



Australian Research Council  
**Nanotechnology Network**

*Postgraduate Symposium  
On  
Nanotechnology*

*∞ PROGRAM ∞*

*21 – 22 July 2005*

**Seminar Room 3  
University Club**

**The University of Western Australia**  
Perth, Western Australia

**Symposium Chair**  
Dr Adam Micolich  
University of New South Wales



Australian Government  
Australian Research Council

# Thursday, 21 July 2005

## Day One

TIME	Speaker	Topic
9:00	Dr Adam Micolich	Welcome
9:10	Professor David Joy University of Tennessee Knoxville	Invited Speaker: Research Careers
<b>Semiconductors</b>		
9:40	Matthew Lay	Kelvin-probe force microscopy study of ion implantation damage in thermal oxide thin films on silicon
10:00	Satyanarayan Barik	Self-assembled InAs/InP (100) quantum dots emitting in the 1.55 $\mu\text{m}$ wavelength range grown by metalorganic chemical vapor deposition
10:20	Sudha Mokkalapati	Simultaneous growth of InAs quantum wells and quantum dots using selective area MOCVD
10:40	David Olivier	Phase transformations in Ge under medium load nanoindentation
<b>11:00</b>	<i>Morning Tea</i>	
<b>Thin Films/Surfaces</b>		
11:30	Thiru Meenakshisundaram	Nanoindentation of thin films – A study of substrate influences on the nanomechanical properties of thin films
11:50	Alexandru Fecete	Application of Nanostructured in $\text{O}_x$ Thin Films on Layered SAW Devices for Gas Sensing
12:10	Qi Li	Nanoporous Polymer Thin Films via Polyelectrolyte Templating
12:30	Barry Halstead	Surface Modification of Reinforcing Materials for Improved Strength in Modern Composites
<b>12:50</b>	<i>Lunch</i>	
<b>Nanoparticles</b>		
1:50	Ann Gooding	Photo-brightening and Surface Passivation of CdSe Nanocrystals
2:10	Paul Schwenn	Lead sulfide nanocrystals for high efficiency organic photovoltaics
2:30	Xiaoda Xu	Optical properties of gold nanorod coatings on glass
2:50	Xuan Le Thi	Synthesis, characterization and optimization of nanopolymeric particles in the treatment of inflammatory related eye disease
<b>3:10</b>	<i>Afternoon Tea</i>	
<b>Nanobiotechnology</b>		
3:40	Jingxian Yu	Characterisation of Cut Single-walled Carbon Nanotubes and their Functionalisation for Controlled Attachment
4:00	Christina Cortez	Biofunctionalization of Core/Shell Particles for Cell Targeting
4:20	Yit-Lung Khung	Generation of Cell Growth Discriminating Patterns by Direct Laser Writing on Porous Silicon
4:40	Peter Livingstone	Characterization of DNA nano-Aggregates using AFM
<b>5:00</b>	<i>Talks end for the day</i>	
<b>5:30</b>	<b>BBQ-The University Club</b>	

# Friday, 22 July 2005

## Day Two

<b>TIME</b>	<b>Speaker</b>	<b>Topic</b>
9:00	Dr Adam Micolich	Welcome
<b>Theory</b>		
9:10	Rainer Hoft	Electron Tunneling in the Presence of Absorbed Molecules
9:30	Gagendran Kandasamy	Theoretical characterisation of gate operations in the Kane quantum computer
9:50	Filip Welna	Transport dynamics of Fermi wave packet via surface acoustic wave
<b>10:10</b>	<i>Morning Tea</i>	
<b>Materials</b>		
10:40	Yonggang Jin	Preparation and Characterization of Proton Conductive Phosphosilicate gels
11:00	Li Li	Catalytic ammonia decomposition: $\text{Co}_x$ -free hydrogen production for fuel cell applications
11:20	Lisa Stadtmueller	Polymer-Clay Nanocomposites: New Analysis Techniques
<b>11:40</b>	<i>Close</i>	