International Association of Colloid and Interface Scientists

Welcome to the IACIS Newsletter

In this newsletter you will find the following topics:

- From the IACIS president
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- Conference announcements and updates
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  - International Symposium on Polyelectrolytes ISP2027
  - Welcome to Formula XIII

I prefer to read the pdf

From the IACIS President



Training the Scientist for a New Research Environment

Dear IACIS colleagues,

In my last note, I reflected on how the practice of science may need to change as research becomes increasingly data-rich, interconnected, and supported by artificial intelligence. This leads naturally to another question: how should we train young researchers who will conduct science in this new environment?

The foundations should remain. A young researcher in colloid and interface science must understand physics and chemistry, develop scientific intuition, and distinguish a plausible explanation from a convincing one. What may need to change is how we prepare researchers in the age of AI or digital science.

Consider the possibility of a persistent digital research partner: a digital partner that continuously captures relevant information, preserves context, retrieves earlier observations, connects literature with experiments, and remains available across the researcher's devices. To work effectively in such an environment, training itself must become more deliberate. Young researchers should be encouraged to develop the habit of capturing information as it arises, digitizing and structuring it.

An example of above thinking is using a transcription tool such as Granola to preserve a scientific discussion and subsequently provide that discussion, with its context, to an AI system assisting with a research task. We should make such tools available and, more importantly, encourage the habits that make them useful. The objective is not mastery of a particular software package, but development of a disciplined workflow in which information is preserved with its context, remains traceable, and can be intelligently reused. The accompanying illustration captures this idea of developing and nurturing a digital research partner.

The above touches on idea of cognitive offloading. Scientists have always relied on notebooks, equations, diagrams, and instruments to reduce the cognitive loading. Digital systems can extend this considerably. Used well, this does not diminish scientific thinking. It can reduce the burden of remembering and organizing details and create more room for interpretation, creativity, and deeper scientific reasoning.

But the tools and habits described above require an equally important change in attitude. Researchers should become comfortable with offloading described above, while refusing to offload understanding, scientific judgement, critical evaluation, or responsibility. A researcher who can retrieve every relevant paper but cannot judge its significance is not better trained. Nor is one who accepts an AI-generated interpretation without understanding the underlying science. The guiding principle in training should remain simple: the tools may extend the researcher, but the researcher must remain in control.

For those of us supervising the next generation of scientists, this creates a new responsibility. Alongside teaching thermodynamics, research methodology, etc., we should also teach students how to work intelligently with systems that augment their memory and capabilities without surrendering their intellectual authority. We should encourage them to develop the attitudes and habits needed to make a digital research partner genuinely useful, while ensuring that scientific reasoning remains firmly their own.

Alidad Amirfazli, Toronto, Canada
President, IACIS



FROM YOUR NEWSLETTER EDITOR



Here it is the IACIS October 2026 Newsletter, number 93!

I would like to draw your attention to the upcoming ECIS webinar that will take place on October 16, information can be found below.
You can also register for the –OKINAWA COLLOIDS 2026 Pre-workshop– 7th International Mini-Symposium on Surface Forces, which can also be attended online.
The newsletter further contains a showcase and usual conference announcements.
If you would like to share updates that are important for our community, contact me.

Wishing you all the best,
Your newsletter editor, Saskia Lindhoud

SHOWCASE YOUR PUBLICATION

PhD students are invited to showcase their recent publications in the IACIS Newsletter. This feature provides an opportunity to introduce your PhD research, highlight a recent publication, and explain its relevance to the IACIS community. Detailed guidelines for submission can be found here.
Please contact your Newsletter editor if you have any questions.

A variable-temperature nuclear magnetic resonance method for determination of Krafft point and CMC of surfactants

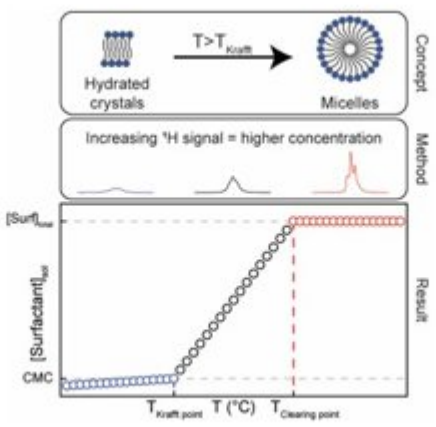
Hey! My name is Philipp Effnert, and I am a fourth-year PhD candidate at the University of Twente. My research focuses on understanding structure–property relationships of carbohydrate-based surfactants, aiming to improve their rational design and sustainability. Especially, I investigate how changes in the molecular structure influence micellization, solubility and aggregation in aqueous systems.

In the presented work, we developed a method based on variable-temperature nuclear magnetic resonance (VT-NMR), to determine the critical micelle concentration (CMC), the Krafft point (T_{KP}) and the clearing temperature (T_{CP}) of surfactants. T_{KP} is the temperature at which surfactant solubility becomes sufficient to form micelles rather than hydrated crystals. In contrast to conventional methods, our technique directly measures and quantifies the dissolved surfactant concentration, allowing the CMC, T_{KP} and T_{CP} to be determined in a single temperature-dependent experiment.

We validated the method using six chemically different surfactants with a broad range of CMCs and T_{KP}s. Further we demonstrated the applicability to surfactants mixtures, relevant for formulations, and showed that the method can be applied to a benchtop NMR, for potential routine screening.

I am particularly proud of this work because it started as a “Friday afternoon” experiment, expired by a challenge which I encountered during my work on carbohydrate-based surfactants, and rose to a broadly applicable analytical method of interest to both academic and industry. I hope this work facilitates surfactant research and supports the development of formulations, and screening of new surfactants.

Enjoy reading! You can find the article here: DOI: 10.1016/j.jcis.2026.141560



ECIS WEBINAR 16 OCTOBER

Dear Colleague,

we invite the community to actively participate in the 4th ECIS webinar that will be held on **16 of October 2026 at 15.00-17.00** and hosted by LINXS in Lund as previously.

This will be a jointly given by Professor **Peter Schurtenberger** of Division of Physical Chemistry, Lund University, Lund, Sweden and Professor **Emanuela Zaccarelli** of CNR Institute for Complex Systems and Sapienza University of Rome, Italy.

When: **16 October, 15:00 - 17:00**

Where: Zoom - *participants will receive a link upon registration*

ABSTRACTS

Using colloid models for the description of protein solutions – an experimentalists approach.

Peter Schurtenberger
Division of Physical Chemistry, Lund University, Lund, Sweden

Looking at globular proteins with the eyes of a colloid scientist has a long tradition, in fact a significant part of the early colloid literature was focused on protein solutions. However, it has also been recognized that proteins are much more complex than the typical hard sphere-like synthetic model colloids. Proteins are not perfect spheres, and their interaction potentials are in general not isotropic, and using theories developed for such particles are thus clearly inadequate in many cases. Here I will make an attempt to critically discuss the exploitation of colloid science concepts to better understand protein solutions. I will not only consider classical applications aimed at understanding and predicting solution stability and phase behaviour, but also discuss new challenges related to the dynamics, flow behaviour and liquid-solid transitions found in concentrated or crowded protein solutions. I will demonstrate the importance of using a toolbox of techniques allowing for the characterisation of protein solutions over a broad range of length and time scales (static and dynamic light scattering, small-angle X-ray scattering, neutron spin echo and X-ray photon correlation spectroscopy, tracer particle-based microrheology), and highlight the limits of simple colloid models to explain and reproduce the experimental data. I will in particular address the interplay between liquid-liquid phase separation and dynamical arrest in concentrated protein solutions and mixtures, and the influence of shape and surface heterogeneity on the solution properties of monoclonal antibodies.

Multi-scale models for the description of protein solutions: the case of monoclonal antibodies

Emanuela Zaccarelli
CNR Institute for Complex Systems and Sapienza University of Rome, Italy

In this talk, I will focus on the crucial modelling aspects to take into account to faithfully describe the behavior of protein solutions. Starting with an overview of the interaction potentials to be used, I will explain the need to use patchy models and to correctly capture electrostatic interactions. I will talk about selected examples of monoclonal antibodies (mAbs), to be tackled with a combination of simulation efforts --- from atomistic to coarse-grained --- as well as with theory, whenever possible. Numerical results will be compared to experimental systems upon varying mAb concentration, focusing in particular on relevant observables such as static structure factors and viscosity. Finally, as a perspective of this type of work, I will discuss the difficulties in finding a general model, since each mAb has its specificity, but our overarching goal is to develop a unifying picture.

Registration

https://indico.linxs.lu.se/event/707/

CONFERENCE ANNOUNCEMENTS AND UPDATES

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

CONTACT THE NEWSLETTER EDITOR



7th International Mini-Symposium on Surface Forces
–OKINAWA COLLOIDS 2026 Pre-workshop–

Date : October 29–30, 2026
Venue : Meeting Room, New Industry Creation Hatchery Center (NICHe), Aobayama Campus, Tohoku University
(+ Online, Hybrid format)
Host : Tribology Fusion Research Consortium (Tri-F)
Co-host: NICHe, Tohoku University
Division of Colloid and Surface Chemistry, The Chemical Society of Japan
CREST, Japan Science and Technology Agency (JST)

Invited Speakers



Hans-Jürgen Butt
Max Planck Institute for Polymer Research, Germany



Juliette Cayer-Barrioz
École Centrale de Lyon, France



Carlos Drummond*
Centre de Recherche Paul Pascal, France



Rosa Maria Espinosa-Marzal*
University of Illinois Urbana-Champaign, USA



Regine von Klitzing*
Technical University of Darmstadt, Germany



Cathy McNamee
Kyoto University, Japan



Susan Perkin*
University of Oxford, UK



Marina Ruths*
University of Massachusetts Lowell, USA



Shinji Yamada
Kao Corporation, Japan

* These presentations will be held online.

Contact: Kazue Kurihara, Masashi Mizukami, Yutaka Takahashi
(New Industry Creation Hatchery Center (NICHe), Tohoku University)
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CLICK HERE TO REGISTER FOR THE SYMPOSIUM

OKINAWA COLLOIDS 2026

The Division of Colloid and Interface Chemistry of the Chemical Society of Japan was established in 1976 and has remained highly active ever since. Building on the solid foundation laid by its founding professors, successive generations have continued to contribute new layers of achievement, enabling the Division to grow and evolve into what it is today.

Through its diverse activities, research by the Division's members has exerted a significant impact not only within colloid and interface chemistry, but also across a wide spectrum of fields including polymer science, catalysis, electrochemistry, chemical engineering, soft matter, and active matter. As a result, the Division has developed into a vibrant, cross-disciplinary research community that truly embodies the concept of an "interface between academic fields." We sincerely invite you to join Okinawa Colloids 2026.

Websites: https://okinawacolloids.jp/

Dates: 1st – 6th November, 2026

Venue: Bankoku Shinryokan, Okinawa, Japan

Key Dates:

- Abstract submission deadline (Oral): 16th May, 2026
- Abstract submission deadline (Poster): 31st July, 2026
- Registration (Earlybird): 30th March, 2026 – 10th August, 2026
- Registration (Regular): 11th August, 2026 – 19th October, 2026

Plenary Speakers:

- Prof. Katsuhiko Ariga
- Prof. Hans-Jurgen Butt
- Prof. Dganit Danino
- Prof. Syuji Fujii
- Prof. Hendrik Heinz
- Prof. Christine Luscombe
- Prof. Erica Wanless

Technical Sessions:

1. Surfactants and Amphiphilic Materials
2. Molecular Films
3. Soft Matter and Biosystems
4. Fine Particles, Nanoparticles and Nanomaterials
5. Dispersion and Aggregation
6. Solid Surfaces: Wetting, Adsorption, Catalysis, Adhesion, and Electrochemistry
7. General Topics in Colloid and Interface Science

Featured Symposiums:

1. Langmuir Symposium

2. New Trends in Innovative Cross-Disciplinary Research Created by Interfacial Structure Analysis
3. Microgravity Exploration of Colloid Science for Space Life
4. Food Science from the Perspective of Colloid and Interface Science
5. Advances in Colloid and Surface Chemistry for Sustainable Polymer Materials
6. Understanding Life from Dynamics and Functions of Interfaces
7. Nanocelluloses: Science and Technology
8. Nanostructures-Based Interfacial Energy and Separation Science
9. Novel Theories and Measurements on Nanoconfined Molecules and Ions

Contact:

General Inquiry: admin@okinawacolloids.jp

About Program Content: program@okinawacolloids.jp

About Registration and Accommodations: regist@okinawacolloids.jp



ISP
INTERNATIONAL SYMPOSIUM ON POLYELECTROLYTES

Save the data

The next International Symposium on Polyelectrolytes, ISP2027, will take place in Strasbourg, France from July 5th - July 9th 2027.





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