Program

Part One: Current science, skin permeation, and enhancement approaches

Day 1
Topic 1: Skin – Fundamentals
9h00 - Skin structure, function, and permeation
10h00 - Passive skin permeation enhancement
11h00 - Electrical and Physical Methods of Skin Penetration Enhancement
12h00h - Lunch Break
14h00 - Tutorial - Guidelines for preparation of scientific projects

Day 2
9h00 - Clinical Applications of Microneedles
Topic 2: *In vitro* skin permeation methodology
10h00 - Skin Permeation: Spectroscopic Methods
11h00 - Skin Permeation Assessment
12h00h - Lunch Break
14h00 - Skin Permeation Assessment in Man: In Vitro – In Vivo Correlation
15h00 – Cytotoxicity assessment: 2D and 3D in vitro models

Part Two: Topical and Transdermal Product Development

Day 3
Topic 3: Formulation and manufacturing technologies
9h00 - Safety-by-design considerations for novel excipients and new formulations
10h00 - From concept to approval: regulatory aspects of drug development for dermal products
11h00 – Quality control on topical and transdermal products
12h00h - Lunch Break
14h00 - Does size matter? Nanotechnology in skin delivery
15h00 - Quiz - Do I love my skin barrier? How to repair. How to maintain

Day 4
Topic 4: Pre-clinical and Clinical evaluation
9h00 - New frontiers in skin targeted therapies
10h00 - Sensitivity and irritation testing
11h00 - Clinical trials
12h00h - Lunch Break
14h00 - Current and Future Trends: Skin Diseases and Treatment
15h00 - Topical siRNA delivery systems
16h00 - Tutorial - In vivo models for skin diseases

Day 5
Topic 5: New product development: understanding the market opportunity
9h00 - Design of hydrogels for skin 3D bioprinting,
10h00 - Phytotherapy in cosmetics and therapeutics
11h00 – New developments in sunscreens
12h00h – Bacterial extracellular vesicles in skin care

13h00 - Lunch Break
15h00 - Tutorial - Scientific projects pitch presentation