



**Interdivisional Committee on Green Chemistry
for Sustainable Development, ICGCSD
Virtual Meeting
Thursday 30 January h 10-12 CET (Central Europe Time)
Minutes of meeting**

(Thanks to Aurelia Visa, who managed the virtual meeting thru GoToMeeting site and prepared the Minutes of meeting).

1. Welcome and apologies for absence

The Chair Professor Pietro Tundo welcomed the committee members and division representatives. He conveyed apologies from absents members.

IN ATTENDANCE: ICGCSD titular members, associate members and division representatives:

Pietro Tundo, STC-Chair, Italy
Buxing Han, STC-Secretary China/Beijing
Christopher Brett, IUPAC President, Portugal (10-10:20 CET)
Natalia Tarasova, TM, Russia (11-12 CET)
Florent Allais, AM, France
Aurelia Visa, AM, Romania
Ana Aguiar-Ricardo, DR IV, Portugal
Nadia Kandile, DR VI, Egypt
Zhimin Liu, AB, China (10:45-12 CET)

APOLOGIES:

Dr. Jonathan Forman, TM, Netherlands
Prof. Klaus Kümmeler, TM, Germany
Prof. Jane Wissinger, AM, USA
Prof. Jorge Colón, DR II, Puerto Rico
Prof. Liliana Mammìno, DR III, South Africa
Prof. Zoltan Mester, DR V, Canada
Dr. Alan Hutton, DR VIII, South Africa

First 20 minute we had the pleasure to welcome Professor Christopher Brett-IUPAC President. Professor Brett knows very well the ICGCSD activities and objectives having had part in the activity of Subcommittee of Green Chemistry and he was TM in last biennium of ICGCSD committee.

He presented the IUPAC situation regarding the budget. There were cuttings in divisions budget (operation and projects) and it was proposed to make the meetings via virtual tools. Therefore all committees and divisions have been asked to manage their virtual meetings by end of January or first week of February. These meetings are important in order to write reports to be presented at the first Bureau virtual meeting in 25 August 2020.

Another important topic was stressed regarding the IUPAC objectives such as: to speak a common language, to be open to exchange data and information and to support sustainable developed for future. Here arises a question: "Where does green chemistry stop and sustainable development start?"

Professor Christopher Brett announced that UNESCO proclaim 2022 the International Year of Basic Sciences for Development.

In a previous communication to prof. Tundo, Prof. Natalia Tarasova suggested that: it might be useful to mention that in his video address, Secretary-General António Guterres announced the launch of the Decade of Action for the Sustainable Development Goals (<https://www.un.org/sq/en>). Prof. Tarasova recommended that it should be in the center of ICGCSD.

Prof. Christopher Brett informed that, leaded by IUPAP, an international cooperation among the most important scientific networks is formed. An international Conference on Sustainable Development will be held on 2021. More information will follow. ICGCSD will be involved.

2. Call for additional agenda items

No additional items were added to the Agenda.

3. Communications

Professor Christopher Brett said that improvements must be done on communication and dissemination; ICGCSD information and reports have to be upgraded on IUPAC site. Following this idea Tundo proposed to ask Dr. Lynn Soby to send us the password in order to manage by ourselves the ICGCSD webpage. Aurelia Visa will do the webpage upgrade, under Tundo guidance. Was highlighted the necessity of using a Dropbox where to collect/add common materials! Anna Aguiar-Ricardo proposed to use Google Drive for it in terms of spacy capacity. For this, we will ask Dr. Lynn Soby's help.

4. Membership of ICGCSD (https://iupac.org/who-we-are/committees/committee-details/?body_code=041):

- a) 2020-2021, TMs, AMs, Secretary, Delegate Members. The membership of ICGCSD 2020-2021 was presented by Pietro Tundo. He said that Delegates for COCI and CCE are missing; he will ask the E.D. Dr. Soby how to proceed.
- b) *2020-2021 Advisory board*

Since is a lot of work to do, the human resources is mandatory. Therefore, here is the list of advisory board proposed containing the persons that worked a lot on this field and are strongly involved in IUPAC activities.

Advisory Board ICGCSD (AB)

1. Mike Schwenk (Germany)
2. Mirabbos Hojamberdiev (Uzbekistan)
3. Fabio Arico (Italy)
4. Liu Zhimin (PR China)
5. James Clark (UK)
6. Bipul Saha (India)
7. Haoran Li (PR China)

The advisory board was approved by all attendance and approved via e-mail by members who cannot attend this meeting.

5. Chair's report

Tundo reiterated on the responsibility and work to be done on ICGCSD. Because of that, Zhimin Liu will help Buxing Han, secretary of ICGCSD and Aurelia Visa will help Tundo, chair of ICGCSD, in order to share and to manage the work in this context.

At this moment Prof. Zhimin Liu entered to the Meeting. Zhimin Liu is available to organize the next GotoMeeting.

6. ICGCSD Terms of Reference

The ICGCSD Terms of Reference is attached; it will help and guide the ICGCSD activities.

7. Interaction/collaboration with IUPAC Divisions/Committees

ICGCSD is open to collaborate with all the IUPAC divisions and committees' through their division or committee representatives. For example project proposal which will be reported later (please see 9c point from Agenda).

8. Collaboration with Professional Bodies, Stakeholders and Industry: UNESCO, ISC, OPCW, ISC₃, ACS/GCI, EuChemS Division on Green and Sustainable Chemistry.

Professor Christopher Brett recommends collaboration with international organizations as UNESCO, ISC, OPCW, ISC₃, ACS/GCI, EuChemS Division on Green and Sustainable Chemistry. This is a very important task and it will be discuss during the meetings in Venice and Athens.

Ana Aguiar-Ricardo asked for guidance in order to organize an educational workshop after 8thEuChemS Chemistry Congress (ECC8), Lisbon, Portugal, August 30 -September 3, 2020. The experience gained during the completed Project nr. 2018-040-3-050, Green Chemistry in Mongolia, should be a good start for it. We will open a dialog among prof. Ana Aguiar-Ricardo in this respect, asking collaboration of the ICGCSD Members.

9. Projects

a. Completed projects (Mongolia)

Aurelia Visa share with the ICGCSD members a short report regarding the participation to '**Flying Chemistry Educator Program (FCEP)**' in Ulang Bataar, Mongolia, 17-22 September 2019 together with Anna Marakova, representing IUPAC-ICGCSD. The project was financed jointly by ICGCSD and CCE. The CCE was represented by Jan Apotheker, Mei-Hung Chiu and Masahiro Kamata. The focus of the three-day program of the FCEP was 'Green Chemistry'. The university wanted to start up a course in Green Chemistry, the secondary school teachers wanted to start up a module about Green Chemistry, the researchers were interested in starting up research in Green Chemistry. It was an ambitious program for a three-day session. 28 lecturers from the University, 27 secondary school teachers and 17 researchers from different institutions participated in the event.

b. Current projects

Metrics for Green Syntheses https://iupac.org/projects/project-details/?project_nr=2017-030-2-041

Tundo, who is the Chair of the related Task Group, introduced the progress on the IUPAC project. The project main objective is to develop Green metrics and harmonize the correct application of green metrics analysis in syntheses. The outcomes were sent on January 11 to IUPAC Secretariat (so, to ICTNS) for evaluation. Since a few money is left, we have the opportunity to present the current results of the project in order to pave the way for the Step 2; the latter will concern Recommendations, which is a more difficult task. Participation of ICTCN to such a meeting (to be held maybe in the occasion of the Summer School in Venice next July or/and in Athens) will be appreciated.

c. New project proposals to be considered/developed (17UNSDGs)

A project on the 17UNSDGs is proposed. This follows up the Special Symposium held last July in Paris; Miraboss Hojamberdiev already collected the most important IUPAC projects of the last 20 years; this Symposium was organised and coordinated by ICGCSD with the fundamental contribution of all Divisions. Tundo explained that this new project might be a good starting point for future actions under IUPAC

umbrella; sustainable development and coordination on such topics is one of the Terms of Reference of our Committee. The results and the work of this Project are relevant for the General Assembly in Montreal where 17UNSDGs will be one of the main topics. Each division will be asked, through each division representative, to contribute with a representative(s) on this project and also to give financial support to it. Everybody agreed that Miraboss Hojamberdiev to lead this project. In this respect he will be contacted by Pietro Tundo and asked to write a draft project proposal to be submitted first to each division representatives and to ICGCSD members.

d. Other

No other project was proposed at the moment, but Tundo stressed that the division delegates have to propose projects as it is written in the Terms of Reference. Therefore, we are open for new proposals and collaborations.

10. Budget biennium 2020-21

- a. Allocation to Projects
- b. Allocation to Operating expenses
- c. Other

2018 - 2019 Division & Committee - Financial and Project Summary Report

ICGCSD	Budget Allocation	Actuals	Remaining Balance	% Remaining Budget
Operations	\$21,000.00	\$14,192.12	\$6,807.88	32.42%

ICGCSD wasn't able to spend all the budget because it was allocated mainly to Operations and not all the TMs were able to travel.

Biennium 2020-2021: Budget allocated: 23,000 \$ (for Operations)

At this moment Prof. Natalia Tarasova entered to the Meeting.

11. Prizes and awards (NHU and Chemrawn VII)

ICGCSD members should go on by the management of Chemrawn VII and NHU Awards;

The Chemrawn VII prize is giving every two years by IUPAC during International Conference on Green Chemistry. The Prize of USD 5000 is granted to a young investigator (less than 45 years of age) from an emerging region who is actively contributing to research in Green Chemistry. The research topics that are covered by the prize include: atmospheric chemistry, use of alternative feedstocks, use of innocuous reagents, employing natural processes, use of alternative solvents, design of safer chemicals, developing alternative reaction conditions, minimizing energy consumption. The Award will be presented at the 9th IUPAC International Conference on Green Chemistry, 18-22 October 2020, Athens, Greece, where the winner will be asked to give a lecture.

The prize is advertised in IUPAC web-page (<https://iupac.org/2020-chemrawn-vii-prize-for-green-chemistry-call-for-nominations/>) and 9th IUPAC International Conference on Green Chemistry web page.

The NHU award is financed by the corresponding Chinese chemical industry. It was agreed that prof Buxing Han first contact the NHU in order to have the formal agreement for the next term. Then, if NHU shall agree, Tundo will contact IUPAC Presidency and Secretariat for the contract renewal. Pietro Tundo thanked Buxing Han for his contribution and asked him to make and keep the links between NHU and IUPAC.

The objective of NHU award is to encourage young professional chemists and experienced chemists of the importance of advancements in Green Chemistry.

IUPAC-Zhejiang NHU International Award. Last time the scheme for the NHU award included:

– Three prizes for three early career chemists, 2,000 US\$ each, who have received their Ph.D. (or equivalent) degree, or completed all Ph.D. requirements including successful defense of their doctoral thesis within the last 3 years (2016-2018) and one prize to an experienced chemist (10,000 US\$) who should have made significant contribution to green/sustainable chemistry throughout their career. This prizewinner will be communicated during 48th World Chemistry Congress held in Montreal, 13-20 August 2021.

The aim of the PhosAgro/UNESCO/IUPAC Partnership in Green Chemistry for Life is to generate and apply new scientific knowledge in green chemistry through the promotion of the activity in this area of young scientists. The PhosAgro/UNESCO/IUPAC project will offer research grants of up to US\$30,000 to scientists aged 39 and under with an innovative research project that respects the 12 principles of green chemistry, to help them implement their project.

Tundo provide information from previous events in order to advertise these awards to students.

12. ICGCSD Statement: Green Chemistry and IUPAC

The ICGCSD Statement: Green Chemistry and IUPAC was approved in July by the former ICGCSD membership and submitted to the Bureau. At this point professor Natalia Tarasova will revise the last sentences of the Statement, to emphasis the necessity to create a link between IUPAC and the UN Decade. IUPAC has to have an important role on it. The ICGCSD Statement, so endorsed by ICGVCS members, will be sent by Tundo to IUPAC Presidency and Secretariat with the request to be submitted to Bureau for IUPAC final approval and the likely request for the associated actions.

13. Congress in Athens (October 18-22, 2020) and proposals for 2022

Konstantinos Triantafyllidis, Aristotle University of Thessaloniki, the chair of the 9th IUPAC International Conference on Green Chemistry prepared all the necessary things for this conference. (<https://greeniupac2020.org/>)

14. Summer School on Green Chemistry in Venice (July 5-10, 2020) and related Symposia.

In 28 February 2020 the applications for financial support will close and after the Scientific Committee will select the winner. The Summer School on Green Chemistry will be held in Venice from 5th to 10^h July 2020 www.unive.it/ssgc and <https://iupac.org/event/postgraduate-summer-school-on-green-chemistry/>. Professor Tundo announces that the school will be organized in CAMPLUS Venice. <https://www.camplusapartments.it/en/students/housing-solutions/venezia/camplus-venezia-santa-marta/38/>

Nadia Kandile say that she is strongly interested in Summer School on Green Chemistry and the 9th IUPAC International Conference on Green Chemistry.

15. Communication and dissemination of the work of ICGCSD

- a. Webpage
- b. Newsletter (Aurelia Visa)
- c. Brochure

To be discussed and agreed during the Venice and Athens meetings. **Very important!**

16. Any other business (No other proposals)

17. Venue and timing of next Committee meeting.

Next virtual meeting is proposed to be done on 15th May after the Bureau meeting, time has to be agreed. Second meeting will be face-to-face meeting before the Summer School on Green Chemistry in Venice start (5-10 July 2020); Saturday 4th was proposed. IUPAC will reimburse the TM for two days meeting. The AM member accommodation will be covered by Summer School funds and the travel has to be supported by the AMs. The division delegates have to get support from their own Division budgets. A third meeting in person is in program at Athens.

Prof. Pietro Tundo
Chair, IUPAC ICGCSD

Attached:

1. Agenda of the meeting
2. ICGCSD Terms of References
3. ICGCSD Statement *Green Chemistry and IUPAC (for Sustainable Development)*