Mechanobiology in Epithelial 3D Tissue Constructs

ME3T LECTURES

GRK 2415

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Chemically modified mRNA beyond COVID-19 - Can we translate mRNA therapeutics to regenerative medicine?

Thursday, February 23, 2023
9:00 am

On site:
Seminarraum B1.72
DWI – Leibniz-Institut für Interaktive Materialien
Forckenbeckstraße 50, 52074 Aachen

Zoom:
https://rwth.zoom.us/j/99189331346?pwd=ck5jZ0pFM3V4bVN4dGYzVDVnR1JEdz09
Meeting-ID: 991 8933 1346
Kenncode: 504063

Host: Rudolf Leube
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Abstract: mRNA is a new class of drug that can be used to express a therapeutic protein and, in contrast to DNA, is safer and inexpensive. Among its advantages, mRNA will immediately begin to express its encoded protein in the cell cytoplasm. The protein will be expressed for a period of time, after which the RNA is degraded. There is no risk of genetic damage, one of the concerns with DNA. Nevertheless, mRNA application in tissue regeneration and regenerative medicine remains limited. In this case, mRNA must overcome its main hurdles: immunogenicity, lack of stability, and intracellular delivery. Research has been done to overcome these limitations, and the future of mRNA seems promising for tissue repair. This talk will address questions including: What are the opportunities for mRNA to improve outcomes in musculoskeletal tissue repair? What are the key factors and challenges to expediting this technology to patient treatment (beyond COVID-19 vaccination)?