



2024 ISLFD International Conference

May 6th-10th, 2024

Turin, Italy

Student Contest in Freeze Drying

Monday, May 6th, 2024

Politecnico di Torino

14:00-18:00

PoliTo's Student Contest in Freeze Drying

The 2nd PoliTo Student Contest on Drying and Freeze-Drying is an international competition organized for the second time by Politecnico di Torino, as a side-event of the ISLFD-24 Conference. It is addressed to M.Sc. and Ph.D. students and aims to stimulate innovative ideas for applications in the area of freeze-drying for pharmaceuticals, sustainable food, energy, and environmental processes.

Workshop in Freeze Drying

Tuesday, May 7th, 2024

Unione Industriali, Piemonte room

9:00-17:00

Steve **Nail** & Jos **Corver**

ISLFD 2024 Conference

Wednesday, May 8th, 2024

Unione Industriali, Piemonte room

8:15-8:30

Welcome

Kevin **Tebrinke**, President, *ISLFD*

8:30-9:10

Keynote, tBD

Steve **Nail**

SESSION I. FUNDAMENTALS

9:10-9:35

Insights into thermal interactions during freezing of pharmaceuticals in vials

Roberto **Pisano** & Fiora **Artusio**. *Politecnico di Torino*

9:35-10:00

Behold the freezing step - insights from fluid dynamics with implications on process control and product quality

Miguel **Rodrigues**. *Universidade de Lisboa*

10:00-10:25

Case studies in the use of through-vial impedance spectroscopy (TVIS) in the determination of critical process parameters of a lyophilization process

Geoff **Smith**. *De Montfort University*

10:25-10:40

Panel discussion

10:40-11:10

Break & Poster session



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<u>SESSION II. FORMULATION</u>	
11:10-11:35	<i>Formulation and process optimisation for lyophilised ChAdOx1 vaccines</i> Paul Dalby . University College London
11:35-12:00	<i>Formulation and stability of lyophilized mRNA lipid nanoparticles</i> Elizabeth Topp . Purdue University
12:00-12:25	<i>Advanced physical characterization and stability of lyophiles: protein/protein interaction, water clusters, and solid-state acidity</i> Evgenyi Shalaev . AbbVie
12:25-12:50	<i>Predicting solid formulation stability by measuring its fundamental relaxation processes</i> Marcus Cicerone . Georgia Tech
12:50-13:10	<i>Panel discussion</i>
13:10-14:10	LUNCH
14:10-14:50	<i>Keynote. 35 years of using and studying freeze drying: what did we learn?</i> Gerhard Winter . Ludwig-Maximilians-Universität München
<u>SESSION III. EMERGING TECHNOLOGIES</u>	
14:50-15:15	<i>From late-night leftovers to lyophilization: quasi-random field (qRF) microwave heating for pharmaceutical freeze-drying</i> Andrew Strongrich . Purdue University
15:15-15:40	<i>GMP-ready continuous and controlled freeze-drying</i> Thomas De Beer & Jos Corver . Ghent University & RheaVita
15:40-16:05	<i>Spray freeze-drying of pharmaceuticals: Modeling applications & Challenges</i> Sebastiao Israel Borges . Pfizer
16:05-16:20	<i>Panel discussion</i>
16:20-16:50	Break & Poster session
16:50-17:30	Roundtable discussion



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Thursday, May 9th, 2024

Unione Industriali, Piemonte room

8:30-9:10	<i>Keynote on emerging technologies & regulatory aspects</i> Maxwell Korang-Yeboah, FDA
<u>SESSION IV. PROCESS ANALYTICAL TECHNOLOGIES (I)</u>	
9:10-9:35	<i>New insights into the stabilization of proteins In lyophilisate</i> Wolfgang Friess . Ludwig-Maximilians-Universität München
9:35-10:00	<i>Using PAT technologies to optimise lyophilization of biologics</i> Paul Matejtschuk . MHRA
10:00-10:30	Break & Poster session
<u>SESSION IV. PROCESS ANALYTICAL TECHNOLOGIES (II)</u>	
10:30-10:55	<i>The use of Design of Experiments in Lyo Formulation Development</i> Kevin Ward . Biopharma
10:55-11:20	<i>Vapour flow monitoring in lyophilization. The new PAT tool to develop & validate lyophilisation process under QbD approach</i> Jaume Vallet Xicoy , COMSER
11:20-11:45	<i>USP <922> Water Activity: Where Is the Water?</i> <i>Applications enabled by rapid nondestructive moisture analysis of freeze-dried product</i> Derek Duncan , Lighthouse Instruments
11:45-12:00	<i>Panel discussion</i>
12:00-12:40	<i>Challenges in lyophilisation: competitions of ideas. [Awards ceremony]</i> Antonello Barresi . Politecnico
12:40-13:30	LUNCH
13:30-14:30	Spotlight Poster Presentations Bakul Bhatnagar . Pfizer
14:30-16:00	Poster session & Sponsor exhibition
17:00-...	Gala dinner



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Friday, May 10th, 2024

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8:30-9:10 *Keynote. Freeze-drying and cultural heritage: from the key role to salvage water-damaged archival and library materials, and archaeological artifacts, to the creation of artworks*

Davide Fissore. Politecnico di Torino

SESSION V. APPLICATIONS

9:10-9:35 *The challenge of probiotics preservation: strategies and tools to identify stress mechanisms and sites of cell damage induced by dehydration processes*

Fernanda **Fonseca.** Université Paris-Saclay

9:35-10:00 *Freeze drying of a Microbiome Ecosystem Therapies*

Sophie Declomesnil. Maat Pharma

10:00-10:25 *Learnings from implementation of production scale controlled nucleation Technology*

Arbab **Ganguly.** Amgen

10:25-10:40 *Panel discussion*

10:40-11:00 Break & Poster session

SESSION VI. INDUSTRIAL SESSION

11:00-11:25 *Use of annealing to optimize freeze-drying cycle of vaccines*

Bernadette **Scutellà.** GSK Vaccines

11:25-11:50 ---

tBd. Sanofi

11:50-12:15 *Building Manufacturing Intelligence into Freeze-Drying*

Mark Richard **Smith.** Pfizer

12:15-12:40 *smart URS and minimized testing and qualification process for Lyos*

Maik **Guttzeit.** Bayer

12:40-12:50 *Panel discussion*

12:50-13:40 LUNCH

SESSION VI. EQUIPMENT

13:40-14:00 ---

tBd. Tofflon

14:00-14:20 *A digital transformation journey for freeze-drying*

Giacomo **Guidi.** IMA Life

14:20-14:40 ---

tBd. Millrock Technology

14:40-14:55 *Panel discussion*

SESSION VII. YOUNG SCIENTISTS



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14:55-15:50	<i>The three best poster abstracts</i> Fiora Artusio . <i>Politecnico di Torino</i>
15:50-16:20	<i>Closing and remarks</i> Kevin Tebrinke , President, ISLFD
16:20-...	<i>Social event</i>