



International Union of Pure and Applied Chemistry

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Chemistry and Human Health Division Sub-Committee on Nomenclature, Properties and Units

Minutes of meeting, Leiden, April 06 – 07, 2005

1. **Opening of the meeting:** The meeting was opened by Urban Forsum (UF) in the Linné room at Oud Poulgeest, Leiden 2005-03-06 at 09.00 AM
2. **Acting secretary:** In the absence of PSA, GN was chosen as secretary of the meeting
3. **Participants:** The following members of the IFCC committee and IUPAC sub-committee were present: Urban Forsum (UF), chairman of the SC/C-NPU, Gunnar Nordin (GN), René Dybkaer (RD), Wolf R. Külpmann (WK), Ivan Bruunshuus and Francoise Pontet (FP). The secretary of the SC/C-NPU, Pedro Soares de Araujo (PSA) was prevented from coming. Other invited participants as indicated in the minutes were: Arne Kverneland, Sundhetsstyrelsen, Copenhagen, Daniel Karlsson, Linköping University and Anders Kallner, Stockholm.
4. **The meeting agenda** was approved
5. **The meeting schedule** was agreed upon
6. **Committee membership and nominations.**
It was decided to nominate Francoise Pontet, Daniel Karlsson and Ivan Brunshus for full membership of the C-NPU to the IFCC SD

The current nomination for committee membership by the national societies of IFCC has called for the following nominations: Xavier Fuentes Arderiu (Spain), Jarkko Ihalainen (Finland), Krystyna Olczyk (Polen), Janus Solski (Polen), Professor Masayuki Totani

The future chairmanship of the C-NPU was raised by UF as his time in office as chairman will end 2005-12-31

The current nomination procedure for members of the IUPAC Division Committee was discussed together with AK. Nominated are: Ole Andersen, Derek Backle, SMK, Mikael Liebman, Monica Nordberg, Ference Sence, Dort Chempelton, Mario Varcy

As a subcommittee SC-NPU still have the possibility to suggest candidates to Tom Perun. The subcommittee discussed several possibilities, such as a nomination of UF as vice president, which will prolong his term. The SC-NPU decided to suggest FP as a new candidate for the DC.

7. **Minutes from the last meeting:** Minutes from the Sousse meeting were distributed to the C-NPU by e-mail 2004-07-02. WK pointed out that the MEQUALAN project (item 13), was not related to the Nordic ordinal scale project, WK pointed out that the Nordic project was an independent project discussed at the same time.

UF informed that he together with Daniel Karlsson, Anders Kallner and Hans Hallander has written a manuscript to be published in 'Trends in Analytical Chemistry' on qualitative analysis in laboratory medicine.

WK also pointed out that according to item 15, the letter from Xavier Fuentes Arderiu on ISO/CD 18112-1 (Clinical laboratory testing ad in vitro diagnostic systems – In vitro diagnostic devices –

information supplied by the manufacturer – Part 1: In vitro diagnostic reagents for professional use) and the documents mentioned should be 'discussed on the next meeting'. After this comments and discussions the minutes were fully approved.

8. Members reports:

The annual report 2004 from C-NPU has been produced by UF (see attachment). Papers by NPU members: **1:** Forsum U, Karlsson D, Terminology, categories and representation of examinations in laboratory medicine. Clin. Chem. Lab. Med. 2005;43:344-345. **2:** Nordin G, Klinteberg B, Persson B, Forsum U Får en laboratorieundersökning kallas vad som helst? "NPU-systemet" reder upp i begreppsröran och ger systematisk stringens. Läkartidningen, 2005 in press. **3:** Külpmann W, Das NPU-System (IFCC, IUPAC) der Messgrößen und Einheiten in der Laboratoriumsmedizin J Lab Med 2005. 29:2-5.

9. RD reported from the GUM WG under JCTLM. There are currently no plans for updating of GUM, but supplement will be published, dealing e.g. with subjects such as how Monte Carlo calculations can be implemented and the use of Bayes probability in the calculations, and how to handle situations with several output quantities such as confirmative testing.

10.

RD has suggested a new work item for ISO212, on how to calculate uncertainties in routine testing.

A suggestion from France: Analytical uncertainty and clinical requirements for epidemiological reasons. ??? [Something mentioned by René? Kommer du ihåg Urban?] TYVÄRR INTE/UF

Questions on whether the intraindividual variation and sampling uncertainty shall be included in the uncertainty budget are often discussed. According to RD it is contradictory not to include preanalytical variation, with the argument that the measuring method is precise.

In Germany the concept of error grid competes with 'uncertainty' (WK)

11. **Properties and units in Medical Molecular Biology.** Codes are now published and incorporated in the databases on <http://dior.imt.liu.se/cnpu/> and www.labinfo.dk, thanks to IB and others who finally managed to get it ready.

WK raised the question if the PAC alone is the correct place to publish this type of material. In order to reach a larger audience, it might be possible to co-publish in another journal?

12. **Properties and units for Urinary calculi.** The work is regarded as almost finished. Anton Jabor (AJ) will be asked by UF to circulate the latest version.

13. **Concepts for requests in clinical laboratories.** The project finalized by the publication Forsum, U. and D. Karlsson, *Terminology, categories and representation of examinations in laboratory medicine*. Clin Chem Lab Med, 2005. **43**(3): p. 344-345.

The issues were further discussed under item 18, revision of ENV1615.

14. **C-NPU concepts and traceability of measurements.** The project were rejected by the Division Committee (see minutes from the Sousse meeting)

15. **The C-NPU manuscript on toxicology** The paper was originally produced as the other NPU papers, but needs revision as outlined by Jack Lorimer (JL) chairman of ICTNS,

A summary of the discussion: CAS numbers might be used as a main source of codes, while IUPAC could be the source for names of components (PIN). Metals should be defined by their

oxidations states, when needed. Note that CAS codes differ between different oxidation states. Compared to other fields covered hitherto by NPU, toxicology deals not only with the human body, but also with e.g. serum pools without the direct physical traceability to real patient plasma.

The question still open whether it should be possible to specify chirality of the component or not. One example is that L- and D- Metadone will react differently in immunologic assays. An alternative to state chirality for the component, could be to state the antibody specificity in the procedure.

The possibilities seem therefore to be either to rewrite the manuscript or send it for publication in another journal, e.g. CCLM. According to WK it will take 2 years to rewrite the paper completely. And as CCLM is more read by clinical chemists, it might be preferable to publish in CCLM.

One issue to consider is if the complete list of properties should be printed, or the list should be published only in electronic format. The argument raised by SC-NPU was that it might be pedagogic to publish the complete list in printed form. If the listing is regarded too long, smaller fonts or printing in three or more columns might be a solution?

The president of Chemistry and Human Health Division Paul Erhardt support us, an important paper and publication in PAC

It was decided that RD and WK return to the project group for new discussions on how to proceed. WK will circulate comments from the WG to the SC-NPU. New discussion will follow in the next C-NPU meeting.

16. **Functional examinations.** The existing manuscript contains too many examples of examinations, and still a non-clear syntax. The number of entries should be diminished and a proper, general, syntax presented. UF will write to AJ and ask him to finalize the project. GN will ask the EQUALIS endocrinology group if it is possible to create a contemporary list of the 50 – 100 most often used functional examinations, based on official recommendations.
17. **Chairman and membership of C-NPU.** See discussion under item 6.
18. **Revision of ENV 1614.** A draft produced by UF and DK was distributed prior the meeting. DK reviewed the new draft revision. A revision of prEN1614 has earlier been made by Anders Thurin, chairman of the Swedish mirror group to WG 2 of TC251, with the intention to make it coherent with Mose (Rossi Mori), ISO 17115 This revision was postponed awaiting the revision of VIM. After the draft was reviewed and discussed in SC-NPU it was fully approved by the subcommittee with some minor changes to be done by UF and DK after the meeting. The C-NPU is happy for this possibility given for input to the revision. After possible further input during April, the work done by UF and DK on behalf of SIS will be forwarded to CEN. Thereafter the CEN and ISO common voting procedure will follow hopefully leading to a parallel acceptance as standard in the CEN and ISO. UF will forward the draft to AK (Swedish representative in ISO212) for introduction to the ISO standard work.
19. **Report on status of VIM revision:** RD participated in a recent Paris WG meeting, reviewing 135 pages with 1000 comments. The first 11 concepts were discussed. Definition of 'quantity' was ready, 'quantities of the same kind' was out and 'kind-of-quantity' was in. The WG will meet again week 22, where the uncertainty approach vs the classical approach (true value error) will be discussed. The latter will not be in an Annex.
20. **Report and discussion on the meeting between members of C-NPU and LOINC in November 2004 in Indianapolis** Arne Kvaerneland (AkV), Copenhagen participated in the

discussions.

LOINC has a good financing situation, being funded by US federal levels. It has been a defacto standard for reporting lab results, but maybe not in practical use very much (e.g not in Madison, Wisconsin). Hospitals benefits from local solutions. HL7 and LOINC are known but not in regular use.

UF briefed on the discussions during the meeting. It was decided that an attempt to map the content of the LOINC and NPU databases should be done, with the help of a specific tool (Relma). For that reason a copy of the NPU database has already been sent to LOINC (Clement McDonald).

The C-NPU further discussed: a strategy for the maintenance of a generic database, that a project description is needed in order to get it funded, LOINC has the same elements as NPU have, therefore they represent dedicated k-o-p, NPU, which contains more than a dedicated kop. NPU codes are owned by IFCC and IUPAC. Maybe SC-NPU have to ask IFCC/IUPAC for permission to proceed. Actually, we might include this in a new project plan!. RD supports the idea of making a project on the comparison.

We decide to formulate it as a project – together with the LOINC. Are there any possible European members? Anders Thurin???

What is the German organisation 'DIMDI' ??

NHS in England – IT project in GB to electron health care?. AKv can investigate contact persons.

Funding to do the project plan?

21. Maintenance of the C-NPU database

Dior server updated november 2004 with codes for properties with mass concentrations, clinical molecular biology and transfusion medicine and immune hematology.

AK The main problem is that there exists no master plan for the management of C-N?PU codes. One such possibility could be via the Common Nordic Classification Center (a WHO classification center) in Uppsala.

22. National versions of the coding scheme

The C-NPU has received a copy of a letter from Huib Storm (HS), Netherlands Society for Clinical Chemistry, and giving support for VIM and C-NPU for nomenclature to be used in the Netherlands.

GN will contact HS in order to investigate further the Dutch situation and report to C-NPU. Hopefully it might it be possible to start a Dutch version of the NPU database

UF will give a lecture on NPU at a meeting 19th - 20th of august in Tallin, Estonia. Further possibilities will be investigated to establish contacts in Russia.

France: FP has made the primary translation of terms. The question of how the database in French could be published is not yet solved. During the work some problems with special characters have appeared. For clearness FP has preferred to translate 'B-Lymfocyte-antibody' as '*antibody against B-Lymfocyte' to distinguish from an 'antibody in the lymfocyte'. A remark from RD was however that that C-NPU once has decided that the 'antibody' should be at the end of the component, and not repeated.

Germany: WK has worked with a German translation. Yet some unsolved problems with german spelling rules. E.g. Erythrocytes or Erytrozyte, Kalzium or Calcium, 'antibody' in the start or in the end of the component (Compare France). What is German for creatininium?

What about Check and Catalan versions?

Denmark: According to AK and data from MedCom 97% of laboratory reports in clinical chemistry are coded by NPU codes.

Suggestion for new unit and name for HbA1c: GN reported on the response from the members of the IFCC WG for HbA1c, and for the suggestions made by C-NPU. RD argue for the use of a name which distinguish between deoxy fructosyl hemoglobin as measured by the reference procedure, and the chromatographic peak HbA1c measured by the former methods. The acronym DOF was suggested as the short name. The procedure should not be included in the name.

The concept of Mean Blood Glucose, as suggested by several diabetologists, can be formally handled as a separate quantity, and might be included in the proposal.

A new NPU code for the conventional, old, HbA1c quantity together with a procedure specification should be created.

GN will edit the proposal in line with the discussion above.

23. **Letter from J Bierens de Hahn on CUMUL-C-NPU cooperation.**(UF)

The secretary remember nothing...

24. **C-NPU and communication standard** (HL-7 RIM, GPIC's and CMET`S). Preliminary discussion (UF)

The secretary remember nothing

25. **Status of the project "Internationally agreed terminology for observations in scientific communication"** (FP) Xavier Fuentes Arderiu have suggested the term protometry. The project has been launched at the IUPAC website together with abstract in Chemical International. Two year project 5 000\$, participants FP, UF, GN, Robin Zender, RD, Xavier Fuentes Arderiu.

C-NPU properties and "trivial " names. Discussion of e-mail from AK to the C-NPU 2004-12-02: AK has raised the question if it is possible to create separate NPU entities for the substance concentrations of glucose in plasma, for results produced by different types of measurement methods, e.g. POCT methods. This is not allowed according to the current use of the system. The NPU code for a well defined quantity shall be used regardless of measurement method, as long as the device intends to measure the quantity.

WK raised the question that can be measured in the water phase, plasma phase or in whole blood, depending on measurement principle. In some cases it might be convenient to have a quantity of amount of glucose in plasmawater that is with Plasmawater as system-

26. Discussion of e-mail from Philippe Rocca-Serra 2004-12-02 to the C-NPU chairman about annotating toxicogenomics data using C-NPU nomenclature.

GN promised to investigate the issue further, with some help from PSA

27. Under the EU Framework 4, On behalf of Linköping University UF will apply for money for a project on 'Information structure for exchange of information on Biobanks'. The work of C-NPU is referred to in the application. A draft application will later be send for approval by C-NPU.

28. **Silver book revision.** Revision needed for several reasons, one being that IUPAC Division Committee. Silver Book wants a revision. Would it be possible find someone with competence for the work in PTB, Germany?

29. **Budget:** IFCC committee 11 000 SF for 2005,
IUPAC subcommittee: Based on number of running projects: In total approx. 8000 dollar to be
spend on the projects.

30. Miscellany

IB suggested the C-NPU to collect working documents on a web page

IB: None has answered to the excel sheet with mass concentrations distributed to C-NPU yet. We
have no fixed rules whether to use same units for quantities in plasma and urines, for proper
number of digits in results etc. There is a need for a consensus document under the IFCC.

31. Next meeting suggested to be held 2005-10-07 – 9 in Rome, Italy

32. The meeting was closed by the chairman on 2005-03-07 at 17:00