

## Insigneo Newsletter - February 2020

Welcome to our monthly Insigneo newsletter!

Our monthly e-newsletter keeps you up to date with events, funding, success stories and information. We hope you will find it useful! If you would like to add information and/or events to this newsletter please email: [news@insigneo.org](mailto:news@insigneo.org) (the newsletter will be issued during the 2nd week of the month, excluding January and August). Please ensure that you submit news and events with a minimum of one week's notice.

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## Insigneo Showcase 2020 - programme online

# INSIGNEO SHOWCASE 2020

**Friday, 1 May 2020, Octagon Centre, Sheffield, UK**

The programme is now available for the Insigneo Institute for *in silico* Medicine's Annual Showcase event which will be held on 1 May 2020 at the Octagon Centre, in Sheffield, UK. This full day event is an opportunity for our members, funding agencies, regulatory agencies, industrial colleagues, and other academic groups in the UK and worldwide to meet once a year and see first-hand the latest innovations in personalised, predictive medicine produced by our Institute.

The day will feature:

- A keynote talk from Professor Andy Parker, University of Cambridge and talks from Insigneo members on the latest developments in their research areas.

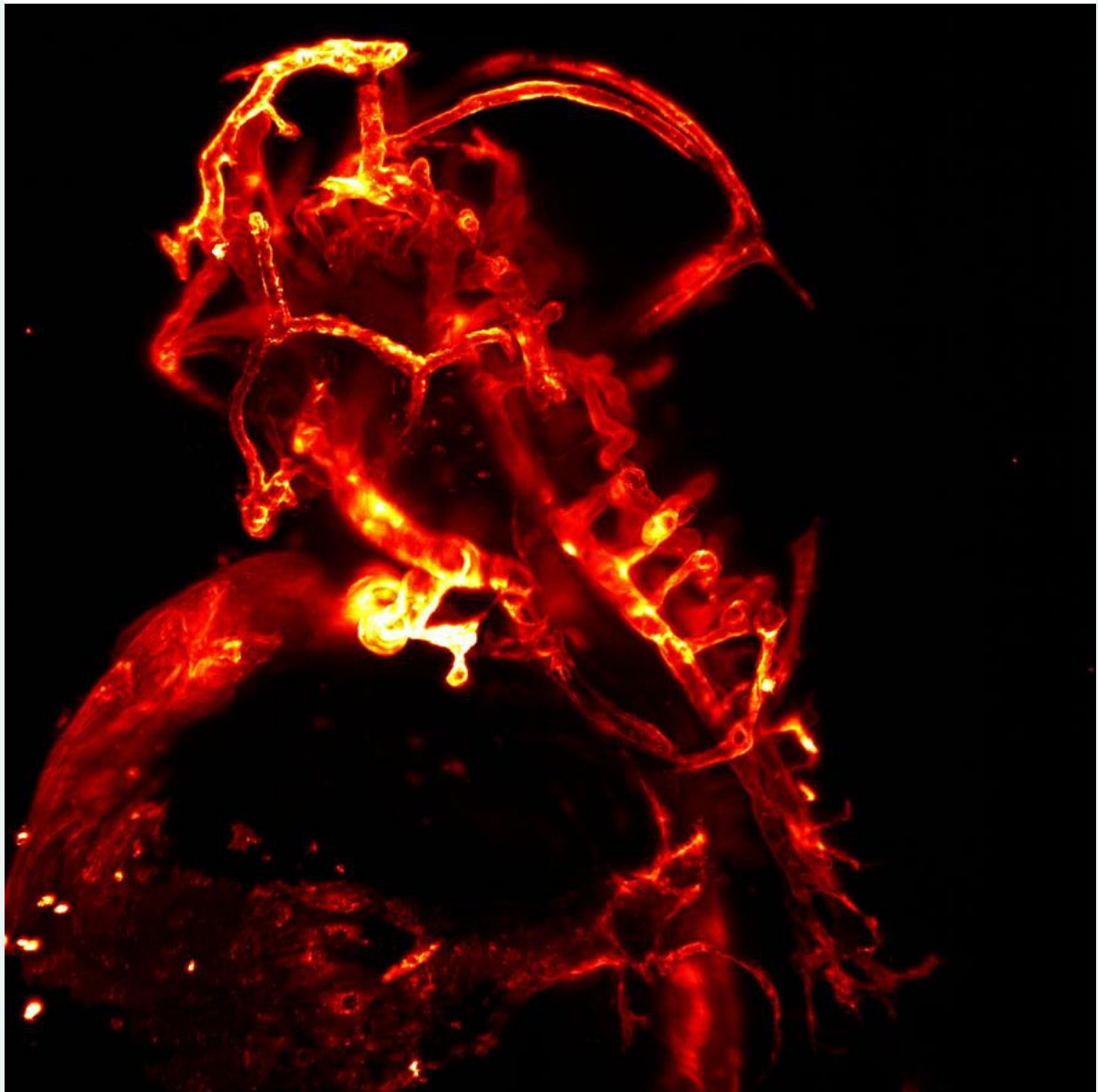
Early Career Researcher presentations – hear about emerging research with perspectives from the next generation of researchers;

- An exhibition showcasing *in silico* medicine's latest applications and developments from our industrial partners, non-profit organisations, research groups and projects;
- Networking opportunities and one-to-one discussions with funders, academics and clinicians.

Visit the event page to view the full programme and register.

[Read more](#)

## Insigneo image competition winner



After receiving some fantastic entries for our Insigneo Image Competition we have picked a winner. The entries were reviewed by an Insigneo panel who chose Elisabeth Kugler's 'The Zebrafish Vasculature'.

A massive congratulations to Elisabeth on her winning entry.

### **The Zebrafish Vasculature - Elisabeth Kugler**

"Shown is the head vasculature in a two day old zebrafish (side view).

"We can study zebrafish vascular development to understand vasculature development and disease. Using transgenic lines and microscopy, we can visualise vascular development. Using *in silico* techniques we can quantitatively assess vascular growth over time and how this might be impacted by disease or chemicals."

Thank you to everyone who participated. It has been great to see images of our members' work and we plan to share the entries on the Insigneo website in the future.

## **Modelathon 2020**



Marco Sensale a SPINNER Fellow, based at ANSYS has written about his experience of the Modelathon 2020 event.

The four-day EPSRC funded Modelathon 2020\* event took place 12 – 13 January 2020 bringing together the very best of theory and practice in the area of multi-scale modelling. This year's symposium focused on the role of multi-scale modelling for new treatments of osteoarthritic joints and was followed by a three-day multi-scale modelling competition.

\* The Modelathon was organised by EPSRC funded projects: MultiSim and OATech+Network.

[Read more](#)



## Mobilise-D training event



This January, researchers, academics and clinicians from all over Europe and Israel were welcomed to the Insigneo Motion Capture and Virtual Reality Laboratory at the University of Sheffield for a training session for all the universities and hospitals involved in Work Package 2 'Technical validation of a single sensor system' of the Mobilise-D project.

[Read more](#)

## Research Associate undertakes a month long tour of orthopaedic centres as a Travelling Fellow



Vee San Cheong is a Research Associate in the University of Sheffield's Department of Automatic Control and Systems Engineering (ACSE) and the Institute for in silico Medicine. She was awarded an International Travelling Fellowship by the Bone Joint Research (BJR) and British Orthopaedic Research Society (BORS).

The travel fellowship enabled Vee San Cheong to visit a series of universities,

research centres and hospitals across North America as part of a tour with the Bone Joint Research and British Orthopaedic Research Society's International Travelling Fellows. The aim of the fellowship is to promote education and increase the research opportunities available to early career researchers.

[Read more](#)

## Sheffield team to create a 'digital twin' of the human heart



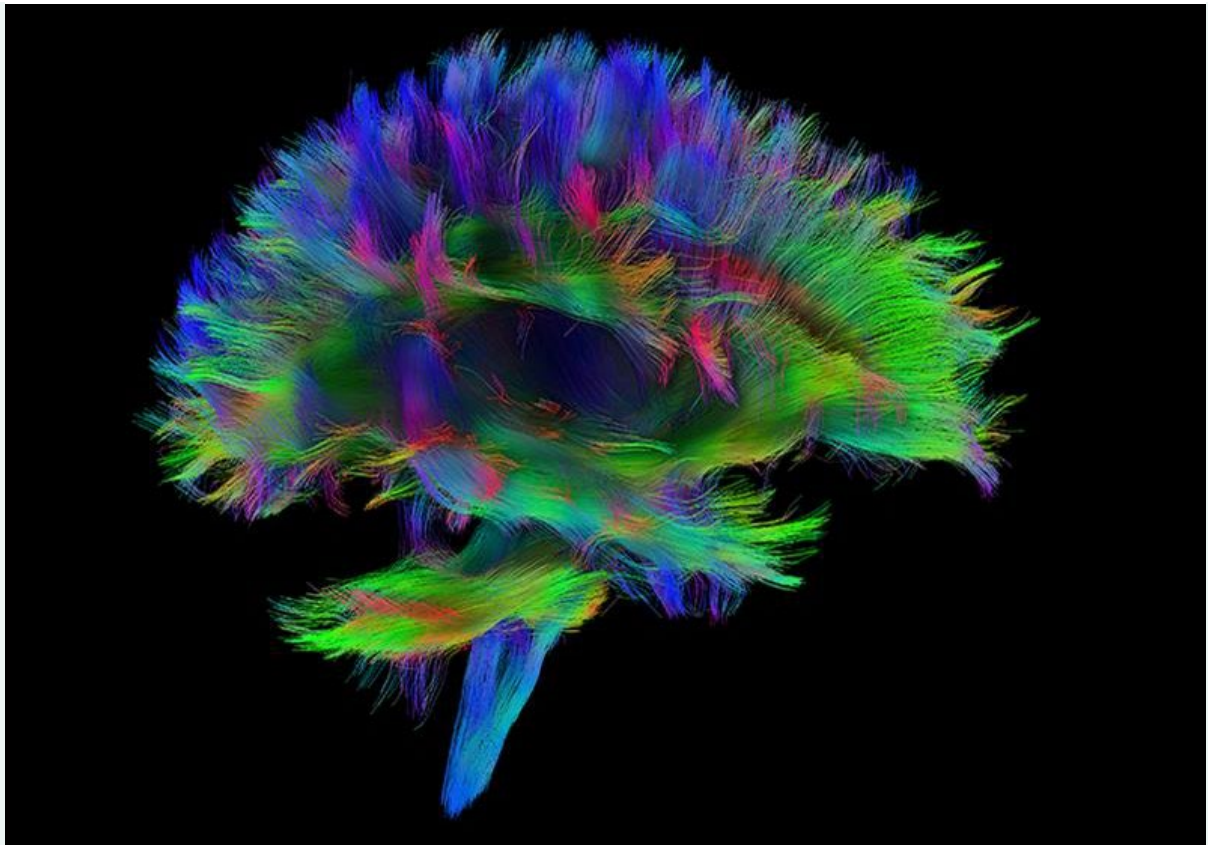
A 'digital twin' of the human cardiovascular system will be developed for the first time by researchers at the University of Sheffield.

The ambitious project aims to transform how doctors diagnose and treat cardiovascular disease, giving patients real-time support to monitor their health alongside care from their doctor.

The 'Enhancing Cardiac Care Through Extensive Sensing' (ECHOES) project will bring together international academic and industrial partners, to develop accessible wearable technology that can be used to capture the experiences, symptoms and cardiovascular data of an individual during their daily life.

[Read more](#)

## Sheffield researchers confirm coeliac disease can damage the brain



People living with Coeliac Disease (CD) have a higher risk of neurological damage according to a new study from the University of Sheffield.

The study found that the brains of people living with CD showed evidence of damage to brain matter and cognitive deficit in the form of slowed reaction times.

[Read more](#)

## Congratulations to our recent graduates



Well done to our graduates for their hard work, determination and contribution to the Insigneo Institute, including:



## PhDs

- Freddie Greatrex - Freddie is currently working in Oxford at a medical imaging company (Perspectum Diagnostics).
- Erica Montefiori - Erica is a Research Associate at the Insigneo Institute working on the MultiSim project.

## MSc Computational Medicine

- Abhinav Paul Kongari
- Leticia Campello
- Malwina Matella
- Michael Walker

## BioMedEng20 - Abstracts submissions open!



**Abstract submissions are now open!**



Abstract submission are now open for BioMedEng20, the UK's largest gathering of Biomedical Engineers, Medical Engineers and Bioengineers which will be held at the University of Sheffield on the 14th – 15th September 2020.

The conference will be an exciting programme of plenary sessions, keynote talks, oral presentations, power pitches, poster presentations and workshops.

[Submit an abstract](#)

**Guest Lectures, Conferences & Seminars**

**Insigneo Events**

5 March 2020

Insigneo Seminar: Unravelling the interplay of structural and material properties of biological soft tissues using mechanistic modelling. (Dr Georges Limbert, University of Southampton and the University of Cape Town)

18 March 2020

Healthy Lifespan Institute – Insigneo workshop: *In silico* approaches to ageing & multi-morbidity

19 March 2020

Insigneo Seminar/Mechanobiology Club - Dr Kim van der Heiden (Erasmus MC) & Dr Annica Gad (Department of Oncology & Metabolism, University of Sheffield)

1 May 2020

Insigneo Showcase 2020

14 May 2020

Insigneo Seminar: Professor Sarah Waters - Mathematical Institute, University of Oxford

1 June 2020

Insigneo Seminar: Mechanobiology (Dr Martial Balland, Grenoble Alpes University & Dr Chris Toseland, Department of Oncology & Metabolism, University of Sheffield)

### **Other events**

6 March 2020

Neuroscience Institute Seminar – Samit Chakrabarty, Sheffield

10 March 2020

ReproHacks Northern Tour 2020 – University of Sheffield

20 - 24 April 2020

2020 SPARC Ideas Lab

26 August 2020

VPH2020

7 September 2020

International Winter School on *In Silico* Trials, Bologna

14 September 2020

BioMedEng 2020 conference, Sheffield – Abstracts are open!

**For a full list of upcoming events visit: <http://insigneo.org/events/>**

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# Publications

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Research output affiliated to Insigneo in Scopus (please ensure papers are affiliated to the Insigneo Institute by including the words "Insigneo Institute for *in silico* Medicine"):

**Probabilistic Interpolation of Uncertain Local Activation Times on Human Atrial Manifolds** (IEEE Transactions on Biomedical Engineering) S. Coveney, R. H. Clayton, C. Corrado, C. H. Roney, R. D. Wilkinson, J. E. Oakley, F. Lindgren, S. E. Williams, M. D. O'Neill, S. A. Niederer

**Is a wearable sensor-based characterisation of gait robust enough to overcome differences between measurement protocols? A multi-centric pragmatic study in patients with multiple sclerosis** (Sensors (Switzerland)) L. Angelini, I. Carpinella, D. Cattaneo, M. Ferrarin, E. Gervasoni, B. Sharrack, D. Paling, K. P. S. Nair, C. Mazzà

**Novel naturally derived whey protein isolate and aragonite biocomposite hydrogels have potential for bone regeneration** (Materials and Design) D. Gupta, M. Kocot, A. M. Tryba, A. Serafim, I. C. Stancu, Z. Jaegermann, E. Pamuła, G. C. Reilly, T. E. L. Douglas

**In silico clinical trials: Concepts and early adoptions** (Briefings in Bioinformatics) F. Pappalardo, G. Russo, F. M. Tshinanu, M. Viceconti

**Investigating rolling as mechanism for humeral fractures in non-ambulant infants: a preliminary finite element study** (Clinical Radiology) Z. Altai, M. Viceconti, X. Li, A. C. Offiah

**Endothelial responses to shear stress in atherosclerosis: a novel role for developmental genes** (Nature Reviews Cardiology) C. Souilhol, J. Serbanovic-Canic, M. Fragiadaki, T. J. Chico, V. Ridger, H. Roddie, P. C. Evans

**Rate of change of circulating 25-hydroxyvitamin D following sublingual and capsular vitamin D preparations** (European Journal of Clinical Nutrition) C. E. Williams, E. A. Williams, B. M. Corfe

**TGF $\beta$  Inhibition Stimulates Collagen Maturation to Enhance Bone Repair and Fracture Resistance in a Murine Myeloma Model** (Journal of Bone and Mineral Research) A. C. Green, D. Lath, K. Hudson, B. Walkley, J. M. Down, R. Owen, H. R. Evans, J. Paton, G. C. Reilly, M. A. Lawson, A. D. Chantry

**The unexplained success of stentplasty vasospasm treatment: Insights using Mechanistic Mathematical Modeling** (Clinical Neuroradiology) P. Bhogal, G. Pederzani, A. Grytsan, Y. Loh, P. A. Brouwer, T. Andersson, N. Gundiah, A. M.

Robertson, P. N. Watton, M. Söderman

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