

## Insigneo Newsletter - April 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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## One month to go! Insigneo Showcase 2019



**Friday, 17 May 2019, Octagon Centre, Sheffield, UK**

**The event is free of charge.**

We have over 200 registrations for our 2019 Showcase event, **if you are planning to attend please make sure you register so that we can accommodate you.**

Come and see first-hand the latest innovations in personalised, predictive medicine produced by our Institute.

Professor Koen Lamberts, President and Vice-Chancellor of The University of Sheffield will open the Showcase event and introduce our plenary speaker Professor Liesbet Geris, President of the Virtual Physiological Human Institute and Professor of Computational Tissue Engineering at the University of Liège. The full

programme of speakers is available on the website, please click the link below to find out more and register.

We will be tweeting on the day from @insigneo using #InsigneoSC19.

[Register](#)

## Ground-breaking digital monitoring project could help prevent diseases



The Insigneo Institute for *in silico* medicine is among the main beneficiaries of 2.1 million euros in funding to help develop technology to monitor how well people walk – a vital sign of health and wellbeing. The project named MOBILISE-D, aims to revolutionise assessment of mobility loss using digital technology.

[Read more](#)

## Second phase of funding to expand research into modelling the human musculoskeletal system to tackle a broader range of ageing related and neurodegenerative conditions



University of Sheffield research into modelling of the human musculoskeletal system to assist the assessment, diagnosis and treatment options for individual patients has received a second phase of funding via the £750k Engineering and Physical Sciences Research Council (EPSRC) “Frontier Engineering: Progression Grant in modelling complex and partially identified engineering problems. Application to the musculoskeletal system” (MultiSim2).

[Read more](#)

## Professor Dame Pam Shaw



Professor Dame Pam Shaw will from September 2019 be stepping down from her role as Vice-President for the Faculty of Medicine, Dentistry and Health to focus on her role as Director of the University’s new Institute for Neuroscience, as well as continuing her clinical work in Neurology.

We would like to thank Pam for her support and contribution to the Insigneo Institute through her invaluable input as a member of our Steering Committee. We wish her the best in her new ventures which Insigneo supports through continued collaborative research.

[Read more](#)

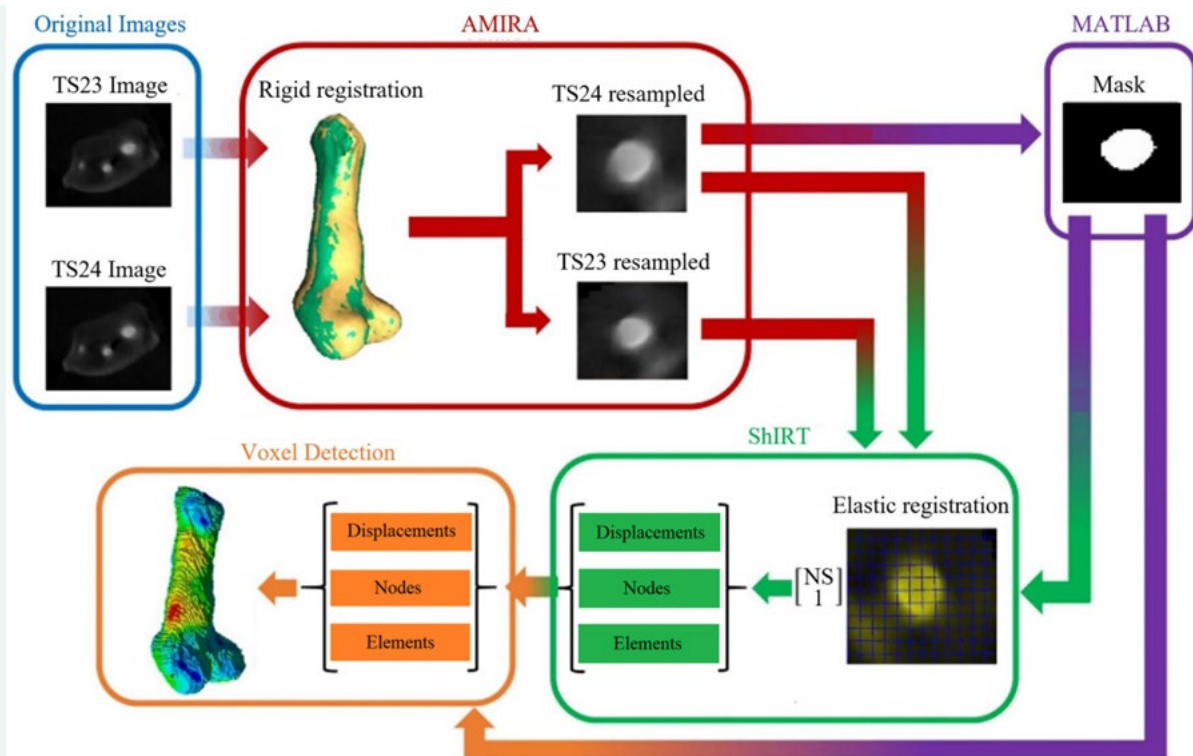
## 1st EPSRC MultiSim Interdisciplinary Workshop on Multiscale Modelling



On Friday, 29th March, a bright sunny Spring day in Sheffield, researchers from across disciplines in science and engineering with an interest in multiscale modelling gathered at the ICOSS Conference Centre. This event attracted over 40 participants from Sheffield and universities across the UK, including Oxford, Anglia Ruskin, Nottingham, Manchester, and Leeds. Dr Pinaki Bhattacharya welcomed the participants to the event and Professor Claudia Mazzà introduced the MultiSim project.

[Read more](#)

## Prenatal growth map of the mouse knee joint by means of deformable registration technique



Joint morphogenesis is the process of development of the joint that starts before the birth.

It is important to study joint morphogenesis in order to understand how it is related to musculoskeletal diseases and to optimise related interventions. In several cases the interventions are tested on animal models and the mouse pre-natal model is typically used to test the effect of diseases and treatments on the joints.

In this study, we developed a procedure that combines Optical Projection Tomography imaging (OPT) and a deformable registration algorithm to obtain realistic 3D realistic high-resolution developmental map of the prenatal mouse knee joint. We have found that the developed procedure has acceptable uncertainties of the displacement measurements and that it is well reproducible.

[Read more](#)

## Application deadline extended for 'Best VPHi Thesis Award in *In Silico* Medicine'



The "Best VPHi Thesis Award in In Silico Medicine", instituted for the first time by the Virtual Physiological Human Institute (VPHi) in occasion of the VPH2018 conference in Zaragoza, has been consolidated as a permanent annual initiative.

The goal is to reward individuals for outstanding achievements during their PhD.  
The application deadline extended to 30 April 2019.

[Read more](#)

## Guest Lectures, Conferences & Seminars

### Insigneo Events

2 May 2019

[Insigneo Seminar: modelling arterial chemo-mechanobiology](#), Sheffield

17 May 2019

[Insigneo Showcase 2019](#), Sheffield

24 May 2019

[Insigneo Seminar: I dream of chainsaws – methods for the automatic assessment of sleep-disordered breathing](#), Sheffield

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: virtual cartilage – toward translational applications](#), Sheffield

### Other events

25 - 26 April 2019

[CMAS 2019: 18th Annual Meeting of the Clinical Movement Analysis Society](#), Sheffield

14 May 2019

[Sheffield 3D Day 2019](#), AMRC Knowledge Training Centre (KTC)

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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Lecturer in Biomechanics

(closing date: 24/04/19)

Professor in Medical Imaging Physics

(closing date: 29/04/19)

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"):

**Optimization schemes for endovascular repair with parallel technique based on hemodynamic analyses** (International Journal for Numerical Methods in Biomedical Engineering) H. Xu, Y. Mei, X. Han, J. Wei, P. N. Watton, W. Jia, A. Li, D. Chen, J. Xiong

Effect of cell sample size in atomic force microscopy nanoindentation (Journal of the Mechanical Behavior of Biomedical Materials) S. Marcotti, G. C. Reilly, D. Lacroix

Commentary on: evaluation of a newly developed 2D parametric parenchymal blood flow technique with an automated vessel suppression algorithm in patients with chronic thromboembolic pulmonary hypertension undergoing balloon pulmonary angioplasty (Clinical Radiology) Y. Shahin, A. M. Rothmanac

Comparison of in vivo lung morphometry models from 3D multiple b-value 3 He and 129 Xe diffusion-weighted MRI (Magnetic Resonance in Medicine) H. F. Chan, G. J. Collier, N. D. Weatherley, J. M. Wild

The unexplained success of stentplasty vasospasm treatment (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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## Starters & Leavers

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A warm welcome to:

### Members

Dr Annica Gad - Lecturer in Cancer Biology, Department of Oncology & Metabolism

### Staff

Dr Jen Rowson - Lecturer in Design and Simulation, Department of Mechanical Engineering

Dr Tecla Bonci - Research Associate, Mobilise-D project

### PhD Students

Ulises Serratos - supervised by Dr Jen Rowson

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Insigneo Institute

for *in silico* Medicine

F Floor- Room F19

The Pam Liversidge Building

Sir Frederick Mappin Building

The University of Sheffield

Mappin Street

Sheffield, S1 3JD

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