How to reach the NH and Villa Archirafi hotels:

From Falcone-Borsellino airport you can reach the main train station of the city (Palermo Centrale) by train (train station in the airport) to Palermo Centrale. The ride takes about 1h, and tickets can be purchased on www.trenitalia.com.
Alternatively, you can take the Prestia & Comandè shuttle bus from the airport to Palermo Centrale (the bus stop is outside the airport, about 50 meters to the right). Tickets are available at the airport or on https://prestiaweb.smartticket.it/home/

Both the hotels are at walking distance from Palermo Centrale station:

How to reach the venue:

Take bus 109 from the Palermo Centrale station and get off at the stop "Basile-Artale", from where you can access the Campus and reach Building 16.

Or take metro line A from Palermo Centrale station to "Palazzo Reale-Orleans" stop. From there, you can enter the Campus and reach Building 16 by walking or by free shuttle bus inside the Campus to the "Biologia" stop, which is directly in front of Building 16.

The international **Summer School on Advanced Biotechnology** is a collaborative effort between the Master Degree in Biomolecular and Industrial Biotechnology of the University of Palermo and Biotechnet Switzerland, an association of Swiss Universities of Applied Sciences focused on biotechnology.
The XIX edition of the School will take place in Palermo, at the Department of Biological, Chemical and Pharmaceutical Sciences and Technologies (STeBiCeF), with the sponsorship of:

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XIX Summer School on Advanced Biotechnology

September 1 - 4, 2025

Mutolo auditorium
Viale delle Scienze, Building 16
University of Palermo
ITALY

Organizing Committee

Vincenzo Cavalieri – UNIPA
Simona Campora – UNIPA
Salvatore Feo – UNIPA
Giuseppe Gallo – UNIPA
Giulio Ghersi – UNIPA
Sonia Thomson – Biotechnet

Monday 1

08:00 - 08:45 **Registration**
08:45 – 09:00 **Welcome and Opening remarks**

09:0 -10:30 **Organs-on-chip & 3D Models**
Chair: Christoph Griesbeck

Laura Suter-Dick, FHNW
Organ on a Chip for multitissue experiments
Riccardo Barrile, UniCincinnati
From Cells to Systems: Building Human Organs-on-Chips for Drug Discovery
Giovanni Zito, ISMETT
From 2D to 3D models: new tools to study liver diseases

10:30 **Coffee break**

11:00 12:30 **Advanced therapies**
Chair: Eric Kubler

Jack Rohrer, ZHAW
Development of a CAR-NK killing assay
Vincenzo Cavalieri, UniPA
Cell-free therapy with the secretome of stem cells
Tereza Mullerova, FHNW
Twin-Column Continuous Chromatography for Viral Vector Gene Therapies

12: 30 **Lunch**

14:00 – 15:00 **Insights from Industry**
Chair: Georg Lipps

Wolfgang Minas, Biotech Concepts
Biotechnology – going scale-up: Early on considerations and pitfalls
Gabriele Steiner, Spiegltec
to be defined

15:00 **Coffee break**

15:30 – 17:00 **Synthetic Biology & Biobanking**
Chair: Simon Crelier

Wolfgang Merkle, ZHAW
Insights and Progress from a Swiss Micro Biogas Research Plant
Maike Otto, FHNW
Future Innovators Wanted: The Journey of the FHNW iGEM Team 2025
Gottfried Dasen, ZHAW
Biobanking for Biotech

18:00 **Welcome party**

Tuesday 2

09:00 – 10:30 **Protein design & analytical biotechnology**
Chair: Jack Rohrer

Georg Lipps, FHNW
A _____ to Protein Language Models and Protein Design
Dominik Meinel, FHNW
Harnessing focal molography for affinity and concentration measurements of proteins in complex matrices
Simon Crelier, HES-SO
Enzymes and organic solvents: old tricks and recent developments

10:30 **Coffee break**

11:00 – 12:30 **Nanomedicine & cancer therapy**
Chair: Laura Suter-Dick

Oya Tagit, FHNW
Translating cancer immunotherapy nanomedicines from lab to clinic
Simona Campora, UniPA
3D tumor models for cancer research
Patrick Shahgaldian, FHNW
Functional Nanomedicine Through Enzyme Supramolecular Engineering

12:30 **Lunch**

14:00 -15:00 **Insights from Industry**
Chair: Vincenzo Cavalieri

Eric Kubler, STERA Scientific AG
Modern Swine Diagnostics: A Dual Focus on Efficiency and Well-being
Lauriane Pillet, Lonza
Bioconjugates: from industrial manufacturing at Lonza to therapeutic applications

15:00 **Coffee break**

15:30 – 17:00 **Invisible threats and beneficial microbes**
Chair: Giuseppe Gallo

Marco Rupprich, FHNW
Are PFAS be the new asbestos, and what can we learn from the past?
Christoph Borner, UniFreiburg
Herpes Simplex Virus (HSV) - how does it survive in the body of so many humans?
Valeria Villanova, UniPA
to be defined

Wednesday 3

09:00 – 10:30 **Bioprocesses**
Chair: Nicolas Huguenin-Dezot

Harald Schobel, MCI
SpotLIGHT on Biotechnology: Using light as a tool in bioprocesses
Alexandre Kuhn, HES-SO
Towards automated development of bacterial strains for industrial bioproduction
Caspar Demuth, ZHAW
Advanced sensor technology to enhance bioprocess understanding

10:30 **Coffee break**

11:00 – 12:30 **Molecular & applied biotechnology**
Chair: Gottfried Dasen

Gaspare La Rocca, UniPA
microRNA-mediated gene regulation in physiology and disease
Nicolas Huguenin-Dezot, ETH
Towards developing a plasmid-based orthogonal replication system E. coli: Findings and challenges
Giuseppe Gallo, UniPA
Streptomycete extracellular membrane vesicles affect growth and differentiation of either bacterial strains and tomato plants

12:30 **Lunch**

14:00 15:00 **Insights from Industry**
Chair: Alexandre Kuhn

Maurizio Bettiga, Italbiotec
Dead ideas walking: rescuing them from the valley of death

14:30 – 15:30 **Student Working Session in groups**

15:30 **Coffee break**

16:00 – 17:00 **Student Working Session in groups**

Thursday 4

9:00 – 10:15 **Student Session I**
Chair: Patrick Shahgaldian

10:15 **Coffee break**

10:45 – 12:00 **Student Session II**
Chair: Patrick Shahgaldian

12:00 – 12:30 **Prize Ceremony & Concluding Remarks**