



NORDIC COMMITTEE ON FOOD ANALYSIS

CONTENTS

NEW EVENT

- AOAC Europe—NMKL—NordVal-symposium on 3-4 June 2019 in Oslo, Norway, see column to the right and Pages 2-3

PREVIOUS EVENTS

- Course on digitalisation of laboratory activities in Sweden on 29 August 2018, Page 4
- NMKL's 72nd annual meeting on 26-28 August 2018 in Sigtuna, Sweden, Page 6

NEW NMKL METHOD

- No. 203, Page 5
Sodium (Na). Determination by capillary electrophoresis (CE) in foodstuffs

TRANSLATION OF NMKL PROCEDURE

- No. 10: Control of microbiological culture media
is now available in Norwegian, Page 5

NEWS FROM NORDVAL INTERNATIONAL

EXTENDED NORDVAL CERTIFIKAT

A certificate has been extended, Page 7

RENEWED NORDVAL CERTIFICATES

Three certificates have been renewed, Page 7

International symposium: Speeding towards –omics ...

CHEMICAL AND MICROBIOLOGICAL FOOD ANALYSES

Don't miss the opportunity to participate in this international symposium in Oslo, Norway, on 3-4 June 2019 arranged by AOAC Europe – NMKL – NordVal International. (afholdes på engelsk).

The purpose of the symposium is to bring together scientists, technicians and companies to discuss emerging technologies and techniques with emphasis on recent advances and applications in food analyses.

The scope of this symposium is to discuss different aspects of use, validation and application of –omics related to food, but not only.

The topics are presented in plenum and in parallel sessions:

- Genomics, proteomics, transcriptomics, metabolomics, foodomics
- New rapid methods
- Multi-methods
- Hand-held instrumentation
- Digitalization of the analytical process (from sampling to interpretation of results)

For registration form and programme see www.nmkl.org

Deadline for registration: 19 March 2019

Registration, ordinary: 400 EUR

Registration, reduced for students: 200 EUR

Exhibitors: 1,600 EUR, covering facilities and registration for two persons

Venue: Nationaltheatret konferansenter KS Agenda, Haakon VII's gate 9, in the city centre of Oslo, Norway

Please send registration form and abstracts to nmkl@food.dtu.dk

Abstracts should include title, name of presenter(s) and contact information. Main contents should be max. 150 words.

SPEEDING TOWARDS -OMICS

CHEMICAL AND MICROBIOLOGICAL FOOD ANALYSES

Are you interested in networking, discussing and learning about emerging technologies and techniques with emphasis on recent advances and applications in food analysis?

If so, we welcome you to join the AOAC Europe - NMKL- NordVal International Symposium in Oslo 3-4 June 2019.

In connection with the symposium, NMKL arranges a workshop in MALDI-TOF – microbiology at the Norwegian Veterinary Institute in Oslo on 5 June.

Programme (preliminary)

3 June 2019

11:00 - 12:30 Registration/ Refreshments/Exhibition

SESSION	PLENARY
	Moderators: Hilde Skår Norli, Nina Skall Nielsen
12:30 - 12:45	Welcome, Hilde Skår Norli, Norwegian Veterinary Institute
12:45 - 13:15	When metabolomics enter the service of chemical food safety, Gaud Dervilly-Pinel, LABERCA, France
13:15 - 13:45	Speeding towards –omics Microbiology, Frank Møller Aarestrup, Technical University of Denmark
13:45 - 14:15	Liability / Legislation – implementation of super sensitive methods , EU Commission (tbc)
14:15 - 14:45	Future challenges CRISPR Cas Crispy bacon, Bert Popping, FOCUS, Germany
14:45 - 15:15	Coffee /tea break/ Exhibition

SESSIONS	MICROBIOLOGY	CHEMISTRY
	Moderators: Gro Johannessen, Jonas Ilbäck	Moderators: Barbro Kollander Erik Verdon
15:15 - 15:45	Whole (meta)genome sequencing in a food safety perspective, Camilla Sekse, Norwegian Veterinary Institute	Study example(s) in MS-based metabolomics approaches for detecting exposure to veterinary treatments with medicinal products, Sophie Mompelat, ANSES-Fougeres, France
15:45 - 16:15	16S rRNA sequencing as a tool for process control in food production, Steffen Lyng Jørgensen, Technological Institute, Denmark	Food authenticity testing with next-generation sequencing, Mike Bennett, Thermo Fisher Scientific, Missouri, USA
16:15 - 16:45	Next generation microbiological risk assessment: opportunities of whole genome sequencing (WGS) for foodborne pathogen surveillance, source tracking and risk assessment, Kalliopi Rantsiou, Italy	“Multi-substance screening methods” Wolfgang Radeck, BVL-Berlin, Germany
16:45 - 17:15	Using WGS from food out breaks, Saara Salmenlinna, Evira, Finland	Validation of LC-MS/MS methods for quantification of endobiotics in food matrices: a practical approach , Siegrid De Baere, Ghent University

19:00 Conference dinner

4 June 2019

SESSIONS	MICROBIOLOGY Moderators: Gro Johannessen, Jonas Ilbäck	CHEMISTRY Moderators: Barbro Kollander Erik Verdon
09:00 - 09:30	The new ISO 16140 standards, Paul in't Veld, VWA, the Netherlands	Trends and perspectives in the development of electrochemical biosensors for the fast detection of contaminants in food products, Valérie Gaudin, Anses
09:30 - 10:00	Caught between two stools: Proof of concept of the new ISO 16140-6 for the validation of confirmation methods Daniele Sohier, Bruker (MicroVal)	Consumer analytical devices with a focus on food allergens, Bert Popping, FOCUS, Germany
10:00 - 10:15	Salmonella Velox, Tina Mygind, DNA Diagnostic A/S	Use of portable biosensor devices to assist in food safety decisions earlier in the supply chain, Sandra Salleres, Biolan Microbiosensores
10:15 - 10:30	Genedisc methods for STEC, Eric Samuels, Pall GeneDisc Technologies	Portable devices – university (tbc)
10:30 - 11:00	Coffee /tea break/ Exhibition/Poster	
11:00 - 11:30	Metagenomics Johanne Ahrenfeldt, ALK Abello	Eurachem workshop & discussions Lorens P. Sibbesen, Lab Quality International 1) What is "Fitness for Purpose" of an analytical method? 2) Example 1 on validation of a bioanalytical method 3) Example 2 concerning the challenges of validating bioanalytical methods.
11:30 - 12:00	Metagenomics and bioinformatics Thomas Haverkamp, Norwegian Veterinary Institute	
12:00 - 12:30	Transcriptomic - Shining a light on Listeria, Kristin Sæbø Pettersen, Norwegian Veterinary Institute	
12:30 - 13:45	Lunch/Exhibition/Poster	

SESSION	PLENARY Moderators: Anton Kaufmann (tbc), Dag Grønningen
13:45 - 14:15	Hand held devices – risk assessment in consumer hands, Bert Popping, FOCUS, Germany
14:15 - 14:30	VIVALDI – Mogens Madsen, DTU
14:30 - 14:45	Poster presentations
14:45 - 15:00	
15:00 - 15:30	Poster Award and Closure (summary from the parallel sessions)

WORKSHOP ON DIGITALISATION IN SWEDEN

Workshop (previous): Digitalisation of laboratory activities

A workshop on digitalisation of laboratory activities was held in Sigtuna, Sweden, on 29 August 2018 with almost 70 participants from Europe.



Digitalisation may lead to increased quality assurance and smoother data handling. However, the process to digitalisation is complicated. For it to be a success, it is very important to consider all the different issues related. These identified issues were presented as well as examples of both benefits and pitfalls. Recommendations on how to define needs and goals and handle data integrity were also given and some of the systems available were presented.

The moderators of the workshop: Hans Lindmark and Joachim Engman, National Food Agency, Sweden

The agenda included the following topics:

- Digitalisation of the laboratory – and the role of data integrity (by Ralf Schröder, Waters Sverige AB)
- SMART lab – Managing the end-to-end process in the digitalised future lab (by Thomas Eriksson, PlantVision)
- Digital transformation of the laboratory: today, tomorrow and in the future (by Micheil Lee, Agilent)
- The dream that became a reality (by Torgny Rundlöf and Peter Ajdert, Medical Products Agency)
- Using digital documentation in a GLP-regulated laboratory (by David Pekar, Recipharm OT Chemistry AB)
- Driving customer satisfaction using a digital LEAN approach (by Fredrik Ström and Gabriella Brusquini-Calmervik, Synlab Analytics & Services)

Participants from many different countries



We thank the speakers as well as the sponsors, Waters and PlantVision

NEW NMKL METHOD AND PROCEDURE NO. 10 TRANSLATED

New NMKL method: Sodium (Na). Determination by capillary electrophoresis (CE) in foodstuffs (NMKL method No. 203, 2018)

Capillary electrophoresis (CE) is a simple and suitable method to measure sodium content in foodstuffs. The CE method is quick and needs both very little sample handling and low amount of solvents. It is applicable to various matrices, such as bread, vegetables and meat products. The salt content is calculated from the sodium content with the formula: salt = 2.5 x sodium.

Sodium is extracted from sample and analysed by CE with diode array detector. The minimum content of sodium that can be detected and quantified is 0.03 g/100 g.

According to food standard regulations in most countries, e.g. regulation (EU) No. 1169/2011 of the European Parliament and of the Council, the content of salt must be labelled in certain foodstuffs such as infant food, spreads, bread, soups and meat and fish products. Sodium exists widely in nature as ion and is very water-soluble. When the content of sodium in foods is analysed the sodium content from all sources is determined, i.e. naturally occurring sodium, sodium from added salt as well as sodium from other food additives. The intake of sodium is mainly from sodium chloride (NaCl).

The method is based on the work of Dr. Christina Bäckman (now retired from Evira, FI), professor Dag Ekeberg (NMBU, NO) and of Tiina Ritvanen (project manager).



Tiina Ritvanen is a senior researcher in Finnish Food Safety Authority Evira (from 1.1.2019: Finnish Food Authority/Livsmedelsverket).

She has been working in Chemistry Research Unit since 1999. Her primary research areas are main components of food, specially fatty acid analytics, capillary electrophoresis and sensory science. She has supported NMKL with reports for main components of food since 2007.

NMKL procedure No. 10: Control of microbiological culture media is now available in both English and Norwegian

NMKL procedure No. 10 describes the control programmes and methods which should be applied when preparing microbiological culture media in a quality-assured laboratory. The procedure includes both solid and liquid culture media in the following categories: purchased, ready-to-use culture media; culture media prepared from commercially available dehydrated media; culture media prepared from the individual components.

NMKL'S 72ND ANNUAL MEETING

NMKL's 72nd annual meeting was held in Sigtuna, Sweden, on 26-28 August. Sigtuna is a very picturesque town and dates back to 980. Sigtuna flourished as the royal town, trading city and church centre for the next 250 years. The city was robbed in 1187 and after this the city lost its status. In the latter half of the 20th century, Sigtuna had only 600 inhabitants and was thus Sweden's smallest city.



The chairman of the Swedish national committee welcomed members to Sigtuna.

Chair of NMKL, Franklin Georgsson, opened the meeting by emphasizing that although NMKL is an old and respected organization, the organization's work is modern and consistent with the development of research and analysis in the food industry. This is most evident in the development of NMKL's operations over the years from the development of simpler analytical methods to more complex and instrument-demanding methods. Furthermore, NMKL is actively involved in developing important technical guidelines and offers a number of professional courses that are very important due to the strict quality standards currently in place for laboratories.



One focus point is knowledge-sharing; the participation of experts from Nordic food laboratories, food industry, food authorities and research institutions is very valuable and the axis for the work in NMKL.

We welcomed two new members of NMKL: Anita Forslund from DMRI became a member of Sub 2, DNK, in November 2017. Anita Nordeng Jakobsen from NTNU became a member of Sub 2, NNK, in January 2018.



Many of the experts have been members for many years. This year, we could celebrate the ten-year anniversary of Saija Hallanvui (FI), Satu Hakola (FI) and Heidi Camilla Sagen (NO) as well as the thirtieth anniversary of Sven Qvist (DK). We thanked them for their contributions to the work in NMKL. In addition, a thank you was expressed to the Swedish National Committee for arranging the meeting and the workshop on digitalisation of the laboratory held in connection with the meeting.

NORDVAL INTERNATIONAL CERTIFICATES



Extended NordVal certificate

NordVal International Certificate 032 issued to Bio-Rad for "RAPID'*Salmonella* method, short protocol and RAPID'*Salmonella* method, double enrichment protocol" has been renewed and extended. The method describes detection of *Salmonella* using a chromogenic agar and confirmation of presumptive colonies. An extension study has been performed to ensure compliance with ISO 16140-2 and NordVal Validation Protocol 1.

The extension applies to storage of RAPID'*Salmonella* plates for 72 h at 5°C ± 3°C before reading as well as to the usage of the MALDI Biotyper from Bruker for the confirmation of the typical colonies isolated on RAPID'-*Salmonella* plates or after purification step on a non-selective agar plate.

After having reviewed the results, NordVal International concludes, that "RAPID'*Salmonella* method, short protocol and RAPID'*Salmonella* method, double enrichment protocol" for detecting *Salmonella* provides results equivalent to the results from the reference method when RAPID'*Salmonella* method, short protocol is applied for detection in a broad range of foods, feed and environmental samples (excluding primary production samples) and RAPID'*Salmonella* method, double enrichment protocol" is used for dairy products (excluding raw milk)

Renewed NordVal certificates

Three certificates from HyServe have been renewed. The methods describe ready-to-use selective plates for enumeration of bacteria. Extended studies have been performed to ensure compliance with ISO 16140-2 and NordVal Validation Protocol 1. After having reviewed the results, NordVal International concludes that all three methods provide results equivalent to those from the respective reference methods when applied for detection in a broad range of foods.

The renewed certificates are:

- NordVal International Certificate 034 for "Compact Dry ETB Method for the Enumeration of *Enterobacteriaceae*"
- NordVal International Certificate 035 for "Compact Dry CF Method for the Enumeration of Total Coliforms"
- NordVal International Certificate 036 for "Compact Dry EC Method for the Enumeration of *Escherichia coli* and coliforms"

All NordVal International certificates can be downloaded from the homepage, www.nmkl.org, under "NordVal".

NMKL procedures available

- No 1, 2nd Ed. 2005 Kalibrering och kontroll av vågar på laboratorier. *Calibration and performance checking of laboratory balances*
- No 3, 1996 Kontrollkort och kontrollprov i den interna kvalitetskontrollen på kemiska livsmedelslaboratorier. *Control charts and control materials in internal quality control in food chemical laboratories*
- No 4, 3rd Ed., 2009 Validering av kemiska analysmetoder. *Validation of chemical analytical methods*
- No 5, 2nd Ed. 2003 Skattning och angivande av mätosäkerhet vid kemiska analyser. *Estimation and expression of measurement uncertainty in chemical analysis*
- No 6, 2nd Ed. 2016 Generelle retningslinier for kvalitetssikring af sensoriske laboratorier. *(Yleiset ohjeet aistinvaraisten laboratorioden laadunvarmistukseen)*
- No 7, 1998 Kontrol af UV/VIS spektrofotometre. *Checking of UV/VIS spectrophotometers*
- No 8, 4th Ed. 2008 Måleusikkerhet ved kvantitativ mikrobiologisk undersøkelse av næringsmidler. *Measurement of uncertainty in quantitative microbiological examination of foods*
- No 9, 2nd Ed., 2007 Utvärdering av det systematiska felet med användning av certifierade referensmaterial. *Evaluation of method bias using certified reference materials*
- No 10, 2nd Ed. 2017 Kvalitetskontroll av mikrobiologiske dyrkningsmedier. *Control of microbiological media*
- No 11, 2nd Ed. 2010 Sensorisk bedømmelse av drikkevann. *Procedure for sensory analysis of drinking water*
Juomaveden aistinvarainen arviointi.
- No 12, 2nd Ed., 2014 Håndbok i prøvetaking av næringsmidler. *Guide on sampling for analysis of foods*
- No 13, 2003 Volumetrisk kontrol. *Volumetric control*
- No 14, 2004 SENSVAL: Retningslinjer for egenkontroll i sensoriske analyselaboratorier. *SENSVAL: Guidelines for internal control in sensory analysis laboratories*
- No 16, 2005 (2007) Sensorisk Kvalitetskontroll. *Sensory quality control*. Aistinvarainen laadunvalvonta
- No 17, 2006 Kravspesifikasjoner ved kjøp av analysetjenester. *Guidelines for requirement specifications for food analyses*.
- No 18, 2006 Bruk av referansmaterialer, referansstammer og kontrollkort i mikrobiologiske næringsmiddellaboratorier. *The use of reference materials, reference strains and control charts in a food microbiological laboratory*
- No 19, 2007 Riktlinjer for sensorisk bedømming av livsmedelsförpackningar. *Guideline for sensorial Analysis of Food containers/packages*
- No 20, 2007 Evaluering av resultater fra kvalitative metoder. *Evaluation of results from qualitative methods*
- No 21, 2nd Ed. 2016 *Guide for sensory analysis of fish and shellfish* (Available in English and Finnish)
- No 22, 2008 Anvisningar för värdering av immunokemiska testkit för livsmedelsanalys. *Considerations regarding evaluation of immunochemical test kits for food analysis*
- No 23, 2008 Handledning i kvalitetssäkring för mikrobiologiska laboratorier. *Guide on quality assurance in microbiological laboratories*
- No 24, 2010 Veiledning i kvalitetssikring for kemiske levnedsmiddellaboratorier. *Guidelines for quality assurance for food chemical laboratories* (also available in Finnish)
- No 25, 2014 Utbyte (Recovery) vid kemiska analytiska mätningar. *Recovery information in analytical measurement*
- No 26, 2nd Ed., 2015 Kontroll och intern kalibrering av termometrar och temperaturkontroll på mikrobiologiska laboratorier. *Control and internal calibration of thermometers and temperature control on microbiological laboratories*
- No 27, 2013 Måleusikkerhet i sensoriske analyser. *Measurement uncertainty in sensory analysis*
- No 28, 2014 *Guidelines for reporting sensory data*
- No 29, 2014 *Guidelines for sensory analysis of meat and meat products* (English and Finnish)
- No 30, 2014 *Statistical Evaluation of Results from Quantitative Microbiological Methods* (English)
- No 31, 2015 *Guidelines for sensory evaluation of bread*
- No. 32, 2017 *Verification of microbiological methods* (in English)