Nanostructured carbon membranes for breakthrough filtration applications: advancing the science, engineering and design

Monday 27 April – Tuesday 28 April

Organised by Dr Davide Mattia, Professor Jason Reese FREng FRSE, Dr Duncan Lockerby, Professor David Emerson and Dr Ben Corry

DAY 1				**DAY 2**			
SESSION 1 **Chair: Jason Reese**		**SESSION 2** **Chair: David Emerson**		**SESSION 3** **Chair: Duncan Lockerby**		**SESSION 4** **Chair: David Emerson**	
09.00	Welcome by The Royal Society & Davide Mattia						
09.05	**Petros Koumoutsakos** Water Flows in Carbon Nanotube Membranes: Simulations and Uncertainties	**13.30**	**Duncan Lockerby** Multiscale modelling of nano-confined fluid flows	**09.00**	**Mainak Majumder** Graphene-based fluidic systems: From compact micro/nano-fluidic devices to large area filtration membranes	**13.30**	**Sankar Nair** Nanotubular and Nanoporous Membranes: Processing Strategies and Applications
09.30	**Olgica Bakajin** 4" CNT Membranes: Fabrication & Characterization	**14.00**	**Alberto Striolo** Using Hydration Water to Enhance the Selectivity of Membrane Separations	**09.30**	**Michael Strano** Understanding molecular transport through single, isolated nanocarbon pores	**14.00**	**Roland Netz** Effects of dielectric and viscosity profiles on electro-osmotic flow and conductivity in nanotubes
10.00	Discussion	**14.30**	Discussion	**10.00**	Discussion	**14.30**	Discussion
10.30	Coffee	**15.00**	Tea	**10.30**	Coffee	**15.00**	Tea
11.00	**Peter Budd** The influence of carbon nanotubes and graphene on the transport properties of the high free volume polymer PIM-1	**15.30**	**Francesco Fornasiero** Transport in Carbon Nanotube Nanochannels under Different Driving Forces	**11.00**	**Ben Corry** Assessing the permeability, selectivity and applications of carbon nanotube membranes using molecular simulation	**15.30**	**Jason Reese/David Mattia** Convergence of Molecular dynamics and Experiments in the engineering design of aligned nanotube membranes
11.30	**Ho Bum Park** Graphene Oxide Membranes for Gas Separation	**16.00**	**Bruce Hinds** Voltage activated carbon nanotube membranes as biomimetric platforms	**11.30**	**Lyderic Bocquet** Nanofluidic transport and noise across individual carbon and boron-nitride nanotubes: experiments and theory	**16.00**	Panel discussion/Overview (future directions)
12.00	Discussion	**16.30**	Discussion	**12.00**	Discussion	**17.00**	CLOSE
12.30	LUNCH	**17.00**	CLOSE	**12.30**	LUNCH		

*Draft programme – correct as of **21 April 2015**– subject to change*