

#ICMoTalks

## Emilio Alarcon

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University of Ottawa*

March 10<sup>th</sup> - 10:30h

📍 Assembly Hall - ICMol



## Abstract

### ***Can short peptides replace naturally occurring polymers for repairing soft tissues and organs?***

The development of soft materials for therapeutic purposes, particularly in repairing and regenerating soft tissues and organs, has been driven by the use of naturally occurring polymers like collagen. Nevertheless, the precise design and engineering of these materials remain elusive and cumbersome in terms of clinical translation. In this presentation, I will discuss recent progress achieved by my team in the development of peptide-based materials for soft tissue and organ repair. Furthermore, we will discuss future challenges and opportunities to reimagine and redefine biomaterials, with a particular emphasis on augmenting their regenerative capabilities.

## Biography

Dr. Emilio I. Alarcón, a Full Professor in the Department of Biochemistry, Microbiology and Immunology at the University of Ottawa, holds the University Research Chair in Peptides for Tissue and Organ Repair. He is also a Principal Investigator at the University of Ottawa Heart Institute and the Assistant Dean Student Experience and Program Development Graduate and Postdoctoral Studies at the Faculty of Medicine. Dr. Alarcón's research focuses on developing peptide-based, light-activated, and biomimetic materials for regenerative medicine. Dr. Alarcón leads the Clinical Science Translational Medicine Graduate Program and INTBIOTECH-CREATE. His program consistently generates impactful, clinically oriented innovations with potential therapeutic applications.

Dr. Alarcón's internationally recognized research program focuses on cardiac and corneal tissue repair, injectable collagen and peptide-based materials, and on-the-spot biofabrication technologies. He's published over 110 peer-reviewed papers in top journals like ACS Nano, Advanced Functional Materials, Nature Communications, and Science. His work has been cited over 6,000 times and several patents.

He secured over \$10 million in research funding as Principal or Co Investigator. His contributions earned him the Top 25 Canadian Immigrant Award (2025), Early Career Investigator Award (Canadian Biomaterials Society, 2024), and membership in the Royal Society of Canada's College of New Scholars (2024).