Artificial apple fruit sensor device to measure core and surface temperatures throughout the entire supply chain.

BIOMIMETIC MEMBRANES AND TEXTILES

Aiming to develop of materials and systems for the protection and optimal performance of the human body.

Research Areas

- Soft materials;
- Food cold chain;
- Multiphysics simulations (heat and mass transfer, mechanics, fluid dynamics);
- Electrospinning of nano-fibrous functionalized membranes;
- Flexible, smart wearables;
- Transdermal drug delivery.

Regions

Canada, Europe, South Africa, South America, and Switzerland.

Partners

Agroscope; EPFL; St. Gallen Cantonal Hospital; University Hospital of Zurich; University of Stellenbosch; KU Leuven; Dalhousie University; Citrus Research International; and University of Haute-Alsace.

Contact

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Contribution to the WFSC

We aim to develop materials and systems for the protection of the human body and its health. This includes understanding and steering the coupled hygrothermal-mechanical-biochemical transport processes in soft materials and tissues, as well as their interaction with the environment. For foods, the lab applies this expertise to develop new packaging concepts for fresh fruits and vegetables, alternative cold-chain protocols, and improved food drying processes. The lab also develops membranes for functionalized delivery of active compounds and sensors. Such strategies to enhance postharvest life and quality of food support the WFSC in developing more resource-efficient, energy-smart food value chains.

Prof. René Rossi