

Multifunctional bioresorbable optical fiber for cancer theranostic application

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PROJECT CONTEXT



This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 860185

Objectives of the project

- **Combining diverse biomedical functions into a single probe**

Light delivery

Monitoring of physiological signals

Drug delivery

Electrical signal transport

- **Specialty optical fibers and materials**

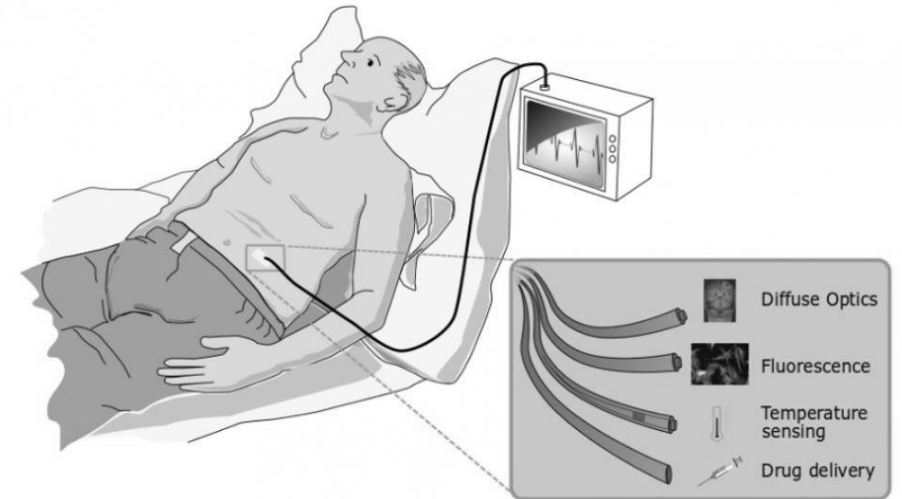
Optical fibers based on custom made calcium phosphate glass

Bioresorbability

- **Impact**

Implantable device that naturally resorb and undergo clearance from the body after a controlled operational lifetime.

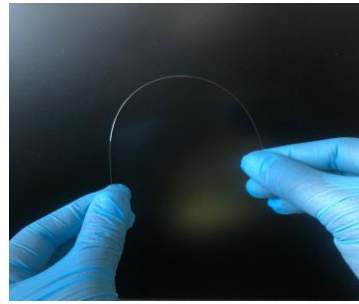
Ability to provide continuous information over clinically relevant timescale



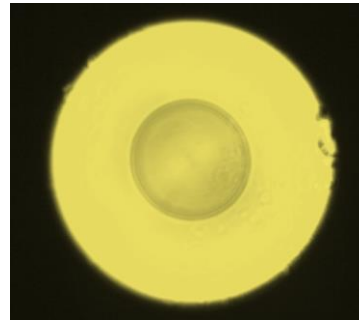
Research activities



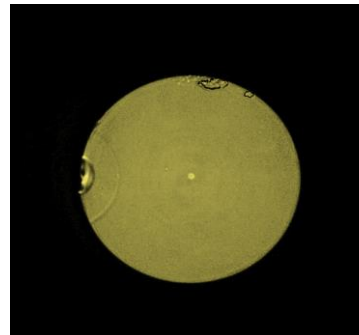
Drawing tower facility at LINKS



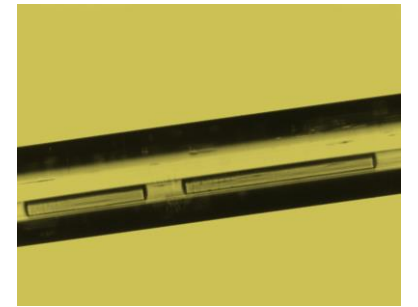
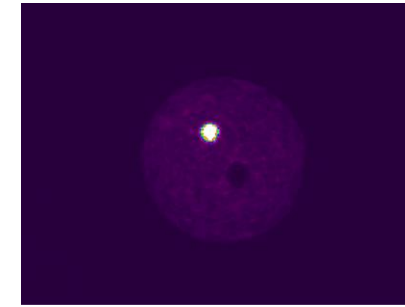
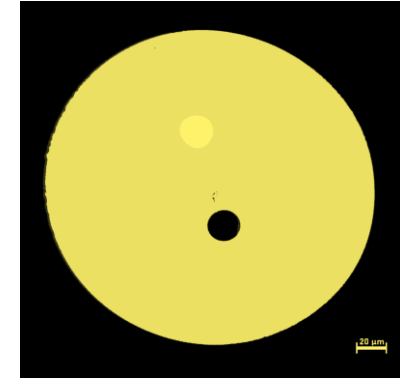
A section of fabricated bioresorbable fiber



cross section of Multi mode fiber



cross section of Single mode fiber



Fabricated fiber for simultaneous light and drug delivery



FC/PC connectorized fibers

Secondments



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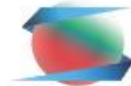
Inhouse
Manufactured
bioresorbable
fibers



ICFO^R



Diffuse correlation spectroscopy
For blood flow quantification.



SPECTRACURE

Testing the compatibility for Photo
Dynamic Therapy (PDT) application
with hybrid phantom.



Benchmarking of manufactured fibers
for spectroscopy

Thank you