International Association of Colloid and Interface Scientists

In this newsletter you will find the following topics:

I prefer to read the pdf.

From the IACIS President

From the Outgoing President

IACIS2025 in Edmonton is a little over two months away, and I look forward to seeing many of you there.

All participants in IACIS2025 will become members of IACIS for the next three years. This, combined with the movement of the IACIS conference between various countries around the world, leads to regional surges that can skew our membership profile. Following the Brisbane conference, our Australian membership increased and, as this conference will be jointly held with the ACS Colloids Division, it will likely similarly skew towards North America. If you aren't going to make it to Edmonton, please remember to renew your membership online here: https://www.iacis.net/index.php/registration-form/. It's only 10 €/£/$US per year to

continue to receive the newsletter, be eligible to nominate colleagues and be nominated or apply for Travel Bursaries, Emerging Investigator, and Lifetime Achievement Awards, nominate and vote for the IACIS Council, and shape our Association.

Nominations for IACIS Council have closed and elections are under way. Thanks to everyone who agreed to be nominated, including our co-opted council members standing for election as ordinary council members. I'm delighted with the way that the IACIS Council has grown to represent the diversity of the global colloid and interface science community, and hope that this continues to develop after the election.

This is my last column as president, which I will hand over to president-elect Prof. Alidad Amirfazli at the end of the Edmonton conference. Several ordinary (elected) council members - Profs. Shigeru Deguchi (Japan), Nikolai Denkov (Bulgaria), Eric Furst (USA), Tatiana Gambaryan-Roisman (Germany) and Remco Tuinier (Netherlands) - will step down after this election and I would like to take this opportunity to thank them all for their contributions and service. Our Immediate Past-President, Prof. Hans-Jürgen Butt, will also be stepping down from council and the standing committee. I am grateful for his thoughtful advice on many aspects of IACIS, and I particularly want to highlight once again his key role in establishing and attracting sponsorship for the IACIS Emerging Investigator Awards. These will be awarded for the second time in Edmonton and I hope will become an enduring feature of IACIS conferences.

Our Association is kept running by our Honorary Secretary and Treasurer, Prof. Wuge Briscoe and our Newsletter Editor and Webmaster, Prof. Saskia Lindhoud, and I thank them both for their tireless work and support, and especially patience when my slow replies have not always been attributable to our different time zones. IACIS is in good hands.

I took up the presidency of IACIS as the COVID pandemic was ending. At that time, it seemed to me that the relevance of colloid and interface science could scarcely have been clearer; from mRNA vaccine delivery by lipid nanoparticle formulations, to the role of aerosols in disease transmission, to surfactants for cleaning and disinfection, our science underpinned technologies that demonstrably saved very many lives. And yet, remarkably, today we can see prevalence of science skepticism and even denialism in society and in the press. I cannot add much to what has already been written about this phenomenon. However, while exploring Naomi Oreskes *et al*.'s 2019 book "Why Trust Science?" I was struck by the title of a 2022 article in the Australian website *The Conversation* (https://theconversation.com/why-should-we-trust-science-because-it-doesnt-trust-itself-188988), which focusses on the self-critical and self-correcting nature of science, particularly the challenging of new scientific ideas and results through conference presentations and informal discussions, peer review (and increasingly through posting of preprints). For me this also highlighted the often-overlooked importance of our pervasive internal process of casting doubts and raising questions as we develop hypotheses and interpretations to make sense of our results even before we present them to colleagues. Self-correction runs deep.

So, to finish where I started, I look forward to many engaging, doubtful, and respectful conversations among us at IACIS 2025 in Edmonton in June. Now I must get back to

those peer review tasks I accepted. Oh, and I have to try to make sense of those results, too.

Greg Warr

FROM YOUR NEWSLETTER EDITOR

Welcome to IACIS Newsletter 87

This will be the last newsletter before the IACIS conference in Edmonton. I am really exciting to attend this meeting, since the last IACIS meeting I was attending online because of the pandemic.
I am also very happy that we have two showcase your publication contributions, one from Australia and one from Sweden. If you have PhD students that would like to write a showcase, please get in touch.

I hope to see you in Edmonton!

Stay well and best regards,
Your newsletter editor Saskia Lindhoud

IACIS 2025

See you in Edmonton!

PROFESSOR PIOTR WARSZYNSKI THE NEW IACIS PRESIDENT-ELECT

Upon receiving a single nomination, the IACIS Standing Committee, with the President’s approval, recommended Professor Warszynski to the IACIS Council for consultation. I can report that Piotr has received strong endorsement from the Council. As a result, the IACIS Standing Committee would like to announce that

Professor Warszynski will be the IACIS President-elect. The new President-elect will join the Council and the Standing Committee at the IACIS2025. At the IACIS2025 General Assembly, **Professor Greg Warr** (University of Sydney) will pass his IACIS presidency to **Professor Alidad Amirfazli** (York University, Canada; current President-elect) and will remain to serve on the Standing Committee as the Immediate Past President. A brief profile of Piotr is included below.

Wuge H. Briscoe

IACIS Honorary Secretary & Treasurer

Professor Piotr Warszynski

Professor Piotr Warszynski earned his PhD in 1988 from the Institute of Physical Chemistry at the Polish Academy of Sciences in Warsaw. He then spent four years as a postdoctoral fellow at McGill University in Montreal, Canada. Subsequently, he began his work at the Jerzy Haber Institute of Catalysis and Surface Chemistry PAS (ICSC) and has been a professor of physical chemistry at ICSC since 2009. In the meantime, he served as a visiting scientist at the Max Planck Institute of Colloids and Interfaces in Potsdam, Germany, and the European Membrane Institute, CNRS, in Montpellier, France. Currently, since 2022, he is the Director of ICSC. His research interests encompass a wide range of topics in colloid and interface chemistry, including the adsorption of surfactants and polymers at interfaces, the synthesis of nanoparticles and nanocapsules, electrokinetic phenomena, and the properties of thin films, as well as the stability of foams and emulsions. From 2007 to 2011, he was an Ordinary Member of the Council of IACIS; from 2012 to 2016, he served as the Chair of COST Action CM1101 *Colloidal Aspects of Nanoscience for Innovative Processes and Materials*; from 2013 to 2019, he was a member of the Board of ECIS, and from 2015 to 2017, he held the position of President of ECIS.

UPDATE IACIS COUNCIL ELECTIONS

We received 9 nominations for 6 IACIS Council positions.

Soon you will receive information from our Honorary Secretary Prof. Wuge Briscoe about the ballot for the IACIS Council.

UPDATE CALL FOR PROPOSALS VENUE AND ORGANIZATION FOR THE 19TH IACIS CONFERENCE IN 2028

Currently, the received proposals are being sent to all IACIS Council members for discussions and consultation, with the provision for a voting process in the event of multiple bids. The Standing Committee will take the final decision before 1st June 2025.

From IACIS Honorary Secretary & Treasurer

SHOWCASE YOUR PUBLICATION

During the pandemic there was a lack of opportunities for young scientists to present their work at international conferences. Therefore we started to invite PhD students to showcase recent publications in the IACIS Newsletter. We have decided to continue this Newsletter item, because it gives an opportunity for young scientists to explain their recent discoveries. The idea is to write a short text in which you explain about your PhD topic, your recent publication and why it is interesting for our community. Detailed guidelines can be found here.
Please contact your Newsletter editor if you have any questions:

Legume protein gelation: The mechanism behind the formation of homogeneous and fractal gels

I am Dr Alice Tiong, a recent graduate from Monash University in Melbourne (Australia) and this publication is from my PhD. I am now working as a postdoctoral research fellow at the Commonwealth Scientific Research Institute (CSIRO). My work was completed in the Hybrid Assembly group of Leonie van 't Hag (https://www.monash.edu/engineering/hybrid-assembly) which focusses on the sustainable production of soft materials and investigating structure – property relationships by using scattering techniques together with microscopy.

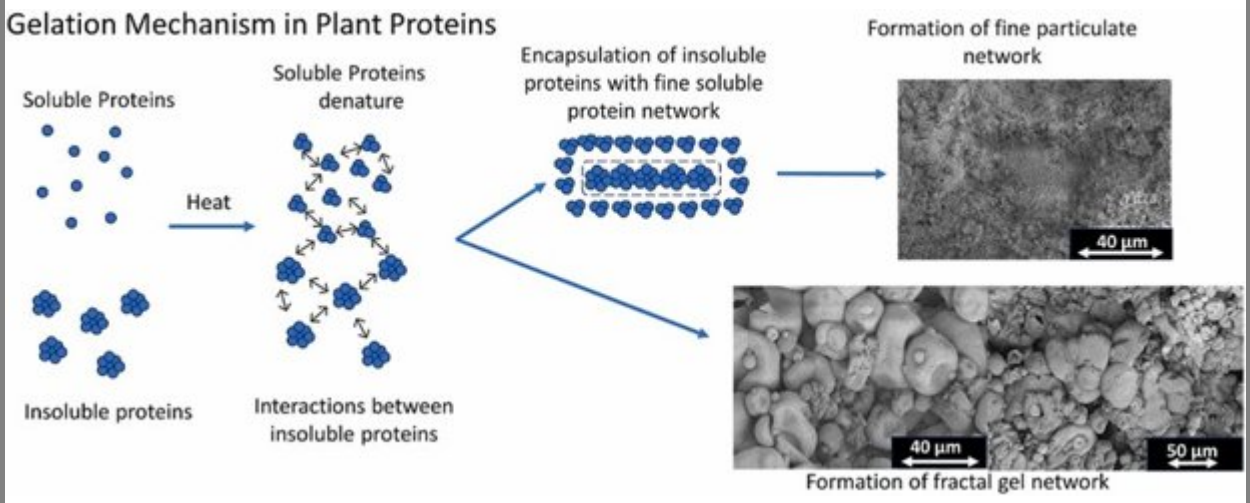
My PhD looked into Legume Protein Isolate Properties and the Implications for Meat Analogue Production from sources such as soy, yellow pea, and faba bean. We looked into how different properties such as solvent conditions, protein extraction methods and protein solubility can affect the structural changes that occur during gelation and extrusion, with a focus on the behaviour of the soluble and insoluble protein fractions that are present in commercial plant protein isolates used for meat and dairy analogues.

This article showcases how neutron scattering elucidated the different mechanisms through which gels with similar gel strength can form. The results showed that milder protein extraction methods resulted in higher protein solubility and smaller protein aggregate sizes, which formed gels through the denaturation of soluble proteins. In contrast, protein isolates with mostly insoluble proteins formed gels through changes in the insoluble protein particles in the micron-size ranges, dominated by hydrophobic interactions. The combination of SEM imaging of the gels together with the neutron

scattering showed the contribution of different protein fractions. The use of contrast-variation also showed that there was a contribution of fat and polysaccharides at intermediate length scales, in between the sizes of soluble proteins and the micron-sized particles that are formed during spray drying.

I am proud of how this work helped to demonstrate for the first time, on how the insoluble protein fraction can play a role in the gelation mechanism. This finding can help further the understanding between the protein network structure and textural properties and improving the texture of meat analogues. The first paper of my PhD (Food Structure, 2024) was also presented during IACIS 2022 in Brisbane (Australia).

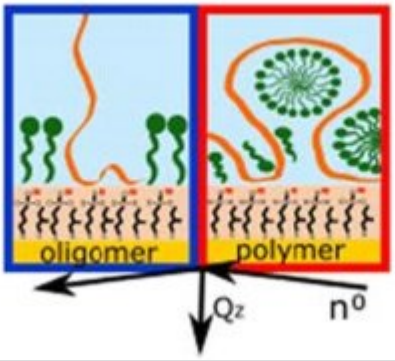
You can access the publication here: https://doi.org/10.1016/j.foodhyd.2024.110639



Adsorption hierarchy of surfactants and polymers to a damaged hair model: effect of composition, order and polymer size

My name is Serena Cozzolino, I recently obtained my PhD in Chemistry at KTH Royal Institute of Technology (Sweden) where I worked with Mark Rutland, and moved a bit further north for a postdoc at Uppsala University. My PhD project, part of the European program InnovaXN, was a collaboration between KTH, the Institut Laue-Langevin and L'Oreal R&I (France). The aim was to better understand the interaction between the surface of hair and shampoo components. To do this, I produced hair-mimetic surfaces and studied adsorption mainly by neutron reflectometry. The article here presented is specifically about one type of hair-mimetic model, designed to reproduce the characteristics of a partly damaged hair fibre. I then studied how this model responded to the presence of a surfactant (SDS) and of the polysaccharide chitosan, a more sustainable alternative to commonly used cationic polyelectrolytes, which are of petrochemical origin. The results are different depending on the molecular weight of chitosan and on the order in which the two species are introduced. I am proud of this work mainly for two reasons. Firstly, it is the result of a Aha! moment where things started to fall into place. Secondly, it has been included in the ISIS Neutron and Muon Source Highlights and in the RSC themed collection for the International Women's Day 2025, which is a nice counterbalancing to the (luckily few, but still…) times in the past year when I felt professionally underestimated. This article nicely shows the capabilities of some techniques for surface characterization. I encourage you to read it also to get an idea of how much science there can be behind simple items of our everyday life. Hoping these few words aroused your curiosity, you

can find the article here: S. Cozzolino, P. Gutfreund, A. Vorobiev, R. J. L. Welbourn, A. Greaves, F. Zuttion, M. W. Rutland, G. S. Luengo, Phys. Chem. Chem. Phys., 2025,27, 1089-1099 https://doi.org/10.1039/D4CP03603D



CONFERENCE ANNOUNCEMENTS AND UPDATES

Below an overview of interesting conferences for the IACIS community.
Include your conference?

CONTACT THE NEWLETTER EDITOR

10th Bubble and Drop Conference
9–13 June 2025, Prague, Czech Republic

FORMULA XII
SOFIA 16-18 JUNE 2025
NEW STRATEGIES FOR INNOVATION AND PERFORMANCE PREDICTION

Formula XII Conference
16-18 June 2025, Sofia, Bulgaria
New strategies for innovation and performance prediction

Topics:

- Formulants: sourcing, lifecycle, safety and performance
- Formulation design: sustainability and disruptive innovation
- Fundamental science: mechanisms, structure-function relationship and theoretical modelling
- Formulation performance and measurement techniques
- Formulation stability and its prediction
- Formulation and delivery of hydrophobic drugs, biologics and other bio-actives
- Controlled release formulations
- Automation in formulation: high throughput screening and analysis
- AI/ML in formulation design, performance and process optimization

Important dates

Abstract submission opening: 1 Nov 2024

Abstract submission deadline: 1 Feb 2025

Early registration: 1 May 2025

https://formula12.org

We are pleased to warmly welcome you to the 10th Asian Conference on Colloid and Interface Science, to be held at Yonsei University in Seoul, Korea, from August 19 to 22, 2025. ACCIS 2025 serves as an international platform for professionals and students to present and discuss the latest breakthroughs in colloid and interface science and technology.

Important Dates:

- Submit abstract by: May 19, 2025
- Early bird registration by: May 19, 2025

ECIS 2025 – UK COLLOIDS 2025

With the support of the ECIS Board and the RSC/SCI Joint Colloids Group (UK), the ECIS 2025 conference will be jointly held with the UK Colloids 2025 in Bristol on 7-12 September 2025. Both **Registration** and **Abstract Submission** are now open.

The conference venue is the **Delta Hotel** right next to the Castle Park in the vibrant historic Bristol city centre. Details for *Plenary Speakers, Scientific Committees, Registration Fees, Accommodation, Travel, Excursions & Social Programme* can be found at https://ecis-ukcolloids2025.org/.

We particularly welcome **research students and younger colleagues** to attend the conference, who can apply for a number of RSC travel bursaries and are eligible for several prizes for the best oral and poster presentations.

With colloid and interface science underpinning sustainable industrial formulations and processes, we highly appreciate engagement and support from **industrial partners**, which will be critically important to the success of the conference. Please get in touch with us if you would like to consider becoming a partner for this flagship conference of the European colloid community.

The **conference scientific themes** are broad-ranging, from fundamental studies to innovation-oriented research, providing a stimulating platform for the delegates to present and discuss latest multidisciplinary research and applications in the field of colloid and interface science. For an overview of the scope of the conference, a list of scientific themes is below:

- Interfaces, wetting, adhesion & superhydrophobicity
- Bioinspired colloidal systems, bio-interfaces, colloids in health applications & bio-delivery
- Nanoparticles, nanostructured materials, nano-ions, & ion specific effects
- Theory & multi-scale modelling of colloids & interfaces
- Active colloids & catalysis, droplets, emulsions and microemulsions, bubbles & foams
- Surfactants, lipids, membranes & self-assembly
- Colloidal interactions, surface forces, rheology, dynamics & lubrication
- Polymer colloids, hydrocolloids, polyelectrolytes, microgels and hydrogels
- Colloid science for sustainability, application & formulated products

The following **special sessions** for this event will be organised:

- *Brian Vincent – Terry Cosgrove Symposium* (by Brian Vincent and Terry Cosgrove)
- *Scattering in Colloid Science* (by Sarah Rogers, ISIS Neutron and Muon Source)
- *Aerosols* (by Bryan Bzdek, UK EPSRC-CDT in Aerosol Science)

We very much hope that you will be able to join us and we shall thank you in the traditional colloidal way when we welcome you here in Bristol in September 2025.

Any questions please email us at ecis2025@inanyevent-uk.com.

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