

CoE for Functional SURfaces and interfaces for Nano diagnostics (EFSUN)



Souvenir from the Winter Nanotechnology Boot Camp for High School Students
Jointly Organized by SUNUM and EFSUN

CoE for Functional SURfaces and interfaces for Nano diagnostics (EFSUN)

Number of
Research
Staff

36

Number of
SU /SUNUM
Research Staff

14

Number of
Post Docs

10

Number of
Ph.D.
students

33

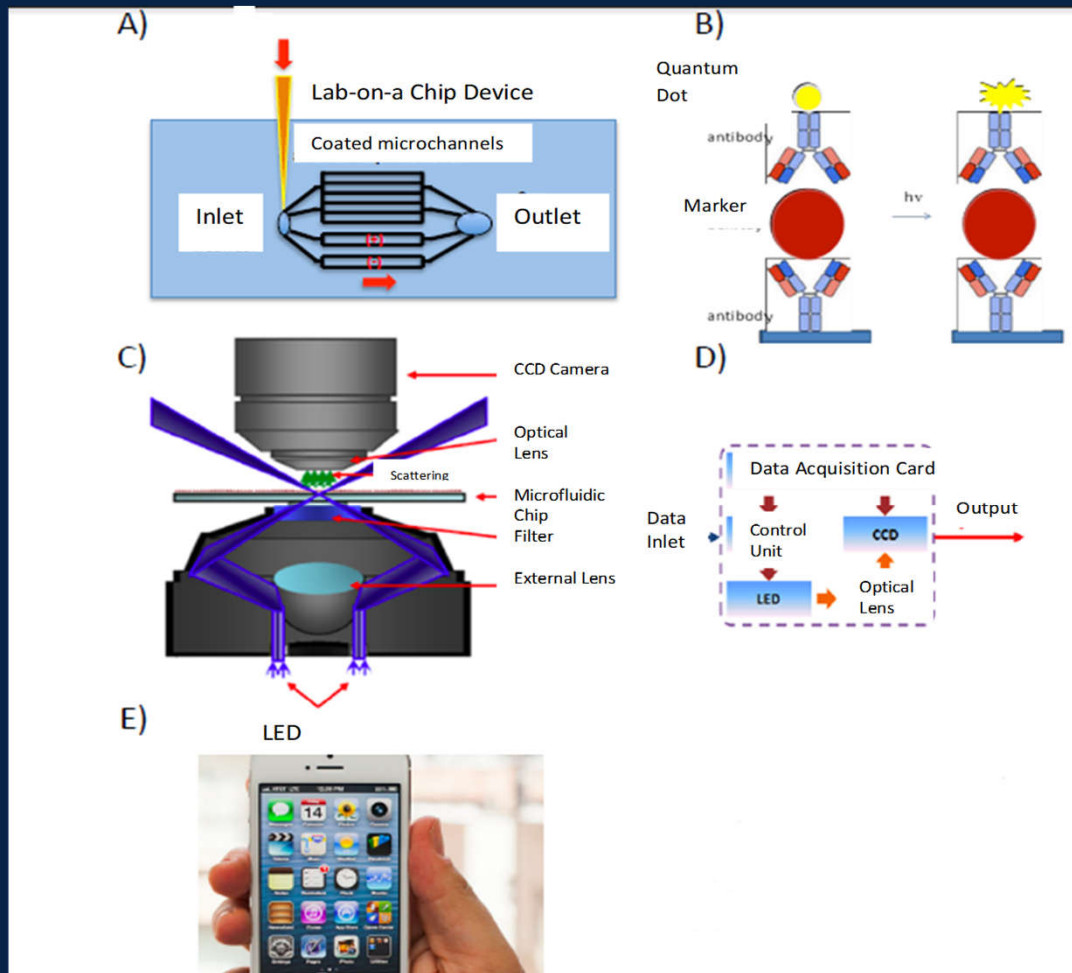
Number of
M.S.
students

34

Objectives:

- to bring together highly qualified researchers to generate high impact research and original results with a focus on science and technology needed for efficient nanodiagnostic tools.
- to become a “Center of Attraction” through its high impact research output that would get the attention of high quality researchers from around the world.
- to generate novel approaches and scientific knowledge on a very important and yet in-demand study area of new generation diagnostic tools in medicine.

Core Research Areas



- The center addresses challenges in nano diagnostics through the usage of micron- and submicron sized systems exploiting the tools of medicine/molecular biology, material science, nano technology, nano/microfluidics and power generation.
- The center focuses on in-depth understanding of molecular biology, genetics and biochemistry of diseases, omics approaches, clinical collaborations, chemistry and material fundamentals, surface and interface interactions, heat and fluid flow with targeted device design.

CoE for Functional SURfaces and interfaces for Nano diagnostics (EFSUN)-Research Outputs

Number of **64**
Journal articles
within 12 months

Number of **101**
Journal articles
between 01.01.2017-
01.10.2018

Number of **11**
Applied and Granted Patents
between 01.01.2017- 01.10.2018

Number of **40**
Journal articles in
Q1 journals
within 12 months

Number of **6**
Journal articles
in journals with IF>7
within 12 months

Number of **11**
Applied and Granted Patents
within 12 months

Some Center Achievements and Activities

Interdisciplinary Projects :

- NANOSIS-TUBITAK 1004-with cooperation of SUNUM-Representative Center for Sabanci University-“NANOSIS R&D and Innovation Collaboration Platform” with Research Program the research program titled “Development of Protein based Microfluidic Biochips for Diagnosis”. TÜBİTAK 1004, Partnership with SUNUM
- The SUTAB Project: (Sabanci University Tissue Ablating Bubbles)-Medical Use of Small Scale Cavitating Flows, TUBITAK 1003
- Royal Academy of Engineering Newton Fund: Biphilic surfaces and Diagnosis based on Evaporation.
- The ongoing project budget is now more than 4,500,000 Euro. The budget of pending project applications is above 5,000,000 Euro.

Recent Activities:

- EFSUN organized The Functional Surfaces and Interfaces for Nano diagnostics Workshop and Best Paper Award on the 19th June 2019: <https://efsun.sabanciuniv.edu/news/functional-surfaces-and-interfaces-nano-diagnostics-workshop-and-best-paper-award>
- The Winter Nanotechnology School for High School Students was held between 28 January and 1 February 2019 in cooperation with Sabanci University SUNUM and EFSUN Centers: <https://efsun.sabanciuniv.edu/content/winter-nanotechnology-school-high-school>

CoE for Functional SURfaces and interfaces for Nano diagnostics (EFSUN)-Contributions

Contributions to SU:

- EFSUN is a 'Research Powerhouse' at Sabanci University.
- EFSUN is a bridge between Sabanci University and SUNUM and contributes to the coordination activities.
- EFSUN provides valuable contributions to Schools for High School Students.
- EFSUN provides a stimulating environment for both scientists and students and significantly increases the visibility and ranking of SU.

Contributions to TURKEY:

- EFSUN is a 'Center of Attraction' for outstanding researchers and provides a critical mass in related research topics.
- EFSUN increases the competitiveness of TURKEY in interdisciplinary research.
- EFSUN is training new generation skilled scientists and engineers.