TCF2010 – Cleantech Track (Day 2, 6th March)

Event: Technology Commercialisation Forum
Venue: PanPacific Hotel, Level 2
Date: 6th March, Sat
Time: 9am – 12.30pm

9am – 10am: Track 1 - Cleantech:

(A) **Introduction to NUS Membrane Consortium**

(B) **Panel: Applications and Uses of Membrane Technology in Cleantech Industry**

Panel Members:

1. *Dr Michael Quah, Principal Fellow, Energy Studies Institute, National University of Singapore* ***(Moderator)***
2. *Frank Levinson, Founder and Managing Director, Small World Group, USA*
3. *Prof Neal Chung, Faculty of Engineering, National University of Singapore*

10.30am – 12pm: Technology Pitching (see list below)

12pm – 12.30pm: Cleantech Company pitching their technology needs; looking for innovative solutions
Company TBC

***Please refer to http://www.tcf.sg/program2010.html for full Day 2 program

*** For profile of speakers, please see http://www.tcf.sg/speaker2010.html

Tech Pitching List

Speaker	Title	Summary
Prof Ng Kim Choon, NUS	A Waste Heat Driven Multi-bed Desiccant Dehumidifier	This invention relates to the dehumidification of moist air for an air-conditioning plant using a waste heat source with its temperature at 85oC or lower. It is designed as a batch process, comprising a two-bed that housed the silica gel, and moist air is sent to each adsorber bed for dehumidification. Concomitantly, the other bed undergoes regeneration with heat supplied to the silica gel. The dehumidified air represents a reduction in the latent load at the air-handling units of the air conditioning plant.

Asst Prof Lee Poh Seng, MicroStorm	Compact & highly Effective Heat Sinks	A technologically advanced and creative company in thermal management with breakthrough and paradigm shift inventions and innovations that bring continual growth in multiple industries and concerning a sustainable environment. Microstorm strives to deliver the REAL cooling solutions for electronics industry that spent billions with current technologies and produce designs and providing innovative services to industry leaders in exploring new and futuristic answers to critical demand in thermal management e.g. windmills, nuclear safety, battery for EVs /HEVs and next generation electronics.
Mr. Zhang Yiyang, Soliel Water	Energy Efficient Green System for Cooling, Water Heating and Drying	The Soleil Water 3-in-1 System is able to provide Drying, Cooling and Heating facilities at negligible electrical input, as Waste Heat, Solar Energy and Ambient Energy will drive the system. A system that taps upon renewable and recyclable sources, the 3-in-1 Hybrid System boasts practically zero carbon emission and is potentially capable of offsetting electrical consumption by 30%-40%.
Lu Li, NUS (ME)	Cathodes with high charge rate and power density for high performance of Li rechargeable batteries	The invention is related to synthesis of high performance cathodes materials which can be charged and discharged at extremely high current density, and possesses long charge/discharge life. Two types of cathodes have been synthesized, modified $LiFePO_4$ and $LiNi_{0.5}Mn_{1.5}O_4$.
Xie Xianning, NUSNNI (FoS)	Method for Forming Superhydrophilic And Water-Capturing Surfaces	This invention presents an extremely simple and economical approach to the preparation of superhydrophilic and water-capturing surfaces. In this method, few-nanometer-thick nanostructures are formed on a substrate. The nanostructures are stable, water-insoluble, and they exhibit superhydrophilicity with a minimum contact angle of $<10^{o}$. Moreover, the nanostructures also demonstrate strong water-capturing ability which is not observed for existing superhydrophilic materials. The nanostructures can transform a variety of substrates into superhydrophilic surfaces, and these substates include metal, semiconductor, glass and even flexible plastic transparency. This invention provides a convenient and general route to superwettable and water-capturing surfaces, and could be used in the broad areas of water-harvesting, anti-fogging, self-cleaning, water treatment and separation, microfluidics, lab-on-chip, and biotechnology.

Anthony Ho, NanoBright	A Solar Apparatus	NanoBright's capabilities are primarily focused on nano and non-nano structured fluorescent materials including the following : - down-conversion materials which converts a longer wavelength light down to s shorter wavelength light - up-conversion materials which convert a shorter wavelength light, like infra-red to a longer wavelength light - long after-glow phosphors which is able to absorb light from the surrounding and subsequently releases these light over a long period, giving an afterglow effect. NanoBright has licensed the a technology from NUS, which relates to enhancements of solar-cells efficiency using fluorescent technology (patent pending)