

Fall 2021 Amgen Seminar Series in Chemical Engineering

November 4th, 2021

Cherry Auditorium, Kirk Hall , 12:45 – 1:45 PM

Zoom Simulcast: <https://uri-edu.zoom.us/j/95080747056>



“Controlling the Timing of Therapeutic Delivery to Enhance Regenerative Medicine Strategies ”

Dr. Cathal Kearney
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Engineering tools to understand and mimic natural cue timing motivates the central research themes in the Kearney Lab: the precise temporal control of local therapeutic delivery; the effect of therapeutic delivery timing on efficacy; and integrating these platforms within biomaterials. This talk will cover several technologies developed in the Lab and their testing and application. By developing technologies to deliver therapeutics at specific time-points, we can probe the role of timing in repair processes and aim to ultimately drive coordination of biological processes. Designing novel tissue engineering scaffolds and integrating these delivery systems in them is a key parallel focus in the lab. Recent work on a novel rejuvenated matrix developed using induced pluripotent stem cell technology will also be described.

Bio:

Dr. Cathal Kearney is currently an Assistant Professor in the Department of Biomedical Engineering at UMass Amherst. He received his Ph.D. from Massachusetts Institute of Technology’s Harvard/MIT Division of Health Sciences and Technology programme and completed his postdoctoral training at Harvard University. Prior to joining UMass Amherst, Dr. Kearney was a Senior Lecturer in the Department of Anatomy and Regenerative Medicine in the Royal College of Surgeons in Ireland. His research team focuses on engineering tools to understand and mimic natural biological cue timing to enhance tissue repair and regeneration. They apply these technologies to deliver therapeutics at specific time-points and to probe the role of timing in repair processes. They also think about timing in terms of age, and conduct research to understand the effects of aging on tissue, cells, and repair processes.

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