



**IUPAC**  
**Chemistry and Human Health Division**

**IFCC**  
**Scientific Division**

**Subcommittee/Committee on Nomenclature, Properties and Units (SC/C-NPU)**

**Minutes from the meeting in Torino 2007-08-05 – 07**

Status: draft minutes, to be confirmed at next meeting with SC/C-NPU

Item

1. The meeting was opened August 5th at 1:30 PM

Present: Ivan Bruunshuus Petersen (IBP), Rene Dybkær (RD), Jarkko Ihalainen (JI) present during item 1--16, Ulla Magdal Petersen (UMP), Gunnar Nordin (GN), Henrik Olesen (HO), Françoise Pontet (FP, chair) and Gunther Schadow (GS). Anders Kallner participated as observer during part of the meeting.

Apologies were presented for Urban Forsum (UF), Xavier Fuentes-Arderiu (XFA) and Daniel Karlsson (DK)

2. The agenda was approved after addition of information from the IUPAC Committee on Chemistry Education and a discussion on the actions to be taken with regard to the recent publication of "Properties and Units in clinical and environmental human toxicology".
3. The minutes from last meeting, Brussels 2006-12-03 – 05, was approved and will be distributed to IFCC and IUPAC.
4. Membership of the C-NPU/SC-NPU. The IFCC C-NPU holds the five titular members XFA, DK, IB, JI, and FP and the consultants UF and RD. By the end of 2007 IB and JI have served their first 3 year term, and have agreed to serve a second three year term 2008—2010.

The IUPAC SC-NPU consists of all the IUPAC project task group members. Among the task group members Pedro Soares de Araujo announced that due to the fact that Brazil currently is not a member of IUPAC, he has made the decision to withdraw all his participations in the projects. The C-SC deeply regrets this decision. Wolf Külpmann has retired from his position in Hannover and does currently not participate in any activity. Tony Jabor, Check Republic, has promised to participate in the finalization of the concrete project.

A new corresponding member of C-NPU, Robert Flatman, Australia, is welcomed. The list of corresponding members now counts 7.

It was decided that draft agendas, minutes and final documents should be sent to all corresponding members. It is suggested that a letter be sent each year to check their interest for the C-SC activities. Douglas Templeton, IUPAC DC VII, and Howard Morris IFCC SD and the IUPAC and IFCC secretariats should also be supplied with the same material.

In order to improve the exchange of information between members and corresponding members the possibilities of a web based discussion forum was suggested. FP promised to address the IFCC and IUPAC with the suggestion.

5. Budget for the meeting. FP has prior to the meeting distributed claim forms for the expenditures to the participants of the meeting.
6. Report from the BIPM Joint Committee for Guides in Metrology JCGM-WG1 (GUM): RD reported that one supplement on the use of Monte Carlo simulations for estimating uncertainties and another on the calculation of uncertainties for multiple output quantities are about to be finalized. In addition an introduction to GUM and a report on how to use GUM for conformity assessment will be produced.

Report from JCGM-WG2 (VIM): FP reported that the French translation of labels in the concept diagrams and the final proof reading still remain to be performed. After publication the final VIM 3<sup>rd</sup> edition will be made freely available for the 8 member organizations (BIPM, IEC, IFCC, ISO, IUPAC, IUPAP, OIML, ILAC). If this means that members of these organisations will also have free availability to the VIM 3<sup>rd</sup> edition is not clear. FP will try to get copies free for the members of C-NPU.

The publication of RD thesis on line: Permission to publish the thesis as a pdf-file has been achieved from Copenhagen University and from the publisher APMIS. RD, however, will update the material according to VIM 3<sup>rd</sup> edition and recent ISO documents prior to a web publication.

7. FP has delivered an activity report from SC-NPU to IUPAC DC VII.
- 7b The IUPAC Committee on Chemistry Education promotes various IUPAC activities in the form of educational activities. GN will contact division liaison Eva Åkesson for further discussion on the possibilities to promote the NPU in the educational activities.
8. Next meeting of C/SC-NPU will be in conjunction with IFCC General Conference 2008-04-13—15 in Antalya, Turkey.
9. FP, GN and JI reported from a meeting with Howard Morris (IFCC SD), Hassan El-Sayed (IFCC webmaster) and Ellis Jacobs (IFCC CPD) in Amsterdam in June 2007 for discussion of NPU database hosting issues. The IFCC representatives were updated with the present situation in the management and the hosting of the various databases used for NPU. The possibility to host the generic database technically on IFCC servers in order to promote the system, was discussed. A short report has been prepared by FP from the meeting.

HO made a historical summary. The idea of a database was first presented for IUPAC in 1987. The work started in 1990 together with work for CEN TC 251 WG2 and the preparation of the Silver Book. In 2001 the management of the database, including contact with the laboratories using the system, moved to the Danish Board of Health.

The system was introduced and is in use in Sweden and Denmark. The introduction has been facilitated because these countries are small and contain a well developed infrastructure for electronic communication. The difficulties to introduce the system in large and diverse countries like Germany, UK and France should not be underestimated. HO suggested for discussion therefore that efforts should be made to introduce the system in other areas like Poland, Baltic and Arabic countries. Syria and Turkey could for that reason be invited to the C-NPU coming meeting in Turkey.

AK commented that the availability of the generic codes must be very much improved, and ought to be found on a simple web address, like [www.npu.org](http://www.npu.org). The current search function for the public interface to the generic database search function is not intuitive. As an example the joker signs % or \* must be included as default in the search string.

For information AK reported that CLSI will refer to NPU codes for the definition of laboratory properties in the future.

An 'OID number' for NPU-codes has recently been registered by Equalis for the Swedish subset of NPU codes, including the regional codes with 'SWE' as starting three letters. It will be investigated if an OID already exists for the generic code set. If this is not the case, the registered OID number might be sufficient for the generic NPU codes. GN will communicate further with UM.

A suggestion was made to incorporate NPU codes in the UMLS. GS investigates the prerequisites for an incorporation in the UMLS.

Regarding a technical hosting of the database, HO reported that the Department of Clinical Biochemistry, Hvidovre University Hospital, Denmark has volunteered.

A remaining issue is the intellectual property of the database content. Obviously both IFCC and IUPAC have some form of ownership and intellectual property of the database content. FP will address the organisations for a discussion of these issues.

10. Several entries in the NPU database consist of quantities without internationally agreed unit. The general term for these units is 'arbitrary units/l', a unit which is then expected to be further defined in the specific measurement procedure. Consequently there are separate entries in the database defining quantities which differ only by a factor  $10^3$  ('arbitrary unit/l' versus

'10<sup>3</sup> x arbitrary unit/l'). Without knowledge of the specific calibrator in use and the definition of the measurement unit, it is not possible to determine which code definition corresponds to a measured quantity. UM has therefore suggested that the same NPU code, regardless of the size of any prefix, should be used to define the properties reported by laboratories, e.g. regardless if the reported unit is '10<sup>3</sup> arbitrary unit/l' or 'arb unit/l'. In any case additional information about the calibrator and definition of the unit is needed in order to interpret the result.

After discussion it was decided to replace the term 'arbitrary unit/l' in the database with the term 'procedure defined unit' and that all current entries with prefix 10<sup>3</sup> arbitrary unit/l will be deleted. The consequences of this decision should be evaluated at the next meeting.

11. A description and code for the property often named 'T3 uptake test' has been asked for. The suggested description of the entry is 'P—Triiodothyronine-reaction; arbitrary saturation (procedure)' was discussed. A further analysis of the measurement procedure will be performed by RD until a final decision is made.
12. The database contains double entries for drugs of abuse, distinguished by different procedures, either an "International Olympic Committee ('IOC') procedure" or another procedure. It is suggested that these double entries are reduced to one. It was decided that IB contacts IOC and asks whether there is any argument for not doing the proposed changes.

The double entries for screening and confirmation test should be kept.

13. The database contains entries for Rheumatoid factors (RF) with reference to the IS 64/002. This standard is a freeze dried preparation of sera from patients with rheumatoid arthritis. The reconstituted material contains 100 IU per ampoule assigned by agglutination methods which mainly detect IgM class RF. Currently ELISA methods are in use which distinguish RF of IgM, IgG, IgA and IgE classes. Currently there are two entries for RF for results traceable to IS 64/002, one with a component specification to IgM (NPU16407), one without (NPU18350). It is not clear for laboratories which code should be used.

Further investigation is needed until a decision to delete one of the two entries, alternatively to explain the distinction between the entries.

14. JI informed that after a Finnish initiative, the CEN TC 140 (IVD) has decided to create a liaison with CEN TC 251 (Health informatics). The corresponding decision in CEN TC 251 is expected. The argument for a closer relation between the two committees is the increasing use of software within the IVD-products, the increasing use of results from IVD-products in software for decision support. Both EN 1614 (Health informatics - Representation of dedicated kinds of property in laboratory medicine) and ENV 12435 (Medical Informatics - Expression of results of measurements in health sciences) were mentioned as examples of cross-sectional CEN standards.
15. For discussion of the new concept "Federated Electronic Health Record" JI brought the attention to the ISO/IEC 11179 [Information technology – Metadata registries (MDR)] and shared his view on the ongoing discussion on the possibilities that messaging, e.g. by use of HL7-messages, between different information systems, in the future might be replaced by 'Just-in-time aggregated data' from SQL queries to various metadata registries as single sources of truth. JI concluded that this will not diminish the need for NPU codes to define laboratory properties, but might affect the possibilities for various coding systems to co-exist.
- 16a. The possibility to address EUs 7<sup>th</sup> Framework program (FP7) with an application for promoting the use of the NPU coding schemes in several European countries to facilitate multinational comparison of data from medical laboratory investigations was discussed. HO suggested that an application ought to be done within the "Innovative Medicine Initiative" (IMI) created from the "Joint Technology Initiative" in FP7.

Some possible topics in FP7 which we could apply for are:

HEALTH-2007-1.1-4 (SME-driven collaborative research projects for developing tools and technologies for high-throughput research.).

HEALTH-2007-3.4-3 (Patient mobility and access to information).

HEALTH-2007-4.1-8 (Promotion and facilitation of international cooperation in areas relevant to the objectives of this Theme).

Also discussed was which parties are competent to make an application? The organisations such as IFCC, IUPAC or EFCC? Health care providers in the Scandinavian countries? No decision to prepare an application was made.

It was decided that GN will try to contact Swedish drug companies, assumed to be engaged in IMI, and HO contacts companies in Denmark.

HO will also attend a Danish meeting August 14<sup>th</sup> for further information on the application process.

- 16b The toxicology paper has recently been published as IUPAC technical report "Properties and units in the clinical laboratory sciences. Part XX. Properties and units in clinical and environmental human toxicology" in *Pure and Applied Chemistry*. Duffus, J., R. Cornelis, et al. (2007) *Pure Appl. Chem.* **79**(1): 87-152. In conjunction with the original publication IB discovered some double entries, spelling errors, and improper use of 'S-'. The mirror publication of the paper in eJIFCC (Duffus, J., R. Cornelis, et al. (2007). *eJIFCC* **18**(2) unfortunately contains corrections of some of these errors, instead of an *errata* list together with the original paper *in extenso*. It was decided that FP contacts eJIFCC editor and ask for withdrawing the published paper. FP should also ask the IUPAC Publication Division whether they agree with an IFCC publication.

As we were informed that there exist new publishing IUPAC recommendations, it was decided to prepare a discussion for next meeting to apply them to future parts of the "elephant".

**Post-meeting note** : it was finally decided that FP ask eJIFCC to replace the published paper by the same version as that published in PAC, provided we can get a Word version of it from John Duffus.

17. Report from ongoing translation projects:

A complete French translation of the current entries of the NPU will soon be made available on the web.

A translation to German was arranged by Wolf Külpmann in 2006. The German terms have been incorporated in the NPU working database (Paradox) at the Danish Board of Health and an Excel-file of the terms from 2006 will be possible to create and to publish.

Portuguese: Nothing new to report.

Arabic: HO discussed the possibilities to create a translation into Arabic. HO has recently met with Syrian colleagues, e.g. Ghassan Shannan, and discussed the possibilities to translate the terms in the database into Arabic.

Actions decided: IUPAC Div VII (Paul Erhardt) should be approached by FP and the Arabic Federation of Clinical Chemistry (Fouad Harb) by HO for further discussions on their view of a translation project, notably to know whether we can make a project proposal mentioning that budget would entirely come from other sources. It has also to be taken into account that it was decided at the Torino DC meeting that we should wait until a text is drafted by two DC members and accepted by IUPAC officers to have a specific funding for all translations in IUPAC, in a different scheme from the project usual procedure. The suggestion might be further discussed in Antalya, Turkey.

18. Reports on coding project proposals:

Dedicated kinds-of-property for flow-cytometry and CD markers: JI will contact XFA and discuss the future process.

Dedicated kinds-of-property in clinical physiology. GN will contact DK and Anders Thurin and discuss the current status of the project proposal. A delineation to the project 'functional investigation' is necessary.

A possible project on 'caryotype description' was discussed: GS and UM will continue the discussions and return with a suggestion.

A possible project on k-o-p for histologic examinations. GS volunteered as chair and promised to draft a project plan.

19. Report from other project proposals:

The botanical name project: Originally suggested by PSA. As PSA now leaves all projects, a new project leader must be found. The scope should be wider than botanical name, and e.g. cover fungi, parasites etc. GN will search for possible recognized sources. Allergens, which are included in the CLSI project on allergen terminology, should be excluded in a NPU project.

Revision of Silver Book: the principle of an application for revision has been accepted both by IUPAC and IFCC. The revision will be made by Georges Féraud, XFA and RD. After the

revision, the Silver book ought to be available on-line, in the same way as the other 'color books'. If possible, HO will provide his electronic version of the 1<sup>st</sup> edition to be forwarded to Georges, so as to make the revision of it easier.

20. Internationally agreed terminology for observations in scientific communication. (IUPAC project 2004-023-1-700): it was discussed whether the project was regarded as an extension of VIM 3<sup>rd</sup> edition including also nominal properties, or just harmonized with VIM3 for nominal examinations properties. FP and GS have independently reviewed the draft manuscript. The final version of VIM3 must be awaited until the work can continue.
21. Revision of the Urinary calculi manuscript: Properties and units for urinary calculi (IUPAC project 2001-070-1-700). Tony Jabor has agreed to once more review the manuscript. Some editorial changes have meanwhile been performed by GN. Some controversies were discussed and e.g. a further definition was asked for 'orthogonal length' as kind-of-property and if there are any conventions on how the concretment should be oriented for its measurement.

Two slightly different syntaxes to describe a calculus in the right urinary tract were compared:

Calculi(Right urinary tract)—Calculus(spec); length = ? mm or  
Urinary tract(Right urether)—Calculus(spec);length = ? mm

GN will return with a new version of the manuscript after discussions with Toni Jabor.

22. Properties and units for function examinations (IUPAC project 2001-067-1-700). Currently no progress. The delineation between clinical chemistry and clinical physiology was discussed, and has to be agreed upon with Clinical Physiology. Possibly this work should be restricted to 'chemical challenge tests', that is the measurement of responses to exogenic substances.
23. Mapping of IFCC-IUPAC laboratory coding system to SNOMED CT (IUPAC proj. 2006-008-1-700): A drafted letter from SC-NPU to IHTSDO has not been sent yet. FP will send the letter to DK, to be forwarded to IHTSDO by DK at next IHTSDO meeting in Brisbane (Australia), with copies to IFCC and IUPAC. The legal issues and the question of intellectual property is not yet fully cleared.
24. Securing and structural updating of information in the NPU coding system and its environment (IUPAC proj. 2006-012-1-700): The information model work has started. For example the scale will be included in the new model. A user guide is under production.
25. Database promoting (IUPAC project 2006-048-2-700). A poster was presented at the Amsterdam Eurolab meeting June 2007.
26. Update on the proposal for new name and unit for HbA1c. The proposal will be published in the August volume of CCLM, together with an editorial and a report from the WG on standardization of HbA1c.
27. FP reported from the recent IUPAC DC meeting.
28. Data model for a new data base. See item 24.
29. Nomenclature for monoclonal proteins and receptors. The SC-NPU has been addressed by a question on principles for the nomenclature describing investigations where PCR primers are used to detect specific gene recombinations which results in the production of monoclonal immunoglobulins and T-cell receptors. The SC-NPU agreed that the monoclonal proteins should be regarded as the components, and not the gene recombination as such. The molecular biology techniques used to indicate these components should be a part of the procedure.
30. Nomenclature for capillary fragility. In a recent e-mail discussion within the group, it has been agreed to use the following description of the investigation of capillary fragility:  
Skin—Petechiae(pressure induced); areic number(proc.) = ? cm<sup>-2</sup>.
31. Miscellany. Nothing to report.
32. The meeting closed on August 7<sup>th</sup> 1:00 PM.

[Gunnar Nordin 2007-09-16]