

IUPAC Chemistry and Human Health Division (VII)

Annual Report Submitted 9/19/06

By Paul Erhardt, President Div. VII

Synopsis

This report provides an update about Division VII's (DVII's) activities since last year's General Assembly in Beijing. A proactive approach taken by our Subcommittee on *Public Relations and Elections* (PRE), allowed DVII to have a very successful TM election process followed by finalization of our NRs, designation of our administrative officers, and selection of our AMs. The resulting membership of DVII is shown in Attachment 1 wherein it can be noted that nineteen (19) different nations are now represented among our twenty-four (24) active participants.

DVII's technical diversity is organized within three Subcommittees, namely *Medicinal Chemistry and Drug Development* (MC), *Nomenclature, Properties and Units in Laboratory Medicine* (NPU), and *Toxicology and Risk Assessment* (SOT). Together, these Subcommittees are involved in thirty (30) IUPAC Projects (Attachment 2), the last five (5) of which were recently initiated from ca. 40% of DVII's 2006-7 allotted budget. Detailed reports from each of the Subcommittee's are appended as Attachments 3 to 6. Publication lists can be found therein.

DVII has held one meeting in the U.S. since Beijing and another is planned in Europe for early December. Given that the first meeting drew ca. 25% of DVII's 2006-7 allotted budget, a decision was made to meet every nine (9) rather than every six (6) months with one of our meetings to coincide with a GA. As a result, our meetings will now be scheduled for one-and-a-half days rather than for one day. DVII's major highlights are conveyed within the following six (6) IUPAC Goals with each of the latter set-off as a bolded header.

Leadership in Addressing Global Chemical Issues

The need for standardization of properties and units associated with human toxicology assessment was recently addressed by DVII's NPU and SOT Subcommittees' soon to be released PAC report entitled "*Properties and Units in the Clinical Laboratory Sciences: Part XX. Properties and Units in Clinical and Environmental Human Toxicology.*"

Provision of Tools

The NPU's generic databases, now published on the net under the URL: <http://dior.imt.liu.se/cnpu/>, represents an electronically available tool that can be used in a variety of clinical-related analytical settings. The SOT's "*Glossary for Chemists of Terms Used in Toxicology*" and "*Glossary of Terms Relating to Pesticides*" have been submitted for publication in PAC, as well as being made available electronically for review on the IUPAC website. Several MC sponsored glossaries are likewise nearing completion: "*Combinatorial Chemistry Terms*;" "*Drug Metabolism Terms*;" "*Pharmaceutical Technology*;" "*Pharmaceutical Process Chemistry*;" "*Biomolecular Screening*;" and, an all-encompassing "*Compendium of Glossaries.*"

Assist Chemical Industry in Sustainable Development, Wealth Creation and Improving Quality of Life

The MC Subcommittee, in particular, has strong ties with the industry. Its following projects demonstrate some of the ongoing activities that DVII is involved with in this area: “*Prototype Analysis of Molecular Biomarkers in Cancer;*” “*Natural Products with Medicinal and Nutritional Value;*” and, “*Latin American Plants as Sources for Nutraceuticals.*” Leading additional efforts to connect IUPAC with industry, the PRE has become active in COCI. In this regard, the PRE’s list of DVII activities ([Attachment 7](#)) will be used by COCI as a model for all of the other IUPAC Divisions.

Foster Communication

The following projects from the NPU Subcommittee pertain, in particular, to this IUPAC goal: “*Global Use of the SC-NPU Concept System for Properties in Toxicology;*” “*Internationally Agreed Terminology for Observations in Scientific Communication;*” and, “*Translation of the SC-NPU Database Elements and Properties Into French.*” Similarly, the SOT project entitled “*Explanatory Dictionary of Concepts in Toxicokinetics*” and the MC project entitled “*Biological Context by Data Mining*” directly relate to enhancing communication among chemists within the specific context of using some of DVII’s tools, as well as fostering communication in general.

Education

Two stellar efforts relevant to educational projects include the recently published text entitled “*Fundamental Toxicology, 2nd Edition*” by the SOT Subcommittee, and the recently published text entitled “*Analogue-based Drug Discovery*” by the MC Subcommittee. Specific training projects include: “*Training of School Children on Pesticides and Health*” (a SOT activity); “*Research and Training in Medicinal Chemistry in the Indian Subcontinent;*” and, “*Practical Studies for Medicinal Chemistry Students*” (the latter two projects being MC activities).

Membership and Public Relations

In addition to DVII’s efforts to diversify its membership via the IUPAC election and selection process as already discussed in the synopsis section, the PRE has produced a DVII poster that has recently been displayed at the last EFMC Meeting in Istanbul and at the last ACS meeting in San Francisco.

Also of particular note in this category is that the first “*IUPAC-Richter Prize*” has been awarded to Professor Malcolm Stevens, Nottingham University, UK, for his work on heterocyclic anticancer drugs. This prize of US \$10,000 was presented at the EFMC-organized International Symposium on Medicinal Chemistry held in September at Istanbul, Turkey. Recognition of Dr. Stevens and this prestigious award will again be provided at the next GA.

A Point of Concern

The budgets for all Divisions need to receive a regular increase just to keep pace with inflation. For example, the costs associated with having a Divisional Meeting are much more than they were five (5) to ten (10) years ago and this then cuts into the money available for projects (whose costs have likewise gone up with inflation over this period). Since the Divisions have NOT received such a periodic, inflationary increase for several years, I suggest that a lump sum figure of ca. US \$5K be immediately added in all cases to the Division budgets and that this is then also followed by bi-annual, inflation-derived increases as appropriate.

**IUPAC Division of Chemistry and Human Health
2006-2007 Membership**

<u>Name</u>	<u>Desig.</u>	<u>Role</u>	<u>Term</u>	<u>NAO</u>
Ole Andersen	AM	SOT	06-07	Denmark
Sergey Bachurin	NR	MC	06-07	Russia
Georg Becher	NR	S TBD	06-07	Norway
Derek Buckle	AM	MC	06-07	UK
Mukund Chorghade	TM	Secretary; CCE Rep; MC	(Sec.)	US
Rita Cornelis	NR	SOT	06-07	Belgium
John Duffus	TM	Chair SOT; ICTNS & "SOT" Rep	04-07	UK
Paul Erhardt	TM	President; USNC & PAC Rep; MC	04-07	US
Janos Fischer	TM	IUPAC-Richter Prize Rep; MC	04-07	Hungary
Robin Ganellin	AFM	Chair MC	(Chair)	UK
So-Yeop Han	NR	"AFMC" Rep; MC	06-07	Korea
Javed Iqbal	NR	MC	06-07	India
Mike Liebman	TM	MC	06-09	US
Kari Mattila	NR	S TBD	06-07	Finland
Grzegorz Mlostien	NR	MC	06-07	Poland
Peter Nedekov	NR	MC	06-07	Bulgaria
Monica Nordberg	TM	SOT	06-09	Sweden
Tom Perun	AFM	Chair SOPRE; COCI & "ACS" Rep; MC	(Chair)	US
Francoise Pontet	AFM	Chair NPU; "IFCC" Rep	(Chair)	France
Ferran Sanz	TM	"EFMC" Rep; MC	06-09	Spain
Pedro Soares de Araujo	TM	Vice President; NPU	04-07	Brazil
Doug Templeton	TM	"Can. MRC" Rep; SOT	06-09	Canada
Henk Timmerman	TM	"IUPHAR" & "ISSX" Rep; MC	04-07	Netherlands
Mario Varasi	AM	MC	06-07	Italy

Abbreviations

Desig. pertains to IUPAC membership designation wherein: **AFM** = Affiliate Member; **AM** = Associate Member; **NR** = National Representative; and, **TM** = Titular Member.

Role pertains to Division-related responsibilities and primary technical expertise wherein for the latter: **MC** = Subcommittee on Medicinal Chemistry and Drug Development; **NPU** = Subcommittee on Nomenclature, Properties, and Units in Laboratory Medicine; **SOT** = Subcommittee on Toxicology and Risk Assessment; and, **S TBD** = Subcommittee To Be Determined. For responsibilities, liaison relationships with non-IUPAC-associated organizations are indicated by placement of the latter's codes within quotation marks and: **"ACS"** = American Chemical Society; **"Can. MRC"** = Canadian Medical Research Council; **CCE** = Committee on Chemistry Education; **COCI** = Committee on Chemistry and Industry; **"EFMC"** = European Federation of Medicinal Chemistry; **ICTNS** = Interdivisional Committee on Terminology, Nomenclature and Symbols; **"IFCC"** = International Federation of Clinical Chemistry; **"ISSX"** = International Society for the Study of Xenobiotics; **"IUPHAR"** = International Union of Pharmacology; **PAC** = Journal of Pure & Applied Chemistry; **SOPRE** = Subcommittee for Public Relations and Elections; **"SOT"** = Society of Toxicology; and, **USNC** = U.S. National Committee for IUPAC.

IUPAC Bylaws On Division Composition

Maximum membership: 10 Titular Members (TMs); 6 Associate Members (AMs); 6 + 4 (by Bureau & Council Amendment) = 10 National Representatives (NRs); and, Unlimited Affiliate Members (AFMs).

Project Expenses vs Budget

Through 18 September 2006	Actual	Budget	Over/ (Under) Budget	% of Budget	Planned End Date
700-Health					
1999-047-1-700 Templeton	1,994	5,500	(3,506)	36%	30-Oct-2002
2000-009-1-700 Erhardt	2,000	2,000	-	100%	31-Dec-2001
2000-010-1-700 Erhardt	3,130	5,000	(1,870)	63%	1-Jul-2002
2000-014-1-700C Wilding	6,362	7,000	(638)	91%	Completed
2001-048-2-700 Chorgade	2,909	5,000	(2,091)	58%	31-Dec-2003
2001-049-2-700 Chorgade/Breuer	4,350	5,000	(650)	87%	30-Jun-2003
2001-050-2-700 Chorgade	2,909	5,000	(2,091)	58%	1-Dec-2004
2001-053-2-700C Duffus	6,195	6,500	(305)	95%	Completed
2001-058-1-700 Forsum	2,988	2,200	788	136%	31-Dec-2004
2001-066-1-700 K�lpmann	5,428	3,300	2,128	164%	31-Dec-2004
2001-067-1-700 Jabor	2,279	2,200	79	104%	31-Dec-2004
2001-070-1-700 Jabor	1,570	2,200	(630)	71%	31-Dec-2004
2002-001-1-700 Ganellin	4,690	4,700	(10)	100%	31-Dec-2003
2003-001-2-700 Nordberg	2,333	5,500	(3,167)	42%	31-Dec-2006
2003-028-1-700 Duffus	2,816	5,000	(2,184)	56%	31-Dec-2005
2003-044-1-700 Maclean	-	4,200	(4,200)	0%	1-Jul-2006
2003-059-1-700 Lehar	-	5,000	(5,000)	0%	1-Apr-2005
2004-019-3-700 Proudfoot	1,073	3,000	(1,927)	36%	1-Jul-2006
2004-023-1-700 Pontet	-	5,000	(5,000)	0%	31-Dec-2006
2004-025-1-700 Proudfoot	-	1,500	(1,500)	0%	1-Sep-2006
2004-028-1-700 Monge	410	5,000	(4,590)	8%	31-Dec-2006
2004-045-1-700 Temple	1,923	5,000	(3,077)	38%	31-Dec-2006
2005-013-1-700C Huggins	1,500	1,500	-	100%	Completed
2005-031-2-700 Monge	-	2,400	(2,400)	0%	31-Dec-2007
2005-032-2-700 Fischer	510	3,000	(2,490)	17%	31-Dec-2007
2005-047-1-700 Nordberg	-	7,500	(7,500)	0%	1-Jul-2008
2005-049-1-700 Liebman	-	6,000	(6,000)	0%	31-Dec-2007
2005-050-1-700 Liebman	-	3,000	(3,000)	0%	31-Dec-2007
2006-008-1-700 Magdal	-	7,500	(7,500)	0%	1-Jul-2008
2006-012-1-700 Magdal	-	7,500	(7,500)	0%	31-Dec-2008

Report from the Subcommittee on Medicinal Chemistry and Drug Development for the period August 2005 to August 2006

Meetings Since the last IUPAC General Assembly (in Beijing, August 2005) the Subcommittee on Medicinal Chemistry and Drug Development has held two meetings (Modena, Italy, 11 September 2005 and Atlanta, Georgia, USA, 26 March 2006). The next meeting will be held in London, 7 October 2006.

They were attended respectively by 8 and 10 members.

Minutes have been posted on the IUPAC web-site for both of the above meetings.

Membership Core membership continues as before. The National Representative (NR) for Russia has changed (from Nikolay Nifantiev to Sergey Bachurin). We have also picked up six new medicinal chemists either as new NR's, as new Division VII Committee Members, or as having been involved in the Division Committee election (Derek Buckle, So-Yeop Han, Javed Iqbal, Grzegorz M Giorgio Tarzia and Mario Varasi).

Honorary Membership The Subcommittee wishes to honour the IUPAC services of four past members of the Medicinal Chemistry Section with an 'Honorary Fellowship' which is more than the usual "IUPAC Fellowship". This is being pursued by the Division President.

Projects As previously, no new projects have arisen from proposals outside of the Subcommittee membership. One project has been completed and four new projects have been formally proposed and approved. Several projects involving glossaries were thought to be complete but now require additional work because ICTNS changed the format requirements so that the Gold Book is no longer the appropriate format to follow.

Individual Projects

2003-044-1-700 Glossary of Combinatorial Chemistry Terms. The project leader has been changed because of his work commitments (from Derek Maclean to A. Ganesan).

2000-009-1-700 Glossary of Drug Metabolism Terms. Definitions are being adjusted to IUPAC format.

2002-001-1-700 Compendium of Glossaries.
Definitions are being adjusted to IUPAC format.

2001-049-2-700 (a) Glossary of Terms in Pharmaceutical Technology.
Definitions are being adjusted to IUPAC format.

2001-049-2-700 (b) Glossary of Terms in Pharmaceutical Process Chemistry.
Definitions are being adjusted to IUPAC format.

2005-050-1-700 Prototype Analysis of Molecular Biomarkers in Cancer. Newly approved project.

2004-025-1 -700 Compendium of Molecular Targets for Drugs.
Project is being terminated because it has been discovered that a substantial proportion of the anticipated material for this project is already available on the world-wide web.

2004-01 9-3-700 Glossary of Terms for Biomolecular Screening. Making good progress.

2001 -048-2-700 Research and Training in Medicinal Chemistry in the Indian Subcontinent.

Workshops on Medicinal Chemistry are being organized to take place in Pune and Hyderabad in early 2007.

2004-028-1-700 Practical Studies for Medicinal Chemistry Students.

A draft printed version has been produced and will be made available on the world-wide web.

2000-010-1-700 Project on Human Drug Metabolism Database.

The project is on hold pending the procurement of additional funding.

2001-050-2-700 Natural Products with Medicinal and Nutritional Value.

Document is being edited and adjusted to IUPAC format.

2005-031 -2-700 Latin American Plants as Sources for Nutraceuticals.

Newly approved project.

2002-051-1-700 Analogue-based Drug Discovery.

This project metamorphosed into a book which was published by VCH-Wiley in January 2006. It was highly acclaimed in a review in J. Med. Chem.

2005-032-1 -700 Stand-Alone Drugs.

Newly approved project. Content under discussion.

2005-049-1-700 Biological Context by Data Mining. Newly approved project.

2005-042-1-300 Working Party on Chemistry for Biology.

An interdivision feasibility study jointly with the Organic and Biomolecular Chemistry and the Physical and Biophysical Chemistry Divisions. Progress unknown.

New Projects under discussion

Update of Glossary of Terms in Medicinal Chemistry.

Research and Training in Medicinal Chemistry in Latin America.

Trends in Patenting Drug-Related Technologies.

Prize

The IUPAC-Richter Prize of US \$ 10,000 to be awarded 5 times over the next 10 years has been established by a generous gift from Gedeon Richter Ltd, Budapest, Hungary.

The Prize will recognize a scientist's outstanding contributions in medicinal chemistry and drug discovery. The first Prize has been awarded to Professor Malcolm Stevens, Nottingham University, UK, for his work on heterocyclic anti-cancer drugs, and will be presented with a lecture at the EFMC organized International Symposium on Medicinal Chemistry, Istanbul, Turkey on September 2006.

External Contacts

Continue with the European Federation for Medicinal Chemistry (EFMC) and the Asian Federation for Medicinal Chemistry (AFMC).

C. Robin Ganellin
Subcommittee Chair
28 August 2006

**SC-NPU, IFCC-IUPAC,
Activity report for the period August 2005 - August 2006**

Membership:

Urban Forsum, past Chairman, (proposed Emeritus)
Francoise Pontet, Chair (starting 2006-01-01)
Pedro Soares de Araujo, past Secretary
Gunnar Nordin, Secretary (starting 2006-01-01)
René Dybkær (proposed Emeritus)
Ivan Bruunshuus
Jarkko Ihalainen
Daniel Karlsson
Xavier Fuentes-Arderiu
Gunther Schadow
Ulla Magdal Petersen
Wolf Külpmann
Henrik Olesen (proposed Emeritus)

Meetings:

SC-NPU

Rome Italy 2005-10-07 – 10-09

Paris, France 2006-04-08 – 04-10

Meeting with the Estonian Society for Laboratory Medicine (U. Forsum)

Taagepera Estonia 2005-09-26

Meeting with representatives (John Zlockie and co-workers) of the CLSI on the future of the C-NPU data base. (U. Forsum, I Bruunshuus)

Wayne Pa USA 2005-11-14

C-NPU active participation at the Workshop on “Quantities, numbers and parts” IFOMIS University of Saarbrücken (U. Forsum, D. Karlsson)

Saarbrücken Germany 2005-12-01 – 02

CEN TC 251 wg 2 meeting (ENV 1614 standard) (D. Karlsson)

Rome Italy 2005-10-08

Symposium “Aktuelles zu medizinische Klassifikationen und Terminologien. GMDS- project group “Standardisierte Terminologien in der Medizin”. (W. Külpmann)

Freiburg Germany 2005-09-15

SC-NPU generic database

The SC-NPU generic database is, as of 2002-04-25, published on the net under the URL: <http://dior.imt.liu.se/cnpu/>. The database is published on the IFCC homepage (Scientific division) and IUPAC (Division of Chemistry and Human Health.) homepage with a link to the server Dior. During the meeting in Wayne Pa USA with representatives of the CLSI (former NCCLS) it was agreed that the C-NPU and CLSI should seek a permanent hosting of the database probably as part of the CLSI website and server. Unfortunately, this collaborative project of hosting this database on the CLSI website had to be dropped because of CLSI board decision of declining IFCC offer, the support of C-NPU database not being not aligned with CLSI mission.

The IFCC SD has thus proposed that the database be hosted on the IFCC website. The cost of such a management is being studied by Urban Forsum and Ivan Bruunshuus, so that IFCC SD could finalize its decision.

Ongoing projects

1. Properties and units for function examinations (IUPAC: 2001-067-1-700). An updating has been undertaken.
2. Properties and units for urinary calculi (IUPAC: 2001-070-1-700). A full reformatting of the manuscript is being done.
3. Global use of the SC-NPU concept system for properties in toxicology (IUPAC:2001-066-1-700). Finalized 2005, submitted on July 22, 2006 for publication in Pure and Applied Chemistry.
4. Internationally agreed terminology for observations in scientific communication. (IUPAC 2004-023-1-700) Chair : Françoise Pontet. A first draft has been circulated and discussed during the last Sub-Committee meeting.
5. Mapping of IFCC-IUPAC laboratory coding system to SNOMED CT (IUPAC 2006-008-1-700) Chair : Ulla Magdal. Has just started on 2006-07-01. Abstract is on IUPAC website.
6. Securing and structural updating of information in the NPU coding system and its environment (IUPAC 2006-012-1-700) Chair : Ulla Magdal. Has just started on 2006-07-01. Abstract is on IUPAC website.
7. Translation of SC-NPU database elements and properties into French (F. Pontet). Is being updated in 2006.
8. Paper on IFCC WG-HbA1c name and units (G. Nordin). This manuscript on the impact of systematic nomenclature on the naming of this particular important property is under ballot in IFCC.
9. Revision of ENV 1614 has been done in collaboration with CENT C 251. It is now circulated by CENT C 251 for voting.
10. The final draft of the 3rd edition of VIM has been finalized and has been submitted to participating organizations at the beginning of August 2006. Comments are expected back to BIPM for the end of October, and the final publication is foreseen by the end of 2006.

Future projects

The SC-NPU is currently working on a number of projects to become work items during 2006. Two proposals are under discussion as drafts, and two are in preparation.

Representation in other committees.

IFCC Scientific Division : Françoise Pontet

ICTNS of the IUPAC : Urban Forsum (2005)

JCGM of the BIPM (WG2-VIM), IFCC : René Dybkær, Françoise Pontet

JCGM of the BIPM (WG1-GUM), IFCC, ILAC, CCQM : René Dybkær

CEN TC 251 wg2 : Daniel Karlsson

Publications 2005-2006 :

1. Nordin G, Klinteberg B, Persson B, Forsum U. Får en laboratorieundersökning kallas vad som helst? "NPU-systemet" reder upp i begreppsrovan och ger systematisk stringens. Läkartidningen, 2005, 102: 1308 – 1315 (in Swedish).
2. Forsum U, Hallander HO, Kallner A, Karlsson D. Impact of qualitative analysis in laboratory medicine. TrAC-Trends in Analytical Chemistry, 2005, 24: 546 -555.
3. Forsum U, Karlsson D. Terminology, categories and representation of examinations in laboratory medicine. Clin. Chem. Lab. Med. 2005;43:344-345.

4. Külpmann. W Das NPU-System (IFCC, IUPAC) de Messgrößen und Einheiten in der Laboratoriumsmedizin. J Lab Med 2005, 29:2-5 (in German).
5. D'Orazio P, Burnett RW, Fogh-Andersen N, Jacobs E, Kuwa K, Külpmann W, Larsson L, Lewenstam A, Maas AHJ, Mager G, Naskalski J, Okorodudu AO; the IFCC SD WG on Selective Electrodes and Point of Care Testing. Clin Chem 2005, 51,9:1573-1576.
6. Fuentes-Arderiu X. Description of examinations and their results and the standard ISO 15189. Clin Chem Lab Med 2006;44: (to be published in september 2006).

Françoise Pontet
SC-NPU Chair

Report of the Public Relations and Elections Subcommittee

Following the Beijing meeting, the material in the poster for the Chemistry and Human Health Division displayed at the meeting, was updated and modified. A draft version was presented to the Division Committee in Atlanta, and members of the DC made suggestions on the content and organization. The final version contained sections on Mission, Organization, Membership, Publications and Selected Current Projects. The Publications were divided into Books, Glossaries and Others. The Selected Current Projects were categorized into the three subcommittees sponsoring them. Also added was a section on submitting a project proposal, and a description of the IUPAC Richter Prize in Medicinal Chemistry. This revised material was presented at the COCI Annual Meeting in July. It was well received, and generated a healthy discussion on the merits of collaborating on joint projects. Some of the goals and activities of COCI are similar to those of Division VII, so there is the possibility of sharing resources where appropriate. It was recognized that the interaction between the two organizations should be two-way, and a representative of COCI (Alex Pokrovsky) was identified to attend the next Division Committee meeting. This will complement my representation of Division VII with COCI

The organization and presentation of the Recent Activities of Division VII was selected as a model for presentations by other IUPAC Divisions that were not represented in person at the COCI meeting. The poster material was sent to the Secretariat who developed a new poster for Division VII. This will be presented for the first time at the International Symposium on Medicinal Chemistry (ISMC) held in Istanbul, August 29- September 2, 2006.

A Power Point version of the material was also prepared, and will be made available to any members of the Division Committee who have an opportunity to use it as a PR vehicle at meetings they attend. The poster has also been prepared in both portrait and landscape formats for use in appropriate settings by DC members.

At the next Division Committee meeting, we will begin our selection of the Nominating Committee for elections to be held in 2007.

Tom Perun

**Subcommittee on Toxicology and Risk Assessment
Report, August 2006**

1. Projects completed or in progress

1.1 2001-053-2-700C - Fundamental Toxicology, 2nd Edition

This project was completed with the publication of the textbook by the Royal Society of Chemistry in January 2006.

1.1 2001-066-1-700 - Global use of the C-NPU concept system for properties in toxicology

This project has been completed with the report, "Properties and Units in the Clinical Laboratory Sciences: Part XX. Properties and Units in Clinical and Environmental Human Toxicology. Technical Report (IFCC-IUPAC 2006)", which has been revised to satisfy PAC requirements and reviewers' comments for publication in PAC and is currently in the final stages of proceeding to publication in PAC.

1.2 2003-001-2-700 - Explanatory dictionary of concepts in toxicokinetics

This project has been completed and revised to satisfy PAC requirements and should be published there shortly. Elsevier Publishers have expressed to Monica Nordberg an interest in publishing the document as a book. It is thought by the working group that it should have twice as many entries to be eligible for publication as a book of a reasonable length. Monica is intending to submit a second project, "Explanatory Dictionary, part 2, to cover about 20 more terms. Together with the completed project, this should provide the basis required for a book.

1.3 1999-047-1-700 - Immunochemistry of metal sensitization

Doug Templeton has received 5 significant reviews of his latest manuscript. Following comments from John, he has detailed the speciation of metals whenever needed. PAC has accepted the revised document. It is worth mentioning that already 2 papers from the project have been published. Doug Templeton, the project leader, will think about what further activities within the scope of this project may be carried out with the remaining part of the budget.

1.4 2004-045-1 -711 - Training of school children on pesticides and health

The working group for this project met in Prague in April. The project is making progress and draft teaching material has been produced and is being further developed.

1.5 2003-028-1-700 - Glossary for chemists of terms used in toxicology — revision and updating

Every term has been considered and possible changes were assessed at the Subcommittee Meeting in March. This took up most of the time allotted to the meeting at the Subcommittee. Consensus was reached on the terms discussed and the text has been revised accordingly. The resultant draft, version 12, was submitted to Pure and Applied Chemistry for publication as an IUPAC Recommendation, superseding the existing glossary of 1993. Currently this draft is under review on the IUPAC website and it will in due course be revised to take into account comments received. The existing glossary, combined with the Glossary of Terms Used in Toxicokinetics' has been incorporated with acknowledgment to IUPAC in the U.S. National Library of Medicine TOXNET portal to the toxicology literature. This portal incorporates

toxicology learning materials called ToxTutor which are currently being updated as ToxLearn. ToxLearn is a series of presentations designed for self study and these are being hyperlinked to the IUPAC glossary on the TOXNET site. When available and approved by PAC, the revised glossary will replace the existing version with appropriate acknowledgment.

1.6 2004-002-1-600 - Glossary of Terms Relating to Pesticides

Monica Nordberg contributed to the ‘Glossary of Terms Relating to Pesticides’ which is nearing publication in PAC.

2. New projects

2.1 2005-047-1-700- Glossary of Terms Used in Ecotoxicology

This project has just started and a list of appropriate terms is being compiled.

2.2 Explanatory dictionary - part 2 (see under 2.2)

A project proposal is in preparation.

2.4 Supplementary modules on Essential Toxicology

Howard Worth and John Duffus are planning to submit a project with the aim of producing presentations of educational material in clinical chemistry to supplement those already available on the IUPAC website with the title “Essential Toxicology”.

3. Other Activities

Rick Becker, Senior Director - Public Health Team, American Chemistry Council (ACC), is helping to plan a Workshop on “Human Biomonitoring”. JHD has agreed to be part of the Steering Group in a personal capacity. Such a Workshop might lead to a set of papers which could be published in a special edition of PAC or as a book. Projects may arise from the Workshop which could justify IUPAC support.

Submitted by John Duffus

RECENT ACTIVITIES OF DIVISION VII — CHEMISTRY AND HUMAN HEALTH

BOOKS

Medicinal Chemistry for the 21st Century (1992) (1994)
Fundamental Toxicology for Chemists (1996)
Drug Metabolism: Databases and High Throughput Testing During Drug Design and Development (1999)
Handbook of Pharmaceutical Salts: Properties, Selection and Use (2002)
Analogue-based Drug Discovery (2005)
Fundamental Toxicology, 2nd Edition (2006)

GLOSSARIES

Glossary of Terms in Quantities and Units in Clinical Chemistry (1996)
Glossary of Terms Used in Computational Drug Design (1997)
Glossary of Terms Used In Medicinal Chemistry (1998)
Glossary of Terms Used in Combinatorial Chemistry (1999)
Glossary of Terms Used in Toxicokinetics (2004)
Glossary of Terms Used in Pharmaceutical Technology
Glossary of Terms Used in Pharmaceutical Process Chemistry
Glossary of Drug Metabolism Terms
Glossary of Terms Used in Toxicology

OTHER RECENT PUBLICATIONS

Essential Toxicology — Educational Modules in PDF Format on IUPAC Website
Natural and Synthetic Substances Related to Human Health (2002-2003)
Mechanisms of Immunosensitisation to Metals (2004)
Properties and Units in the Clinical Laboratory Sciences (2004)
Impact of Qualitative Analysis in Laboratory Medicine (2005)
Postgenomic Chemistry (2005)
Guidelines for Terminology for Microtechnology in Clinical Laboratories (2006)
Surveys of Research and Training in Medicinal Chemistry
 United States
 Europe
 Japan
 India, Pakistan and Sri Lanka
Explanatory Dictionary of Concepts in Toxicology

SELECTED CURRENT PROJECTS

Medicinal Chemistry and Drug Development

Human Drug Metabolism Database
Chemical and Pharmacological Aspects of Natural Products with Medicinal and Nutritive Value
Compendium of Terms Associated with Drug Discovery and Development
Glossary of Terms Used in Biomolecular Screening
Practical Studies in Medicinal Chemistry — An Integrating Approach for Developing Countries
Plants as Sources for Nutraceuticals in Latin America
Prototype Analysis of Molecular Biomarkers in Cancer

Toxicology and Risk Assessment

Quantifying the Effects of Compound Combinations
Educational Material for Teaching Toxicology
Training of School Children on Pesticides and Health
Distance Learning in Toxicology; Effective Teaching through Technology

NPU/Clinical Chemistry

Recommendations for the Use of Nanotechnology in Clinical Laboratories
Concepts and Structure for Requests in Clinical Laboratories
Global Use of the C-NPU Concept System for Properties in Toxicology
Internationally Agreed Terminology for Observations in Scientific Communication
Immunochemistry of Metal Sensitization

THE IUPAC RICHTER PRIZE IN MEDICINAL CHEMISTRY

Acknowledges the key role that medicinal chemistry plays toward improving human health. Awarded every two years to an internationally recognized scientist whose accomplishments demonstrate an outstanding level of contribution to the practice of medicinal chemistry or drug discovery.