



IUPAC Division VI
Chemistry and the Environment (DCE)
Division Meeting 8th-9th July 2017
World Trade Centre, Sao Paulo, Brazil
Room: Renoir



Draft Minutes

Confirmed Division and Subcommittee Member Attendees

Prof. Petr Fedotov (PF) – Division President and meeting chair

Prof. Rai Kookana (RK) – Division Vice President

Dr. Laura McConnell (LM) – Division Past President

Prof. Hemda Garelick (HG) – Division Secretary

Dr. John Unsworth (JU) -TM

Dr Bradley Miller (BM) - AM

Dr Edgar Resto (ER) - NR

Dr. Diane Purchase (DP) – Project chair

Dr. Sherine Obare (SO) – Project chair

Dr. Frank Yang (FY)– Project Chair

Dr Yehuda Shevah (YS)- Project Chair

Guests:

Roland Anderson, Industry representative

Isodora Pimenta de Aravjo- YO , Brazil

Dr Gabriel Nuffield Kasozi, YO, Uganda

Dr Natthakarn Ketkoom, YO, Thailand

Dr Guillermo Castro, Puerto Rico

Nnanke-Abasi Offiong, YO, Nigeria

Prof. Gloria U. Obuzor, President Nigerian Chemical Society, Nigeria

Apologies received:

Dr. Annemieke Farenhorst- NR

Dr. Heinz Rüdell (HR) –TM – Subcommittee Co-Chair

Prof. Manos Dassenakis (MD) – TM

Prof. Roberto Terzano (RT) – AM

Dr. Gijs A. Kleter- AM

Prof. Guibin Jiang

Prof. Baoshan Xing-TM– Subcommittee Co-Chair

Stefka Tepavitcharova- AM

Dr. Luke Chimuka- NR

Prof. Ana Aguiar-Ricardo- NR

Prof. Yong-Chien Ling- NR

Dr. Pradeep Kumar- NR

Prof. Doo Soo Chung- NR

Dr. Philippe Garrigues - TM

Prof. Irina Perminova- TM

Prof Anna-Lea Rantalainen- NR

Dr Mohammad Din- NR

Prof. Nadia Kandile – AM

Saturday July 8, 2017

1. MORNING SESSION – CURRENT STATUS AND ACTIVITIES - 09:00 – 12:30

09:00 – 11:30

- 1.1 Opening, welcome, members attending, introductions of members, apologies – *Petr Fedotov (PF) and Hemda Garelick (HG)*
PF welcome the participants and particularly the guest who joined our division meeting. All introduced themselves and their interests and activities.
- 1.2 Minutes of previous meeting (May 2016, London, UK) and teleconference (February 2017). Goals for current 2-Day Meeting – HG and PF
- 1.3 Review of previous Actions (Minutes of London Meeting and conference call)
All actions have been completed and Minutes approved
- 1.4 Activity of Nominating Committee, elections of Division members –
 - 1.5 *Laura McConnell (LM) reported on the election results and explained the process. Titular members (TM) have to be approved by the Council. Associate members (AM) and National Representatives (NR) are approved by the Division. There are still 2 unfilled National Representatives places.*
- 1.6 The new IUPAC website, web-pages of Division VI, contribution from Roberto Terzano
PF has introduced IUPAC new website and reported that Roberto Terzano has access and permission to update the Division website. PF has introduced the Division website. https://iupac.org/who-we-are/divisions/division-details/?body_code=600.
It was agreed that the section on the subcommittee on Food Chemistry need to be removed as this subcommittee does not exist anymore.
- 1.7 Overview of IUPAC, New Strategic Plan, Division Status, Division Budget – *PF*
PF presented the overview of the IUPAC strategic plan
- 1.8 Short reports from Division VI representatives on Standing Committees and other Divisions
 - CHEMRAWN – Nadia Kandile (TM)
Nadia could not attend the meeting due to family bereavement. The Division members send their condolences.
 - Committee on Chemistry and Industry (COCI) – *Hemda Garelick (DCE Rep)*

HG reported on the activities of COCI particularly in relation to the Safety Training and responsible care and refer member to the article on Chemistry International.

- *Committee on Chemical Education (CCE) – Manos Dassiankis (DCE Rep), Manos could not attend the meeting and has not been able to provide a report. Sherine Ober has agreed to represent the Division on CCE. Contact has been made with Mustafa Sozbilir and Jan Apotheker during their visit to the Division to explain the activities of CCE and explore further collaboration*
- *Interdivisional Committee on Terminology, Nomenclature and Symbols (ICTNS) – Petr Fedotov (DCE Rep)
PF explained the role of ICTNS and its mode of operation. It is a good working committee. LM reported on the work they have done for the committee projects of Molyneux and Keen.*
- *Pure and Applied Chemistry Editorial Advisory Board (PAC-EAB) – Laura McConnell (DCE Rep)
LM explained that she has never been invited and it transpires that the invitations are only sent to active Division Presidents. Clarification may be required here.*
- *Interdivisional Subcommittee on Materials Chemistry – Rai Kookana (DCE Rep)
RK attended the meeting in Busan but has not been able to attend since. The activities, including 2 symposia are listed on the website <https://iupac.org/materialschemistryedu/>
The subcommittee also has a presentation in WCLM2017*
- *Division VII Chemistry and Human Health Division – Bradley Miller (DCE Rep)
BM has reported on the activities of Div VII such as the Drug development and risk assessment and discussed the collaborative potential particularly in relation to toxicology and bioavailability of contaminants.*

- 1.9 *Feedback from the executive- Richard Hartshorn (RH) IUPAC Secretary General
RH provided an overview on the sustainability issues that IUPAC is facing including the financial issues.
The Division has requested that IUPAC provides facilities for remote meeting or remote participations of members if full meeting.
RH will bring it up with the executive.
Discussion took place on the role of the interdivisional committee and subcommittees. A fruitful discussion has taken place. This was particularly in reference to the IDC GCS D. RH suggested greater Divisional participation, LM suggested an idea for the Interdivisional Committee would be to have a project to develop a new IUPAC Green Chemistry Award to recognize companies who have developed new technologies/products that provide substantial environmental benefits and contribute to sustainable development.*

Led by Division VI, an interdivisional/committee group would form a task group and develop the criteria and categories for the award. This could work towards the first awards (or at least the creation of the award) to be announced in Paris.

This award could draw upon the Presidential Green Chemistry Challenge sponsored by EPA for inspiration.

<https://www.epa.gov/greenchemistry/information-about-presidential-green-chemistry-challenge>

- Inter-Divisional Committee on Green Chemistry for Sustainable Development (IDCGCSD)- *Hemda Garelick (DCE Rep)*

HG has reported on her involvement with the IDCGCSD and its connection to the presentation in the WCLM2017. It was decided to ask the committee to have more members of the Division join the IDCGCSD and enhance the collaboration with them. RK and DP have volunteered and are joining the committee meeting on Monday.

- 1.10 IUPAC strategy for interdivisional cooperation, discussion – *PF and HG*
Discussion has taken place on how the increase cooperation with COCI and other committees.
LM suggested a joint prize (badge) to companies based on adhering to good principles of safety and Environmental practice.
- 1.11 Cooperation with other international organizations – *PF*. Outcome of OECD (Organisation for Economic Co-operation and Development) Meeting in Paris – *HG*
HG reported on her participation in the OECD seminar in Paris
Risk Assessment Seminar of the OECD Working Party on Manufactured Nanomaterials (WPMN): State of the Science, challenges, needs and opportunities for hazard, exposure and risk assessment of nanomaterials (Appendix 4)
RK suggested further cooperation
- 1.12 Short Subcommittee Report - Chemical and Biophysical Processes in the Environment – *Baoshan Xing and Heinz Rüdell*
On the website: https://iupac.org/who-we-are/divisions/division-details/?body_code=605
Heinz Rüdell has resigned from the Division. Diane Purchase has been elected a co-chair of the subcommittee. Bradley Miller was elected secretary of the subcommittee.
- 1.13 Short Subcommittee Report - Subcommittee on Crop Protection Chemistry – *John Unsworth and Laura McConnell*
JU reported on the activities of the subcommittee

Gijs Kleter has resigned from the Division and there call for a subcommittee new secretary

There is a call for nomination for the harmonization award.

There is a webpage on the AGRO site: <http://www.agrodiv.org/iupac-international-award-advances-harmonized-approaches-crop-protection-chemistry/>

We could put the past winners on our site as well.

LM agreed to be Secretary of the subcommittee

HG thanked the leaving members on behalf of the Division.

12:00- 12.30

Additional guests present:

Esther Stern- US academy of Science

DRB Saha- India and COCI

Yehuda Shevah- Israel

1.14 Old projects with planned end dates 2013-2016. Short progress reports.

2. **AFTERNOON SESSION – PROGRESS REPORTS REVIEW, PROJECT PROPOSALS REVIEW; PLANNING, BRAINSTORMING FUTURE PLANS 14:00 – 17:30**

2.1 Current projects. Review of progress reports. Status/Needs/Accomplishments.:

- 2013-024-2-600 (Molyneux) – Recommended Methods for the Structural Identification of Biologically Active Compounds in Food and Flavor Chemistry.

LM has seen a fairly advanced draft

Action LM to follow up

- 2013-029-2-600 (Kleter) – Inventory Of Developments In The Field Of RNAi-Based Pesticides And Potential Needs For International Harmonization Of Regulatory Safety Requirements.

JU reported that the project is nearly finished and the last funds will be used for a meeting with OECD.

- 2014-031-3-600 (Purchase) - The Environmental And Health Challenges Of E-Waste And Its Management: An Emerging 21st Century Global Concern.

DP has reported on the project

- 2014-032-1-600 (Karpouzias) – Advances On The Assessment Of Pesticides' Soil Microbial Toxicity: New Research And Regulatory Aspects In Light Of The Recent Methodological Advances. Thus The Project Aims To Review The Current Knowledge On Soil Microbial Ecotoxicity Of Pesticides And Propose A Regulatory Scheme On How Pesticide Soil Microbial Ecotoxicity Should Be Assessed.

JU reported and expect the project to finalize in October 2018 but may need to extend it .

- 2014-026-3-600 (Obare) - Chemical Speciation Of Anthropogenic Nanoparticles. The Objective Of This Project Is To Develop Guidelines And Provide A Framework For Understanding The Chemical Speciation Of Nanoparticles And The Associated Environmental Health And Safety Issues.

Contact and collaborative programme were made with Division VII (Linda Johnson) as similar process are investigated but in different contexts

- 2014-038-2-600 (Unsworth) - Global Framework For Implementing Consistent Ecological Risk Assessment Of Pesticides For Sustainable Agriculture: Workshop In Chile. This Project Is Designed To Organize An Ecological Risk Assessment Workshop In Chile As Part Of The 4th Latin American Pesticide Residue Workshop In Chile.

Project completed

- 2010-018-2-600 (Chen) Quantitative Review And Analysis Of Pesticide Sorption And Its Effect On Degradation In Relation To Soil And Climate

JU reported that the status is unclear and will follow it up with Chen

- 2016-025-1-600 (Carazo) Ecological Risk Assessment Workshop For Central America. Project Announcement Published In *Chem. Int.* Jan 2017, P. 26; <https://doi.org/10.1515/Ci-2017-0114>
JU reported that the project is still ongoing.
- 2016-016-2-600 (Kookana) Guidance For Industry And Regulators On Assessment Of The Environmental Fate And Risks Of Nano-Enabled Pesticides
Completion date 31-June-2019
RK reported on the progress
- 2016-019-2-600 (Terzano) Trace Elements Analysis Of Environmental Samples With X-Rays: From Synchrotron To Lab And From Lab To Synchrotron
BM reported on the behalf team and a report is attached from RT
- 2016-015-2-600 (Perminova) Database On Molecular Compositions Of Natural Organic Matter And Humic Substances As Measured By High Resolution Mass Spectrometry
Completion date 31-Dec-2018
PF has reported about the project meeting in Moscow.
- 2016-047-1-600 (Xing) Multi-Scale Biogeochemical Processes In Soil Ecosystems: Critical Reactions And Resilience To Climate Changes
Report submitted. 16 authors are included in the book.
- 2017-004-1-600 (Chung) Water And Environmental Analysis - A Symposium Part Of HPLC 2017
Completion date 31-Dec-2018
HG reported on the planning of the session which is in an advanced stage with 4 invited speaker and chair in place.
- 2016-035-1-600 (Purchase) Environmental Chemistry - Development Of Three Technical Symposia At The 46th IUPAC Congress, São Paulo 2017
Completion date 31-Dec-2017
DP reported on the 3 Symposia which were planned for the congress with a full programme submitted to the congress.
 - E-waste- an emerging global challenge : DP&HG
 - Global Environmental Challenges of Nanomaterials: SO & DP
 - Fate of Pesticides in Latin American Environments: JU & DP

All presented in Teatro 2.

Postscript: These went very well

- **Short reports and discussion on interdivisional projects with the participation of Division VI**

2.2 Review of new project proposals

- 2015-056-1 (Kalderis) “Glossary of terms used in biochar research”
It was agreed to support in the next biennium
- 2017-005-1 (Labuda) Analytical chemistry of nanomaterials
- 2017-018-1 (Shevah) Regional Cooperation and Sustainable Water Management of Transboundary Water Workshop
- 2017-023-1 (Prohaska) Collection, compilation and evaluation of existing Li, B, Mg, Sr, Ba, Pb isotopic and multielement composition data of commonly available biocarbonates and hydroxyapatites for solution-based and solid analysis by (LA)-(MC) ICP-MS.

It was agreed that it was more relevant to the Analytical Division (V)

- 2016-037-1 (Scheers). Submitted 3 Oct 2016. Water contamination Chemistry: raising awareness and offering outreach to local populations

The project was submitted by a YO from Busan and was mentored by RK. It was recognized that this has taken too long.

LM has volunteered to contact Yohan Scheers and discuss possibilities with him.

2.3 Brainstorming of ideas for new Project Proposals

- LM presented IUPAC100 and reported on the activities
- LM was developing a series of evolving stories and has asked people present to offer ideas and past projects around this can be developed. Subjects raise were:
 - Pesticide conference series
 - Malta conference
 - e-waste
 - nanoparticles
 - Nicola’s book series
 - IUPAC women’s award
 - Green Chemistry award
 - Bioavailability.

2.4 Discussion of high priority topics for new call for Proposals Flyer

Discussion has taken place on the priority of the next biennium and these were drafted for the call for project proposals flyer:

- Life cycle analysis and risk assessment — Factors that affect the implementation of life-cycle analysis and the risk assessments for chemical products and their production process in relation to complex environments
- Sampling and monitoring of emerging contaminants (ECs) — Assessment of chemical monitoring of ECs, with the aim of providing data for meta analysis and for improving risk assessment of chemical pollution
- Environmental impacts of mining and fracking operations
- Assessment of bioavailability and bioaccessibility of organic and inorganic contaminants: new approaches, critical evaluation, recommendations .

Saturday Night – Division Dinner

3. SUNDAY JULY 9, 2017

MORNING SESSION – 09:00 TO 12:30

3.1 Improving Division Operating Efficiency, Effectiveness and Participation and Outcome of subcommittee and interdivisional meetings

It was agreed that due to the small number of Division members participating there will be no separate sub-committee meetings

There have been a discussion on the role of the sub-committees and new chairs have been confirmed:

1. Subcommittee on Chemical and Biophysical Processes in the Environment
Co-chairs: Baoshan Xing and Diane Purchase
Secretary: Bradley Miller
2. Subcommittee on Crop Protection Chemistry
Co-Chairs: John Unsworth
Secretary: Laura McConnell

A discussion took place about the terms of reference and code of practice of the division. This was asked for by the IUPAC secretariat.

3.2 Interdivisional Meeting

Session 1 : 10:30-11:15

Div VI and VII (in room Div VI)

Tom Perun and Linda Johnston from Div VII have attended the meeting and a detailed discussion has taken place on the common areas of interest and possible collaboration. The main area that was flagged up was the nanomaterials project in

which some collaboration already exists particularly between Linda Johnston and Sherine O Obare. Common areas have been found with Rai Kookana and Vlad Gubala. It was agreed that these should be explored further

Session 2 : 11:30-12:15

Div V and VI (in room Div VI)

Jan Labuda attended on behalf of Division V and a discussion took place about possible areas for collaboration. The topics that were raised as possible were projects on speciation and bio sensors

13:00 – 14:30 – Lunch

4. AFTERNOON SESSION –

4.1 Brainstorming on new ideas for upcoming IUPAC Centennial in Paris, 2019 (PF, HG, LM, RK)

PF and HG presented the proposed programme for the IUPAC100 congress in Paris (Appendix 8). The programme is already set and the terminology of symposia and sessions was explained. It was decided that the Division would propose a session in Symposium 3.1 on the subject of 'Exposure assessment of potential contaminants in the environment'

4.2 A discussion took place about where to hold the mid biennium Division meeting. Options were raised, such as Australia (too far and expensive) and Liverpool UK, where the 7th EuChemS Chemistry will be held (no volunteers to follow it up). It was narrowed down to two proposals:

- i. Rome : proposal led by Laura McConnell

Proposal for 2018 Division Meeting in Rome, Italy May 11-12, 2018 :
Proposed by Laura MacConell

The Division VI annual meeting is proposed for Rome Italy just prior to the SETAC Europe Meeting (<https://rome.setac.org/>). Holding our division meeting in this location would provide the opportunity to develop one or more sessions in conjunction with the SETAC meeting to highlight existing projects, recruit new division members and new project proposals. SETAC Session proposals are being accepted at SETAC Europe until August 15. In addition, task group meetings for division projects could be scheduled in conjunction with the SETAC meeting as many scientists may already be planning to attend. The advantage of this location would be the opportunity to connect with SETAC as an organization and perhaps schedule discussions with their leaders for future collaborations.

ii. Tel Aviv: Proposal led by Yehuda Shevah

Proposal for 2018 Division Meeting in Tel Aviv , Israel. May-June or September – October, 2018 Proposer Yehuda Shevah:

This invitation follows a previous and a very successful meeting that took place in Tel-Aviv years back combined with a symposium on Atmospheric Deposition in which members of the Division and other experts presented their work.

This invitation is for a 5 to 6 days meeting which will combine the Division meeting, a symposium and field (pilgrimage) trips.

The topic of the symposium could be (although other topics may be considered):

"Emerging Contaminants Research" which is highly investigated in Israel, including by an EU funded consortium, and relevant to the work of several members of the Division.

The topic is in line with the fact that Israel is the world leader on water reuse and therefore the widespread of biological and chemical contaminants on the environment is of a great concern.

Additional financial support will be available locally attracting cost savings to the Div. stretched budget.

Air fares to Israel are very competitive and hotel accommodation would be negotiated.

Day trips would also be arranged to places and cities of interest as per request and choice of the individual members.

4.3 Final Review of Action Items

4.4 Division activities at World Chemistry Congress in Sao Paulo. Announcement and discussion.

DP and HG reported on the 3 symposia proposed and organized by the Division.

- **E-waste- an emerging global challenge : DP&HG**
- **Global Environmental Challenges of Nanomaterials: SO & DP**
- **Fate of Pesticides in Latin American Environments: JU & DP**

All presented in Theatro 2.

4.5 AOB

The President of the Nigerian Chemical Society Professor Gloria Obuzor from University of Port Harcourt was introduced to the Division and it was agreed that an application for National Representative will be presented to IUPAC.