

PhD in Nanoscience @SNS

Passaggio d'anno

1st year

Elena Corradi

Advisors: Dr. Marco Cecchini (CNR, Pisa)
and Dr. Rossana Dell'Anna (FBK, Trento)

20/10/2020

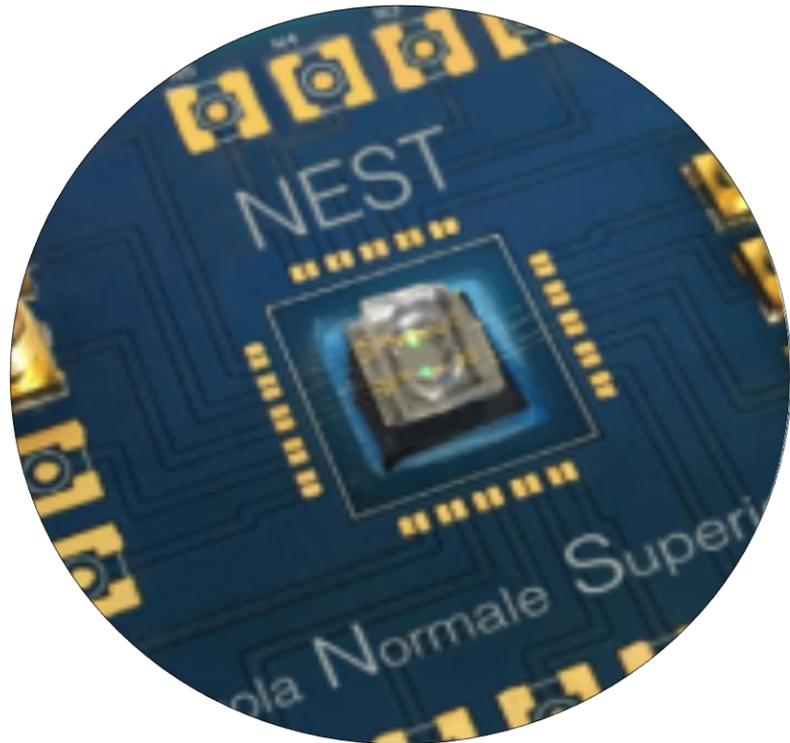
SCUOLA
NORMALE
SUPERIORE



Attended courses

Course	Hours	Status
Biomaterials Science Prof. Chiellini and Dott. Cecchini	48	✓
Physics of the living cell Prof. Cardarelli and Prof. Bizzarri	50	✓
Biophysics seminars Prof. Cardarelli	45	Planned for October 2020

PhD project: sensing with surface acoustic waves



LoC
devices
based on
SAW

- Miniaturization: micro/nano fabrication
- Scalable
- Fast response
- Electrical readout
- Portable: point-of-care (POC) devices
- Data analysis to improve sensing performance
- Versatile

Published paper: PCA applied to QCM data

- Principal Component Analysis (PCA)
- Quartz Cristal Microbalance (QCM)
- Multivariate dataset: overtones
- Streptavidin-biotin binding glial-fibrillary-acidic-protein (GFAP)
- Improved sensing performance
- Limit of detection (LOD) and sensitivity enhancement

