Chapter 8
Scientific Division

8.1. Scientific Division Executive Committee

8.1.1. Mission Statement
8.1.2. Strategy
8.1.3. Projects
8.1.4. Terms of Reference

8.2. Scientific Division Committees

8.2.6. Nomenclature, Properties and Units (C-NPU)
in collaboration with International Union of Pure and Applied Chemistry (IUPAC)
8.2.11. Molecular Diagnostics (C-MD)
8.2.23. Traceability in Laboratory Medicine (C-TLM)
8.2.24. Reference Intervals and Decision Limits (C-RIDL)
8.2.25. Standardisation of Thyroid Function Tests (C-STFT)
8.2.26. Harmonisation of Autoimmune Tests (C-HAT)
8.2.27. Bone Metabolism (C-BM)

8.3. Scientific Division Working Groups

8.3.35. Standardisation of Hemoglobin A2 (WG-HbA2)
Joint Working Group with ICSH (International Council for Standardization in Haematology)
8.3.36. Carbohydrate-Deficient Transferrin (WG-CDT)
8.3.39. Standardisation of Albumin Assay in Urine (WG-SAU)
in collaboration with National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)
8.3.40. Standardisation of Pregnancy-Associated Plasma Protein A (WG-PAPP A)
8.3.41. Growth Hormone (WG-hGH)
8.3.42. Standardisation of Insulin Assays (WG-SIA)
in collaboration with American Diabetes Association (ADA) and European Association for the Study of Diabetes (EASD)
8.3.43. Standardisation of Troponin I (WG-TNI)
8.3.49. CSF-Proteins (WG-CSF)
8.3.51. Commutability in Metrological Traceability (WG-CMT)
8.3.53. Immunosuppressive Drugs (WG-ID)
8.3.54. Apolipoproteins by Mass Spectrometry (WG-APO MS)
8.3.55. Pancreatic Enzymes (WG-PE)
8.3.56. Fecal Immunochemical Testing (WG-FIT)
8.3.57. Cell free DNA and related circulating biomarkers (WG-cfDNA)
8.3.58. Standardisation of Procalcitonin assays (WG-PCT)
8.3.60. Continuous Glucose Monitoring (WG-CGM)
8.3.61 Development of a Reference Measurement System for sustainable PT/INR Standardisation (WG-PT/INR)

SCIENTIFIC DIVISION
EXECUTIVE COMMITTEE (SD-EC)

Chair
Prof. Philippe GILLERY (FR)

Vice Chair
Prof. Christa M. COBBAERT (NL)

Secretary
Prof. Garry JOHN (UK)

Members
Dr. Barnali DAS (IN)
Dr. Konstantinos MAKRIS (GR)
Prof. Mario PLEBANI (IT)

Corporate Representative
Dr. Michael ROTTMANN (DE)

European Commission – JRC Observer
Dr. Liesbet DEPREZ (BE)

ICHCLR Observer
Prof. Ian S. YOUNG (UK)

JCTLM Chair – SD Consultant
Dr. Greg MILLER (US)

NIBSC Consultant
Dr. Chris BURNS (UK)

NIFDC Observer
Dr. Yang ZHEN (CN)

NIST Consultant
Dr. Karen W. PHINNEY (US)

CHAIRS OF SCIENTIFIC DIVISION COMMITTEES AND WORKING GROUPS

8.1. Executive — P. Gillery (FR)

8.2. Committees

8.2.6. Nomenclature, Properties and Units (C-NPU) in collaboration with International Union of Pure and Applied Chemistry (IUPAC)	Y.B.L. Hansen (DK)
8.2.11. Molecular Diagnostics (C-MD)	P. Ahmad-Nejad (DE)
8.2.23. Traceability in Laboratory Medicine (C-TLM)	A. Kessler (DE)
8.2.24. Reference Intervals and Decision Limits (C-RIDL)	Y. Ozarda (TR)
8.2.25. Standardisation of Thyroid Function Tests (C-STFT)	H. Vesper (US)
8.2.26. Harmonization of Autoimmune Tests (C-HAT)	J. Sheldon (UK)
8.2.27. Bone Metabolism (C-BM)	E. Cavalier (BE)

8.3. Working Groups

8.3.35. Standardisation of Hemoglobin A2 (WG-HbA2) Joint Working Group with ICSH (International Council for Standardization in Haematology)	A. Mosca (IT)
8.3.36. Carbohydrate-Deficient Transferrin (WG-CDT)	J. Deenmamode (UK)
8.3.39. Standardisation of Albumin Assay in Urine (WG-SAU) in collaboration with National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)	J. Seegmiller (US)
8.3.40. Standardisation of Pregnancy-Associated Plasma Protein A (WG-PAPP A)	S. Wittfooth (FI)
8.3.41. Growth Hormone (WG-hGH)	M. Vos (NL)
8.3.42. Standardisation of Insulin Assays (WG-SIA) in collaboration with American Diabetes Association (ADA) and European Association for the Study of Diabetes (EASD)	M. Steffes (US) J. Seegmiller (US)
8.3.43. Standardisation of Troponin I (WG-TNI)	R. Christenson (US)
8.3.49. CSF-Proteins (WG-CSF)	J. Gobom (SE)
8.3.51. Commutability in Metrological Traceability (WG-CMT)	G. Miller (US)
8.3.53. Immunosuppressive Drugs (WG-ID)	C. Seger (CH)
8.3.54. Apolipoproteins by Mass Spectrometry (WG-APO MS)	C. Cobbaert (NL)
8.3.55. Pancreatic Enzymes (WG-PE)	D. Grote-Koska (DE)
8.3.56. Fecal Immunochemical Testing (WG-FIT)	S. Benton (UK)
8.3.57. Cell free DNA and related circulating biomarkers (WG-cfDNA)	R. van Schaik (NL)
8.3.58. Standardisation of Procalcitonin assays (WG-PCT)	V. Delatour (FR)
8.3.60. Continuous Glucose Monitoring (WG-CGM)	G. Freckmann (DE)
8.3.61. Development of a Reference Measurement System for sustainable PT/INR Standardisation (WG-PT/INR)	C. Cobbaert (NL)

8. Scientific Division (SD)

A Committee on Standards was established in 1966 “to instigate and promote theoretical and practical developments in the field of standards and standardisation in clinical chemistry - in its broadest sense.” During its first decade, the main efforts of the Committee were directed toward (1) analytical nomenclature, (2) reference materials and methods, and (3) quality control. Its achievements during this period are illustrated by the list of publications on these topics. Following a Council decision in 1978, efforts have been made to extend its work to include more subjects of interest both to clinicians and clinical chemists and laboratorians. Accordingly, the name of the Committee was changed to the Scientific Committee and later to the Scientific Division.
The Division and its activities are managed by an Executive Committee. This Committee is responsible for (1) developing a mission statement, (2) developing strategy and tactics, (3) initiating and managing projects, and (4) generating and adhering to its Terms of Reference.

8.1. SD-Executive Committee (SD-EC)

Membership

Name	Position	Country	Term	Time in Office
P. Gillery	Chair	FR	2nd	2020 01 - 2022 12
C. Cobbaert	Vice-Chair	NL	2nd	2020 01 - 2022 12
G. John	Secretary	UK	1st	2021 03 - 2023 12
B. Das	Member	IN	2nd	2021 01 - 2023 12
K. Makris	Member	GR	2nd	2020 01 - 2022 12
M. Plebani	Member	IT	2nd	2020 01 - 2022 12
M. Rottmann	Corporate Member	DE	1st	2020 03 - 2022 12
L. Deprez	European Commission JRC Observer	BE		
I. Young	ICHCLR Observer	UK		
G. Miller	JCTLM Chair / Consultant	US		
C. Burns	NIBSC Consultant	UK		
Y. Zhen	NIFDC Observer	CN		
K. Phinney	NIST Consultant	US		

8.1.1. Mission Statement

The mission of the SD is to advance the science of Clinical Chemistry and Laboratory Medicine and to apply it to the practice of Clinical Laboratory Science.

8.1.2. Strategy

According to the Statutes of IFCC, the Federation exists to advance the science and practice of Clinical Chemistry and to further its application in the provision of health services and the practice of medicine. The goals to which the Scientific Division is committed are to:

- Identify research areas of relevance to Clinical Chemistry and Laboratory Medicine and assist the transfer of research results to the profession.
- Identify scientific and technological problems in current practice and provide solutions and guidelines on how to resolve them.
- Facilitate the development and transfer of technical innovations to clinical laboratory professionals and clinicians.
- Facilitate the development and implementation of diagnostic strategies.

- Establish standards for scientific and technical aspects of good laboratory practice.
- Facilitate the development of reference measurement processes and the production of reference materials
- Establish networks of reference laboratories
- Respond to scientific and technical needs of IFCC Member Societies, IFCC Corporate Members and external agencies.
- Participate actively in the scientific programmes of IFCC congresses and other scientific meetings.
- Ensure the quality of IFCC scientific documents.
- Organise Master iscussions

8.1.3. Projects

The SD initiates and manages projects with its own resources or through its Committees and Working Groups. Work is conducted in cooperation with other IFCC units and with relevant National and International Organisations. The SD ensures that each of its Committees and Working Groups are functioning under clear terms of reference together with an agreed schedule of activity. The SD will assist in the development of the project proposals and will undertake an annual review of progress and review and approve any documents that result from the work.

8.1.4. Terms of Reference

The SD consists of up to seven IFCC sponsored individuals, which include the Chair and the Vice-Chair, and additionally one individual is nominated by the Corporate Members of IFCC. The Division may co-opt additional member(s) to address specific issues. The Chair, the Vice-Chair and all Full Members are appointed by EB after consultation between the EB, SD and Member Societies.

The SD working units are Committees, that are theme-oriented, and Working Groups, that are task-oriented. Committees (C) are usually funded by IFCC for one full meeting per year. Only the Chair of Working Groups (WG) is normally funded by IFCC; however, a WG may be partially or totally supported by IFCC, Member Societies, Corporate Members, or other Organisations.

8.2. SD Committees

Over the years, the SD has initiated and managed a number of applicable committees. These have been numbered sequentially with the Mueller numbering system beginning with 8.2.1. Current committees and their activities are listed below. Earlier Committees and those with missing numbers are found in prior editions of the IFCC Handbook.

8.2.6. Nomenclature, Properties and Units (C-NPU) in collaboration with IUPAC

Membership

Name	Position	Country	Term	Time in Office
Y.B.L. Hansen	Chair	DK	1st	2021 01 - 2023 12
S. Deveraj	Member	US	1st	2020 03 - 2022 12
K. Furuta	Member	JP	1st	2019 02 - 2021 12
F. Meric Yilmaz	Member	TR	1st	2021 03 - 2023 12
E. van der Hagen	Member	NL	2nd	2021 01 - 2023 12
G. Nordin	Consultant	SE		

Terms of Reference

- To continuously provide advice in relation to the management, updating and publishing of NPU terminology.
- To make recommendations on NPU for reporting clinical laboratory data that conform to or adapt current standards of authoritative organisations, and that will improve their utilisation for health care.
- To provide a connection with other organisations concerned with NPU, such as the Bureau International des Poids et Mesures (BIPM), the European Committee for Standardization (CEN) and the International Organization for Standardization (ISO), and, by extension, clinical laboratory sciences societies, such as the International Union of Pure and Applied Chemistry (IUPAC), and the in vitro diagnostics industry, to ensure that problems encountered by health care professionals in the area of NPU are considered by those organisations.
- To act as a consultant group on NPU in clinical chemistry and, by extension, in the rest of clinical laboratory sciences to international scientific panels, regional and national clinical laboratory sciences organisations, editors of scientific journals, manufacturers of clinical laboratory instrumentation and products, and to individual clinical laboratory professionals and other health care professionals.
- To report and offer advice to the SD Chair and the SD Executive Committee on matters concerning NPU in all its aspects (all items above).

Current Projects

- Revision of Terms of reference
- To establish a Laboratory Information Data Model and a coherent concept system that will support comparisons of laboratory results.
- To provide an online platform that presents the principles and rules of the NPU terminology, including recommendations of measurement units to clinical laboratorians. The platform has been established on https://labterminology.com/, and is under development.

8.2.11. Molecular Diagnostics (C-MD)

Membership

Name	Position	Country	Term	Time in Office
P. Ahmad-Nejad	Chair	DE	2nd	2021 01 - 2023 12
K. Baluchova	Member	SK	1st	2019 02 - 2021 12
M. Linder	Member	US	2nd	2021 01 - 2023 12
A. Vacaflores Salinas	Member	BO	1st	2020 03 - 2022 12
S. Pan	Member	CN	1st	2021 05 - 2023 12
J. Huggett	Consultant	UK		
D. Payne	Consultant	US		
M. Relling	Consultant	US		
C. Zhang	Observer	CN		

Terms of Reference

- To foster dynamic exchanges between IFCC and molecular diagnostic laboratories and industry
- To produce guidelines on clinical validation of tests, conduct and reporting of molecular diagnostic tests
- To create a network of locus specific IFCC Molecular Diagnostics Centres

Current Projects

- Establish an International Network of IFCC Reference Centres in Molecular Diagnostics
- Standardise formats for reporting of molecular diagnostic results
- Facilitate integration of pharmacogenetic testing into routine diagnostics at the appropriate quality standards

8.2.23. Traceability in Laboratory Medicine (C-TLM)

Membership

Name	Position	Country	Term	Time in Office
A. Kessler	Chair	DE	2nd	2021 01 - 2023 12
T. Badrick	Member	AU	1st	2019 03 - 2021 12
R.H. Girardi	Member	AR	2nd	2021 01 - 2023 12
J. Infusino	Member	IT	2nd	2020 01 - 2022 12
M. Pérez-Urquiza	Member	MX	1st	2019 03 - 2021 12
T. Zhang	Member	CN	1st	2021 05 - 2023 12
M. Quaglia	Consultant	UK		
C. Siebelder	Consultant	NL		
S. Qu	Observer	CN		

Terms of Reference

- To support activities regarding Traceability in Laboratory Medicine, permitting IFCC to continue its international role in this area and providing an operating link between the SD and the WGs of the Joint Committee on Traceability in Laboratory Medicine (JCTLM), concerning identification of reference measurement procedures, reference materials and reference laboratories.
- To support reference laboratories in the context of complete reference systems (accepted reference measurement procedures of higher order, reference materials, and reference laboratories) by establishing an External Quality Assessment Scheme (EQAS) for reference laboratories in order to monitor their competence.
- To promote establishment and maintenance of IFCC reference laboratory networks for clinically relevant measurands (e.g., the IFCC HbA1c network - https://www.ifcchba1c.org/).

Current Projects

- Organisation of IFCC RELA surveys for calibration laboratories and candidate calibration laboratories (http://www.dgkl-rfb.de:81/index.shtml)

8.2.24. Reference Intervals and Decision Limits (C-RIDL)

Membership

Name	Position	Country	Term	Time in Office
Y. Özarda	Chair	TR	2nd	2019 01 - 2021 12
D. Kang	Member	JP	2nd	2019 01 - 2021 12
K. Kataria	Member	US	1st	2020 03 - 2022 12
K. Sikaris	Member	AU	2nd	2020 01 - 2022 12
T. Streichert	Member	DE	2nd	2020 01 - 2022 12

Terms of Reference

- To review current concepts of establishing reference intervals and decision limits and to prepare state-of-the-art position statements regarding new avenues

- To make available reference intervals and decision limits that respect the requirements of international directives such as the European IVD Directive 98/79, and relevant ISO standards
- To determine priority list of measurands (analytes) for which reference intervals and/or decision limits have to be developed, considering various factors, such as age, gender, ethnicity, and for which the greatest improvements in medical decision making are anticipated
- To monitor and evaluate currently proposed reference intervals for selected measurands (analytes) in the light of the concept of traceability and of the identification of the uncertainty
- To establish transferability protocols of reference intervals and decision limits, which take into consideration inter-routine laboratory method variations and achieve better applicability in clinical practice
- To collaborate with other organizations and/or to undertake establishment of reference intervals or decision limits for measurands (analytes) identified as a priority
- To work in close collaboration with other Cs and WGs of SD and other IFCC Divisions for the development and appropriate clinical utilization of reference intervals and decision limits

Current Projects
- Conduction of a new study to compare alternative approaches (conventional and big data) for the determination of reference intervals
- Creating a website to provide the reference intervals obtained from the global study for practice of Evidence Based Laboratory Medicine
- Preparation of a publication on comparison direct and indirect approaches for the determination of reference intervals.

8.2.25. Standardisation of Thyroid Function Tests (C-STFT)

Membership

Name	Position	Country	Term	Time in Office
H. Vesper	Chair	US	2nd	2021 01 - 2023 12
A. Hishinuma	Member	JP	2nd	2021 02 - 2023 12
V. Raverot	Member	FR	1st	2020 03 - 2022 12
K. Van Uytfanghe	Member	BE	2nd	2021 01 - 2023 12
S.L. Andersen	Member	DK	1st	2021 05 - 2023 12
I. Erlund	Consultant	FI		
M. Rottmann	Consultant	DE		
L. Thienpont	Consultant	BE		
H. Völzke	Consultant	DE		

In the previous terms, the committee developed the basis needed to implement standardisation of thyroid function tests. Specifically, the committee:
- developed reference measurement systems (reference materials/reference methods) to establish traceability of free thyroid hormone and TSH assays,
- provided an infrastructure for procurement of serum panels,
- demonstrated that the traceable assays can use a common reference interval,
- informed the clinical and research community about the importance of standardised tests.

Building on these accomplishments, the current committee set the following terms of reference:

Terms of Reference:
- Establish a system to maintain traceability of free thyroid hormone and TSH measurements.
- Coordinate programs to evaluate free thyroid and TSH assays with regards to their analytical performance.
- Develop reference intervals for free thyroid hormones and TSH.
- Liaise with key stakeholders to promote the use of the standardised assays in routine clinical practice and public health, to ensure analytical performance requirements meet clinical needs, and to help with developing and establishing reference intervals.

Current Projects:
- Establishment of a reference laboratory network
- Develop and establish follow-up panel for TSH
- Collaborate with relevant organisations to ensure that free thyroid hormones and TSH are standardized consistently
- Collaborate with stakeholders to define reference populations and plan study to establish reference intervals
- Provide information and training to stakeholders about the importance of standardised thyroid function assays, and support organisations working on promoting high quality of thyroid function tests

8.2.26. Harmonisation of Autoimmune Tests (C-HAT)

Membership

Name	Position	Country	Term	Time in Office
J. Sheldon	Chair	UK	2nd	2020 01 - 2022 12
X. Bossuyt	Member	BE	2nd	2020 01 - 2022 12
M.J. Fritzler	Member	CA	2nd	2020 01 - 2022 12
L. Wienholt	Member	AU	2nd	2020 01 - 2022 12
M. Rottmann	Member/Roche	DE	2nd	2020 01 - 2022 12

Terms of Reference
- To evaluate what are the main causes of variability for a number of diagnostically critical autoantibodies.
- To identify autoantibodies where a common calibrator could reduce the inter-assay variability
- To identify or produce commutable materials that could be used as interim calibration material for autoantibody assays.
- To produce well-characterised pure antibody preparations with known concentration and identity and use these to transfer values to a matrix preparation.
- To evaluate the impact of new reference material on the variability of autoantibody tests and identify areas where further harmonisation would improve diagnostic accuracy.

8.2.27. Bone Metabolism (C-BM)

Membership

Name	Position	Country	Term	Time in Office
E. Cavalier	Chair	BE	1st	2019 01 - 2021 12
H.P. Bhattoa	Member	HU	1st	2019 02 - 2021 12
A. Heijboer	Member	NL	1st	2019 02 - 2021 12
C. Ulmer	Member	US	1st	2019 01 - 2021 12
S. Vasikaran	Member	AU	1st	2019 02 - 2021 12

V. Delatour	Consultant	FR
K. Phinney	Consultant	US
C. Sempos	Counsultant	US
C. Sturgeon	Consultant	UK
H. Vesper	Consultant	US

As of January 2019, the IFCC has created this Committee on **"Bone Metabolism (C-BM)",** formed by the joining of the already existing Working Groups:
- *Standardisation of Bone Markers Assays (WG-BMA) in collaboration with IOF*
- *Parathyroid Hormone (WG-PTH)*
- *Vitamin D Standardisation Program (WG-Vit D)*

Terms of Reference
- Standardise PTH assays
- Standardise or harmonise bone markers assays
- Standardise vitamin D metabolites assays

Current Projects

1. PTH assays
- Create liaison with International Endocrinological, Rheumatological and Nephrological organisations
- Define the measurand (what we need to measure for all clinical situations)
- Develop a reference measurement procedure (RMP)for PTH(1-84) and moieties of clinical interest
- Evaluate the commutability of PTH International standard PTH 95/646 and the need to create primary reference material
- Replicate the RMP in a second lab and create a network of 3-4 reference labs
- Create an accuracy-based external quality assessment scheme
- Constitute an appropriate and international panel of sera and plasma to establish PTH reference intervals
- Specify performance criteria for RMP and routine methods
- Provide services to manufacturers, notably by providing a reliable source for primary reference materials
- Post-survey of the standardisation effects

2. Bone markers assays
- Continue the liaison with IOF and extend to other relevant international societies

Current CTX and PINP project:
- Complete the multicentre study and harmonise CTX and PINP assays
- Collaborate with EQAS provider(s) to improve the surveys
- Constitute an appropriate and international panel of sera and plasma to establish CTX and PINP reference intervals
- Post-survey of the standardisation/harmonisation effects.

Future projects:
- Select biomarkers to be standardized/harmonized (*g.*: bone alkaline phosphatase, FGF-23, sclerostin).

3. Vitamin D metabolites
- Re-evaluate current VDSP performance guidelines for 25(OH)D
- Establish VDSP performance guidelines for 24,25(OH)2D, C3-epimer and vitamin D

binding protein
- Post-survey of the standardisation effects
- Propose services to reassess the true value of 25OHD obtained in former epidemiological or interventional studies that had used non-standardised methods

8.3. SD Working Groups

8.3.35. Standardisation of Hemoglobin A2 (WG-HbA2)

Joint Working Group with ICSH (International Council for Standardization in Haematology)

Membership

Name	Position	Country	Term	Time in Office
A. Mosca	Chair	IT	2nd	2020 01 - 2022 12
C. Arsene	Member	DE		
P. Kaiser	Member	DE		
R. Paleari	Member	IT		
L. Wu	Member	CN		
T. Zhang	Member	CN		

Terms of Reference
- To promote the standardisation of hemoglobin A2 measurement through the definition of an international reference system, including a reference measurement procedure and primary and secondary reference materials.

Current Projects
- Definition of a reference measurement procedure using mass spectrometry associated with proteolytic degradation.
- Preparation of a secondary reference material for hemoglobin A2 (in cooperation with JRC).

8.3.36. Carbohydrate-Deficient Transferrin (WG-CDT)

Membership

Name	Position	Country	Term	Time in Office
J. Deenmamode	Chair	UK	2nd	2021 01 - 2023 12
R.F. Anton	Member	US		
J. Delanghe	Member	NL		
F. Schellenberg	Member	FR		
C.W. Weykamp	Member	NL		
J.P.M. Wielders	Member	NL		

Terms of Reference
- Promoting the use of the HPLC reference measurement procedure (RMP) as the accuracy base for CDT test standardisation
- Maintaining sustainability of an international network of reference laboratories
- Supporting the worldwide standardisation of commercial methods against the RMP
- Offering consultation concerning use of biomarkers of alcoholism towards national or international agencies
- Providing scientific support for the production and delivery of authorised CRM
- Supporting the development of guidelines for clinical use of CDT assays

Current Projects

- Promoting the use of the HPLC reference measurement procedure (RMP) as the accuracy base for CDT test standardisation
- Maintaining an international network of reference laboratories
- Supporting the worldwide standardisation of commercial methods against the RMP

8.3.39. Standardisation of Albumin Assay in Urine (WG-SAU) - in collaboration with NIDDK

In cooperation with "National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) - https://www.niddk.nih.gov/"

Membership

Name	Position	Country	Term	Time in Office
J. Seegmiller	Chair	US	1st	2020 01 - 2022 12
A. Beasley Green	Member	US		
J. Delanghe	Member	BE		
J. Eckfeldt	Member	US		
J. Fleming	Member	US		
N. Greenberg	Member	US		
G. Hortin	Member	US		
Y. Itoh	Member	JP		
G. Jones	Member	AU		
J. Kaufmann	Member	US		
T. Killeen	Member	US		
J. Lieski	Member	US		
G. Miller	Member	US		
G. Myers	Member	US		
M. Panteghini	Member	IT		
A. Parsa	Member	US		
K.W. Phinney	Member	US		
S. Sandberg	Member	NO		
H. Schimmel	Member	BE		
D. Seccombe	Member	CA		
J. Zakowski	Member	US		

Terms of Reference

- To establish a reference procedure and reference materials for the measurement of albumin in urine

Current Projects

- Development of reference materials for urine creatinine and urine albumin
- Development of urine albumin IDMS candidate reference measurement procedures

8.3.40. Standardisation of Pregnancy-Associated Plasma Protein A (WG-PAPP A)

Membership

Name	Position	Country	Term	Time in Office
S. Wittfooth	Chair	FI	1yr extra term	2021 01 – 2021 12
S. Jones	Member	UK		
A. Katrukha	Member	RU		
K. Pettersson	Member	FI		

K. Spencer	Member	UK
C. Sturgeon	Member	UK

Terms of Reference

- To establish a reference material for PAPP-A measurement employed as a marker for prenatal screening

Current Projects

- Evaluation of candidate reference materials in relation to the major assay constructs presently being used in routine prenatal testing

8.3.41. Growth Hormone (WG-hGH)

Membership

Name	Position	Country	Term	Time in Office
M. Vos	Chair	NL	1st	2021 01 - 2023 12
C. Arsene	Member	DE		
E. Lentjes	Member	NL		
M. Quaglia	Member	UK		
C. Sturgeon	Member	UK		
J.S. Blanchet	Member/Beckman Coulter	FR		
M. Rottmann	Member/Roche	DE		
C. Weykamp	Consultant	NL		
C. Cobbaert	Consultant	NL		

Terms of Reference

- To establish a higher order Reference Measurement System for enabling hGH standardisation of commercial IVDs, encompassing both the development of Reference Materials and a harmonised Reference Measurement Procedure. The RMP should be set-up in at least two calibration labs, and preferentially in a network of calibration labs.

Current projects

- Defining the accuracy base for hGH standardisation in order to establish a complete and sustainable Reference Measurement System.
- Developing an MS-based Reference Measurement Procedure for the measurement of hGH which allows an operational definition of the relevant measurand, according to the matching calibration hierarchy described in ISO 17511:2020. The reference method should meet relevant ISO standards (i.e., ISO 15195) and its performance should be validated. In the end, it should be IFCC endorsed and also listed in the JCTLM database.
- Establish the suitability of recombinant human growth hormone preparations as primary reference material with appropriate properties.
- Establish the performance of commercially available hGH assays compared to the MS-based RMP using single donation samples (from sporters) and the effect of using a common primary reference material or serum pools on between method agreement.
- Determination of the effect of freeze/thawing on measured hGH (a requirement to establish the validity of materials for 4. above).

8.3.42. Standardisation of Insulin Assays (WG-SIA) in collaboration with ADA/ EASD

Membership

Name	Position	Country	Term	Time in Office
M. Steffes	Co-Chair	US		
J. Seegmiller	Co-Chair	US		
D. Holmes	Member	CA		
R. Little	Member	US		
M. McPhaul	Member	US		
G. Miller	Member	US		
H. Ritzén	Member	SE		
D. Sacks	Member	US		
G. Wark	Member	UK		
B. Akolkar	Consultant/NIH NIDDK	US		
K. Van Uytfanghe	Consultant	BE		

Terms of Reference

- To improve the standardisation of assays for insulin by the development of a candidate reference method and materials.

Current Projects

- The development of a reference method for the measurement of insulin by electrospray ionisation-isotope dilution-liquid chromatography-tandem mass spectrometry (ID-LC/ tandem MS).
- Establishment of the suitability or otherwise of a lyophilised recombinant human insulin preparation as a primary reference material with appropriate properties
- Establishment of the performance of commercially available insulin assays compared to the ID-LC/tandem MS method using single donation samples and the effect of using a common primary reference material or serum pools on between method agreement.
- Determination of the effect of freeze/thawing on measured insulin (a requirement to establish the validity of materials for 3 above).

8.3.43. Standardisation of Troponin I (WG-TNI)

Membership

Name	Position	Country	Term	Time in Office
R. Christenson	Chair	US	2nd	2020 01 - 2022 12
D. Armbruster	Member	US		
J. Barth	Member	UK		
A. Katrukha	Member	FI		
J. Noble	Member	UK		
M. Panteghini	Member	IT		
A. Saenger	Member	US		
H. Schimmel	Member	BE		
L. Wang	Member	US		

Terms of Reference

- Development of a candidate secondary reference measurement procedure and candidate secondary reference material for cardiac troponin I (cTnI)
- Testing for cTnI standardisation and clinical validation by comparison with validated commercial assays in a round robin study

Current Projects

- Preparation of a secondary reference material for cTnI consisting of three cTnI positive serum pools (Phase 2)
- Validation of cTnI standardisation through a round robin after a value transfer using the secondary reference material as common calibrator (Phase 3)

8.3.49. Working Group CSF-Proteins (WG-CSF)

Membership

Name	Position	Country	Term	Time in Office
J. Gobom	Chair	SE	2nd	2021 01 - 2023 12
U. Andreasson	Member	SE		
K. Blennow	Member	SE		
R. Bateman	Member	US		
V. Delatour	Member	FR		
R. Jenkins	Member	US		
M. Korecka	Member	US		
S. Lehmann	Member	FR		
P. Lewczuk	Member	DE		
M. Lowenthal	Member	US		
E. Portelius	Member	SE		
L.M. Shaw	Member	US		
E. Stoops	Member	BE		
H. Vanderstichele	Member	BE		
E. Vanmechelen	Member	BE		
I. Zegers	Member	BE		
H. Zetterberg	Member	SE		

Terms of Reference

- To develop a RMP for CSF amyloid β 1-42
- To develop a RMP for CSF amyloid β 1-40
- To develop a RMP for CSF total tau
- To develop CRMs for CSF amyloid β 1-42
- To develop CRMs for CSF amyloid β 1-40
- To develop CRMs for CSF total tau

Current Projects

- Two RMPs for CSF amyloid β 1-42 have been published and approved by the JCTLM (C12RMP1 and C11RMP9)
- A method for measurement of CSF amyloid β 1-40 by SRM has been published and validation of a RMP is ongoing
- Development of a method for measurement of tau by SRM is ongoing
- Three CRMs for CSF amyloid β 1-42 have been developed (ERM®-DA480/IFCC, ERM®-DA481/IFCC and ERM®-DA482/IFCC)
- Collection of CSF for development of CRMs for tau is ongoing

8.3.51. Commutability in Metrological Traceability (WG-CMT)

Membership

Name	Position	Country	Term	Time in Office
G. Miller	Chair	US	1st	2020 03 - 2022 12
H. Althaus	Member	DE		

J. Budd	Member	US
C. Burns	Member	UK
J. Camara	Member	US
F. Ceriotti	Member	IT
V. Delatour	Member	FR
N. Greenberg	Member	US
J. Johansen	Member	DK
P. Kaiser	Member	DE
T. Keller	Member	DE
A. Lyle	Member	US
F. MacKenzie	Member	UK
M. Panteghini	Member	IT
R. Rej	Member	US
S. Sandberg	Member	NO
H. Schimmel	Member	BE
M. Spannagl	Member	DE
E. van der Hagen	Member	NL
H. Vesper	Member	US

Terms of Reference

- Advise IFCC Committees and Working Groups on how to assess the commutability of materials on which they are working.
- Establish procedures to use commutable reference materials, and to correct for non-commutability bias, in a metrological traceability hierarchy.
- Establish how to define the criterion for acceptable commutability that is required for a given reference material, taking into account its intended use in a metrological traceability hierarchy or for surveillance of harmonisation/standardization status of results from different measurement procedures.
- Provide recommendations on verifying commutability for replacement batches of a reference material.

Current Projects

- How to specify acceptance criteria for commutability assessment.
- How to verify commutability for a new batch of a reference material.
- How to use a CRM in the calibration hierarchy for a measurement procedure for which the sample matrix is not intended.

8.3.53. Immunosuppressive Drugs (WG-ID)

Membership

Name	Position	Country	Term	Time in Office
C. Seger	Chair	CH	2nd	2021 01 - 2023 12
M.J. Barten	Member	DE		
S. Bergan	Member	NO		
M. Brunet	Member	ES		
U. Christians	Member	US		
B. de Winter	Member	NL		
L. Elens	Member	BE		
D. Grote-Koska	Member	DE		
V. Haufroid	Member	BE		
A. Henrion	Member	DE		
D.W. Holt	Member	UK		

A. Kessler	Member	DE
P.K. Kunicki	Member	PL
L. Langman	Member	US
S. Masuda	Member	JP
D. Moes	Member	NL
T. Pawiński	Member	PL
L.M. Shaw	Member	US
M. Shipkova	Member	DE
C. Snozek	Member	US
N. Torre Vethe	Member	NO
T. van Gelder	Member	NL
M. Vogeser	Member	DE
P. Wallemacq	Member	BE
E. Wieland	Member	DE

Terms of Reference

- The WG is devoted to the establishment of candidate reference procedures and reference materials for immunosuppressive drugs (ISDs) as cyclosporine, sirolimus, tacrolimus, everolimus, and mycophenolic acid (MPA). Demonstration of the current state of the art in ISD – TDM by measurement comparison will define the need for harmonisation or – if feasible – standardisation of measurement services

Current projects

- *Regulatory framework*:
  - Establish and communicate the regulatory framework which allows submitting to the JCTLM reference materials, measurement methods and measurement services established within the WG-ID.
- *Measurement comparison initiative aimed to assess the state of art in ISD TDM:*
  - Baseline assessment including method comparability.
  - Influence of secondary reference materials on method comparability.
- P*roduction of reference materials to be listed in the JCTLM database:*
  - Characterisation of primary reference materials.
  - Production of primary reference materials.
  - Characterisation and production of secondary reference materials.
- *Establishment of reference methods to be listed in the JCTLM database:*
  - Design and validation of a candidate reference method by at least two to three partner institutions.
- *Establishing reference procedures:*
  - Establishment of a reference laboratory network.
  - Establishment of a reference measurement service network.

8.3.54. Apolipoproteins by Mass Spectrometry (WG-APO MS)

Membership

Name	Position	Country	Term	Time in Office
C. Cobbaert	Chair	NL	2nd	2020 01 - 2022 12
L.R. Ruhaak	Secretary	NL		
I. Begcevic	Member	US		
U. Ceglarek	Member	DE		
V. Delatour	Member	FR		
J. Dittrich	Member	DE		
A. Hoofnagle	Member	US		

Z. Kuklenyik	Member / CDC	US
A. Lyle	Member / CDC	US
H.W. Vesper	Member / CDC	US
H. Althaus	IVD Representative/Siemens	DE
U. Prinzing	IVD Representative/Roche	DE
E. Angles-Cano	Consultant	FR
G.M. Kostner	Consultant	AT
F. Kronenberg	Consultant	AT
L. Deprez	Consultant / JRC	BE
I. Dikaios	Consultant / JRC	BE

Terms of Reference

- To achieve standardisation of a panel of clinically relevant serum apolipoproteins (apo) A-I, B, C-I, C-II, C-III, E and apo (a) (including qualitative phenotyping where needed). Standardisation is done in such a way that measurement results are traceable to SI as outlined in ISO 17511. Other traceability chains will be used in cases where traceability to SI cannot be achieved.
- To evaluate clinical performance and clinical utility of serum apolipoprotein panel(s) for CVD risk stratification and treatment, in comparison to or together with contemporary blood lipids.

Current projects

- Define the analytes / measurands intended to be measured.
- Development of primary and secondary reference materials, including evaluation of commutability.
- Development of an LC-MS/MS-based reference method for the above-mentioned analytes that are unaffected by genetic variants, post-translational modifications and other factors. The reference method will meet relevant ISO standards (i.e., ISO 15195).
- Evaluation of the analytical performance of the LC-MS/MS reference method.
- Assessment of the performance of commercially available apolipoprotein assays compared to the reference method using commutable reference materials as well as single donation samples.
- Any reference materials and reference measurement procedures developed will be submitted to JCTLM for review and listing on the JCTLM database.

Future Projects

- Evaluation of clinical performance and clinical utility of the multiplexed apolipoprotein test according to the Test Evaluation framework developed by the EFLM working group on Test Evaluation (Horvath AR et al., CCA, 2014).

8.3.55. Pancreatic Enzymes (WG-PE)

Membership

Name	Position	Country	Term	Time in Office
D. Grote-Koska	Chair	DE	2nd	2020 01 - 2022 12
F. Canalias	Member	ES		
F. Ceriotti	Member	IT		
B. Chen	Member	CN		
J. Infusino	Member	IT		
S. Pal	Member	IN		
S. Ueda	Member	JP		
M. Veuger	Member	NL		

Terms of Reference

- To develop a primary reference method for pancreatic Lipase in Serum
- To develop a primary reference method for pancreatic Amylase in Serum
- To support EC-JRC (Joint Research Centre, Directorate F – Health, Consumers and Reference Materials, formerly IRMM) in case of studies and certification of reference materials for enzymes

Current projects

- Development of a Pancreatic-Amylase method to obtain a practical version to act as reference method

8.3.56. Fecal Immunochemical Testing (WG-FIT)

Membership

Name	Position	Country	Term	Time in Office
S. Benton	Chair	UK	2nd	2020 01 - 2022 12
J.M. Auge	Member	ES		
L. Deprez	Member	BE		
N. Djedovic	Member	UK		
M. Frasa	Member	NL		
S. Jones	Member	UK		
P. Kocna	Member	CZ		
C. Piggott	Member	UK		
P. St. Louis	Member	CA		
J. Strachan	Member	UK		
E. Symonds	Member	AU		
S. Takehara	Member	JP		
E. van der Hagen	Member	NL		
A. Cugini	Corp. Member	IT		
Y. Doi	Corp. Member	JP		
M. Fujimura	Corp. Member	JP		
T. Fukuda	Corp. Member	JP		
H. Hayashi	Corp. Member	JP		
A. Horikawa	Corp. Member	JP		
Y. Masuda	Corp. Member	JP		
F. Rota	Corp. Member	IT		
S. Wu	Corp. Member	JP		
M. Zacherl	Corp. Member	DE		

Terms of Reference

- To harmonise and/or standardise analysis of haemoglobin in faecal samples by immunochemistry (FIT)
- To establish EQA and 3rd party IQC programmes
- To determine the feasibility of developing reference materials and/or commutable calibrators
- The IFCC FIT-WG can provide recommendations and guidance on preanalytical and analytical aspects of FIT

Current projects

- Identification of a suitable reference material and assessment of commutability for all available laboratory quantitative FIT methods
- Review of all FIT EQA programmes currently available globally

8.3.57. Cell free DNA and related circulating biomarkers (WG-cfDNA)

Membership

Name	Position	Country	Term	Time in Office
R. van Schaik	Chair	NL	2nd	2021 01 - 2023 12
M. del Re	Member	IT		
S. Galbiati	Member	IT		
E. Lianidou	Member	GR		
D. Lo	Member	HK		
M. Oellerich	Member	DE		

Terms of Reference

- To identify and provide guidance on preanalytical and analytical aspects for obtaining good and reproducible results for cfDNA and related circulating biomarkers for clinical use, and to guide the correct clinical implementation of these biomarkers.

Current projects

- Defining pre-analytical aspects / drafting guideline
- Defining minimal analytical performance
- Setting up proficiency testing for cfDNA
- Organising international workshops
- Defining grant proposals to address unmet needs under a) and b)

8.3.58. Working Group Standardisation of Procalcitonin assays (WG-PCT)

Membership

Name	Position	Country	Term	Time in Office
V. Delatour	Chair	FR	2nd	2021 01 - 2023 12
A. Boeuf	Member	FR		
H. Briand	Member	FR		
N. Corocher	Member	IT		
A.M. Dupuy	Member	FR		
P. Hausfater	Member	FR		
P. Kaiser	Member	DE		
Q. Liu	Member	SG		
B. Machetanz	Member	DE		
L. Pallavicini	Member	IT		
S. Pastori	Member	IT		
J. Pfannkuche	Member	DE		
K. Schneider	Member	DE		
P. Schütz	Member	CH		
C. Tsatsanis	Member	GR		
C. Yuan	Member	US		
P. Bryan	Member/OCD	US		
M. Grimmler	Member/Diasys	DE		
P. Jauria	Member/Radiometer	FI		
T. Masetto	Member/Diasys	DE		
J. Odarjuk	Member/Thermo Fisher	DE		
N. Parker	Member/Siemens	US		
M. Patru	Member/OCD	US		
K. Paulsen	Member/Beckman Coulter	DE		
M. Rottmann	Member/Roche	DE		
S. Ruetten	Member/Abbott	US		

A. Rybin	Member/Siemens	US
L. Seaver	Member/Abbott	US
M. Solari	Member/Beckman Coulter	US
B. Thomas	Member/Thermo Fisher	DE

Terms of Reference
- Develop and validate a reference measurement procedure for PCT absolute quantification by Stable Isotope Dilution Mass Spectrometry
- Document and understand the variability of results provided by the different commercially available PCT assays
- Evaluate the need for standardisation of PCT assays
- Evaluate the feasibility for standardisation of PCT assays
- Perform standardisation of PCT assays, if needed and feasible.

Current projects
- Production of commutable EQA materials designed to assess comparability of commercially available PCT assays
- Production and characterisation of candidate primary calibrators
- Development of a candidate reference method for absolute quantification of PCT by IDMS

8.3.60. Working Group on Continuous Glucose Monitoring (WG-CGM)

Membership

Name	Position	Country	Term	Time in Office
G. Freckmann	Chair	DE	1st	2019 07 - 2021 12
R. Slingerland	Co-Chair	NL		
P. Diem	Member	CH		
E. Eriksson Boija	Member	SE		
J. Jendle	Member	SE		
Y. Ju	Member	CN		
D. Klonoff	Member	US		
J. Nichols	Member	US		
M. Tangirala	Member	IN		
A. Thomas	Member	DE		
N. Tran	Member	US		
R. Hinzmann	Member/Roche	DE		

Terms of Reference
- Establish traceability of glucose values obtained by continuous glucose monitoring (CGM) to materials and methods of higher metrological order,
- Establish metrics for the evaluation of the analytical performance of CGM,
- Work with ISO on a new CGM guideline (analogous to ISO 15197) to establish standardised procedures and acceptance criteria for CGM.

Current projects
- Propose means suitable for establishing the traceability of glucose values obtained by CGM to materials and methods of higher metrological order according to ISO 17511, including definition of adequate compartment(s) for reference samples (capillary, venous),
- Find procedures suitable for assessment of analytical performance of CGM systems,
- Define metrics and corresponding minimum acceptance criteria for the analytical performance of CGM systems.

8.3.61 Development of a Reference Measurement System for sustainable PT/INR Standardization (WG-PT/INR)

At the time of publication of this handbook, the definition of this SD Working Group is on-going.
Please refer to the IFCC website under the SD to view the current Membership, Terms of Reference, and Current projects.

8.4. Publications

A complete list of IFCC publications is available on the IFCC web site at:
http://www.ifcc.org/ifcc-scientific-division/sd-yearly-publications-of-interest/

8.5. List of Addresses

SD EXECUTIVE COMMITTEE

Chair

Prof. Philippe GILLERY
Service de Biochimie - Pharmacologie – Toxicologie
Pôle de Biologie Médicale et Pathologie
CHU de Reims
Pôle de Biologie Territoriale
Rue du Général Koenig
51092 Reims Cedex - France
E-mail: pgillery@chu-reims.fr

Vice-Chair

Prof. Christa M. COBBAERT
Clinical Chemist Head of the Department of Clinical Chemistry
Leiden University Medical Center
Postbus 9600 Postzone E2-P
2300 RC Leiden - The Netherlands
E-mail: C.M.Cobbaert@lumc

Secretary

Prof. Garry JOHN
Department of Clinical Biochemistry and Immunology
Norfolk and Norwich University Hospital
Norwich NR4 7UY - UK
E-mail: garry.john@nnuh.nhs.uk

Members

Dr. Barnali DAS
Consultant, Biochemistry & Immunology Division,
Kokilaben Dhirubhai Ambani Hospital & Medical Research Institute,
Four Bunglows, Andheri (West)
Mumbai 400053 - India
E-mail: barnalidasdr@gmail.com; drbarnalid@gmail.com

Dr. Konstantinos MAKRIS
Clinical Biochemist
Clinical Biochemistry Department
KAT General Hospital
2 Nikis street, 14561
Kifissia, Athens - Greece
E-mail: kostas.makris.km@gmail.com

Prof. Mario PLEBANI
Full Professor of Clinical Biochemistry and Clinical Molecular Biology
Chief Department of Laboratory Medicine
University Hospital - Padova
Dean of the Medical School
University of Padova - Italy
E-mail: mario.plebani@unipd.it

CORPORATE REPRESENTATIVE

Dr Michael ROTTMANN
Roche Diagnostics GmbH
Director Assay Development
Indication: Tyroid, Sepsis, RA, Growth
Centralised and Point of Care solutions
DXRI
Nonnenwald 2
82377 Penzberg - Germany
E-mail: michael.rottmann@roche.com

EUROPEAN COMMISSION - JRC OBSERVER

Dr. Liesbet DEPREZ
Project Officer
European Commission
Directorate General Joint Research Centre
Directorate F – Health, Consumers and Reference Materials - Reference Materials Unit
Retieseweg 111
2440 Geel - Belgium
E-mail: Liesbet.deprez@ec.europa.eu

ICHCLR OBSERVER

Prof. Ian S. YOUNG
Professor of Medicine
Queen's University Belfast
The Center for Public Health
1st floor - ICS B block
Royal Victoria Hospital
Grosvenor Road
BT12 GBJ - Belfast - UK
E-mail: I.Young@qub.ac.uk

JCTLM Chair / SD CONSULTANT

Dr. Greg MILLER
Professor of Pathology
Co-Director of Clinical Chemistry
Director of Pathology Information Systems
Virginia Commonwealth University Health System
Richmond, VA 23298-0286 - USA
E-mail: greg.miller@vcuhealth.org

NIBSC CONSULTANT

Dr. Chris BURNS
Head, Biotherapeutics Division
National Institute for Biological Standards and Control (NIBSC)
A Centre of the MHRA, Blanche Lane
South Mimms, Potters Bar
Hertfordshire, EN6 3QG - UK
Tel: 01707 641247
E-mail: Chris.Burns@nibsc.org

NIFDC OBSERVER

Dr. Yang ZHEN
Deputy Director General
National Institutes for Food and Drug Controls (NIFDC)
P.R. China
E-mail: yangzhen@nifdc.org.cn

NIST CONSULTANT

Dr. Karen W. PHINNEY
Leader, Bioanalytical Science Group
Biomolecular Measurement Division
National Institute of Standards and Technology (NIST)
100 Bureau Drive, Stop 8314
Gaithersburg, MD 20899-8314 - USA
E-mail: karen.phinney@nist.gov

SD COMMITTEE CHAIRS

Prof. Dr. med. Parviz AHMAD-NEJAD
Witten Herdecke University
Chair for Microbiology and Laboratory Medicine
Director - Institute for Med. Laboratory Diagnostics
Helios Universitätsklinikum Wuppertal
Reference Laboratory for Infectious Diseases of the Reference Institute for Bioanalytics (RfB)
Heusnerstr. 40
42283 Wuppertal - Germany
E-mail: parviz.ahmad-nejad@helios-gesundheit.de

Prof Etienne CAVALIER
Head, Department of Clinical Chemistry
University of Liège, CHU de Liège
Route 52, Porte 53
Domaine du Sart-Tilman
B-4000 Liège, Belgium
E-mail: etienne.cavalier@chu.ulg.ac.be

Dr. Young Bae L. HANSEN
Medical Officer
Denmark
E-mail: ysvl@hotmail.com

Dr. Anja KESSLER
Referenzinstitut für Bioanalytik
Friesdorfer Str. 153
53175 Bonn – Germany
E-mail: a.kessler@spmd-rfb.de

Prof. Yeşim ÖZARDA
Istanbul Health and Technology University
School of Medicine
Department of Clinical Biochemistry
Istanbul 34025 -Turkey
E-mail: yesim.ozarda@istun.edu.tr

Dr. Joanna SHELDON
Protein Reference Unit St. George's Hospital
Blackshaw Road
London SW17 0NH – UK
E-mail: jsheldon@sgul.ac.uk

Dr. Hubert VESPER
Director, Clinical Standardization Programs
Chief, Protein Biomarker and Lipid Reference Laboratory
Clinical Chemistry Branch
Division of Laboratory Sciences
Centers for Disease Control and Prevention
4770 Buford Hwy NE MS F25
Atlanta, GA 30341 - USA
E-mail: hav2@cdc.gov and HVesper@cdc.gov

SD WORKING GROUP CHAIRS

Sally C BENTON
Consultant Biochemist
Surrey Pathology Services
Royal Surrey County Hospital
Director, Bowel Cancer Screening Hub – South of England
Surrey Research Park, 20 Priestley Road
Guildford - Surrey GU2 7YS - UK
E-mail: sally.benton@nhs.net

Robert H. CHRISTENSON
Professor of Pathology, Medical and Research Technology
University of Maryland School of Medicine
Medical Director, Core Laboratories, Point of Care Services
22 South Greene Street
Baltimore, MD 21201 – USA
E-mail: rchristenson@umm.edu

Mr. Jean DEENMAMODE
CDT laboratory and Proteins section
Pathology First, Dobson House
Bentalls, Basildon
Essex SS14 3BY - UK
E-mail: jean.deenmamode@synlab.co.uk / jdlabconsultancy@btinternet.com

Dr. Vincent DELATOUR
LNE. 1, Gaston Boissier
75724 Paris - France
E-mail: vincent.delatour@lne.fr

Dr. med. Guido FRECKMANN
Institut für Diabetes-Technologie Forschungs- und Entwicklungsgesellschaft mbH an der Universität Ulm
Geschäftsführer, Ärztliche Leitung
General Manager, Medical Director
Lise-Meitner-Str. 8/2
D-89081 Ulm - Germany
E-mail: Guido.Freckmann@idt-ulm.de

Assoc. Prof. Johan GOBOM
Clinical Neurochemistry Laboratory
Inst. of Neuroscience and Physiology
Dept. of Psychiatry and Neurochemistry
The Sahlgrenska Academy at University of Gothenburg
Sahlgrenska University Hospital
SE-431 80 Mölndal - Sweden
E-mail: johan.gobom@neuro.gu.se

Dr. Denis GROTE-KOSKA
Medizinische Hochschule Hannover
Institut für Klinische Chemie
Carl-Neuberg-Str. 1
30625 Hannover - Germany
E-mail: Grote-Koska.Denis@mh-hannover.de

Prof. Andrea MOSCA
Department of Pathophysiology and Transplantation
University of Milano
Via Fratelli Cervi 93
20090 Segrate (Milano) - Italy
E-mail: andrea.mosca@unimi.it

PD Dr. Christoph SEGER
Head of Department
Special Chemistry and R & D
labormedizinisches zentrum Dr Risch
Lagerstrasse 30 - 9470 Buchs SG - CH
Wuhrstrasse 14 – 9490 Vaduz – FL
E-mail: seger_lab@gmx.at

Dr. Jesse C. SEEGMILLER
Assistant Professor
Department of Laboratory Medicine and Pathology
University of Minnesota
420 Delaware Street SE
Mayo Building, Rm: D185
Minneapolis, MN 55455 - USA
E-mail: jseegmil@umn.edu

Dr. Michael STEFFES
Institute University of Minnesota
3098 East Castle Danger Road
Two Harbors, MN 55616 - USA
E-mail: steff001@umn.edu

Prof. Dr. Ron HN VAN SCHAIK
Professor of Pharmacogenetic
Erasmus University Medical Center Rotterdam
Room Na-415 - Wytemaweg 80
3015CN Rotterdam - The Netherlands
E-mail: r.vanschaik@erasmusmc.nl

Dr. Michel J. VOS
UMCG
Special Chemistry Laboratory
Groningen -The Netherlands
E-mail: m.j.vos01@umcg.nl

Dr. Saara WITTFOOTH née Kokkala
Senior lecturer, Ph.D.
Division of Biotechnology
Department of Biochemistry
University of Turku - Tykistökatu 6 A 6th floor
20520 Turku – Finland
E-mail: saara.wittfooth@utu.fi