

## Insigneo Newsletter - May 2019

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 2019 success



On Friday 17 May 2019 the Insigneo Institute welcomed over 200 delegates, including academics, clinicians, industry and funding bodies, to its annual Showcase event at the University of Sheffield's Octagon Centre.

Professor Koen Lamberts, President and Vice-Chancellor of the University of Sheffield opened the event and spoke highly of the institute's ambitions and commitment to excellence demonstrated in the quality of the results of the institute's research which is contributing to the development of innovative health technologies and also the collaborative, interdisciplinary relationship developed with the Sheffield Teaching Hospitals NHS Trust which is leading clinical translation.

[Read more](#)

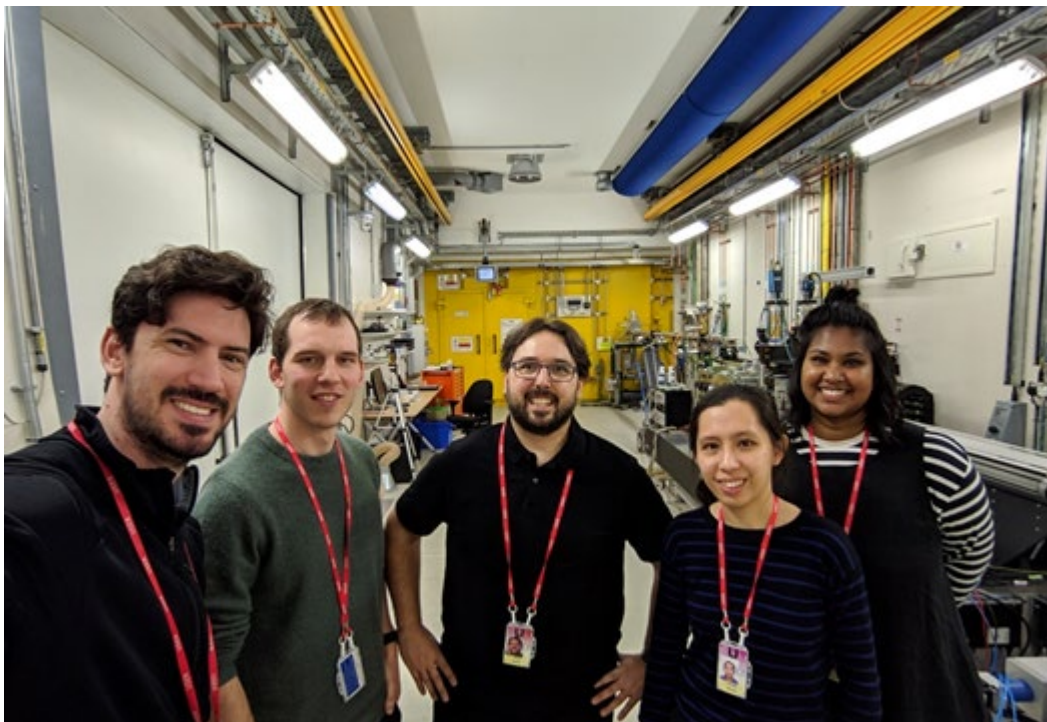
## Insigneo Summer Research Programme kick-off



The Insigneo Institute for *in silico* Medicine's 2019 Summer Research Programme kick-off meeting took place today, 9 May 2019, with 20 undergraduate students ready to begin their placements undertaking a variety of research projects within the Institute.

[Read more](#)

## Insigneo team visits Diamond Light Source



From 2 – 5 April 2019 a team of Insigneo researchers, comprised of Dr Bryant

Roberts, Dr Vee San Cheong, Dr Dharshini Sreenivasan, Mr Liam Boyle and led by MultiSim researcher Dr Enrico Dall'Ara, attended the Diamond Light Source I13 X-ray Imaging Lab in the Harwell Science and Innovation Campus, Oxfordshire. Here the team acquired 3D images of the mouse tibia cortical and trabecular bone using pink light, which at the I13 beamline has flux over a million times higher than that of a laboratory X-ray source. This enabled the very rapid imaging of our specimens at higher resolution (with 1.6  $\mu\text{m}$  voxel size) and with higher signal to noise ratio than is achievable with desktop micro-computed tomography (microCT).

[Read more](#)

## University of Sheffield number one in UK for engineering research income and investment

**#1**  
**FOR ENGINEERING  
RESEARCH INCOME  
AND INVESTMENT**

The Insigneo Institute is very proud to be a part of the University of Sheffield which has been named as the top university in the UK for income and investment in engineering research, according to new data published by the Higher Education Statistics Agency (HESA). Congratulations to all of our members and colleagues across the Faculty of Engineering!

[Read more](#)

## MultiSim Researcher, Aban Shuaib, invited to McGill University, Canada, to present his Agent-Based Modelling (ABM) work



Aban Shuaib's multi-disciplinary research is at the interface between medicine, engineering and computational modelling. He is a part of the MultiSim project work-package 5, which focuses on modelling molecular and cellular events triggered when a cell is exposed to mechanical stimulation, has been working on the simulations of bone remodelling using agent based modelling (ABM) and was invited to present his work at McGill University (Montreal, Canada). Aban was invited by Professor Luc Mongeau, Chair of the Department of Mechanical Engineering and Dr Nicole Li-Jessen, Assistant Professor at the School of Communication Sciences and Disorders. This was in light of their groups' ambition to develop a multi-scale computational model for vocal folds damage; the model will integrate the ABM paradigm.

[Read more](#)

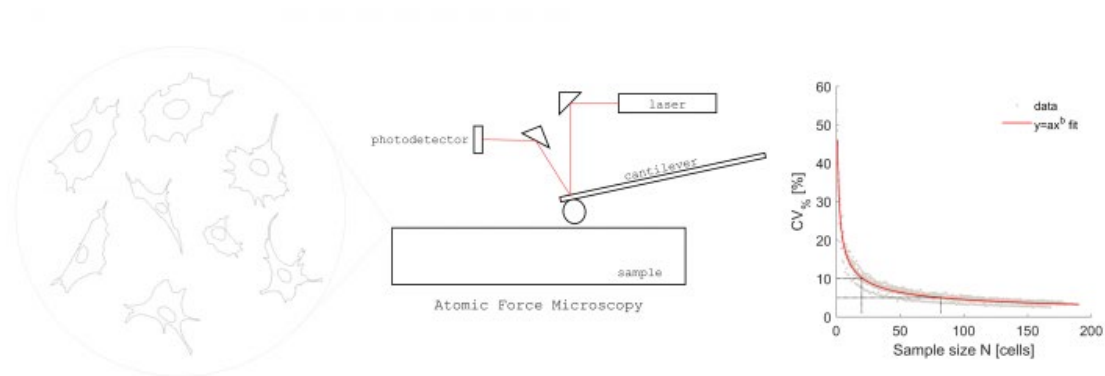
**MultiSim Researcher, Aban Shuaib wins a Santander Mobility Award and visits IBEC, Barcelona to develop collaborations**



MultiSim researcher, Aban Shuaib, wins a Santander Mobility Award to visit Institute for Bioengineering of Catalonia (IBEC), Barcelona to develop collaborations with the Cellular and Molecular Mechanobiology Laboratory (CMML) based there.

[Read more](#)

## Effect of cell sample size in atomic force microscopy nanoindentation



Researchers from our MultiSim project have published a paper in the Journal of the Mechanical Behavior of Biomedical Materials on the 'Effect of cell sample size in atomic force microscopy nanoindentation'.

[Read more](#)

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## Insigneo Seminar Series



Insigneo Seminar: mechanobiology

Dr David Pierce,  
Professor Anne Robertson &  
Professor Namrata Gundiah

16:00 – 18.00 on Thursday 11 July 2019

We are delighted to announce a joint seminar on mechanobiology with Dr David Pierce (University of Connecticut), Professor Anne Robertson (University of Pittsburgh) and Dr Namrata Gundiah (Indian Institute of Science) on Thursday 11 July 2019.

### Agenda:

- 4:00 – 4:30 – Dr David Pierce ‘virtual cartilage – toward translational applications’
- 4:30-5:00 – Dr Namrata Gundiah ‘ Stress fiber growth and remodeling determines cellular morphomechanics under uniaxial cyclic stretch’
- 5:00-5:30 – Professor Anne Robertson ‘Growth and remodeling in the bladder wall during aging and disease: Mechanisms and potential treatments’
- 5:30-6:00 – Refreshments

Register: <https://www.eventbrite.com/e/insigneo-seminar-mechanobiology-tickets-62351656483>

The Insigneo Institute runs a regular series of seminars on topics relevant to in silico medicine. Visit our website to view upcoming seminars:

<https://insigneo.org/events/category/insigneo-seminar-series/>

If you would like to suggest speakers or topics for future Insigneo Seminars please contact Dr Paul Watton: [p.watton@sheffield.ac.uk](mailto:p.watton@sheffield.ac.uk)

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## Guest Lectures, Conferences & Seminars

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## Insigneo Events

13 June 2019

Insigneo Seminar: modelling and *in-vitro* experiments in bone regeneration, Sheffield

19 June 2019

Insigneo Seminar: human *in silico* clinical trials in cardiology and pharmacology, Sheffield

11 July 2019

Insigneo Seminar: mechanobiology, Sheffield - **please register!**

23 September 2019 - Insigneo General Assembly - **save the date!**

## Other events

10 - 12 June 2019

6th International Conference on Computational and Mathematical Biomedical Engineering, Sendai, Japan

10 - 14 June 2019

2019 VPH Summer School, Barcelona

16 - 20 June 2019

ISC high performance 2019, Frankfurt

7 - 10 July 2019

ESB 2019, Vienna

5 September 2019

General Assembly of the UK Chapter of the VPH Institute, London

25 - 27 September 2019

CompBioMed Conference 2019, London

6 December 2019

10th Annual Mellanby Centre Research Day, Sheffield – save the date!

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

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## Vacancies

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PhD opportunity: using mechanistic computational simulation and machine learning

to inform instrument design for EIS-guided surgery  
(closing date 31/08/19)

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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"):

**Incorporation of HA into porous titanium to form Ti-HA biocomposite foams**

(Journal of the Mechanical Behavior of Biomedical Materials) M. Shbeh, Z. J. Wally, M. Elbadawi, M. Mosalagae, H. Al-Alak, G. C. Reilly, R. Goodall

**Virtual Coronary Intervention: A Treatment Planning Tool Based Upon the**

**Angiogram** (JACC: Cardiovascular Imaging) R. C. Gosling, P. D. Morris, D. A. Silva Soto, P. V. Lawford, D. R. Hose, J. P. Gunn

**Pre-operative prediction of soft tissue balancing in knee arthroplasty part 1:**

**Effect of surgical parameters during level walking** (Journal of Orthopaedic Research) M. Viceconti, D. Ascani, C. Mazzà

**Studies of salivary pepsin in patients with gastro-oesophageal reflux**

**disease** (Alimentary Pharmacology and Therapeutics) C. Race, J. Chowdry, J. M. Russell, B. M. Corfe, S. A. Riley

**Volatile organic compounds emitted from faeces as a biomarker for colorectal**

**cancer** (Alimentary pharmacology & therapeutics) A. Bond, R. Greenwood, S. Lewis

B. Corfe, S. Sarkar, P. O'Toole, P. Rooney, M.I Burkitt, G. Hold, C. Probert

**Effect of hypoglycemia on inflammatory responses and the response to low-**

**dose endotoxemia in humans** (Journal of Clinical Endocrinology and Metabolism) A. Iqbal, L. R. Prince, P. Novodvorsky, A. Bernjak, M. R. Thomas, L. Birch, D. Lambert, L. J. Kay, F. J. Wright, I. A. Macdonald, R. M. Jacques, R. F Storey, R. J. McCrimmon, S. Francis, S. R. Heller, I. Sabroe

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## Starters & Leavers

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A warm welcome to:

### PhD Students

Frederik Trommer - PhD student of Dr Pinaki Bhattacharya



Kirsty Scott - PhD student of Professor Claudia Mazzá

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**for *in silico* Medicine**

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