



The **European Workshop on Biotechnology: Biobased Materials**, held from 20 to 23 January 2025 at Campus Energypolis in Sion, Switzerland, was a very successful event. Organized by the EFB Biobased Materials Division in collaboration with the School of Engineering from HES-SO Valais-Wallis and HEIA-FR, the workshop brought together attendees from Austria, Israel, Italy, Serbia, Spain, and Switzerland to explore the latest advancements in biobased materials.

Participants engaged in a dynamic program covering topics from the world of biopolymers to cutting-edge innovations in enzymatic degradation and synthetic biology. The workshop featured a combination of expert-led lectures, hands-on laboratory activities, and collaborative discussions, fostering knowledge exchange and networking among participants.



Scientific Programme

(subject to changes)

20 January 2025 (Monday) Minisymposium

8:00	9:00	Registration	Floor RS, Building i19
Introduction into biobased materials			
			Speaker
9:00	9:10	Introduction into HES-SO	Sergio Schmid
9:10	9:30	EFB Workshop Biobased Materials: A few basic explanations	Manfred Zinn
9:30	9:50	The wonderful world of biopolymers	Manfred Zinn
9:50	10:20	Safe and sustainable by design polyesters: integrating structural modeling, ecotoxicity and biodegradation studies for fast screening	Lucia Gardossi
10:20	10:40	Coffee break	
10:40	11:25	Enzymatic degradation of plastics	Georg Gübitz
11:25	11:55	Insights into bacterial cellulose: From properties to application trends	Cristina Campano
11:55	13:00	Lunch break	
Introduction into bioprocesses			
13:00	13:30	High-throughput fed-batch cultures: Advancing bioprocess efficiency & innovation	Frédéric Forini
13:30	14:00	Scale-up of biopolymer synthesis from shake flask to bioreactor: What needs to be considered?	Karin Philipp
14:00	14:30	Real-time monitoring and model predictive control for fed-batch fermentations	Basil Imoberdorf
14:30	14:50	Coffee break	
14:50	15:20	Reprogramming microbes: Synthetic biology innovations in bioplastic production	Maria Tsampika Manoli
15:20	16:50	Presentations by participants	
16:50	17:30	Apéro and networking	

21 January 2025 (Tuesday) Laboratory

Tailor-made biomaterials

8:30 8:40 Program of the day

Manfred
Zinn

Screening Melanie Morschett	Bioreactors Karin Philipp	PHA biosynthesis Julien Pott	Biodegradation Georg Gübitz
Group 1	Group 4	Group 3	Group 2
Group 2	Group 1	Group 4	Group 3

10:10 10:40 *Coffee break*

Group 3	Group 2	Group 1	Group 4
Group 4	Group 3	Group 2	Group 1

12:10 13:10 *Lunch*

Microalgae Alexander Kettner / Julien Pott	Tailormade PHA Lucas Zumtaugwald / M. Zinn
Group 1 & 2	Group 3 & 4
Group 3 & 4	Group 1 & 2

14:40 15:15 *Coffee break*

15:15 16:00 Challenges and solutions in processing of composites containing biosourced fibres and matrices

Véronique
Marchaud

16:00 16:45 How sustainable are biotechnologies?

Tim Börner

16:45 18:30 Workshop case studies

18:30 22:00 *Symposium Raclette (additional costs may apply)*

22 January 2025 (Wednesday) Minisymposium and Laboratory

Processing of biopolymers			
9:00	9:15	Program of the day	Manfred Zinn
9:15	10:00	Keratin	Roger Marti
10:00	10:30	3D printing	Daniel Werner
10:30	11:00	<i>Coffee break</i>	
11:00	11:30	Valorization of Lignin	Philip Scholten
11:30	12:15	Analysis of growth studies	Frédéric Forini / Melanie Morschett
12:15	13:15	<i>Lunch break</i>	
13:15	14:00	Biodegradation of polymers	Georg Gübitz/Lukas
14:00	14:45	Analysis and control of enzymatic degradation for the surface modification of biopolymers	Nils Hanik
14:45	15:30	Keratin processing (Group A), Downstream processing of PHA and their properties (Group B)	Roger Marti, Véronique Amstutz
15:30	16:00	<i>Coffee break</i>	
16:00	16:45	Keratin processing (Group B), Downstream processing of PHA and their properties (Group A)	Roger Marti, Véronique Amstutz
16:45	18:00	Workshop case studies	

23 January 2025 (Thursday) Minisymposium

Life cycle assessment and case studies			
8:30	8:40	Program of the day	Manfred Zinn
8:40	9:20	Sustainability assessment to guide innovations – PLA and wood based polymers	Claudia Som
9:20	10:00	Bioplastics – Overview, classification and trends	Daniel Schwendemann
10:00	10:30	<i>Coffee break</i>	
10:30	11:45	Workshop case studies	
11:45	12:00	Wrap-up of Workshop	Manfred Zinn

Optional: Afternoon sledging or Sion visit (*additional costs may apply*)