

# NanoS-E3 School Program

12-13 september 2011

**Sunday**

**11 September Welcome**

14:00 17:00 **Check In**

19:00 21:00 **Welcome Cocktail**

**Monday**

**12 September School**

7:30 8:00 **Registration**

8:00 8:30 **Welcome** **Nunzio Motta**

1 8:30 9:15 F.Rosei Organic Molecules Exploring Molecular Assembly at Surfaces

2 9:20 10:05 C.Raston Chemical Assembly of Nanoparticles Microfluidic fabrication of nano-materials

10:10 10:30 **Morning Tea**

3 10:30 11:15 J.Shapter Solar Cells Using Carbon Nanotubes Use of Carbon Nanotubes in Novel Solar Cells

4 11:20 12:05 M.De Crescenzi Carbon Nanotubes for Photovoltaics Carbon Nanotube Based Devices for Solar Cell Applications

12:10 16:00 **Lunch + Break**

16:00 16:15 **Afternoon Tea**

5 16:15 17:00 N.Motta Graphene Graphene: Structure and Properties of A Unique 2D Material

6 17:05 17:50 K.Kalantar-Zadeh Nanosensors Nanotechnology Enabled Semiconducting Sensors

7 17:50 18:35 J.Dobson Forces in nanostructures Van der Waals (Dispersion) Forces in Nanostructures

19:00 21:00 **Dinner**

**Tuesday**

**13 September School**

8 8:30 9:15 E.Traversa Fuel Cells Towards the Miniaturization of Solid Oxide Fuel Cells

9 9:20 10:05 M.Ford Calculation of Optical Properties of Nanostructures Calculation of the Optical Properties of Nanostructures

10:10 10:30 **Morning Tea**

10 10:30 11:15 S.Rogge Quantum Devices Electron Transport in Classical and Quantum Devices

11 11:20 12:05 C.Jagadish Quantum Lasers Semiconductor Quantum Well/Dot Optoelectronic Devices

12:10 15:45 **Lunch + Break**

15:45 16:00 **Afternoon Tea**

12 16:00 16:45 Y. Tachibana Dye Sensitized Solar Cells Dye Sensitized Solar Cells: Basic and Applied Research Directions

13 16:45 17:30 D.Jamieson Quantum Computing The Promise and Progress of Quantum Computer Technology

17:30 18:30 **POSTER SESSION**

18:30 20:30 **Barbecue Dinner/Workshop opening**

I.MacKinnon Future Science and Technology Research at QUT

## NanoS-E3 Workshop Program 14-16 september 2011

### Tuesday

**13 September School**

14:00 18:00 **Check In**

19:00 20:30 **Barbecue Dinner/Workshop opening**

I.MacKinnon

Future Science and Technology Research at QUT

### Wednesday

**14 September Workshop**

7:30 8:00 **Registration**

8:00 8:15 **Welcome Nunzio Motta**

1 8:15 9:00 **M.Simmons** Semiconductors Atomically Precise Silicon Devices in all Three Dimensions

2 9:00 9:25 L.Persichetti Semiconductors Effects of Elastic Field Anisotropy on the Heteroepitaxial Growth of Ge Quantum Dots on Vicinal Si Surfaces

3 9:25 10:10 S.Ruffell Semiconductors Nanoindentation for Patterning and Processing of Silicon

10:10 10:25 **Morning Tea**

4 10:25 11:10 **C.Jagadish** Photonic Devices III-V Semiconductor Nanowires for Optoelectronic Device Applications

5 11:10 11:35 A.Petrozza Photonic Devices Influence of ion induced local Coulomb field and polarity on charge generation and efficiency in solid-state dye-sensitized solar cells

6 11:35 12:00 S.Rogge Photonic Devices Transport Through a Single Atoms in a Silicon Transistor

12:00 16:15 **Lunch + Break** **NIRAP Project Meeting (Restricted to the project members)**

16:15 16:30 **Afternoon Tea**

7 16:30 17:15 **M.De Crescenzi** Graphene/CNT Synthesis and Characterization of Carbon Nanotubes Grown By Chemical Vapor Deposition Using a Stainless Steel Catalyst

8 17:15 17:40 A.Capasso Graphene/CNT High-Performance Electrodes Via Controlled Synthesis of Carbon Nanotubes on Indium Tin Oxide

9 17:40 18:05 M.Rybachuk Graphene/CNT When Contaminations are Beneficial: A Case For Amorphous Carbon Materials

10 18:05 18:30 A.Li Bassi Nanomaterials Nanostructured Oxide Surfaces for Advanced Photovoltaic and Sensing Applications

11 18:30 18:55 J.Drennan Microscopy of Nanomaterials Nanostructures and Oxygen ion Conductivity

**Dinner at own arrangement**

<b>Thursday</b>					
<b>15 September Workshop</b>					
	7:45	8:00	<b>Registration</b>		
		8:00	<b>Welcome</b>		
12	8:00	8:45	<b>D.Jamieson</b>	Quantum Devices	Ion Implanted Nanodevices for Reading Single Atom Quantum States
13	8:45	9:10	G.Scappucci	Quantum Devices	New Avenues to An "Old" Material: Ultra-Doping Germanium With Atomic Precision
14	9:10	9:50	L.Hollenberg	Quantum Devices	Quantum Measurement and Orientation Tracking of Fluorescent Nanodiamonds in Living Cells
15	9:50	10:15	G.Tettamanzi	Quantum Devices	Complex Screening Mechanisms in Ultra-Scaled Silicon FETs
	10:15	10:30	<b>Morning Tea</b>		
16	10:30	11:15	<b>I.Berbezier</b>	Nanomaterials	Self-Organisation of Nanonancocrystals By Dewetting of Ultra-Thin Silicon Films
17	11:15	11:40	A.Sgarlata	Nanomaterials	Shaping Ge Islands on Si(001) Surfaces with Misorientation Angle
18	11:40	12:05	E.Waclawik	Nanomaterials	Nanomaterials Self-Assembly
19	12:05	12:30	J.Liu	Nanomaterials	Free-standing ZnO Nanowire Films for Hybrid Light-emitting Diode and Photo-sensing Applications
	13:00	16:30	<b>Wine Tour Mt Tambourine &amp; Lunch</b>		
20	17:00	17:45	<b>D.Fiorani</b>	Nanomaterials	Effect of the Soft Layer Thickness on The Domain Structure and Reversal Mechanism in Exchange-Coupled Ferromagnet Soft/Ferromagnet Hard
21	17:45	18:10	C.Raston	Nanomaterials	Dynamic Thin Film Fabrication of Palladium Nanomaterials for Application in Hydrogen Gas Sensing
	19:00	21:30	<b>Gala Dinner</b>		

<b>Friday</b>					
<b>16 September Workshop</b>					
	7:45	8:00	<b>Registration</b>		
		8:00	<b>Welcome</b>		
22	8:00	8:45	<b>G.Faglia</b>	Sensors	Metal Oxide Nanowires for Sensing and Energy Applications
23	8:45	9:10	M.Shafiei	Sensors	Nanostructured Thin Films Based Schottky Diodes for Gas Sensing Applications
24	9:10	9:35	P.Shaw	Sensors	Fluorescent Dendrimers for the Detection of Explosives
25	9:35	10:00	M.Ahsan	Sensors	CO Sensitive Nanostructured WO3 Thin Films Doped with Fe
	10:00	10:15	<b>Morning Tea</b>		
26	10:15	11:00	<b>J. Bell</b>	Solar Energy	Nanomaterials for Dye-Senzitized Solar Cells Ionic Conductivity of Oxide Thin Films and Superlattices
27	11:00	11:20	H.Wang	Solar Energy	
28	11:20	11:45	E.Traversa	Environmental Materials	
29	11:45	12:10	N.Motta	Summary & Conclusions	
	13:00	14:00	<b>Lunch</b>		