IACIS Newsletter 81, October 2023 View the online version 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 From your newsletter editor SPAM/Phishing emails Warning Showcase your publication • In Memoriam Geoff Barnes • Conference announcements and updates ECIS 2024 Australasian Colloid and Interface Symposium International Conference on Nanomaterials Applied to Life Sciences 2024 Save the date ACS Colloid & Surface Science Symposium 2024 Save the date 13th Colloid Conference Save the date Food Colloid Conference 2024 Save the date SIS 2024 I prefer to read the pdf. JACIS From the IACIS President I'm not one of those people who closely watches, predicts, or bets on Nobel Prize outcomes, but cannot let pass unremarked this year's Chemistry Prize being awarded for the discovery and development of quantum dots in the 1980's and 1990's. The work by <u>Brus</u> and <u>Bawendi</u> are beautiful, elegant, and instantly recognisable examples of classical colloid science applied to achieve control over nucleation, growth, size, and stability of CdS and other semiconductor particle dispersions, paying attention to familiar factors of van der Waals and steric interactions, and of Ostwald ripening. I was pleased to also see that the Nobel foundation's explainer acknowledges <u>Arnim Henglein's</u> pioneering work on colloidal semiconductors as photocatalysts, including size effects. I was happy to note that <u>Ekimov's</u> work on semiconductor-doped glasses included SAXS studies of nanometer-sized CuCl crystallite growth, which to me recalls Zsigmondy's 1925 Nobel Prize for his work on gold colloids and Ruby glass. It is only a slight stretch to also mention the relevance of the Physiology/Medicine Prize for mRNA vaccines. Although immune response and nucleobase modifications may not be what we think of first as colloid and interface science, site-specific recognition has long been part of understanding interactions between particles and surfaces within and beyond biological systems. It's worth remembering, too, that mRNA vaccines are not delivered as bare strands, but formulated within composite lipid nanoparticles whose design and manufacture is also built upon decades of work in designing and understanding soft, self-assembled colloidal materials. How structural transformations occur in lipid mesophases is the subject of Lasse Krog's Publication Showcase in this Newsletter. The parallel developments of diverse applications of these colloidal materials alongside fundamental progress controlling particle morphology, composition, surface modification and stability exemplifies the continuing significance and relevance of colloid and interface science as an enabling discipline. It is with sadness that I mark the passing of Geoff Barnes, and thank his longstanding colleague and friend Ian Gentle for preparing the obituary below. As we come into another projected hot summer in the southern hemisphere, I am mindful of some of Geoff's studies relevant to climate and atmosphere, including evaporation through monolayers and cloud seeding. Colloid and interface science has much to contribute to passive and active measures to improve energy efficiency. **Greg Warr** FROM YOUR NEWSLETTER EDITOR "About the Newsletter/ From your Newsletter Editor The main purpose of the Newsletter is the same as that of the IACIS, namely to promote international collaboration in colloid and interface science. It is hoped that through these newsletters colloid and interface scientists become better informed about forthcoming events, developments, and personal news from various countries." Hans Lyklema, Newsletter 30, October 1999 Today, 34 years later the Newsletter still has the same purpose. To serve this purpose your input is required. If you have something to share with our community let us know via the newsletter. You can send me your news, conference announcements, showcase items, etc. The deadline for the next newsletter is December 15. Best wishes from the Netherlands, your Newsletter Editor Link to NL30 SPAM/PHISHING EMAILS WARNING Over the last few months, IACIS council members have received two separate phishing emails apparently from the IACIS president but from bogus gmail addresses. These follow an earlier incident in 2021. We do not believe that these have been sent to the IACIS membership or that our membership list has been hacked, but rather IACIS Councillor's emails were individually searched and targeted based on their public profiles. Nevertheless, these incident are a timely reminder to be vigilant. Any communication from IACIS will come from the official email address of a recognised source such as your Newsletter Editor, Saskia Lindhoud, or IACIS Honorary Secretary, Wuge Briscoe. Should you receive any suspicious emails from IACIS, please contact the IACIS Secretary promptly so that we can investigate and respond to any potential data **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 opportunaty 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 <u>here</u>. The aim is to include 2 or 3 showcase texts in each Newsletter, preferably from three different continents. The next Newsletter will appear beginning of July, the deadline for submitting your showcase text is December 15. Your Newsletter Editor, Saskia Lindhoud **Application of Low-Frequency Raman Spectroscopy to Probe Dynamics of Lipid Mesophase Transformations upon Hydration** My name is Lasse Krog, and I'm a nanoscientist/biophysicist by training and a PhD student in the Structured Biointerfaces group at the Department of Pharmacy, University of Copenhagen, led by Professor Ben Boyd. In the group, we are interested in the interactions at the interface of particles with both endogenous and exogenous molecules in the gut, including lipids, and how these materials change over time. Lipids also self-assemble in water to form ordered structures with implications for their interactions with the gut environment. Low-frequency Raman (LFR) spectroscopy has in recent years gained momentum for the characterization of the solid-state properties of pharmaceuticals. Raman scattering is a phenomenon where incoming light interacts with the sample, changing the energy of the outcoming light, hence in-elastic scattering with changes in energy. The LFR regime holds information about structure, hence I am specifically interested in its potential for structural characterization of ordered soft matter. Our publication in ACS Physical Chemistry B reports the use of LFR to probe ordered lipid systems, in this case focussing on the kinetics of hydration of lipid systems. This is to our knowledge, the first time these mesophase systems have been probed by LFR spectroscopy and opens the laboratory to the in-situ characterization of ordered lipid systems, which has typically required the use of high-end facilities such as synchrotron X-ray scattering. If you are interested in the kinetics of lipid phase transformations, you should check out our publication. You can find our article here: https://doi.org/10.1021/acs.jpcb.2c08150 If you want to talk to me in person about the paper and the future of LFR mesophase characterization, join me at ECIS2024 in Copenhagen. LFR probe Lipid Time **OBITUARY GEOFF BARNES** It is with great sadness that I inform you that Geoff Barnes passed away on 4th September in Brisbane, Australia, aged 93. Geoff was a valued member of the colloids and interfaces community over many years, from his early days studying at the Universities of Sydney (Bachelor and Masters degrees) and New South Wales (PhD in 1958). Prior to his appointment at the University of Queensland in 1962, Geoff held postdoctoral positions at Columbia University New York, with Victor La Mer and subsequently ETH Zürich, appointments which launched him on his long and distinguished career, as well as being places where he met many of his lifelong friends and colleagues in the colloids community. These connections were continued and strengthened through study leave appointments at Unilever, University of Bristol, Technical University Braunshweig, Max-Planck-Institut für Biophysikalische Chemie, Göttingen and Johannes-Gutenberg University, Mainz. Over more than five decades he contributed strongly to a range of areas of surface science, including colloid stability, cloud seeding, evaporation through monolayers, permeation of oxygen through oil films on water amongst others. More recently, after his formal retirement, Geoff was an early adopter of synchrotron and neutron methods for the study of monolayer films at a molecular scale. Geoff's many significant contributions to the international community included long involvement with IACIS, the Royal Australian Chemical Institute Division of Colloid and Surface Chemistry and the Australian Colloid and Interface Society. He was a member of the editorial boards of *Journal of Colloid and Interface* Science and Langmuir (foundation editorial board). Geoff co-authored the text Interfacial Science: An Introduction in two editions through Oxford University Press, which is used in universities around the world. Beyond his substantial scientific achievements, his colleagues remember him as a real gentleman, who was always friendly and supportive. He will be sadly missed. **CONFERENCE ANNOUNCEMENTS AND UPDATES** ECIS 38th conference of European Colloid & Interface Society 1-6 September 2024 · Copenhagen · Denmark **SAVE THE DATE - ECIS2024** The European Colloid and Interface Society (ECIS) will host its annual meeting of 2024 in Copenhagen, Denmark from September 1-6th. The meeting is the 38th ECIS conference since the inaugural meeting in 1987 and is this time organised by Prof. Ben Boyd and Assoc. Prof. Jacob Kirkensgaard from University of Copenhagen. The conference will have a special focus on early career researchers and aims to be as diverse and inclusive as possible. Scientifically, the organisers aim to provide a modern view on contemporary colloid science, with new specialised themes on artificial intelligence in colloid science, active matter, colloidal robotics, neoteric fluids and much more... Please visit the event website at <u>ecis2024.org</u>. Conference registration will open in late November. ACIS 2024 **Australasian Colloid** and Interface Symposium AUSTRALASIAN COLLOID AND Crowne Plaza Terrigal · NSW · Australia 4-7 February 2024 · www.acis2024.org The Australasian Colloid and Interface Society (ACIS) was established in 2013 as an inclusive organisation to bring together everyone in Australia and New Zealand (and beyond) who is interested in colloid and interfacial science, engineering and technology. The biennial symposium organised by ACIS has provided a unique opportunity for discussions in the study of Colloids and Interface Science since 2003. The themes of the Australasian Colloids and Interface Symposium covers the topics of nanoparticles and nanocrystals, colloids and interfaces in mineral processing, colloids for the delivery of bioactive compounds, and on soft matter and also liquid interfaces together with our traditional Frontiers of colloid and interface science theme to capture the diversity of the latest and greatest discoveries by colleagues from across New Zealand, Australia and the World. Please visit the event website at <u>acis2024.org</u> **NALS 2024** International conference on anoparticles Applied to Life Sciences W The 4th International Conference on Nanomaterials Applied to Life Sciences 2024 (NALS 2024) is being organized by the University of Granada and NanoMag Lab. of the Department of Applied Physics. It will be held in the Fuentenueva Campus, Faculty of Science, University of Granada (Spain) on 14th-16th Febrary 2024. NALS events are promoted by the NanoBioAp Cluster, which consists of more than 70 researchers from different Spanish Research Institutions. The relentless advances made in nanotechnology in recent years require multidisciplinary and crossdisciplinary approaches, from the design of new materials to their final application. NALS 2024 aims to establish synergies, foster lasting collaborations and contribute to a fruitful academia-industry link, to work together in the development of disruptive techniques and devices based on nanomaterials for applications in the fields of Medicine, Biology and the Environment, among others. Visit website for more information ACS COLLOID & SURFACE SCIENCE SYMPOSIUM **Save the Date** SCIENCE SYMPOSIUM June 23rd - 26th, 2024 Seattle, Washington Save the date 98th ACS Colloid & Surface **Science Symposium 2024** The 2024 Symposium will take place on the campus of the University of Washington in Seattle, Washington, from June 23rd to June 26th, 2024. More information can be found on the conference webpage. 9-12 June 13th International **COLLOIDS CONFERENCE** Sitges, Barcelona, Spain Save the date 13th International Colloid Conference the 13th International Colloids Conference, will take place from 9-12 June, 2024, Sitges, Barcelona, Spain This conference aims to provide a forum for researchers from across the world to join in a relaxed atmosphere, to communicate and share the latest developments from these research areas. The Conference will covers the following topics: • New materials for energy generation and storage, catalysis, separations, buildings, foods, clothing and packaging Advanced soft matter systems, covering functional and adaptive surfactants, polymers, gels and biocolloids • Designed responsive and functional interfaces, surfaces, films, membranes and • Bio materials, nano-medicines novel approaches to drug delivery and medical diagnostics New theory, novel phenomena and advanced experimental techniques Visit the conference website for more information FOOD COLLOIDS 14 - 18 April 2024 ΕΚΔΕ The 19th Food Colloids Conference will take place in Thessaloniki, Greece from 14th to 18th April, 2024. The conference aims to bring together international experts from academia and industry in order to share their latest research and knowledge in the complex and exciting world of food colloids. The 19th Food Colloids stresses the latest trends in colloidal food systems covering at the same time the classical but ever modern physical chemistry aspects in the field. This year's conference has also a special focus on sustainability with clean, environmentally friendly, plant-based approaches. Furthermore, the conference extends its focus in non-food, or close-to-food, applications including nutraceutics, pharmaceutics, packaging and medicine providing ground for interdisciplinary scientific interactions. Please visit the website for more information. **24th International Symposium on** SURFACTANTS IN SOLUTION **SURFACTANTS IN SOLUTION** The next Surfactants in Solution symposium will be held from June 16-21, 2024, in Goa, India. More information can be found in the flyer. Link to flyer

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