

Cell adhesion century: culture breakthrough

Monday 28 – Tuesday 29 April 2014

Organised by Professor Kevin Kendall FRS, Professor Stephen Busby FRS, Professor Costantino Creton, Dr Florian Rehfeldt, Professor Gabriel Waksman FRS and Dr Walter Federle

DAY 1			
SESSION 1: van der Waals adhesion influencing organisms Chair: Kevin Kendall FRS		SESSION 3: Parasite adhering to and entering cells Chair: Gabriel Waksman FRS	
09:00	Welcome by Julie Maxton & Kevin Kendall		
9.05	Kevin Kendall van der Waals forces	13.30	Gabriel Waksman FRS Biogenesis of adhesive pili at the outer membrane of bacterial pathogens
09:15	Kellar Autumn Van der Waals adhesion supporting the Gecko	13:40	Stanislav Gorb Attachment mechanisms in nature
09:40	Walter Federle Wet but not slippery: biomechanics of insect attachment organs	14:05	Pietro Cicuta Malaria parasites adhering to red blood cells
10:00	Discussion	14:30	Discussion
10:30	Coffee	15:00	Tea
SESSION 2: Parameters controlling adhesion phenomena Chair: Erich Sackmann		SESSION 4: Viruses: contact and adhesion mechanisms Chair: Michaela Kendall	
11.00	Erich Sackmann Physics of cell adhesion	15.30	Michaela Kendall Process of nano-adhesion in the lung
11:10	Florian Rehfeldt Substrate elasticity dictates cell fate	15:40	David Bhella Structural investigation of calicivirus attachment - Ig-like cell adhesion molecules and virus entry
11:35	George Whitesides Patterned surfaces; roughness and coating chemistry	16:05	Elsbeth Garman Anti-viral adhesion molecular mechanisms for influenza
12:00	Discussion	16:30	Discussion
12:30	LUNCH	17:00	CLOSE

Cell adhesion century: culture breakthrough

Monday 28 – Tuesday 29 April 2014

Organised by Professor Kevin Kendall FRS, Professor Stephen Busby FRS, Professor Costantino Creton, Dr Florian Rehfeldt, Professor Gabriel Waksman FRS and Dr Walter Federle

DAY 2			
SESSION 5: Molecular modelling by computer and mechanics Chair: Costantino Creton		SESSION 7: Chemical engineering of cells and applications Chair: Liam Grover	
09:00	Costantino Creton Interface models	13:30	Liam Grover Utilising adhesion to shape engineered tissues
09:10	Chin Yong Adhesion forces and protein structures	13:40	Otto-Wilhelm Merten Advances in cell culture - anchorage dependence
09:35	Stephen Hart Genetic influence on contact structures	14:05	Birgitta Söder The association between dental biofilm and cancer
10:00	Discussion	14:30	Discussion
10:30	Coffee	15:00	Tea
SESSION 6: Tracking nanoparticles to control adhesion Chair: Terry Tetley		SESSION 8: Cancer cells and metastasis Chair: Kevin Kendall FRS	
11:00	Terry Tetley Nanoparticle toxicity	15:30	Kevin Kendall FRS Next century prospect in cell adhesion
11:10	Andre Nel Understanding the nanobio interface for making decisions on nanomaterial safety and nanotherapeutics	15:40	Rik Bryan Cadherin adhesion molecules and bladder cancer
11:35	Orest Blaschuk N-cadherin antagonists as oncology therapeutics	16:05	George Whitesides Soft robots imitating cells and future developments
12:00	Discussion	16:30	Discussion
12:30	LUNCH	17:00	CLOSE