

## Insigneo Newsletter - February 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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### Update from the Insigneo Board of Directors

Professor Richard Clayton is taking a semester of study leave, which has been planned for several years as part of the rolling programme of study leave within his Department. This will involve a break from all his teaching and administrative responsibilities, and began on Monday 4 February. We would like to thank Richard for his leadership and for his ongoing contribution to the Institute.

We are delighted to announce that Professor Claudia Mazzà has taken on the role of Chair of the [Insigneo Board](#) and Interim Executive Director of Insigneo.

### Time to register for Insigneo Showcase 2019!

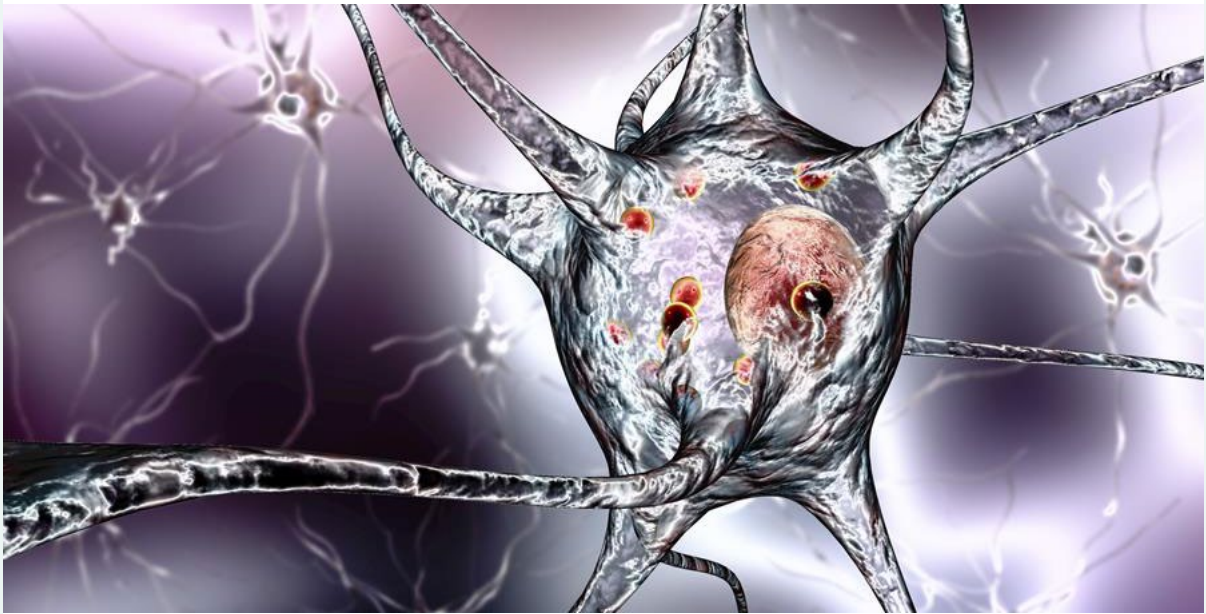


**Friday, 17 May 2019, Octagon Centre, Sheffield, UK**  
**The event is free of charge. Please register by 17 April 2019.**

Registrations are open for the Insigneo Institute for *in silico* Medicine's Annual Showcase event. 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.

[Register](#)

## Liver drug trialled in Parkinson's patients as novel treatment approach



A drug which has been used to treat liver disease for over 30 years is being trialled in patients with Parkinson's Disease to determine its safety and tolerability in Parkinson's, but also to assess its potential to slow down disease progression for the first time.

The ground-breaking study, led by researchers at the University of Sheffield in partnership with Sheffield Teaching Hospitals NHS Foundation Trust, will assess the safety and tolerability of the liver drug ursodeoxycholic acid (UDCA) in Parkinson's patients – a drug which is hoped could potentially be repositioned to help slow down the progression of the disease.

[Read more](#)

## University of Sheffield supports only second scanner of its kind in the UK for Sheffield Children's Hospital



The Children's Hospital Charity has today launched a life-changing EOS scanner to help young patients at Sheffield Children's Hospital, only the second of its kind for children in the UK.

Based on a Nobel prize-winning invention, EOS provides an ultra-low dose 2D and 3D digital X-ray system and will hugely improve the diagnosis and treatment of orthopaedic patients. Patients can sit or stand, with a complete head-to-toe image provided in 15 seconds or less.

[Read more](#)

## STriTuVaD consortium meeting lays down the foundations for a fruitful EU-India cooperation in the fight against Tuberculosis



Researchers from the University of Sheffield's Departments of Computer Science, and Maths are part of The Horizon 2020 project STriTuVaD (*In Silico* Trial for Tuberculosis Vaccine), a consortium of European, American and Indian entities, which held its Inauguration and Investigators meeting in New Delhi, India on 23 January in the presence of Indian and European authorities. The meeting was



hosted by the All India Institute of Medical Sciences (AIIMS) who is the Indian lead scientific in this project.

[Read more](#)

## President and Vice-Chancellor Koen Lamberts visits Insigneo's Gait Laboratory



On Friday 25 January 2019, we had the pleasure of giving University of Sheffield President & Vice Chancellor Koen Lamberts a tour of Insigneo's Gait Laboratory to demonstrate how we use computer modelling to learn about the musculoskeletal system.

## Dr Paul Morris awarded Wellcome Clinical Research Career Development Fellowship

# Congratulations!

Congratulations to Insigneo member Dr Paul Morris who has been awarded a prestigious Wellcome Trust-funded fellowship titled “Computational Modelling to Improve the Assessment and Management of Patients with Coronary Artery Disease”

[Read more](#)

## SPINNER’s first training event



In early December 2018, the SPINNER Fellows and their supervisors journeyed to the town of Tuttlingen for their first training event at the Aesculap Academy where they were introduced to the range of spinal implants and surgical tools that had been developed and manufactured by medical device company Aesculap AG.

The training included a hands-on workshop demonstrating the spinal plates and fixtures on plastic models of the cervical and lumbar spines. This provided an

invaluable grounding of the practical application of the SPINNER Fellows research projects.

Read more

## Insigneo seminar series

The Insigneo Institute runs a regular series of seminars on topics relevant to *in silico* medicine the latest of which was a talk on 'Modelling the Musculoskeletal System' with Oliver Röhrle - Professor of Continuum Biomechanics and Mechanobiology at the University of Stuttgart, Germany.



We are delighted to announce the next Insigneo Seminar series will take place on Thursday 21 February. Prof. Dr. Sven Hirsch from the ZHAW Zurich University of Applied Sciences will be visiting the Insigneo Institute and will give a seminar on the subject of 'shape matters – radiomic biomarkers of instability in cerebral aneurysms'. More details: <https://insigneo.org/event/insigneo-seminar-shape-matters-radiomic-biomarkers-of-instability-in-cerebral-aneurysms/>



Insigneo seminar: shape matters – radiomic biomarkers of instability in cerebral aneurysms

Prof. Dr. Sven Hirsch  
21 February 2019, 16:00 - 17:00



Future seminars covering sleep apnoea (Wiffen), bone mechanobiology (MacNamara) and cartilage mechanics in health and disease (Pierce) are scheduled as follows:

- **Thursday 23rd May, 1230-1330, Pam Liversidge LT01: Richard Wiffen (Chairman, Passion for Life Healthcare);**
- **Thursday 13th June, 1600-1700 (Alfred Denny Conference Room): Prof Laoise MacNamara (NUI Galway);**
- **Thursday 11th July, 1600-1700 (Room - TBC): Prof David Pierce (University of Connecticut, US)**

Further details and announcements to follow.

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)

## Insigneo roll call of promotions and PhDs



We have such a long list of achievements and graduations to announce this month that we have decided to combine them:

Firstly, we would like to congratulate the following members and staff on their promotions:

Claudia Mazzà - Professor of Biomechanics

Alberto Marzo - Senior Lecturer

Enrico Dall'Ara - Senior Lecturer

Fred Claeysens - Reader

We are also very proud to announce that the following students have passed their vivas recently:

Maria Cristiana Costa

Bart van Veen

Sara Oliviero

Christobel Gondwe

please visit our website to see the full details!

[Read more](#)

## Integrated Musculo-Skeletal Biomechanics (IMSB) group team building day



On Friday 25 January 2019 the Insigneo Institute's Integrated Musculo-Skeletal Biomechanics (IMSB) group held their annual team building event at The Holt Café and Creative Space, Sheffield.

The day involved completing a number of team challenges on the theme of 'Chain Reaction'.

The IMSB group within Insigneo is based in the Pam Liversidge Building and operates across Faculties and Departments. It is led by Claudia Mazzà, Gwen Reilly, Shannon (Xinshan) Li, Enrico Dall'Ara, Pinaki Bhattacharya and Lingzhong Guo.

[Read more](#)

## Bursaries available for MSc in Computational Medicine



Do you want to  
be part of the  
future of  
medicine?



There are a small number of £5000 bursaries available for our pioneering MSc in Computational Medicine. If you would like to join a new generation of scientists, learning to use computerised techniques to improve disease diagnosis and treatment in the healthcare sector, then click below find out how to apply for a bursary.

[Read more](#)

## Rosetrees Trust 2019 Young Enterprise Fellowships



New award launched – Rosetrees Trust 2019 Young Enterprise Fellowships  
Awards up to £180,000 over three years for Biomedical Research

[Read more](#)

## Guest Lectures, Conferences & Seminars

### Insigneo Events

21 February 2019

[Insigneo seminar: shape matters – radiomic biomarkers of instability in cerebral aneurysms, Sheffield](#)

29 March 2019

1st EPSRC MultiSim Interdisciplinary Workshop on Multiscale Modelling, Sheffield

17 May 2019

Insigneo Showcase 2019, Sheffield - open for registration!

### **Other events**

22 March 2019

2019 UK Cilia Network meeting, Sheffield

8 April 2019

HPC@Sheffield annual research IT event, Sheffield

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

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: telehealth in motor neurone disease: improving access to research and specialist care using innovative digital technologies

(closing date: 28/02/19)

PhD opportunity: towards a comprehensive computational model of myocardial ischemia

(closing date: 28/02/19)

Director of Insigneo  
(closing date: 22/03/19)

MRC Skills Development Fellowship  
(closing date 01/04/19)

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## Publications

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Research output affiliated to Insigneo in Scopus:

**Uncertainties of synchrotron microCT-based digital volume correlation bone strain measurements under simulated deformation** (Journal of Biomechanics) F. Comini, M. Palanca, L. Cristofolini, E. Dall'Ara

**Personalised 3D knee compliance from clinically viable knee laxity measurements: A proof of concept ex vivo experiment** (Medical Engineering and Physics) G. Lamberto, D. Amin, L. B. Solomon, B. Ding, K. J. Reynolds, C. Mazzà, S. Martelli

**Assessment of the influence of lung inflation state on the quantitative parameters derived from hyperpolarized gas lung ventilation MRI in healthy volunteers** (Journal of applied physiology (Bethesda, Md. : 1985)) P. J. C. Hughes, L. Smith, H.-F. Chan, B. A. Tahir, G. Norquay, G. J. Collier, A. Biancardi, H. Marshall, and J. M. Wild

**Patient-specific non-invasive estimation of pressure gradient across aortic coarctation using magnetic resonance imaging** (Journal of Cardiology) Y. Shi, I. Valverde, P. V. Lawford, P. Beerbaum, D. R. Hose

**An engineering approach towards a more discrete and efficient urinary drainage system** (Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine) A. Marzo, A. Melis, J. Unger, R. Sablotni, M. Pistis, A. D. McCarthy

**An image-based kinematic model of the tibiotalar and subtalar joints and its application to gait analysis in children with Juvenile Idiopathic Arthritis** (Journal of Biomechanics) E. Montefiori, L. Modenese, R. Di Marco, S. Magni-Manzoni, C. Malattia, M. Petrarca, A. Ronchetti, L. Tanturride Horatio, P. van Dijkhuizen, A. Wang, S. Wesarg, M. Viceconti, C. Mazzà

**From bed to bench: How in silico medicine can help ageing research** (Mechanisms of Ageing and Development) M. Vicecontia, E. Dall'Ara

**Two photon excitable graphene quantum dots for structured illumination**



**microscopy and imaging applications: Lysosome specificity and tissue-dependent imaging** (Chemical Communications) H. Singh, S. Sreedharan, K. Tiwari, N. H. Green C. Smythe, S. K. Pramanik, J. A. Thomas, A. Das

**Prenatal growth map of the mouse knee joint by means of deformable registration technique** (PLoS ONE) M. Giorgi, V. Sotiriou, N. Fanchini, S. Conigliaro, C. Bignardi, N. C. Nowlan, E. Dall'Ara

**Full-field analysis of epicardial strain in an in vitro porcine heart platform** (Journal of the Mechanical Behavior of Biomedical Materials) P. Ferraiuoli, B. Kappler, S. Tuijl, M. Stijnen, B. A. J. M. de Mol, J. W. Fenner, A. J. Narracott

**Diagnostic and prognostic significance of cardiovascular magnetic resonance native myocardial T1 mapping in patients with pulmonary hypertension** (Journal of Cardiovascular Magnetic Resonance) L. C. Saunders, C. S. Johns, N. J. Stewart, C. J. E. Oram, D. A. Capener, V. O. Puntmann, C. A. Elliot, R. C. Condliffe, D. G. Kiely, M. J. Graves, J. M. Wild, A. J. Swift

**Optimization of steady-state free precession MRI for lung ventilation imaging with 19F C3F8 at 1.5T and 3T** (Magnetic Resonance in Medicine) A. Maunder, M. Rao, F. Robb, J. M. Wild

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## Starters & Leavers

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A warm welcome to:

### Staff

Kenneth Y Wertheim - Researcher on PRIMAGE Project (Dawn Walker)

### PhD Students

Melanie Jegu - PhD student - Shannon Li

Thank you and goodbye to:

Robert Owen - PhD student

Dhanak Gupta - Researcher

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Sir Frederick Mappin Building  
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