

# 2015

## ANNUAL REPORTS



ACADÉMIE ROYALE DES SCIENCES,  
DES LETTRES ET DES BEAUX-ARTS  
DE BELGIQUE



KONINKLIJKE VLAAMSE ACADEMIE  
VAN BELGIË VOOR WETENSCHAPPEN  
EN KUNSTEN

BELGIAN NATIONAL SCIENTIFIC COMMITTEES

RASAB vzw/asbl

**BELGIAN NATIONAL SCIENTIFIC COMMITTEES**  
**ANNUAL REPORTS 2015**

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## INTRODUCTION

The National Scientific Committees' missions are the promotion and coordination of various scientific disciplines in Belgium, mainly seen in an international context. The creation of a national committee is subject to the existence of an international scientific union affiliated to ICSU or a scientific body of ICSU (scientific committees, special committees, etc.) concerning the same scientific discipline.

The National Scientific Committees work under the patronage of the *Académie royale des Sciences, des Lettres et des Beaux-Arts de Belgique*<sup>1</sup> and the *Koninklijke Vlaamse Academie van België voor Wetenschappen en Kunsten*<sup>2</sup>, gathered in RASAB.

The committees are subject to regulations adopted by the Belgian Academies of Sciences and Arts.

The list of the members of the Belgian Scientific Committees can be found on the RASAB's website: [www.rasab.be](http://www.rasab.be).

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<sup>1</sup> [www.academieroyale.be](http://www.academieroyale.be)

<sup>2</sup> [www.kvab.be](http://www.kvab.be)

# NATIONAL COMMITTEE FOR ANTARCTIC RESEARCH

## 1. Introduction, mission, goals

According to its Terms of Reference, the goals of BNCAR are defined as follows:

### [a] General Terms of Reference:

- Forum to bring members together to share information, identify common problems and to seek collective vision and endeavours for Belgian Antarctic (and Arctic) research.
- Strategy to identify scientific and operational issues of strategic importance with respect to Belgian Antarctic (and Arctic) research and activities.
- Voice to express a collective vision for the future Belgian Antarctic (and Arctic) research and activities in relation to developments in Belgium, Europe and the World.

### [b] Specific National Terms of Reference:

- Participate in the Belgian coordination bodies concerning Antarctic research.
- Establish by means of invited speakers or surveys an overview (State of the Art) of Belgian Antarctic (and Arctic) research and activities.
- Organize - whenever appropriate – manifestations, symposia, etc. – to promote Antarctic (and Arctic) research.
- Voice – whenever appropriate or necessary – our concerns about the state of the environment in Antarctica (and Arctic) within the framework of sustainable development.
- Promote Polar science in general within the Belgian context.

### [c] Specific International Terms of Reference:

- BNCAR is the official representing body of Belgium within SCAR (Scientific Committee on Antarctic Research, ICSU). This implies that BNCAR members can participate in SCAR meetings, contribute to establish the Belgian annual report to SCAR and respond to particular information requests from SCAR.
- Give advice or respond on matters raised within international bodies such as the ATCM (Antarctic Treaty Consultative Meeting) and its CEP (Committee for Environmental Protection), CCAMLR (Convention for the Conservation of Antarctic Marine Resources), CCAS (Convention for the Conservation of Antarctic Seals), EPB (European Polar Board).
- Promote (Belgian) Polar science at an international level.

## 2. Meetings of the Committee

### [a] Plenary meeting of 18 May 2015

The agenda was:

1. Approval of the agenda
2. Approval of the report of 10 November 2014
3. Membership matters
4. Ad hoc commission on naming in the vicinity of PEA and Dronning Maud Land
5. BELSPO, PEA and potential foreign partners
6. Antarctic Treaty Meeting
7. Varia

#### *Main conclusions*

- Reform of BNCAR membership. The new list of effective and associate members was discussed and approved. Several effective members stepped down. They were all made honorary member.
- Antarctic place name committee. An Ad hoc commission on place naming in the vicinity of Princess Elisabeth Station in Dronning Maud Land was established. The need for official names is obvious as more and more research is currently carried out in this area. This new Ad hoc commission is composed of J.-Y. Pirlot, F. Pattyn, H. Decleir, and T. Van Autenboer.
- BELSPO-PEA. According to the government agreement, BELSPO activities will continue but brought under the umbrella of a different Federal Department, hence becoming less visible. It is however not clear how financing of Antarctic programs will continue. Brain.be will fall under a new Directorate. Nevertheless, Secretary of State E. Sleurs is in favor to continue such type of research activities. The government continues to give its support for exploiting the Antarctic Station.

A Carte blanche was published in Le Soir (4/11/14), emphasizing that it was a bad idea to split all cooperation across communities. This open letter led to the SAVE BELSPO petition that has gathered 17000 signatures with an equal balance between researchers from both sides of the country. The petition was followed by a press conference with 17 scientists from all universities and federal institutes. Equally, a hearing was organized in the Senate on the importance of federal research in Belgium.

### [b] Plenary meeting of 26 October 2015

The agenda was:

1. Adoption of the agenda

2. Adoption of minutes of the previous meeting
3. Welcome of new members and overview of SCAR activities and how to get involved
4. Presentation of the Committee on Environmental Protection of the Antarctic Treaty and how to get involved
5. Status of the Belgian Antarctic Research Expedition 2015-16
6. Antarctic research in a post-BELSPO era – discussion
7. Participation in SCAR OSC Malaysia 2016
8. Memberships – Board election
9. Varia

### *Main conclusions*

This was the first meeting with an enlarged (associate) membership in order to cover all scientific activities with respect to Antarctic research. For this purpose, a general overview of SCAR activities was presented and we solicited a larger contribution of Belgian research in the international activities of SCAR.

- **Antarctic field season at PEA.** A major change has occurred in the organization of the next field season at PEA. This will be the first season without logistical support from the International Polar Foundation. The organization is done by BELSPO, with logistic support from AntarctiQ (former logistic members of PEA) and the Belgian Army. The logistic support for Belgian research activities should be maintained and the operations in the field will be guaranteed.

### **3. General Assembly of the Scientific Union**

No Assembly of the Scientific Union in 2015. The next Scar Biennial Meeting is scheduled in 2016.

### **4. Other activities**

#### [a] ISAES (July 2015)

At the XII<sup>th</sup> International Symposium on Antarctic Earth Sciences, organized in Goa (India), 13-17/07/2015, V. Debaille and P. Claeys organized a session on Antarctic meteorites.

#### [b] ISMASS (August 2015)

An Ice Sheet Mass Balance and Sea-Level Rise (ISMASS) meeting was organized in Cambridge, prior to the IGS (International Glaciological Society) Symposium on Ice sheet Dynamics and Sea Level. It was co-organized by CliC (Climate and Cryosphere) and SCAR.

[c] Alpine microbiology

The 6<sup>th</sup> International Conference on Polar and Alpine Microbiology was held from 6 to 10 September 2015 in České Budějovice, Czech Republic.

<http://polaralpinemicrobiology2015.prf.jcu.cz/>

W. Vyverman and A. Wilmotte are chairpersons of sessions.

[d] Antarctic Treaty Meeting

The 38<sup>th</sup> Antarctic Treaty meeting will take place in Sofia (Bulgaria) from 1 to 10 June 2015.

Belgium was involved in the organisation of a ATCM Workshop on Education on the 31<sup>th</sup> May.

**5. Future perspectives**[a] BNCAR meetings

A joint symposium between BNCAR and BNCGG (Belgian national committee on Geodesy and Geophysics) will be organized on 29 April 2016 at the Royal Academies of Belgium, entitled: *Unlocking a continent: research activities at the Belgian Princess Elisabeth Station, Antarctica 2008-2016*. Preparations are ongoing. The confirmed guest speaker is Prof. Martin SIEGERT, co-director of The Grantham Institute for Climate Change, Imperial College London and Bristol Glaciology Center, UK and 2013 recipient of the Martha T. Muse Prize for excellence in Antarctic science and policy.

[b] SCAR meetings

- Southern Connections<sup>3</sup>, 18-23/01/2016.
- SCAR Open Science Conference, Malaysia, August 2016. This is the biannual meeting of SCAR. Belgian representatives will be present.
- The next SCAR Biology meeting will be organized in Belgium in 2017.

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<sup>3</sup> <http://www.umag.cl/southernconnection2016/>



# NATIONAL COMMITTEE FOR ASTRONOMY

## 1. Introduction, mission, goals

The formal basic goal of the committee is to coordinate the participation of Belgian astronomers in the activities of the International Astronomical Union (IAU), and in the triennial IAU General Assembly in particular. The committee also serves a role in the dissemination within the Belgian community of developments within other international organisations to which our country participates, such as ESA, ESO, and the journal *Astronomy and Astrophysics*. Finally, the meetings also offer opportunities to react together on matters affecting various astronomical activities in Belgium among which access to new research facilities and public outreach.

## 2. Meetings of the Committee

The Committee gathered two times in 2015: on 13 January, and 15 June. All these meetings took place at the Palace of the Royal Academies for Science and the Arts of Belgium, in Brussels. Recurrent topics of discussion during these meetings were ESO matters, ESA matters, the Astronomy & Astrophysics Board, and the ARIES telescopes under construction in India, which are addressed in the sections below. The IAU General Assembly took place from 3 to 14 August in Honolulu, Hawaii. J. Surdej has participated to this meeting as the BNCA representative.

## 3. General Assembly of the Scientific Union<sup>4</sup>

*Dates and place:* August 3 - 14 in Honolulu, Hawaii

*Main conclusions:*

New IAU memberships have been reviewed during our meeting on January 13. We received 12 applications and validated 8 memberships. Contact was taken with the secretary of the French national committee to consider the application of one of the Belgian candidates who moved on a Post-Doc in France.

Our president, J. Surdej, has participated to the IAU meeting as the BNCA representative.

Some important points are just being emphasized below:

- The XXIX<sup>th</sup> General Assembly of the International Astronomical Union (IAU) took place in Honolulu (Hawaii) on 3 - 14 August 2015. More than 3,000 astronomers and exhibitors

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<sup>4</sup> See full report on page 85.

from more than 70 countries have come to share their research work. It was a very rich program. There were six Symposia, 22 Focus Meetings, and many Splinter Meetings. It was also possible to listen to very inspiring invited and plenary talks. Moreover, there have been teaching and public activities. The exhibits were very informative and attractive. Seven press briefings took place on a wide range of topics, from the slow death of the universe to the first science conducted using night-time photographs taken by astronauts aboard the International Space Station, and received worldwide media coverage.

- We indicate hereafter the past (until 14 August 2015) and new (since 15 August 2015) members of the IAU Executive Committee: Norio Kaifu was the past President and the new one is Sylvia Torres-Peimbert, the previous General Secretary was Thierry Montmerle and the new one is Piero Benvenuti. Ewine Van Dishoeck is the new President Elect and Maria Teresa Lago is the new Assistant General Secretary.
- The first Business Meeting of the IAU XXIX General Assembly took place on Tuesday, 14 August. Please note that only nations that had paid their dues in full were eligible to vote. It was very unfortunate that Belgium did not pay its fees, resulting in no participation of the Belgian National Representative during the vote. This was very uncomfortable because the Representative did not receive any further information about the important points that were going to be discussed during the Business sessions.
- In 2018, the next General Assembly will take place in Vienna where and when the 100th anniversary of the IAU organization will be celebrated. It will be followed by the XXXI<sup>st</sup> General Assembly in Busan, Republic of Korea (South Korea), in August 2021.
- During the second Business meeting held on 12<sup>th</sup> of August 2015, the British Representative declared his dissatisfaction as to how the IAU financial report had been presented: too late, lack of transparency and absence of an external audit. He said that if no significant change is brought to solve this issue in the future, the UK delegation would vote against the next IAU financial report. The US and other National Delegations also expressed their dissatisfaction about the constant increase (by 2-3%) of the IAU financial budget. They declared that if this trend continues, they could abstain from paying their fees in the future; The US Representative said that IAU has become a too expensive scientific organization.
- Let us finally mention that Anne Lemaître (UNAMUR) occupies a very key position as being the new President of Division A (Fundamental Astronomy). To be complete, let us add that Christiaan L. Sterken (VUB) is a member of the steering committee of Commission C3: History of Astronomy; Jean-Pierre de Greve (VUB) is a member of the

steering committee of Commission C1: Astronomy Education and Development and Gregor Rauw (ULg) is a member of the steering committee of Commission G2: Massive stars. Dimitri Pourbaix (ULB) is a member of the IAU Special Nominating Committee.

#### 4. Other activities

##### [a] Astronomy and Astrophysics (A & A)

Matters related to A&A were reported by R. Van der Linden, our Belgian delegate in the A&A board. The last board meeting was held in May 5th, 2015, in Bern. From the main topics that were addressed it comes out that:

- There will be no printed version anymore, A&A will only be available online.
- The agreement between ESO and the member countries of A&A was finalized and approved by ESO Council. The member countries will soon be invited to sign the agreement.
- There will be a new call for tender for a publisher in 2016, since EDP's contract expires. The publisher still may be the older
- EDP wishes to increase the fee for Free Access papers from 400 to 1000 euro. The latter is according to them the real production cost of a paper. This price increase was not yet agreed.
- The annual contributions of the member countries remain constant in 2016, but will probably need to increase substantially from 2017 onwards, since A&A will have used up most of its reserves by then. Also, the fact that Brazil withdrew from A&A reduces the income significantly.

##### [b] ESO matters

ESO matters were reported to the BNCA by J. Surdej (Chairman of the Belgian National ESO Committee, BNEC), S. Van Eck (secretary of BNEC), C. Waelkens (Scientific member of the ESO council), and S. Pireaux (Belspo, ESO council member). ESO council meetings took place on 10 - 11 June, 8 - 9 December 2015, and 8 October 2015 (extraordinary Council meetings), while BNEC meetings were held on April 27 and 7 December, 2015.

During 2015, the board of the ESO council was changed: its president became Patrick Roche (former chairman of the strategic working group) and vice president is Jan Palous, while Christoffel Waelkens became chairman of the strategic working group.

While waiting for the ratification of Brazil's participation and due to ESO's 90 percent budget availability rule is not yet fulfilled, the science technical committee approved the

construction of the E-ELT in 2 phases<sup>5</sup>. In order to inform the Belgian community about the new procurement agenda Belspo organized an industry day on 18.06.2015.

The Belgian financial contribution to the E-ELT (a bit less than 13.5 Meuros) was approved by the Belgian Council of Ministers as early as on 05/10/2012 and a yearly E-ELT contribution (additional to the Belgian regular contribution to ESO) from Belgium was paid to ESO since then. The real start of the E-ELT Construction (Phase 1) was given by the ESO Council at its December meeting in 2014.

At the end of 2015, the membership of Brazil was not yet effective. After ratification by the Brazilian Parliament and the Senate, the steps that are still missing are the signature by Brazilian President and the deposit of the instrument of ratification for Brazil for ESO membership at the French Ministry of Foreign Affairs. The instrument of ratification for Poland for ESO membership was deposited at the French Ministry of Foreign Affairs on 8 July 2015. This final step completes the accession process and the date of deposit marks the official date of Poland joining ESO. Australia and Canada will probably not join the E-ELT project anymore.

First light and commissioning of SPHERE and MUSE for the VLT have been very successful. The instruments are now fully operational. The next instrument to be available will be the échelle spectrograph called ESPRESSO aimed at extrasolar planet detection.

ALMA is running with an efficiency (i.e. science production to total time ratio) of somewhat more than 50 percent, and is thus still limited by technical problems or sometimes adverse weather conditions. Because of the lower than expected efficiency, several of the programs which have been awarded time during the first observing cycles, are still not completed.

For NTT a call for proposals was open. Seven proposals (most of which are related to exoplanets) among 19 received, were retained for a phase A study.

There are plans to put Paranal on the power grid<sup>6</sup> and the installation of Solar panels which have important financial implications, but that would only become fully profitable after 2 years of exploitation.

The yearly ESO outreach network meeting was held in April 2015. The Supernova ESO planetarium and visitor center are under construction<sup>7</sup>. Access to the center is expected to be free. It will produce planetary shows that will be made available to other planetariums.

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<sup>5</sup> More details are available in the December issue of the Messenger:  
<http://www.eso.org/sci/publications/messenger/archive/no.158-dec14/messenger-no158-3-6.pdf>

<sup>6</sup> <http://www.eso.org/public/announcements/ann14049/>

<sup>7</sup> <http://supernova.eso.org/>

[c] ESA matters

ESA matters were reported to the BNCA by W. Verschueren (Belgian representative at the ESA Science Programme Committee, BELSPO).

For what concerns the Science Programme, in 2015 there were 12 missions in orbit, 17 in development. The launch of the technology demonstration mission LISA Pathfinder was performed in December. Results of the mission will help to decide on the feasibility of the development on the long term of a full space mission, with several satellites, dedicated to the detection of gravitational waves. The formation flying technology demonstration mission PROBA-3, for which Belgium supplies one spacecraft and the coronagraph instrument, is planned to be launched in 2019. The mission is developed under the responsibility of the ESA technology programme GSTP, but Belgium is preparing a proposal for involving the ESA Science Programme in the science operations.

CHEOPS (CHaracterising EXOPlanets Satellite) S1 mission was adopted, and is foreseen for launch in 2017. With the expected launch of PLATO in 2024, continuation in Exoplanet research is guaranteed.

SPICA (Space Infrared Telescope for Cosmology and Astrophysics), a mission led by JAXA (Japanese Aerospace Exploration Agency) in collaboration with ESA, has been judged as not viable as it was initially conceived. There is quite some Belgian involvement, also in industry. As a result of the review in which more international collaboration is requested, ESA cannot consider SPICA anymore for the Mission of Opportunity class. There are, however, concrete plans to propose it in response to the M5 call of the Science Programme in spring 2016.

There were 2 recent calls within the Science Programme:

- Regarding the M4 medium-sized missions call, 3 proposals out of the 27 submitted were selected for phase A:
  1. Thor: will study the energy dissipation of plasma and the interaction of the Solar wind and the Earth's magnetic field. Led by Sweden, but with contributions by BIRA;
  2. Ariel: Exoplanet atmosphere analysis, led by the UK, but with contributions from KU Leuven and CSL;
  3. Xipe: X-ray polarimetry of high-energy sources (currently, no Belgian participation).
- ESA planned a joint scientific space mission with the Chinese Academy of Sciences on a 50%-50% basis. The joint call was issued early 2015 and was aiming to develop a S-class (Small-class) mission. Over the 13 proposals that were received only 1, called SMILE, was

selected and will study the link between the Solar wind and the Earth's magnetosphere and ionosphere. The Belgian-led (ROB and CSL) proposal MASC did not survive the final selection step. BELSPO's strategy is now to win the selection for the platform of SMILE with a PROBA platform.

For the Exploration Programme, the International Mars Exploration Working Group (IMEWG) has created two new working teams, among which one on scientific matters. BELSPO has nominated Ann Carine Vandaele, who is PI of the NOMAD instrument on the ExoMars 2016 mission, as member of this working team. The ExoMars Orbiter is on its way to be launched in 2016, while the ExoMars Rover mission is expected to be launched in 2018 (although the development schedule for the latter is becoming very critical). LaRa (Lander Radioscience) has been selected to fly on Exomars 2018 with as PI VV. Dehant (ROB).

The full budget support for ExoMars is not yet reached and a request for additional financial contributions will be tabled again at the next ESA Ministerial Council at the end of 2016. The planning for an exploration mission after ExoMars have converged towards a Phobos Sample Return mission called "Phootprint", for which approval will be asked also at the next ESA Ministerial Council.

About ESA relations with Russia, ExoMars depend on collaboration with Russia. So far, everything is proceeding reasonably well although there is a general complaint about the difficulty to get sufficient information from the Russian side.

#### [d] ARIES telescopes

J. Surdej regularly reported on the construction of the ARIES telescopes.

In 2015, AMOS successfully tested all the different modes (pointing, guiding, image quality, ...) of the 3.6m Devasthal Optical Telescope (DOT). Science verification was performed in October under the leadership of AMOS. First light was expected by the end of 2015 with science exploitation starting in 2016, just after the monsoon.

The dome of the 4m International Liquid Mirror Telescope (ILMT) is under construction. It was expected that AMOS would erect the ILMT in October 2015 and that first light could be obtained during the spring of 2016.

#### [d] A&A FNRS contact group meeting

R. Alvarez organized at the Planetarium of the ROB the FNRS A&A contact group meeting on May 18, 2015. 53 participants attended the meeting, 12 talks and 2 posters have been presented.

## **5. Future perspectives**

The impact of the new science Federal policy and of the establishment of an "Interfederal Space Office" on astronomy research is being followed up with great attention.

## NATIONAL COMMITTEE BELQUA (QUATERNARY RESEARCH)

### 1. Introduction, missions, goals

BELQUA is the Belgian contact for INQUA, the International Union for Quaternary Science. The purpose of BELQUA is to support and increase the visibility of Belgian research on various aspects of the Quaternary period, either conducted in Belgium or by Belgian scientists abroad. BELQUA also aims to encourage young researchers and to promote scientific communication. It covers all research fields related to Quaternary science.

### 2. Meetings of the Committee

#### (a) Meeting of 3/3/2015, in Brussels

Main achievements and conclusions:

- Nomination of Marie-France Loutre to become treasurer of INQUA and of Cécile Baeteman as honorary Life Fellow.
- Preparation to publish a book providing an overview of the science regarding the Quaternary in Belgium

#### (b) Meeting of 30/11/2015, in Brussels

Main achievements and conclusions:

- Nomination of Marie-France Loutre as honorary member and of Aurélia Hubert-Ferrari as vice-secretary
- Discussion concerning the forthcoming BELQUA activities – workshop and fieldtrip planning;
- Evaluation of the fieldtrip and 2015 workshop;

### 3. General Assembly of the Scientific Union<sup>8</sup>

Vanessa Heyvaert represented BELQUA at the General Assembly. A summary of the various meetings is given below; the issues in which Belgian scientists were actively involved are underlined.

#### 1) INQUA Commissions:

- a) The INQUA Commissions Reports (2011-2015) were presented by Commission Presidents or their representatives as follows. Coastal and Marine Processes (CMP): Craig Sloss (*for* Roland Gehrels); Humans and the Biosphere (HABCOM): Nicki Whitehouse;

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<sup>8</sup> See full report on page 90



Palaeoclimates (PALCOMM): Sandy Harrison; Stratigraphy and Chronology (SACCOM): Thijs van Kolfschoten (*for* Phil Gibbard); and Terrestrial Processes, Deposits and History (TERPRO): Alessandro Michetti.

b) The following Commission officers (2015-2019) were approved:

- CMP: President: Craig Sloss. Vice Presidents: Anders Carlson & Yusuke Yokoyama. Secretary: Lynda Petherick.
- HABCOM: Nicki Whitehouse. Vice Presidents: Brian Chase (may have to stand down) & Masmal Izuho. Secretary: Encarni Montoya
- PALCOMM: President: Atte Korhola. Vice President: Jennifer Marlon. Secretary: Rachel Lem
- SACCOM: President: Mauro Coltorti. Vice President: Lewis Owen. Secretary: Freek Busschers
- TERPRO: President: Alessandro Michetti. Vice Presidents: Takashi Azuma & Rivka Amit. Secretary: Daniela Kröhling

c) Early Career Researchers Committee

- The Chairperson (Sallie Burrough) outlined the rationale for the formation of this Committee and the history of its development, which the Executive Committee had encouraged from the outset.
- The President's proposal that the ECR Committee be accepted as a formal part of the INQUA structure, with a place on the Executive Committee, was accepted. The 2015-2019 Committee was accepted, with Lyudmila Shumilovskikh as the incoming Chair.

d) Proposition Standing Committee on Stratigraphy

The proposed Standing Committee on Stratigraphy was presented by Thijs van Kolfschoten (*for* John Lowe).

- There had been discussions with Martin Head, Chair of the Quaternary Stratigraphic Commission, about the utility of establishing a joint Committee to address ongoing matters of stratigraphic nomenclature, including the definition of the Quaternary boundary, and other issues.
- The Anthropocene falls generally under the preceding topic. INQUA is also keeping maintaining a watching brief on developments.

## 2) Executive Committee:

Following elections scrutinised by James Teller (Canada) and Elizabeth Kyazike (East Africa), the Executive Committee for 2015–2019 will comprise President: Allan Ashworth (USA); Vice

Presidents: Franck Audemard (Venezuela), Zhengtang Guo (China), Ashok Singvi (India) and Thijs van Kolfschoten (The Netherlands); Secretary-General: Brian Chase (France); Treasurer: Marie-France Loutre (Belgium).

3) Next conference venue:

Following an election scrutinised by James Teller (Canada) and Elizabeth Kyazike (East Africa), the next Congress was awarded to Ireland (51.5%), followed by Italy (45.5%) and Spain (3.0%).

4) Quaternary International:

- a) The Editor's Report was presented by Thijs van Kolfschoten (*for* Norm Catto). The outgoing Editor was thanked for this and particularly for his long-standing and incalculable contribution to the success of the journal with which he has been involved since its inception.
- b) Min-Ti Chen (Chinese Taipei) has been appointed the new Editor-in-Chief. He was introduced to the International Council and briefly outlined his views on developing the journal. Among innovations is the establishment of a team of five Associate Editors, each aligned with one of the current INQUA Commissions. These are Barbara Mauz (UK: CMP), Florent Rivals (Spain: HABCOM), Zhonghui Liu (China: PALCOM), Alessandra Negri (Italy: SACCOM) and Asfawossen Asrat (East Africa: TERPRO).
- c) The editorial board of the journal stays the same: V.M.A. Heyvaert and M.F. Loutre (both from Belgium/BELQUA) stay appointed.

5) Quaternary Perspectives.

Sallie Burrough reported that the ECR Group took over responsibility for producing *Quaternary Perspectives* in 2012 at the request of the President, following a hiatus. The first ECR Editors were Alessio Rovere and Lorna Linch. Upon the resignation of the former, Lyudmila Shumilovskikh took his place. The supervisory Editor was Koji Okumura. Thanks to the ECR Editors, *Quaternary Perspectives* is once again appearing regularly.

6) BELQUA (Vanessa M.A. Heyvaert) presented the nomination of Cecile Baeteman to receive an Honorary Life Fellowship of INQUA.

The following nominations of Honorary Life Fellows were approved for presentation to the General Assembly: Zhisheng An (China); Cecile Baeteman (Belgium); David Lowe (New Zealand); Hiroshi Machida (Japan); and Brad Pillans (Australia)

7) International Linkages (INQUA)

- a) Allan Chivas outlined International Council for Science (ICSU) structures and noted that INQUA formed part of a strong sub-grouping of Geo-Unions. INQUA continued to make progress in strengthening its position in ICSU. Sylvi Haldorsen had obtained an ICSU grant under the auspices of INQUA and Sandy Harrison had been appointed Chair of World

Data System (WDS) Scientific Committee. At the request of the ICSU Secretariat, Prof. Kazukuyi Tatsumi, a member of the ICSU Board, attended this session to answer questions concerning ICSU.

- b) INQUA is a member of the GeoUnions sub-group of ICSU. This group meets independently to discuss matters of specific interest and to formulate plans for approaches to the ICSU Secretariat when necessary.
- c) INQUA continues to monitor the development of the Future Earth Programme and has been advised by Sandy Harrison that it may be best to make pro-active representations regarding participation. There was discussion on whether INQUA should become involved, but no real conclusion reached.

#### 4. Other activities

##### [a] BELQUA annual workshop

- *Description:* The BELQUA Workshop of 3 March 2015 was a one-day event in Brussels and convened by Sophie Verheyden (RBINS) and Marie-France Loutre (UCL). Prof. Dr. Hans Renssen (Free University of Amsterdam) gave a keynote lecture on the topic of "*Climate change during the last two interglacials: to what extent do model results agree with proxy data?*". His lecture has been programmed just after the lunch break as an attraction point to stimulate the participants to remain present during both the morning and afternoon session. In addition to the keynote lecture, abstracts were submitted for 14 oral presentations, covering a very wide range of topics and disciplines.
- *Goal:* The workshop is an opportunity to meet colleagues working in Quaternary Sciences in Belgium and abroad. It is also an opportunity for students to present their PhD research and post-doc projects.
- *Attendance:* A total of 35-40 participants attended the workshop.

##### [b] Annual BELQUA fieldtrip

- *Description:* The BELQUA field trip was held on the 11<sup>th</sup> of September 2015. First, a visit to the Sainte Anne Cave in the Lower Ourthe valley and the Chawresse stream/valley was organized by Gilles Rixhon and Alexandre Peeters. This was followed by a visit to the Belle-Roche palaeokarst area in the Lower Amblève valley. During the latter trip the river evolution was discussed in relation to palaeontology and archaeology by Gilles Rixhon.
- *Attendance:* 11 registered participants and the organizers Gilles Rixhon and Alexandre Peeters.

(c) Participation in international meetings and conference

BELQUA members took part and convened sessions in several international meetings

- Co-convenor of session *Lake Sediment Records of Past Changes in sea level and climate during the Late Quaternary* at the 12<sup>th</sup> International Symposium on Antarctic Earth Sciences in Goa, India between 13-17/07/2015. (Elie Verleyen)
- Co-convenor of symposium *Paleoclimate and environmental records in Quaternary continental archives* at the EGU General assembly, Vienna, 17-22 April 2015. (Qiuzhen Yin, Marie-France Loutre, Jerry F. McManus, Bette L. Otto-Bliesner)
- Co-convenor of symposium *Understanding interglacial climate*, INQUA Congress 2015, Nagoya, Japan, 26 July-2 August 2015. (Nathalie Fagel, Marie-France Loutre, Sophie Verheyden)
- Co-convenor of session on Geoarchaeology GM4.2. *Geoarchaeology: Human-environment interactions in the Pleistocene and Holocene* at the EGU European Geosciences Union General Assembly, Vienna, Austria. (Vanessa Heyvaert).
- Co-convenor of session *Geoarchaeology: Human-environment interactions and palaeo-geohazards* at the XIX INQUA Congress, Nagoya, Japan, 27/07-01/08/2015. (Vanessa Heyvaert).

[e] INQUA relationships

- Vanessa Heyvaert acted as the Belgian representative during the past business meeting. Marie-France Loutre was the treasurer of INQUA from August 2007 onwards. Information from INQUA is distributed amongst the Belgian Quaternary Community through BELQUA. This is for example the case for the newsletter that the INQUA Executive Committee edited, for the calls for INQUA projects and medals, and for the table of content of the INQUA journal.
- Vanessa Heyvaert became member of the Advisory Board of INQUA Coastal and Marine Processes Commission (2015-2019).

**5. Future perspectives**[a] BELQUA annual workshop

The BELQUA 2016 workshop will be organized by Gert Verstraeten and Vanessa Heyvaert on the 4<sup>th</sup> of March. The workshop will be open to all scientists interested in Quaternary research and will provide young scientists, including advanced MSc students, PhDs, and post-docs the opportunity to present their work.

[b] BELQUA annual Fieldtrip

To be decided – a visit to the Belgian research vessel ‘The Belgica’ is planned but confirmation is waiting.

[c] EGU 2016:

BELQUA members have proposed several sessions, including:

- *Quaternary continental climate archives: tracking spatial and temporal changes through robust multi-proxy records.* Co-conveners: Nathalie Fagel, Marie-France Loutre, Sophie Verheyden
- *Geoarchaeology: Human adaptation to landscape changes, landscape resilience to human impact and integrating palaeoenvironmental and archaeological records.* Co-conveners: Vanessa Heyvaert.

# NATIONAL COMMITTEE FOR BIOCHEMISTRY AND MOLECULAR BIOLOGY

## 1. Introduction, mission, goals

The goal of the National Committee is to promote research in the field of Biochemistry and Molecular Biology, by organizing meetings and inviting outstanding internationally renowned scientists. Because of the increasingly interdisciplinary nature of the biological sciences, often symposia are organized together with other societies and other National Committees.

Because of the common goals, the members of the National Committee on Biochemistry and Molecular Biology are also member of the board of the Belgian Society of Biochemistry and Molecular Biology and as such are actively involved in the preparation and organization of all the activities of this Society and of the National Committee.

## 2. Meetings of the committee

The National Committee organizes its meetings together with the board of the Belgian Society for Biochemistry and Molecular Biology. In 2015 two meetings were held on 25<sup>th</sup> January and on 29<sup>th</sup> November, both at the KUL in Heverlee, which were hosted by Prof. Yves Engelborghs. In these meetings the planning for the coming year(s) was discussed and decided. Further organization and exchange of information and ideas was done by email. The actual organization of symposia was left to the local organizers.

## 3. General Assembly of the Scientific Union

No Assembly of the Scientific Union in 2015.

## 4. Other activities

The Society/National Committee has organized in 2015 the following two scientific meetings:

### [a] 212<sup>th</sup> meeting of the Society.

The 212<sup>th</sup> BMB meeting took place on Friday May 22 at the UCL, Life Science Institute (ISV) in Louvain-la-Neuve, Belgium. The theme of the meeting was "Biochemical aspects of evolution", organized by Prof. Patrice Soumilion. The Society's general assembly was held at this meeting during the lunch break, and elected a new board (cf supra). Briefly, Carine Michiels from UNamur features as president; Jason Perret is the first vice president while Silvia Dewilde is the second vice president. Yves Engelborghs remains treasurer. Fred Oppendoes announced that he would step

down as secretary, after serving the society for 17 years. The society expresses its gratitude for all the efforts put forward by Prof. Opperdoes during this long active period. Jan Gettemans from Ghent University was elected as his successor. Anniemie Lambeir will act as publications secretary.

During the 212<sup>th</sup> meeting, the 64<sup>th</sup> General Assembly of the Society of Biochemistry and Molecular Biology took place.

#### [b] Other activities

Most members of the National Committee participated in many international scientific events, either as participant or as an invited speaker. However it would be impossible to provide an extensive list of all these activities.

Kristel Slegers, Yves Engelborghs and Christine Van Broeckhoven organized a meeting, supported by the Royal Flemish Academy of Belgium for Sciences and the Arts and jointly organized by the National Committee for Biochemistry and Molecular Biology and the Belgian Society of Biochemistry and Molecular Biology, on 'New insights into molecular mechanisms of neurodegeneration, to be held on December 4, 2015.

However, due to the heightened insecurity and terrorist alert levels in Brussels at that time, the board of the Belgian Society of Biochemistry and Molecular Biology decided to cancel the contact forum. The society may consider having a meeting on the same subject at another date and venturing.

### **5. Future perspectives**

The Society has been invited to organize the 25<sup>th</sup> IUBMB congress of 2021 in Belgium by the general secretary of the IUBMB, Michael Walsh.

# NATIONAL COMMITTEE FOR BIOLOGICAL SCIENCES

## 1. Introduction, mission, goals

The national Committee of Biological Sciences is representing the Royal Academies (RASAB) towards the International Union of Biological Sciences (IUBS) and brings representatives of the Belgian biological research and research groups together. The Committee organizes contact fora and develops in collaboration with other organisations research projects towards the larger public.

## 2. Meetings of the Committee

The committee did not have a formal meeting in 2015. There was regular (direct) contact between the president and the secretary during the year.

## 3. General Assembly of the Scientific Union

A general assembly of the International Union of biological Sciences (IUBS) took place in Berlin from 14<sup>th</sup> to 16<sup>th</sup> December 2015. The meeting was entitled *Frontiers in Unified Biology* but was not attended by a member of our committee. Further contacts and discussions took place via e-mail.

A discussion, planned with the Vice-president of IUBS, planned in Brussels in the beginning of December had to be postponed due to the terrorism level 4 in Brussels.

## 4. Other Activities

[a] Planning of the national lichen survey. The proposal (planned activity) has been translated and exists now in Dutch and French. It has been discussed with the Flemish nature organisation Natuurpunt in order to start a collaboration. A formal decision when the lichen survey will take place has not been taken yet.

[b] Publication of the Proceedings of the conference *Nutrition and Food production in the Congo basin* held in Brussels on 30<sup>th</sup> September and 1<sup>st</sup> October 2013 were published in spring 2015 (ISBN 978-90-756-5253-6). Guest editors of the Proceedings (in total 214 pages) were J. Rammeloo, B. Van de Vijver & P. Goyens. The proceedings have been sent to all members.



## **5.Future perspectives**

Finally, the rejuvenation the National Committee planned for 2015, is postponed to 2016. There have been (mostly) bilateral discussions on how to revitalise the Committee, especially after the death of some of the members and new members have to be elected. There is a lot of concern about the representation of different disciplines within the Committee. Prior to this action, the president of the committee, Prof. J. Rammeloo, wishes to inquire what the future needs of the committee might be and depending on the results of this inquiry, action will be undertaken to rejuvenate the committee in order to realise a better representation of the different research disciplines as biological research has strongly evolved the last decennia.

# NATIONAL COMMITTEE FOR BIOMEDICAL ENGINEERING

## 1. Introduction, missions, goals

Biomedical Engineering is the multidisciplinary field concerning Engineering research, developments and applications in (bio)medicine.

The Belgian National Committee on Biomedical Engineering aims to bring together the Belgian academics, students, researchers and professionals, active in the broad field of biomedical Engineering.

The aims of the National Committee are:

- Stimulating scientific and educational interactions
- Linking with international organizations and societies
- Representation of the Belgian academic point of view
- Setting up a forum for interested students and professionals.

## 2. Meetings of the committee

Dates: The Committee met on: March 3<sup>rd</sup>, June 2<sup>nd</sup>, September 15<sup>th</sup> and October 26<sup>th</sup>.

*Main conclusions*:

- Continuing efforts for a yearly Contact Forum.
- Involving young scientists and professionals, alumni of our master programs.
- Streamlining communications (updated informative website).
- Contacts with industry: mostly via the association UNAMEC.
- Continuing liaison efforts with European, worldwide associations.
- Need for continuing efforts in promoting research and development and an awareness of the community.

## 3. General Assembly of the Scientific Union<sup>9</sup>

The International Union IUPESM held its General Assembly in June 2015 during the World Congress on Biomedical Engineering and Medical Physics in Toronto (June 7<sup>th</sup> – 13<sup>th</sup> 2015), during which event the Federation's officers are elected,

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<sup>9</sup> See representative's report on page 91.

Prof. M. Nyssen obtained the mandate as Treasurer of the International Union IUPESM.

Prof. Jos Vander Sloten was elected as a Member by the International Academy for Biomedical Engineering.

#### 4. Other activities

##### [a] Belgian Day on Biomedical Engineering (December 6<sup>th</sup>, 2015)

*Description:* Contact Forum with 5 invited speakers, a poster session presenting new research results and prizes for 3 posters by young researchers;

*This year's theme: "Nanotechnology" had to be postponed to March 4<sup>th</sup> 2016 due to the terror-menace level 4 in Brussels.*

*Goals:*

- Bring Belgian researchers in contact with internationally recognized speakers (this year's theme: Bridging the gap between Engineering and Medicine) and allow them to present their work in a short presentation and poster (Belgian Day)
- Evaluate the future activities of EAMBES.

*Attendance:* 270 persons were registered and will attend the "Contact Forum": 14<sup>th</sup> National Day on Biomedical Engineering on March 4<sup>th</sup> 2016

##### [b] Collaboration with UNAMEC

Thanks to the collaboration with UNAMEC, an evaluation of the complete biomedical engineering sectorial presence: in education, in research, and in the professional context has been realized in 2013. Major contributions were made to the UNAMEC report concerning medical devices (in final stage): *Medical technology in Belgium* and MedTechFlanders was founded in July 2015.

##### [c] Liaison with worldwide societies/activities

- Contacts between the National Committee, the World Federation IFMBE, the Union (IUPESM) and ICSU via Marc Nyssen.
- Contacts between the National Committee and EAMBES (European Level umbrella organisation) via Jos Vander Sloten.
- Contacts between the National Committee and ESEM (the European Scientific Society) via Pascal Verdonck.
- Contacts between the National Committee and UNAMEC (the professional umbrella association), with industry members of biomedical sector via Pascal Verdonck.

- Contact between the National Committee and IEEE-EMBS (the IEEE Engineering in Medicine and Biology Society) and its Benelux chapter via Sabine Van Huffel.

## 5. Future perspectives

[a] The committee aims at expanding the involvement of students and of captains of industry in the Committee's future activities.

[b] New members of the committee are proposed:

- Liesbeth Geeris (Ulg) (replacing Jean Delbeke, retired)
- Stefan Vandenberghe (Ugent) (replacing Ignace Lemahieu)

Both candidates accepted and will be officially proposed.

[c] As there are now 5 “master in biomedical engineering” programs (UGent/VUB, KUL, ULB, UCL, ULg) the Committee wants to become the meeting place for communication in between these programs (also for PhD's linked to the masters), in order to strive to a full recognition of the title “Master in biomedical engineering”.

[d] A European meeting with the EAMBES members was held at the Academy (Monday March 16<sup>th</sup> and Tuesday 17<sup>th</sup>, 2015).

[e] Keeping in contact with the alumni. A *Youngsters Board* was set up successfully in 2010 and was fully operational in 2011 and renewed in 2015. The youngsters group is now consisting of:

- Mathias Polfliet (VUB) finances
- Markos & Dries (KUL) Companies
- Fan Xiao Ya (ULB) Practical Arrangements
- Florian Salmen (UCL) PR & IT
- Varun Manhas (ULG) Registrations & invoices
- Zhao Ying Cui (KUL) Coordination

## 6. Clarification of abbreviations

- IFMBE: International Federation for Biomedical Engineering: the “World Federation”
- IUPESM “International Union for Physics and Engineering Sciences in Medicine”, the UNION of which the IFMBE is 1 of the 2 components.
- EAMBES: European umbrella association, regrouping societies and teaching/research departments
- ESEM: European Society for Biomedical Engineering
- EAMBES: European Alliance for Medical and Biological Engineering and Science

- ICSU: International council of scientific unions (links with national Academies)
- IEEE: Institute of Electrical and Electronic Engineers
- EMBS: Engineering in Medicine and Biology Society

# NATIONAL COMMITTEE FOR BIOPHYSICS

## 1. Introduction, mission, goals

The goal of the National Committee is to promote research in the field of Biophysics, by organizing meetings and inviting outstanding internationally renowned scientists. Because of the increasingly interdisciplinary nature of the biological sciences, often symposia are organized together with other societies and National Committees. Because of the common goals, the members of the National Committee on Biophysics are also member of the board of the Belgian Biophysical Society and as such are involved in the preparation and organisation of all the activities of this Society.

## 2. Meetings of the Committee and the Belgian Society

Not specified

## 3. General Assembly of the Scientific Union

No Assembly of the Scientific Union in 2015.

## 4. Other activities

### [a] *Optical Methods, Data Analysis and Modeling in the Life Sciences*<sup>10</sup>

From 15<sup>th</sup> to 18<sup>th</sup> of September: A 4-Day course on *Optical Methods, Data Analysis and Modeling in the Life Sciences* by Stephen Martina and Maria Schilstra, organized by Prof. André Matagne, at the University of Liège

### [b] 12<sup>3h</sup> one-day symposium on *Protein Folding and Stability*<sup>11</sup>

On the 4<sup>th</sup> of September: The 13<sup>th</sup> One-Day Symposium on *Protein Folding and Stability*, organized by Prof. André Matagne, at the University of Liège.

### [c] *Computational Structural Biology*<sup>12</sup>

On the 24 of November: a Mini-Symposium on *Computational Structural Biology*, organized by Prof. André Matagne, at the University of Liège.

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<sup>10</sup> See page 97.

<sup>11</sup> See page 98.

<sup>12</sup> See page 99.

## 5. Future perspectives

- The 14<sup>th</sup> One-Day Symposium on *Protein Folding and Stability*, planned by Prof. André Matagne (ULg), Jean-Francois Collet (UCL), Peter Tompa (VUB).
- A Biophysics Summer school on *Diffraction Methods* planned by Prof. Savvas Savvides.
- A One-Day Symposium on *High-Resolution Spectroscopy* planned by Prof. Filip Meersman.

# NATIONAL COMMITTEE FOR CHEMISTRY

## 1. Introduction, mission, goals

- Federate the messages of chemistry (Universities, Technical Colleges, Essenscia, CEFIC, SRC, KVCV, JSC, etc.).
- Inform the public, improve and develop the image of chemistry in Belgium in all the aspects. Be the bridgehead of IUPAC in Belgium (input and output).
- Make the promotion of chemistry and sciences to the young generations at the early age, high schools.

It is becoming more and more obvious that many in the network of organizations in Belgium share these issues and concerns.

So our aim is to be specific, and make an efficient contribution to the common effort vis à vis the public and young generation. In other words our actions must be complementary to others considering our limited budgets. The *Comité National de Chimie/Nationaal Comité voor Scheikunde* team is particularly well connected to the “chemical” network in Belgium, which can impact and spread our ideas and projects.

In recent years, the composition of the National Committee (see enclosure) has been changed to better match the mission of the Committee. Today the representatives of Belgian Universities, Technical Colleges, Sciences (SRC/KVCV) and Youth Science Organizations, Industry, history of Science and honorary members with great experience cover all the aspects of Chemistry in Belgium.

This change has given the Committee a spirit of dynamism which enables us to define a medium term strategy around the theme: *How to reconcile the public with chemistry / towards a new contract between chemistry and society*

## 2. Meetings of the committee

Dates: January 29<sup>th</sup>; March 26<sup>th</sup>; May 5<sup>th</sup>; October 1<sup>rst</sup>; November 10<sup>th</sup> 2015



### 3. General Assembly of the Scientific Union<sup>13</sup>

Participation and attendance to the General Assembly of IUPAC (Busan/South Korea), from August 7<sup>th</sup> to August 14<sup>th</sup>; Representatives: Paul Baekelmans, President of the NCC, and Rita Cornelis, Vice-President of the NCC, as Belgian representatives.

During this General Assembly

- Participation at the COCI meeting (Committee for Chemistry and Industry): Paul Baekelmans is designated as a permanent member;
- Participation at the Division VII meeting (Chemistry and Human Health) and works: Rita Cornelis as Vice president of the Division VII.
- Participation at the Division I meeting (Physical and Biophysical Chemistry): Prof. Kristin Bartik, ULB.
- Participation at the WCLM (World Chemistry Leadership Meeting). IUPAC's role in achieving UN Sustainable Development Goals-2015 WCLM 12 August 2015, IUPAC General Assembly, in presence of the Belgian delegation; Mr. Mandery/CEFIC has took part in as a speaker.
- Participation at the Council Meeting: the Belgian delegation.

It is to be pointed out that a number of decisions regarding the organization and decisions of actions, nominations in the IUPAC are to be approved by the voting Assembly.

As a first sanction Belgium lost the voting rights as a consequence of the failure to pay the Annual Membership Fee for the year 2014 (USD about 15 000). Next sanction is the exclusion of Belgium.

### 3. Others activities

#### [a] Manifesto

In our last annual report was mentioned the project to prepare a “manifesto” which will be communicated to the public in order to propose “a new contract between Chemistry and Society”. The document, which has been prepared by the National Committee, is practically completed and will be delivered in the course of this year 2016.

#### [b] Chemistry and the young generations

In order to illustrate the many aspects of chemistry in the development of “High Tech” applications and how chemistry is involved as an essential tool in our modern life, the National Committee organizes a “one day event” dedicated to young students on Saturday April 16<sup>th</sup>.

In order to stimulate the interest of young students for Science and Technology, The National Committee for Chemistry, the Science Olympiads, the *Scientists Youth of Belgium* will invite the

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<sup>13</sup> See full report on page 98.

Science Olympiads/Belgium 250 finalists (17/18 years old) to a one-day event: *Science and Technology, the Future, My Future*. As the Auditorium at the Academy is not available, the Event will be held on Saturday 16<sup>th</sup> April 2016, at the Solvay Campus, Brussels.

[c] JCGM-Working Group 2 (International Vocabulary of Metrology, VIM), Paris (BIPM), from 1<sup>st</sup> to 4<sup>th</sup> December. Representative: Pr. Paul De Bièvre (NCC honorary member).

[d] Payment of the Annual Fee by Belgium to the IUPAC (2014 and 2015)

At the very end of December 2015, the membership fee has been paid to IUPAC account after months of intensive action, (letters, e-mails, phone calls, meetings) and contacts by us and by the representative of the Academy, also concerned by the lack of funding for the year 2014 by the Federal Minister of Science Policy.

This “last minute” payment suspended the decision by IUPAC to ban Belgium from the Assembly of National Representatives, the general Assembly, and IUPAC Divisions and Committees in the year 2015.

Nevertheless, the payment is considered by IUPAC to cover the 2014 fee and not that of 2015.

Still we have one year ahead to cover the payment for 2 years (2015 and 2016 - Around 15000 € USD per year) and we don't see positive prospects so far. Belgium's exclusion has only postponed for one year.

## 5. Future perspectives

[a] COCI (Committee for Chemistry and Industry/IUPAC). Participation to the next meeting (Montreal - April 2016). We will introduce the participation of the Solvay Group to the *Safety Training Programme* dedicated to the training of developing countries technicians in the Chemical industry, more particularly in factories and laboratories.

# NATIONAL COMMITTEE FOR CRYSTALLOGRAPHY

## 1. Introduction, mission, goals

Crystallography is the study of the atomic and molecular structure of diverse substances using microscopy and diffraction techniques in order to understand the relationship between atomic structure and properties of these materials.

The objectives of the National Committee of Crystallography are to promote cooperation in crystallography, to contribute to all aspects of crystallographic research, to catalyze the relations of crystallography to other sciences, to promote crystallography for the general public, and to represent Belgian crystallographers in international associations.

The committee has its own web site<sup>14</sup>, which are administered by Johan Wouters, and organizes a yearly crystal growing competition for pupils at secondary schools.

## 2. Meetings of the Committee

[a] The *first meeting* took place on 18 March 2015 in Ghent. During this meeting the Eighth Belgian Crystallography Symposium BCS-8 organized by the National Committee of Crystallography in the Academy Palace in Brussels on 15 October 2014 was evaluated. Furthermore the activities in Belgium related to the International Year of Crystallography IYCr2014 were evaluated. The committee has decided to maintain the new initiative 'Invite a crystallographer' during the next school year. An overview of the inscriptions and preparations of the Belgian Crystal Growing Competition was given and the date of the prize awarding ceremony in the Academy Palace was fixed at 13 May 2015. Finally, the Belgian representation for the Council Meeting of the European Crystallographic Association (ECA) has been discussed.

Elections for the new composition of the Committee took place in between the two committee meetings.

[b] The *second meeting* in the Academy Palace in Brussels on 14 October 2015 was opened with the reports of the ECA Council Meeting in Rovinj by the Belgian representative. The first preparations for the Belgian Crystallography Symposium BCS-9 in October 2016 and the preliminary timing of the 2016 edition of the Belgian Crystal Growing Competition were made. The status of the initiatives 'Invite a crystallographer' was discussed further.

Both meetings took place in the Academy Palace in Brussels.

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<sup>14</sup> sites.google.com/site/xallobe and www.iycr2014.be

### 3. General Assembly of the Scientific Union

No Assembly of the Scientific Union in 2015. The next General Assemblies will be held during the IUCr Meetings in Hyderabad (2017) and Prague (2020).

### 4. Other activities

[a] The National Committee of Crystallography has organized in 2015 with support of both academies and sponsor Acros Organics a successful fifteenth edition of the Crystal Growing Competition for pupils of the secondary schools<sup>15</sup>. For this edition potassium dihydrogen phosphate (KDP) has been chosen as crystallizing compound. The *judging* of the submitted crystals took place on 1 May 2015 in Namur. During the proclamation on 13 May 2015 in the Academy Palace in Brussels also the videos submitted for the IUCr International Crystal Growing Competition have been projected.

[b] Yaroslav Filinchuk has represented the Committee at the Council Meetings of the European Crystallographic Association ECA in Rovinj. Frederic Hatert is co-chair of the Special Interest Group on Mineral and Inorganic Crystallography. Yaroslav Filinchuk is secretary of the Special Interest Group on Crystallography under Extreme Conditions.

[c] Frederic Hatert and Joke Hadermann are active members of respectively the IUCr Commission Inorganic and Mineral Structures and the IUCr Commissions Aperiodic crystals and Electron Crystallography. L. Van Meervelt has participated as General Secretary and Treasurer to the meetings of the IUCr Finance Committee in Leuven and IUCr Executive Committee in Rovinj. As councilor D. Maes has participated to the meetings of the International Organization for Crystal Growth.

[d] A delegation of the Belgian National Committee of Crystallography has attended the Closing Ceremony of the International Year of Crystallography in Rabat (22-25 April 2015). During this meeting the laureates of the International Crystal Growing Competition 2014 have been announced and three Belgian participants were among the winners:

- Onze-Lievevrouwinstituut Sint-Genesius-Rode - silver medal and creativity prize
- Sint-Martinusscholen Herk-de-Stad - bronze medal
- Paridaensinstituut Leuven - honorary mention and creativity prize

As a continuation of the IYCr2014 activity 'Invite a crystallographer' several (honorary) members have delivered lectures in secondary schools.

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<sup>15</sup> see <http://www.chem.kuleuven.be/bcc/>

## 5. Future perspectives

- Organisation of the fifteenth Belgian Crystal Growing Competition in 2016<sup>16</sup>.
- participation by Belgian schools at the International Crystal Growing Competition.
- Organisation of the 9<sup>th</sup> Belgian Crystallography Symposium BCS-9 in Brussels (October 2016).

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<sup>16</sup> see [chem.kuleuven.be/bcc/](http://chem.kuleuven.be/bcc/)

# NATIONAL COMMITTEE FOR GEODESY AND GEOPHYSICS

## 1. Introduction, mission, goals

The BNCGG serves as a link between IUGG and the Belgian scientists working in the fields of Geodesy and Geophysics. This activity reaches a climax every four years at the IUGG general assembly. The BNCGG is then charged to propose to the Academy the national delegates to IUGG and to its eight Associations:

- International Association of Cryospheric Sciences (IACS);
- International Association of Geodesy (IAG );
- International Association of Geomagnetism and Aeronomy (IAGA);
- International Association of Meteorology and Atmospheric Sciences (IAMAS);
- International Association of Hydrological Sciences (IAHS);
- International Association of the Physical Sciences of the Ocean (IAPSO);
- International Association of Seismology and Physics of the Earth Interior (IASPEI);
- International Association of Volcanology and Chemistry of the Earth Interior (IAVCEI).

In the meantime the BNCGG organizes regularly conferences by known Belgian or foreign scientists.

The BNCGG tries also to encourage the participation of young scientists to the IUGG General Assemblies by attributing grants.

Belgium was among the 9 countries that established the International Union of Geodesy and Geophysics (IUGG) on July 28, 1919 in Brussels. The Belgian National Committee for Geodesy and Geophysics (BNCGG) was created shortly after in 1921. The running expenses were covered until 1950 by the National Cartographic Institute and later on by Royal Academy of Belgium, now split into the "Koninklijke Vlaamse Academie van België voor Wetenschappen en Kunsten" and the "Académie royale des Sciences, des Lettres et des Beaux-Arts de Belgique".

In parallel with the BNCGG, exists since 1955 an "Association sans buts lucratifs de droit belge" called "Comité National Belge de Géodésie et de Géophysique, Bruxelles". It is charged to administrate the finances of the Committee.

## 2. Meetings of the Committee

The traditional annual BNCGG General Assembly has been held on January 21 in the Meridian

room of the Royal Observatory of Belgium. Dr. Thomas Lecocq, Royal Observatory of Belgium, gave the introductory conference.

A second BNCGG meeting was organized on May 21 at the Royal Observatory of Belgium with two conferences given resp. by Dr. Alexander Mangold (Royal Meteorological Institute) and Dr. Denis Lombardi (Royal Observatory of Belgium).

A third meeting was organized on Nov. 11 at the Royal Observatory of Belgium with conferences given resp. by Prof. Alain Dassargues (Departement ARGENCO, ULg) and Prof. Marnik Vanclooster (Earth & Life Institute, UCL).

The summary of the talks that were given to the Committee follows:

[a] *AcceleROB: measuring earthquake strong ground motion in Belgium*

By Thomas Lecocq, Royal Observatory of Belgium - January 21, 2015.

Although usually of relatively small magnitude, earthquakes occur regularly in Belgium. 3 to 5 earthquakes are felt every year on average. The Belgian seismic network is one of the densest in the world, but still, it is impossible to have professional-grade seismometers every 10 or 20 km all over the country. Since 2002, the ROB runs a web-based "Did You Feel It?" inquiry, which allows citizens to witness the impact of an earthquake at their location. The information obtained from the seismometers (the ground motion) and from the citizens (the intensity) can be combined to define a map of the ground motion for each earthquake, but will always lack "ground truth" ground movements. With AcceleROB, we propose to deploy 90 small-scale, relatively low-cost accelerometric stations all over Belgium. With 90 stations, we can have a 15-km spaced grid of sensors. 13 of these sensors are already installed, 10 are available and 67 are in construction. This CNBGG meeting is a good occasion to present the equipment and to propose 11 members to host an AcceleROB at their home. All that is required is to have a permanent Internet connection, an available power plug in the basement (or any place in direct contact with the ground) and some small place on the ground (max 30x30cm). The measurements will be sent automatically and in real time to the ROB processing server, and will provide acceleration values every 125th of a second on 3 components.

[b] *Atmospheric aerosol at Princess Elisabeth station, East Antarctica: what those tiny particles can tell us about the Antarctic atmosphere*

By Alexander Mangold, Royal Meteorological Institute of Belgium - May 21, 2015.

Aerosols play an important role in atmospheric physics and chemistry. They attenuate, scatter and absorb solar radiation, influencing by this way the temperature at the surface and within the atmosphere and exerting a positive or negative radiative forcing. Also, they influence cloud formation and properties such as cloud particle phase and size and their ability to produce precipitation. The aerosol amount in Antarctica is extremely low and aerosols are mostly carried to Antarctic via long-range atmospheric pathways. However, also minor local aerosol sources exist. Since 2010, several complementary ground-based instruments for the long-term monitoring of the composition of the Antarctic atmosphere have been operated at the Belgian Antarctic research station Princess Elisabeth in the framework of a common project of the Royal Meteorological Institute of Belgium, the Belgian Space Aeronomy Institute, and University of Ghent. The station is manned from November to end of February and operated under remote control during the other months. Measured properties comprise aerosol size distribution, total aerosol number, total aerosol mass concentration, mass concentration of light-absorbing aerosol and absorption coefficient and total scattering coefficient. All instruments have been installed for continuous operation. Besides these instruments, a sunphotometer provides total aerosol optical depth (AOD) during austral summer since February 2009. A Brewer ozone spectrophotometer provides total ozone, spectral UV and AOD in the UV-A during austral summers. In addition, a cloud condensation nuclei counter (CCNc) has been operated in austral summers 2013/14 and in 2014/15. Seasonal variations of mass concentration of light-absorbing aerosol, aerosol number and size, or of aerosol optical properties have been observed. Combined measurements of aerosol number, size and of the concentration of cloud condensation nuclei reveal specific periods of increased numbers of very small particles, indicative of new particle formation events. In the presentation, an overview of gathered results will be given and links with atmospheric dynamic processes will be discussed. [c] *The sunspot number time series: a full recalibration of the primary 300-year record of solar activity*

[c] *Seismology at Princess Elisabeth station, East-Antarctica: what seismometers can tell us about the ice-sheet dynamics*

By Denis Lombardi, Royal Observatory of Belgium - May 21, 2015.

One century after the Amundsen and Scott South Pole expeditions, Antarctica is still regarded as the last unexplored land on Earth. Although this view may be true to some degrees, from a scientific perspective this is drastically changing. Indeed, with the growing global warming threat, Antarctica experiences a new era of science investigations aiming at understanding the past, present and future evolution of a continent whose overlying ice



sheet represents 80% of fresh water on Earth. With the return of Belgium to Antarctica and the establishment of the new Princess Elisabeth base (PE base) in 2009, the Royal Observatory of Belgium launched a project of geodynamics with the main objective being long term monitoring of the local ground and ice-sheet dynamics. Within this frame, during the last years, several experiments using seismometers were carried out in the vicinity of the PE base to monitor the local and regional seismicity as a proxy for the behavior of ice – rock interactions. One of the experiments was focused at the edge of the Antarctic plateau where the ice sheet meets a local mountain range while another, located near the coast, concentrated on the interactions of ice flow and ocean. In this talk I will present the project objectives and describe those experiments in such a harsh environment. I will then show why Antarctica that is usually considered as aseismic is actually not at all and how the recorded seismicity can tell us more about the ice sheet dynamics.

*[d] Groundwater pumping and sinking cities: back to the forefront due to global change*

By Alain Dassargues, University of Liège - November 12, 2015.

Much attention is paid to sea level rise but the problem of land subsidence, induced by manchanged (fluid) groundwater conditions in the underground, can be by far more significant locally. The 'sinking' regions correspond most often to coastal densely populated areas located in regions where compressible loose sediments are found. As they are usually under-consolidated and compressible, geological settings made of recent coastal and especially estuarine, deltaic and lacustrine sediments are particularly concerned. Venice, Mexico, Bangkok, Shanghai, Changzhou, Jakarta, Manila, New Orleans, Houston, Tokyo, Ho Chi Minh City, Hanoi, ... are only a few examples among the numerous 'sinking cities'. Recent unconsolidated or semi-consolidated deposits form often a succession of layers that can be considered, from a hydrogeological point of view, as semi-confined or confined aquifer systems. In confined aquifers but also in unconfined aquifers, it is well known that the lowering of the piezometric head due to pumping or drainage induces additional effective stresses directly in the concerned aquifer and then, with a delay depending on their characteristics, in the compressible confining layers or in the compressible lenses of loam, clay, and peat included in the aquifer. This effective stress increase induces a drained consolidation process in the compressible layers. Coupling the transient groundwater flow equation with geomechanical aspects, allows understanding the considered transient processes induced by the artificial lowering of the water pressure in the porous medium. For accurate calculations, used for understanding the observed subsidence and predicting the future subsidence, it is important to take into account the strongly non-linear effects as the

variation of the specific storage coefficient and of the permeability during the consolidation process. Recently this issue was back to the forefront of the scientific actuality as land subsidence plays an important role linked to global change and groundwater management challenges.

*[e] Introducing uncertainty in the impact assessments of climate change on local scale hydrology*

By Marnik Vanclooster, Université catholique de Louvain - November 12, 2015.

The recently released AR5 report of IPCC confirms that freshwater-related risks of climate change increase significantly with increasing greenhouse gas (GHG) concentrations and that climate change is projected to reduce renewable surface water and groundwater resources significantly in many areas overall the world. This will intensify competition for water among agriculture, ecosystems, settlements, industry, and energy production, affecting regional water, energy, and food security and increase water insecurity. This calls for paradigm shifts in the water management policy and adaptation of water management at different levels (physical technical, social, institutional). However, many barriers for adaptation exists. One of these barriers is related to a poor understanding of possible impacts of climate change at the local hydrological scale, and a poorly characterized uncertainty associated with such impact studies. To improve this, we show how uncertainty can be propagated for assessing hydrological impacts of climate change at the local scale. We illustrate the approach for two catchments of the Mediterranean region - which is considered as a hotspot for climate change – and demonstrate how uncertainty can be decomposed in uncertainty coming from the hydrological model and uncertainty coming from the climate model.

### 3. General Assembly of the Scientific Union<sup>17</sup>

One of our effective members, Dr. Kris Vanneste, attended the IUGG General Assembly as the Belgian National Representative for the IUGG Council. Resolutions adopted by the council can be found online<sup>18</sup>.

As Belgium did not pay its annual contribution to the IUGG, Belgium was not allowed to vote and attended the meeting as a “regular member in an observer status”.

The other Belgian representative delegates were also present or provided a procuration to another delegate:

- Philippe Huybrechts for the International Association of Cryospheric Sciences;

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<sup>17</sup> See full report on page 102.

<sup>18</sup> <http://www.iugg.org/resolutions/IUGGResolutions2015.pdf>

- Carine Bruyninx was represented by Juliette Legrand for the International Association of Geodesy;
- Johan De Keyser was represented by Fabien Darrouzet for the International Association of Geomagnetism and Aeronomy;
- Martine De Mazière for the International Association of Meteorology and Atmospheric Sciences;
- Thierry Camelbeeck was represented by Fabienne Colin for the International Association of Seismology and Physics of the Earth's Interior;
- Pierre Delmelle for the International Association of Volcanology and Chemistry of the Earth's Interior.

#### **4. Future perspectives**

[a] The next BNCGG General Assembly is planned on Thursday January 21, 2016.

[b] The next IUGG General Assembly will be held in Montreal, Canada in 2019.

[c] Next Scientific Assemblies of the IUGG Associations are:

- IACS, 13-17 February 2017 Wellington, New Zealand;
- IAG/IASPEI, 30 July-4 August 2017, Kobe, Japan;
- IAGA/IAMAS/IAPSO, 27 August-1 September 2017 Cape Town, South Africa;
- IAHS, date on discussion, Port Elizabeth, South Africa;
- IAVCEI, 14-18 August 2017, Portland, USA.

[d] The mandates of our effective and associated members have to be renewed every 4 years. The last time was in 2012, so it will be the case again in 2016. Letters for renewal have been sent in December 2015.

[e] The BNCGG, in cooperation with the BNCAR, plans to organize a joint conference in the spring of 2016 about the scientific research at the Belgian Antarctic Base “Princess Elisabeth”.

# NATIONAL COMMITTEE FOR GEOGRAPHY

## 1. Introduction, mission, goals

The National Committee for Geography represents Belgian scientists working in the field of Geography in the work of IGU (International Geographical Union). This Committee is a forum for exchanging views on the landscape of Geography in Belgium.

## 2. Meetings of the committee

The National Committee for Geography met four times in 2015: 7 March, 10 June, 10 October and 12 December. The themes discussed were at the meetings:

### [a] Organization of the *Belgian Geography Days* (BGD)

The Belgian Geography Days 2015 was organized by the VUB on 13 & 14 November. The Belgian Geography Days is an initiative of the CNG, organized in turn by the different Belgian universities. For the BGD 2015, the organisation received 105 abstracts, 45 posters and 60 presentations, which were organized into 10 sessions. The Universities encouraged their master students to participate in this Belgian Geography Days.

For the day dedicated to school teachers on Saturday 14 November, there were 80 entries with a strong majority of Dutch-speakers. The Committee suggested to provide bilingual workshops.

The following BGD will be held in 2017.

### [b] International Map Year

The year 2015-2016 was declared International Map Year. The sub-committee for Cartography-GIS organized a number of events in Belgium on this occasion.

### [c] Doctoral school of Geography

The situation is different for the Dutch and French universities. For the first, doctoral schools are organized by university. The geographers doctoral students are often in schools in natural sciences. For the French-speaking community, there is a transversal structure organized by discipline, not by university.

The Committee is aware of the absence of an doctoral school of geography in the French-speaking part of the country, what also weakens geography in FNRS as a discipline, but obviously the

initiatives should come out from these institutions and would be further supported by the academic community.

#### [d] Geography Students

The Committee is concerned about the number of students enrolled in geography studies. It represents a regressive trend regarding the number of students in Bachelor of geography on both for the French and Dutch speaking universities.

This is in sharp contrast to the opportunities on the job market, where geographers are sought after for their skills in GIS and their largest thematic knowledge. Young graduates have no problem finding jobs. At the occasion of the Belgian Geography Day a press file was drafted.

Actions have been taken to promote geography in secondary education by publishing posters, which will be broadcast respectively by the Society of Dutch Geography Teachers (VLA) and Fégépro in early 2016 and which referred to a website listing different geographical formations in Belgian universities.

#### [e] Participation of the NCG in the activities of the IGU (International Geographic Union) and ICA (International Cartographic Association)

The payment to IGU (International Geographical Union) contribution appears to be made by the Academies for 2015.

The payment of the contribution ICA (International Cartographic Association) has created delay problems. The members of the subcommittee have found a solution in which the ICA sends partial invoices - addressed to several universities - as well as IGN and two bodies responsible for geographical regional information.

IGU will celebrate its anniversary congress in Paris in 2022 with the theme *Times for Geography*. The chairman of the French committee has contacted the NCG to ask for (direct) participation of Belgium in this organization. Two of the NCG members will follow these preparations.

IGU also asked to Belgium to organize the Geo-Olympiades in 2022.

#### [e] Participation to the Festival Internationale de Géographie (Saint-Dié)

This festival, which is each year organized during the first weekend of October in Saint-Dié des Vosges, brings together up to 50,000 people. In 2016, Belgium is the guest country and the general topic will be: *Un monde qui va plus vite?*. B. Mérenne will be the contact person between the NCG and the organizers of the FIG.

### 3. General Assembly of the Scientific Union

No Assembly of the Scientific Union in 2015.

### 4. Other activities

#### [a] Subcommittee National Atlas

The third Atlas of Belgium is realized through the program *ATLAS* of the Belgian Science Policy. Volumes *Economic Geography* and *Population* were published in August 2015. Only volumes funded by BELSPO are available and most were distributed to universities, associations of geographers and to schools. The volumes intended for commercial sales will follow. Concerning the last volume to appear, *The cities*, the manuscript will be soon available.

Regarding the digital atlas, major efforts and progress have been made. In addition to routine server maintenance, the ULg Geomatics Unit was heavily involved in a complete overhaul of the Atlas portal website and in importing new cards. Actions have been made to promote the use of the portal in secondary schools.

#### 1. Overhaul of the Atlas Portal website<sup>19</sup>

The new site is in four languages (French, Dutch, German and English). It got a more attractive look and is responsive (the display changes automatically depending with which device the website is reach: PC, tablet or smartphone). The portal is divided into three major parts:

- *Printed Atlas*, with access to PDF versions of the maps, comments from the First and Second Atlas and the presentation of the Third Atlas.
- *Digital Atlas*, with the possibility to consult five registers (Political geography, Landscapes, Agriculture and Rural development; Housing; Economic activities Population) their self divided into 58 sub-thematic sections. Currently, 321 cards of the Geoclip application are directly accessible by hyperlink, without any special action by the user.
- The functionality *Tools* allows the visualization of educational software, technical and cartographic files and allow access to vector data and cartographic web services (WMS). Some links to external sites are also provided. After some operations, they allow to enter any new information in the Geoclip application.

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<sup>19</sup> [www.atlas-belgique.be](http://www.atlas-belgique.be) or [www.atlas-belgie.be](http://www.atlas-belgie.be)

## 2. New data

More than 270 cards were added in 2015 to the 50 existing. They cover the different above-mentioned themes. Moreover, for the old cards as for new, choice of class boundaries, such as the color palette used, have been redesigned in depth to facilitate the readability of each card while keeping the possibility to compare.

### [b] Subcommittee for Cartography - SIG

2015 and 2016 were recognized by the United Nations as "International Map Year". This recognition is due to the efforts of the International Cartographic Association (ICA), which also encourages its national members to organize activities within this context. The activities of the sub-committee in 2015 and the activities planned for 2016 are therefore primarily related thereto. In the framework of the International Map Year was established a website where announcements can be found for all planned activities and additional information about these activities: [www.internationalmapyear.be](http://www.internationalmapyear.be).

#### 1. Barbara Petchenik drawing competition, national award ceremony and exhibition

In the framework of the Barbara Petchenik drawing competition, held every two years, and organized at the occasion of the International Cartographic Conference, the subcommittee for Cartography and GIS launched at the end of 2014 a call to primary and secondary schools for sharing drawings on the theme *My place is the world today*. These drawings were collected at the IGN and a national jury (consisting of the members of the Sub-Committee) has made a selection of 30 drawings (10 in each of the three age categories) in January. They were posted on the website mentioned above, where the public could vote for their favorite drawings. Three winners selected by the jury and three winners chosen by the public in late August took part in the international contest, which took place in Rio de Janeiro at the International Cartographic Conference. The six Belgian winners were put even more in the spotlight in autumn during a national awards ceremony that took place during the Belgian Days Geographers at the VUB. The 30 drawings selected by the jury, including the six winners were incorporated into a mobile exhibition, which was opened at the university during the Belgian Days Geographers. From late November 2015 to late January 2016 the drawings were visible on the Campus of the VUB. In 2016 the exhibition will be organized in different places in Belgium (among others: at the Mercator Museum in Sint-Niklaas).

## 2. International Cartographic Exhibition

At the International Cartographic Conference in Rio de Janeiro in August 2015 was also organized an international cartographic exhibition, with entries from all national members of the ICA. The sub-committee was in charge of the administration around the Belgian entries: 3 cards, 1 digital product and four educational products (atlases). Two Belgian entries were in the awards during the closing ceremony: the map *Occupying São Paulo - An Augmented City Map* (Bieke Cattoor, KULeuven) and got the 3<sup>rd</sup> prize; and the digital product BeCarto 14-18 (IGN), that got 3<sup>rd</sup> place in the category.

## 3. Planned activities

Currently the Subcommittee takes care of the preparations for a number of new activities in the course of the "International Map Year 2015-2016". For example, a national Mapathon will take on Saturday, April 16<sup>th</sup> place at seven university locations in Belgium, locally coordinated by the departments of Geography of each universities. During this mapathon is intended to involve as many people active in digitization fit into the OpenStreetMap Maps Missing initiative, which aims to provide basic cartographic information for crisis-prone areas with a view to a more efficient organization of humanitarian missions.

Later in the year will, on the initiative of the NGI, as part of the 'Summer Palace' initiative will be organized an exhibition on historical cartography, to which the subcommittee will collaborate. It is considered that the Barbara Petchenik traveling exhibition of children's drawings could also find a place in the 'Summer Palace' initiative.

During BEGeo event, which will take place in Brussels on March 3<sup>rd</sup>, 2016, the Subcommittee will give a presentation on the International Map Year (context and activities).

### [c] Subcommittee for Geomorphology - BAG

BAG is the Belgian chapter of the IAG (International Association of Geomorphologists).

#### 1. BAG activities in 2014-2015:

17<sup>th</sup> JGM organized in Liege June 30 – July 3 2014: 81 participants from 14 countries – the two-day field trip organized for the meeting replaced the annual excursion of the BAG, so the BAG administrative session was not held at that time, and an additional half-day BAG meeting had to take place in Liege in November 13, 2014 to have it. Devoted also to communications by young geomorphologists, this afternoon unfortunately gathered rather few people. Four interesting



communications were given. The administrative session mainly ran on a proposal by our treasurer about payment modalities for the annual fee due by each contributing institutions (Olivier will say some words about this in a moment), and on the information developed in the next point.

## 2. Springer book on *Landscapes and landforms in Belgium and Luxembourg*

As many of you already know, in September 2014, I was contacted by P. Migon, member of the IAG executive committee and scientific coordinator for Springer of their new book series about "World geomorphological landscapes", with a proposal for editing a book devoted to the "Landscapes and landforms of Belgium and Luxembourg". This book series aims to be a scientific library of monographs that present and explain physical landscapes across the globe, focusing on both representative and uniquely spectacular examples. The core of each book is the succinct presentation of key geomorphological sites or landscapes (in general 20 to 30 per book) of a particular country. The series will thus provide a unique reference source not only for geomorphologists, but all Earth scientists, geographers, and even travellers.

All colleagues who were contacted, geographers and geologists, were immediately willing to collaborate to the 23 chapters that were finally retained for this book, and I thank them again warmly for that. As the deadline for submission of the final manuscript to Springer has been put on mid-July 2016, first versions of the individual chapters are due for the end of July 2015, and the first chapters have now arrived on my desk. So, further news about this exciting joint work next year.

## 3. 18<sup>th</sup> Joint Geomorphological Meeting, Chambéry, June 27 - July 1, 2016. "SOURCE TO SINK - FROM EROSION TO SEDIMENTARY ARCHIVES".

Joint organisation between the Geomorphology groups of France, Belgium, Italy, Greece, and Romania, under the auspices of IAG Organized in France, coordinated by Laurent Astrade.

Call for BAG participants – no solicited talks per promoting country as at the last two meetings (Roma 2012 and Liege 2014), so open to everybody, especially aimed for young researchers (PhD students, young Postdocs)

Prices unknown so far, generally kept low to favour the participation of young people

Note the dates, just during the deliberations in our universities!

4. Bastiaan Notebaert and Geoffrey Houbrechts and their respective coworkers are thanked for organizing the interesting BAG-excursion on *Fluvial processes in the Ambleve catchment* and guiding us around in this marvellous region. They demonstrate how fruitful collaboration, perhaps also sometimes competition, may be to bring a lot of new results in places and about

topics for which there is however a long history of past research. They also offer us a remarkable overview of the variety of studies that can be conducted in the Ardenne in the wide field of fluvial geomorphology and open perspectives for a lot of future work. Thanks again.

#### 5. The next excursion of the BAG

This year field trip is a *grande première* insofar as it is jointly organized by colleagues of the two communities of Belgium. So, as we have no *grande deuxième* available just now, if we want to come back to the alternate organisation between Flanders and Wallonia next year, taking into account that the 2014 field trip was organized by Liege during the 17<sup>th</sup> JGM, we expected, and hoped that Flemish colleagues will accept to guide us in another corner of Belgium next year. I called Amaury Frankl, from the Univ. of Gent, yesterday, on the suggestion of Jean Poesen, and I'm happy that I can announce you Amaury Frankl accepted to be the coordinator for the field trip of next year. He will guide us abroad, in northern France, which is another novelty in our excursions, to describe his work in experimental plots or catchments, the day being possibly completed by other stops where Jan and/or Jean could also present things of interest (e.g., piping phenomena in relation with the landslides in the Flemish Ardennes). (Maybe Jan can provide more information on the topics Amaury Frankl plans to develop for us next year). As for the date, it seems that one Friday around mid-June is an ideal time for our annual excursions, so, although this will be in fact fixed by Amaury Frankl, I suggest that you already tick in your diaries June 10 and 17 as the most probable dates for the 2016 BAG field trip, possibly with more chances for the 10<sup>th</sup> because, for those who plan to participate, we also will have the meeting at Chambéry at the end of this same month. More details will follow in due time from Amaury Frankl.

# NATIONAL COMMITTEE FOR GEOLOGICAL SCIENCES

## 1. Introduction, mission, goals

The National Committee of Geological Sciences forms part of the "Classe des Sciences de l'Académie royale de Belgique" and the "Klasse der Wetenschappen van de Koninklijke Academie van België". The mission of the committee is to promote geology and to co-ordinate at a national and international level, the activities of the geological departments that are present in the different Belgian academic and scientific institutions. Members of the committee also act as representatives of Belgium in the International Council of Scientific Unions (ICSU). At present, the national committee co-ordinates the activity of a number of commissions and working groups such as the National Commission on Stratigraphy (sub-divided in specific sub commissions) and the Working group on Structural Geology. The National Committee of Geological Sciences of Belgium has close relationships with the International Union of Geological Sciences (IUGS), which is also a member of ICSU. The IUGS is a non-governmental organization that promotes and encourages the study of geological problems, especially those of worldwide significance.

## 2. Meetings of the committee

In 2015 the National Committee of Geological Sciences met in three sessions: on May 5<sup>th</sup>, June 10<sup>th</sup> and November 12<sup>th</sup>. The National Committee has continued to seek a better understanding of the role of Geological Sciences at Belgian institutions, in respect with the national representatives.

During the first meeting the National Committee has invited Daniel Pacyna and Céline Vanneste (Service Géologique de Wallonie), Katrien De Nil, Jan Van Roo and Griet Verhaert (VITO), Mr L. Demicheli, (Eurogeosurveys) and Nuno Da Silva and Robrecht Schmitz (BLUG-UBLG). First, Mr. L. Demicheli, started with a presentation of the aims and the objectives of 'EuroGeoSurveys (EGS)' in the framework of the European development and its interaction with the federal geological surveys. These surveys are responsible for the monitoring, the knowledge and the scientific research of the subsurface for the purpose of the safety, the health and the prosperity of the society.

During the discussion after the presentation of Luca Demicheli the importance of the collaboration between the Belgian Geological Survey and the regional surveys became obvious. Initiatives were started according to these findings.

A second presentation was held by R. Schmitz and Nuno Da Silva about the purposes and the objectives of the 'Belgian-Luxembourgian Union of Geologists' (BLUG) and the 'European Federation of Geologists' (EFG). The purposes of the BLUG are the representation of all professional geologists in Belgium and Luxembourg, the promotion of the geological profession, the assistance of its members in their professional development and the creation of a network of professional geologists. The BLUG is an association for geologists and engineering geologists. This union is the partner of the European Federation of Geologists in Belgium and Luxembourg and assists professional members to acquire and to maintain EurGeol status. The BLUG offers an excellent opportunity for students to come into contact with professionals working in industry. The most important point of the second meeting on June 10th, 2015 was the current situation of Geoheritage in Belgium. The situation in Wallonia is different from the situation in Flanders. In Flanders the efforts are shattered. In Wallonia numerous local initiatives were taken by associations, municipalities and/or regions. There are already musea which are directly or indirectly dedicated to Geology and also 'geoguides' are elaborated for different areas. At the end of the discussion it became obvious that a list of all geosites should be elaborated, the creation of a 'Geopatrimonium' label should be considered and lectures about geoparks and geosites should be organized.

The third and last meeting of 2015 comprises two main points. The first point concerns a discussion of a note about the composition of the National Committee of Geological Sciences prepared by the vice-president Noël Vandenberghe. The second main point was the presentation of the geological research of the Royal Museum of Central Africa from a point of view of a closer collaboration with the Belgian Universities. Luc André gave this presentation.

The National Stratigraphic Commission, organized by the National Committee Geological Sciences, has continued its activities with the different subcommissions and the activities are reported at their website [www.ncs.naturalsciences.be](http://www.ncs.naturalsciences.be). On this website the continuously updated lithostratigraphic inventory can be consulted.

### **3. General Assembly of the Scientific Union**

No Assembly of the Scientific Union in 2015. In 2016, the 35<sup>th</sup> International Geological Conference, organized by the IUGS, will be held at Cape Town South Africa from 27<sup>th</sup> August till 4<sup>th</sup> September. This conference is the 4 yearly international scientific and business meeting of all committees affiliated to IUGS<sup>20</sup>.

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<sup>20</sup> <http://www.35igc.org>

#### **4. Future perspectives**

##### [a] National Commission for Stratigraphy

Next year the implementation of the note about the composition of the National Committee of Geological Sciences will be treated. In one of the sessions in 2016 the article of Chris King *The international geoscience school syllabus and its development* will be discussed with the intension to draw up a note with recommendations for all the ministers of Belgium which are responsible for education.

# NATIONAL COMMITTEE FOR LOGIC, HISTORY AND PHILOSOPHY OF SCIENCES

## 1. Introduction, mission, goals

According to the mission of the National Committees, as stipulated in the Royal Decree of 2 April 1979, the National Committee aims to promote and coordinate research activities on Logic, History and Philosophy of Science in Belgium, primarily with regard to the international representation of Belgian scholarship in the International Council of Scientific Unions.

The National Committee is the Belgian member of the International Union of History and Philosophy of Science (IUHPS), both of its Division for History of Science and Technology (DHST) and its Division of Logic, Methodology and Philosophy of Science (DLMPS).

In practice, the main goals of the National Committee include:

1. To represent Belgian scholarship on the international level by being present as a member or spokesperson with international organisations (IUHPS, European Society of History of Science).
2. To coordinate Belgian scholarship by setting up collaborations and joint projects with other institutions (National Centre for the History of Science [KBR], Gewina [Belgian Dutch Society for the History of Universities and Science], BSLPS [Belgian Society for Logic and Philosophy of Science]).
3. To promote the integration of historical and philosophical studies of science.

In addition to these goals, the National Committee also acts to promote general interest in the history of (Belgian) science, and to disseminate the results of contemporary scholarship to a wider audience.

## 2. Meetings of the Committee

During 2015, the Committee held two administrative meetings on May 29 and November 20. Apart from deliberations on administrative matters and correspondence, these meetings were mainly devoted to the Committee's three aforementioned main goals. The results of these meetings are detailed below.

### 3. General Assembly of the Scientific Union

No Assembly of the Scientific Union in 2015.

### 4. Other activities

#### [a] Bestor:

Bestor<sup>21</sup> is an online database on Belgian science and technology developed both for consultation by the general public and as a research instrument for the specialist scholar. It aims to provide a forum for historical research on (recent) Belgian science, to update historiographical sources with newer publications, and to promote the interest in the (history of) Belgian science.

Bestor contains records on Belgian scientists, scientific institutions and scientific societies of the last three centuries, both in French and in Dutch. The different items are interconnected through links, which enable the visitor to follow up on the network of relations between people and institutions. In many cases, historical information is supported by direct links to online available sources. The records also provide references to secondary sources and recent publications.

The information presented in Bestor is supplied and assessed by a small team of collaborators (National Centre for History of Science, members of National Committee, individual collaborators, etc.), under the direction of the National Committee of Logic, History and Philosophy of Science. Administrative support and housing facilities are provided by RASAB. The Bestor database is physically located on the server of the Faculty of Arts of KU Leuven, where matters of technical maintenance are taken care of.

Bestor is supported by an annual subsidy of Belspo, which has been generously accorded to the Committee since 2008.

#### *Staff and management*

During 2015 Bestor employed one scientific collaborator. Lyvia Diser (1 FTE) is manager of the project, dividing her time between writing new records, coordinating collaborators, making translations, assuring the maintenance of the website, public relations and promotion.

The National Centre for the History of Science (KBR) contributed to the Bestor quarterly newsletter by translating records. Apart from this, members of the National Committee have volunteered to read and correct some records of Bestor.

Supervisor of the project is Professor Geert Vanpaemel (KU Leuven), secretary of the National

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<sup>21</sup> [www.bestor.be](http://www.bestor.be)

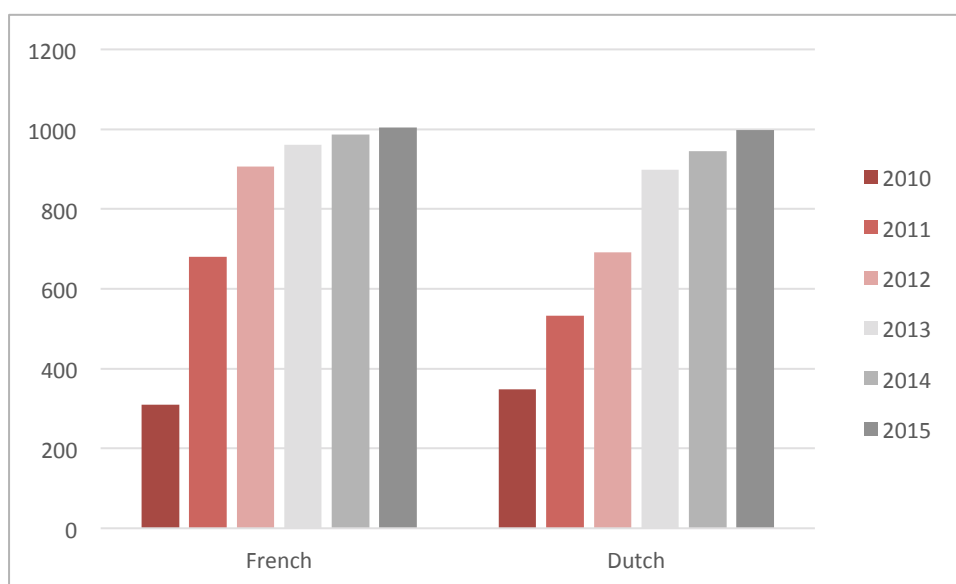
Committee.

During 2015 it was envisaged to hire an extra collaborator for making translations, but due to the uncertainty surrounding the subsidies to be expected for 2015, this plan was, at least for the moment, abandoned.

For practical reasons, Lyvia Diser was also voluntary scientific collaborator of KU Leuven, which gave her access to the academic library services. Since 1 October, she switched to the University of Ghent, where she can also make use of the resources at the Museum for History of Science.

#### *Outcome 2015*

During 2015, several existing records have been revised or extended. Furthermore, 70 new records have been made. As of January 2016, Bestor contains 1004 French and 998 Dutch records. There is no strict equality in quantity between French and Dutch records. It remains Bestor's ambition to have two equivalent sets of records in both languages, but this is not a short-term priority, as it would proportionally take up too much time of the total workload. After some large-scale translation efforts in 2013 priority shifted to the creation of new records. This also explains the slower growth of the total number of records from 2014 onward.



**Figure 1 Total number of records**



Most of the records are biographical. Bestor includes 598 French and 610 Dutch biographies. Furthermore, there are 131 (F) and 63 (D) records on scientific societies, 35 (F) and 92 (D) on scientific institutions and 15 (F) and 39 (D) on scientific journals. In 2015 the number of *Science stories* rose from 16 to 22.

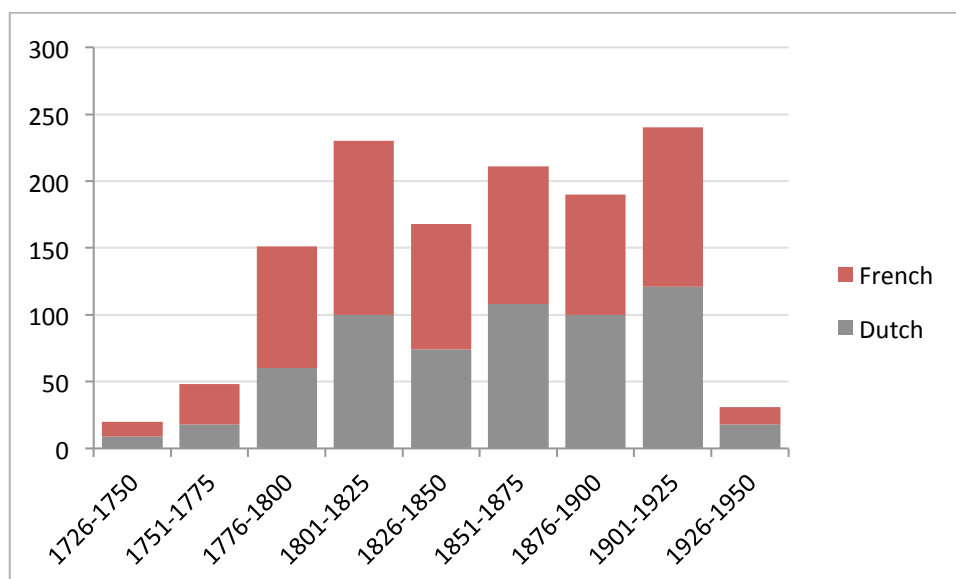


Figure 2 Chronological distribution of biographical records (by date of birth)

Several records were made to accompany events of public interest. The celebration of 100 years relativity theory was seized to draw attention to important findings by Belgian relativists such as Théophile De Donder and Georges Lemaître. On the occasion of the widely celebrated 150th jubilee of the Benzene formula, a record on its inventor, the Ghent scholar August Kekulé, was provided, as well as an eye catcher on the homepage. Other records drew public attention to birthdays and other commemorative dates of lesser known but important Belgian scientists and science events.

Due to staff constraints, translations were not given high priority. Translations were made by the National Centre of some of the most wanted records into Dutch. Furthermore, the National Centre provided translations of newsletters to French and the records to which the bulletins linked.

Next to that, two major projects were developed. One focused on Women in the history of Belgian science, the other on Science monuments in the public space.

The project on female scientists in Belgium started in 2014 and has been prolonged due to its success in both interesting discoveries and warm reception. It sheds light on a group of scientists that until now had been dramatically overlooked in the classic biographical works of reference in the Belgian historiography of science. The project was rounded off with an international colloquium on networks of women scientists (Heroic Journeys. Networks of women scientists in the late nineteenth and early twentieth century, 16th June 2015) in cooperation with AVG-Carhiff. Diser presented a paper based on the sources assembled for Bestor and on some conclusions that could draw from the material. The output of the project furthermore consisted of one “science story” and 40 new records on Belgian female scientists that are now accessible online. As of now, Bestor contains more records on female scientists than any other reference work in the historiography of science. Many of these scientists, whose merits, inventions or discoveries were little known, have now been put in their righteous place. At several moments, proceedings were communicated, through an article (in the journal *Kvab-Academieberichten*), a blog, (on [cultuurgeschiedenis.be](http://cultuurgeschiedenis.be)) and several newsletters.

The second project was launched in September 2015. It treats the monuments related to science and scientists in the public space. The goal is to offer a portal where visitors can explore the scientific background of monuments and buildings in their own living habitat. For this reason a new category was created on Bestor where readers can browse the registered monuments by city or by scientist. At the beginning of the project, the newsletter launched an appeal to readers to tip-off statues in their neighborhood. In this way a list of records was composed, of which the first seven are already accessible online.

#### *Promotion and visibility*

In 2015, after a successful trial phase in 2014, the quarterly Bestor email Newsletter continued to appear. Seven editions have come out since its take off in July 2014, in French and in Dutch. The newsletter contains short announcements with links to the website pages for further reading. The letter draws the attention to curious stories, significant dates and unknown facts on the history of Belgian Science. It also presents updates on Bestor projects and brings important recent publications and interesting events, such as exhibitions or conferences, into focus.

As in 2014, the Dutch newsletter is edited by Diser. The translation is taken care of by the National Centre for History of Science. The newsletter is sent out to contacts, but can also be read online, on the website. The number of views of the hyperlinked pages increases significantly in the days and weeks following the appearance of the newsletters.

The list of subscribers contains most science history societies as well as individual scholars,

amateurs, teachers and students. Subscription can be done through the website.

Apart from the steady flow of spontaneous subscriptions, special efforts have been made to reach out to new groups of subscribers. Promotion for the newsletter was done through the Bestor publicity folder, on the website and through publications, newsletters of congenial organisations, mailing lists of other organisations, conferences, etc. Furthermore, with the permission of the Academy Secretaries, members of both the Academies of Sciences and the Arts (KVAB and ARB) were invited to subscribe. Thanks to these efforts, as of February 2016, the mailing list contains 371 subscribers.

Just as in previous years, the Bestor publicity folder was distributed at scholarly national and international conferences, teacher seminars, etc. Bestor was present at important events related to history of science, science communication and scientific heritage, the seminar 150 years of Benzene formula and the International Colloquium Paul Coremans by the Royal Institute of Art Patrimony. Bestor was also promoted through the presentation at the international colloquium Heroic Journeys of a research paper based on database documentation. Digital folders were sent out to various organisations and societies with an interest in history. They were asked to add a reference to Bestor or a Bestor project in their mailing list.

Advertising for Bestor was also done through the selective publishing of articles based on the Bestor database with an attractive text about the many assets of Bestor. For example, in *Hermes*, the widely read journal of Flemish history teachers, an article was published, followed by a page wide advertisement for Bestor and its newsletter. This was repeated in the journal of the Flemish academy (KVAB-Academieberichten), a journal that reaches over 5500 scholars, academy members and amateurs, as well as all the Belgian universities. On the blog *Cultuurgeschiedenis.be*, several articles with advertising were shared and (re)tweeted.

Bestor has significantly gained in visibility. The visitors' statistics tool now lists over 2 million views for the French site and 1 million for the Dutch site. Apart from the home page, the page most often viewed was the Category of Scientists: 63,434 (F) and 25,054 (D). Each of the ten most viewed pages (D and F) is consulted on a daily basis. With some famous exceptions (e.g. Quetelet, Lemaître ...) the top ten (D and F) consists mostly of twentieth century born scientists, probably because of the fact that there are no other easily available sources on them. Second best watched in the top ten are the national or federal institutions, such as the Royal Observatory and the Royal Meteorological Institution and the former State Agricultural School of Vilvorde. Throughout 2015, these pages have witnessed a fast rise in the top ten and are still climbing steadily. On the French site 1011 pages had more than 100 views, and 497 pages have even received more than 1,000

views (respectively 983 and 209 pages for the Dutch site). Bestor pages are well represented in Google queries.

### *Perspectives*

#### a. Translations

Bestor works steadily on translating all records in both Dutch and French. Each year, a list is drawn of 'most wanted' records. The number of records to be translated equals a workload of about one day/week. It still remains problematic to hire professional translators for this work, as the technical nature of the records would necessitate extensive correcting of all translations. If the financial means would allow it, it would be better to hire a temporary collaborator, who can work under direct supervision. Foremost attention will be given to the translation of the records on female scientists to French, since the French database contains only six entries in this category. Also efforts will be made to provide each of the "science stories" in both languages.

#### b. Projects in focus

The selection of new records will be determined by two new projects. The first will document scientific infrastructural monuments (university buildings, laboratories, observatories, museums etc.). The ongoing inventory work on statues and monuments will resort under this new project. The aim of the project is to bring the history of Belgian science within the local communities. Bestor can thus serve as a guide for local teachers, journalists or simply tourists to visit places of interest to Belgian science. The project will work towards the jubilee year 1817-2017, to commemorate the start up of the Belgian scientific infrastructure.

The second will focus on Art and science, with special reference to the federal Institute for Cultural Heritage (KIKIRPA). The Belgian Institute for Cultural Heritage, with its founder Paul Coremans and its young and dynamic team of laboratory workers, art historians and restaurateurs, was an international pioneer in the development of these scientific methods. The project will aim at not only inventorying the staff members of KIKIRPA but also other protagonist persons and institutions of the science-art movement. Outlined already in 2015, some first steps in the project were already realized. However, it has not been possible to work on it more systematically due to the success of the on female scientists project.

### c. Promotion and dissemination

Extending the mailing list remains a primary goal. Targeted groups will be teachers (of science and history) in the Francophone community, students of the humanities and sciences and heritage amateurs.

If the financial means would allow it, we will realize our 2015 intentions to professionalize update and improve the website facilities. The focus will be on these three targets: (1) Search Engine Optimization (SOE): Ensuring a higher-ranking placement in the results page of search engines such as Google to increase the visibility of Bestor on the net. (2) Professionalization of Wiki interface: extending query possibilities by high performance search box, use of polyglot extensions for easier handling of multilingualism within one site, installing of language choice portal etc. Professionally made template for the newsletter. We will cooperate with the Bestor system operators at KULeuven. (3) Web Analytics: analytical tools for the website as well as for the e-newsletter will help to improve understanding how readers interact with the Bestor site and to identify usability or performance problems, with the goal of improving reader experience and reacting to their preferences.

Bestor will remain active on websites, magazines, newsletters of related organisations, institutions etc. Bestor will also continue to be present at important events related to history of science, science communication and scientific heritage. Promotion of Bestor will also be done through the presentation of research papers based on the Bestor database.

## 5. Future perspectives

### [a] Meeting at conferences

Every year, the National Committee holds two administrative meetings, during which business matters and scientific projects are discussed. Extensive reports of these meetings are available.

In 2016, the National Committee will organize one scientific conference and one scientific symposium. In September 2016, the National Committee will hold its second conference on the historiography of science (following the successful commemoration of Sarton in 2011). This time, we propose an international conference entitled Science past, science now. Challenges for the history of science in the 21<sup>st</sup> century. This one-day colloquium will address (1) the relation between changing current concepts of science and changing historiographies of science, and (2) challenges for a 'grand narrative' of Belgian history of science. At least two international speakers

have been invited, while several members of the National Committee have also agreed to deliver a paper, which addresses these topics.

Also in September 2016, the National Committee will organize, with BSLPS, the fifth Young Researchers days. This successful symposium provides a platform where young Belgian researchers in the History, Philosophy, or Logic of Science can present their research while exchanging useful information and contacts.

Finally, the National Committee plans to organize a one-day symposium on the organisation of science in the newly instituted academic scientific departments of Belgian universities after 1817. This coincides with several high-profile commemorations, including the bicentennial anniversary of Ghent University.

#### [b] Representation

The National Committee will attend the 7<sup>th</sup> International Conference of the European Society for the History of Science, to be held on 22-24 September 2016 in Prague.

#### [c] Publications

Several papers, presented at past conferences organized by the National Committee have been published in scholarly journals or books. The National Committee also plans to prepare introductory documents on historiographical issues or overviews of current research (see section 5.1), in order to support teaching, science communication or amateur research, or to promote collaboration. Such material can be placed on Bestor. Depending on the financial means available to the Committee, a separate print publication also may be useful.

# NATIONAL COMMITTEE FOR MATHEMATICS

## 1. Introduction, mission, goals

The National Committee aims at stimulating and coordinating in Belgium research in mathematics, both in pure mathematics and applied mathematics, including education in mathematics. In fact the distinction in pure and applied mathematics is not always easy to make. In pure mathematics we think of algebra, geometry and analysis, but also these areas overlap and do not cover the whole domain. One can think of logic, combinatorics, topology, set theory, etc. Applied mathematics, consisting among others of numerical analysis, statistics, mathematics related to physics, is currently expanding and covers areas such as econometry and finance, informatics, biomathematics, etc.

One of the main goals of the committee is to form a bridge between the International Mathematical Union (IMU) and the Belgian scientists who work in the area of Mathematics. As such we choose the delegates that could represent Belgium at the General Assemblies of the IMU and propose their names to both Academies. Together with the Belgian Mathematical Society we take care of informing the Belgian mathematical community by means of the *Newsletter of the Belgian Mathematical Society and the National Committee for Mathematics*.

We aim at having 16 members, respecting linguistic parity, taking care of a good gender representation and having a well balanced participation of the different universities and important mathematical domains.

## 2. Meetings of the Committee

During 2015 the National Committee for Mathematics had many exchanges by email following the resignation of the former president, Catherine Finet (UMons). It was decided to elect Simone Gutt (ULBruxelles) at that position. This was approved by the academies very recently. We are now organizing the next meeting of the National Committee in March 2016.

The members of the Committee have been regularly informed, by e-mail, about initiatives of the IMU or about the proposals of the IMU for which the opinion of the NCM was requested. All members and honorary members of the NCM received the Electronic IMU-Newsletter and the IMU-Bulletin.

### **3. General Assembly of the Scientific Union**

No Assembly of the Scientific Union in 2015.

### **4. Other activities**

[a] The Newsletter appeared five times in 2015 and was distributed both electronically and in a paper version. F. Bastin (secretary of the NCM) is in charge of the Newsletter.



# NATIONAL COMMITTEE FOR MECHANICS

## 1. Introduction, mission goals

The Committee aims at promoting the Mechanical Engineering through inter-university Students and Staff exchanges, organization of a bi-annual National Congress of Theoretical and Applied Mechanics, organization of a Doctoral School (GrasMech), development of relationships with European and International Mechanical Engineering non-profit associations or initiatives (ECCOMAS, EURASEM, IUTAM, IACM...) and awarding the (Belgian) “best thesis” in Mechanical Engineering on an annual basis.

## 2. Meetings of the Committee

Three administrative meetings were organized in 2015 on: 5 February, 12 March and 22 October.

### [a] 5 February, Main discussions:

The essential point of the meeting was to establish the “short list” of the retained candidates for the NCTAM/ECCOMAS award for the best thesis of the year. There were 5 candidates on this short list. They had to prepare a movie, maximum 10 minutes telling why their thesis was outstanding.

### [b] 12 March, Main discussions:

- NCTAM best thesis award has been appointed to Pieter Coulier.
- Afterwards, based on this, Pieter Coulier has received the prestigious ECCOMAS Award for the best thesis of computational mechanics during 2014. This is the first time this happens for our committee!

### [c] 22 October, Main discussions:

- Launch of the call for the NCTAM Award of the best thesis in 2015 (Reward = 1000 euros). In case the topic also deals with computational Mechanics the laureate will also be presented at the ECCOMAS best thesis award as the Belgian representative.
- Improvements of GRASMECH doctoral school have been discussed.
- Financial situation has been discussed.
- A new edition for a Grasmec course has been decided (F. Dupret & JP Ponthot)

- · NCTAM representation at IUTAM, EURASEM, IACM, ECCOMAS, ITC... has been discussed.

### **3. General Assembly of the Scientific Union**

No Assembly of the Scientific Union in 2015.

### **4. Future perspectives**

- Election for the “Best (Belgian) Thesis in Mechanical Engineering” for 2015 (January & February 2016).
- Proposal of an ECCOMAS price winner Belgian candidate from the NCTAM for 2015 (scheduled March 2016).
- Organization and improvement of the doctoral school for Mechanical Engineers (GRASMECH).
- Organization of the National Conference for Theoretical and Applied Mechanics (Liège 2016-2017).
- Setting up of the new committee (October 2016).

# NATIONAL COMMITTEE FOR MICROBIOLOGY

## 1. Introduction, mission goals

The Committee for Microbiology represents Belgian scientists conducting research in the field of biological sciences in the work of the International Union of Microbiological Societies (IUMS).

## 2. Meetings of the Committee

The meetings of the NCM were joint meetings with the board of the Belgian Society for Microbiology (BSM), of which some members are also member of NCM and all members of NCM are involved in the advisory board of BSM. One administrative meeting was organised concerning the activities of NCM in 2015 – a other one though took place in the beginning of 2016 and the minutes are also mentioned here because they concerned mainly the working of 2015.

[a] BSM/NCM Board meeting: 17 February 2015

Agenda:

### a) Possible topic symposium 2015

The Board agreed rather quickly about the topic for the 2015 symposium: *Microbiology and Global change*. Several members of the Board will look for possible speakers, and will communicate on this via email. Final decisions of the invited speakers will then be done during the next Board meeting.

PS: After the meeting JA has contacted the Academies for the reservation of the meeting rooms. The only possible day so far is 3 December 2015.

### b) Possible other activities in 2015

JA will look for the opportunity to have a half or full day meeting on “Synthetic Biology”, if this can be organized together with “Synergene” ([www.synergene.eu](http://www.synergene.eu)) who should have money to support the meeting. JA will contact the secretariat of this consortium.

Another topic was brought up by MM and DG related to GMO. Contact will be made with WIV-ISP to inquire about a joint activity.

The idea of a meeting on GMOs in association with WIV-ISP looks interesting and could be relevant for other constituencies in addition to microbiologists. Input for the meetings (before the current Board meeting).

From Spiros Agathos: *Regarding the theme "Microbes and Global Change" for our 2015 annual meeting another potential invited speaker could be Mary Ann Moran (University of Georgia, Athens, GA). She is a leader in the area of global cycles as affected by microbial communities (she could address different topics ranging from microbial metabolism in marine environments to signature molecules like DMS to methodological breakthroughs in metatranscriptomics etc).*

From Isabelle George: *One of my lab colleagues at ULB, Prof Nathalie Gypens, has been working over the past few years on the Dimethyl sulfoxide cycle (a "hot topic" in marine microbiology). She recommended a speaker for our next BSM symposium on "Microbes and Global Change": Maria Vila Costa (Spain). I can ask Nathalie for a few additional names if needed.*

Minutes of the meeting of 17 February 2015

1. Discussion on the title "Microbiology and global change" first proposed. Not clear what does "Global change" mean? Is it climate change and/or changed mobility and/or ??? No real conclusion is already made, except that certainly Microbiology should change to "Microbes and global change". A more attractive title that covers the different talks needs still to be found. Any suggestions?
2. The programming of the meeting should be similar as before: 5 invited speakers (3 in the morning and 2 in the afternoon). Some suggestions have been made besides those given above:
  - a. General lecture on climate change: Jean-Pascal van Ypersele de Strihou (UCL). More information should be obtained from Spiros, if this is a good choice.
  - b. Emerging diseases (Paul Cos): DNDi or Peter Piot or Simon Croft (London): Focus on bacteria and/or parasites.
  - c. Emerging diseases virology (Dominique or Laurent: speakers?)
  - d. Effects of nitrogen/CO<sub>2</sub> cycles on microbial diversity: methane (J. Colin Murell; paul bodelier), CO<sub>2</sub> fixation (Paul De Vos) or Riks Laanbroek (<https://nioo.knaw.nl/nl/employees/riks-laanbroek>) (proposed by Siegfried E. Vlaeminck).
  - e. Virology?
3. To have the possibility to have more short communications, a solution needs to be found. Sense or non-sense of separate sessions in the afternoon.
4. Possible other activities in 2015. As discussed in the previous board meeting, there are 2 suggestions:
  - a. Genetically modified microorganisms: challenges and opportunities
  - b. Synthetic biology

Since it will not be possible to organize a meeting on (one of) these suggestions in 2015, it was proposed to combine both themes, and use these topic(s) for the 2016 meeting (for which the date is already fixed, i.e. 12<sup>th</sup> November 2016).

5. Financial report of the 2014 meeting with sponsoring from FWO (€2500) and FNRS (€3000), Belspo (€594) and BCCM (€300).

Total expenses: € 9036.97; Total income € 7257.34

Deficit: € -1779.6;

6. Varia:

- a. Abdel Allaoui is not anymore at ULB. He did not react to several messages sent to its private email address. It was decided to omit his name from the BSM board.
- b. BSM delegate for FEMS (to replace Jef Anné, who has become FEMS Grants Secretary starting September 2015): a final decision has not yet taken.

Further practical organization of the 2015 symposium needed to be organized electronically via J. Anné and Paul De Vos.

A final program was composed and an evaluation could only be organized in the beginning of 2016 because of the late date of the symposium (11<sup>th</sup> of December)<sup>22</sup>.

[B] BSM/NCM Board meeting: 15 January 2015

Agenda :

- a. Symposium

Overview: 103 participants – 52 abstracts; Poster awards: 3 Bacterio; 1 Virology

In general positively accepted: excellent talks/speakers, content of the first speaker was in general well appreciated, but he is not an excellent speaker – see also poll comments. Some questions remained unanswered: why this symposium attracted less people. Topic? Time of the year? Nearness of the BelVir meeting?

Financial balance of y the symposium will be positive (not all expenses are already received)

- b. Topic and date of the 2016 symposium

Membrane trafficking? (JA doesn't know yet about Tassos Economou's initiative that also planned such kind of meeting in May - to be confirmed). Same schedule as before: 4 or 5 invited speakers

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<sup>22</sup> See program on page 106-107.

leaving enough time for short selected communications. Date as early as possible: Friday 14 or 21<sup>st</sup> October.

c. Which way has BSM to go to make it more popular amongst microbiologists?

No real, correct solution: improved visibility of BSM; increasing the contact with the members by increasing the frequency of Newsletters (some with only limited information such as announcing important seminars with Microbiology topics in Belgium – how to get the information, who will take care of this)? Next Newsletter with contribution of the N° 1 poster awards (bacterio and Virol). Trying to uncouple membership contribution from registration for the symposium, but how?

d. Looking for new Board members

It has been discussed briefly how to extend and renew the Board. Suggestions are awaited to be discussed in the next board meeting Mid February.

### **3. General Assembly of the Scientific Union**

No Assembly of the Scientific Union in 2015.

# NATIONAL COMMITTEE FOR OCEANOLOGY

## 1. Introduction, mission, goals

The Committee deals with all topics related to research and education in the field of Oceanography. It is an interdisciplinary community involving hydrodynamicists, chemists, geologists, and biologists working in estuarine and coastal systems as well as in open oceans in cold, temperate and tropical environments.

## 2. Meetings of the Committee

Non-specified.

## 3. General Assembly of the Scientific Union

No Assembly of the Scientific Union in 2015.

## 4. Other activities

During 2015, continuing messages from various sources raised concerns about the continuation of the support of BELSPO to international scientific programmes. In Flanders, the Class of Natural Sciences of the Royal Flemish Academy of Belgium for Science and Arts (KVAB) has initiated the preparation of a Position Paper “Flanders’ participation to international research programmes, in a Federal frame and a European perspective”. The coordinator is prof. J.P. Henriët, presently (2016) director, Class of Natural Sciences, secretary, Committee of Oceanology). Members of the working group are Dr. Elisabeth Monard, hon. secretary-general FWO, Dr. Martine De Mazière, Head of Department Belgian Institute for Space Aeronomy, Prof. Dr. Eric van Walle, director-general SCK.CEN, Prof. Bart De Moor, ESAT, KULeuven, Prof. Nicole Van Lipzig, klimatologie, KULeuven, Sofie Vanthournout, RASAB, en Bert Seghers, KVAB.

In the framework of the development of this 2016 KVAB Position Paper, we plan a workshop in which delegates from various National Committees (Oceanology, Antarctic Science, etc.) could clarify the relevance and perspectives of participation of Flanders in international scientific programmes (SCOR, SCAR, etc.), to allow the working group to better formulate a recommendation towards a sustainable support of Flanders to such international programmes, in a federal context and European perspective, while still keeping the capacity of opening new opportunities for newly emerging themes.

In addition, the question of a future Belgian oceanographic vessel in replacement of the aging R/V Belgica has been put on the agenda of exploratory international contacts, in due consultation with BELSPO and the Belgica Operational Management. In the margin of the General Assembly of the EU EUROFLEETS II programme in Copenhagen, March 2015, a meeting was held at the Danish Center for Marine Research (Belgian participation BELSPO and a representative of the Nat. Com. of Oceanology to explore possible synergies and joint ventures between Belgium and Denmark in ocean research in the North Atlantic.

The future of a Belgian oceanographic seagoing capacity has also been evoked in December 2015 with Mrs Elke Sleurs, Secretary of State for Poverty Reduction, Equal Opportunities, People with Disabilities, Urban Policy and Scientific Policy, in the margin of KVAB press release meeting.

The future of new Marine Research Programmes is strongly linked to the future of the Federal Department of Scientific Policy. On the one hand, actual research programmes from the Federal Department of Scientific Policy (e.g. BRAINS) are only open for the Federal Scientific Institutes while universities can only participate via invitation by these Federal Scientific Institutes, in fact own initiatives are ruled out. On the other hand the decision about a Belgian oceanographic seagoing capacity is a strong signal that Belgium will continue to play an important role in marine research and will give hope to all marine scientists that they can continue doing oceanographic research.



# NATIONAL COMMITTEE FOR PHYSICS

## 1. Introduction, mission, goals

The Belgian National Committee on Pure and Applied Physics has been created by the Royal Academies for Science and the Arts of Belgium (RASAB). It contributes to the promotion and coordination of Belgian activities concerning Pure and Applied Physics. At the international level it ensures Belgium's representation in IUPAP, the International Union for Pure and Applied Physics. Its activities can be followed on its website<sup>23</sup>.

## 2. Meetings of the Committee

Meetings were held on 24 February and 10 October. The main interest points of these meetings were:

- Preparation of the Colloquium 2015
- Updating of the publication *Research in Physics in Belgium*
- Preparation of the Colloquium 2017

## 3. General Assembly of the Scientific Union

No Assembly of the Scientific Union in 2015.

## 4. Other activities

### [a] 2015 colloquium of the NCPAP

The NCPAP organized its bi-annual colloquium on March 28, 2015 in the Palace of the Academies entitled: *Particle Physics after the Nobel Prize 2013; a Colloquium dedicated to François Englert and Robert Brout*.

The four contributions were

1. Prof. G. F. GIUDICE, CERN: *The Standard Model of Particle Physics and its Shortcomings*.
2. Prof. P. SPHICAS, CERN and University of Athens: *The Physics of the Large Hadron Collider*.
3. Prof. F. HALZEN, University of Wisconsin: *The Physics of Neutrinos*.
4. Prof. K. ZUREK, Berkeley University: *The Hunt for Dark Matter*.

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<sup>23</sup> <https://sites.google.com/site/physbel/>

The colloquium was attended by 100 participants, among them F. Englert, Nobel Laureate for Physics 2013. The extended abstracts of the presentations were made available to the participants. A Poster Session with contributions from the Belgian Research Groups working in the field was held over lunch. Sponsoring by KVAB (Contactforum), FWO-Vlaanderen, FNRS, International Solvay Institutes, Belgian Physical Society, SCK-CEN and the Belgian Nuclear Society is warmly acknowledged.

[b] Update of Research in Physics in Belgium:

The NCPAP initiated for the first time in 2005 the compilation of short reports on the main physical research topics in Belgium, both theoretical and experimental. Fifteen of these were written by prominent Belgian researchers, actively involved in the IUPAP Commissions, and were published in 2006 in *Physicalia Magazine* and posted on the websites of the NCPAP and of the Belgian Physical Society<sup>24</sup>.

The NCPAP considered that a regular updating is in order and has, between 2011 and 2015, revised the original contributions. These were published on-line in BPhy Magazine, the successor of *Physicalia Magazine*, and are to be found on our website<sup>25</sup>.

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<sup>24</sup> <http://sites.google.com/site/belgianphysicalsociety/>

<sup>25</sup> <https://sites.google.com/site/physbel/Physics-in-Belgium>

# NATIONAL COMMITTEE FOR PHYSIOLOGY AND PHARMACOLOGY

## 1. Introduction, mission, goals

The goal of the Committee is to organize national and international scientific meetings in which Belgian Physiologists and Pharmacologists (and eventually their guests) can present and bring up for discussion the results of their recent research in the fields of Physiology and Pharmacology.

Because of the common goals, the members of the National Committee for Physiology and Pharmacology are also member of Physiology and Pharmacology and as such are involved in the preparation and organization of all the activities of this Society.

## 2. Meetings of the Committee

6<sup>th</sup> November, held in Brussels (Palace of the Academies).

## 3. General Assembly of the Scientific Union

No Assembly of the Scientific Union in 2015.

## 4. Other Activities

[a] The National Spring meeting of the Belgian Society of Physiology and Pharmacology, April 24<sup>th</sup> in Brussels (Palace of the Academies), aiming to bring together the physiologists and pharmacologists from Belgian laboratories. About 60 scientists attended the meeting. Prof. Pascale Lybaert (ULBruxelles) hosted the meeting<sup>26</sup>.

[B] The National Spring meeting of the Belgian Society of Physiology and Pharmacology, November 6<sup>th</sup> in Brussels (Palace of the Academies), aiming to bring together the physiologists and pharmacologists from Belgian laboratories. About 70 scientists attended the meeting. Prof. Thomas Voet (KULeuven) hosted the meeting<sup>27</sup>.

## 5. Future perspectives

- National Spring Meeting (Brussels, April 22, 2016)
- National Autumn Meeting (Brussels, October 21, 2016)

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<sup>26</sup> <http://users.ugent.be/~jvdvoord/physiology&pharmacology>

<sup>27</sup> <http://users.ugent.be/~jvdvoord/physiology&pharmacology>

# NATIONAL COMMITTEE FOR PSYCHOLOGICAL SCIENCES

## 1. Introduction, mission, goals

The goal of the Committee being to undertake, promote and coordinate psychological scientific research, focusing in particular on long term, intercollegiate or interdisciplinary projects and to serve psychological scientific interests in Belgium from a national as well as an international point of view.

## 2. Meetings of the Committee

The Committee held two meetings in 2015: The first took place on April 25<sup>th</sup>; the second on December 12<sup>th</sup>.

## 3. General Assembly of the Scientific Union

No Assembly of the Scientific Union in 2015.

## 4. Other activities

[a] The committee organizes bi-annual symposia. A symposium (see <http://loops.ulb.be>) titled *Consciousness and the Mind's I: Loops and systems in the brain* was held on December 1<sup>st</sup> at the Royal Academies<sup>28</sup>. Organized by Axel Cleeremans (ULB), Eva Vandenbussche (VUB) and Olivier Corneille (UCL), the symposium attracted about 120 participants. Featuring outstanding international speakers (i.e., Jonathan Schooler, Patrick Haggard, Catherine Tallon-Baudry, Steven Fleming, Simon Van Gaal, David Shanks), the event was recorded in its entirety and can be watched online<sup>29</sup>.

[b] The committee also assists, every year, the Belgian Association for Psychological Science in selecting the recipient of its "Best Thesis Award". The 2015 competition is currently underway. A jury composed of committee members and presided by A. Vandierendonck will make the final selection during the month of March.

[c] Finally, the participation of Pr. P. Peigneux and Pr. R. Kolinsky at the forthcoming IUPsyS meeting, to take place in 2016 in Yokohama (JP), was confirmed.

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<sup>28</sup> See program on page 104.

<sup>29</sup> <https://www.youtube.com/watch?v=dX9-PJWEfuU>

## **5. Future perspectives**

No new initiatives are currently planned beyond the continued involvement of the committee in its current activities, namely (1) communicating with the IUPsyS and with the Belgian Association for Psychological Science (BAPS), (2) organizing a bi-annual symposium, and (3) handling the final stage of the BAPS Best Thesis Award.

# NATIONAL COMMITTEE FOR RADIO-ELECTRICITY (URSI)

## 1. Introduction, mission, goals

The activities of the Belgian URSI Committee pertain to radio-electricity. The main goal of the committee is to promote and to help coordinating for Belgium the scientific activities of its members in this field. The committee meets regularly at the Academy and organizes yearly, in collaboration with the Netherlands URSI committee, a 'URSI Benelux Forum' where young *doctorandi* have the opportunity to present their research and to exchange their scientific and technical experience. Members of the committee represent Belgium in different instances and scientific commissions of the international URSI union, of which the secretariat is hosted in Ghent with Paul Lagasse as Secretary-General and Peter Van Daele as Assistant Secretary-General.

## 2. Meetings of the Committee

The Belgian URSI Committee has met two times in the facilities of the Academies: on 10 July and 17 December.

[a] *10 July 2015*

Emmanuel Van Lil gave a presentation entitled *Efficient low frequency stabilisation of electromagnetic integral equations*.

During this meeting, the Committee has (unanimously) elected a new effective member, Xavier Neyt (Royal Military School), replacing Emile Schweicher (who remains an honorary member). Also, Hendrik Rogier accepted to serve as Vice-Secretary for the coming years.

[b] *17 December 2015*

This was an administrative meeting dedicated mainly to the organization of the next URSI Asia-Pacific Radio Science Conference (AP-RASC 2016) in Korea.

### 3. General Assembly of the Scientific Union

The 1st URSI Atlantic Radio Science Conference (AT-RASC 2015) has taken place on 18-22 May 2015 in Gran Canaria (Spain), with active participation of some members of our committee. Hendrik Rogier gave a plenary talk on textile antenna systems and co-organized a Special session of Commission A. Viviane Pierrard and Wout Joseph co-organized Special Sessions for Commission H and for Commission K, respectively. Moreover, Paul Lagasse, the URSI Secretary-General, and Peter Van Daele, an URSI Assistant Secretary-General, were, respectively, Chair and Co-Chair of the organizing committee. Peter Van Daele was also Vice-Chair of the publication committee and responsible for the website. Since the conference was a success, a next edition is planned for 2018.

The next URSI Asia-Pacific Radio Science Conference (AP-RASC 2016) will take place in Seoul, Korea, in August 2016. Those conferences are filling the gap between the triennial General Assemblies. The next URSI General Assembly will take place in Montreal in 2017.

### 4. Other activities

The ninth edition of the URSI Benelux Forum was organized by the Netherlands URSI Committee and took place in Enschede (University of Twente) on December 7, 2015. The theme was *Smart Antennas and Propagation*. The programme is attached herewith.

### 5. Future perspectives

In 2016, the BENELUX URSI Forum might be organized in Luxemburg. Contacts are being taken in order to explore this possibility.

## NATIONAL COMMITTEE FOR SOIL SCIENCES

### 1. Introduction, mission, goals

The NCSS was set up in 2002, following long lasting activities of the Soil Science Society of Belgium (started in 1924) and with the purpose to bring soil science to the attention of the broader public with particular focus on the young people. This original mission of SSSB/NCSS is more relevant now than it has even been - soil and soil suitability comes daily in the media and in the public debate: trade-offs between food production versus agro-fuels, the preservation of our pristine soils, the conservation of our soil heritage, the rehabilitation of marginal lands and the remediation of polluted soils. The NCSS is the representative organization for all soil scientists active in Belgium and is the official Belgian representative into the International Union of Soil Sciences (IUSS).

2015 was the UNESCO International Year of Soils, so special editions of our activities were launched to celebrate this important year:

- Day of the Young Soil Scientist: Keynote by invited speaker Oliver Chadwick, who received a honorary PhD in Soil Science from UCL.
- Annual Excursion: First joint excursion with the Dutch Society of Soil Science
- Thematic Day (International Soil Day): international congress and exhibition *Africa in Profile* with 7 invited speakers and a keynote by Herman Van Rompuy and Alexander De Croo.

Moreover, the society made special efforts to reach out to the general public:

- Soil Monoliths and information for Nature Education Centers (SSSB, Flemish Government and KU Leuven Campus Geel).
- Contributions to the website and debate *Vlaanderen is Bodembewust* (Flemish government).
- *De Bodemschuif* – Soil heritage presented in a ‘drawer’ you can pull up from the soil – Open Monumentendag 2015 (Agentschap Onroerend Erfgoed, Natuurpunt, Regionaal Landschap Kleine en Grote Nete, SSSB en KU Leuven Campus Geel).
- Special Blog for the Year of the Soil, featuring a.o. the “Soil of the Month”.
- Facebook group.
- Exposition *Le sol dans tous ses états* by the University of Gembloux (16-22/11/15).



- *Africa in Profile* exhibition by KU Leuven, ISRIC, EUFJRC and Africamuseum (5/12/20 – 29/01/2016)

## 2. Meetings of the committee

- 08/01/15: NCSS board meeting, KU Leuven
- 01/04/15: General Assembly and Day of the Young Soil Scientists at RASAB, with invited keynote speaker Oliver Chadwick of the University of Santa Barbara, USA. (Organization by Bas Van Wesemael)
- 26/06/15: Joint Excursion of the Dutch and Belgian Soil Science Societies to Saeftinghe and the Hedwigepolder (Organization: Karen Vancampenhout (SSSB) and Jan Van Mourik (NVB).
- 03/12/15: Thematic day: International Congress *Africa in Profile – Afrika DoorGrond* and official launch of the French Edition of the JRC F Soil Atlas of Africa at KU Leuven with 7 invited speakers from major organizations working on soil issues in Africa (programme attached). Keynotes by Past President of the European Council Herman Van Rompuy and Deputy Prime Minister/Minister of Development Cooperation Alexander De Croo. (Organization: Seppe Deckers and Karen Vancampenhout)
- 05/06/15-29/01/2016: Exhibition *Africa in Profile* in Arenbergbibliotheek Leuven, In cooperation with ISRIC, EUFJRC and Afrikamuseum. The exhibition aimed at bringing the soil maps of Africa to life for a wide audience. For this purpose, 30 soil monoliths were on display together with over 200 unique photographs and maps. Sixteen large panels and seven case studies explaining the importance of soil knowledge for biodiversity and livelihoods in Africa. Also, rock samples, termite mounds and artefacts were on display from the collections of Africamuseum and KU Leuven<sup>30</sup>.

## 3. General Assembly of the Scientific Union

No Assembly of the Scientific Union in 2015.

## 4. Other activities

[a] The NCSS organizes 5 activities per year: 1) Day of the Young Scientists in February, 2) a field excursion in May/June or September and 3) a Thematic Day in December and 4) two boards (one in February, together with the Day of the Young Scientists, one in December, together with the Thematic Day). This year, special editions of these activities were organized

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<sup>30</sup> <http://ees.kuleuven.be/africaFinFprofile/index.html>

for the Year of the soil, i.e. the keynote by Oliver Chadwick, the joint-excursion with the NBV and the Africa in Profile international congress. The board meeting in December was not organized this year, as it was not possible to plan it together with our very ambitious Thematic Day this year. Finding another date was not considered favorable, as all members were extremely busy with their final activities for the Year of the Soil (e.g. *Le sol dans tous son états* exhibition in Gembloux, Africa in Profile Exhibition in Leuven and Bodembewust actions by the Flemish government).

The Day of the Young Scientists was attended by 55 people, the field excursion by 23 participants from the SSSB and 25 participants from NBV (nearly fully booked). The Thematic Day was attended by 150 people (fully booked) and the Africa in Profile exhibition by over 1000 registered external visitors. Ca. 1000 personnel and staff of KU Leuven visited the exhibition as well.

[b] Contributions to the EUFIRC *Soil Atlas of Africa*, especially also on the French edition in 2015. Several of our members were very actively involved in this endeavor, incl. Vice President Seppe Deckers and Past President Jean Chapelle.

[c] Participation to the EGU 2015 at Vienna, Austria from 12/04/15 – 17/04/15.

[d] Soil Monoliths and information for Nature Education Centers (SSSB, Flemish Government and KU Leuven Campus Geel): KU Leuven made 3 monoliths of typical soils of the landscapes near the 3 Nature Education Centres of the Flemish government, i.e. De Nachtegaal in De Panne, De Helix in Geeraardsbergen and De Vroente in Kalmthout. The goal of this activity is to give soil a central place in nature education in Flanders. The centres are very well attended, especially by groups of school children and tourists.

[e] Contributions to the website and debate “Vlaanderen is Bodembewust” (Flemish government) – <http://www.bodembewust.be>. The main goal of the action is to bring soil to the attention of the broad public via 4 themes: health, environment, innovation and economy. The SSSB contributed to the website and to the soil debate in Mechelen.

[f] *De Bodemschuif* – (Agentschap Onroerend Erfgoed, Natuurpunt, Regionaal Landschap Kleine en Grote Nete, SSSB en KU Leuven Campus Geel). An installation for presenting Soil heritage was inaugurated during Open Monumentendag 2015. A lacquer profile is presented in a ‘drawer’ you can pull up from the soil in the protected heritage site “Landschap De Liereman”. The main goal is to be able to ‘visit’ soil heritage, like you would an historic building or a museum. The wider goal is to draw the attention of the visitors of

Landschap De Liereman to the importance of soil for heritage and nature conservation. The installation is next to a public footpath used by ca. 3000 visitors a year.

[g] Special Blog for the Year of the Soil, featuring a.o. the “Soil of the Month” at [soilsciencesocietyofbelgium.wordpress.com](http://soilsciencesocietyofbelgium.wordpress.com). 27 posts were published which were viewed 7549 times by 3740 visitors. The “soil of the month feature” was adopted by the Australian soil science society and adapted for the EUFCOST action Biolink.

[h] Facebook group – 656 page likes.

[f] Exposition *Le sol dans tous ses états* by the University of Gembloux (16\_22/11/15)/

## 5. Future perspectives

NCSS will organize 5 core activities in 2016:

- 2 board meetings (March 16, 2016 & December 5, 2016) at RASAB
- A general assembly and Day of the Young Soil Scientist on March 16, 2016 at RASAB
- An annual excursion on July 8<sup>th</sup> to Zoniën and Bertem, in an international cooperation with the French Soil Science Society AFES, in the framework of the Journées d’Etude des Sols (<http://www.climate.be/sol>)
- Thematic Day – December 5, 2016.
- In addition, other activities will be under the NCSS umbrella:
- EUROSIL 2016 – International Conference by the European Confederation of Soil Science Societies– Istanbul 17F22th of July.
- Soil monolith workshop
- Exhibit: soils of central Africa at Africamuseum (starting from 2017)

## INTERNATIONAL UNIONS

The existence of a national committee is subject to the existence of an International Scientific Union or scientific body affiliated to International Council for Science — ICSU<sup>31</sup> (scientific committees, special committees, etc.) concerning the same scientific subject.

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| ▪ International Astronomical Union (IAU)   | <a href="http://www.iau.org">www.iau.org</a>             |
| ▪ International Geographical Union (IGU)   | <a href="http://www.igu-net.org">www.igu-net.org</a>     |
| ▪ International Federation for Medical and Biological Engineering (IFMBE)  | <a href="http://www.ifmbe.org">www.ifmbe.org</a>         |
| ▪ International Mathematical Union (IMU)   | <a href="http://www.mathunion.org">www.mathunion.org</a> |
| ▪ International Union for Physical and Engineering Sciences in Medicine (IUPESM)   | <a href="http://www.iupesm.org">www.iupesm.org</a>       |
| ▪ International Union for Quaternary Research (INQUA)  | <a href="http://www.inqua.org">www.inqua.org</a>         |
| ▪ International Union of Biochemistry and Molecular Biology (IUBMB)  | <a href="http://www.iubmb.org">www.iubmb.org</a>         |
| ▪ International Union of Biological Sciences (IUBS)  | <a href="http://www.iubs.org">www.iubs.org</a>           |
| ▪ International Union of Crystallography (IUCr)  | <a href="http://www.iucr.org">www.iucr.org</a>           |
| ▪ International Union of Geodesy and Geophysics (IUGG)   | <a href="http://www.iugg.org">www.iugg.org</a>           |
| ▪ International Union of Geological Sciences (IUGS)  | <a href="http://www.iugs.org">www.iugs.org</a>           |
| ▪ International Union of History and Philosophy of Science (IUHPS), <ul style="list-style-type: none"> <li>○ Division of History of Science and Technology (IUHPS-DHST)</li> <li>○ Division of Logic, Methodology and Philosophy of Science (IUHPS-DLMPs)</li> </ul> | <a href="http://www.dlmps.org">www.dlmps.org</a>         |
| ▪ International Union of Microbiological Societies (IUMS)  | <a href="http://www.iums.org">www.iums.org</a>           |
| ▪ International Union of Pharmacology (IUPHAR)   | <a href="http://www.iuphar.org">www.iuphar.org</a>       |
| ▪ International Union of Physiological Sciences (IUPS)   | <a href="http://www.iups.org">www.iups.org</a>           |
| ▪ International Union of Psychological Science (IUPsyS)  | <a href="http://www.iupsys.net">www.iupsys.net</a>       |
| ▪ International Union of Pure and Applied Biophysics (IUPAB)   | <a href="http://www.iupab.org">www.iupab.org</a>         |
| ▪ International Union of Pure and Applied Chemistry (IUPAC)  | <a href="http://www.iupac.org">www.iupac.org</a>         |
| ▪ International Union of Pure and Applied Physics (IUPAP)  | <a href="http://www.iupap.org">www.iupap.org</a>         |
| ▪ International Union of Radio Science (URSI)  | <a href="http://www.ursi.org">www.ursi.org</a>           |
| ▪ International Union of Soil Sciences (IUSS)  | <a href="http://www.iuss.org">www.iuss.org</a>           |
| ▪ International Union of Theoretical and Applied Mechanics (IUTAM)   | <a href="http://www.iutam.net">www.iutam.net</a>         |

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<sup>31</sup> [www.icsu.org](http://www.icsu.org)

## APPENDIXES

**XXIX<sup>th</sup> General Assembly of the International Astronomical Union (Honolulu, Hawaii, 3-14 August 2015)**

The XXIX<sup>th</sup> General Assembly of the International Astronomical Union (IAU) took place in Honolulu (Hawaii) on 3-14 August 2015. More than 3,000 astronomers and exhibitors from more than 70 countries have come to share their research work. It was a very rich program. There were six Symposia, 22 Focus Meetings, and many Splinter Meetings. It was also possible to listen to very inspiring invited and plenary talks. Moreover, there have been teaching and public activities. The exhibits were very informative and attractive. Seven press briefings took place on a wide range of topics, from the slow death of the universe to the first science conducted using night-time photographs taken by astronauts aboard the International Space Station, and received worldwide media coverage.

We indicate hereafter the present (until 14 August 2015) and new (since 15 August 2015) members of the IAU Executive Committee: Norio Kaifu was the past President and the new one is Sylvia Torres-Peimbert, the previous General Secretary was Thierry Montmerle and the new one is Piero Benvenuti. Ewine Van Dishoeck is the new President Elect and Maria Teresa Lago is the new Assistant General Secretary.

The first Business Meeting of the IAU XXIX General Assembly took place on Tuesday, 4 August. The Union's more than 70 National Representatives were seated together and were provided green paper to use when voting, while other members scattered themselves about the room. Hosted by IAU President Norio Kaifu and IAU General Secretary Thierry Montmerle, this members-only session addressed the activities of the past three years and highlighted upcoming votes that will affect the next triennium and beyond. The only vote held during this first business meeting confirmed Colombia as the IAU's newest National Member. **Please note that only nations that had paid their dues in full were eligible to vote. It was very unfortunate that Belgium did not pay its fees, resulting in no participation of the Belgian National Representative during the vote. This was very uncomfortable because the Representative did not receive any further information about the important points that were going to be discussed during the Business sessions.**

Additional activities accomplished by the IAU Executive Committee during the past three years included examining the budget, reviewing the IAU website overhaul, and discussing Commission reform. Regarding the latter, 40 existing Commissions have been transformed into 35 new ones. Henceforth, members will also be able to join and leave Commissions freely. New Working Groups are presently being proposed. For completeness, there are 9 IAU Divisions since the Beijing IAU General Assembly (2012).

In 2018, the next General Assembly will take place in Vienna where and when the 100<sup>th</sup> anniversary of the IAU organization will be celebrated. It will be followed by the XXXI<sup>st</sup> General Assembly in Busan, Republic of Korea (South Korea), in August 2021.

During the Business Sessions of this General Assembly, the IAU has welcomed nearly 1,200 new Individual Members, bringing the total number of IAU members to almost 12,500.

The number of IAU National Members is currently 74, whereas it was 61 in 1994, 21 years ago. Therefore, the National Membership has increased by 21% within the past 21 years. But if we compare it with the increase in Individual Members of 44% during the same period, the increase in National Membership is considerably slower. This means that the rapid growth of astronomy is happening mostly in the economically developed countries and less in the developing world. This fact clearly shows how important the following recent IAU activities — 1) the Office of Astronomy for Development (OAD), — 2) the Office for Astronomy Outreach (OAO), and — 3) the newly started Office for Young Astronomers (OYA) — are to develop astronomy worldwide toward its future. Also, the promotion of regional coordination, like the newly established East Asian Observatory, the new regional coordinating offices of the OAD should give the IAU and world astronomy a new perspective for the global growth of astronomy.

More specifically, The Office of Astronomy for Development (OAD) located in Cape Town, in partnership with the South African National Research Foundation, has seen a spectacular development of its activities initiated during the previous triennium. It was originally aimed at developing a strategic plan for astronomy in the developing World. It now has several "Regional Nodes" and "Language Centers" across five continents, and with its revised structure will be even more efficient at selecting and helping educational projects from all over the world to thrive. Agreements were signed for five new coordinating offices of the IAU Office of Astronomy for Development in Armenia, Colombia, Jordan, Nigeria, and Portugal. As mentioned before, these agreements seek to realize the social benefits of astronomy as part of the IAU's decadal strategic plan.

The Office for Astronomy Outreach (OAO) located in Tokyo, in partnership with the National Astronomical Observatory of Japan and other Asian countries, was developed and plays a key role in new projects. It has been created to extend the action of the Union to the general public and in general to amateur astronomers around the world. This initiative recognizes the importance that the Union gives to these groups of friends and their activities, that until recently have been disconnected to the community of professional astronomers

The Office for Young Astronomers (OYA) located in Oslo, in partnership with the Norwegian Academy of Science and Letters, will continue to broaden the decade-long International Schools for Young Astronomers worldwide.

The IAU does also go toward the public. The year 2015, and in particular this General Assembly, is seeing the culmination of two projects initiated by the Executive Committee and implemented by the Office for Astronomy Outreach: the so-called Cosmic Light cornerstone of the UNESCO International Year of Light and Light-base Technologies, also known as IYL 2015, and the IAU's NameExoWorlds contest to call for the public naming of selected exoplanets and their host stars. During this General Assembly, several public-outreach events took place, including two stargazing parties, two school visits to the IAU Exhibit Hall, and visits by astronomers to more than a dozen schools, reaching about 2,000 local students. Let us note that because of protests by a large group of local Hawaiian people against the construction of the Thirty Meter

Telescope (TMT), visits to the Maunakea site by worldwide visiting astronomers could not be organized.

**During the second Business meeting held on 12<sup>th</sup> of August 2015, the British Representative declared his dissatisfaction as to how the IAU financial report had been presented: too late, lack of transparency and absence of an external audit. He said that if no significant change is brought to solve this issue in the future, the UK delegation would vote against the next IAU financial report. The US and other National Delegations also expressed their dissatisfaction about the constant increase (by 2-3%) of the IAU financial budget. They declared that if this trend continues, they could abstain from paying their fees in the future; The US Representative said that IAU has become a too expensive scientific organization.**

The new General Secretary has urged once more each IAU National Member to assure timely payment of their dues. He did also commit to follow strictly the Union financial Working Rules, in particular by restarting the annual audit of the accounts and increasing transparency, regularly forwarding the annual reports of the Finance Committee to the National Members.

A highlight of the Business Meeting for Individual Members was the opportunity to vote on the four Resolutions submitted for their consideration earlier this summer. These were subsequently approved by vote during the General Assembly meeting. The four new Resolutions are:

- Resolution B1: Continuation of the IAU Strategic Plan to 2021, i.e. the confirmation and extension of the IAU strategic plan for astronomy in the developing world.
- Resolution B2: Zero points for the absolute and apparent bolometric magnitude scales.
- Resolution B3: Nominal units for selected stellar and planetary properties.
- Resolution B4: Protection of radio astronomy observations in the frequency range 76 to 81 GHz frequency band, namely caused by automobile radars.

Attendees **(with the exception of the Belgian Representative since Belgium has not yet paid its membership fees)** voted to approve all four Resolutions with little debate or discussion and with only a handful of abstentions. In addition, the National Representatives approved or ratified (according to the Union's rules) the proposed slates of candidates for several key IAU committees:

- Division Presidents and Vice-Presidents
- Commission Presidents and Vice-Presidents
- Finance, Membership, Resolutions, Special Nominating, and Executive Committees.



Let us mention here that **Anne Lemaître** (UNAMUR) occupies a very key position as being the new President of Division A "Fundamental Astronomy".

To be complete, let us add that **Christiaan L. Sterken** (VUB) is a member of the steering committee of Commission C3: « History of Astronomy »; **Jean-Pierre de Grève** (VUB) is a member of the steering committee of Commission C1: « Astronomy Education and Development » and **Gregor Rauw** (ULg) is a member of the steering committee of Commission G2: « Massive stars ».

Just for sake of completeness, we list below membership of a few additional IAU committees which have been renewed for the next triennium:

1) The Finance Committee advises the Executive Committee on budgetary matters between General Assemblies and advises the General Assembly on the approval of the budget and accounts of the Union. Continuing for his second term and now taking on the role of Chair is **Zhanwen Han** (China Nanjing); he replaces the former Chair **Beatriz Barbay** (Brazil). Also continuing on the Finance Committee are **João Alves** (Austria), **Kate Brooks** (Australia), **Nikos Kylafis** (Greece), **Tushar Prabhu** (India), and **Lee Anne Willson** (USA). Newly elected this year are **JJ Kavelaars** (Canada) and **Laszlo Kiss** (Hungary).

2) The Membership Committee advises the Executive Committee on matters related to the admission of Individual Members. The new Chair of the Membership Committee is second-term member **Helmut O. Rucker** (Austria), who replaces **Christian Henkel** (Germany). Also continuing for another term are **Myungshin Im** (South Korea), **Lex Kaper** (Netherlands), and **Ramotholo Sefoko** (South Africa). Beginning their first terms are **Soňa Ehlerová** (Czech Republic), **William Harris** (Canada), **Daniela Lazzaro** (Brazil), and **David Soderblom** (USA). Rotating off the Membership Committee are **Sara Heap** (USA), **Rene Bussard** (Chile), and **Nikolay Samus'** (Russian Federation).

3) The Resolutions Committee examines the content, wording, and implications of all proposed Resolutions and advises the Executive Committee whether the subject of a proposed Resolution is a matter of policy or science. Beginning his second term and becoming Chair of the Resolutions Committee is **Bruce Elmegreen** (USA), who succeeds **Ian Corbett** (United Kingdom). Also continuing for another term is **Renée Kraan-Korteweg** (South Africa). New members are **Toshio Fukushima** (Japan), **Sergei Klioner** (Germany), and **Katia Cunha** (Brazil). Having finished their terms, **Yanchun Liang** (China Nanjing) and **Karel van der Hucht** (Netherlands) are rotating off the committee.

4) The Special Nominating Committee prepares the slate of candidates for election to the Executive Committee. Chairing the Special Nominating Committee is the IAU President, **Silvia Torres-Peimbert** (Mexico), assisted by the Past President, **Norio Kaifu** (Japan), who chaired the committee during the last triennium. Newly appointed members are **Matthew Colless** (Australia), **Monica Rubio** (Chile), **Thomas Henning** (Germany), **Xavier Barcons** (Spain), and **Dimitri Pourbaix** (Belgium). Rotating off the committee are **Francoise Combes** (France), **Malcolm Longair** (United Kingdom), **Matthias Steinmetz** (Germany), **Edward van den Heuvel** (Netherlands), **Robert Williams** (USA), and **Gang Zhao** (China Nanjing). The General Secretary and Assistant General

Secretary serve as Advisors to the Special Nominating Committee, so **Piero Benvenuti** (Italy) and **Maria Teresa Lago** (Portugal) now fill those roles.

**Dimitri Pourbaix** (ULB, Belgium) is thus a member of the IAU Special Nominating Committee.

Liège, 7th of October 2015



Jean Surdej

Chair of the Belgian National  
Astronomy Committee &  
Belgian IAU Representative

Draft IC 2015 Minutes p. 1.  
last updated 03 February 2016

**Report on the Meetings of the International Council of INQUA**  
**XIX International INQUA Congress**  
**15:50, Wednesday 29<sup>th</sup> July, Friday 31<sup>st</sup> July and Saturday 1<sup>st</sup> August 2015**  
**International Conference Room, Nagoya Conference Centre, Japan.**

**By Prof. Dr. Vanessa M.A. Heyvaert (Belqua representative)**

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- 1) The President (Margaret Avery) welcomed delegates, and introduced the Executive Committee and Commission Presidents. Moreover, the President informed that
  - a) Iran, Slovenia, Tunisia and Venezuela were confirmed as new Members
  - b) Chile was accepted as an Observer pending application for Membership.
- 2) The Agenda was approved.
- 3) The Bern 2011 international Council meeting Minutes were approved.
- 4) No Matters were raised that would not be covered by the Agenda.
- 5) The President read her report, which was accepted. (see attached)
- 6) The Secretary-General read his report, which was accepted. (see attached)
- 7) The Treasurer read her report, which was accepted after some discussion on fees, which were further considered under 9a below. (see attached)
- 8) The Auditing Committee comprised Steven Phipps (Australia), Ester Sztein (USA) and Natalia Gerasimenko (Ukraine). Its report was accepted after considerable discussion. The recommendation that expenditure on Executive Committee meetings should be reduced raised considerable discussion. The Treasurer explained the reason for higher expenses in some years and reminded the Council that the Executive Committee considered it important to spend time meeting scientists in Member countries, which could involve extra expense. Inflation was also a factor. A recommendation was accepted that the incoming Executive Committee examine the options for reducing costs without curtailing its activities.
- 9) Membership Issues
  - a) There was considerable discussion about the proposed new fee structure and the amount of increases but no decision could be reached. It was therefore decided that the matter should be postponed pending the appointment of a small subcommittee of delegates to investigate the matter further with the Treasurer. The new proposed fee structure had no major impact for Belqua.
  - b) After discussion it was agreed that, rather than strike off lapsed Members, they should be encouraged to contact the Treasurer about what could be done to assist them to rectify their position.
- 10) Supplementary presentations of their formal bids to host the XX<sup>th</sup> International Congress were made by Ireland, Italy and Spain.
- 11) All candidates for Executive office made supplementary statements in support of their written statements published in *Quaternary Perspectives* and their nominations.
- 12) INQUA Commissions Reports were presented by Commission Presidents or their representatives as follows. Coastal and Marine Processes (CMP): Craig Sloss (for Roland Gehrels); Humans and the

Draft IC 2015 Minutes p. 2.  
last updated 03 February 2016

Biosphere (HABCOM): Nicki Whitehouse; Palaeoclimates (PALCOMM): Sandy Harrison; Stratigraphy and Chronology (SACCOM): Thijs van Kolfschoten (*for* Phil Gibbard); and Terrestrial Processes, Deposits and History (TERPRO): Alessandro Michetti

- 13) The President reported that, whereas Commission Reports had previously been presented by the Executive Officer (President or a Vice President) responsible for overseeing each Commission's activities, the current Executive Committee had decided that Commission Presidents should make their own reports. The responsible officer had fulfilled his/her oversight duty by countersigning the written report and the Executive Committee was satisfied with the Commission Reports. It was noted, however, that individual Commissions were not intended to be permanent structures and proposed that it was time to re-evaluate the current Commissions, which had been in place since 2007. It was therefore agreed that the incoming Executive Committee should be requested to conduct a review of the present Commissions to determine whether they should continue in their present form, be reconstituted or disbanded, and whether any new Commissions should be formed. A proposal had already been submitted from Norway but was not eligible for consideration at this time.
- 14) Early Career Researchers Committee
  - a) The Chairperson (Sallie Burrough) outlined the rationale for the formation of this Committee and the history of its development, which the Executive Committee had encouraged from the outset.
  - b) The President's proposal that the ECR Committee be accepted as a formal part of the INQUA structure, with a place on the Executive Committee, was accepted.
  - c) The 2015-2019 Committee was accepted, with Lyudmila Shumilovskikh as the incoming Chair.
- 15) The President presented the proposed changes to the Statutes and Bye-Laws. After some discussion the proposed revisions were accepted subject to proviso, presented by The Netherlands, that the incoming Executive undertake a complete revision of the Statutes and Bye-Laws, with professional help, during the next Inter-Congress period.
- 16) International Linkages
  - a) Allan Chivas outlined International Council for Science (ICSU) structures and noted that INQUA formed part of a strong sub-grouping of Geo-Unions. INQUA continued to make progress in strengthening its position in ICSU. Sylvi Haldorsen had obtained an ICSU grant under the auspices of INQUA and Sandy Harrison had been appointed Chair of World Data System (WDS) Scientific Committee. At the request of the ICSU Secretariat, Prof. Kazukuyi Tatsumi, a member of the ICSU Board, attended this session to answer questions concerning ICSU.
  - b) INQUA is a member of the GeoUnions sub-group of ICSU. This group meets independently to discuss matters of specific interest and to formulate plans for approaches to the ICSU Secretariat when necessary.
  - c) INQUA continues to monitor the development of the Future Earth Programme and has been advised by Sandy Harrison that it may be best to make pro-active representations regarding participation. There was discussion on whether INQUA should become involved, no real conclusion.
- 17) The proposed Standing Committee on Stratigraphy was presented by Thijs van Kolfschoten (*for* John Lowe).
  - a) There had been discussions with Martin Head, Chair of the Quaternary Stratigraphic Commission, about the utility of establishing a joint Committee to address ongoing matters of stratigraphic nomenclature, including the definition of the Quaternary boundary, and other issues.
  - b) The Anthropocene falls generally under the preceding topic. INQUA is also keeping maintaining a watching brief on developments.
- 18) *Quaternary International*

Draft IC 2015 Minutes p. 3.  
last updated 03 February 2016

- i) The Editor's Report was presented by Thijs van Kolfschoten (for Norm Catto). The outgoing Editor was thanked for this and particularly for his long-standing and incalculable contribution to the success of the journal with which he has been involved since its inception.
  - ii) Min-Ti Chen (Chinese Taipei) has been appointed the new Editor-in-Chief. He was introduced to the International Council and briefly outlined his views on developing the journal. Among innovations is the establishment of a team of five Associate Editors, each aligned with one of the current INQUA Commissions. These are Barbara Mauz (UK: CMP), Florent Rivals (Spain: HABCOM), Zhonghui Liu (China: PALCOM), Alessandra Negri (Italy: SACCOM) and Asfawossen Asrat (East Africa: TERPRO).
  - iii) The editorial board of the journal stays the same: V.M.A. Heyvaert and M.F. Loutre (both from Belgium/Belqua) stay appointed.
  - b) *Quaternary Perspectives*. Sallie Burrough reported that the ECR Group took over responsibility for producing *Quaternary Perspectives* in 2012 at the request of the President, following a hiatus. The first ECR Editors were Alessio Rovere and Lorna Linch. Upon the resignation of the former, Lyudmila Shumilovskikh took his place. The supervisory Editor was Koji Okumura. Thanks to the ECR Editors, *Quaternary Perspectives* is once again appearing regularly.
  - c) Nick Whitehouse (for Phil Barratt) presented the Webmaster's report. The Webmaster's efforts were gratefully acknowledged.
- 19) The following Commission officers were approved:
- a) CMP: President: Craig Sloss. Vice Presidents: Anders Carlson & Yusuke Yokoyama. Secretary: Lynda Petherick
  - b) HABCOM: Nicki Whitehouse. Vice Presidents: Brian Chase (may have to stand down) & Masmal Izuho. Secretary: Encarni Montoya
  - c) PALCOMM: President: Atte Korhola. Vice President: Jennifer Marlon. Secretary: Rachel Lem
  - d) SACCOM: President: Mauro Coltorti. Vice President: Lewis Owen. Secretary: Freek Busschers
  - e) TERPRO: President: Alessandro Michetti. Vice Presidents: Takashi Azuma & Rivka Amit. Secretary: Daniela Kröhling
- 20) Belqua (Vanessa Heyvaert) presented the nomination of Cecile Baeteman to receive an Honorary Life Fellowship of INQUA. The following nominations of Honorary Life Fellows were approved for presentation to the General Assembly: Zhisheng An (China); Cecile Baeteman (Belgium); David Lowe (New Zealand); Hiroshi Machida (Japan); and Brad Pillans (Australia)
- 21) Following elections scrutinised by James Teller (Canada) and Elizabeth Kyazike (East Africa), the Executive Committee for 2015–2019 will comprise President: Allan Ashworth (USA); Vice Presidents: Franck Audemard (Venezuela), Zhengtang Guo (China), Ashok Singvi (India) and Thijs van Kolfschoten (The Netherlands); Secretary-General: Brian Chase (France); Treasurer: Marie-France Loutre (Belgium).
- 22) Following an election scrutinised by James Teller (Canada) and Elizabeth Kyazike (East Africa), the next Congress was awarded to Ireland (51.5%), followed by Italy (45.5%) and Spain (3.0%).

## VERSLAG

### Deelname aan de 3-jaarlijkse wereldconferentie "Biomedical Engineering and Medical Physics" met IFMBE en IUPESM vergaderingen en raden

Toronto, Canada, 6 juni -12 juni 2015

*Marc Nyssen (Secretaris Nationaal Comité Biomedical Engineering)*

#### vrijdag 5 juni 2015

aankomst Toronto te 16u in hotel Intercontinental (congres-hotel)

voorbereidende vergadering met H. Voigt (oud-voorzitter) en Shankar (Secretaris-Generaal IFMBE)

#### zaterdag 6 juni

IFMBE-Admin Council meeting

voorbereiding statutenaanpassingen Algemene Vergadering (woensdag 10/6)

#### zondag 7 juni

ophalen congres-documenten

IFMBE officers meeting: voorbereiding van de belangrijkste voorstellen

Voorbereiding verkiezingen (geldige kandidaten en stemgerechtigden) met akkoord van de schatbewaarder (betalingen OK)

Welkomreceptie door de Canadese organisatoren

#### maandag 8 juni

Plenary lectures: Monique Frize: "Engaging Women and men for a better future worldwide" en Londa Shiebinger: "Gendered innovations in health and technology"

Vooraf tweede keynote interessant: "gender" wordt te weinig meegenomen in de experimenten en kan zorgen voor serieuze afwijkingen: men dient steeds te noteren welke populatie men gebruikt en het geslacht vergeten kan leiden tot serieuze offsets en zelfs verkeerde conclusies!

Gesprekken met President IFMBE Ratko Magjarevic

President-elect IFMBE James Goh,

Secretary General IFMBE Krishnan

#### dinsdag 9 juni

voormiddag:

Symposium Clinical Engineering Division

Health Technology Assessment

Op basis van white paper: brainstorming sessie met

Academie-leden betreffende de krachtlijnen voor de toekomst

-2-

namiddag:

Keynote: Jeff Immelt: CEO General Electric: multinational met 150 miljard USD omzet; ng van gezondheidstechnologie als strategische poot voor GE en samenwerking met overheden en met hospiten. Onderzoeksinstellingen en onderwijsinstellingen worden door Immelt NIET vernoemd!

IFMBE Council of Societies meeting

Een 50-tal aanwezigen, de IFMBE omvat nu 62 landen en een 5-tal trans-nationale verenigingen!

Nieuwe statuten: dit wordt "Council of Societies": interne regels op te stellen, voorzitter: Andre Linenbank, ondervoorzitter Mario Forcaz

Nieuwe voorzitter zal verkozen worden tijdens de Algemene Vergadering

Keynote: Brahme: Recent developments in Photon and Light Ion Therapy

Keynote 2: Towards proton therapy

### woensdag 10 juni

Voormiddag:

Keynote: Gordon Mc. Bean (nobelprijswinnaar) "The changing urban environment and health in a future earth"

De ICSU inspanningen betreffende gezondheid situeren zich voornamelijk in hun inspanningen betreffende de grootsteden en de nieuwe ontwikkel-paradigma's "sustainable development goals"

IUPESM met aangesloten federaties IUPESM en IOMP hebben hier een belangrijke rol te spelen, er is ook een groepering "bio-cluster" actief geworden in ICSU: de "Unions" betrokken bij biomedisch gerelateerde disciplines. IFMBE is hierbij actief betrokken, actueel via Herbert Voigt.

Sessie on innovations in career development

urgentie om entrepreneurial spirit van biomedical engineers in belangrijke mate aandacht te schenken

Namiddag:

IFMBE General Assembly

Verkiezingen:

Krishnan Shankar (USA) president-elect

K.P. Lin (Taiwan) Secretary General

Marc Nyssen (Belgie) Treasurer

IUPESM (International Union, member of ICSU) General Assembly

Nieuwe bestuurders: Marc Nyssen: schatbewaarder

### donderdag 11 juni

IFMBE: Incoming Officers and Incoming Administrative Council Meetings

Rapportering vanwege de bestuurders

Verkiezingen: Bestuur:

James Goh (Singapore) voorzitter

-3-

Ratko Magjarevic (Croatie) ex-voorzitter  
Shankar Krichnan (USA) als president-elect

K.P. Lin (Taiwan) secretaris-generaal  
Marc Nyssen (Belgie) schatbewaarder

#### Raadsleden

Saïde Calil (Brazilië)  
Akos Jobbágy (Hongarije)  
Sun I. Kim (Korea)  
Olof Lindahl (Zweden)  
Louis Kun (USA)  
André Linnenbank (Nederland)  
Maria Siebes (Nederland)

#### vrijdag 12 juni

IUPESM: General Assembly

Verkiezingen, nieuwe raadsleden

De vraag kan gesteld worden in welke mate IUPESM zijn primaire doelstelling als "paraplu-organisatie" niet te buiten gaat door allerlei acties op te zetten die in feite thuishoren bij de IOMP en de IFMBE: diverse commissies en liaisons.

Zeer positief is de actie (via Herbert Voigt) in ICSU.

#### Namiddag:

- WHO seminarie: nieuwe impulsen en projecten
- Uitnodiging tot samenwerking en contactpersonen
- IFMBE zou als liaisons Prof. M. Nyssen en Yadin David (USA) aanduiden

#### Keynote:

Ratko Magjarevic contacteert de Belgische Vereniging en ons Nationaal Comité met het voorstel in 2015 of 2016 actief deel te nemen aan onze National Day Biomedical Engineering

#### Aandachtspunten:

- Eventuele "merging" van de IFMBE en de IOMP om meer slagkracht te krijgen vindt weinig bijval (de IUPESM bestaat toch, maar krijgt zeer weinig middelen)
- Deelname aan IFMBE commissies te bespreken met voorzitter Goh (Singapore) (International liaison committee, Developing Countries committee, Constitution and by-laws committee)
- Nitish Thakor (Journal Editor) vraagt om het meer publicaties om de "Journal" bij Springer slagkracht te geven.

#### Closing Ceremony

Met meer dan 2200 deelnemers uit zowat 105 landen is het wereldcongres een succes

#### zaterdag 13 juni

10u -17u: rapportage



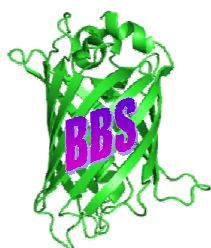
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**zondag 14 juni**

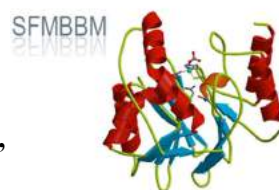
Terugvlucht Toronto - Brussel (Jet Airways)

**Besluiten en aandachtspunten:**

- ICSU stelt zich erg actief op bij het bepalen van de post-millennium goals "development agenda"
- IUPESM is aangesloten bij de "bio-cluster" binnen ICSU (11 unions op de 31)
- Voornaamste aandachtspunten: "Urban Environment", "Climat Change" en de gezondheidsproblematieken "disaster preparedness" en de technisch-organisatorische elementen die daartoe kunnen bijdragen
- Ook de WHO-liaison is hierbij eveneens zeer belangrijk; biomedische en klinische ingenieurs dienen hun plaats te veroveren als "erkende gezondheidswerkers". Hiervoor zijn actueel acties lopende via WHO en IFMBE.



The F.R.S.-FNRS Graduate School  
 “Structure and Function of Biological  
 Macromolecules, Bioinformatics and Modelling”  
 and the Belgian Biophysical Society  
 ORGANIZE A 4-DAY COURSE ON



**Optical methods, data analysis and modelling  
 in the life sciences**

by Drs Stephen Martin<sup>a</sup> and Maria Schilstra<sup>b</sup>

<sup>a</sup>Francis Crick Institute, Mill Hill Laboratory, London, UK; <sup>b</sup>University  
 of Hertfordshire, Hatfield, UK

AT THE UNIVERSITY OF LIEGE

Amphithéâtres de l'Europe (Building B4), room R54

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**Tuesday 15 September 2015**

10:00-12:00 Optical Spectroscopy I: Fluorescence based methods

12:00-13:30 Lunch break

13:30-15:30 Optical Spectroscopy II: Circular dichroism

16:00-18:00 Individual meeting(s)

**Wednesday 16 September 2015**

10:00-12:00 Protein-Ligand Interactions I: Introduction, experimental approaches and simple systems

12:00-13:30 Lunch break

13:30-15:30 Protein-Ligand Interactions II: More complex systems

16:00-18:00 Individual meeting(s)

**Thursday 17 September 2015**

10:00-12:00 Protein Stability

12:00-13:30 Lunch break

13:30-15:30 Data Analysis and Modelling

16:00-18:00 Individual meeting(s)

**Friday 18 September 2015**

10:00-12:00 AMP Activated Protein Kinase

12:00-13:30 Lunch break

13:30-15:30 Influenza Virus Glycoproteins: Haemagglutinin and Neuraminidase

16:00-18:00 Individual meeting(s)

**Contact:** Prof André Matagne ([amatagne@ulg.ac.be](mailto:amatagne@ulg.ac.be)). Registration is free but mandatory

THE BELGIAN BIOPHYSICAL SOCIETY FURTHER  
SUPPORTED BY THE GRADUATE SCHOOL SFMBBM  
ORGANIZES THE 13<sup>th</sup> ONE-DAY SYMPOSIUM ON

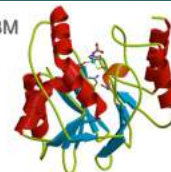


**“PROTEIN FOLDING AND STABILITY”**

ON FRIDAY THE 4<sup>th</sup> OF SEPTEMBER 2015  
AT THE UNIVERSITY OF LIEGE

FNRS

SFMBBM



09:45-10:00 WELCOME

Chair : **Kerensa Broersen** (University of Twente, [The Netherlands](#))

10:00-10:50 **Rudi Glockshuber** (Inst. Mol. Biol. Biophys., ETH Zürich, [Switzerland](#))  
*“Assembly of adhesive type 1 pili from uropathogenic E. coli strains and mechanism of shear force dependent adhesion”*

10:50-11:20 COFFEE BREAK

11:20-12:10 **Jean-François Collet** (WELBIO, de Duve Inst., U.C.Louvain, [Belgium](#))  
*“An elegant mechanism to monitor the assembly of  $\beta$ -barrel proteins”*

12:10-13:00 **Vincent Raussens** (Struct. Funct. Biol. Memb., Univ. Libre Bruxelles, [Belgium](#))  
*“A $\beta$  and apoE, a missing link in Alzheimer's disease. A structural approach”*

13:00-14:00 LUNCH

14:00 –14:50 **Dominika Gruszka** (Dept. Chem., University of Cambridge, [UK](#))  
*“Cooperative folding of intrinsically disordered domains drives the assembly of a mechanically strong adhesin at the surface of pathogenic staphylococci”*

14:50-15:40 **Peter Tompa** (VIB Dept. Struct. Biol., Vrije Universiteit Brussel, [Belgium](#))  
*“An ensemble view of the function of intrinsically disordered proteins (IDPs)”*

15:45 General assembly of the BBSc and RECEPTION

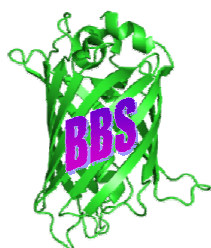


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The F.R.S.-FNRS Contact Group “Structural Biology” and the Belgian Biophysical Society  
Organize a Mini-SYMPOSIUM ON



## COMPUTATIONAL STRUCTURAL BIOLOGY

ON TUESDAY THE 24<sup>th</sup> OF NOVEMBER 2015

AT THE UNIVERSITY OF LIEGE  
PETITS AMPHITHEATRES – GALERIE DES ARTS  
BATIMENT B7b, SALLE A3  
DOMAINE UNIVERSITAIRE DU SART TILMAN  
\*\*\*



14:50-15:00 Welcome

**Chair : Maximiliano Figueroa** (GIGA-R : Biologie et génétique moléculaire, ULg, [Belgium](#))

15:00-15:50 **Jens Meiler** (Vanderbilt University, Nashville, [U.S.A.](#))

*“Predicting Protein Structure, Designing Antibodies, and Computer-Aided Drug Discovery”*

15:50-16:25 **Wim Vranken** (Interuniversity Inst. Bioinfo. Brussels, VUB, [Belgium](#))

*“Relation between early folding, dynamics and conformation in proteins”*

16:25-17:00 **Marianne Rooman** (Interuniversity Inst. Bioinfo. Brussels, ULB, [Belgium](#))

*“Knowledge-driven prediction of protein stability and rational design”*

17:00 RECEPTION (Trappiste Club)

**Contact:** Prof André Matagne ([amatagne@ulg.ac.be](mailto:amatagne@ulg.ac.be)). Registration is free but mandatory

# Report of my attendance at the IUPAC General Assembly

Busan, South Korea, August 7 – 14, 2015

Rita Cornelis

I arrived in Busan on 2015-08-06 and participated at the following meetings:

General Assembly Opening and Reception.

Division VII: Chemistry and Human Health on 2015-08-08 and 2015-08-09

*Rita Cornelis is Vice-President of Division VII.*

The ICTNS (Interdivisional Committee on Terminology, Nomenclature and Symbols) on 2015-08-10

*Rita Cornelis is an associate member of this Committee*

The Division President and Vice-President Meeting on 2015-08-11

The Award Meeting 'Women in Chemistry' on 2015-08-11

The Council Meeting on 2015-08-12 and 2015-08-13

Hereafter follows a short description of the activities that were discussed during these meetings.

## General Assembly Opening and Reception.

During this session the 2015 IUPAC-SOLVAY International Award was attributed to 5 Young Chemists

## Division VII: Chemistry and Human Health

The mission of this Division is to promote pure and applied chemistry in the service of human health and well-being. Major aspects are the development of therapeutic drugs, the standardization of clinical laboratory methods and the protection of humans from potential harmful substances.

The work is done by 3 subcommittees:

- (a) *Medicinal Chemistry and Drug Development (DDD);*
- (b) *Nomenclature, Properties and Units in Laboratory Medicine (NPU-LM);*
- (c) *Toxicology and Risk Assessment (TRA).*

All three sectors have seen fulminant developments in the past 20 years, as proven by the high scientific output (books and publications). This Division helps IUPAC and the chemical community to keep up with the rapid development in the health-related areas. Beyond that, this Division supports health-related symposia and workshops.

#### ICTNS (Interdivisional Committee on Terminology, Nomenclature and Symbols)

As a member of this Committee, I participate in the review of the scientific papers within my expertise. During this meeting, strategies were developed pertinent to the objectives of the ICTNS.

#### Award Meeting 'Women in Chemistry'

During the '2015 Distinguished Women in Chemistry and Chemical Engineering' eight women scientists highlighted their achievements in chemistry and received the IUPAC award.

#### Council Meeting on 2015-08-12 and 2015-08-13

The IUPAC president Marc Cesa, the Acting Secretary General and the Treasurer reported on the state of affairs of the Union. The IUPAC was restructured by appointing professional managers and outsourcing the website.

The Division Presidents reported on the activities achieved by their respective Divisions.

Union Officers and Bureau Members for the new biennium were elected and the elections of Officers of Divisions were approved.

For the time being, it appears that the greatest challenge for IUPAC is its finances. Due to reduced revenues from their investments and increased costs for running the organization, the balance of the last 2 years was negative. It was necessary to dig into the reserves to cover debts.

Belgium is in default of paying its contribution in 2014 and in 2015. Therefore, its National Delegates had to abstain from voting on all matters. Add to this that Belgium will be automatically removed if IUPAC does not receive the Belgian National Subscription payments for 2014 and 2015 by the due date of 31 December 2015.

**Report on the 26th General Assembly of the International Union of Geodesy and Geophysics (IUGG) in Prague, Czech Republic**

I was appointed by the Belgian National Committee of Geodesy and Geophysics (BNCGG) to represent our country in the Council Meeting held during the IUGG General Assembly. The Council Meeting consisted of three sessions: Monday 22 June PM, Thursday 25 June AM, and Monday 29 June PM. Being a seismologist, and considering that the scientific symposia organized by IASPEI (International Association of Seismology and Physics of the Earth's Interior) only started on Friday 26 June, I skipped the first session of the Council Meeting, and departed to Prague on Wednesday 24 June to be in time for the second session. I returned to Belgium on Thursday 2 July, one day after the Closing Ceremony, and was thus able to attend the second and third sessions of the Council Meeting. Since Belgium had been placed in Observer status because the country's membership dues for 2014 have not been paid, I did not have the ability to vote.

Session 2 of the Council Meeting was dedicated to the following topics:

- Strategic plan for 2015 – 2023;
- Reports by the presidents of the 8 Associations (IACS, IAG, IAGA, IAHS, IAMAS, IAPSO, IASPEI and IAVCEI);
- Report on scientific and educational programmes;
- Relations with the International Council of Science (ICSU);
- Reports from liaisons to ICSU Commissions and Committees;
- Reports from liaisons to inter-governmental and other organizations;
- Report of the IUGG Finance Committee.

All reports were adopted.

Session 3 of the Council Meeting was dedicated to the following topics:

- Presentation and adoption of the budget for 2016 – 2019;
- Election of IUGG Officers (President, Vice-President, Secretary General, Treasurer, Bureau Members and Finance Committee);
- Presentation of preliminary proposal to host a joint IUGG/IUGS World Geoscience Congress in Berlin in 2023/2024;
- Presentation of preliminary proposal to host the 2023 IUGG General Assembly in Turkey;
- Presentation of the bids for hosting the 2019 IUGG General Assembly in Montréal or New Delhi. In the subsequent voting, Montréal was selected;
- Presentation and adoption of amendments to proposed changes in Statutes and By-Laws presented during the first session of the Council Meeting, followed by voting. All proposed changes were accepted with a simple majority of the votes. One of the most important changes is that from now on, the IUGG Statutes allow individual membership to Associations, and individual scientists from countries in Associate or Observer status or from non-Member countries can be elected to Association Offices, except to the position of Association President. National delegates keep the exclusive right to elect the Association President, and to vote on financial matters and on revisions of the Statutes and By-Laws;
- Renewal of the IUGG liaison officers for 2015-2019;
- Presentation and adoption of Resolutions.

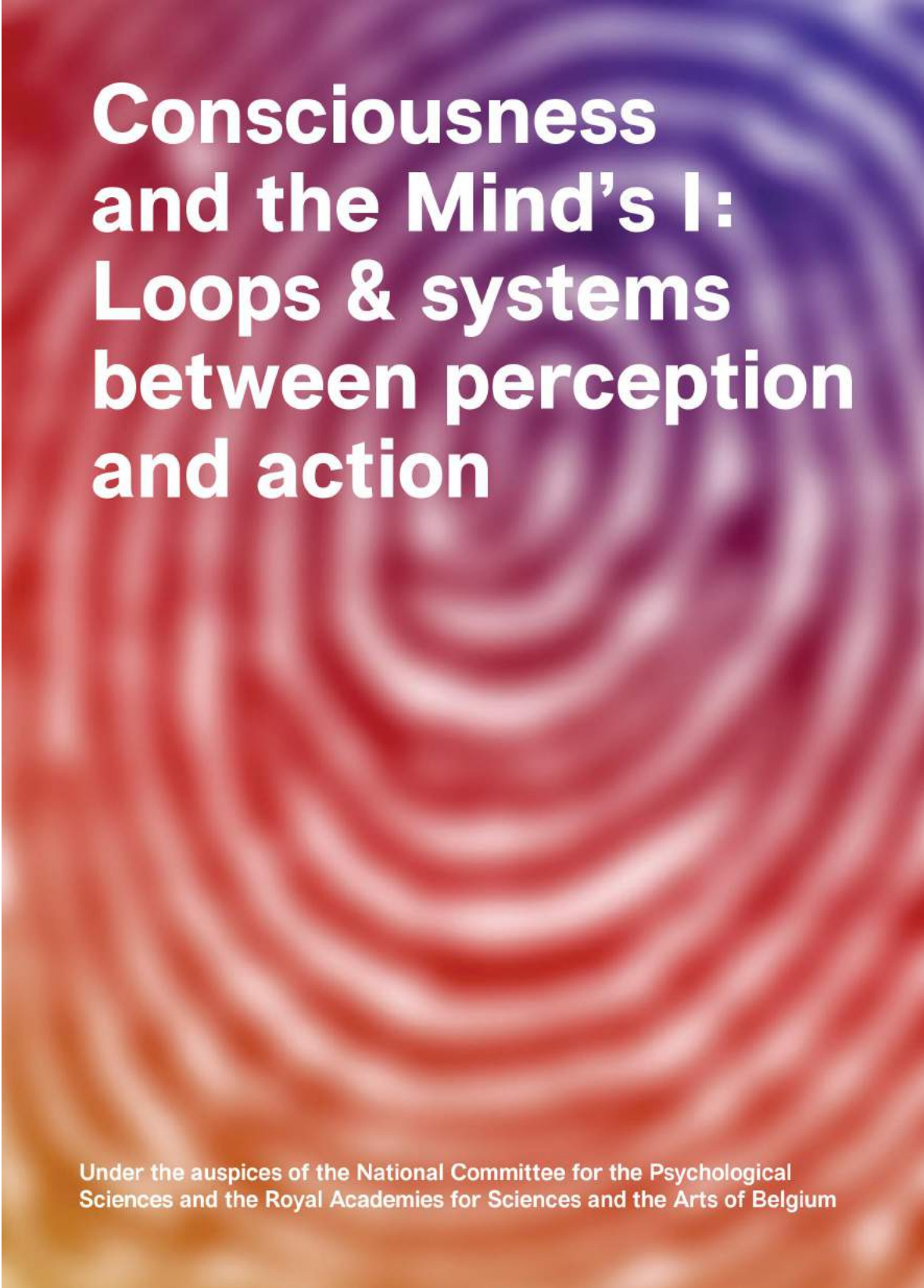
I will present the Council Meeting Agenda Book, together with the two proposals for hosting the 2019 IUGG General Assembly to the president of the BNCGG.

Aside from the Council Meeting, I attended several symposia from Friday 26 June until Wednesday 1 July, and I gave an oral presentation entitled "Are apparent Mmax differences between superdomains in Stable Continental Regions real?" in symposium S07 (Seismic Hazard and Risk) on Monday 29 June.

Dr. Kris Vanneste,

Royal Observatory of Belgium





# **Consciousness and the Mind's I: Loops & systems between perception and action**

Under the auspices of the National Committee for the Psychological  
Sciences and the Royal Academies for Sciences and the Arts of Belgium

This symposium is dedicated to one of the most important scientific challenges today, namely, understanding how the activity of the brain produces conscious experience. The symposium will cover some of the research threads that elicit the most interest today: (1) the respective influences and interactions of top-down and bottom-up processes in shaping conscious experience, (2) the putative existence

of separate, independent systems in driving implicit (unconscious) vs. explicit (conscious, metacognitive) performance, and (3) the nature and neural underpinnings of voluntary action and free will. Each thread features outstanding international speakers who will debate these questions together with a Belgian scientist so as to foster interactions and showcase local talent.

**09:00 – 09:30** Registration and coffee / tea  
**09:30 – 10:00** Welcome address

**10:00 – 11:40 Session 1 : Volition and Free Will**

**Patrick Haggard** University College London  
*"Learning To Experience Oneself As a Voluntary Agent"*  
**Jonathan Schooler** USCB  
*"What Science Tells Us About the Belief In Free Will"*  
**Discussant Marcel Brass** Universiteit Gent

**11:40 – 13:00** Poster session and lunch

**13:00 – 14:40 Session 2 : Metacognition and Consciousness**

**David Shanks** University College London  
*"Investigating Unconscious Cognition: Research Methods for the Next Decade"*  
**Steve Fleming** University College London  
*"Perception, Action and Confidence: Understanding Metacognitive Computation in the Human Brain"*  
**Discussant Axel Cleeremans** ULB

**14:40 – 15:00** Coffee / tea break

**15:00 – 16:40 Session 3 : Interactions Between Top-down and Bottom-up Factors in Conscious Perception**

**Catherine Tallon-Baudry** École Normale Supérieure Cognitives  
*"Towards a Biological Account of Subjectivity: Visceral Inputs, Brain Dynamics and Consciousness"*  
**Simon van Gaal** Universiteit van Amsterdam  
*"The Role of Consciousness in Cognitive Control and Decision Making"*  
**Discussant Eva Van den Bussche** VUB

**16:40 – 17:00** Concluding remarks  
**17:00** Closing reception



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COGNITION & NEUROSCIENCES  
/ CO3





The Royal Academies for Science and the Arts of Belgium RASAB



**BELGIAN SOCIETY FOR MICROBIOLOGY**  
**National Committee for Microbiology**  
**of**  
**The Royal Academies of Science**  
**and the Arts of Belgium**

Contact Forum

**Microbes and the Global Change**

Academy Palace, Brussels

December 11<sup>th</sup> 2015



## Program

08.30	<i>Registration – Poster mounting</i>
09.00	<i>Welcome address</i>
09.10	Alain Pr��at, Res. Grp. - Biogeochemistry & Modeling of the Earth System, ULB, Brussels  <i>Climate Change : the Rule in the Geological Record</i>
09.45	Jan Semenza, European Centre for Disease Prevention and Control (ECDC), Sweden <i>Drivers of infectious disease threat events in Europe</i>
10.30	Short communications selected abstract Jean-Francois Sternon, (URBM, UNamur) <i>Identification of Brucella abortus genes required for growth on plates and macrophage infection using Tn-seq</i>
10.45	<i>Coffee break and poster viewing</i>
11.15	Mike Jetten, Ecological Microbiology, Radboud University Nijmegen, The Netherlands <i>Impossible anaerobic micro-organisms important in the global Methane and Nitrogen Cycles</i>
12.00	Short communication of selected poster abstract B��n��dicte Machiels, (Lab Immunology-Vaccinology, FARAH, ULg) <i>A gammaherpesvirus infection protects from allergic asthma development</i>
12.15	<i>Lunch and poster viewing</i>
14.30	Albert D.M.E. Osterhaus, University of Veterinary Medicine Hannover, Germany <i>Emerging and re-emerging viruses: origins and drivers</i>
15.15	Short communications of selected abstracts (3) Ruben Props, (LabMET UGent, SCK•CEN, Mol) <i>Measuring the biodiversity of microbial communities by single-cell analysis</i>
15.30	Louise Hock (Lab Food and Environmental Microbiology, UCL, Louvain-la-Neuve) <i>How to control emetic Bacillus cereus foodborne intoxications? A phage approach</i>
15.45	Igor Stelmach Pessi, (Centre for Protein Engineering, University of Li��ge, Li��ge) <i>Dynamic Responses of Cyanobacterial Communities Following Glacier Retreat in the High Arctic (Svalbard)</i>
16.00	Marc Coosemans, Dep. Biomedical Sciences, Institute of Tropical Medicine, Antwerp, Belgium <i>Innovative vector Control</i>
16:40	<i>General conclusions and presentation of best poster awards</i>