

Building a Better Biosensor

An informal one day workshop,
strengthening links between research groups

Wednesday 6th April 2016, 10:00 – 17:00, Building 46 Lecture Theatre B

The interaction of photons or electrons with biological matter can be harnessed to biosensing, whereas the second kind of interaction holds a promise to better biosensing, thanks to the direct reading of the signal. From the great plethora of available electrical methods, the field effect transistor based biosensor (Bio-FET) continues to draw a lot of attention, as it is standing on the shoulders of the giant semiconductor industry.

Bio-FET research is clearly an interdisciplinary field, as it involves the marriage of methods from electrical and biomechanical engineering, material sciences, chemistry and biochemistry. This informal workshop will bring together scientists and engineers working in two facilities, the Zepler Institute and the Institute for Life Sciences, and across several research groups.

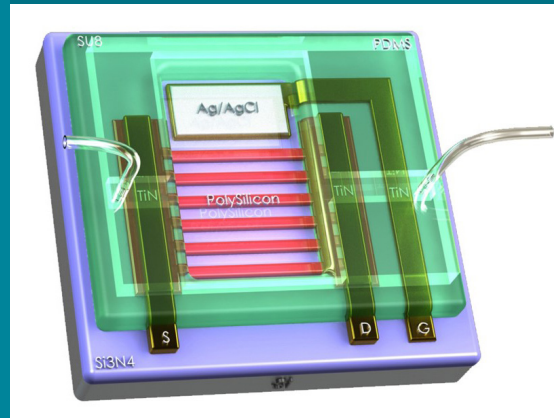
The main aim of the workshop is to share the diverse aspects of our research and link it to the common goal of “Building a Better Biosensor”.

Speakers include:

- James Wilkinson – Overview of Zepler Institute Facilities
- Peter Smith – Life Science Research at Southampton
- Erez Pology – Common Sense and bioSensitivity - An Introduction to Biosensing
- Maurits de Planque – Nanopore biosensors for microRNA detection and quantification
- Despina Moschou – Microfluids and Lab-on-a-Chip Technology
- Ioannis Zeimpekis – Fabrication and Performance of a Nanoribbon TFT Biosensor
- Kevin Huang – Beyond Graphene: Emerging 2D Materials for FET
- Sam Guerion – High Throughput Material Discovery
- Rajiv Patel – From Lab to Fab: A Journey from Concept to Maturity of a Novel Device
- Sun Kai – Fabrication of Nanowire Transistors for Biosensing

There will be four sessions and you are welcome to attend any individual sessions or for the entire day. There will be opportunities for discussion.

All are invited. For catering purposes please register by the end of Tuesday 5 April 2016 at: <http://biosensorworkshop.eventbrite.co.uk>



Schematic of a dual-gate polysilicon nanoribbon biosensor (doi:10.1088/0957-4484/27/16/165502)

Tentative agenda:

Session 1: Overview		
10:00	Welcome and Introduction to Workshop	Dan Hewak
10:05	Overview of Zepler Institute Facilities	James Wilkinson
10:25	Life Science Research at Southampton	Peter Smith
Session 2: Biochemistry		
10:45	Common Sense and bioSensitivity - An Introduction to Biosensing	Erez Pology
11:15	Microfluids and Lab-on-a-Chip Technology	Despina Moschou
11:45	Nanopore Biosensors for microRNA Detection & Quantification	Maurits de Planque
12:15	Lunch	
Session 3: Device Fabrication		
13:00	Fabrication and Performance of a Nanoribbon TFT Biosensor	Ioannis Zeimpekis
13:30	From Lab to Fab: A Journey from Concept to Maturity of a Novel Device	Rajiv Patel
14:00	Fabrication of Nanowire Transistors for Biosensing	Sun Kai
14:30	Coffee Break	Speaker TBC
Session 4: New Materials		
15:00	Beyond Graphene: Emerging 2D Materials for FET	Kevin Huang
15:30	High Throughput Material Discovery	Sam Guerion
16:00	Open Discussion	

Register your place at: <http://biosensorworkshop.eventbrite.co.uk>