

Eight FBK projects have won the ATTRACT call for proposals for sensors of the future

May 17, 2019

The opening on May 20 and 21 at the CERN in Geneva

Highly innovative sensors that will improve medical diagnostic tools, make radioguided surgery safer and more effective, develop components for use in food analysis, autonomous guidance and future high-speed quantum computers.

These are just a few examples of applications that could be implemented thanks to the **Fondazione Bruno Kessler's** eight projects that have been awarded funding from the [ATTRACT](#) call for proposals, within the European Horizon 2020 research and innovation program.

This is an initiative aimed at bridging the gap between basic research and the real needs of the market, in order to carry out projects with a high innovative impact in the field of sensors and image acquisition. Researchers from the Center for Materials and Microsystems at Trento-based Fondazione Bruno Kessler, who have been involved in research and development of solutions for radiation sensors and image sensors, also participated in the international selection, which is extremely competitive.

The projects of the Trentino-based Research Center that have received funding for a total of 345,800 euros are as many as eight (four of which in the role of coordinators for Europe). They will be officially inaugurated on May 20 and 21, 2019 at CERN in Geneva.

The 8 projects were also included in the list of 170 (out of the 1,211 competitors) admitted to participate in a second phase of the selection that will include companies, with a budget that could be increased up to 20 times.

See the list of the winning projects in which Fondazione Bruno Kessler's Center for Materials and Microsystems participates below:

PHOTOQUANT

Partners: Milano Bicocca/INFN, CERN, CNRS, Fresnel Institute, Fondazione Bruno Kessler

The project aims to improve the tools used in medical diagnostics and in large physics experiments using nanostructured materials to overcome the limitations of current sensors.

SP-LADOS

Partners: Fondazione Bruno Kessler, Milan Polytechnic

The project will study non-invasive diagnostic systems that will use ultra-fast light pulses to obtain information through high depth penetration thanks to high-performance detectors.

POSICS

Partners: University of Geneva, Fondazione Bruno Kessler

The project aims to make radioguided surgery safer thanks to greater precision and resistance to disturbances and more effective thanks to sensors capable of encoding more information.

RfLAS

Partners: Institue Jozef Stefan, Fondazione Bruno Kessler

The project will develop an inexpensive and portable analysis system able to reveal information on the molecular composition of the sample observed, to be applied for example in the food industry.

INPEQUT

Partners: Fondazione Bruno Kessler, ETH-Zurich

The project will offer key solutions for the development of miniaturized optical devices for future high-speed quantum computers to design, for example, new “smart” materials

PlaSiPM

Partners: Fondazione Bruno Kessler, Agencia Estatal Consejo Superior Investigaciones Científicas

The project will study new optical sensors integrated with metal-based nanostructures, capable of detecting infrared light, normally not visible with standard sensors. This new technology will allow the development of more efficient and less expensive sensors suitable for use in autonomous driving, in the field of bio-medical imaging and in quantum computers.

INSTANT

Partners: INFN, University of Manchester, University of Milan, University of Trento, Fondazione Bruno Kessler

The project intends to develop a camera for ionizing radiations at very high speed able to see the evolution of phenomena that happen, for example, in collisions between high-energy particles or during nuclear fusion with both high spatial and temporal resolution.

CHEDDAR

Partners: Fondazione Bruno Kessler, University of Trento, University of Innsbruck.

The project aims to achieve wireless ionizing radiation sensors at extremely low cost.

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