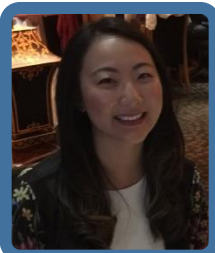


# SOFI CDT Newsletter

August 2015

## SOFI Student: Denise Li

My name is Denise Li and I am a cohort 1 SOFI CDT Student. I graduated from the University of Durham in 2013 with a Masters in Chemistry. I am also the editor of the SOFI CDT newsletter.



Having completed my final year undergraduate degree in industry with DuPont Teijin Films, I stayed at the company for another year. Knowing that I wanted to keep the industrial link and also pursue a PhD, the SOFI CDT was a no brainer for me. It offers everything and more. Aside from all the great opportunities the SOFI CDT brings, I would like to highlight the friends that I have made. Meeting other CDTs I cannot help but compare us to others, we truly have a tight SOFI CDT cohort 1 and I believe this will continue through the next cohorts via the nature of our training.

I am now in Leeds using X-ray Scattering to study the stability of phospholipids in a dermatological formulation, sponsored by GSK.

In my spare time, I like to relax with yoga and dance. Any feedback or ideas for the newsletter is welcomed, please contact me on [n.y.d.li@durham.ac.uk](mailto:n.y.d.li@durham.ac.uk).

## SOFI Student: Daniel Taylor

My name is Daniel Taylor and I'm a physicist who graduated from the University of Bristol with a Masters in Physics.



During my degree I found I enjoyed the research aspect of science. Because of this, I naturally found myself looking to continue researching in an academic environment after completing my undergraduate degree.

After exploring my options I decided upon the SOFI CDT as it offered almost everything I was looking for in a PhD; the less rigid nature of the CDT structure coupled with some very interesting interdisciplinary science made the decision incredibly appealing.

Beyond my research I enjoy white-water kayaking and canoe polo. During my time at Durham I integrated quickly with the university club and competed for them on multiple occasions with great success.

I'm now working on bacterial growth in emulsion micro-environments at The University of Edinburgh with Unilever.

## SOFI Staff: Richard Thompson

This issue, we learn how Richard Thompson ended up as an academic at Durham University.



I started off as a chemical physicist, graduating from Edinburgh in 1993. Inspired by a final year research project in the recently formed [Soft Matter Group](#) under Wilson Poon, I decided that this sort of research was clearly the field to be in.

(Some questionable performances in the 'quantum' components of my degree may also have shaped my thinking. However, more than anything else, I loved being able to walk into a lab and try something that had never been done before.) Although my surfactant aggregation project didn't make history, it helped me to find my way into a PhD place in the [Surfactant Science group](#) at Hull, where I attempted to become an expert in SFA surfactants. A few papers and several less impressive interview performances followed, which eventually led to an 11 month postdoc contract using neutrons and ion beams to study polymer interfaces with Randal Richards in Durham. My plan was to 'learn something about polymers and go into industry', but the learning process is still ongoing. Nowadays, my research funding is currently about 50% industrial and 50% RCUK/other, and similarly divided between surface science and rheology. Little is yet understood about how all but the simplest mixtures of soft materials organise themselves or flow or evolve with time, and I still feel that there are huge opportunities in these areas.

## The SOFI CDT Industrial Event

On 18<sup>th</sup> and 19<sup>th</sup> June 2015, new and existing members of the SOFI CDT network met in Edinburgh. The SOFI CDT Industrial event was an unquestionable success, with the attendance of a diverse group of successful companies making it a rich networking event. The first day kicked off with a series of flash presentations from each of the new and existing industrial members, familiarising the SOFI CDT network with the plethora of different skills and expertise across the different organisations.

The rest of the event was split between 1:1 meetings where delegates had the chance to discuss topics of mutual interest, tours of the various labs of the events host (the University of Edinburgh), presentations on the innovation life cycle and presentations on how industry and academia can cooperate.

The brain storming sessions were another success of the event, in which groups produced possible project titles for a future PhD. In a spontaneous collaboration, academics, members of industry and cohort 1 PhD students proposed research that addressed what they thought were key challenges to industry and science, and hopefully could be further developed into real projects for future cohorts.



Cohort 2 are due to start next month!! See the next page for a brief introduction to them. We look forward to welcoming them to the SOFI community.

## What makes a good CDT?

The Chair of the SOFI International Advisory Board (IAB) speaks to us about what makes a good CDT.

Hello, I am Michael Duncan. I have the pleasure chairing the SOFI IAB. I have recently retired from Procter & Gamble as a global director for R&D with specific responsibility for our external innovation programs. I have been honoured with a visiting professorship of physics at Durham University and I also sit on a council at the IoP, amongst other responsibilities.

The objective of the IAB is simple. Help make the SOFI CDT to be as good as it can be and train world class scientists of the future. The board is comprised of a diverse range of individuals with skills and experience that include working in academia and business (large and small), some have direct involvement with other CDTs and interfacing with funding bodies such as the EPSRC, writing and evaluating teaching courses in the UK and overseas, supervising students and recruiting and employing scientists. So we have a lot of experience to pull from. It would be great for the SOFI cohort to meet the IAB in the coming years.

I chaired the national CDT review for the EPSRC in 2011 and during this process it became clear that there are several factors that make a great CDT. As you would expect the primary factor is the ability to give students in depth experience in the chosen field of interests, this extends to tailored teaching packages, well equipped labs, recognised expert tutors, engaged industry partners and challenging relevant research projects. To optimise the effectiveness and efficiency of CDTs they should be conducted in an environment of collaboration between students, academics and industrial scientists and connect the students with multiple locations in the UK and beyond. It is very important that the CDT has a clear identity and the students have a sense of belonging and feel part of a program that enriches their specific research. The IAB will be looking at all these aspects of the SOFI CDT, making suggestions to the leadership and where appropriate getting involved directly to support the CDT. We have met once and meet again early next year. I look forward to meeting you all personally.

## Industrial Q&A: Epigem

I am Tim Ryan and have had the pleasure to work with the SOFI academic team, fellow industrial enthusiasts and the first cohort to get the CDT off to a good start. **You may ask why?** There is an excellent fit with the business interests of Epigem Limited, for which as Founder and Managing Director I am responsible. Our core business is focused on microfluidic devices and printed electronics largely for life science / healthcare markets but also specialist energy and consumer product markets.

### What is your involvement with the SOFI CDT?

My involvement to date in SOFI has been to transfer some of my experience and knowledge through delivery, with Richard Thompson, of Case Study 3 and providing the "milk challenge" which enabled me to share my interests in learning lessons from nature, from the point of view of a business leader, industrial polymer scientist and as a fan of microfluidics. I also sit on the IAB which I have added to a number of advisory roles I hold related to the development of new business opportunities and the enabling technologies behind them.

### How has the SOFI CDT benefitted you?

The milk challenge is a real problem being addressed by Epigem, with EU partners in the SYMPHONY project, who are working with the milk industry on an assay to reduce the risk of a potent toxin entering the food chain and it was great fun obtaining the cohort's help. On behalf of Epigem and with the polymer chemistry co-supervision support of Lian Hutchings and measurement assistance from Richard Thompson I submitted a PhD proposition. This has been taken up by Jon Millican who has leapt into action.

Below: Cohort 1's visit to Epigem Ltd.



## Meet Cohort 2!

**Natasha Boulding** – Studied Chemistry at the University of Warwick.

**Hugh Barlow** – Studied Physics and Applied Mathematics at the University College Cork, Ireland.

**Scott Bush** – Studied Physics at Aberystwyth University.

**Morfo Zembyla** – Studied (BSc) Chemistry at the University of Leicester and (Masters) Food Science at Leeds.

**Peter Wyatt** – Studied Natural Sciences at the University of Leeds.

**Phil Buckley** – Studied Maths at the University of Durham.

**Jessica Andrews** – Studied Chemistry at the University of York.

**Tom Ridley** – Studied Theoretical Physics at the University of Leeds.

**Vanessa Woodhouse** – Studied Physics at the University of Leeds.

**Rebecca Fong** – Studied Chemistry at the University of Durham.

**Will Foster** – Studied Physics at the University of Manchester.

**Jack Law** – Studied Physics at the University of Bath.

**Vishal Makwana** – Studied Pharmaceutical Chemistry at Queen Mary University of London.

## Meet us at...

- ❖ A one day meeting at the University of Durham on Sept 15, 2015: **Complex fluids under extreme conditions**. Visit <http://compfuec.iopconfs.org/Home> to register.
- ❖ A symposium at Grey College at the University of Durham on Sept 18<sup>th</sup>, 2015: **Advances in understanding materials using extensional flow**. Contact [d.m.woyle@durham.ac.uk](mailto:d.m.woyle@durham.ac.uk) to register.
- ❖ A Royal Society Discussion Meeting held in London on Oct 12 and 13, 2015: **Soft Interfacial Materials: From Fundamentals to Formulation**. Find out more and register at <https://royalsociety.org/events/2015/10/soft-interfacial-materials>.