Professor Ganesh viewed the development of a framework for teaching in chemical biology as an important topic that might be suitable for a project proposal. Inputs from biologists would be needed, and also from chemistry educators. He undertook to take this proposal to the meeting of CCE to be held on July 31.

## 12. BUDGET ALLOCATIONS

The Division budget allocation for 2010-2011 was \$54.4k, divided \$38.1k to Projects and \$16.3k for Operations (including Sub Committee work) as in the previous biennium.

Operational expenses to date had included reimbursement of expenses for the Bergen meeting to Professors Brandi, Garson, Koomen, and Tundo, as well as expenses of Professors Blackburn/Rauter for the Glasgow GA that had not been paid from the 2008-2009 budget allocation. A \$500 allocation was made to Professor Mozihuzzaman to enable him to attend the Biomolecular Sub Committee and Division meeting in San Juan.

As of July 2011, only \$10k of the \$38.1k project funds available for 2012-2013 had been allocated.

The Division agreed to fund \$10k to the project proposal #2011-021-3-300; **Strategic Planning for a new network for Heterocyclic Chemistry among Countries of the Mediterranean Sea Area, Including Europe and Northern Africa** led by Professor Florio.

This left \$18.8k still to allocate. Professor Tundo advised of the possibility that the Division might receive less funds in future if it had fewer projects than other Divisions, or if it did not spend its project allocation, and suggested that one possibility might be to provide additional funds to existing projects. A request had been received from Professor Isobe for additional funds for project 2008-026-1-300 **Strategic planning for a new East and SouthEast Asian Network for Organic Chemistry** run by Professor Isobe. When submitted in the 2008-2009 biennium, this project had requested \$15k, but had been funded \$5k only.

No decisions were reached on use of the remaining project funds.

## 13. DIVISION BROCHURE AND NEWSLETTER

Professor Koomen had recently circulated a second Division newsletter, however there had been circulation issue owing to the file size. It was agreed that he would recirculate the newsletter.

## 14. IUPAC PRIZES

Professor Koomen reported that Thieme wished to continue their support of the Thieme-IUPAC prize for Organic Synthesis. Professor Phil Baran (USA) had received the 2010 Prize at the ICOS-18 meeting in Bergen, Norway. The winner of the 2012 prize would be presented with their award at ICOS-19 in Melbourne.

Funds for the CHEMRAWN VII Prize for Atmospheric and Green Chemistry prize are drawn from the profits of an earlier CHEMRAWN conference. The inaugural CHEMRAWN VII Prize for Atmospheric and Green Chemistry had been awarded to Dr Nouredine Yassaa of Algeria in 2010. Information about the 2012 prize (closing date 15 March 2012) was in preparation and would be circulated in *Chemistry International*, and by email. The Division was reminded that this prize is not yet well known within the chemistry community, and needed good publicity to ensure a strong pool of applicants from developing countries. The Division noted that the forthcoming 19<sup>th</sup> CHEMRAWN Conference on Renewable and Sustainable Sources of Energy from Biological Sources to be held in Malaysia (September 27-29, 2011) provided such an opportunity. The Selection Committee for this award includes the Division President.

[*Secretarial Note: Information about the 2012 CHEMRAWN VII Prize for Atmospheric and Green Chemistry (closing date for applications 15 March 2012) was prepared and circulated by email by the IUPAC secretariat in September 2012; details are also available at the website [http://iupac.org/web/nt/2011-09-23\\_CHEMRAWN\\_VII\\_Prize](http://iupac.org/web/nt/2011-09-23_CHEMRAWN_VII_Prize).*]

## 15. INTERNATIONAL YEAR OF CHEMISTRY (IYC)

The IYC website ([www.chemistry2011.org](http://www.chemistry2011.org)) is available for the information of members and activities can be written up onto this site.

## 16. CONSIDERATION OF FUTURE SYMPOSIA AND CONGRESSES

The following are scheduled:

- a. 19<sup>th</sup> International Conference on Organic Synthesis (ICOS-19, Melbourne, July 1-6 2012); website <http://www.icos19.com/>; plenary lecturers include Nobel laureate Ei-ichi Negishi.
- b. International Symposia on the Chemistry of Natural Products/International Conference on Biodiversity; ISCNP27/ICOB7 was held in Brisbane: July 10-15, 2011; China has expressed interest to host ISCNP28/ICOB8 in Beijing in September 2013.
- c. 9<sup>th</sup> International Symposium on Biological Organic Chemistry (ISBOC9, Beijing August 25-29 2012); co-chairs Zhang LiHe, Mike Blackburn and Krishna Ganesh.



- d 15th International Biotechnology Symposium (Daegu, Korea, September 16-21, 2012); website is <http://www.ibs2012.org/>; plenary speakers include Nobel laureate Aaron Ciechanover.
- e 4<sup>th</sup> International Conference on Green Chemistry (ICGC-4 Foz do Iguaçu, Brazil, August 25-29, 2012); website <http://congresscentral.com.br/sbq/ufscar/icgc4/index.php>; plenary lecturers include Paul Anastas and Nobel laureate Barry Sharpless; Vania Zuin is conference secretary.
- f 21<sup>st</sup> International Conference on Physical Organic Chemistry (ICPOC21; Durham, UK, September 9-13 2012); see <http://www.rsc.org/ConferencesAndEvents/RSCConferences/icpoc21/index.asp> for information; plenary speakers include Nobel laureate Robert Grubbs.
- g XXIV IUPAC Symposium on Photochemistry (Coimbra, Portugal, July 15-20, 2012) <http://www.photoiupac2012.com>
- h The next GA/Congress will be in Istanbul (Turkey) in 2013, with a proposal from Korea to 2015 now approved.
- i In April 2012, a

#### **17. ANY OTHER BUSINESS**

The President thanked all concerned for their attendance at the Divisional meeting and for their good work on behalf of Division-III.

#### **18. DATE AND TIME OF NEXT DIVISIONAL MEETING**

The next Divisional meeting should be held in mid 2012 at a suitable location linked to an IUPAC meeting of Division III. Candidate venues include Melbourne (Australia), Beijing (China), Daegu (Korea), Coimbra (Portugal) or Durham (UK).

There being no further business, the meeting closed at 1730h on July 29.

Prof M.J. Garson  
Secretary Division-III  
October 2011.

# DIVISION III REPORT FOR THE IUPAC BUREAU (April 2012)

## Report on the activities of the Division III :Organic and Biomolecular Chemistry

**Krishna N Ganesh, President, Div III (2012-2013)**

Indian Institute of science Education and Research, Pune 411008, India  
kn.ganesh@iiserpune.ac.in

The mission of the Organic and Biomolecular Chemistry Division (Division III) is to promote the goals of IUPAC in the field of organic and biomolecular chemistry in the broadest sense. To this end, the division consists of a Division Committee and six subcommittees. Together, these promote the formulation and execution of projects on relevant chemical problems, the staging of chemical conferences on important areas of chemistry, the education and professional development of chemists worldwide, the advancement of chemical industry, and the application of chemistry to meet the world's needs. The division is committed to utilizing the talents of chemists from around the world in these activities, and promoting diversity in our membership.

Division elections for biannium 2012/2013 were held by email from 7 to 23 February 2011, organised by the IUPAC Office. (Paul LeClair)

### 1.0 2012-2013 Membership

#### President

- Ganesh, Krishna

#### Vice President

- Garson, Mary

#### Secretary

- [Griesbeck, Axel](#)

#### Past President

- [Koomen, Gerrit](#)

#### Titular Members

- Blackburn, G.
- Brandi, Alberto
- [Brimble, Margaret](#)
- [Carell, Thomas](#)
- Ganesh, Krishna
- [Garson, Mary](#)
- [Griesbeck, Axel](#)
- [Han, Buxing](#)
- [Koomen, Gerrit](#)
- [Nicotra, Francesco](#)

#### Associate Members

- [Cesa, Mark](#)
- [Dimitrov, Vladimir](#)
- [Jacobs, Helen](#)
- [Kang, Sung Ho](#)
- [Orfanopoulos, Michael](#)

- [Sladić, Dušan](#)

#### **National Representatives**

- [Al-Aboudi, Amal](#)
- [Crowley, Peter](#)
- [Dias, Luiz](#)
- [Innocent, Ester](#)
- [Khan, Khalid](#)
- [Krygowski, Tadeusz](#)
- [Liao, Chun-Chen](#)
- [Mizrahi, Dana](#)
- [Streith, Jacques](#)
- [Vilavain, Tirayut](#)

## **2.0 Subcommittees**

The heart of the division consists of six subcommittees, each of which, in addition to conducting IUPAC projects, is concerned with organizing major international conferences, such as those listed below.

- **Subcommittee on Organic Synthesis**  
Chair: Frank McDonald, Emory University, USA
- **Subcommittee on Biomolecular Chemistry**  
Chair: Krishna Ganesh, Pune, India
- **Subcommittee on Photochemistry**  
Chair: Sylvia Braslavsky, Mülheim, Germany
- **Subcommittee on Green Chemistry**  
Chair: Buxing Han, Beijing, China
- **Subcommittee on Structural and Mechanistic Chemistry**  
Chair: Einar Uggerud, Oslo, Norway
- **Subcommittee on Biotechnology**  
Chair: Francesco Nicotra, Milano, Italy

## **2.1 Activities of the subcommittees**

- 2.1.1 Green Chemistry:** The first CHEMRAWN VII prize for Atmospheric and Green Chemistry was awarded to Noureddine Yassaa from Algeria. He received the prize during the 3rd International Conference on Green Chemistry (ICGC-3) in Ottawa, Canada, 15–19 August 2010. ICGC-4 will be held in [Foz do Iguacu, 25–29 August 2012](#).
- 2.1.2 Organic Synthesis:** The 18th International Conference on Organic Synthesis (ICOS 18), 1–6 August 2010, Bergen, Norway, was very well organized and very successful. The Thieme prize in Synthetic Organic Chemistry was awarded to Phil Baran, who presented an excellent lecture and showed how organic synthetic schemes might change drastically in the future. ICOS 19 will be held in Melbourne, Australia, 1–6 July 2012.
- 2.1.3 Biomolecular Chemistry:** The 27th International Symposium on the Chemistry of Natural Products (27ISCNP), held jointly with the 7th International Conference on Biodiversity (ICOB-7), took place in Brisbane, Australia, 10–14 July 2011, under the co-chairmanship of Ron Quinn (Griffith University) and Mary Garson (University of Queensland). The symposium saw an attendance of 180 delegates from over 20

countries. Topics included isolation/discovery, synthesis, chemical ecology, phytochemistry, and biosynthesis.

- 2.1.4 *Photochemistry*: The 23rd IUPAC Symposium on Photochemistry was held in Ferrara, Italy, from 11–16 July 2010 under the chairmanship of Franco Scandola. The next meeting (24th in series) is scheduled for Coimbra, Portugal, 15–20 July 2012. The scientific chair is Hugh Burrows.
- 2.1.5 *Structural and Mechanistic Chemistry* : **ICPOC-20** organised by Dae Dong Sung, Department of Chemistry, Dong-A University, Saha-Gu, Busan, 604-714 Korea. E-mail: [ddsung@dau.ac.kr](mailto:ddsung@dau.ac.kr) held in Busan, Korea. Numbers of Delegates : 371 delegates for presentation (orals and posters), 827 participants (audience: Korean professors and students). Total : 1198 persons, 161 abstracts (81 oral presentations and 80 posters).
- 2.1.6 *Biotechnology*: The 14th IBS International Biotechnology Symposium was held in Rimini, Italy, between 14–18 September 2010 under the chairmanship of Fabio Fava and Francesco Nicotra. IBS 2010 hosted over 50 invited speakers and 2200 scientific papers from 84 different nations.

## 2.2 Forthcoming IUPAC sponsored conferences

- 2.2.1 *Structural and Mechanistic Chemistry*: **ICPOC-21**: ICPOC21 will be held in Durham, UK, 9–12 September 2012, University of Bath, Bath, BA2 7AY United Kingdom, Organizer : Professor Ian H. Williams (E-mail: [i.h.williams@bath.ac.uk](mailto:i.h.williams@bath.ac.uk))
- 2.2.2 **Organic synthesis**: ICOS19, projected in Melbourne, Australia, 01-06 July, 2012. Website: <http://www.icos19.com> Contact: Professor Mark Rizzacasa, University of Melbourne, School of Chemistry, The Bio21 Institute, Melbourne, Victoria 3010, Australia, TEL: + [61] 3 3844 2397 | FAX: + [61] 3 3947 8396 E-mail: [masr@unimelb.edu.au](mailto:masr@unimelb.edu.au). I will be attending as IUPAC representative
- 2.2.3 **Green Chemistry** : 4th International IUPAC Conference on Green Chemistry ICGC-4 to be held in Foz do Iguaçu (Iguaçu Falls), Brazil, at the border of Argentina and Paraguay on 25-29 August 2012. The web site address is [www.ufscar.br/icgc4](http://www.ufscar.br/icgc4). Professor Vania Zuin is the General Secretary of the Conference.
- 2.2.4 **Photchemistry**: The 24<sup>th</sup> IUPAC Symposium on Photochemistry will take place in Coimbra, Portugal, 15-20 July 2012. Chair is Prof. Hugh Burrows (Portugal), University of Coimbra, Department of Chemistry, P-3004 535 Coimbra, Portugal, TEL: + [351] 239 854 482 | FAX: + [351] 239 827 703, E-mail: [burrows@ci.uc.pt](mailto:burrows@ci.uc.pt)
- 2.2.5 **Biotechnology**: The 15th IBS 2012 will take place in Daegu, Korea, 16–21 September, under the chairmanship of Young Tae Yoo.

## 3.0 Projects

### 3.1 Projects in progress (2006-2007 biennium, allocation shown)

- **2007-025-1**; Biomass burning in Sub-Saharan Africa (Mammino; \$8k); Project not yet completed; an update plan and call for contributions is listed on the website.
- **2007-035-1**; Translation in Romanian and Dissemination of a monograph for Universities and Secondary Schools on "Global Climate Change" (Pascariu; \$4.5k);
- **2007-051-1**; Workshop for finalizing the project proposal document for setting up an International Center for Natural Product Research (ICNPR) in Dacca, Bangla Desh (Mozzihuzamann, \$6k); **Completed**

### 3.2 Approved during 2008-2009 biennium (allocation shown)

- **2008-016-1-300**; Making the online journal of green chemistry: Green Rapid Internet Communications (Tundo; \$3.5k);
- **2008-026-1-300**; Strategic planning for a new East and SouthEast Asian Network for Organic Chemistry (Isobe; \$5k); **in progress**.
- **2008-006-3-100**; Thermodynamic Study on Hydrogen Storage Materials: Metal Organic Frameworks and Metal or Complex Hydrides (Sun, China; \$1k). **In progress**.
- **2009-002-1-300**; Update of IUPAC Glossary of Physical Organic Chemistry (Perrin, USA; \$4.8k); Due to the very complex task the project will require more time (**Extended till August 2012**).

### 3.3 Projects under review at the time of the Divisional meeting in Glasgow (2010), and the funding outcomes agreed at Glasgow. (Amounts listed represent Division III financial contributions)

- **2008-1-017-4**; Green Chemistry – creation and implementation of international cooperation in teaching and investigations “the great green way” (Lunin; \$10k requested; Division III recommendation to PC to fund \$5k; this project had been **approved for funding**).
- **2008-018-1**; Translation in Greek and dissemination of a monograph for secondary schools on Global Climate Change (Siskos, \$3k **completed**)
- **2008-037-1**; Standard photochemical processes (Griesbeck, \$15k requested). **Approved, in progress**.
- **2009-007-1**; Evaluation of measurement methods and QA/QC for PCDD/F, PCB and PAHs in environmental matrices (air quality, soil, sediments and wastes) used in estimation of global pollution (Raccanelli, \$9.9k originally requested, of which \$3.3k originally requested from Div III); **Approved \$ 7.5k, not yet initiated**
- **2009-014-1**; Green Chemistry: Sustainable Education and Environmental Development (*SEED*) in Latin America (Vasquez, **Funded \$5k by Div. III**)

### 3.4 Projects submissions 2009-2011

- **2009-021-1**; A forum on basic definition of genochemistry and a framework thereof. (Zizhang Zhang) **5k** requested from IUPAC. **\$5k Approved by Div III.**, Series Title: Genochemistry: chemistry designed for life sciences (1) Project Title: Towards a guideline and a framework of genochemistry

Project Number: 2009-021-3-30. Start 01 May 2010, Task Group Chairman: Zizhang Zhang, Project progress as of March 19, 2011: Although the fund is not redeemed yet (will be done later), since its approval, the project has been progressing smoothly. Here are some highlights:

Zizhang Zhang\* and Atta-ur-Rahman, Towards Genochemistry: Harnessing the Power of Biocatalysis for Research in the Life Sciences, *Current Organic Chemistry*, **2010**, 14. 1902-1913.

Zizhang Zhang: **Genochemistry**—Chemistry Designed for Life Sciences, *2nd Conference on Industrial Enzymes and Biocatalysis 25-28 april 2011*, Dalian, China  
Continuing the efforts in recruiting Task Group members among the prominent scientists from Americas. The project and its brief contents were posted on the website of the Chinese Chemical Society, and spread to a number of websites. <http://www.ccs.ac.cn/news/?hid=222>

- **2008-006-3-100**; *Thermodynamic Study on Hydrogen Storage Materials: Metal Organic Frameworks and Metal or Complex Hydrides*; An acknowledgement was received from **Prof. Sun**
- **2008-016-1-300**; *Making the online journal of green chemistry: Green Rapid Internet Communications*; The project website records: The original objective of the project has been abandoned (February 2011). After reconsideration, the new objective refocusses on the single publication of a PAC special topic issue tentatively titled "Chlorine-free syntheses for green chemistry". The project editors are Fabio Aricò ([fabio.arico@unive.it](mailto:fabio.arico@unive.it)), Andrea Vavasori ([vavasori@unive.it](mailto:vavasori@unive.it)) (both from Venice), Zhimin Liu ([liuzm@iccas.ac.cn](mailto:liuzm@iccas.ac.cn)) and Tao Jiang ([Jiangt@iccas.ac.cn](mailto:Jiangt@iccas.ac.cn)) (both from Beijing). This project is managed in coordination with Pure and Applied Chemistry Scientific Editor James Bull.
- **2008-017-4-300**; Green chemistry – creation and implementation of international cooperation in teaching and investigations
- **2008-018-2-300**; *Translation in Greek and dissemination of a monograph for secondary schools on Global Climate Change*; A report from **Prof Siskos** was received: This project was co-funded by IUPAC and the Association of Greek Physicists. During the project, the prototype English version was translated into the Greek language. In addition to that they enriched and updated chapter 5 with some new pages in order to be in the line of current European reality. The production of the book was of 3000 copies instead of 2000 as obliged by the contract. This means that the distribution will be broader both to the secondary schools as well as to the teaching authorities. The total number of the pages of the Greek Version is 112, compared to the English version of 46 pages. The difference is partly due to a very high quality of paper
- **2008-026-1-300**; *Strategic planning for a new East and SouthEast Asian Network for Organic Chemistry*; (secretarial note: the budget for this project has been combined with that remaining an earlier project Strategic Planning for a New East Asian Network for Organic Chemistry: (# 2005-039-2-300) that held workshops in 2006 and 2007.) A report from **Prof Isobe** was received:

**Report:** The IUPAC project originally entitled "Strategic Planning for a New East Asian Network for Organic Chemistry: No. 2005-039-2-300" was established in the end of 2005. This project was discussed in the Organic Synthesis Subcommittee and then reported to the Division III. It was a timely establishment by a matching of development of Asian economy as well as the science and technology. There has also established an alternative program, namely Asian CORE Program encouraged by JSPS a program of Cutting-Edge Organic Chemistry in Asia (CEOCA). This has been expanded as one of the successful example of the multi-national project in the East and Southeast countries/regions. These two programs started almost simultaneously, by the working group of people in the OS Subcommittee; thus, Minoru Isobe and Pauline Chiu. First activity was a workshop in Okinawa, Japan in October

2006, and the second one was in Busan, Korea in September 2007. These were held at the first day before the ACP International Conference of CEOCA [1].

**Busan:** The IUPAC Workshop 2007 organized by M. Isobe, P. Chiu, and H. Y. Lee was attended by some 35 participants from 20 different institutions. Prof. T. Ikariya from TIT shared his expertise on the topic of “Applications of Supercritical Fluids in Organic Chemistry”, and Dr. K. H. Sze from the University of Hong Kong spoke on “Application of New NMR techniques in Organic Chemistry”. The workshop was held immediately before ICCEOCA-2 on September 2 at the conference venue. The IUPAC project also sponsored the attendance of three participants from non-ACP member countries: Dr. R. Ahmad from Universiti Teknologi MARA, Malaysia; Dr. M. Nonato from the University of Santo Tomas, Philippines; and Dr. M. Uy from the Mindanao State University-Iligan Institute of Technology, Philippines.

The IUPAC projects have sponsored and encouraged potential leaders in the field of organic chemistry from Asian countries who are not currently part of the ACP program to attend the ICCEOCA, so that they could benefit from the exchange of ideas and networking at this conference, which they could bring back to their home countries and institutions. Over four years, the IUPAC has invited and subsidized a total of 15 chemists from the Philippines, Vietnam, Indonesia, and Malaysia to attend this workshop and conference. In particular, the networking in the past few years has paved the way for Malaysia to join as a member country in the second phase of the ACP-CEOCA. The IUPAC projects also enriched the ICCEOCA by funding additional programs for local postgraduate students and researchers, in addition to ACP-CEOCA members, to learn about developing fields and trends in organic chemistry. A total of four workshops were held on the first day of each ICCEOCA encompassing eight topics from organic chemistry and related experimental techniques, to update and stimulate a wide range of organic chemists with diverse backgrounds. The participants of the workshops totalled 180 over four years. All of the lectures have been video-recorded, and extensive notes have been made available to the participants at each session. These resources could be reused in the future to further the educational goals of the IUPAC project and network.

**Hangzhou:** The IUPAC Workshop 2008 was made possible by the renewal of the IUPAC project as Strategic Planning for a new East and Southeast Asian Network for Organic Chemistry (# 2008-026-1-300). The workshop was held on the first day of ICCEOCA-3, October 19, with support from SIOC and Ms. F. Liu and featured two speakers: Prof. T.-P. Loh from Nanyang Technological University speaking on “Practical Green Chemistry”, and Dr. P. Toy from the University of Hong Kong on “Polymer-Assisted Organic Chemistry”. In total, there were 42 participants from 23 different institutions. The IUPAC project sponsored the attendance of four non-ACP member country participants: two from Philippines (Dr. G. Alea from De La Salle University; and Dr. A. Guidote Jr. from Ateneo de Manila University), one from Malaysia (Dr. N. H. Ismail from the Universiti Teknologi MARA), and one from Indonesia (Dr. E. H. Hakim from the Institut Teknologi Bandung, Indonesia).

**Bangkok:** The IUPAC Workshop 2009: Prof. P. Chiu, the organizer of the annual IUPAC workshops, organized the final workshop in the series sponsored by the last installment of funding from the IUPAC project. In collaboration with Dr. M. Chittchang from CRI, the pre-conference workshop on November 29 was on the theme of “Natural Product Chemistry”, a topic requested by the host country. The speakers were Z.-J. Yao on the topic of “Natural Product Synthesis”, and M. Isobe on “Chemical Biology—An Emerging Field Inspired by Natural Product Chemistry”. The registration and attendance at this workshop were record highs of 81 and 68, respectively. The attendees were from 22 institutions from 10 different countries. Many Thai graduate students attended the workshop. This year, the IUPAC funding sponsored the attendance of five participants from non-ACP member countries. Two were from the Philippines, (J. R. O. Janairo, De La Salle University and C. C. Hernandez, University of the Philippines), one was from Malaysia (H. A. B. Tajuddin, University of Malaya), one was from Indonesia (D. Mujahidin, Institut Teknologi

Bandung), and for the first time, one participant was from Vietnam (D. H. Luu, Vietnamese Academy of Science and Technology) [2].

[1] The 1st International Conference on Cutting-Edge Organic Chemistry in Asia—Asian Core Program (ACP) and IUPAC East Asian Networking Project. Minoru Isobe and Pauline Chiu, *Chem. Asian J.* **2007**, 2(#3), 452-454.

[2] JSPS Asian Core Program: Cutting-Edge Organic Chemistry in Asia and IUPAC Strategic Planning for a New East and Southeast Asian Network for Organic Chemistry Minoru Isobe, Toshio Nishikawa, and Pauline Chiu, Atsushi Nishida, et al. *Chem/Asian J.* **2010**, 5, 660-666.

- **2009-002-1-300**; *Update of IUPAC Glossary of Physical Organic Chemistry*; A report from **Prof Perrin** was received: As chair of the Task Force, he has requested a change in completion date from 31 Dec. 2011 to 31 Dec. 2012. No funds have been expended, but the project requires more effort than originally expected, and the meeting to resolve issues is now planned for August 2012.
- **2009-007-2-300**; *Evaluation of measurement methods and QA/QC for PCDD/F, PCB and PAHs in environmental matrices (air quality, soil, sediments and wastes) used in estimation of global pollution*; Raccanelli. **Funded \$7.5K by Division; not yet initiated.**
- **2009-014-2-300**; *Green Chemistry: Sustainable Education and Environmental Development (SEED) in Latin America (Vasquez)* **Funded \$ 5k by Division III**

### 3.5 Projects submission in the 2010-2011 biennium

- **Project 2008-037-2-300**; *Standard photochemical processes* **Delayed**, starting date August 2010
- **Project 2011-006-2**. Strategic planning for a new network for heterocyclic chemistry among countries for the mediterranean sea area, including Europe and Northern Africa. (Florio, Bari, Italy). Requested 15k from IUPAC. **Funded 10k.**



## Report to Council 2013

### *DIVISION III: Organic and Biomolecular Chemistry*

#### **I. Highlights and/or Executive Summary:**

The main activities of the Division III as executed through its 6 sub-committees is to organize major conferences in the areas of relevance to the themes of the sub-committee, generate projects in these areas and those overlapping with subjects of other divisions. Most of the conferences under Division III sponsorship have become branded with participation of Nobel laureates and high number of participants. They are also held with co-sponsorship from many National Chemical societies. Such conferences held during 2012-2013 include

- (i) **19<sup>th</sup> International Conference on Organic Synthesis (ICOS 19)** at Melbourne, Australia (July 1-6, 2012, El-Ichi Negishi, NL, 18 Invited Lectures, 60 Contributed Lectures, and >250 posters),
- (ii) **24<sup>th</sup> International Symposium on Photochemistry** took place in Coimbra, Portugal focusing on new materials for medical applications, and solar cells, photoremediation of contaminated water, photodynamic therapy, manipulation of nanostructures, mimicking of biofunctionality, etc, with 640 participants from 53 countries
- (iii) **4<sup>th</sup> International IUPAC Conference on Green Chemistry (4<sup>th</sup> ICGC)** at Foz do Iguacu, Brazil, during 25-29 August, 2012, with Brazilian Chemical Society, main theme being “Exchanging experiences towards a sustainable society taking care of natural resources in their socio-economic development, 600 participants from 40 countries, 300 posters and topics include benign synthesis/process, green chemistry for energy/production, chemicals from renewable resources, green engineering, education in green chemistry
- (iv) **9<sup>th</sup> International Symposium on Biomolecular Chemistry (ISBOC9)** held at the Beijing Conference Center in August 2012 with plenary lectures by 2 Noble Laureates - Ada Yonath and Robert Huber. The meeting was held together with Chinese Medicinal Chemists with participation of more than 600 (6 parallel sessions).
- (v) **21<sup>st</sup> International Conference on Physical Organic Chemistry (ICPOC 21)** organised with the RSC Physical Organic Chemistry Group at the University of Durham from 9-13 September. ICPOC-21 brought together the organic chemistry, catalysis and physical chemistry communities from academia and industry to discuss the current state of the art, the development and future of physical organic chemistry. The conference consisted of 9 plenary, 14 invited and many contributed lectures, as well as more than 250 posters.
- (vi) **International Biotechnology Symposium (IBS 15)** during September 16–21, 2012 in Daegu, Korea, and hosted by KSBB (The Korean Society for Biotechnology and Bioengineering) and co-hosted by KICChE (The Korean Institute of Chemical Engineers), KMB (The

Korean Society for Microbiology and Biotechnology), KoSFoST (Korean Society of Food Science and Technology), and PSKOR (The Pharmaceutical Society of Korea). The symposium was attended by 2,208 participants from 53 different countries and included 4 plenary lectures, 161 invited lectures, 415 oral presentations, and 1,012 poster presentations.

The role of the Division in each of these meetings included active participation by the sub-committee chairs and members in shaping the scientific programmes that are not only excellent, but also interdisciplinary themes related contemporary challenges in health, environment and energy problems. Each symposium also provided opportunities for the Divisional IUPAC representatives to make the symposium participants the important role that IUPAC plays in disseminating the usefulness of chemistry in upliftment of society and its international character. A large participation of young chemists in these meetings is a positive output in conveying the evergrowing role and influence of chemistry in society.

In addition to the conferences, Division III has taken initiative in carryout projects in important areas of IUPAC relevance, both on its own and in collaboration with other divisions. These include nomenclature for protecting groups, initiating chemistry dialogues among Asian regional chemists, photochemistry terminologies etc.

## **II. An overall report of Division/Committee activities during 2012 and the first part of 2013, organized by the six Goals in the current IUPAC Strategic Plan.**

Division III has provided leadership in objectively addressing global issues in chemical sciences, involving in particular energy and involvement. This is amply apparent from the activities of sub-committees on photochemistry and green chemistry. An important area addressed in its conferences is the sustainable chemistry to improve quality of life, intimately linked to energy and environmental issues. Division III is associated with CHEMRAWN in identifying and recognizing young researchers who have contributed to this area. The project on dialogue among South Asian chemists is an example of addressing the needs of chemists in developing countries. Division III is also involved in chemical education programme actively with CCE Division in formulating a framework for teaching chemical biology.

## **III. Any other substantive information that does not conveniently fit into the Strategic Plan format.**

The activities of the Division III has been very broad in terms of areas covered – Organic synthesis, Biomolecular Chemistry, Photochemistry, Green Chemistry, Physical and structural organic chemistry and Biomolecular technology. This portfolio is too wide to make forced impact of Division III in any area. Despite this, Division III activities as reflected in the conferences and projects have been remarkable. The ICOS

conferences have become a gold standard in Organic synthesis. Among all the Divisions, only Division III has interface with biology and in this context, the activities of two sub-committees – Biomolecular Chemistry and Biotechnology have been very impressive in drawing biological chemists into the ambit of IUPAC. Similarly, Division III also interfaces with physical chemists through the sub-committee activities of Physical, structural and mechanistic chemistry. Interface with Polymer Division in organic materials also is noteworthy. The large portfolio of Division III to be effective also needs more resources and the planned activities in the next biennial is to strengthen this aspect of Division III.



**Proposed Membership**  
**Organic and Biomolecular Chemistry Division**  
**2014-2015**

<b>Name</b>	<b>Proposed Status</b>	<b>Proposed Term</b>	<b>NAO</b>
Prof. Mary J. Garson	TM – President	2014-2015	Australia
Prof. Margaret A. Brimble	TM – Vice President	2014-2015	New Zealand
Prof. Axel Griesbeck	TM – Secretary	2012-2015	Germany
Prof. Krishna N. Ganesh	TM – Past President	2014-2015	India
Prof. G. Michael Blackburn	TM	2014-2015	United Kingdom
Prof. Alberto Brandi	TM	2014-2015	Italy
Prof. Thomas Carell	TM	2014-2015	Germany
Prof. Buxing Han	TM	2014-2015	China/Beijing
Prof. Francesco Nicotra	TM	2014-2015	Italy
Prof. Nikolay E. Nifantiev	TM	2014-2015	Russia
Prof. Amal Al-Aboudi	AM	2014-2015	Jordan
Prof. Vladimir Dimitrov	AM	2014-2015	Bulgaria
Prof. John F. Honek	AM	2014-2015	Canada
Prof. Péter Mátyus	AM	2014-2015	Hungary
Prof. Amélia P. Rauter	AM	2014-2015	Portugal
Prof. Zhen Xi	AM	2014-2015	China/Beijing
Dr. Nasim Sultana	NR	2014-2015	Bangladesh
Prof. Biing-Jiun Uang	NR	2014-2015	China/Taipei
Prof. Hrvoj Vančik	NR	2014-2015	Croatia
Prof. Miroslav Ludwig	NR	2014-2015	Czech Republic
Prof. Petri M. Pihko	NR	2014-2015	Finland
Prof. Yeun-Mun Choo	NR	2014-2015	Malaysia
Prof. Mary Olire Edema	NR	2014-2015	Nigeria
Dr. Oleg M. Demchuk	NR	2014-2015	Poland
Prof. Viktor Milata	NR	2014-2015	Slovakia
Prof. Tirayut Vilaivan	NR	2014-2015	Thailand
Prof. Berhanu M. Abegaz	PM	2014-2015	Botswana
Prof. Eusebio Juaristi	PM	2014-2015	Mexico
	10 TMs, 6 AMs, 10 NRs, 2 PMs		

AM = Associate Member      PM = Provisional Member  
 NR = National Representative      TM = Titular Member