



IUPAC
Chemistry and Human Health Division

IFCC
Scientific Division

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

Minutes for the Committee meeting in Copenhagen, Denmark 2016
Venue: Sundhedsdatastyrelsen (The Danish Health Data Authority), Ørestads Boulevard 5,
2300 Copenhagen S
Building 207, room 301A.

Friday September 9, 2016 – Committee meeting 9:00 to 17:00
Saturday September 10, 2016 - Committee meeting 9:00 to 16:00

Item
<p>The meeting opened Friday September 9, 2016 at 9:00 a.m.</p> <p>Participants:</p> <p>Karin Toska (KT) Gunnar Nordin (GN) Rebecca Ceder (RC) Daniel Karlsson (DK) Rene Dybkær (RD) Young Bae Lee Hansen (YBLH) Helle Møller Johannessen (HMJ) Ulla Magdal Petersen (Secretary) (UMP) Ariadna Padró Miquel (APM) part time via Skype</p> <p>Apologies from:</p> <p>Georges Féraud Johan den Dunnen Dave Armbruster Robert Flatman Florian Scherrer Antonin Jabor Urban Forsum</p>
<p>The agenda was approved with some changes to the sequence, as not all participants were available on Saturday 10.</p>
<p>The minutes from the last meeting, Linköping 2015, were approved.</p> <p>UMP will send them for the subcommittee webpage on iupac.org, and for the closed area on npu-terminology.org</p>
<p>Members and corresponding members of the IFCC NPU Committee 2016:</p> <p>IFCC Titular members</p> <ul style="list-style-type: none">• R. Flatman Chair AU 2nd 2015 01 - 2017 12• U. Forsum Member SE 2nd 2014 01 - 2016 12 (next member National societies - contact!)• A. Jabor Member CZ 1st 2013 03 - 2015 12

- F. Scherrer Member FR 1st 2015 02 - 2017 12
- K. Toska Member NO 1st 2015 02 - 2017 12

Antonin Jabors term as titular member appears expired - GN will investigate if renewed. Urban Forsums 2nd term ends this year. CNPU members should suggest to their national IFCC member societies to nominate actively new Titular Members when the call from IFCC goes out, and to appoint Corresponding Members.

Consultants

- R. Dybkaer Consultant DK

Working group on the Silver Book revision

- G. Féraud Chair FR
- R. Dybkaer Member DK
- X. Fuentes-Arderiu Member ES
- D. Kang Member JP
- C. McDonald Member US
- G. Hill Expert Corresponding Member CA

Members elected via IUPAC projects

Members of current IUPAC projects initiated by the C-SC-NPU are all Elected Members of the IUPAC subcommittee, with RF serving as Chair and UMP as Secretary. Members Elected via current IUPAC projects are:

2001-070-1-700 (Properties and units for urinary calculi)

- Gunnar Nordin (chair)
- Pedro de Araujo
- René Dybkaer
- Urban Forsum
- Antonin Jabor
- Wolf Külpmann

Project is stalled - GN will try to get it reactivated.

2006-008-1-700 (Mapping of IFCC-IUPAC laboratory coding system to SNOMED CT)

- Ulla Magdal Petersen (chair)
- Ivan Bruunshuus
- Urban Forsum
- Daniel Karlsson
- Gunnar Nordin

Project is terminated 30-June-2016, and the issue continues as part of project 2014-017-1-700 (Piloting SCT mapping)

UMP will see that project info on iupac.org is updated.

2009-005-1-700 Demonstration of NPU-SNOMED CT mapping/harmonization of terms used in clinical laboratory sciences

- Forsum, Urban (chair)
- Karlsson, Daniel
- Magdal Petersen, Ulla
- Nordin, Gunnar

Project is assumed to be terminated 30-June-2016, and the issue continues as part of project 2014-017-1-700 (Piloting SCT mapping)

UF to see that project info on iupac.org is updated

2010-035-3-700 (Establishing definitions for non-referenced terms in the NPU terminology)

- Helle Møller Johannessen (chair)
- Ivan Bruunshuus
- Robert Flatman
- Urban Forsum
- Ulla Magdal Petersen
- Gunnar Nordin
- Young Bae Lee Hansen

YBLH is new member, HMJ will see that project info on iupac.org is updated

2013-009-5-700 (Properties and units in clinical molecular biology and genetics – supplement)

- Ulla Magdal Petersen (chair)
- Johan den Dunnen
- Xavier Fuentes-Arderiu
- Ariadna Padró i Miquel
- Jens Michael Hertz
- Rebecca Ceder

Rebecca Ceder is new member, UMP will see that project info on iupac.org is updated

2014-017-1-700 (Piloting SCT mapping)

- Daniel Karlsson (chair)
- Robert Flatman
- Urban Forsum
- Ulla Magdal Petersen
- Helle Møller Johannessen
- Karin Toska

Karin Toska is new member, DK will see that project info on iupac.org is updated

2004-023-1-700 Internationally agreed terminology for observations in scientific communication (VIN)

- Gunnar Nordin (chair)
- René Dybkær
- Urban Forsum
- Xavier Fuentes-Arderiu
- Gunther Schadow

GN will check if Gunther Schadow is still an active member

Corresponding members

- | | |
|--------------------------------------|---|
| • Gilbert Hill Canada | Society of Clinical Chemistry (CSCC) |
| • Young Bae Denmark | Society of Clinical Biochemistry (DSKB) |
| • Aracelis Germán | Colegio Dominicano de Bionistas (CODOBIO) |
| • Alessandro Marocchi Italy (SIBioC) | Society of Clinical Chemistry and Clinical Molecular Biology |
| • Masayuki Totani Japan | Society of Clinical Chemistry (JSCC) |
| • Dalius Vitkus Lithuania | Lithuanian Society of Laboratory Medicine |
| • Nada Majkic-Singh Serbia | Society of Medical Biochemists of Serbia (DMBS) |
| • Ariadna Padró-Miquel Spain (SEQC) | Sociedad Española de Bioquímica Clínica y Patología Molecular |
| • Arden Forrey U.S. | American Association for Clinical Chemistry (AACC) |
| • Dave Armbruster | Corporate Member - ABBOTT Diagnostics |

KT will suggest to the Norwegian IFCC member society that they appoint a Corresponding member, e.g. Eli Taraldsrud (Immunology)

[Budget for the meeting](#) - RF to manage refunds for KT. GN and RC are funded from EQUALIS, DK from Linköping University.

[Date and place of next meeting:](#)

The IFCC-EFLM EuroMedLab, 11 – 15 June 2017 in Athens is first choice for next C-SC-NPU meeting.

If that proves problematic, or another meeting in 2017 is needed, the IFCC WORLDLAB DURBAN, 22 – 25 Oct 2017 in Durban is suggested.

[Project report \(GN; RD\): Vocabulary for nominal properties and nominal examinations — basic and general concepts and associated terms \(IUPAC project 2004-023-1-700\) \(VIN\)](#)

Published in CCLM, but not yet in PAC, where discussion on ‘minor corrections’ is ongoing. Main problem is the the concept ‘kind-of-property’. In electronic text versions short ‘use terms’ may be used for complex concepts, like ‘kind’ for ‘kind-of-property’, with internal links to their definitions. The concepts kind-of-property (from physics) and generic property (from terminology) were discussed - as part of two very different concept systems, they are not directly comparable.

[Project report: Silver Book Revision received from Georges Féraud:](#)

Report on the Silver Book 2016

The Silver Book “Compendium of Terminology and Nomenclature of Properties in Clinical Laboratory Sciences Recommendations 1995“ has been revised by a NPU working group: René Dybkaer, Georges Féraud (Chair); Françoise Pontet (co-Chair), Xavier Fuentes-Arderiu, Dongchon Kang, Gilbert Hill, Clement McDonald, and Anders J. Thor within the scope of a IUPAC-IFCC joint project. At the end of 2015 a draft has been sent to IUPAC and IFCC authorities, reviewed by six experts and accepted after slight modifications.

The current document (200 pages, 10 sections, and some indexes) will be published in a paper version by the Royal Society of Chemistry (RSC publishing). An electronic version of the book will also be available both as the complete text and as individual sections. According to RSC, all that will be available at the end of September 2016.

Please see the joint document with some interesting informations (Silver Book advanced information(2)). We have insisted to have on the Compendium cover the IFCC and IUPAC logos.

As indicated in the preface of the Silver Book, the authors wish to thank members of the Committee/Subcommittee on Nomenclature for Properties and Units (IFCC and IUPAC): Ivan Bruunshuus, Pedro de Araujo, Robert Flatman (Chair); Urban Forsum, Gilbert Hill, Antonin Jabor, Jens Gledisch, Helle Johannessen, Daniel Karlsson, Wolf Külpmann, Ulla Magdal-Petersen, Clement McDonald, Gunnar Nordin, Henrik Olesen, Françoise Pontet, Gunther Schadow, and Kaoru Yamauchi.

[Project report \(HMJ\): The definition project for non-referenced terms \(IUPAC project 2010-035-2-700\)](#)

Of 3000 undefined terms, most have been referenced or defined. First version of guidelines is finished, ready for review at the end of 2016, to be published as a technical report. Definitions/references will be imported into the LabTerm database. Some units are still undefined, like IU and U (enzyme unit). The use of the unit mmol/kg for ‘Osmolality’ needs description.

[Project report \(UMP\): The Molecular Diagnostics revision project \(IUPAC project 2013-009-5-700\)](#) - Report on Norwegian implementation issues. Reimbursement of investigations performed has high priority, and Norwegian geneticists suggest use of a procedure-based coding system rather than the patient centered NPU terminology. First draft of the technical report has been circulated for discussion. It was agreed that the report should contain more generally recognizable examples of d-k-o-p's, identifying molecular diagnostic investigations in common use. Large problem-oriented panels are becoming very common, and seem to fall completely outside the NPU information model - must be left unsolved for now. A face-to-face meeting in the WG should help finalizing the project soon.

Examples in VIN from the molecular diagnostics field should be updated.

[Project report \(DK\): Piloting CNPU-SNOMED CT mapping. \(IUPAC project 2014-017-1-700\)](#)

(Includes report on projects 2006-008-1-700 and 2009-005-1-700, both finalized 2016)

News from the European Assess CT program (DK)

55% of pilot set of element concepts mapped. Systematic rules are possible for some types of term 'derivatives' (plurals, combinations). Some concepts (genes) are (intentionally?) absent from SNOMED CT. Next project meeting via Skype or Google hangout.

[Report \(GN\) on mapping of a Czech database of laboratory properties to the NPU Terminology.](#)

[How should C-NPU function in the future?](#)

It is becoming increasingly difficult to hold meetings, and to launch new projects. Is a new meeting structure needed? Shorter Skype meetings for specific issues? Doodles for Regular skyping? with material circulated beforehand?

It was considered important to publish information on NPU, e.g. in Chemistry International, or in presentation at relevant conferences. Recently comprehensive Danish data on NPU use have become available, Swedish result data are collected in increasing amounts - basis for publications? RC may suggest content.

[New projects.](#)

Microbiology update, suggested in 2015. KT is still trying to find an international WG. There is a need for more information than the NPU syntax offers, if it is to function well for ordering of microbiological investigations - e.g. sample material and origin, sample collection procedures, and clinical data. The Danish MDS system has some of these properties.

Promotion project - report from Steering Committee (HMJ). IFCC offers help to produce teaching presentations - slide shows with speech - about the NPU terminology. Dynamic manual and 'Silver Book light' are both needed. An article on SB has been published in electronic format in Clin.Chem.Acta

European standardization work (HMJ) - Contact to the Danish Standards organization (DS). Production of a CEN Standard with DS assistance is expensive. It was suggested that ISO might be more approachable.

A presentation from HMJ introduced the need for a revision of the Immunology. Developments in flow cytometry has produced many new types of investigations. There is a need for both laboratory expertise and stable international references for cell type classifications. Today the most valuable reference is the U.S. NIH NCI (National Cancer Institute) thesaurus.

[Report \(HMJ\) from IUPAC Division VII meeting in Copenhagen 3- - 4. September 2016](#)

There should be one or two Titular Members from C-NPU in Div. VII. Members are nominated by the National societies. HMJ will end her term at the end of 2017. It is important for C-NPU to join the division

in order to communicate information on NPU work, and increase understanding in IUPAC of its value. Articles in Chemistry International will serve that purpose too.

Report (HMJ) from the NPU Steering Committee

A presentation on the SC, from at the Div. VII meeting, was given - attached with this document. Main activities in 2015 were:

- A new website sponsored by IFCC for publication of the international version of the NPU terminology and for additional information. www.npu-terminology.org
- A wikipedia entry describing the NPU system - https://en.wikipedia.org/wiki/NPU_terminology
- A survey on the use of laboratory terminology among IFCC Members. The survey aimed to establish the extent to which there is a national system of laboratory terminology in use in each country. The headline findings from the survey are:
 - Uncertainty about the status of laboratory terminology in many countries
 - Lack of education and training in laboratory terminology in most countries
 - Recognition of the importance of systematic laboratory terminology
 - Agreement on arrange of educational support to improve knowledge and understanding

The full results of the survey may be found at: http://www.npu-terminology.org/media/1032/20160308_understanding-terminology-in-laboratory-medicine.pdf

News from Norway

Active implementation of NPU/NOR coding is ongoing in most laboratory fields, with regional reference groups active in pharmacology, biochemistry, immunology and microbiology. Genetics and pathology are not involved yet.

News from Denmark

It is decided that a new Danish NPU database will be developed - Scandinavian NRCs will discuss their need for international data, data formats and publication. System sharing, technical cooperation or model harmonization are all possible choices.

News from Sweden

3 ongoing projects om NPU implementation: Drugs of abuse, monoclonal protein reporting, and hematological morphology. A survey on the Swedish use of the NPU terminology in different regions (possibly by RC) was suggested.

NPU terminology website - database and forum

There are in all 3 'user-countries' intentions to use NPU codes for reimbursement purposes. NPU definitions are independent of investigation procedures, and may not be optimal for estimates of cost or reimbursement, unless combined with national or international method, technique or device coding systems. Other 'price indicators' like result value quality, laboratory accreditation status, and various organizational data may be relevant too.

Terminology issues

According to VIN 'taxon' describes 'hierarchically structured' classifications. According to SB2 'taxon' is used for informal categories too:

- Urine—Neuroleptic drug; taxon(procedure) = chlorpromazine

Do we need a 'non-hierarchical' k-o-p like 'category'? Or do we assume informal categories also to be in some way hierarchical?

The VIN group will continue work on 'category', 'kind', 'class', 'type', define the 'non-hierarchical' concept and choose a term ☺

WHO reference issues

- NPU28914 P—Beta-2-glycoprotein 1 antibody(IgM); arb.subst.c.(IRP 67/086; proc.) = ? × 10³ IU/L
The WHO reference 67/086 refers to 'IgG, A and M', not to Beta-2-glycoprotein 1 antibody (for which there is no WHO reference). It was decided acceptable to express amounts of specific IgM antibody in units referring to a standard for IgM (this is common practise for other Ig's too, e.g. IgE)
- NPU21562 P—Insulin-like growth factor I; mass c.(IRR 87/518; proc.) = ? µg/L
The WHO reference 87/518 states the content of IGF-1 per ampoule as 3.1 µg. As the standard is intended for immunoassay, and as IGF-1 has isoforms with very variable molar mass, 'µg/L with reference to the WHO standard' is not a SI-unit of mass concentration as elsewhere used in the NPU terminology. It is a term for an arbitrary unit of substance concentration, analogue to IU/L. As there are very few instances like this in the terminology, it was decided to leave them in for now.

We received a suggestion from Colin Humphris (IUPAC) at the Steering Committee meeting to consider the use of the International Chemical Identifier InChI - can it replace the CAS Registry numbers as terminological reference? What would the benefits be? Suggested that RC chair an IUPAC pilot project investigating benefits and problems - is there a 1:1 relation between Registry numbers and InChI or InChIkey?

Bacterial gene variants are becoming objects of clinical investigations. The clinically relevant information is not necessarily the gene variant, but e.g. the resistance of the microorganism to specific antibiotics or antivirals. If genetic variants of microorganisms are considered properties of patients, we shall need a new project to describe them as such, identifying reliable terminological references.

The meeting closed Saturday 10. September, 2016 at 16:00