

KEYNOTE SPEAKERS



David Zilber,
Noma Copenhagen

At the Interface of Science, Art, and Dinner

David Zilber, Director of Fermentation, Noma Copenhagen

David Zilber is a chef, photographer and author who originally hails from Toronto, Canada. Though he's been a chef, cooking in fine dining restaurants for the past 15 years, his lifelong passion for the sciences led him to his current position as the Director of Fermentation at Noma in Copenhagen. Voted the World's Best Restaurant 4 times, by Restaurant Magazine, Noma employs fermentation at the highest level to create rich and complex layers of flavor for its unique brand of cuisine. In the lab, David and team butt science's lens up against centuries old traditions to create new flavors and sensations for the restaurant, serving as a bespoke r&d facility. The scope of the work in the lab extends well beyond fermentation, into other avenues of food science; from texture to preservation and aromas, often employing equipment more often found in biology faculties than kitchens. He is also the co-author of New York Times bestseller, *The Noma Guide to Fermentation*, along with Noma's chef and owner, Rene Redzepi.

Flavor and aroma are two sides of the same coin. The neurogastronomy of scent and taste are intractably intertwined, affecting every aspect of the experience of dining, whether that's in a park on a picnic, in your home kitchen with your children or seated at the table of one of the world's best restaurants. In the never-ending attempt to push the boundaries of food further, Noma's R&D team embarked on a research trip to the south of France to learn how to apply the technology of supercritical fluid extraction to the foreign and largely underexplored flavors of Scandinavia and the North Atlantic. Through a partnership with Waters, Noma was able to adopt this technology and employ it themselves in the restaurant. David Zilber, Director of Noma's Fermentation Lab, will speak about the challenges and rewards of employing technologies across traditional industry lines, applying extracts on the menu at noma, and the interface of art, technology and science within the world of food.



Enrico Cappellini
University of
Copenhagen

Proteins from the Past: Proteomics Applied to Art, Archeology and Paleontology

Enrico Cappellini, Associate Professor in Paleoproteomics,
Department of Biology at the University of Copenhagen.

Ancient proteins are found almost everywhere in cultural heritage objects produced using materials of biological origin. For example, proteins have been utilized for clothing (wool, silk and leather), artistic expression (tempera is protein-bound paint), tool assemblage (animal glues) and even for writing support (parchment), before the advent of paper. High resolution tandem mass spectrometry can be used to sequence ancient protein residues and to quantify the molecular damage they accumulated. This information is useful to reconstruct the techniques used in the past by artists and craftsmen and to plan the most adequate strategies to best preserve the precious objects stored in museum collections. Furthermore, ancient proteins survive longer than ancient DNA, pushing the scope of molecular-based evolutionary reconstructions further back in time.

Enrico Cappellini uses high-resolution mass spectrometry to sequence ancient protein residues recovered from paleontological and cultural heritage materials. He is actively involved in methodological development to push reliable recovery of ancient proteins further back in time, to minimise starting sample quantities and to improve data analysis and interpretation. Although the adoption of experimental methods to investigate cultural heritage and natural history materials has experienced a steady expansion in the last decades, the application of high-throughput sequencing methods to ancient biomolecules, both DNA and proteins, represents the single strategy that provided the most innovative results. The new possibilities disclosed by these technologies imply that virtually any ancient biological material, as well as any cultural heritage object produced from or incl. biomaterials, should also be considered the support of a biochemical text we are now able to read confidently.

ESAC 2019

Executive Seminars in Analytical Chemistry

Thursday, April 11, 2019 - Scandic Copenhagen



AmCham Denmark's Analytical Instruments Committee is pleased to announce the 19th annual Executive Seminars in Analytical Chemistry: ESAC 2019.

ESAC brings together manufacturers, leading scientific researchers, progressive vendors and cutting-edge technology within the field of analytical instruments.

Experiences, methods, results and the latest developments will be presented within four core areas: Life Science / Biotech, Pharmaceutical, Food / Environmental and Clinical / Forensic applications.

ANALYTICAL INSTRUMENTS COMMITTEE COMPANIES



GUEST EXHIBITORS





Event Coordinator:
AmCham Denmark
Dag Hammarskjölds Allé 13
2100 Copenhagen

09:00 - 09:30	Registration & Coffee
09:35 - 09:45	Introduction & Welcome by Stephen Brugger, AmCham Denmark
09:45 - 10:20	At the Interface of Science, Art and Dinner, David Zilber, Director of Fermentation, Noma Copenhagen

	Life Science/Biotech			Pharmaceutical			Food/Environmental			Clinical/Forensic		
	Title	Presented by	Technique		Presented by	Technique		Presented by	Technique		Presented by	Technique
10:30 - 11:00	Routine analysis of fermentation samples for the quantification of vitamin B and compounds related to the natural synthesis of vitamin B.	Linda Ahonen, Biosynthia	LC-MS-MS	To be announced			Supercritical fluid chromatography coupled to mass spectrometry for the analysis of oxygenated polycyclic aromatic compounds in unconventional oils.	Josephine S. Lübeck, Copenhagen University Environmental Chemistry & Physics	SFC-MS	Mass spectrometry-based plasma proteomics used for discovery and validation of cardiovascular biomarkers.	Hans Christian Beck, Odense University Hospital	LC-MS-MS

11:00 - 11:30	Coffee Break
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11:30 - 12:00	Metabolomics analysis of plasma, urine and feces from a human intervention study with Hi-res MS.	Morten Danielson, MS-Omics	LC-MS-MS	Successful implementation of high-throughput analysis of small molecules by UHPLC-QqQ in Biotech startup.	Diana Jæger, River Stone Biotech	LC-MS-MS	Reproducible, sustainable and highly sensitive microLC-MS/MS method for analyses of polar pesticides (glyphosate, aminomethylphosphonic acid, N-acetyl glyphosate and N-acetyl aminomethylphosphonic acid) in multiple biological matrices.	Natalja Nørskov, Aarhus University	Micro-LC-MS-MS	Analysis of amino acids in physiological fluids for diagnosis and therapeutic monitoring of inborn errors of metabolism.	Mette Christensen, Metabolic Laboratory, Rigshospitalet.	UPLC-MS
12:05 - 12:35	Identification and characterization of a novel proteolytic event associated with arthritis.	Carsten Scavenius, Aarhus University	LC-ToF MS	High Resolution Cyclic Ion Mobility Mass Spectrometry in Biopharma.	Kim Haselmann, Novo Nordisk	Cyclic-IMS	To be announced			Advantages of HRAM in Unknowns Screening and Benefits of LE-EI in Identification Workflow	Tomi Hämäläinen, Agilent EMEA Center of Excellence	GC-HRAM-MSMS Low Energy EI

12:35 - 13:35	Lunch Break
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13:40 - 14:15	Proteins from the Past: Proteomics Applied to Art, Archaeology and Paleontology, Enrico Cappellini, Associate Professor in Paleoproteomics, Department of Biology, University of Copenhagen
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	Life Science/Biotech			Pharmaceutical			Food/Environmental			Clinical/Forensic		
	Title	Presented by	Technique		Presented by	Technique		Presented by	Technique		Presented by	Technique
14:25 - 14:55	Proteomics/Metabolomics/Lipidomics using Trapped Ion Mobility Spectrometry with Parallel Accumulation Serial Fragmentation (TIMS-PASEF)	Karolina Sulek, Novo Nordisk Foundation Center for Protein Research, University of Copenhagen	LC-timsTOF-MS	Development and troubleshooting of 2-dimensional IC with in-line sample preparation for analysis of complex sample matrices.	Jakob Gnistrup, Novo Nordisk	2D-IC	Comprehensive analysis of water contaminants utilizing accurate mass MS/MS Libraries.	Mads Lundgren Petersen & Peter Abrahamsson, Agilent	GC-HRAM-MSMS and LC-HRAM-MSMS	Analysis of Endogenous Steroids in a Clinical Environment Using LC-MS/MS.	Tony Karlsborn, Skåne University Hospital	LC-MS-MS
15:00 - 15:30	Confident and easy monitoring of biopharmaceuticals critical quality attributes by LC-MS.	Lucy Fernandes, Waters	UPLC-ToF-MS	Detection of a reduced monoclonal antibody (mAb) at low ng/ml concentration in biological samples by CESI-MS.	Steve Lock, Sciex	CESI-MS	Implementing Ion-Chromatography –Mass spectrometry workflows for the direct analysis of polar pesticides and other anionic contaminants in food and environmental samples.	Richard Fussell, Thermo Fischer Scientific	IC-MS	Comprehensive approach for screening drugs of abuse, new psychoactive substances and therapeutic drugs in post-mortem and clinical setting	Anna Pelander, National Institute for Health and Welfare, Forensic Toxicology Unit, Helsinki	UHPLC-QTOF-MS

15:30 - 16:00	Coffee Break, Wrap up & prize drawing
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