CoE for Functional S URfaces and interfaces for Nano
diagnostics (EFSUN)

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

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Journal articles within 12 months</td>
<td>64</td>
</tr>
<tr>
<td>Number of Journal articles within 01.01.2017-01.10.2018</td>
<td>40</td>
</tr>
<tr>
<td>Number of Journal articles in Q1 journals within 12 months</td>
<td>101</td>
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<tr>
<td>Number of Journal articles in journals with IF &gt; 7 within 12 months</td>
<td>6</td>
</tr>
<tr>
<td>Number of Applied and Granted Patents within 12 months</td>
<td>11</td>
</tr>
<tr>
<td>Number of Applied and Granted Patents between 01.01.2017-01.10.2018</td>
<td>11</td>
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Some Center Achievements and Activities

Interdisciplinary Projects:
• NANOSIS-TUBITAK 1004-with cooperation of SUNUM-Representative Center for Sabancı 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: (Sabancı 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:
• The Winter Nanotechnology School for High School Students was held between 28 January and 1 February 2019 in cooperation with Sabancı 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.