Infant food formula, nutraceuticals, fortified food for special diets, even future food products from algae and insects – all of these things depend on producing powders in sterile form. The CAP-SAliPharm project intends to show that microbial decontamination can be achieved with emerging cold atmospheric plasma (CAP) technology. “The project combines engineering knowledge in CAP technology with expertise in food science,” explains project supervisor Prof. Dr Michael Beyrer, food engineer at HES-SO’s Institute of Life Technologies.

Pooling knowledge

CAP-SAliPharm is the first Marie Skłodowska-Curie Individual Fellowship (MSCA-IF) ever awarded to a University of Applied Sciences. Project fellow Dr Maria Consuelo Pina Pérez says the funding is a great opportunity to increase knowledge in novel processing technologies, as it provides collaboration with experts in the plasma field. In fact, Beyrer says, collaboration was key to the project’s winning proposal. “Our first proposal failed. For resubmission, we had everyone on board: supervisor, fellow, university, industry and Euresearch – each adding value to the proposal.”

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In addition to various departments at HES-SO, CAP-SAliPharm also enjoys support from the Swiss Plasma Center of the Federal Institute of Technology Lausanne (EPFL) and the Nestlé Research Centre, both in nearby Lausanne. Beyrer sees input from industry as another key to success. “If we stayed in the lab, we wouldn’t be connected to the real environment. Nestlé gives us advice on how to solve problems in a way that fits consumer and industry needs, as well as how to adapt (the solution) to change international regulations. This will make the transfer to industry and scale-up very effective.”

A plus for innovation

“Our project could have a significant impact on the position of the European Union in CAP technology,” adds Beyrer. “And Swiss innovation will also benefit. The University wants to create a competence centre on non-thermal treatments of food, including plasma technology, but also on pulsed electric fields and high pressure technology.”
‘If we stayed in the lab, we wouldn’t be connected to the real environment.’

Prof. Dr Michael Beyrer
Institute of Life Technologies,
HES-SO

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