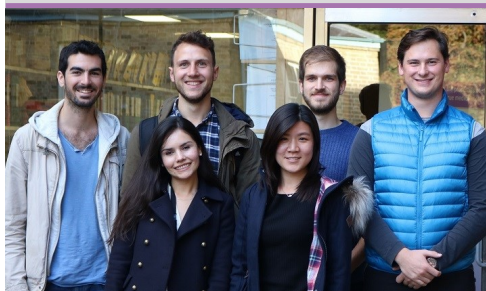


Newsletter

Issue 11 - October 2016

New PhD students



This October, we welcomed around 20 new PhD students; some are pictured here. It is a truly international group including students from France, Malaysia, Mexico, Germany, UK, Taiwan, Hungary, Hong Kong, United States, and Italy.

6 of the 20 students are funded by our Wellcome Trust 4-Year Programme in Stem Cell Biology & Medicine and our Medical Research Council Physical Biology of Stem Cells course. Students choose from over 50 participating host labs, using a range of experimental approaches and organisms.

Other funders of new CSCI students include: Cambridge Cancer Centre, BBSRC Industrial Case Partnerships, Simonyi Cambridge Scholarship, Trinity Henry Barlow Scholarship (and Wolfson College), the British Heart Foundation, and other Wellcome Trust Clinical-related PhD programmes. We're expecting great things from our next generation of Stem Cell Scientists!

Welcome to the new Academic year 2016/17



As another academic year begins it is a good time to reflect on how far we have come in the last twelve months. For many of us they have been dominated by the Wellcome Trust Centre competition and I was delighted by the strong and cohesive way in which everyone came together as we crafted our application. Many PIs were also involved in the subsequent site visits and interviews. The PIs all put in outstanding performances and throughout the whole process the CSCI administrative team have also provided exceptional support. I would like to thank all of those involved

for a job very well done.

Looking ahead to the coming year, one major focus will be the plans for our move into Capella. To think about how we will function once we are in Capella, and also about some of the challenges associated with the move, several Working Groups are being established to consider issues such as biofacilities, tissue culture, computing, bioinformatics etc. Many of you will be involved and we plan to put the membership of the various Working Groups onto the website so that everyone will know whose ear to bend if they have any particular concerns. We have an exciting year ahead of us.

Prof Tony Green, Institute Director

CSCI Annual Meeting 2017

Following a successful retreat in 2016, this year's event will take place on 23rd and 24th February at Tattersalls in Newmarket, once again taking advantage of the distinctive location. It is a great opportunity for all CSCI members to hear about research going on in other Institute groups, to share ideas and meet new faces. Further details of the programme will follow shortly. We look forward to



meeting our International Scientific Advisory Board, international colleagues and seeing all of the Institute there.

Project Capella update



During September, the building team have reached the end of their first year on site at Capella. The main structure of the building is now rapidly growing as new levels are added. The level 4 floor is now completed.

A topping out ceremony is being planned for **April 2017**. This will mark the end of

the main building construction, when the entire structure will be complete. The project will then move on to internal fitting of rooms and labs.

You can keep an eye on progress at the site via the webcam at www.time-lapse-systems.co.uk Username: Cambridge Password: woolsthorpe59

www.stemcells.cam.ac.uk

Academia to Industry



Many CSCI researchers work with industry or are involved in companies as a result of their research work. CamBioScience Limited was founded by CSCI researchers in July 2015 as an academic-to-industry consultancy firm.

In collaboration with the CSCI, CamBioScience Limited has developed a series of two-day intensive training courses covering breakthrough technologies in the life sciences.

In August 2016 participants from over 13 countries attended courses focusing on topics such as pluripotent stem cell biology, the application of CRISPR in the Zygote, and the rapidly developing Organoid culture technique.

In November 2016 CamBioScience is going to host the second edition of the very successful 'Genome Editing: CRISPR – Design and Strategy' course.

See more at cambioscience.com

Stem Cell Club & External Seminars

In 2017 the CSCI is launching a new series of seminars for invited speakers. In addition to the monthly Stem Cell Club, there will be another monthly Seminar with an invited external speaker, starting in January 2017.

These will take place in the Clifford Allbutt Lecture Hall at the Biomedical Campus from 1-2 PM on the following dates:

16 Jan, 14 Feb, 23 March, 11 Apr, 18 May, 13 June, 13 July, 12 Sept, 13 Oct, 14 Nov and 15 Dec 2017.

(please mark them in your calendars)

We will soon be circulating among CSCI PIs and affiliates a list of possible speakers covering the following areas: Pluripotent, Epithelial, Neural and Haematopoietic.

We would greatly appreciate your feedback and/or additional suggestions to prepare the final list. Suggestions on potential sponsorship to cover costs would be more than welcomed.

Thank you in advance!



Final Stem Cell Club date for 2016:

**Wednesday 30th November
Clifford Allbutt Building, 6.30pm**

Symposium success

At our Symposium on 18th to 19th July, organised by Dr Paul Bertone, Dr Elisa Laurenti and Prof Azim Surani, speakers lined up an outstanding array of unpublished data, presenting new experimental and analytical techniques aimed at understanding stem cell regulation at all scales.

A stimulating modelling session provided a theoretical framework for interpretation of quantitative stem cell biology data and discussions around gene editing technologies such as CRISPR shed a light on the way these techniques are already changing the extent to which stem cells can be manipulated. This opens up exciting avenues for understanding stem cell biology, but importantly also for the design of new regenerative medicine strategies.

We are looking at potential dates for our next Symposium, but are also looking for our next willing scientific organisers. Please do email the Institute Coordinator if you would be willing to lead organisation of the next Symposium, which will take place in 2018.



Recent publications

Davis F et al. **Single-cell lineage tracing in the mammary gland reveals stochastic clonal dispersion of stem/progenitor cell progeny.** *Nature Communications*.

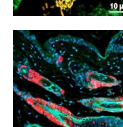
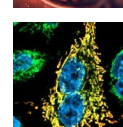
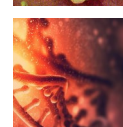
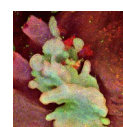
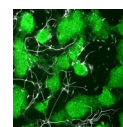
Miller A et al. **Sall4 controls differentiation of pluripotent cells independently of the Nucleosome Remodelling and Deacetylation (NuRD) complex.** *Development*. 2016 Jul 28.

Sánchez-Danés A et al. **Defining the clonal dynamics leading to mouse skin tumour initiation.** *Nature*; 8 July 2016

Scialdone A et al. **Resolving early mesoderm diversification through single-cell expression profiling.** *Nature* 2016 July 535, 289–293

Van Haute L et al. **Deficient methylation and formylation of mt-tRNA(Met) wobble cytosine in a patient carrying mutations in NSUN3.** *Nature Communications*. 2016 Jun 30;7:12039

Blanco S et al. **Stem cell function and stress response are controlled by protein synthesis.** *Nature*. 2016 Jun 15;534



Public Engagement

Events

Pop - up!



CSCI 'popped-up' at Addenbrooke's Hospital over the summer to bring a bit of stem cell science to people passing by. We were soon engaged in fascinating conversations with nurses, patients, families and hospital staff.

As well as providing reliable and up-to-date information we are particularly interested to hear people's views or concerns about stem cell research. The pop-up has been designed to encourage dialogue, which helps us to learn where there may be mis-information or lack of clarity about what we do.

The aim for this project is to bring research well-and-truly out of the lab so you can expect to see us in new and unusual locations in the future!

Work Placement

In our second year taking part in the Nuffield Research Placement scheme, the Smith lab welcomed A level student, Maddy for a 4-week project in the lab.

Maddy conducted a real investigation to help work out how the levels of activity of the gene NR5A1 affect the behaviour of mouse embryonic stem cells. Special thanks to **Yaoyao**, **Nick**, **Tuzer** and **Carla** from the Smith group for making her experience so valuable.

"You've all been incredibly generous (and patient) to explain lots of the science to me considering my very basic starting knowledge. I've really enjoyed working with you and maybe will one day meet some of you in the field when I'm a post-graduate? Thank you!"



Film Launch

In July, we ran a social media campaign to launch a series of short films about our research.

The films depict the personal stories of Peter, Jonathan and Paula, three non-specialist members of the public with medical conditions related to our research themes, as they learn more about the latest research.

We released one film each week encouraging people to share their own opinions about stem cell research using the hashtag '#MyView'. The likes, shares and comments were soon rolling in, showing a real thirst for this kind of accessible research update.



If you have not yet seen the films, you can watch them all on our YouTube Channel search for 'Stem Cell Institute Cambridge'.

Natural History Museum



'Science Uncovered' gives the public the opportunity to explore the Natural History Museum after dark, meeting all kinds of researchers along the way.

We took our stem cell robots to this event and they proved to be a great conversation starter. We met people of all ages and from all walks of life. Everyone was keen to try their hand at programming a stem cell.

Thank you to our wonderful team of engagers who were able to introduce complex stem cell biology concepts in such a fun way.



Live Comedy



On Monday the 10th of October public engagement took a giant leap out into the unknown world of stand-up comedy.

Science Showoff is a chaotic science comedy cabaret founded by scientist-turned-comedian, Steve Cross. The event stars researchers trying their hand at stand-up for the first time. Just to add to the challenge - the material is supposed to be about science! All researchers completed introductory comedy training with Steve, which was generously funded by the Graduate School of Life Sciences. They then had just two weeks to develop their material and performance style before bringing it to the stage in front of a capacity crowd at the Portland Arms.

Despite lots of pre-show nerves and the extra pressure of a packed room, the performers made it out on stage and were fabulously funny about everything from their supervisors to their flies!

A huge congratulations to all of the performers and particularly to our courageous and hilarious PhD students, **Stanley Strawbridge** and **Alisa Molotova** (they've already signed up for more!).

The event formed part of the national Biology Week celebrations and all ticket sales were donated to the Cambridge Branch of Parkinson's UK. Alongside donations on the night, we raised £706.



Coming Up



Game Lab is Back!

Following on from a successful pilot last year, we have been supported by the MRC to expand this unique event.

The Game Lab brings together teams of skilled games developers with researchers from the CSCI. The challenge is to work together over a period of 48 hours to incorporate the latest stem cell science into a completely new and playable game.

Last year's winners went on to produce a full prototype of their game 'Cellbound', which has just been accepted to the App Store and will be available to download and play in November.

We look forward to meeting a new group of Cambridge gaming talent and seeing where a weekend of creativity and coding will lead us this year. If you would like to take part in this event, contact Philippa at: sciepo@stemcells.cam.ac.uk