

Insigneo Newsletter - September 2020

Welcome to our monthly Insigneo newsletter!

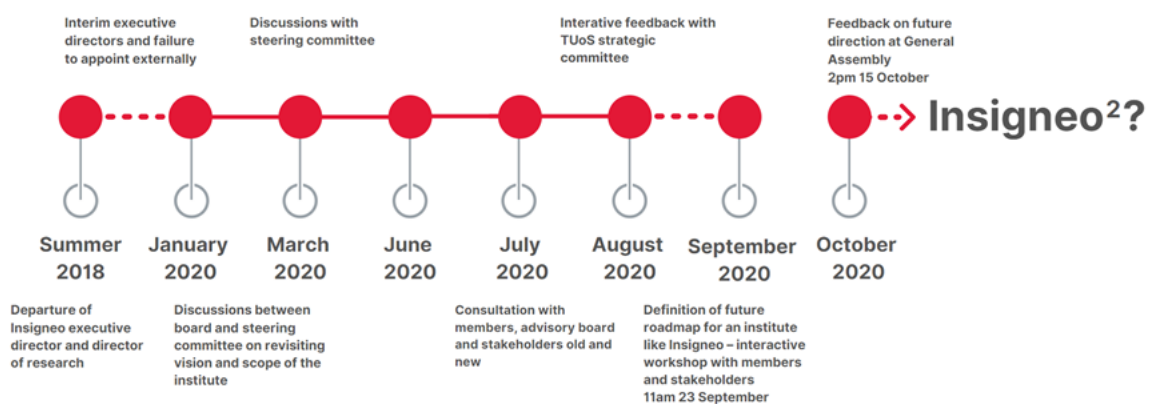
Our monthly e-newsletter keeps you up to date with events, funding, success stories and information. We hope you will find it useful! If you would like to add information and/or events to this newsletter please email: news@insigneo.org (the newsletter will be issued during the 2nd week of the month,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

A message from Professor Jim Wild - Interim Executive Director of Insigneo

Dear Colleagues,

I hope all is well and you have managed to get a break over the summer.

The Insigneo Board has recently begun a process of review and reflection, in liaison with the steering committee, with a view to redefining and possibly expanding the current vision, scope and strategy of Insigneo looking ahead at the challenges presented in modern healthcare.



Following Professor Claudia Mazzà stepping down as Interim Executive Director, I have been asked by Professor Mike Hounslow (Vice-President and Head of the Faculty of Engineering) and Professor Chris Newman (Interim Vice-President and

Head of the Faculty of Medicine, Dentistry and Health) to take on this role, in order to help lead this review process.

Firstly, I'd like to thank Claudia, and Professor Richard Clayton before that, for their efforts and commitment in steering Insigneo through the last two years.

As part of the review process the board is keen to get active input from our members and I would alert you to the two events outlined in the diagram above (Insigneo members have been sent a calendar invitation).

At the first of these we would like to take the chance to update you on the feedback received on the questions that we circulated to members earlier this summer:

- What areas of research are currently well covered by Insigneo?
- What areas of research are currently missing?
- What do you like in the Institute's vision and mission (<https://insigneo.org/the-insigneo-institute-mission-vision-history-organisation/>)?
- What would you change about the Institute's vision and mission?
- Which new partner institutions would you like the board to engage with in this process?
- How could the structure and activities of the institute change as we move forward?

If anyone missed this online questionnaire please feel free to contact me or the other board members directly in coming weeks.

I'd also like to take this opportunity to say a massive thank you to Professor Rod Hose and Professor Pat Lawford from the Department of Infection, Immunity and Cardiovascular Disease who have recently both taken voluntary severance. In so doing they have put the future of the research and group that they have nurtured in the department over the years before themselves. Rod and Pat were, together, instrumental in establishing Insigneo and putting Sheffield on the map of computational modelling in medicine. Their firm belief that maths, engineering, physics and computational approaches have a transformative role to play in modern medicine has helped realise something special in Sheffield. Before Insigneo there was Rod and Pat pushing our cause from their base in Medical Physics on I floor at the Royal Hallamshire Hospital. At a personal level and at an institutional level I would like to say many thanks and massive respect to them both – their continued commitment as emeritus professors in the department and advisors to Insigneo is, I am happy to say, guaranteed.

I look forward to working with you all in helping steer our research and its translation onwards and upwards this year and hope to see you online at the interactive workshop on 23 September.

All the best,

Professor Jim Wild
Insigneo Interim Executive Director



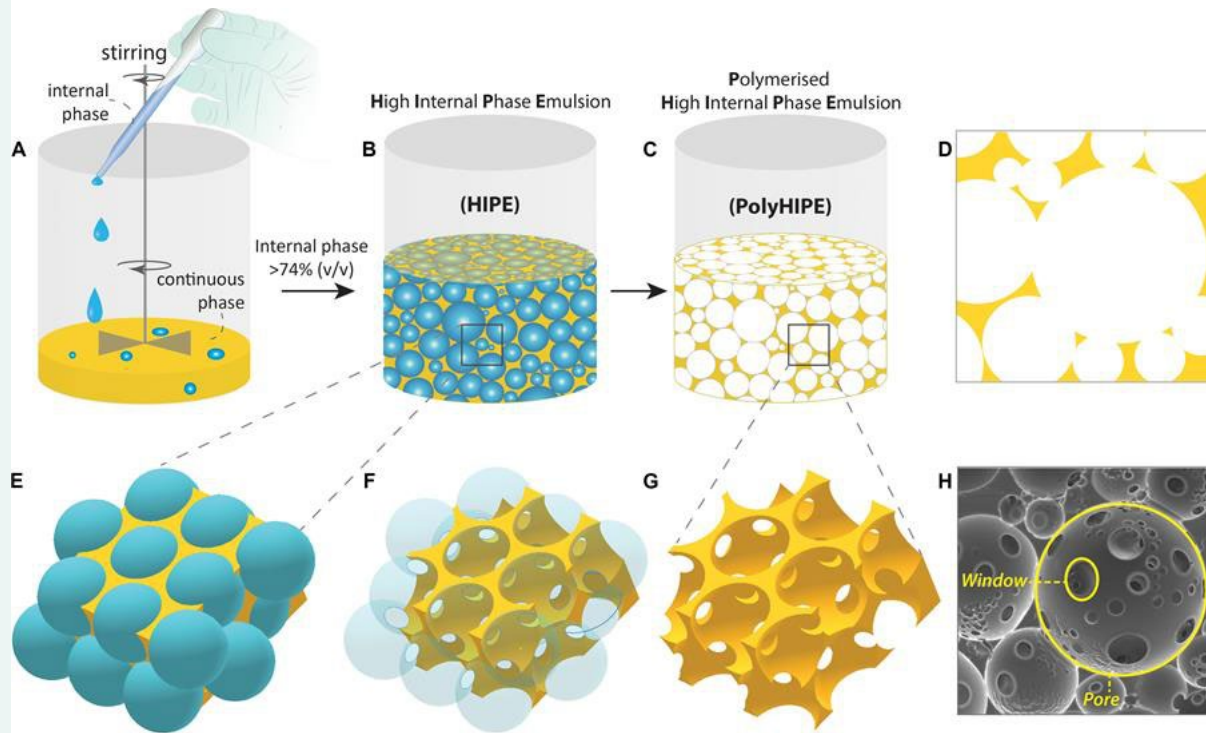
Blog: Insigneo Bridging Fund 2020 (during the Covid-19 pandemic)



Insigneo member, Elisabeth Kugler has written a blog about her experience of completing her PhD during the Covid-19 pandemic and how her Insigneo bridging fund award has supported her.

[Read more](#)

Basic principles of emulsion templating and its use as an emerging manufacturing method of tissue engineering scaffolds



This review from Betül Aldemir Dikici and Dr Frederik Claeysens at the University of Sheffield's Department of Materials Science & Engineering focuses on the key points of how emulsion templated scaffolds can be fabricated for different tissue engineering applications.

[Read more](#)

Tools and methodologies for generating digital twins in medical research

spinner

next generation spine experts

Our SPINNER-EID project is mentioned in this article from their partner RBF Morph in the latest Enginsoft newsletter (see page 31).

This article provides an overview of the tools and methodologies adopted for the generation of digital twins in medical research along with a brief description of the methods that represent the key components in the development of numerical modelling as well as a series of examples of where digital twins have provided reliable models of biological phenomena.

[Read more](#)

Dr Kenneth Y Wertheim, 2020 International Intellectual Benefits to Society Award winner

Congratulations!

Congratulations to Dr Kenneth Y Wertheim, an Insigneo research associate at the

University of Sheffield's Department of Computer Science, who has won the 2020 MENSA International Intellectual Benefits to Society Award

[Read more](#)

2020 CRACK IT Challenges competition



Crack It is the NC3Rs open innovation platform and they have launched their Challenges for this year – the CRACK IT Challenges competition funds collaborations between industry, academia and SMEs to solve scientific and business challenges identified by the bioscience sector. Challenges are designed to reduce the reliance on animal models and/or improve animal welfare and lead to the development of marketable products. Challenges are sponsored by companies who provide in-kind contributions such as data, compounds and expertise.

Insigneo members may be interested in the following challenge:

Challenge 37 STRATIS: Soft Tissue Regeneration after Traumatic Injury

[Read more](#)

Guest Lectures, Conferences & Seminars

Insigneo Events

23 September 2020

[Interactive online workshop - Insigneo roadmap](#)

15 October 2020

Insigneo General Assembly (online)

6 November 2020

Insigneo Seminar: Professor Luc Mongeau

Other Events

9 September 2020

RSE Lunch Bytes #1: writing safer (Python) code (online)

9 September 2020

Webinar: 2020 CRACK IT Challenges - Challenge 37 STRATIS: Soft Tissue Regeneration after Traumatic Injury

14 September 2020

Association of Biomedical Engineers, Medical Engineers & Bioengineers launch

6 - 7 September 2021

BioMedEng21 - Save the date!

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

Publications

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"):

Diagnostic accuracy of CT pulmonary angiography in suspected pulmonary hypertension (European Radiology) A. J. Swift, K. Dwivedi, C. Johns, P. Garg, M. Chin, B. J. Currie, A. M. Rothman, D. Capener, Y. Shahin, C. A. Elliot, T. Charalampopolous, I. Sabroe, S. Rajaram, C. Hill, J. M. Wild, R. Condliffe, D. G. Kiely

The Uncontrolled Manifold Theory Could Explain Part of the Inter-Trial Variability of Knee Contact Force during Level Walking (IEEE Transactions on Neural Systems and Rehabilitation Engineering) B. C. van Veen, C. Mazzà, M. Viceconti

The Influence of Swelling on Elastic Properties of Polyacrylamide Hydrogels (Frontiers in Materials) R. Subramani, A. Izquierdo-Alvarez, P. Bhattacharya, M. Meerts, P. Moldenaers, H. Ramon, H. Van Oosterwyck

Role of distal cerebral vasculature in vessel constriction after aneurysm

treatment with flow diverter stents (Journal of NeuroInterventional Surgery) A. P. Narata, F. Moura, I. Larrabide, R. Chapot, C. Cognard, A.-C. Januel, S. Velasco, A. Bouakaz, F. Patat, A. Marzo

Walking-related digital mobility outcomes as clinical trial endpoint measures: Protocol for a scoping review (BMJ Open) A. M. Polhemus, R. Bergquist, M. Bosch de Basea, G. Brittain, S. C. Buttery, N. Chynkiamis, G. dalla Costa, L. Delgado Ortiz, H. Demeyer, K. Emmert, J. Garcia Aymerich, H. Gassner, C. Hansen, N. Hopkinson, J. Klucken, F. Kluge, S. Koch, L. Leocani, W. Maetzler, M. E. Micó-Amigo, A. S. Mikolaizak, P. Piraino, F. Salis, C. Schlenstedt, L. Sc.hwickert, K. Scott, B. Sharrack, K. Taraldsen, T. Troosters, B. Vereijken, I. Vogiatzis, A. Yarnall, C. Mazzà, C. Becker, L. Rochester, M. A. Puhan, A. Frei

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