

Chemistry and Human Health (Division VII)

IUPAC Bureau Report, Sofia, April 2010

Prepared March 26, 2010

Submitted by Doug Templeton, President Division VII

Executive Summary

This report presents an update of activities in Division VII (DVII) since the last Bureau meeting in Bratislava (April, 2009). The Division has met once since then, during the Glasgow General Assembly, Aug. 2009. Here I address business arising from that meeting and highlight initiatives being targeted in the new Biennium. This Executive Summary deals with Division initiatives and structure, membership, budget, projects, highlights of Subcommittee activities, adherence to IUPAC goals, and current and future initiatives. Annexes provide details of membership, projects, and activities of our individual Subcommittees. DVII will meet again in Copenhagen in April 2010, shortly before the Sofia Bureau meeting, and this report will be supplemented with verbal updates to the Bureau.

1. Operating procedures and rules of DVII

DVII filed rules and operating procedures with the Secretariat, which were presented to the Bureau in Bratislava (April 2009) and approved by the GA in Glasgow (August 2009). Two initiatives specific to DVII were presented in that document; they are rules for declaring DVII Emeritus Fellowship, and for granting IUPAC Sponsorship on a limited Divisional basis. Both have now been implemented successfully. The operating procedures have also helped clarify to our membership and Division Executive streamlined procedures for reviewing Project Applications, Technical Reports, and Recommendations.

2. Structure of the Division

DVII is organized into four Subcommittees (SCs), three of which deal with technical aspects of our mission. These are the SCs on *Medicinal Chemistry and Drug Development* (MCDD); *Nomenclature for Properties and Units* (NPU); and *Toxicology and Risk Assessment* (TRA). The fourth SC manages our *Public Relations and Elections* (PRE). The SCs are chaired by Robin Ganellin (MCDD), Françoise Pontet (NPU), John Duffus (TRA), and Tom Perun (PRE). Detailed reports from the technical SC Chairs are appended (Annexes 1-3). NPU was formerly called *Nomenclature, Properties and Units in Laboratory Medicine*. The name change was unanimously approved by the GA in Glasgow.

Our executive positions consist of a President, Past President or President-elect, and Secretary. Our operating procedures mandate a four-year term for the Division

President with the role, effectively of Vice President, being served for the first two years of that term by the Past President (Paul Erhardt, 2008-2009) and in the last two by the President-elect (Françoise Pontet, 2010-2011).

3. Membership

We have had a significant rejuvenation of the Division Committee, notably with five new TMs beginning terms in Jan. 2010. Three of the new TMs are already actively involved in Task Groups, and one has begun serving as Division Secretary. Our current membership (2010) is reported in Annex 4. Our membership represents diversity of gender, geography, and expertise with respect to our technical SCs.

4. Budget

In the previous Biennium (2006/2007), DVII exceeded its total budget, and substantially exceeded the 30 % operations guideline. This resulted from a number of Division meetings where new projects were discussed and eventually approved. As a result, we balanced our budget in 2008/2009 (70.6% Commitments, 29.5% Operations, Total 100.1%), and funded projects jointly with ACS and IFCC. We received an increase of \$2000 to our 2010/2011 budget. We are also now in a position to use resources judiciously to co-operate with other entities within IUPAC, and with cognate scientific bodies, e.g., through IFCC, SAICM, and with SNOMED/IHSTDR/LOINC via our SC NPU.

5. Projects

Together the three technical SCs are currently involved in 29 ongoing projects. These are listed in Annex 5. These, together with projects submitted or under discussion, are described in the individual SC reports (Annexes 1 - 3). A classification of our current projects shows the following balance (number of projects in parentheses):

Education and Training (3)
Terms and Glossaries (11)
Data Bases (4)
Drug Discovery (6)
Clinical Chemistry (5)

6. Highlights of SC activities (details are in the appended SC Chairs' reports)

6.1. MCDD - This SC remains very active, meeting approximately four times in each Biennium, in addition to regular DVII meetings. They currently manage 17 projects, all of which have arisen within the SC. The IUPAC-Richter prize is awarded by this SC every two years, and will be awarded again in 2010. An IYC initiative is to make videotapes of lectures in lay terminology available to the public on-line. The successful book "Analogue-based Drug Discovery" which went to a second printing in 2008, is being followed by a second volume at the request of the publisher, and is now in production.

6.2. NPU - The SC has close contacts with the International Federation of Clinical Chemistry (IFCC) in maintaining a web-based generic database (NPU), of which they share ownership. They are collaborating on mapping of the database to the Systematized Nomenclature of Medicine - Clinical Terms (SNOMED-CT) through contact with the International Health Terminology Standards Development Organization (IHTSDO) in Copenhagen, and with the Logical Observation Identifiers Names and Codes (LOINC) at Indiana University. Legal arrangements are currently being negotiated for joint ownership of the harmonized database. These initiatives were first presented to the Bureau in Bratislava, and are progressing both on the legal and project sides. A major initiative with IFCC to update the IUPAC Silver Book (Compendium of Terminology and Nomenclature of Properties in Clinical Laboratory Sciences) is underway. NPU maintains representation on both Joint Committee for Guides in Metrology (JCGM) working groups WG1 (GUM – Guidelines for Uncertainty in Measurement) and WG2 (VIM - International Vocabulary of Metrology).

6.3. TRA - Projects on childhood education, and several glossaries are underway. A contract was signed with the Royal Society of Chemistry to publish “Concepts in Toxicology”, and the book appeared on time in Nov. 2009. Contacts with the WHO and its International Program in Chemical Safety (IPCS) are being established in collaboration with COCI. Participation in a Biomonitoring Equivalents Workshop established contacts with the US Environmental Protection Agency, Health Canada, and the American Petroleum Institute, among others.

The first phase of the Toxicology in the Classroom (Toxiclaro) project has been completed with the construction of a successful interactive website for children (see Chem. Int., Vol. 31 No. 6, November-December 2009). The Toxiclaro initiative originated from the IUPAC Chemistry and Human Health Division and the IUPAC Committee on Chemistry Education (CCE), which formally met to plan the project in May 2005 at the Federal Agency for Risk Assessment, Berlin, Germany. The project is managed by a task group of professionals from the World Health Organization (WHO), IUPAC, and the National Poison Centre of Malaysia.

6.4. PRE - This SC has been helpful in providing IUPAC material for public dissemination and branding. This role will take on additional importance in IYC and will be a focus of discussion at the next DVII meeting Copenhagen. Five Divisional posters were presented at the Chemical Congress in Glasgow and will travel with the DP and SC Chairs to various meetings in the coming year.

7. IUPAC Goals

7.1 Leadership in global chemical issues - Recent highlights include ongoing revision of the *Glossary of terms used in toxicology* [PAC 79:1153-1344 (2007)], whose predecessor has been adopted by a number of legislative bodies. As this expands and incorporates more terminology (e.g. from the glossaries in Ecotoxicology (2009) and Immunotoxicology (in preparation)), plans are underway to make this available on-line with frequent updates by the authors. The NPU database and ongoing revision of the Silver Book are also noteworthy. Harmonization of terminology with the Danish

IHSTDO/SNOMED-CT and the American LOINC is a major undertaking described in more detail in the NPU-LM report. A new IUPAC recommendation, *Glossary of terms used in ecotoxicology* appeared in 2009 in a full issue of PAC, as did a book *Concepts in Toxicology* published by the Royal Society of Chemistry (UK) that is intended to clarify a number of issues relevant to risk assessment for legislators, and to the basic science of toxicology for chemists. The involvement of our SC-NPU-LM representing IUPAC as one of eight international bodies in the production of the 3rd revision of the *Vocabulaire Internationale de Metrologie (VIM3)* is a highlight.

7.2 Provision of tools - As noted above, about a dozen glossaries of terminology have recently been published or are currently under construction, including two new projects for a glossary in immunotoxicology and revision of terms in clinical chemistry that are underway.

7.3 Assistance to the chemical industry in sustainable development, wealth creation, and improving quality of life - The PRE SC is active in COCI and the TRA is forging links with external bodies in collaboration with COCI. The MCDD has a long-standing association with industry, and its projects on natural products with medicinal value, nutraceuticals in Latin American Plants, and the volume 2 of the very successful book “Analogue-based Drug Discovery” are examples of current projects with immediate value to the chemical industry.

7.4 Fostering communication - Examples of particular relevance to this goal are the NPU-LM projects *Internationally agreed terminology for observations in scientific communication*, *Mapping of IFCC-IUPAC laboratory coding system to SNOMED-CT*, and *Translation of NPU database elements and properties into French*; and the TRA publication *Concepts in Toxicology*, and new glossaries in Ecotoxicology (2009) and Immunotoxicology (in preparation).

7.5 Education – Of significant note is the completion of the first phase of Toxiclaro described in section 6.3 above. Other examples are the recently published *Fundamental Toxicology, 2nd Edition*, *Analogue-based Drug Discovery*, and *Concepts in Toxicology*. Ongoing projects include *Training of School Children on Pesticides and Health* (TRA), *Research and Training in Medicinal Chemistry in the Indian Subcontinent* (MCDD), and *Practical Studies for Medicinal Chemistry Students* (MCDD). TRA Chair John Duffus has close links with CCE and participates globally in designing and delivering toxicology curricula.

7.6 Public relations - The PRE SC is active in improving the visibility of DVII and of IUPAC. “Limited DVII sponsorship” is used to distribute IUPAC material and make an oral presentation on DVII activities. An example was the “Advances in Chemical Sciences Symposium” held in Boston, which was heavily attended by members of the pharmaceutical industry, who heard a presentation by the DVII Secretary. Details of this process for limited sponsorship are now formalized in the DVII operating procedures, and have been implemented successfully on two occasions. Two DVII posters have been produced to complement the individual SC posters, and these are presented by presentation at international meetings by the DP and SC Chairs. The TRA SC hosted a

Mini-Symposium (Bioinorganic Toxicity, Poison or Cure) during the Chemical Congress in Glasgow in Aug. 2009, and a Divisional Symposium (Chemistry and Human Health: Terminology, Toxicology, and Therapeutics) is planned for Puerto Rico. The IUPAC-Richter Prize adjudicated through the MCDD SC is gaining prestige, and provides an international forum for scientific presentation by the winner, with IUAPC's name associated. The winner for 2008 was Jan Heeres, the inventor of ketoconazole and related fungicides, and he gave the IUPAC-Richter Award Lecture in Pittsburgh, Vienna, and Torquay over the subsequent 18 months. Equally ambitious speaking tours are intended for future winners.

8. Initiatives for 2010/2011

8.1. Richter awardees – as noted above, the 3rd Richter Prize will be awarded in June 2010, and a series of public lectures from this and previous winners is being organized on-line for IYC.

8.2. Implementing Divisional Sponsorship - as an outreach initiative, we will enhance and implement fully Divisional sponsorship of selected scientific meetings of relevance to the Division. Any Division Committee Member who regards this type of sponsorship to be of mutual value to a specific event that he/she has become aware of, should propose it to the Division Officers with a brief description and justification. The Officers will comment and then the DP will make a quick decision on behalf of the Division. Divisional Endorsement does not imply any financial aid or assistance in participation. It is an endorsement of the scientific quality of the meeting, and is seen as a venue to promote Divisional objectives. This was approved in our operating procedures by the GA in Glasgow and has now been used once twice successfully. The program will be expanded

8.3. A Divisional Symposium is being planned for the 2011 Chemical Congress, tentatively titled "Chemistry and Human Health: Terminology, Toxicology, and Therapeutics".

8.4 Additional activities for IYC will be a focus for discussions at the DVII meeting in Copenhagen preceding the Bureau meeting.

List of Attachments

Annex 1 - Chair's report - SC-MCDD	p. 7
Annex 2 - Chair's report - SC-NPU	p. 11
Annex 3 - Chair's report - SC-TRA	p. 14
Annex 4 - DVII Membership	p. 16
Annex 5 - Current DVII Projects	p. 17

Annex 1 - Chair's report - MCDD

The following projects were discussed at the SC meeting in Glasgow:

A) Nomenclature and Terminology

a) Glossary of Combinatorial Chemistry Terms (A. Ganesan)

IUPAC Project [2003-044-1-700](#)

Derek Maclean and two academics, Bing Yan (Peoples Republic of China) and Stefan Braese (Germany), had agreed to participate in this Project. Derek had visited Braese in Karlsruhe in December 2008. It is expected to have a working draft in 2010.

b) Glossary of Drug Metabolism Terms (Paul Erhardt)

IUPAC Project [2000-009-1-700](#)

No new information available.

c) Compendium of Glossaries (Robin Ganellin)

IUPAC Project [2002-001-1-700](#)

This Project is awaiting the completion of new glossaries before it can proceed further.

d) Glossary of Terms in Pharmaceuticals (Eli Breuer)

IUPAC Project [2001-049-2-700](#)

After numerous formatting problems this Glossary is now complete and has been published (Pure & Applied Chemistry, **81**(5), 2009, 971-999).

e) Glossary of Terms in Pharmaceutical Process Chemistry

(Mukund Chorghade) IUPAC Project [2001-049-2-700](#)

This Project awaits comments from the last reviewers before completion. It was noted that Wiley have expressed an interest in publishing a compilation of Glossaries.

f) Prototype Analysis of Molecular Markers of Cancer (Michael Liebman)

IUPAC Project [2005-050-1-700](#) (remaining budget 4/09 \$1902)

This study has completed the development of a comparison among biomarkers under development and in use, both clinically and “off-label” to categorize and evaluate the relevance of such biomarkers in both pharmaceutical development and healthcare decision support. The publication is being prepared to summarize this

study and has been solicited by several journals for potential publication. Targeted submission for this paper is Fall 09.

To accomplish these studies, a co-operative education student, James Havrilla, was hired from Drexel University (Philadelphia, PA) and was paid from funds allocated to him through Strategic Medicine Consulting, LLC. The actual cost for 2008 was \$7518 in salary which slightly exceeds the remaining \$ 6979 (\$5077 + \$1902) in the combined budgets. ML is requesting that these Funds (\$6979) be paid through to Strategic Medicine Consulting in accordance with the invoice provided and the documented statement of pay to Jim Havrilla that also accompanies this report. The difference will be absorbed by Strategic Medicine Consulting.

g) Glossary of Terms for Biomolecular Screening (John Proudfoot)

IUPAC Project [2004-019-3-700](#)

A draft version of this Project was posted on the IUPAC and Biomolecular web sites in May 2009 but no comments have been received so far. It has also been submitted to reviewers but there has been no response to date. It is hoped that the process is nearing completion.

h) Glossary of Terms in Medicinal Chemistry (Derek Buckle)

IUPAC Project [2008-010-1-700](#)

Approximately 150 new terms used by medicinal chemists have been prepared and most (A to O) have been reviewed by the Subcommittee. It is anticipated that agreed definitions will be available for wider comment by the end of 2009.

B) Training and Development

a) Research and Training in Medicinal Chemistry in Latin America

(Antonio Monge)

Following his lecture in Buenos Aires a training course on neglected diseases had been arranged there for May 2010.

There is a strong commitment to establishing a Project on neglected diseases which AM would lead. The suggested title is 'A Survey of Research into New Drugs for Neglected Diseases in Latin America'. It was considered important to identify key scientific aims that could be addressed by the academic community if broad interest was to be stimulated. AG, ML, GT and MC agreed to help compile the initial data. A Project Submission Form would be submitted by RG as soon as possible.

Names for possible referees were solicited.

Post meeting note: the Form was submitted to Doug Templeton on August 28.

b) Research and Training in Medicinal Chemistry in the Indian Sub-continent

IUPAC Project [2001-048-2-700](#) (Mukund Chorghade)

The Indian Government has given Medicinal Chemistry a high priority and aims to make India a major player in the Pharmaceutical Industry. MC is involved in the organisation of a five-day medicinal chemistry workshop in January in 2010 in which several big name speakers have been approached.

c) Practical Studies for Medicinal Chemistry Students

IUPAC Project [2004-028-1-700](#) (Antonio Monge)

Bryan Pearson joined the meeting for this item. A review of web site requests showed that there were over 83,000 successful hits during the first six months that experiments were electronically available and that many had come from Latin America. All available experiments had been accessed.

Despite this encouraging result there is a need to enhance awareness of the site in order to increase its value. We should put it on Google. The printed version will have 539 pages and cost 15 euros. RG to write a preface and send it to Rosa Cattana, rcattana@exa.unrc.edu.ar

C) New Technologies and Special Topics

a) Project on Human Drug Metabolism Database (Paul Erhardt)

IUPAC Project [2000-010-1-700](#)

No new information was available on this Project

b) Natural Products with Medicinal and Nutritional Value

(Mukund Chorghade) IUPAC Project [2001-050-2-700](#)

A new company has been established to explore natural products using reverse genetics and some interesting scaffolds have been identified. A review of the top 100 medicinal plants used in India will be published as a special bulletin in Pure and Applied Chemistry.

c) Latin American Plants as Sources for Functional Foods (Antonio Monge)

IUPAC Project [2005-031-2-700](#)

As stated in the previous minutes (March 26, 2009) articles for publication in Mexico, Uruguay and Peru are in preparation.

d) Analogue-based Drug Discovery II (Janos Fischer)

IUPAC Project [2008-013-1-700](#)

Twenty two of the 26 proposed chapters had now been received and sent to reviewers. The Project is on course to submit manuscripts to the publisher for the end of October 2009.

e) Stand Alone Drugs (Janos Fischer)

IUPAC Project [2005-032-2-700](#)

This will provide a chapter for the book on Analogue-Based Drug Discovery II It is due to be drafted by August 31, 2009.

f) Biological Context by Text Datamining (Michael Liebman)

IUPAC Project [2005-049-1-700](#) (remaining budget 4/09 \$5077.)

This study is nearing completion and a publication is currently being developed to report on the results of the application of text datamining to the identification and evaluation of biological context versus biological content. This has gained significant relevance with the increased efforts to develop electronic medical records, etc and the publication is being planned for submission to the Journal of the American Medical Informatics Association with the intent to extend the activity and seek external funding to support a larger Project. The targeted submission for this paper is Fall 09

g) Trends in Patenting Drug-related Technologies (Paul Erdhardt, Per Lindberg)

No further information is available.

h) Working Party on Chemistry for Biology (Robin Ganellin)

IUPAC Project [2005-042-1-300](#)

No discussions have taken place and no leader identified. The future status of this Project is questionable.

- We have since Glasgow added a new project, 2009-033-1-700, which is "A Survey of Research into New Drugs for Neglected Diseases in Latin America" chaired by Antonio Monge.

- We received extra funds for the project "Practical Studies for Medicinal Chemistry Students". The terms for a printed book are still being negotiated with a University in Argentina and everything has been held up by their summer vacation in Jan/Feb.

-We are aiming to submit a new project to update the "Glossary of Terms used in Computational Drug Design" which is now over 10 years old. I have been waiting for some statistics from Bryan Pearson and have just received them, so that we should be able to submit it soon.

- Our next SC meeting will be on March 20 in San Francisco, in good time for the DC meeting in Copenhagen.

C. Robin Ganellin, Chair, SC-MCDD

Annex 2 - Chair's report - NPU-LM

SC-NPU, IFCC-IUPAC,

Activity report for the period 2009-2010

Membership:

Francoise Pontet, Chair
Gunnar Nordin, Secretary
Ivan Bruunshuus
René Dybkær
Georges Férard
Urban Forsum
Xavier Fuentes-Arderiu
Gilbert Hill
Antonin Jabor
Dongchon Kang
Daniel Karlsson
Wolf Külpmann
Ulla Magdal Petersen
Clement McDonald
Henrik Olesen
Gunther Schadow

1. New projects and supplemental funding

- New project : Demonstration of NPU – SNOMED CT mapping/harmonization of terms used in Clinical Laboratory Sciences (IUPAC:2009-005-1). Chair : Urban Forsum
Collaboration with the International Health Terminology Standards Development Organisation (IHTSDO), managing SNOMED CT, led to a trial period April-October (also involving LOINC terminology), satisfactorily performed, which opened new perspectives for further mapping studies.

- Supplemental funding attributed to a “renewed“ project : Properties and units for urinary calculi (IUPAC: 2001-070-1-700).

Taken over by Gunnar Nordin as TGC. Attributed USD 839 as supplemental funding.

2. Projects Completed

No project completed in 2009-2010.

3. Publications (*chronological order*)

3.1. Férard G, Giroud C, Pontet F. Glossaire des acronymes d'institutions relevant de la métrologie. *Ann Biol Clin* 2009;67(2):233-8.

3.2. Férard G, Pontet F. Quelques nouvelles de l'IFCC (Fédération internationale de chimie clinique et de biologie médicale) et de l'IUPAC (Union internationale de chimie pure et appliquée). *Ann Biol Clin* 2009;67(3):364.

3.3. Nordin G. "The National Patient Summary" - a final test for the NPU system. Swedish Society for Clinical Chemistry, Springmeeting, Kalmar, Sweden 14 May 2009.

3.4. **Joint Committee on Nomenclature, Properties and Units (C-SC-NPU) of the IFCC and IUPAC**- Pontet F, Bruunshuus I, Dybkaer R, Férard G, Forsum U, Fuentes-Arderiu X, Hill G, Ihalainen J, Kang D, Karlsson D, Kuelpmann W, Magdal U, McDonald C, Nordin G, Schadow G. Health informatics : the NPU coding system. 42nd IUPAC Congress: Chemistry Solutions, Glasgow, UK, 2 – 7 Aug. 2009. (Poster and flash oral presentation).

3.5. **Joint Committee on Nomenclature, Properties and Units (C-SC-NPU) of the IFCC and IUPAC**- Pontet F, Magdal Petersen U, Fuentes-Arderiu X, Nordin G, Bruunshuus I, Ihalainen J, Karlsson D, Forsum U, Dybkaer R, Schadow G, Kuelpmann W, Férard G, Kang D, McDonald C, Hill G. Clinical laboratory sciences data transmission: the NPU coding system. XXII International conference of the european federation for medical informatics, Sarajevo, Bosnia, 30 Aug.-2 Sept. 2009. (Poster).

3.6. Nordin G. Use of NPU terminology in the Health Care Information Systems. NML Congress, Visby, Sweden, 9 Sept. 2009.

3.7. Pontet F, on behalf of C-NPU. The NPU coding system : basics and progress. 17th Meeting of Balkan Clinical Laboratory Federation & 5th Macedonian National Congress of Medical Biochemists, Ohrid, Macedonia, 16-19 Sept. 2009. (Invited lecture).

3.8. Magdal U on behalf of C-NPU. The NPU terminology in national use : managing laboratory results on a national scale. 17th Meeting of Balkan Clinical Laboratory Federation & 5th Macedonian National Congress of Medical Biochemists, Ohrid, Macedonia, 16-19 Sept. 2009. (Invited lecture).

3.9. Alía P. Nomenclature and computerized reporting of molecular genetics results. AACC Congress : Molecular Pathology Essentials: Diagnosis and Targeted, Copenhagen, Oct. 1-2, 2009. (Invited lecture).

3.10. Férard G, Pontet F, Giroud C, Dumontet M. Présentation du nouveau Vocabulaire international de métrologie. Ann Biol Clin 2009;67(5):591-4.

3.11. Fuentes-Arderiu X, Mestre M. Description of flow cytometry examinations related to human cell differentiation molecules in clinical immunology. Cytometry: Part B - Clinical Cytometry 2009;76B:291-3.

3.12. Dybkaer R. WHO International standards and international units. Workshop on physiological quantities and SI units. BIPM. Nov.16-17, 2009. (Invited lecture).

3.13. Nordin G. Consequences of the new standardization of HbA1c. Swedish Medical Society, Riksstämman 2009, Stockholm 26 Nov, 2009.

4. SC meetings

- Subcommittee
 - Paris, France 2009-04-26 – 28
 - Glasgow, UK 2009-08-03 – 04
- Technical projects
 - International vocabulary for nominal examinations in scientific communication :
 - Glasgow, UK 2009-08-02
 - Silver Book revision :
 - Glasgow, UK 2009-08-05 – 07
- IHTSDO negotiations

- Bethesda, MD, USA, 2009-02-25 –27
- Bethesda, MD, USA, 2009-10-02

5. Other activities

Ongoing projects

- Mapping of IFCC-IUPAC laboratory coding system to SNOMED CT (IUPAC 2006-008-1-700) Chair: Ulla Magdal.

Mapping of all concepts to SNOMED CT terminology is proceeding.

- International vocabulary for nominal examinations in scientific communication. (2008-019-1-700) Chair: Françoise Pontet. 1st draft submitted on January 30, 2010, to a wide set of reviewers (including JCGM-WG2 members), formatted for Pure and Applied Chemistry (PAC) for IUPAC related reviewers, and for CCLM for IFCC related reviewers.

- Silver Book (Compendium of Terminology and Nomenclature of Properties in Clinical Laboratory Sciences) revision (joint IUPAC 2008-033-3-700 + IFCC CPD project) Co-Chairs : Françoise Pontet, Georges Férard (3.1.). Progressing. Preliminary draft under review within the TG.

- Recent advances in Nomenclature, Properties and Units: strategy for promoting SC-NPU achievements (IUPAC 2006-048-1-700) Chair: Françoise Pontet. Communications are referenced above (3.1.-3.8., 3.11, 3.12).

- Securing and structural updating of information in the NPU coding system and its environment (IUPAC 2006-012-1-700) Chair: Ulla Magdal. A 102 page user's guide has been edited in Danish, and published on the Danish Board of health website. An English version has been drafted by Henrik Olesen, and is under review within the Committee.

- Properties and units for function examinations (IUPAC: 2001-067-1-700). Progressing.

Other

- The NPU terminology in its English version, “generic data base“, is published on the net at: <http://dior.imt.liu.se/cnpu/>. Updated versions of the NPU terminology available for download (.csv files) at the national Danish site, www.labterm.dk, since January 2009.

- HbA1c : ongoing continuous education for health professionals (3.13.).

- Translation of NPU coding system into French (F. Pontet). A second version intended to be posted on the SFBC (French Society of Clinical Biology) website in early 2010, as an Excel format.

Future projects

- Structure of results from genetic testing in the C-NPU system (3.9.). A chair is required. Collaboration with another IFCC Committee is planned.

- Establishing definitions for non-referenced terms in the NPU terminology.

Proposed chair : Helle Møller Johannessen. Project proposal under review in the SC.

Soon submitted to Division.

Françoise Pontet, Chair, SC-NPU

Annex 3 - Chair's report - TRA

1. Projects completed or in progress - to March 2009

1.1 1999-047-1-700 - Immunochemistry of metal sensitization

Following the publication of the three papers already resulting from this project, two further papers entitled 'Lymphocyte Subpopulations in Human Exposure to Metals' and 'Immunological Effects of Mercury' have been published in PAC as technical reports.

1.2 2004-045-1-711 - Training of school children on pesticides and health - "Toxiclaro"

The Task Group meetings resulted in a prototype computer animation package developed at the Universiti Sains Malaysia. The material has been evaluated in accordance with the theory of learning and will shortly be available as a CD. Final publication of the material is expected very shortly. An amended version of the Toxiclaro multimedia package has now been developed incorporating the IUPAC logo and this can be found at www.prn2.usm.my/toxicology2009

1.3 2005-047-1-700 - Glossary of Terms Used in Ecotoxicology

The final document was published by Pure and Applied Chemistry in 2009.

1.4 2006-020-1-700 - Explanatory dictionary - part 2

The Working Group has submitted the final document for publication in Pure and Applied Chemistry and it is completing the final part of the PAC review process.

1.5 Book "Concepts in Toxicology"

The two papers which comprise the "Explanatory Dictionary" have been combined and the contents re-organized using concept diagrams to produce a book by Drs. Duffus, Templeton and Nordberg which emphasises the relationships between concepts and how concepts can be combined to generate higher order concepts. This process may be seen as analogous to the combination of elements to produce compounds and compounds to produce cells etc. The book was published by the Royal Society of Chemistry in Nov. 2009.

1.6 Project No. 2007-053-1-700: Glossary of Terms Used In Immunotoxicology

The objective of this project is to prepare a glossary defining terms in the specialized field of immunotoxicology, to supplement the recently published Glossary of Terms Used in Toxicology (2nd ed.), and aid chemists in the interpretation of the output of [project #1999-047-1-700](#), Immunochemistry of Metals. A meeting of the Working Group was held in Tübingen, hosted by Professor Schwenck. This was followed up by collaboration by email and a first draft of the glossary has been prepared.

2. Possible New Projects

Emphasis has been placed on completing current projects and further projects have been

delayed until these are finished satisfactorily. With publication of the “Glossary of Terms Used in Ecotoxicology”, there may be terms there that would justify a further explanatory dictionary. With the subsequent completion of the “Glossary of Terms Used in Immunotoxicology”, there is a case for amalgamating the toxicology glossaries, with accompanying revision and updating.

3. Other Activities

3.1 Biomonitoring Equivalents

The results from the Biomonitoring Equivalents Workshop, organized by Summit Toxicology and sponsored by US EPA, Health Canada, ACC, the Soap & Detergent Association, the American Petroleum Institute, and two pesticide industry groups, CropLife America and Responsible Industry for a Sound Environment, which Monica Nordberg attended and to which John Duffus contributed have been published in “Regulatory Toxicology and Pharmacology”.

For further information see the BE website:

http://www.biomonitoringequivalents.net/html/additional_resources_.html

3.2 Involvement in Strategic Approach to International Chemicals Management (SAICM)

John Duffus is collaborating with Colin Humphris and Mark Cesa of COCI, and Stanley Langer of the RSC in an attempt to revive IUPAC collaboration with WHO and IPCS, through their current initiative SAICM. SAICM seeks to establish a harmonized global approach to management and minimisation of risk associated with production, use and disposal of chemicals. It is likely that IUPAC will become a recognized nongovernmental organization (NGO) for SAICM and join the Society of Environmental Toxicology and Chemistry (SETAC) in setting up an advisory body, perhaps with the involvement of IUTOX.

John H. Duffus, Chair, SC-TRA

Annex 4 – DVII Membership

Membership 2010

Name	Status	Term	NAO
Prof. Douglas M. Templeton	TM-President	2008-2011	Canada
Prof. Michael Schwenk	TM-Secretary	2010-2013	Germany
Dr. Françoise Pontet	TM-President-elect	2008-2011	France
Dr. Ole Andersen	TM	2008-2011	Denmark
Prof. Sergey O. Bachurin	TM	2010-2013	Russia
Dr. Derek R. Buckle	TM	2010-2013	United Kingdom
Prof. Xavier Fuentes-Arderiu	TM	2008-2011	Spain
Dr. Yvonne C. Martin	TM	2010-2013	USA
Prof. Tetsuo Nagano	TM	2010-2013	Japan
Prof. Giorgio Tarzia	TM	2008-2011	Italy
Dr. Mukund Chorgade	AM	2010-2011	USA
Dr. Janos Fischer	AM	2010-2011	Hungary
Dr. Toivo Halonen	AM	2010-2011	Finland
Dr. Paul A. Illing	AM	2010-2011	United Kingdom
Dr. Mirja Kiilunen	AM	2010-2011	Finland
Prof. Monica Nordberg	AM	2010-2011	Sweden
Prof. Georg Becher	NR	2010-2011	Norway
Dr. Cheng-Hock Chua		2010-2011	Malaysia
Dr. Mercedes González		2010-2011	Uruguay
Dr. Hyun-Joon Ha		2010-2011	Korea
Dr. Rabiul Islam		2010-2011	Bangladesh
Prof. Peter Nedekov	NR	2010-2011	Bulgaria
Prof. Zhu-Jun Yao	NR	2010-2011	China/Beijing
	10 TM, 6 AM, 10 NR		

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

Annex 5 – Current DVII Projects

- 1999-047-1-700 Immunochemistry of Metal Sensitization (Doug Templeton)
- 2000-009-1-700 Glossary of Drug Metabolism Terms (Paul Erhardt)
- 2000-010-1-700 Project on Human Drug Metabolism Database (Paul Erhardt)
- 2001-048-2-700 Research and Training in Medicinal Chemistry in the Indian Subcontinent (Mukund Chorghade)
- 2001-049-2-700 Glossary of Terms in Pharmaceutical Technology (Eli Breuer)
- 2001-050-2-700 Natural Products with Medicinal and Nutritional Value (Mukund Chorghade)
- 2001-067-1-700 Properties and Units for Function Examinations (Antonin Jabor)
- 2001-070-1-700 Properties and Units for Urinary Calculi (Antonin Jabor)
- 2002-001-1-700 Compendium of Glossaries (Robin Ganellin)
- 2003-044-1-700 Glossary of Combinatorial Chemistry Terms (A. Ganesan)
- 2004-019-3-700 Glossary of Terms for Biomolecular Screening (John Proudfoot)
- 2004-023-1-700 Internationally Agreed Terminology for Observations in Scientific Communication (Françoise Pontet)
- 2004-028-1-700 Practical Studies for Medicinal Chemistry Students (Antonio Monge)
- 2004-045-1-711 Training of School Children on Pesticides and Health - "Toxiclaro" (Wayne Temple)
- 2005-031-2-700 Latin American Plants as Sources for Nutraceuticals (Antonio Monge)
- 2005-032-1-700 Stand-Alone Drugs (Janos Fischer)
- 2005-049-1-700 Biological Context by Data Mining (Michael Liebman)
- 2005-050-1-700 Prototype Analysis of Molecular Biomarkers in Cancer (Michael Liebman)
- 2006-008-1-700 Mapping of IFCC-IUPAC Laboratory Coding System to SNOMED CT (Ulla Magdal)

2006-012-1-700 Securing and Structural Updating of Information in the NPU Coding System and its Environment (Ulla Magdal)

2006-020-1-700 Explanatory Dictionary of Terms in Toxicology - Part 2 (Monica Nordberg)

2006-048-1-700 Recent Advances in Nomenclature, Properties and Units : strategy for promoting SC-NPU achievements (Françoise Pontet)

2007-053-1-700 Glossary of Terms Used In Immunotoxicology (Doug Templeton)

2008-010-1-700 Glossary of Terms in Medicinal Chemistry Updated (Derek Buckle)

2008-013-1-700 Analogue-Based Drug Discovery (Janos Fisher)

2008-033-3-700 Silver Book (Compendium of Terminology and Nomenclature of Properties in Clinical Laboratory Sciences) revision (Joint project with IFCC) (Françoise Pontet, Georges Férard)

2009-005-1-700 Demonstration of NPU – SNOMED CT mapping/harmonization of terms used in Clinical Laboratory Sciences (Urban Forsum)

2009-033-1-700 A Survey of Research into New Drugs for Neglected Diseases in Latin America (Antonio Monge)

2009-034-2-700 Risk Assessment of Effects of Cadmium on Human Health (Gunnar Nordberg)