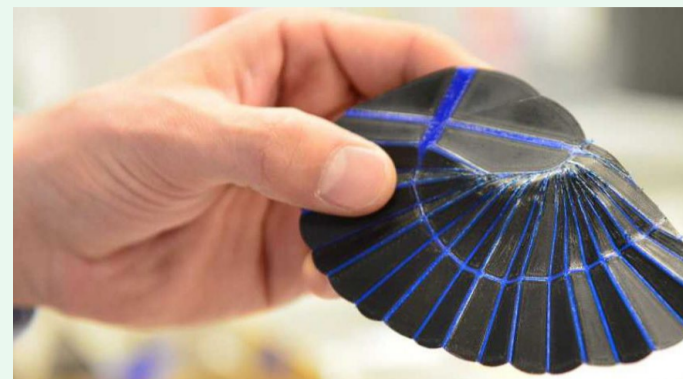


MaP
Doctoral School
sustainable & bioinspired materials



1 Sustainable & Bioinspired Materials

Driving sustainability with living and bioinspired materials

- Living, biological, and bioinspired materials will play a pivotal role in the future bio-economy by addressing resource scarcity and enabling the design of sustainable and efficient materials.
- The field of "Sustainable & Bioinspired Materials" provides in-depth knowledge on the processing, structure, and properties of these materials, which are vital for a more sustainable future.
- Core topics range from understanding biological systems and their building blocks, to exploring hierarchical wood structures and bioprocesses.
- Other important areas include biochemical engineering, active and adaptive bioinspired materials, and life cycle assessment to ensure sustainable material development and usage.

2 Organisation and Focus

Track co-chairs

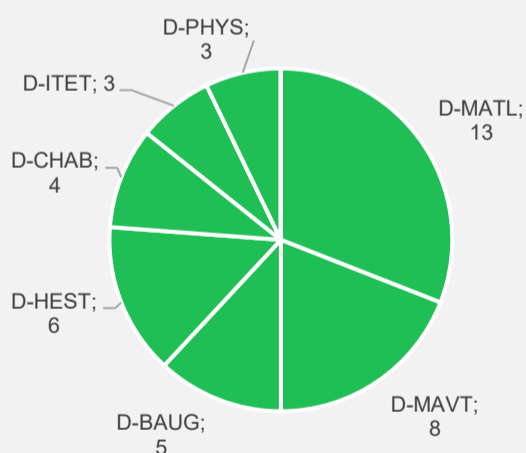


Prof. Dr. Ingo Burgert
Wood Materials Science,
D-BAUG



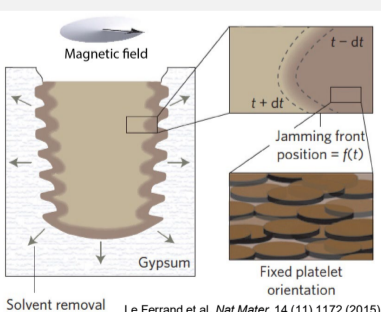
Prof. Dr. André Studart
Complex Materials,
D-MATL

Doctoral students in track

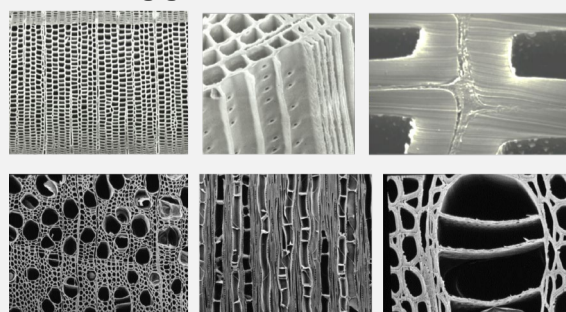


How can we use natural design principles to make sustainable functional materials?

1) Bottom-up assembly: "Growing" from scratch



2) Top-down functionalization Utilizing grown structure



3 Events and Courses

Current and past events

- Sustainable & Bioinspired Materials Seminar Series
- MaP Distinguished Lecture Series "Advanced Engineering with Living Materials"
- ALIVE Symposium

→ www.doctoral-school.ethz.ch/events

Number	Title	Type	ECTS	Hours	Lecturers
101-0527-10L	Materials and Constructions	W	4 credits	2G	G. Habert, to be announced
101-0637-10L	Wood Structure and Function	W	3 credits	2G	I. Burgert, G. von Arx
102-0317-00L	Advanced Environmental Assessments Master students in Environmental Engineering choosing module Ecological Systems Design are not allowed to enrol 102-0317-00 Advanced Environmental Assessments (3KP) as already included in 102-0307-01 Advanced Environmental, Social and Economic Assessments (3KP).	W	3 credits	2G	S. Pfister
151-0509-00L	Acoustics in Fluid Media: From Robotics to Additive Manufacturing	W	4 credits	3G	D. Ahmed
151-0524-00L	Continuum Mechanics I	W	4 credits	2V + 1U	A. E. Ehret
227-0393-10L	Bioelectronics and Biosensors	W	6 credits	2V + 2U	J. Vörös, M. F. Yanik
327-1101-00L	Biomaterialization This course is offered for the last time.	W	2 credits	2V	K.-H. Ernst
327-1221-00L	Biological and Bio-Inspired Materials	W	6 credits	6G	A. R. Studart, I. Burgert, R. Nicolosi Libanori, G. Panzarasa, M. Steinacher
376-0021-00L	Materials and Mechanics in Medicine	W	4 credits	3G	M. Zenobi-Wong, J. G. Snedeker

4 Impressions



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