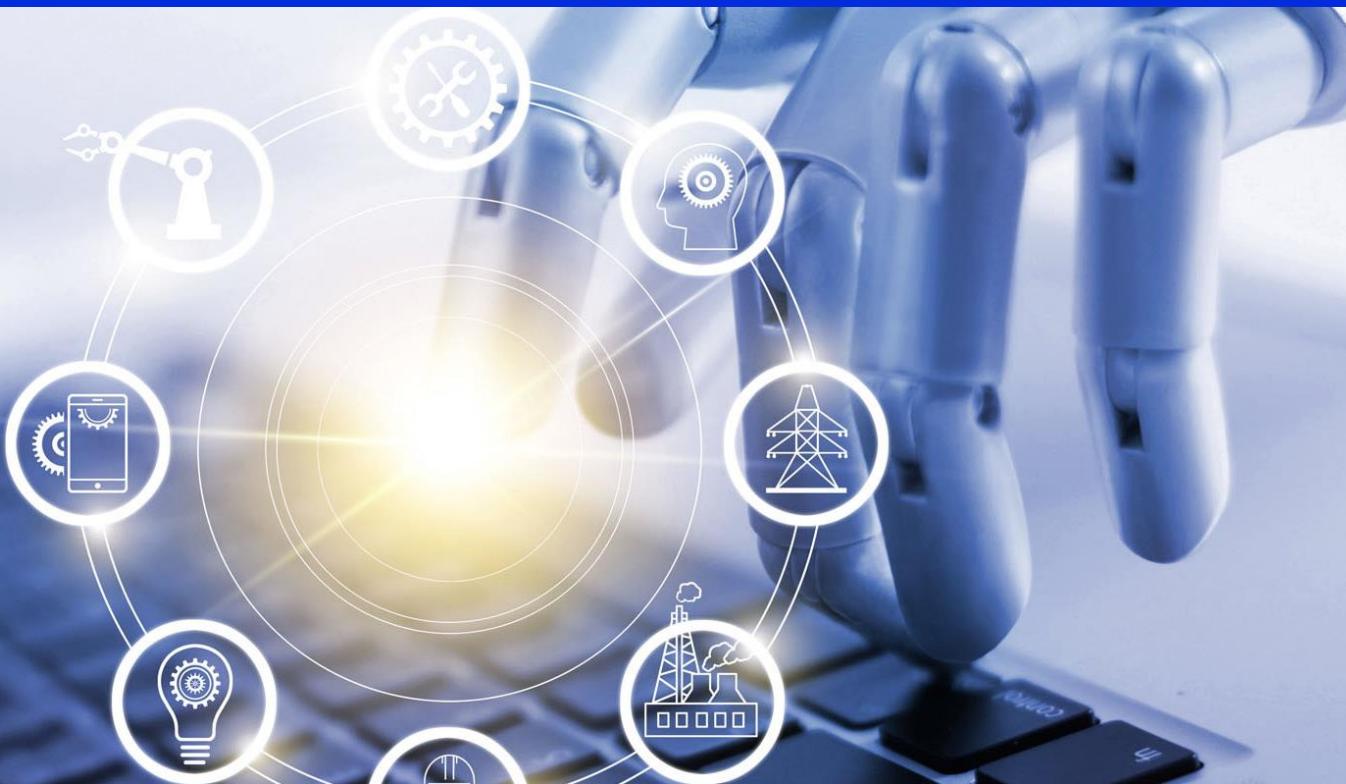


Functional Surfaces and Biosensors

Micro y Nanofabricacion

Tekniker | 13/11/2020



- Clean room and support facilities
- Topography-based functional surfaces
- Biosensors/Sensors supported by micro and nanofabrication

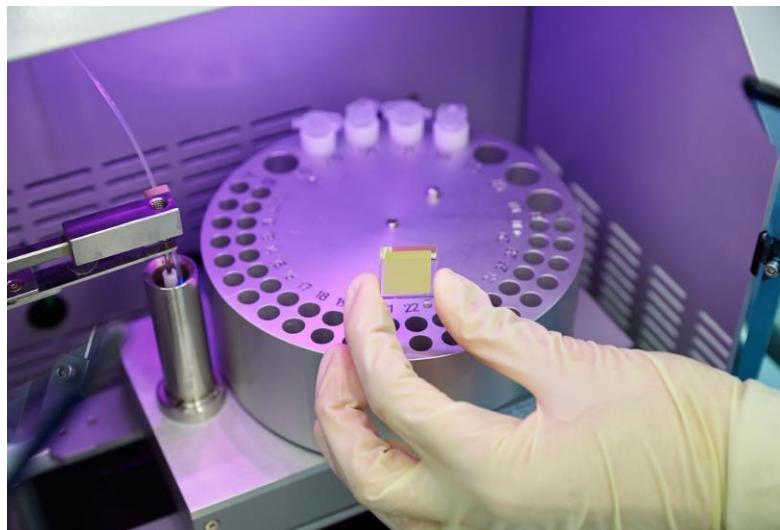
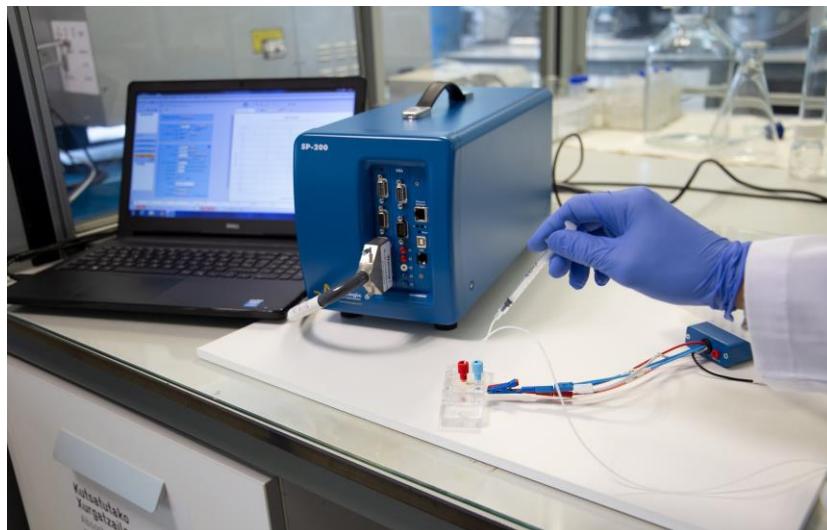
Clean room and support facilities

- UV-Lithography mask aligner (EVG620)
- Wet chemical benches and spin-coating (Ramgraber)
- Batch to batch nanoimprinting.Thermal (Jenoptik) and UV/Thermal imprinting (Desktop tool, NIL Technology)
- Roll-to-roll nanoimprinting. Thermal and UV imprinting (PTMTEC)
- DRIE/RIE (Oxford Plasma, Plasmalab 80+)
- Electroplating (M-O-T)
- Bonding (EVG501)
- Thin Film deposition in vacuum (Sputtering and e-beam, AJA Int.)
- Wafer Dicing (Disco)

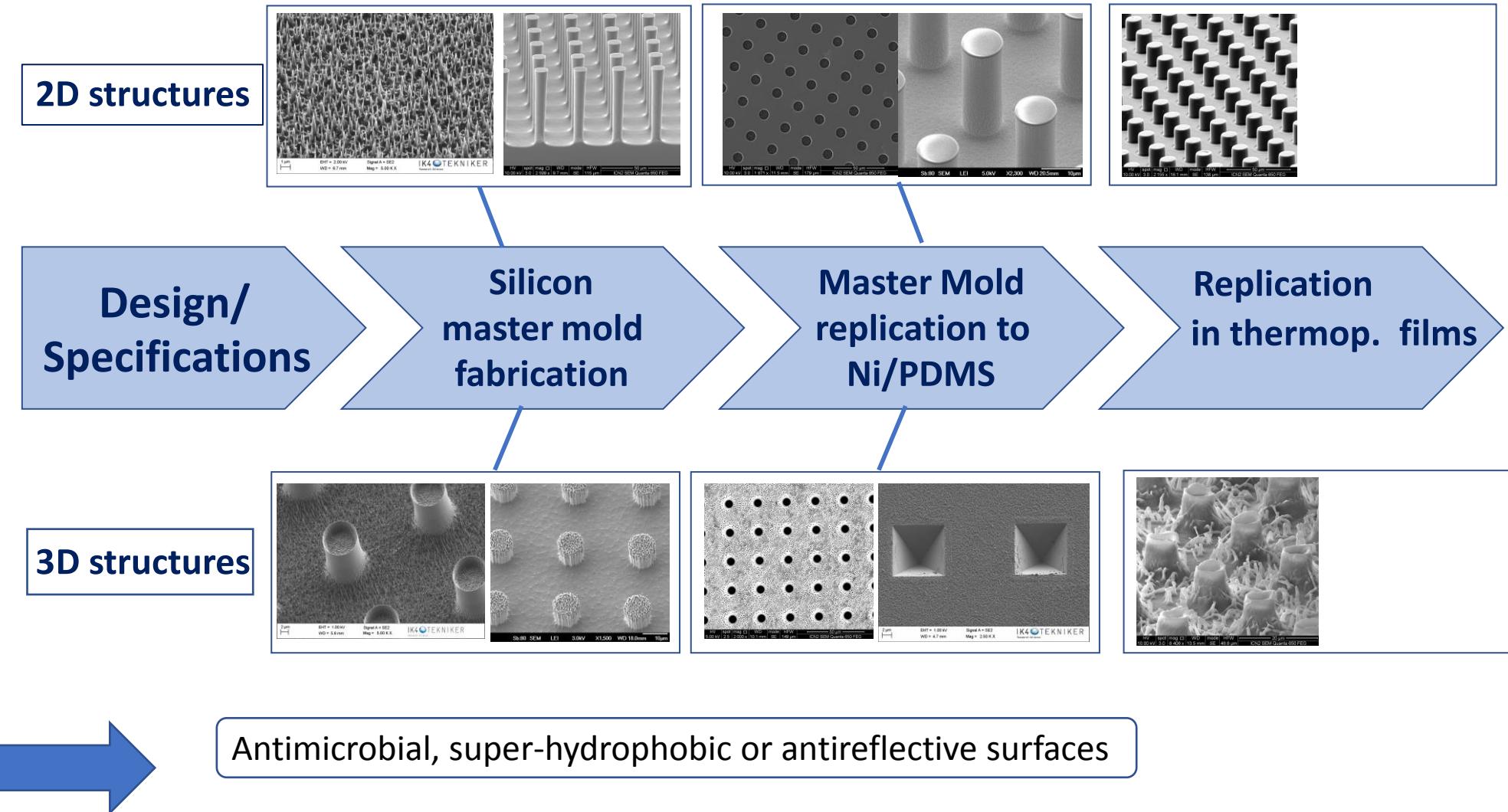


- Fluorescence microscopy (Zeiss), 3D Optical profiler (Veeco), Confocal Microscopy (Sensofar), Mechanical profiler, AFM (NT-MDT), FE-SEM (Zeiss)
- Impedance Analyzers (Autolab), Surface Plasmon Resonance tool (Sierra-Sensors, Biacore)
- Microfluidic lab

Clean room and support facilities

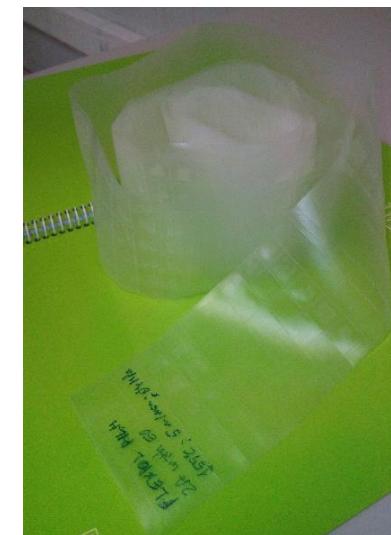
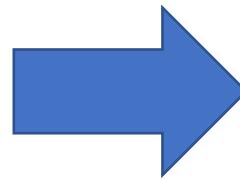
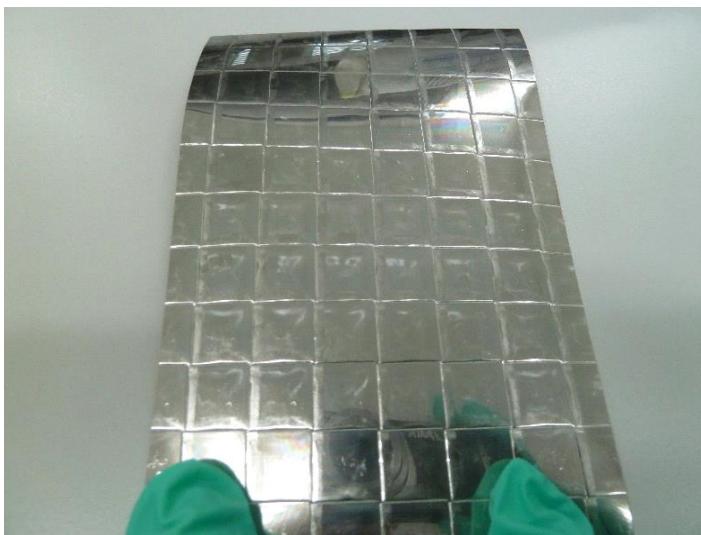
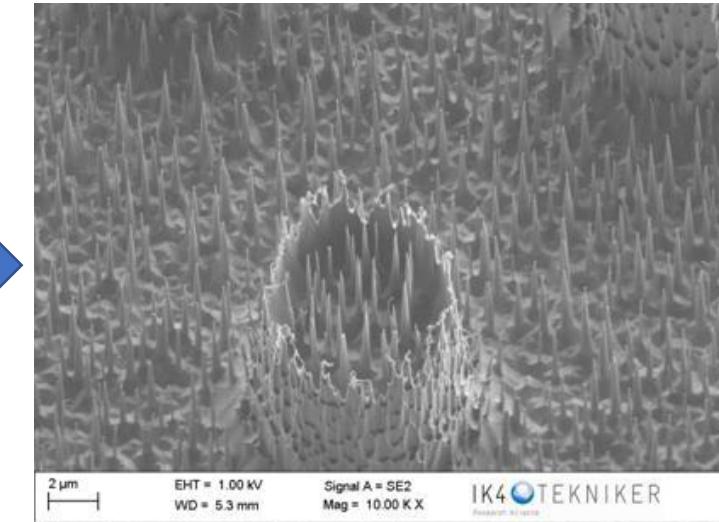
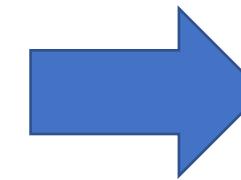
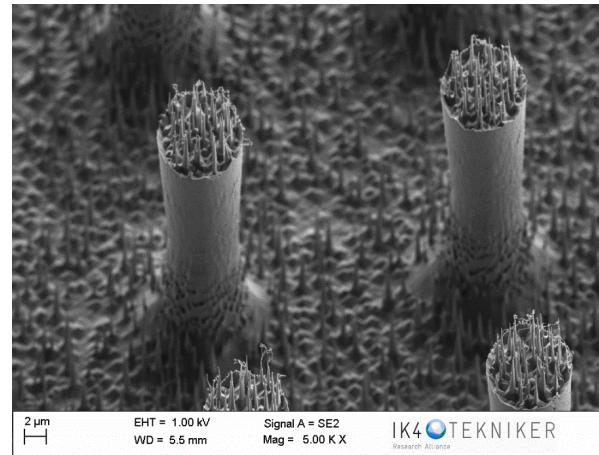
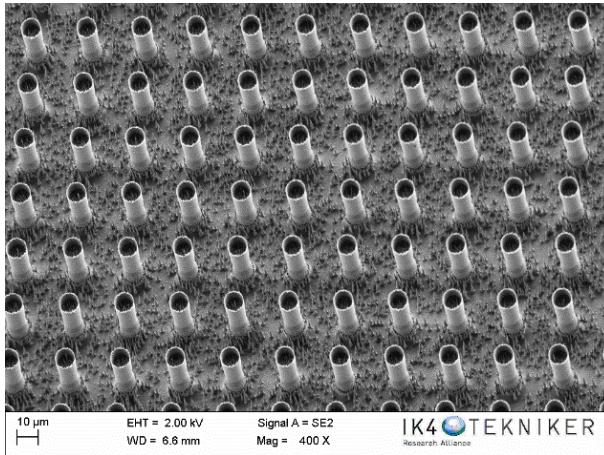


Topography-based functional surfaces



Topography-based functional surfaces

Antimicrobial Surfaces



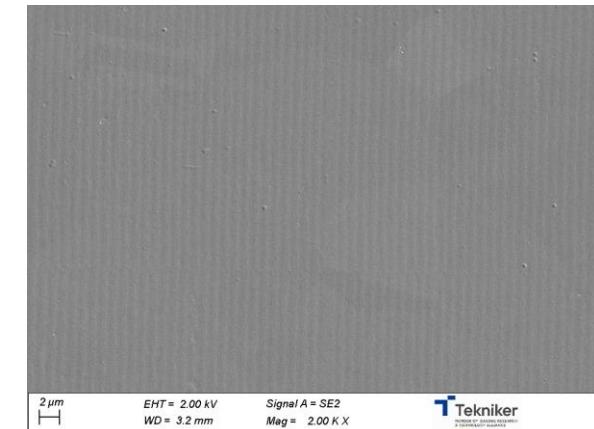
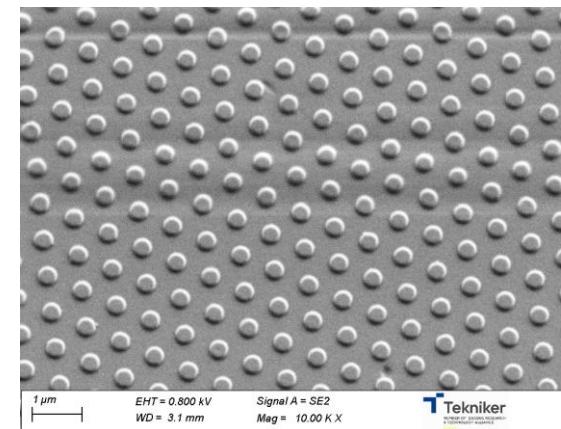
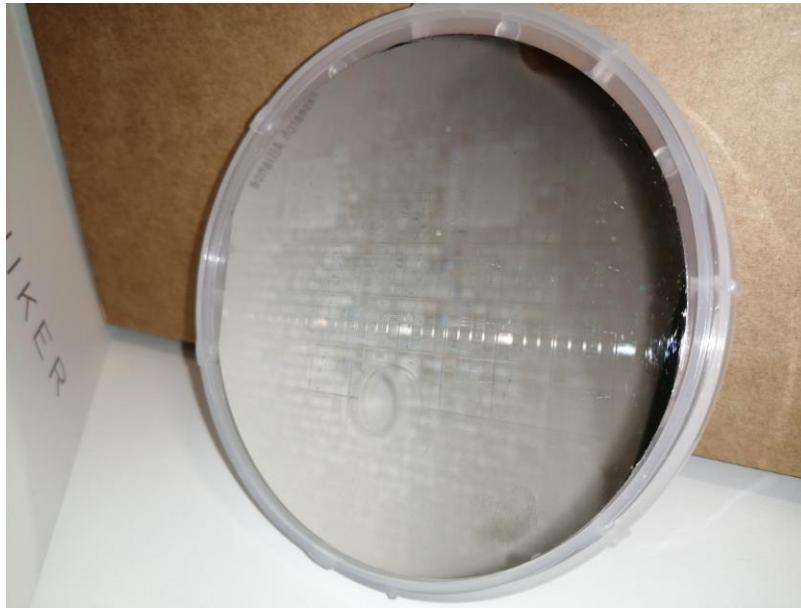
EU-H2020-FLEXPOL. Conct. Num. 721062

-A. Pérez-Gavilán et al. Scientific Reports, 2020

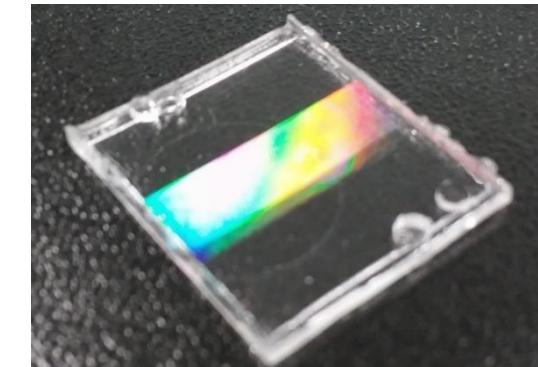
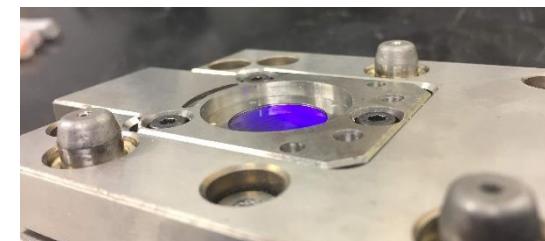
-A. Francone et al. ACS Applied Materials & Interfaces (submitted, 2020)

Topography-based functional surfaces

Stainless Steel stamps for micro and nanoinjection moulding

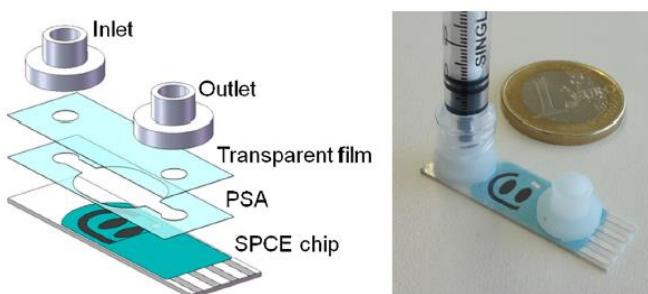
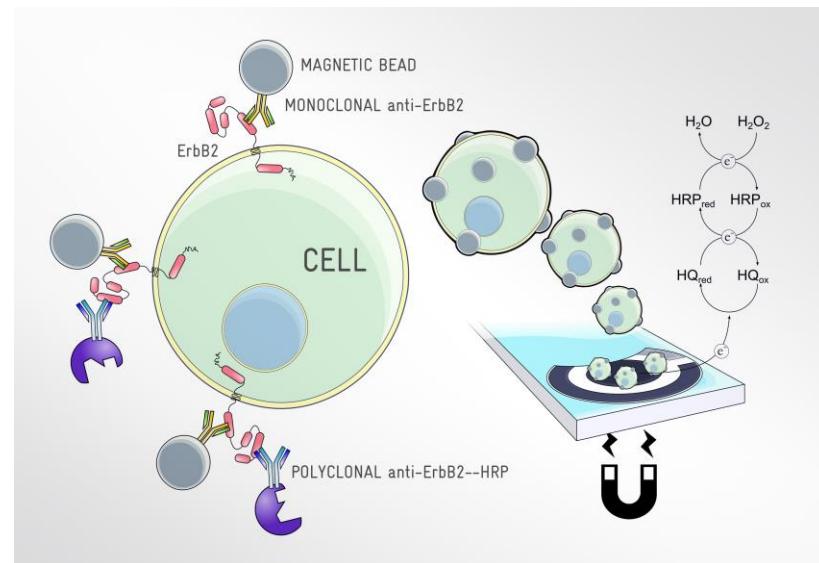


Injection Moulding

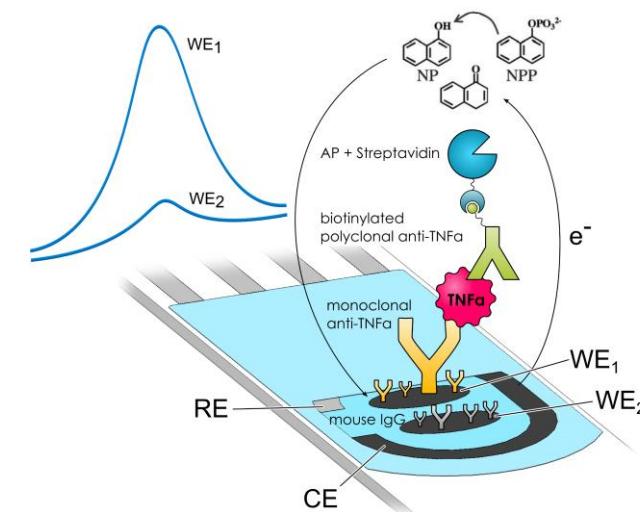
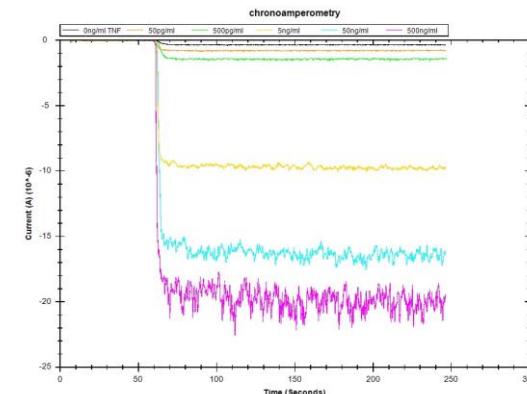


Biosensors supported by micro and nanofabrication

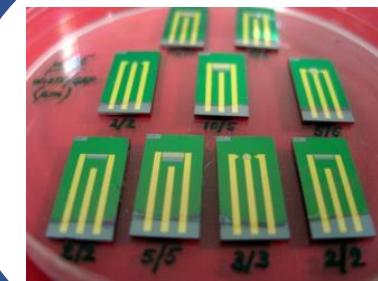
Electrochemical based transduction principle



Disposable Microfluidic cartridges



AgroFood and Healthcare
Industrial Sectors

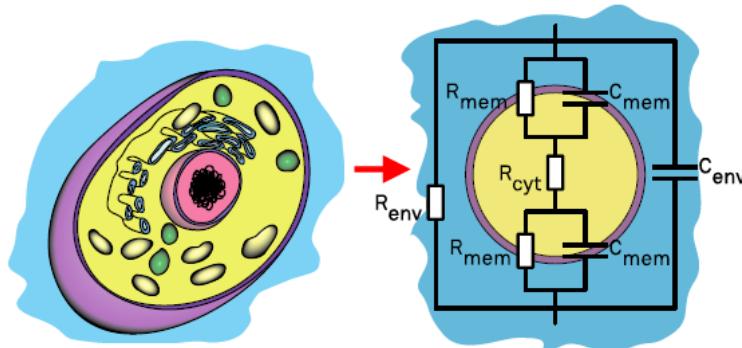


Micro/Nanofabrication

- G. Olabarria et al, Talanta (2020)
 A. Angulo et al. Analytica Chimica Acta (2019)
 U. Eletxigerra et al, Sensing and Biosensing Research (2016)
 U. Eletxigerra et al. Biosensors and Bioelectronics (2015)

Sensors supported by micro and nanofabrication

Impedance Spectroscopy for sensing



Food Quality & Safe Food for
Agro-Food industrial sector

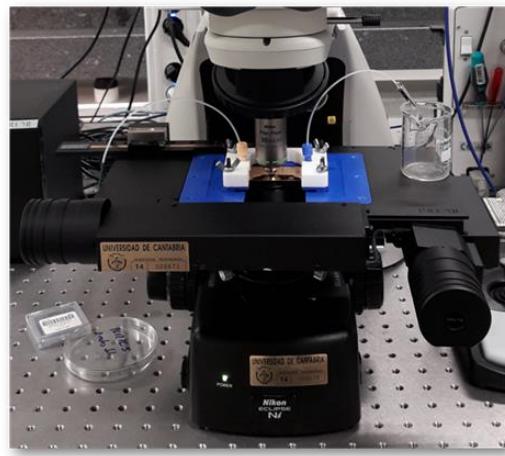
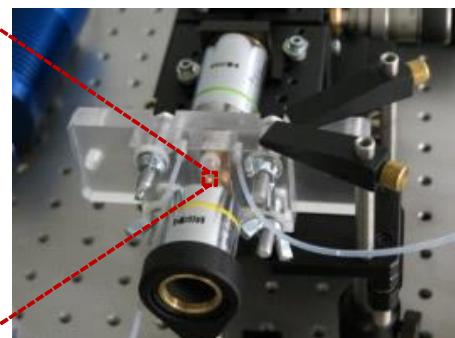
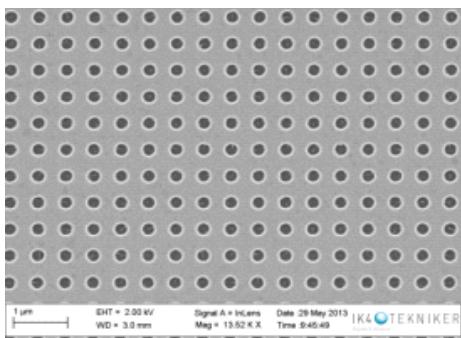
Smart surfaces: sensors for different
industrial sectors (Energy....)

Biosensors supported by micro and nanofabrication

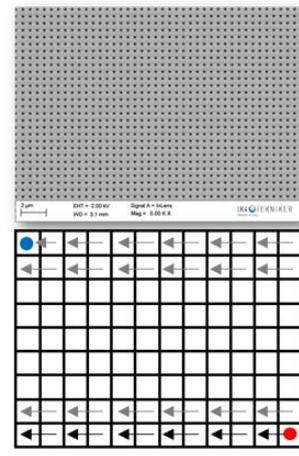
Plasmonics



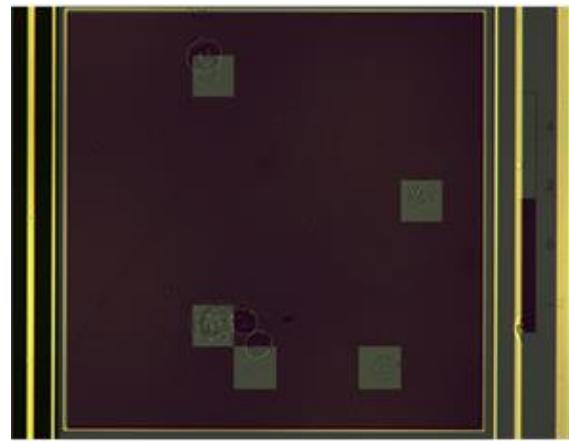
Biomolecules and cells detection



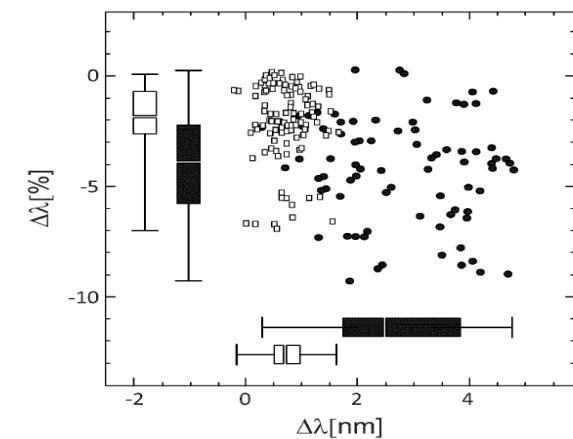
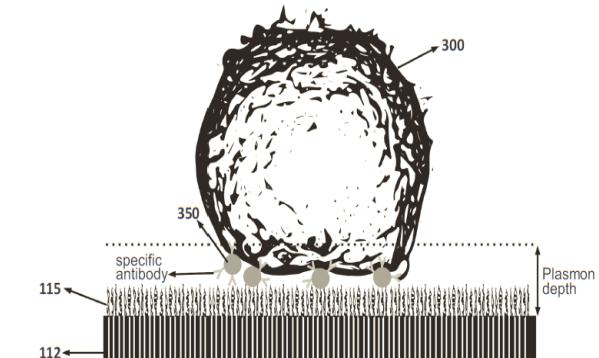
xy motorized piezo stage



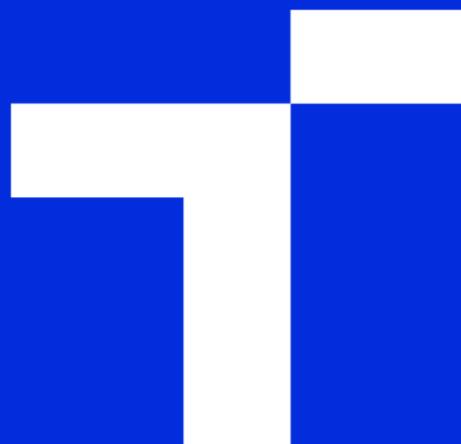
Scanning path



EU: EP17382519. Cartridge, Device and Method for detecting, capturing , identifying and counting CTCs



J. Martínez Perdiguero et al. Talanta, 2014
U. Eletxigerra et al. Analytica Chimica Acta, 2016
F. Moreno et al. Optics Express, 2018



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