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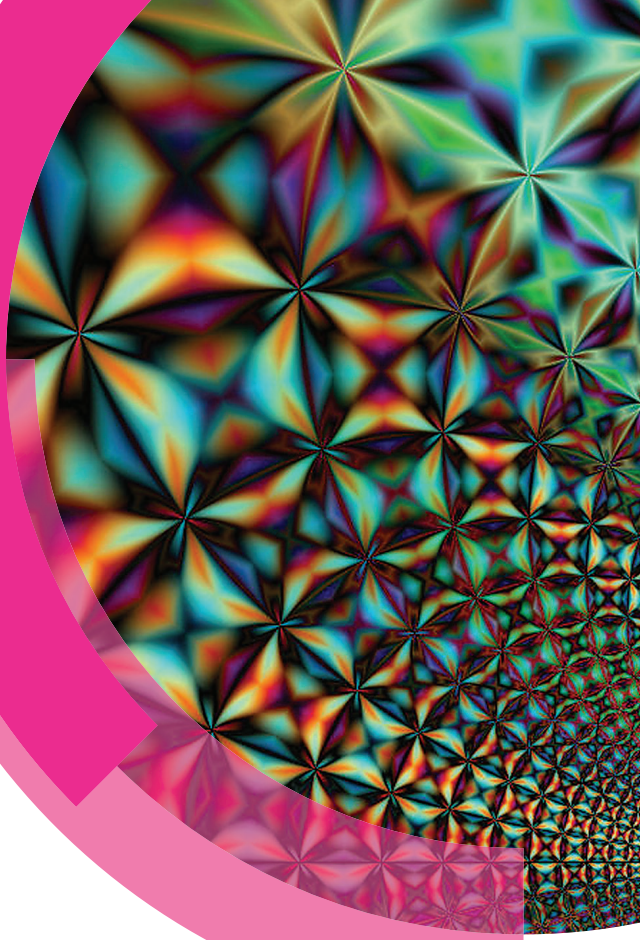

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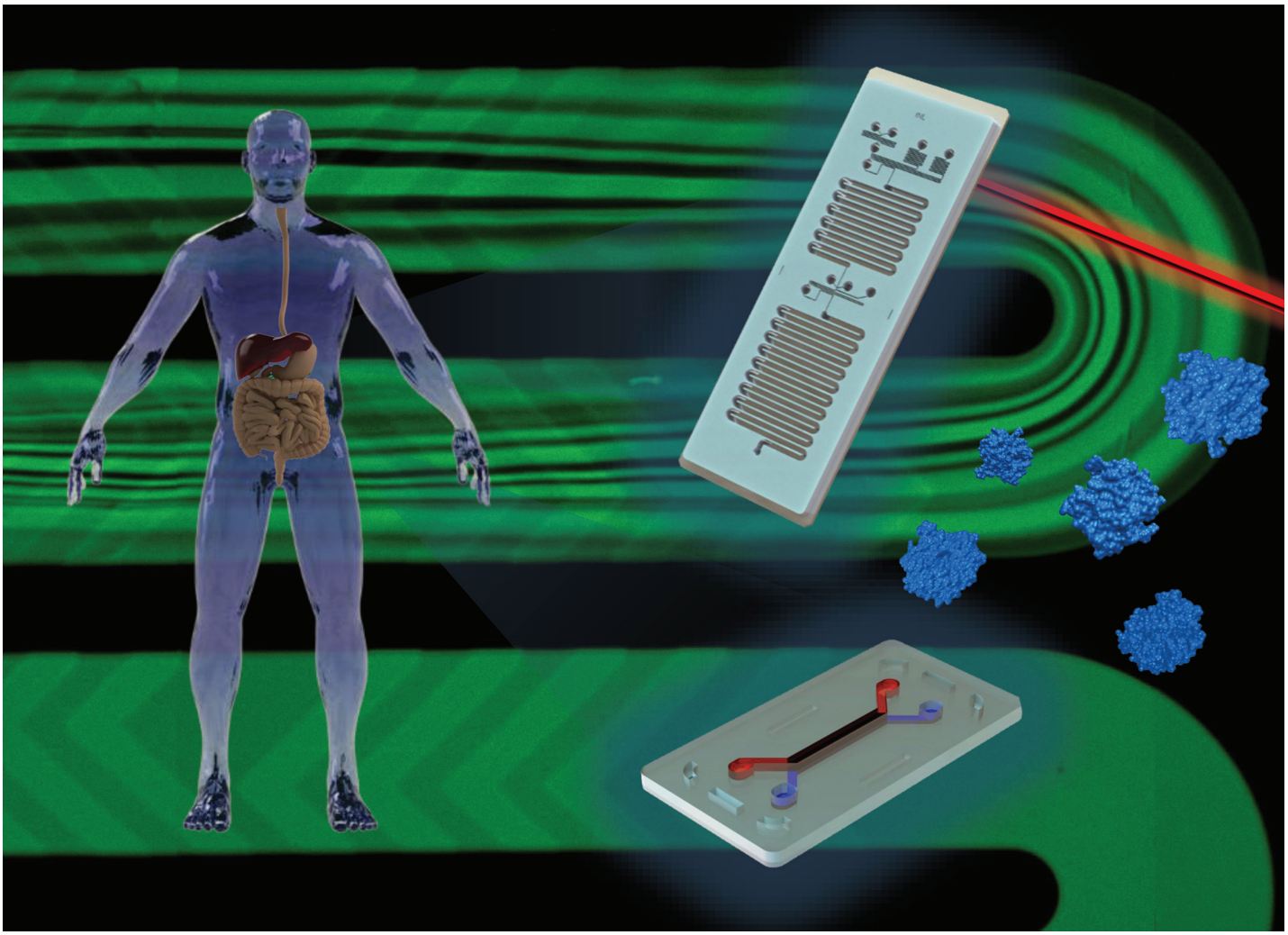

Showcasing research from Professor Gonçalves and colleagues from the Food Processing & Nutrition Group at the International Iberian Nanotechnology Laboratory in Portugal.

From mouth to gut: microfluidic *in vitro* simulation of human gastro-intestinal digestion and intestinal permeability

We present a novel microfluidic platform combining a Digestion-Chip and a Gut-Chip. The setup is able to simulate digestion and test digested samples in the cell-based Gut-Chip to evaluate intestinal permeability without compromising cell viability, while using unprecedentedly low dilutions of sample digesta. The Gut-Chip showed apparent permeability in line to that found using *ex vivo* models. Our miniaturised platform offers great potential for *in vitro* screening of new drugs and/or food supplements, with the capacity to accelerate drug development and mitigate the need of animal models.

Image designed and illustrated by Miguel Xavier.

As featured in:

See Miguel Xavier *et al.*, *Analyst*, 2023, **148**, 3193.

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