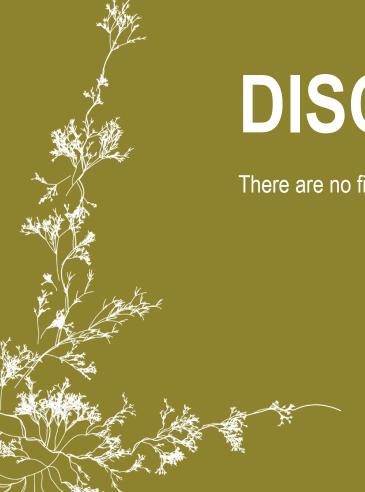
THE TECHMED EVENT

Pioneering Perspectives: Innovation and Technology in Early-Stage Clinical Drug Research

Islam Khalil, University of Twente

Robots for More Effective Medication Delivery

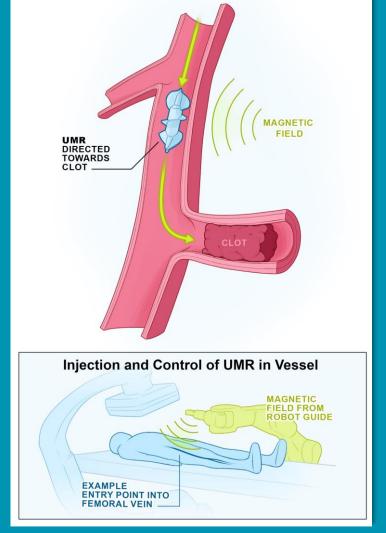
Islam S. M. Khalil – University of Twente



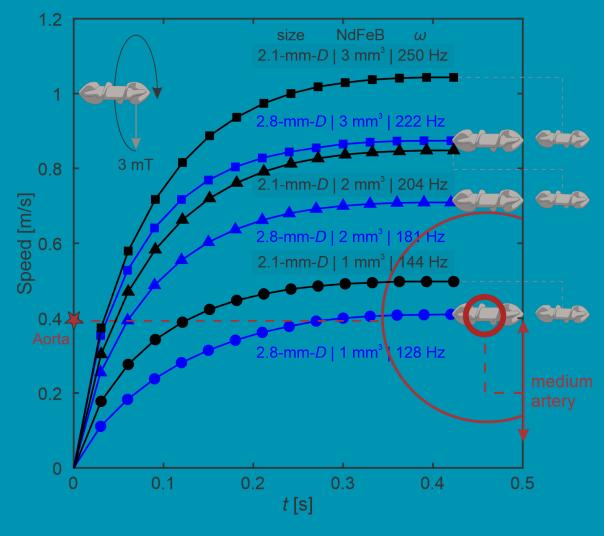
DISCLOSURE SLIDE

There are no financial interests

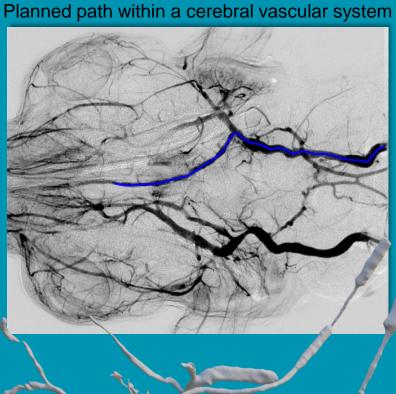
UNTETHERED MICRO/MILLIROBOTS



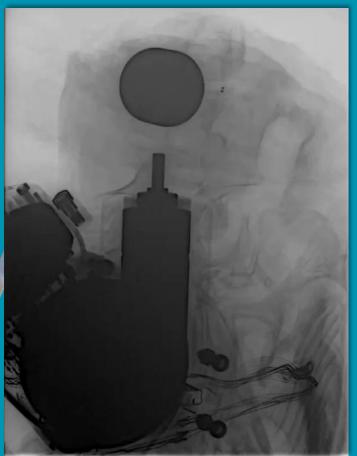




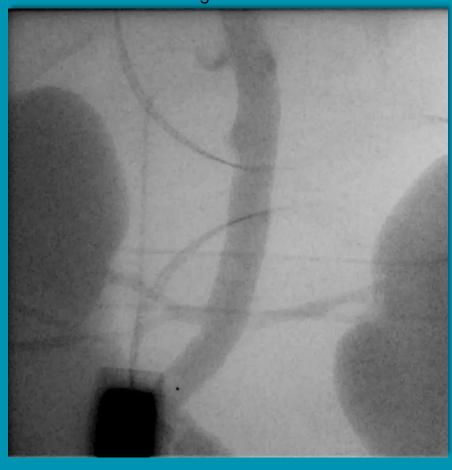
UNTETHERED MICRO/MILLIROBOTS



ECA-ICA bifurcation — rCCA



Motion through abdominal aorta



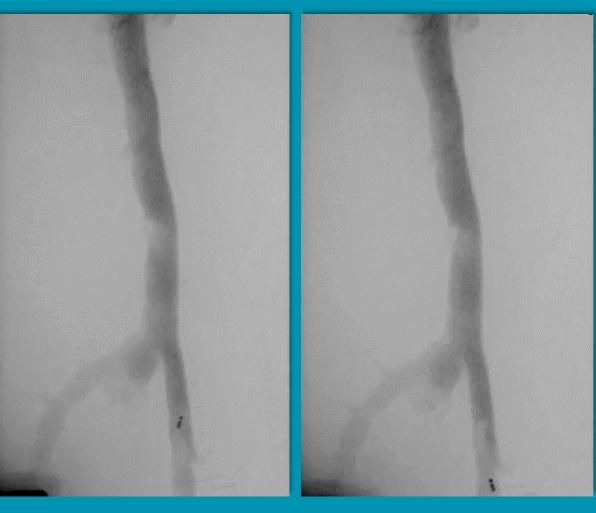
Ligtenberg, LJ.W. et al. Ex vivo validation of magnetically actuated intravascular untethered robots in a clinical setting. Commun Eng 3, 68 (2024). De Boer, M et al. Wireless mechanical and hybrid thrombus fragmentation of ex vivo endovascular thrombosis model in the lilac artery. Appl Phys Rev (2024).

DEMONSTRATED CAPABILITIES

Blood flow is restored under 5 minutes

292 s 0 s 8 s 5 s 15 s 20 s

Blood flow is restored under 5 minutes



THE TECHMED EVENT

BRIDGING PAST AND FUTURE: FIVE YEARS OF MEDTECH ADVANCEMENTS AND BEYOND