



IUPAC
Chemistry and Human Health Division

IFCC
Scientific Division

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

Minutes of the Committee meeting in Copenhagen, Denmark 2017
Venue: Sundhedsdatastyrelsen (The Danish Health Data Authority), Ørestads Boulevard 5,
2300 Copenhagen S

- Friday November 3, 2017 – Committee meeting 9:00 to 17:00
- Saturday November 4, 2017 - Committee meeting 9:00 to 16:00

Item
1. The meeting opens • Friday November 3, 2017 at 9:00 a.m. Participants: Rebecca Ceder (RC) René Dybkær (RD) Robert Flatman (RF) via Skype part time Young Bae Lee Hansen (YBLH) Helle Møller Johannessen (HMJ) Alice Lund (AL) Gunnar Nordin (GN) Ulla Magdal Petersen (UMP) Christine Portin (CP) Karin Toska (KT) Apologies from: Daniel Karlsson Johan den Dunnen David Armbruster Ariadna Padró Miquel Gilbert Hill
2. The agenda was approved, including some 'last minute items' added.
3. Approval of minutes from last meeting, Athens 2017. The minutes were approved (with the addition of the date of approval).
4. Members and corresponding members of the IFCC-IUPAC NPU Committee 2017: IFCC Titular members <ul style="list-style-type: none">• R. Flatman Chair AU 2nd 2015 01 - 2017 12• Young Bae Lee Hansen DK 1st 2017 03 - 2019 12• A. Jabor Member CZ 2nd 2016 03 - 2018 12• F. Scherrer Member FR 1st 2015 02 - 2017 12

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

Consultants

- R. Dybkaer Consultant DK

IFCC Corresponding members

- Gilbert Hill Canadian Society of Clinical Chemistry (CSCC)
- Ulla Magdal Petersen Danish Society of Clinical Biochemistry (DSKB)
- Aracelis Germán Colegio Dominicano de Bionistas (CODOBIO)
- Alessandro Marocchi Italian Society of Clinical Chemistry and Clinical Molecular Biology (SIBioC)
- Naohito Ishii Japan Society of Clinical Chemistry (JSCC)
- Dalius Vitkus Lithuanian Society of Laboratory Medicine
- Aaron Ojule Association of Clinical Chemists Nigeria (ACCN)
- Nada Majkic-Singh Society of Medical Biochemists of Serbia (DMBS)
- Ariadna Padró-Miquel Sociedad Española de Bioquímica Clínica y Patología Molecular (SEQC)
- Murat Bolayirli Turkish Biochemical Society (TBS)
- Carlos Lacava Asociación Bioquímica Uruguay (ABU)
- Arden Forrey American Association for Clinical Chemistry (AACC)
- Dave Armbruster Corporate Member - ABBOTT Diagnostics

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 HMJ serving as Chair and UMP as Secretary.

Members Elected via current IUPAC projects are:

- Ivan Bruunshuus
- Rebecca Ceder
- Johan den Dunnen
- René Dybkær
- Robert Flatman
- Urban Forsum
- Xavier Fuentes-Arderiu
- Young Bae Lee Hansen
- Jens Michael Hertz
- Helle Møller Johannessen
- Daniel Karlsson
- Alice Lund
- Ariadna Padró i Miquel
- Gunnar Nordin
- Ulla Magdal Petersen
- Christine Portin
- Gunther Schadow
- Karin Toska

5. Budget for the meeting

Expenses for the IFCC titular members are covered by the IFCC committee budget. Elected members are either supported by IUPAC project resources or funded from their own organizations. The Danish Health Data Authority covers expenses for the meeting venue and lunch.

6. Date and place of next meetings:

Skype meeting January or February 2018. UMP set up Doodle with short deadline

Sunday 10. – Monday 11. June 2018 in connection with the XXXVI Nordic Congress in Clinical Chemistry, 12-15 June 2018, in Helsinki, Finland. KT will investigate possible venues at the congress.

7. Report from the NPU Steering Committee (HMJ)

The Annual 2017 - face to face meeting in the NPU Steering Committee

The NPU Steering Committee held its annual face-to-face meeting on the 11th June 2017 in connection to the EuroMedLab in Athens.

The Steering Committee welcomed the new members, Howard Morris current IFCC President and Philippe Gillery Chair of the IFCC Scientific Division.



Present in person: From the top and left to right: Jan Kjartan Dybvik (Norway); Colin Humphris (IUPAC); Philippe Gillery (IFCC); Howard Morris (IFCC President); Gunnar Nordin (Sweden); Helle Moller Johannessen (Denmark); Ulla Magdal Petersen (Denmark); Robert Flatman (Australia)

A well-attended meeting was conducted in a lively and constructive atmosphere covering a range of important topics.

The Steering Committee discussed how to support the NPU Terminology for the future. The vision is to get the NPU Terminology acceptable, available and attractive for world – wide use.

The committee continues to focus in the following areas:

- A collaboration with the international SNOMED CT Terminology for a broader use of the NPU Terminology.
- Finalize the NPU/SNOMED mapping project for investigate how the harmonization on the terminologies can be realized practically and how a method aiming to meet set quality criteria can be developed and applied.
- Creation of a more flexible (online) NPU User Manual.

8. News from Norway (KT)

The Norwegian Laboratory Coding system based on the NPU terminology is by now well established nationwide. From 2018 the system will be used as a measure for laboratory activity, guiding reimbursement. As the NPU system describes patient properties, not laboratory procedures, data on laboratory methods/techniques may be needed as a supplement.

9. News from Denmark (YLBH)

Laboratory results from all fields of laboratory medicine nationwide are available for both health care workers and the patients. A few areas still have problems delivering results to the national

<p>platform. An analysis of data from the platform shows that about 95% of results are NPU coded, but also demonstrates a need of varied laboratory information.</p>
<p>10. News from Sweden (GN)</p> <p>The Swedish Release Center (EQUALIS) is going through some changes of organization. GN retires as EQUALIS CEO, but remains as employee. CP, new at EQUALIS, will replace RC for a while, and has joined the Dynamic manual project.</p>
<p>11. NPU terminology website - database and forum (UMP)</p> <p>It was agreed that the minutes of C-NPU meetings should be published in the publicly accessible part of npu-terminology.org. Minutes from 2007 and later are published, GN will search for minutes of earlier committee meetings.</p>
<p>12. Input from members (short items not on the agenda)</p> <p>GN reported on plans for the VIM4, which is expected to include both nominal and ordinal results. UMP demonstrated the international databases at IFCC.org and npu-terminology.org. The IFCC.org database is defect - not useable. The npu-terminology.org database is a hidden test version – but it works reasonably well and may be accessed at http://www.npu-terminology.org/npu-search</p>
<p>13. How should C-NPU look and work in the future?</p> <p>Short term projects and frequent on-line meetings may help the terminology development.</p> <p>RF will check if more slots for Titular members may be available. New members must be nominated by the National organizations. A new Committee Chair is needed as replacement for RF. RF will continue as Secretary of the Steering Committee.</p> <p>Promotional activity is needed in order to attract more international members. Easily accessible material, webinars, posters ... A C-NPU (communication?) strategy may be needed, please circulate suggestions.</p>
<p>14. Terminology issues</p> <ul style="list-style-type: none"> • Allergen IgE (UMP) <p>The CLSI I-LA/37 database is the main source of allergen identifiers, even if it contains errors and duplicate entries. IUIS identifiers and biochemical identifiers may be needed too.</p> <p>RC will head a revision project. First action is to check codes with references to older CLSI catalogues (UMP and RC/CP). If in agreement with I-LA/37, the catalogue reference (NCCLS, CLSI2009, I-LA/37) is removed from the NPU definition and filed in the database. If not in agreement, the NPU code is retired.</p> <ul style="list-style-type: none"> • Microbiology system designation <p>Suggested definitions of systems related to ‘Skin’ – to be discussed further in the group</p> <ul style="list-style-type: none"> • Skin surface: Material present on the skin surface, like organisms, chemical substances, DNA or dust, that may be removed for examination purposes by e.g. wiping or swabbing • Scrapings: A part of the top layer of skin, nail, etc., that may be removed for examination purposes by shaving or scraping • Skin: The living organ covering the body, having secretion to the surface <p>Granularity of systems. It was decided to avoid including anatomical sites (and laterality), except where needed to specify the nature of the system (Secretion(Pharynx) ≠ Secretion(Cornea)). To clarify these exceptions and the general principle, a stringent description of the principles of granularity will be initiated. SNOMED CT may be suggested as a source for anatomical information in EHRs etc.</p> <ul style="list-style-type: none"> • Taxon vs. category. (UMP+GN) <p>Rule for demonstrating that a category has a taxonomic aspect:</p> <ul style="list-style-type: none"> • Taxon requires an organism as component • Taxon requires a formal taxonomy

With the k-o-p 'category' a specification may be needed, if several 'categorizing systems' are in use. E.g. biotype, serotype, genotype, ABO antigen type, imm.fl. pattern. A suggested concept system of organism subtypes intended for such specifications will be circulated for discussion (UMP).

Changing older definitions (200+) from taxon to category may call for a WG to decide. UMP/YBLH/HMJ to collect instances, circulate to group for decisions

- Blood pressure measures (UMP)

International codes are requested. The expression should be general, with specifications of body position, anatomical site and laterality communicated by other means and terminologies.

NPUxxxxx Artery(site)--Blood; pressure(systolic; proc.) = ? mmHg

NPUxxxxx Artery(site)--Blood; pressure(diastolic; proc.) = ? mmHg

Should the NPU terminology cover other 'vital signs' (what are they)? Spirometry? Telemedicine? Personal (sports) measurements not requested by medical instances? To be discussed at next meeting.

- CD nomenclature

A formal request of implementing CD nomenclature in the NPU terminology has been submitted from the Norwegian Immunological scientific society. Unfortunately, the CD markers can be any substance, and the risk of creating dublets may be high. It was decided to use the CD nomenclature as abbreviations for the protein, chemical substance, or lipids.

- Nucleated cell types

Cell types are named according to different terminologies according to different technology used (light microscopy, flow cytometry). What references exist? Harmonization is needed, as we risk defining the same cell type in several different ways. A project on immunology and cell CD markers is suggested, with participants from Denmark, Norway and Sweden, and some more 'international' participants (suggestions?)

- What is an 'abnormal lymphocyte'?

In some contexts it is used to indicate cells suspected of malignancy. There is no agreement on definition, and it is decided not to use the concept. A Swedish recommendation on cell classification and reporting is expected – GN will circulate it when published.

- Virus RNA counts on a logarithmic scale (UMP/RD)

Number concentrations of DNA or RNA copies with a result value range of e.g. 1 – 100 000 000 (copies per volume) are often expressed on a logarithmic scale, called e.g. 'log₁₀(copies/mL)'. It is not advisable to follow the NPU rule of expressing all concentrations per litre – it will add '3' to the result values actually in use. There is no perfect solution, but it was agreed to use the k-o-p 'arbitrary logarithmic number concentration' and a 'procedure defined unit', e.g.

NPUxxxxx P—Hepatitis E virus(RNA); arb. log num.c. = 7,0 (p.d.u.)

15. Items left for further work on-line or via mail

- Use of 'free', 'conjugated' and 'unconjugated' as component specification – definitions? (UMP)
- Nomenclature for CD markers (YBLH, HMJ)
- Use of 'Confirm' specification – solved – decided to use National coding
- Use of chemical Identifiers InChI or InChIKey (YBLH)
- NPU term 'actual/norm' and the concept of 'normalization' (YBLH)
- References for blood banking (HMJ)
- Statistical terms – mean, median, mode, distribution width – as k-o-ps or as modifiers to a k-o-p, similar to 'entitic' (YBLH)

16. New projects.

No new 'metrological' NPU terminology projects have been published since 2007. There is a need for updates to the NPU terminology in almost all laboratory fields, and several new projects have been suggested:

- Microbiology
- Immunology
- Clinical physiology (GN –does any early work exist?).
- Neurophysiology
- How to use NPU with data for reimbursement/ordering
- Promotion of the terminology

To keep the terminology updated, members need to chair projects and find participants.

17. The meeting closed Saturday November 4, 2017 at 16:00

Appendix

Project reports received after the meeting

Report on the IUPAC project 2010-035-2-700: Definition project for non-referenced terms (HMJ)

It started with....

- > 3000 concepts without references
- > Different types
 - combinations or derivations of referenced elements
 - common words and symbols used with a very special meaning in the terminology
 - ambiguous expressions
 - concepts that should have external references

Reducing the number of undefined terms by

1. finding external terminology references
2. creating formal definitions
3. if neither is possible, filing descriptions/examples of the meaning and use of the terms for future use in the local NPU context

Examples on un-defined element terms

- > QU71638 Rabbit urine protein antibody
- > Human T-Lymphotropic virus type I+II-antibody
- > QU71670 alpha beta TCR
- > QU80257 mass coefficient
- > QU50759 lead I II and III
- > QU70722 II
- > QU71577 IIa
- > QU70798 Duke
- > QU70803 T03
- > QU80042 Acylcarnitines+Carnitine

Status on the project

- > All element terms have either:
 - An external reference
 - An internal definition
 - or a descriptions of the meaning and use in the local NPU context
 - First version of a guideline will be sent to all participant very soon

Plan for finishing the project

- > What we still need is:
 - Work through 1500 the element terms for a quality tjek
 - Review of the guideline before the end of 2017.

Project report: Online dynamic manual (IUPAC project 2016-044-2-700) (YBLH)

Purpose:

The objective is to establish an updated manual of the NPU terminology, comprising the principles and special rules in the terminology. The manual is to provide easily searchable and updated information. The Dynamic NPU manual will be a freely accessible online manual on the www.NPU-terminology.org website.

Status

- A rough draft of about 250 pages has been made and used as a starting position.
- Christine Portin, Equalis Sweden, is a new project member
- Karin Toska has requested and been granted to become a new member
- The homepage company, INSOFT Digital (<http://www.insoft.dk/en>) has been contacted and returned with three proposals. The proposals will be discussed at the next project meeting
- A draft of the structure has been submitted to the C-NPU members. There are pending feedback.
- The frequency of the virtual meetings has decreased to 1 meeting per month.
- Discussions of the structure and the content are continued
- A project meeting in Athens was held in June 2017

Project report: The Molecular Diagnostics revision project (IUPAC project 2013-009-5-700).(UMP)

The Technical report

Properties and Units in the Clinical Laboratory Sciences

Part XXIV. Properties and Units in Clinical Molecular Genetics

has been submitted to PAC in October 2017, but not yet to CCLM. No response from PAC has been received yet.