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## Single-Molecule Sensors and NanoSystems International Conference – S3IC 2020

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**Date :** Apr 01, 2020 - 08:00 AM - Apr 03, 06:00 PM

**Event URL :** <http://www.sfbayeventslist.com/events/single-molecule-sensors-and-nanosystems-international-conference-–s3ic-2020>

**Organizer :** PREMC

**Venue :** Pompeu Fabra University

**Location :** Pompeu Fabra University – Balmes building Carrer de Balmes 132, Barcelona, Barcelone, Spain, France, ZIP: 08008

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### Single-Molecule Sensors and NanoSystems International Conference – S3IC 2020

Sensor systems have emerged that exhibit extraordinary sensitivity for detecting physical, chemical, and biological entities at the micro/nanoscale. Particularly exciting is the detection and analysis of molecules on miniature devices that have many possible applications in health, environment, analysis, and security. A new class of label-free micro and nanosensors are starting to emerge that allow us to observe dynamic processes at the single molecule level directly, with unprecedented spatial- and temporal resolution and without significantly affecting the natural and functional movements of the molecules. Micro- and nanosensors by virtue of their small interaction length probe molecules over a dynamic range often inaccessible by other techniques. Their small size enables an exceedingly high sensitivity, and the application of quantum optical measurement techniques can allow us to approach or surpass classical limits of detection. Advances in optical and electrical measurement methodology, laser interferometry, quantum optics, micro/nanofluidics, control of molecules and reactions at the nanoscale, DNA origami/synthetic molecular machines, in-vivo and wearable sensing materials, they all contribute to the rapid progress of the field of Single Molecule Sensors and nanoSystems. It is this convergence of previously often disparate fields that is accelerating the advancements in micro and nano-sensing.

This conference will bring together researchers in the rapidly advancing field of Single Molecule Sensors and nanoSystems. The conference focuses on the most recent

**advances in micro and nano-sensing techniques that have either demonstrated single-molecule detection or that claim single-molecule detection capability on sensor chips in the longer term.**

## **Topics**

**Single-Molecule Devices and Sensor Technologies**

**Single-Molecule Spectroscopy**

**Quantum Limits in Biodetection**

**Quantum Sensors**

**Biophotons and Biophotonics Sensors**

**Molecular Machines, Synthetic Biology and DNA Origami**

**Integrated Sensor Chips and multiplexed Sensing**

**Micro/Nanofluidics and chemical control at the Nanoscale**

**Commercial Single-molecule Sensors and Sequencers**

**Quantum BioSensing**

**Single-molecule forces and force spectroscopies**

**Molecular Electronics**

**Computational approaches**

**Single-molecule Fluorescence and Imaging**

## **Chairman**

**Prof. Frank Vollmer, University of Exeter, UK**

## **Co-Chairman**

**Prof. Niek Van Hulst, ICFO, Spain**

## **Confirmed speakers**

**Prof. Cees Dekker, TU Delft, The Netherlands**

**Prof. Hermann Gaub, LMU Munich, Germany**

**Prof. David Leigh, The University of Manchester, UK**

**Prof. Martin Plenio, Ulm University, Germany**

## **Deadlines**

**Regular Submission - January 14th, 2020**

**Regular Registration - February 14th, 2020**

**Conference - April 1-3, 2020**

## **Venue**

**Pompeu Fabra University – Balmes building**

**Carrer de Balmes 132, Barcelona**

<https://premc.org/conferences/s3ic-single-molecule-sensors-nanosystems/>

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**Event Categories :**