



IUPAC
Chemistry and Human Health Division



IFCC
Scientific Division

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

Draft minutes for the meeting in Linköping 2010-10-02 – 03

Item

1. The meeting opened October 2nd at 9:00 a.m. and the present members were welcomed by the chair. A special welcome was given to Jens Gleditch (JG), PhD in health informatics, from Oslo, Norway, as a new IUPAC member of the subcommittee. The other present members were Urban Forsum (UF), René Dybkaer (RD), Gunnar Nordin (GN), Helle Johanssen (HJ), Ulla Magdal Petersen (UMP), Daniel Karlsson (DK), Xavier Fuentes de Arderiu (XFA), and Françoise Pontet (FP).

Apologizes were presented for Robert Flatman (RF) (due to conflict in time), Ivan Bruunshuus Petersen (IBP) (conflict in time), and to Gunther Schadow, who also has forwarded the intent to step out of the subcommittee. The members involved in the Silver Book revision, that is Clem McDonald (CM), Georges Féard (GF), Dongchon Kang (KD), and Gilbert Hill (GH) were apologized for budget reason.

FP reminded the group that her term as chair will end by 2011.

2. The draft agenda was approved.
3. The minutes from the last meeting at Corfu 2010-04-16 – 17 was approved after inclusion of well found editorial comments from RD.
4. Members and corresponding members. This group jointly consists of all IUPAC NPU project members and of IB, XFA, UMP, RF and FP as five IFCC titular committee members. RD and UF hold positions as consultants on behalf of IFCC. The second IFCC term for IB ends by 2010. The nomination process for the recruitment of a new member is to be initiated by IFCC Scientific Division. The desirable profile of a new member in order to add competence not yet covered in the group was discussed. A broad geographical representation is preferable. Knowledge in medical informatics, metrology, terminology, NPU-syntax needs to be covered, in addition to field specific competence from laboratory medicine. Among areas of experience mentioned in the discussions were microbiology, molecular biology, cytogenetics and morphological pathology.

JG was welcomed as a corresponding IFCC member, and as a IUPAC member in the project for establishing definitions for non-referenced terms in the NPU terminology (2010-035-3-700) lead by HJ.

As mentioned above, GS wants to step out from the subcommittee. As a possible successor was mentioned Christoph Gessner from Germany. FP will therefore contact Christoph Gessner.

XFA suggested Ariadna Padró-Miquel who is active within the field of molecular biology, as a task group member on the IUPAC future project on molecular biology.

UF volunteered to be nominated by the Swedish Society for Clinical Chemistry, as an IFCC TM.

It was noted that any nomination to the position of IFCC TM must be from an IFCC member organisation.

5. FP has prior to the meeting distributed the scheme for the budget. Claim form should be sent in within one month from the meeting.
6. The next technical meeting will be in Berlin 2011-05-20--21 in conjunction with the IFCC

World and European congresses. A second meeting 2011 will be in Paris in November at date to be suggested by FP.

7. Report from members:

- René Dybkaer's book was published last spring on the IUPAC web site. Currently the publication is only mentioned on the IFCC website. A direct publication on the IFCC web-site has been promised by past IFCC president Matthias Muller.
- RD reported from JCGM-WG1 on GUM. Two ongoing work items on uncertainty estimates was mentioned: one on "more than one output quantities" (JCTM102) and one for conformity assessment (JCTM106). Uncertainty calculation by use of Monte Carlo simulations has been published (JCTM101).
- FP reported from JCGM WG2 on VIM. Corrigenda sheets to VIM3 will be finalized. ISO will provide a 'corrected master file of VIM3, including corrigenda sheets'. Comments to the manuscript on nominal properties have been given within the VIM forum. Nominal properties and super ordinate concepts should be included in a future VIM4.
- GF has been appointed a new IFCC representative in CCU. RD, former IFCC representative reported from the discussions prior to the September meeting regarding the suggestion for a new format for the definition of the SI base units. According to the new proposal, base units are defined by constants without uncertainty. The definition of mass is thus derived from an exact value of the Planck constant and amount of substance from the Avogadro's number. The proposed changes, summarized by RD, "might not 'click' in everyday life".
- Publications and communications from the members were shortly mentioned. UM gave a presentation of the NPU-system in Baltic Congress in Laboratory Medicine September 16th-18th in Estonia. XFA has published a metrological paper in an official Spanish journal. RD has published a paper on "ISO terminological analysis of the VIM3" (Metrologia 47: 127-134, 2010) and a tutorial "'Verification' versus 'validation': a terminological comparison" will be published in Accred Qual Assur within short. A short paper by GN on nomenclature has been published in the journal of Swedish Medical Society paper (Läkartidningen 107(32-33): 1850-52, 2010).
- Meetings ahead: The IUPAC DC meeting will be in London November. The term for XFA ends by 2011, and a new name is therefore expected to be suggested. HJ will think about it until tomorrow, and finally accepted to run for TM of the DivVII Committee. Fabienne Meyers asks for papers for Chemical International.

8. The management of the NPU database and update on the IFCC website.

IFCC and IUPAC are the owners of the NPU system. IFCC has agreed at the Corfu meeting in April 2010 to manage, not only to host, the database in the future. As a first step of this agreement a flat file with a list of the NPU concepts should be published by CPD on the web site.

Since the Corfu meeting, there has been no communication between IFCC and C-NPU on this matter. No excel flat file has yet been sent to IFCC.

Graham Beastall has now promised to raise this case at the Seoul coming meeting.

In the discussions XFA pointed out that, according to his understanding, the most important products of the system are the "property definitions", and not the NPU codes as such.

9. Current status and the use of NPU codes – including the letter from Danish Board of Health on management of international NPU system.

UM has created new web-pages on the Danish Board of Health/LabTerm site explaining how to access information and content of the NPU terminology in English.

UM reported that new entries in the NPU database mainly are created on demand from Denmark, Sweden and Norway.

A letter to "IFCC-IUPAC as well as national representatives" of 2010-09-29 from Lene Asholm, Danish Board of Health, was reviewed. Danish Board of Health informs that they from now on will have no resources for support to other countries than Denmark on the NPU

terminology. Furthermore, the lack of formal agreement between IFCC, IUPAC, IHTSDO, Danish and Swedish authorities was stressed.

It was concluded that a formal agreement with all involved parties regarding the use and development of the NPU terminology is urgently needed.

10. Report from the IHTSDO and IFCC-IUPAC (C-NPU) project, including report on the status for the IHTSDO negotiations (IUPAC project 2006-008-1-700).

It was reported that the project contract ended April 2010, and new projects are welcomed. IHTSDO actively seek cooperation with other organisations for projects, of which the C-NPU and LOINC project was one. The final and official project report has not yet been published. A style guide has been produced for 'observables', available on the IHTSDO web-site. Negotiations are ongoing with LOINC on how to continue new projects. Mapping between SNOMED CT and LOINC is simpler compared to NPU codes, because all the elemental concepts from LOINC are imported to SNOMED CT.

GN reported on the Swedish situation, where EQUALIS acts as a national release center for NPU concepts used by Swedish laboratories and in the National Patient Portal which currently is developed. The NPU codes have been *de facto* standard in Sweden, although no formal decision by any authority has been made.

In Norway there is a growing interest for the NPU-codes. The possibility to engage KITH ("Kompetansesenter for IT i helse- og sosialsektoren") was mentioned in the discussions.

DK explained the description of the new "observable entities" in SNOMED CT. The distinction between 'quality' and 'process' has been considered. The SNOMED CT observable entity is now characterized by a 'quality' and a 'how'. A quality can be either stationary or changing.

The reason why the NPU syntax is not implemented as such in SNOMED CT is the lack of specificity. The developed "observable entities" in SNOMED CT are more specific and does not hide definitions in unstructured forms such as "specifications" in the NPU-system. Another difference is that the purpose of the "observable entities" is to cover a larger domain than the laboratory medicine.

RD suggested that in any case the SNOMED CT should adhere to VIM when possible. 'Dedicated kind of property' seem to be a synonym 'observable entity' in SNOMED CT. The concept 'phenomenon' might well cover both 'quality' and 'process'.

XFA asked for the comparable terminology for "P—Glucose; subst conc = ? mmol/L". DK explained that SNOMED CT is not concerned with the representation of results on the end user screens, and that an exact corresponding term for this reason might not be found within the SNOMED CT terminology.

The major conclusion from the discussions was that much more resources are needed to continue mapping-projects. It is also necessary to develop a mapping tool between the systems.

11. Project report: The (almost) final manuscript on the NPU terminology, "Properties and Units in the Clinical Laboratory Sciences Part XXIII. The NPU Terminology, Principles, And Implementation – A User's Guide (Recommendation)" was circulated by UM (IUPAC project 2006-012-1-700).

Some questions are still open for discussion. Should the "Ag" be used as short form for "Antigen" or is "Ag" reserved as short or the chemical element silver? Is antithrombin detected by enzymatic and immunological procedures : the same or two different properties?

The Corfu meeting discussion on pauciscale was continued. At the Corfu meeting it was decided that the specification "pauciscale" should be discarded. But UMP stressed that a deletion of the specification would create problems with double entries that must be considered. Comments on this should be given to UMP within a few weeks. UM plans to submit the manuscript in December.

12. Project report: Nominal properties (IUPAC project 2004-023-1-700). A separate meeting is organized October 4. A manuscript has been sent to CCLM for publication in November. The IUPAC revision process will not be fulfilled until next year. We should ask for an extended revision period to February 28. Comments are welcome to FP and GN from the C-NPU. An index should be put in the final version.

13. Project report: Silver Book Revision. FP reports on behalf of Georges Férard as co-chairman (IUPAC TG chair). The group has worked very hard, partly in parallel with nominal property project. A statistician is still looked for. The deadline has been postponed to March 2011.

Chapter 4 will possibly be divided into two chapters. Chapter 3.5 is now 'structure of property'. For chapter 5 some terms, such as "decrementic", "areic", "volumic", are not appreciated by IUPAC and are therefore open for discussion.

Examples from LOINC and CUMUL besides NPU are planned to be given in the book (which chapter 6). XFA, however, expressed disbelief in having examples from LOINC and CUMUL.

The text is almost finished, apart from bibliography. The bibliography is planned to be divided into primary secondary sources. In all, more than 1000 references will be given.

C-NPU however agreed to include the proposed new definitions of base units within SI and stressed that given examples of properties should be carefully checked with the NPU database.

In order to give more advice on how to handle specific questions for the revision, the C-NPU needs to see the complete work. It was therefore asked if it was possible to circulate the whole manuscript within the C-NPU.

- 13b The DIS 11240 "Health informatics — Identification of medicinal products — Data elements and structures for unique identification and exchange of units of measurement". Attention of C-NPU has been drawn to this draft international standard. C-NPU finds it remarkable that no connections are made to the EN standard EN 12345. Several terms require clarifications, such as "arbitrary unit", "parameter", "optical density" and "elisa units". Comments should be forwarded to UF before November 2nd.

14. Database promoting (IUPAC project 2006-048-2-700). No activities to be reported after the Glasgow GC where two posters were presented. Some ideas brought up at the Corfu workshop were to produce an IFCC brochure to promote the system (suggested by Khosrow Adeli, IFCC CPD), to produce a slide set for presentations, and to arrange a workshop at next IFCC general conference. FP is invited to a meeting in India (arranged by Mukund Chorghade, IUPAC div VII) where the NPU system will be presented. The meeting with European Federation of Medical Informatics in Oslo 2011 was also suggested as suitable meeting to promote the project. A poster is suggested at the Berlin IFCC congresses in May 2011. A communication (probably a poster) will be presented at next IUPAC GA and congress in Porto Rico, August 2011. FP will circulate all drafts in due time.

15. New project: A new project has been accepted by IUPAC: Establishing definitions for non-referenced terms in the NPU terminology (IUPAC project 2010--035-2), chaired by HJ. The expected outcome was introduced by HJ.

Different types of terms in the database need references or formal definitions together with "educating" examples. In total there are 3000 undefined terms in the database, such as "HTLV type I+II-antibody", "alpha beta TCR", "II", "Acylcarnitine+Carnitine". The plan is to establish principles for approximately 500 terms and after this arrange a WG meeting for a first evaluation.

16. Revision of the manuscript on urinary calculi: "Properties and units for urinary calculi" (IUPAC project 2001-070-1-700).

GN has contact with an interested Swedish urologist that can participate in finalising this project, originally planned as number XVII in the series.

17. Properties and units for function examinations (IUPAC project 2001-067-1-700).

The task group members are no longer active and the project has no budget. The project has never been given a number in the planned series of publications.

Much has evolved since the project started 10 years ago. Some of the concepts have been covered in publication number X.

There is still no basic definition on what a functional examination is. What is the demarcation to physiological measurements? Are functional examinations defined by all examinations of physiological processes, or restricted to responses to stimuli, or functions of endocrine glands? The common denominator might be 'properties of patients'.

After this discussion it was decided that this project should be withdrawn. A possible new project covering physiological processes was discussed, but no decisions made.

18. Possible future projects:

- Genetics (in collaboration with IFCC C-MD). The kind-of-property 'sequence variation' in the current NPU structure is not enough, and the field must be further explored. The Antonorakis nomenclature is used for structuring results, but the challenge for C-NPU is to describe properties. FP will contact the IFCC C-MD chair on how to find interested people for a new project.
- Replacement of code source for the definition of proteins (excluding enzymes). Swiss Prot (Uni Prot) is now used for new concepts, but the replacement of older references to Swiss Prot is a possible stand alone project.
- A "new promotion project", with new chair and members. The title and focus must however be changed. An EU call for "network of excellence" within FP7 was mentioned as a possible source for financing the project. The EPSOS project has so far not been very interested in NPU codes, but might be interested. Further discussions were left for the next meeting.
- Defining super ordinate concepts for VIM and VIN, as a IUPAC project. The discussions postponed. If realised, the results could be an input to VIM4.
- A vocabulary for ordinal concepts? The topic essentially covered by VIM, and therefore not necessary according to RD.
- Principles and calculation of uncertainty of examined nominal property values (collaboration with ISO TC 69). Have to be discussed with ISO TC 69.
- A project for standardization of symbols, or international abbreviations, for the combination of one kind-of-property and one component (named by XFA as "generic property") to be used on labels, tables and instrument displays. The proposal is postponed for further discussions.
- The creation of a two page leaflet based on the revised Silver Book; "Quantities, Units and symbols in clinical laboratory sciences". We decided to kindly ask the authors of the Silver Book to do so.

19. The question on how to report on test strips, as earlier raised by António Rebelo.

Results are reported either on an ordinal scale, without measurement unit (e.g. 'negative', 'slight positive' 'positive') or on a corrupted rational scale (e.g. 0; 0.3; 1; > 3) with a measurement unit. In the NPU-database the later concept is specified with the term "pauciscale". This should be abandoned and the corresponding codes consequently retired.

20. The question on reporting of the ratio "BUN to creatinine" in plasma. It was concluded that the minutes from the Corfu meeting covers the answer.

20.b Stock Notations in the database.

We have used precise terminology for the chemical elements in the database, e.g. "sodium ion" and not "sodium" (NPU03429 P—Sodium ion; subst.c. = ? mmol/l). The substance concentration of ferric iron is thus specified (NPU16917 P—Iron(III); subst.c. = ? µmol/l). Following the publication of Properties and Units in Clinical and Environmental Toxicology" (Pure Appl. Chem. 79(1): 87-152) an inconsistency has emerged, as entries for chemical elements without stock notation has been introduced (e.g. NPU02508 P—Iron; subst.c. = ? µmol/l).

It was decided that, until further noticed, an entry of a chemical element without stock notation should be interpreted as an element with any stock notation.

21. Miscellany. IUPAC and IFCC have incorrect lists of references on their websites. FP will contact the organisations.

22. The C-NPU meeting closed on Sunday 3rd 7:00 p.m.