#### WG5 Women in Physics Report for C&CC Oct 2018 Summary of activities Oct '18- Oct '19 Prepared by: Dr Gillian Butcher (chair)

#### **International Conference on Women in Physics**

The Conference Proceedings of the 7<sup>th</sup> International Conference on Women in Physics, Birmingham, UK 2017, published by AIP, are now available.

A meeting of WG5 and the Local Organising Committee of ICWIP2020 took place at the venue at the University of Melbourne, Australia in July 2019. Dr Cathy Foley, who is leading the LOC with Dr Pegah Maasoumi and Prof. Sarah Maddison, presented the progress of their preparations for ICWIP2020 which takes place on 13<sup>th</sup>-16th July 2020, and details of the programme and proposed speakers were discussed. The WG5 was able to test out the visa process and check out the delegate accommodation.

#### ISC Collaborative project on the Gender Gap in Science

The ISC project *A Global Approach to the Gender Gap in Mathematical and Natural Sciences: How to Measure It, How to Reduce It?* is led by Prof Marie-Francoise Roy, of IMU, with IUPAP (led by Dr Igle Gledhill) and IUPAC (led by Prof Mei-Hung Chiu) the other main partners. The website can be found at <u>https://gender-gap-in-science.org/</u>.

A co-ordination meeting was held in Berlin, 18-19 February 2019, attended by WG5 members Silvina Ponce-Dawson, Igle Gledhill and Gillian Butcher. All three tasks of the project are making good progress towards completion: the joint Global Survey (which builds on the previous IUPAP Global Survey(s) of Physicists), a bibliometric study of publication profiles, and a database of good practice. Preparations for the final meeting of the project at ICTP Trieste 4-8<sup>th</sup> November 2019 are well underway, where the conclusions from the different strands will be discussed as well as how best to build and act upon the findings. We will also be considering ways we can build on the links made between the various womens groups of the different partner Unions.

The Joint Global Survey co-ordinated by Rachel Ivie of AIP, which was live from 1<sup>st</sup> May 2018 to the end of December 2018, had 30,500 respondents in total, with 7,865 from physicists. The responses are in the process of being analysed and free text comments (the survey was available in English, French, Arabic, Chinese, Japanese, Russian and Spanish) being translated. Initial data was presented at a special session on the Gender Gap Project at the IUPAC World Congress in Paris July 2019 where results of some of the questions were compared between 3 disciplines: Chemistry by Mei-Hung Chiu, Biology by Nathalie Fomproix and Physics by Gillian Butcher. First indications are that there is very little difference in trends between the three disciplines, which were analysed by gender and regionally.

#### **Travel Grants**

WG5 continues to distribute funds for travel grants for women from developing countries to attend conferences and workshops. A look back at the records shows that more than 400 grants have been

awarded over the 18 years of this service. Feedback collected from recipients shows the positive impact that these grants have made to individual's careers.

#### WG members

Following the retirement of Jackie Beamon-Kiene from her role at APS, Leah Bullis has been appointed as her replacement Secretary to WG5. We are grateful to the APS for continuing to support WG5 in this way. Jackie is continuing to assist WG5, with obtaining sponsorship for ICWIP2020.

International Committee on Ultrahigh Intensity Lasers - August 2019 Report to IUPAP

On behalf of the committee and as Chairman of the International Committee on Ultrahigh Intensity Lasers (ICUIL), I submit this report of ICUIL-related activities and events over the past 10 months to IUPAP. Obviously the biggest news in this time period is the most recent. On October 2, Professor Gerard Mourou, who was ICUIL's first chairman from 2004 to 2008, and Professor Donna Strickland were awarded the 2018 Nobel Prize in Physics for the invention of the chirped pulse amplification concept upon which nearly all of today's ~\$5B worth of ultrahigh laser activities are based. Below are photos from the awards ceremony in Stockholm. As mentioned in previous reports, Professor Mourou was the ICUIL's first chairman and served in this role from 2004 to 2008.



December 2018 - Gerard Mourou (ICUIL's 1st chairman) and Donna Strickland (left in red) Nobel Prize ceremony.

The International Committee on Ultrahigh Intensity Lasers (ICUIL) was established in 2004 as an IUPAP working group devoted to the promotion and outreach of ultrahigh intensity laser capabilities around the world. By the committee's estimate there are approximately \$5B of world wide projects and facilities today devoted to the creation and use of ultrahigh intensity laser capabilities.

On a biennial basis, ICUIL sponsors the International Conference on Ultrahigh Intensity Lasers. The 2020 meeting has now been scheduled to occur in September of next year on JeJu Island in South Korea. Professor Chang Hee Nam and Professor Chris Barty (ICUIL's present chairman) will be the conference chairs for the 2020 meeting. The annual meeting of the ICUIL will take place during the conference. One of the primary agenda items will be leadership and membership rotation. In advance of these discussions the community has been contacted and asked for their nominations for the next chair of the committee.

One of the primary functions of the ICUIL is coordination and facilitation of interactions within the community. A primary tool in this regard has been the ICUIL world facility survey and resulting maps. Over the past 18 months, ICUIL has undertaken a completely new census of world facilities and has created both high quality static maps that may be used in various technical and proposal presentations and a new interactive web based map that may be used by potential users to determine where they may be able to perform given experiments. A series of the high quality maps showing the evolution of ICUIL related facilities from 2008 to the present is shown below. This series rather dramatically expresses the explosion of world wide activities related to ultrahigh intensity lasers over the past decade.

![](_page_3_Figure_2.jpeg)

2009 ICUIL World Map of ultrahigh intensity laser facilities.

![](_page_4_Figure_0.jpeg)

2012 ICUIL World Map of ultrahigh intensity laser facilities.

![](_page_4_Figure_2.jpeg)

2019 ICUIL World Map of ultrahigh intensity laser facilities.

Later this fall the 10th newsletter of the ICUIL will be published and will highlight both the 2018 Nobel Prize and provide details on the static and interactive maps.

Sincerely,

OR Party

Professor Chris Barty

Chairman of ICUIL

#### **DRAFT MINUTES**

#### IUPAP WG.9 Annual General Meeting held at the University of Notre Dame London Global Gateway, 1 – 4 Suffolk Street, London SW1Y 4HG, August 3, 2019

#### **Present:**

Robert E. Tribble – Chair IUPAP WG.9, Brookhaven National Laboratory, USA Anthony W. Thomas – Past-Chair IUPAP WG.9, University of Adelaide, SA, Australia Willem T. H. van Oers – Executive Secretary IUPAP WG.9, TRIUMF, BC, Canada Navin Alahari – Director GANIL, France Faical Azaiez - Director I'Themba Laboratories, South-Africa Jonathan Bagger – Director TRIUMF, BC, Canada Angela Bracco – Past-Chair NuPECC, INFN Milano, Italy Hideto En'yo – Director RIKEN Nishina Center for Accelerator Based Science, Japan Claes Fahlander – Chair IUPAP C12, Lunds Universitet, Sweden Donald F. Geesaman – Past-Chair NSAC, Argonne National Laboratory, USA Paolo Giubellino – Scientific Director FAIR/GSI, Germany Thomas Glasmacher – Director FRIB, USA David W. Hertzog – Chair NSAC, University of Washington, USA Alinka Lepine-Szily – Co-Chair ALAFNA, Universidade de Sao Paulo, Brazil Marek Lewitowicz – Chair NuPECC, GANIL, France Gerda Neyens, CERN-ISOLDE, KU Leuven, Belgium Naohito Saito - Director J-PARC, Japan Nigel J. T. Smith – Director SNOLAB, Canada Kazuhiro Tanaka – Chair ANPhA, KEK, Japan Hushan Xu - Director IMP-Lanzhou, China

#### **Regrets:**

Stuart Henderson – Director Jefferson Laboratory, USA Berndt Mueller – Associate-Director BNL, Brookhaven National Laboratory, USA

#### Absent:

Pierluigi Campana – Director Laboratori Nazionali di Frascati, Italy Dinakar Kanjilal – Director Inter-University Accelerator Centre, India Kwon Young Kwan – Director RISP/IBS, Korea Victor A. Matveev, Director JINR Dubna, Russia Dong-Pil Min – Past-Chair ANPhA, Seoul National University, Korea

#### Members of IUPAP C12 present as observers:

Ani Aprahamian, University of Notre Dame, USA

Maria J. G. Borge, CERN-ISOLDE, Switzerland Iris Dillmann, TRIUMF, BC, Canada Fanny Farget, CNRS/IN2P3, France Eugenio Nappi, INFN-Bari, Italy Joachim Stroth, Universitaet Frankfurt, Germany Hirokazu Tamura, Tohuko University, Japan Eberhard Widmann, Austrian Academy of Sciences, Austria Rituparna Kanungo, St. Mary's University, Canada

#### And invited speakers of the Nuclear Science Symposium:

Vincenzo Cirigliano, Los Alamos National Laboratory, USA Ian Harry, University of Portsmouth Joshua Klein, University of Pennsylvania, USA Richard G. Miller, MIT, USA Guillaume Pignol, LPSC, Universite de Grenoble, France Sanja K. Reddy, INT/University of Washington, USA Martin Savage, University of Washington, USA Marc Vanderhaeghen, Mainz Universitaet, Germany

#### Funding Agency/Government representatives:

CFI, Canada – Mohammad Nasser-Eddine CNRS/IN2P3 France – Fanny Farget CEA France – Franck Sabatie INFN, Italy – Eugenio Nappi DoE, USA – Timothy Hallman DoE, USA – Jehanne Gillo RIKEN, Japan – Toshiyasu Ichioka NRF, South-Africa – Molapo Qhobela STFC, UK – Mark Thomson

#### **Discussion points:**

#### **IUPAP Report 41:**

Following the 2017 Nuclear Science Symposium held at the RIKEN Tokyo Office on August 29-30, the updated IUPAP Report 41 was posted on the IUPAP WG.9 website on February 28, 2018. It contains an Executive Summary followed by comprehensive descriptions of the topics -'Nuclear Structure, Nuclear Reactions, and Nuclear Astrophysics', 'Hadronic Nuclear Physics', 'QCD and Quark Matter', 'Fundamental Symmetries', 'Applied Nuclear Sciences', 'Nuclear Power', and 'Future Nuclear Physics Facilities around the World'. It is the intention to augment these descriptions with the written versions of the nine presentations of the 2019 Nuclear Science Symposium held at the University of Notre Dame London Global Gateway on the topics deemed at the forefront of current Nuclear Science. These written versions will also be published in the scientific literature, precise details still to be defined.

Updated versions of descriptions of individual nuclear physics laboratories were also posted. The requirement is for these nuclear physics laboratories to have a well defined Users Group of affiliated nuclear scientists. The various nuclear physics laboratories are arranged by region and in the future also in the large nuclear physics national laboratories and smaller ones of more local interest. It appears to be a rather cumbersome task to receive up-to-date descriptions after many requests; some individual nuclear physics laboratory entries are still missing.

Note that IUPAP Report 41 also contains an addendum (IUPAP Report 41a) with a description of the large Deep Underground Research Facilities worldwide.

#### **Current Membership of IUPAP WG.9:**

Representation of CERN-Nuclear-Science has been established and Gerda Neyens of CERN-ISOLDE and the Katolieke Universiteit Leaven [1425] is the current representative. The IUPAP WG.9 membership lists Dinakar Kanjilal , director of the Inter-University Accelerator Centre (IUAC), New-Delhi, India as the representative from India. Regrettably the Indian Government does not provide funds for this type of travel and IUPAP has only very restricted funds available. This then provides a problem in having appropriate representation from India. Note that Dinakar Kanjilal has retired and is replaced by Avinash C. Pandey. At the Nuclear Physics Division of the Bhabha Atomic Research Center (BARC), Mumba, the current head is B. K. Nayak and the Acting Director of the Variable Energy Cyclotron Centre (VECC), Kolkata, is Sumit Som. It has been suggested to follow a more direct approach resolving the question of representation from India.

A question arose about the representation from Korea.: Kwan Young Kwan was the interim director of RAON/RISP; he has been replaced by Myeun Kwon as of January 1, this year. However, Myeun Kwon is not a nuclear physicist and would like to delegate his position serving on IUPAP WG.9 to a nuclear physicist.

The Nuclear Science Symposia have several 'in-Camera' meetings of Funding Agency/Government representatives. There were two themes for these 'in-Camera' meetings at the London Global Gateway: "Electron Ion Collider" and "Ton-Scale Neutrino-less Double Beta Decay Experiments". Proper representation from China was missing. There are several distinct funding agencies for nuclear science in China. Hushan Xu, director of IMP-Lanzhou, intends to be an intermediary to resolve this issue.

#### **IUPAP WG.9 EXECUTIVE:**

At the beginning of this year Robert. E. Tribble indicated his wish to stand down as the Chair of IUPAP WG.9. The Past-Chair Anthony W. Thomas was asked to solicit nominations for a member of IUPAP WG.9 to succeed as the Chair. The nomination brought forward at the Annual General Meeting was

Angela Bracco of INFN-Milano, Past-Chair of NuPECC. This nomination was unanimously endorsed by the membership of IUPAP WG.9 at the London Global Gateway meeting. As of January 1, 2020, the Executive of IUPAP WG.9 will then consist of Angela Bracco – Chair, Robert E. Tribble – Past-Chair, Willem T. H. van Oers – (Executive) Secretary.

Anthony w. Thomas will step down as the Past-Chair on January 1, 2020. To note that he has served as the Chair of IUPAP WG.9 for nine years after its launching as an ad-hoc committee within C12 in 2003 and official recognition as one of the Working Groups of IUPAP in 2005. What has become of the Working Group and its international recognition started from the time with him as Chair (2003 – 2011).

#### Report from the 'in-Camera' meetings by the Chaiir Timothy J. Hallman, Chair:

Science topics for discussion are noted above. Elucidation of the modus operandi for research funding at the various national funding agencies was very helpful. It was concluded that discussion meetings at time intervals of about eight months would be most appropriate. The Nuclear Science Symposia should continue to occur at the current rate of once every two years.

#### The 2020 IUPAP WG.9 Annual General Meeting:

If the two meetings: the IUPAP C12 AGM and the IUPAP WG.9 AGM are to be held successively then the appropriate time window is about June 10 to September 10, 2020. Going over the sequence of meetings of IUPAP WG.9 the more prefered venue would be a North-American site. With the current membership of IUPAP C12 slanted towards nuclear structure, it is difficult to find a conference or symposium among those presently scheduled at a site close to a large international airport meeting the restricted travel times of the various members of IUPAP WG.9. A solution needs to be found within the next few months.

## Presentations a t he Nuclear Science Symposium and IUPAP WG.9 Annual General Meeting:

The agenda of these two meetings are posted seperately and contain the links to the actual presentations : www.triumf.info/hosted/iupap/icnp/index.html

#### Acknowledgement:

On behalf othe members of IUPAP WG.9 and all others present at the two meetings thanks need to be expressed to the University of Notre Dame for acting as host for the various meetings organized by IUPAP WG.9 at the University of Notre Dame London Global Gateway.

Willem T.H. van Oers (Executive) Secretary IUPAP WG.9 TRIUMF, August 14, 2019

#### Gravitational Wave International Committee (WG.11) report to IUPAP 1 August 2019

#### prepared by David Shoemaker [*MIT*, Executive Secretary], Dave Reitze [*Caltech*, Chair]

The Gravitational Wave International Committee (GWIC) was formed in 1997 to facilitate international collaboration and cooperation in the construction, operation and use of the major gravitational wave detection facilities world-wide. From 1999 until 2011, GWIC was recognized as a subpanel of PaNAGIC (IUPAP WG.4). In 2011, GWIC was accepted by IUPAP as a separate Working Group (WG.11).

GWIC meets annually adjacent to an appropriate conference. In July 2019, GWIC met in Valencia, Spain, in conjunction with GR22 and Amaldi13. Other recent meetings have been held in Chicago (2018), Pasadena (2017), New York City (2016), Gwangju (2015), Banff (2014), Warsaw (2013), Rome (2012), Cardiff (2011), and Hannover (2010). Other business during the year is conducted via email or other electronic communication. The next meeting is scheduled for July 2020, in conjunction with the 13<sup>th</sup> LISA Symposium in Glasgow, Scotland.

GWIC maintains a website at <u>https://gwic.ligo.org/</u> which contains an up-to-date listing of members, its by-laws, announcements of its activities, and links to other items of interest to the gravitational wave community.

#### **GWIC Membership**

The membership of GWIC represents all of the world's active gravitational wave projects, as well as other relevant communities, covering gravitational wave frequencies from nanohertz to kilohertz. Each project has either one or two members on GWIC depending on size. GWIC also includes representatives from ISGRG (IUPAP AC2), International Astronomical Union (IAU) Commission on Gravitational Wave Astrophysics, and from the astrophysics/theoretical relativity community, to help facilitate communication with those bodies. One current member of GWIC in (Sheila Rowan) was also a member of ApPIC (WG.10), ensuring close communications.

The GWIC Chair is elected by its membership at its annual meeting in odd years. At our 2019 meeting, GWIC chose Dave Reitze (Caltech) as its Chair, serving until 2021 (the previous Chair, Sheila Rowan, chose not to present herself for a 3rd term). This year David Shoemaker (MIT) serves as the Executive Secretary.

Each member project in GWIC determines its representatives on GWIC. New members as of July 2018 are Patrick Brady (as the new Spokesperson of the LIGO Scientific

Collaboration), and Matt Evans as the representative of a newly-admitted member, the US Cosmic Explorer 3rd Generation ground-based gravitational-wave detector Project. The full membership is given at the end of this report.

#### **GWIC Activities in October 2018-August 2019**

GWIC convened the biennial Edoardo Amaldi Conference on Gravitational Waves, sponsored by IUPAP as a "class B" Conference. The Amaldi meeting is considered by many in the gravitational wave community to be their most important international gathering. The members of GWIC serve as the Scientific Organizing Committee for the Amaldi meetings. The meeting was held with the ISGRG-sponsored International Conference on General Relativity in Valencia. Roughly 1000 persons, 20% women, from 50 countries attended this very successful meeting. The next Amaldi Conference is planned for 2021, and GWIC selected Melbourne, Australia, as the location for that meeting.

GWIC's activities in this last half-year have continued to be focused on third-generation ground-based observatories ('3G'), via a subcommittee formed in late 2016. The charge for this subcommittee is to engage the community broadly to help formulate the best possible science case and to lay out the best path toward a robust international project. This committee has created subcommittees in several crucial areas: The Science Case, Governance, R&D, and Coordination.

The Science Case subcommittee formed an informal consortium of some 200 scientists interested in exploring and documenting the science that can be done uniquely with 3G detectors and in conjunction with electromagnetic observations. The group has produced a full report, and has also written a number of more specialized documents for use in roadmaps in Europe and the US, and for proposals for continuing efforts.

The Governance subcommittee has explored existing models for large instruments and observatories in a range of fields of science, and looked at the suitability and difficulties of these models for a globally-unified network of 3G observatories. The 'ab initio' discussions of governance are being melded with the present state of the Einstein Telescope and Cosmic Explorer 3G projects. The R&D coordination subcommittee has organized sessions at R&D meetings in the field, and gathered the status and plans in various domains. The Coordination Subcommittee has been in touch with and made presentations to funding agencies and roadmapping organizations in both Europe and the US.

The materials have informed funding agencies and panels considering the future of the gravitational-wave field and more generally astrophysics and astronomy, and to help the community envision, evaluate, and plan for its future. Specifically, the European ESFRI Roadmap and the US Astrophysics 'Astro2020' Decadal Survey were informed by appropriate submissions and white papers. APPEC in Europe and the NSF-founded

Gravitational-Wave Agencies Correspondents (GWAC) have also had briefings and are reviewing near-final versions of the documents.

GWIC is also working on an update to its Roadmap for the field, as informed by the 3G studies described above. It is planned to bring this to the public awareness through an initial article in a Nature journal, and followed by a more complete in-depth Roadmap to be published by GWIC.

The next steps for the 3G effort are now in discussion and will continue to be a focus for GWAC in the coming year, as the 3G detectors move toward engagement with funding agencies, and the need for a strong advocacy program ramps up.

#### **Membership of GWIC** (as of August 2019)

Chair: Dave Reitze, California Institute of Technology and University of Florida, (GWIC, 2007–, Chair 2019–)

Cosmic Explorer: Matt Evans, MIT, 2019-

Einstein Telescope : Michele Punturo, INFN-Perugia, 2009-

European Pulsar Timing Array (EPTA): Michael Kramer, Max-Planck-Institut für Radioastronomie and Jodrell Bank Centre for Astrophysics (University of Manchester), 2009–

GEO 600: Karsten Danzmann, Albert-Einstein-Institut fur Gravitationsphysik and University of Hannover, 1997–; Sheila Rowan, University of Glasgow, 2009–

IndIGO: Bala Iyer, International Centre for Theoretical Sciences (ICTS) of the Tata Institute of Fundamental Research (TIFR), 2011–; Somak Raychaudhury, Inter-University Centre for Astronomy and Astrophysics, 2017–

KAGRA: Yoshio Saito, KEK, 2013–; Takaaki Kajita, Institute for Cosmic Ray Research, University of Tokyo, 2011–

LIGO: Dave Reitze, California Institute of Technology and University of Florida, 2007–; Patrick Brady, University of Wisconsin Milwaukee, 2019–

LISA Community: Kelly Holly-Bockelmann, Vanderbilt University, 2018–; Bernard Schutz, Albert-Einstein-Institut für Gravitationsphysik, 2001–; Ira Thorpe, Goddard Space Flight Center, 2016–; Stefano Vitale, University of Trento, 2001–

NANOGrav: Scott Ransom, NRAO, 2019-

OzGrav: PPTA: Matthew Bailes, Swinburne University, 2017–; Audioband: David McClelland, Australian National University, 2000–

Virgo: Jo van den Brand, Dutch National Institute for Subatomic Physics (Nikhef) and VU University in Amsterdam, 2017–: Fulvio Ricci, University of Rome, "La Sapienza", 2014–

Theory Community: Luis Lehner, Perimeter Institute, 2018-

IUPAP Affiliate Commission AC2 (International Commission on General Relativity and Gravitation): Beverly Berger, 2013–

IAU Commission D1 Representative: Marica Branchesi, Gran Sasso Science Institute, 2017–

Executive Secretary: David Shoemaker, Massachusetts Institute of Technology, 2016-

Activities of the Working Group on the Newtonian Constant of Gravitation

September 2018 – August 2019 Stephan Schlamminger – WG chair <u>Stephan.schlamminger@nist.gov</u>

#### Introduction

The working group aims to understand the discrepancy between various measurements of the gravitational constant, G. Two new results were published in Nature by the researcher from Huazhong University of Science and Technology. To date, these results have reached the smallest measurement uncertainty. The figure below shows results from measurements of *G* that were published in the last 37 years. As can be seen from the figure the relative scatter of the results is of order 100 part in  $10^6$ , while the aforementioned best experiments have relative uncertainties of 12 parts in  $10^6$ .

![](_page_15_Figure_4.jpeg)

#### **Activities**

On July 12th, the working group had a face to face meeting at the General Relativity-22/Amaldi-13 conference. Twelve member and guests discussed the current situation of the *G* results. Furthermore, possible engagements for the working group were considered.

The working group organized a session on the measurement of the Newtonian constant of gravitation at the conference. The well-attended session featured one invited presentation from HUST and several contributed talks.

The working group is actively encouraging researchers to look for systematic uncertainties. At this point, it is more important to understand the discrepancy between different results than to add another result. Even the smaller differences within a single laboratory should be investigated.

The working group is organizing a focus issue on the measurement of the gravitational constant for Metrologia.

#### Working Group WG-15 – Soft Matter Physics Report to the IUPAP Council & Commission Chairs meeting August 2019

#### Mandate of the proposed IUPAP Working Group on Soft Matter

- 1. To organize/assist in organization of the International Soft Matter Conference every 3 years in each geographic region (Europe, America, and Asia/Australia).
- 2. To coordinate soft-matter-related regional, national & local conferences, meetings & workshops
- 3. To coordinate soft matter education, such as summer schools and short courses and help organize them if a need appears
- 4. To promote soft matter research through information exchange, publicity, prizes, publications, etc.
- 5. To strengthen the connections between academic and industrial soft matter research and development through outreach events, short courses, etc.

#### **Progress since last report:**

- 1. The International Soft Matter Conference 2019 was held in Edinburgh, United Kingdom from 3-7 June 2019. See <u>https://www.ismc2019.ed.ac.uk/</u> and the attached conference booklet for the details of the conference.
- 2. The WG15 had a teleconference of American Subgroup on Wednesday, April 17, 2019 to discuss the situation with the International Soft Matter Conference (ISMC) planned for June 2020 on campus of Massachusetts Institute of Technology, Cambridge, MA, USA (see attached report on ISMC 2020).

Michael Rubinstein reported that after numerous discussions with local organizing committee, it turned out that sizes and locations of available rooms is not adequate for the planned conference. In addition, the funds secured by Spring 2019 were not sufficient to start inviting speakers. The decision was made not to hold the ISMC2020 in America.

- 3. The International Soft Matter Conference 2021 is planned for December 12-17, 2021 to be held in Osaka, Japan (see conference web site <u>http://ismc2021.jp</u> and the attached poster). The teleconference with local organizing committee is planned for September 2019.
- 4. 10<sup>th</sup> International Polymer Symposium on "Molecular Order and Mobility in Polymer Systems" will be held on May 18-22, 2020 in Saint Petersburg, Russia, and is dedicated to the 100th anniversary of Polymer science and to the first formulation of the modern polymer concepts in 1920 by the future Nobel Laureate Hermann Staudinger.
- 5. The Summer school on "Multi-Scale Understanding of Soft Materials: From Macromolecular building blocks to soft matter physics and mechanics of soft solids" is planned for August 2-14, 2020 to be held in Cargese, France

List of Appendices

- 1. ISMC2019 Conference Booklet
- 2. ISMC2020 report
- 3. ISMC2021 poster

![](_page_18_Picture_0.jpeg)

## INTERNATIONAL SOFT MATTER CONFERENCE 3-7 JUNE 2019

#ISMC2019 WWW.ISMC2019.ED.AC.UK

#### Contents

| Welcome  | 1  |
|--|----|
| Sponsors                                       | 2  |
| Venues (including wifi access)                 | 4  |
| Maps   | 5  |
| Information for presenters (talks and posters) | 7  |
| Schedule at a glance                           | 9  |
| Schedule of talks                              | 10 |
| Schedule of posters                            | 30 |
| Posters index (by author)                      | 31 |

![](_page_20_Picture_0.jpeg)

![](_page_20_Picture_1.jpeg)

School of Physics & Astronomy Scottish Universities Physics Alliance (SUPA) The University of Edinburgh The Kings Buildings Mayfield Road Edinburgh EH9 3JZ Scotland Telephone (direct dial): +44 (0)131 650 5297 (Secretary): +44 (0)131 650 5249 Fax: +44 (0) 131 650 5902 email: w.poon@ed.ac.uk

27<sup>th</sup> May 2019

Dear delegate

Welcome to the International Soft Matter Conference 2019 in Edinburgh. This is the fifth in a series of triennial meetings organised under the auspices of the SoftComp Network. Our generous sponsors are gratefully acknowledged on the following pages (and links to their websites can be found on the conference app).

The rest of this booklet gives you all the essential information you will need to navigate your way through the Conference. If you want a hard copy, you need to print it for yourself. Note that this pdf is searchable; in particular, you can find your presentation slot, whether talk or poster, by searching for your name. More detailed information, including all the abstracts, can be found on the conference app (free, search for ISMC on Android and Apple app stores) for downloading to your device.

On behalf of all the organisers, I wish you a fruitful and enjoyable conference.

Yours

al Sontan

Chair, International Programme Committee

Wilson C K Poon, FRSE Professor of Natural Philosophy

## **Our Sponsors**

![](_page_21_Picture_1.jpeg)

# MORE DARING CLEANER FUTURE

SOLAR IMPULSE: WHEN IMAGINATION AND INNOVATIVE CHEMISTRY MAKE THE IMPOSSIBLE POSSIBLE, TOMORROW'S HOPES ARE ACHIEVED TODAY.

### ASKING MORE FROM CHEMISTRY

WWW.SOLVAY.COM

![](_page_22_Picture_4.jpeg)

#### Venues

Registration and Information

Registration (Monday 3<sup>rd</sup> June 10:00-12:00): **McEwan Hall** Help Desks (throughout): **McEwan Hall** and **Appleton Tower** 

Scientific Programme Plenary lectures: McEwan Hall Keynote and contributed talks: Appleton Tower Poster sessions: McEwan Hall Exhibitions: Appleton Tower

#### Catering

#### Monday lunch: McEwan Hall

Tuesday to Thursday lunch: McEwan Hall and Appleton Tower

Vegetarian options are available at both venues; other special dietary requirements are catered for at the Appleton Tower (please identify yourselves to the catering staff, who will advise).

Friday lunch: Appleton Tower

Coffee/tea breaks: McEwan Hall and Appleton Tower

Reception (Monday 3<sup>rd</sup> June, 7 pm): **Teviot Row House** 

Refreshments @ posters (Tuesday 4<sup>th</sup>, Wednesday 5<sup>th</sup> June; sponsored by Zeiss): **McEwan Hall** Gala Dinner (Thursday 6<sup>th</sup> June, 7 pm, sponsored by Solvay): **National Museum of Scotland** (Beyond drinks included, there will be a cash bar at both the Reception and the Gala Dinner.)

#### Wireless access

The eduroam network is available at any of the above sites except the National Museum. You can pick up a wifi pass for the University's Central network at registration, which also works at all University sites. The Optify network is available in the McEwan Hall only (no password needed). The city's EdiFreeWiFi network is available in the central areas shown on the right.

![](_page_23_Picture_14.jpeg)

🛑 bittite ub Miki cival age arma

![](_page_24_Figure_0.jpeg)

© Crown Copyright and database rights [2019] Ordnance Survey (100025252) Contains OS Data © Crown Copyright and database rights [2019] University cafés nearby

![](_page_25_Picture_1.jpeg)

#### **Information for presenters**

#### **Information for plenary speakers**

All plenary talks will take place in the **McEwan Hall auditorium**. Presentations are **45 minutes** long followed by 15 minutes of questions. The chair will indicate when 5 minutes of presentation time remains and stand up and approach the stage when 1 minute remains.

Please meet local staff in the auditorium 20 minutes before your lecture to connect your laptop, check your presentation and attach wireless microphone.

Connection to the projection equipment is via an HDMI or VGA; we ask that presenters *bring their own adapters* if such are needed to make these connections.

We will provide a clicker/laser pen (if required). This will connect via a USB-A connector; again please bring suitable adaptors if such are needed for your laptops.

#### Information for keynote and contributed talks speakers

All talks will take place in the **Appleton Tower** (Lecture Theatres 1, 2, 4 and 5).

**Keynote** talks are **30 minutes** long followed by 10 minutes for questions and changeover. **Contributed** talks are **15 minutes** long with 5 minutes for questions and changeover. The chair will indicate when 5 minutes presentation time remain and stand up when 1 minute remains.

Speakers should go to the relevant lecture theatre during the catering break (coffee/tea or second half of lunch) prior to the session to check their presentations display correctly from their laptops. (In addition, the lecture theatres will be staffed on the morning of Monday  $3^{rd}$  June – so do feel free to go there and try out your presentation immediately after you have registered.)

Connection to the projection equipment is via HDMI or VGA; we ask that presenters *bring their own adapters* if such are needed to make these connections.

The laptop of a contributed talk speaker will be disconnected during questions to allow the next speaker to connect up.

For presenters without their own laptops we have a Windows 10 guest machine onto which PDF and PowerPoint (2016 edition) files can be loaded. In this case, please bring a USB-A compatible pen- or hard-drive at the start of the catering break prior to their session to load up.

We will provide a clicker/laser pen (if required). This will connect via a USB-A connector; again please bring suitable adaptors if such are needed for your laptops.

#### **Information for poster presenters**

There will be two posters sessions: 17:00-19:00 on Tuesday 4<sup>th</sup> and Wednesday 5<sup>th</sup> June. There are numbered poster boards in the McEwan Hall basement Foyers 1-4. Check the code of your poster (most easily from the poster index in the Conference Booklet pdf) and put it up from 9 am of the day of your presentation. We will provide the means for you to attach the posters to the boards. As noted in the original email sent to you accepting your contribution, we can accommodate up to A0 (841 wide x 1189 height mm) posters only **in portrait (vertical) format**.

*Please take down your posters at the end of each session.* Any posters not taken down will be removed and discarded.

The winners of 'most popular poster' prizes (one per session) will be notified by email on Thursday  $6^{th}$  June, and the prizes will be presented to them before the plenary lecture on Friday  $7^{th}$ .

|                                  | Mondae 3rt                            |   |  |  | 1  |
|----------------------------------|---------------------------------------|---|--|--|--|
| Location                         | NV Deuro more                         | Appleton forward  | Analytian Tamer 2  | Appleton Sport #                               | Assistant Tower S  |
| 00.00                            | A CONSTRUCTION                        | APPCIATIONO 2   | Paperton Toppe   | And the second second                          | Appendix for 2   |
| 00.40                            | -                                     | -   |  |  |  |
| 10.60                            |                                       |   |  |  |  |
| 10.80                            |                                       |   |  |  |  |
| 10.10                            | Hejhtration                           |   |  |  |  |
| 11:60                            |                                       |   |  |  |  |
| 11.40                            |                                       |   |  |  |  |
| 12.60                            | 1 content                             |   |  |  |  |
| 12:00                            | LUNCE                                 |   |  |  |  |
| 13.60                            | Orenticed                             |   |  |  |  |
| 12.00                            | Understan                             |   |  |  |  |
| 33:30                            | Wescone                               | -   |  |  |  |
| 14.10                            | Opeleti                               |   |  |  |  |
| 14:30                            |                                       |   | 100 C 100 C 100 C  |  |  |
| 15 #0                            | 1                                     | 9.6   | Co floe Brook  |  | and the second se  |
| 15:30                            |                                       |   | 111120010100   |  |  |
| 16.60                            |                                       | minute for an or a  | And the second second second second  | and a supremented                              | ARE CONTRACTOR .   |
| 16:10                            |                                       | Saturday ser marrie a   | Admitted only is a re-   | Active data reality a                          | source out we are a  |
| 17.60                            |                                       |   |  |  |  |
| 37-10                            |                                       |   | Read   |  |  |
| 10.00                            |                                       |   | proses.  |  |  |
| 18 10                            | Banuseamy                             |   |  |  |  |
| 16:30                            | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |   |  |  |  |
| 15.00                            | annan                                 |   | Reception (Texat)  |  |  |
| _                                | Tuesday 4th                           |   | Designed and the second s |  |  |
| Location                         | McDean Movi                           | Appleton Tower 1  | Appleton Towar 2   | Applaton Tower4                                | Appleton Rowin 5   |
| 09:00                            | 6 CONTRACT                            |   |  |  |  |
| 00.00                            | BOCCANT.                              |   |  |  |  |
| 10.00                            |                                       |   | Cortica Barrato  |  |  |
| 10.10                            |                                       |   | 50180891985  |  |  |
| 40.30                            |                                       | The second second second  |  |  | A PARTY AND A PART |
| 11.00                            |                                       | Processing Soft Million A   | Self-avairabled Soft Muster A  | Using Soft Mutter C                            | Polymetic Soft Netter 6  |
| 11 10                            |                                       |   |  |  |  |
| 12:40                            |                                       |   |  |  |  |
| 12.30                            |                                       |   | and a second   |  |  |
| 11-00                            |                                       |   | sectory.   |  |  |
| 13:40                            |                                       |   |  |  |  |
| 14.00                            |                                       | a martine discussion in the state   | The second second second second  | The second second                              | and the second sec   |
| 24.00                            |                                       | Sol Casson/Find Solt Matter C   | Falyment forft Matter C  | Action for Marrier B                           | Collocated Solt Matter 9   |
| 14.10                            |                                       |   |  |  |  |
| 18.50                            |                                       |   | 3.9.9.9  |  |  |
| 15.30                            |                                       | 20 L  | Catter & roak  |  |  |
| 16.00                            | Water half                            |   |  |  |  |
| 16:30                            | and a second                          |   |  |  |  |
| 17:00                            |                                       |   |  |  |  |
| 1730                             |                                       |   |  |  |  |
| 18.00                            | Foster Searon1                        |   |  |  |  |
| 38:30                            |                                       |   |  |  |  |
| 10.10                            |                                       |   |  |  | 1  |
| 49:00                            | Marcan Control Marca                  | -   |  |  |  |
|                                  | We missily oth                        |   |  |  |  |
| Location                         | Mctastritten                          | Applition forwir J  | Applation Talent 2   | Applifort Zawar-4                              | Appletion Ruman 5  |
| 09.00                            | Parala                                | Ch.   |  |  |  |
| 09:10                            | Freese                                | 11  |  |  |  |
| 10.00                            |                                       |   | Coffice Brook  |  | 1.50   |
| 10.10                            |                                       |   |  |  |  |
| 11 60                            |                                       | The second second second  | Include the second second  |  | and that show the  |
| 23.40                            |                                       | Muking Sect Monter 9.   | Polymenic Soft Watter B  | ArreitedSoft Matter E                          | Active Soft Matter C   |
| 33.847                           |                                       |   |  |  |  |
| 17.90                            |                                       |   |  |  |  |
| 17.30                            |                                       |   | Lunch  |  |  |
| 13 50                            |                                       | 1000  | and the second second  |  | -  |
| 13:30                            |                                       | The second second second second   | and the second second  |  | and the second s |
| 14 \$0                           | 1                                     | Description East Minister (2)   | Resident Colt States (D  | Internation Coll Million of C                  | Coll worschladtlich Idiress if   |
| 14:30                            |                                       | Lowcost & sold writing it.  | HITEXED SO & HEALTS OF   | Conditione Sourcester e                        | TEN SOCIALITY OF AVA. SHALSO #   |
| 15 00                            |                                       |   |  |  |  |
| 15.10                            | 1                                     |   | Cothing Brough   |  |  |
| 36.60                            |                                       |   | Contra Strate  |  |  |
| 10.00                            | Creis.                                |   |  |  |  |
| 10:10                            |                                       | -   |  |  |  |
| 13.60                            |                                       |   |  |  |  |
| 17:30                            | Perster Samerrill                     |   |  |  |  |
| 18.00                            | i constantino                         |   |  |  |  |
| 18-30                            |                                       |   |  |  |  |
| 19:00                            |                                       |   |  |  |  |
| 3                                | Thursday title                        |   |  |  |  |
| Location                         | B& General Short                      | Acciston Terror 1   | daskton Zapet 2  | Applana Tarret                                 | Analytics Traver 5   |
| 09.10                            |                                       | Carlo | 0.00000000   | and the second second                          |  |
| 16.30                            | Ba:                                   |   |  |  |  |
| 10.00                            |                                       |   | Collin Barris  |  |  |
| 10.00                            |                                       |   | Collegaren   |  | 1  |
| 10.10                            |                                       |   |  |  |  |
| 11:60                            |                                       | Arrested Soft Marter 2  | Galinistial Soft Mather C  | Insertacial Soft Nother A                      | ElvineSoft Matter A  |
| 11:30                            |                                       | 1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.  | Succession and and and and and and and and and an  | Contraction of the second second               | and the second s |
| 13.00                            |                                       |   |  |  |  |
| 12:00                            |                                       |   |  |  | () () () () () () () () () () () () () (   |
| 11:00                            |                                       |   | STREP.   |  |  |
| 12.40                            |                                       |   |  |  | T  |
| 14.20                            |                                       | 10 10 10 10 10 10 10 10 10 10 10 10 10 1  | Personal Anna Anna Anna  |  | 1.1716-800 Server -  |
| 14 10                            |                                       | Making Sort Motor C   | ProcessingSoft Matter C  | Intertacial Soft Matter B                      | LivingSoft Matter B  |
| 14.30                            |                                       | Contraction and the   | 97991128689 2530E  | Definition of the state of the                 | 100000000000000000000000000000000000000  |
| 15.00                            |                                       |   |  |  |  |
| 15:50                            |                                       |   | Coffee Sireak  |  |  |
| 16:00                            | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |   |  |  |  |
| 16:10                            | Logistori                             |   |  |  |  |
| IT ID                            |                                       |   |  |  |  |
| 15.00                            | 1.0.004                               | doolo to  | NOT IN ADDIAL MACRO OT A   | tiandI   | -  |
| 17-10                            | Existing 74b                          | esta Li   | a distant state of the   | ALC: 1   | 1  |
| 1.0.10                           | Press of the                          | A   | 40.1041.40   | August 1 March 1                               | And the second second  |
| Lucation                         | - WEINHAMI PANT                       | Apprior town 1  | ADDALEDI LONGA S   | HERE BY ANY ANY ANY ANY ANY ANY ANY ANY ANY AN | MANELON JOINE 2  |
| 09.90                            | NaciPlane                             |   |  |  |  |
| 05:30                            | Contradie:                            |   | and the second second  |  |  |
| 10.00                            |                                       | 1000  | Coffee Break   |  |  |
| 10:40                            |                                       |   |  |  |  |
| 11.60                            |                                       | E. Defaurant in South Industrian II.  |  | Active Soft Matter D                           | Collored al Soft Marter II   |
| 44.80                            |                                       | A PORT AND IN THE PARTY OF  |  |  |  |
| 41.40                            |                                       | E E   | Interfacial Soft Matter D  | 5  | 8  |
| 11 30                            |                                       | Self assembled Saft Metter D  | Interfacial Soft Matter D  | Starry Soft Marrier O                          | Prozensong Soft Memoria  |
| 11 10                            |                                       | Self asserblict Suit Marter D   | Interfacial Soft Matter D  | E Suring Soft Marrier O                        | E<br>Promining Soft Netter 3   |
| 11 10<br>12 40<br>12 30          |                                       | B<br>Self assembled Suit Matter D   | Interfacial Soft Matter D  | E Lang Soft Mamer O                            | Processing Soft Network  |
| 11 10<br>12 40<br>12 30<br>13 40 |                                       | R<br>Self assembled Suff Martin D   | Interfacial Soft Matter D  | E Guing Soft Marrier O                         | Prozensey Sch Meneral  |

#### Schedule of Talks

#### Organisation of topics into sessions

Each of the nine conference topics attracts three or four sessions, A, B, C and sometimes D. Sessions A and B each opens with a keynote talk followed by 4 contributed talks, while sessions C and D each comprises 6 contributed talks. Under each topic, the programme lists the sessions in their chronological order, which is sometimes not alphabetical; thus, e.g., the sessions for Interfacial Soft Matter are ordered C, A, B, D. In a few cases, the D session of two topics, e.g., Colloidal and Processing & Stressed Soft Matter, are joint.

#### Plenary Talks

#### All plenary talks are held in McEwan Hall.

| Monday, June 3    | 14:00 | Why soft solids fail   |
|-------------------|-------|--|
|                   |       | Luca Cipelletti (University of Montpellier)  |
| Monday, June 3    | 18:00 | Fast, Elastic, Defective, Active Matter  |
|                   |       | Sriram Ramaswamy (Indian Institute of Science, Bengaluru)                          |
| Tuesday, June 4   | 9:00  | Flow and rheology at ultimate scales   |
|                   |       | Lydéric Bocquet (CNRS, ENS)  |
| Wednesday, June 5 | 9:00  | A Cabinet of Curiosities: Stories of Electrostatics in Soft Matter                 |
|                   |       | Susan Perkin (University of Oxford)  |
| Wednesday, June 5 | 16:00 | Macromolecular Mechanochemistry  |
|                   |       | Stephen Craig (Duke University)  |
| Thursday, June 6  | 9:00  | Tough topological polymers and their applications to energy-efficient vehicles and |
|                   |       | medicine   |
|                   |       | Kohzo Ito (University of Tokyo)  |
| Thursday, June 6  | 16:00 | Building synthetic cells   |
|                   |       | Marileen Dogterom (TU Delft)   |
| Friday, June 7    | 9:00  | Biofilms: Whats in it for Soft Matter?   |
|                   |       | Cait MacPhee (University of Edinburgh)   |

#### Special Session: The 2019 RSC Soft Matter Lecture (McEwan Hall)

Tuesday, June 4 16:00 Pixelated Polymers: Programming Function into Liquid Crystalline Polymer Networks and Elastomers Tim White (University of Colorado Boulder)

#### Active Soft Matter

Session A: The Appleton Tower Lecture Theatre 4 Monday, June 3

- 15:30 **Keynote**: Spontaneous and driven active matter flows CLÉMENT, Eric
- 16:10 Group formation and cohesion of active particles with visual perception-dependent motility LAVERGNE, Francois A.
- 16:30 Controlling efficiently active soft matter with light: from optical microfibers to photokinetic cells MAGGI, Claudio
- 16:50 Active apolar doping determines routes to colloidal clusters and gels MASSANA-CID, Helena
- 17:10 Resonant motion of magnetocapillary swimmers: lattice-Boltzmann simulations SUKHOV, Alexander

Session B: The Appleton Tower Lecture Theatre 4

Tuesday, June 4

- 13:30 Keynote: Optimal navigation strategies of active colloids in complex environmentLÖWEN, Hartmut
- 14:10 Lattice Boltzmann simulations of collective phenomena in microswimmer suspensions BARDFALVY, Dora
- 14:30 Bottom-up mechanisms for the emergence of swarming CHARLESWORTH, Henry
- 14:50 Effective Interactions and Dynamics of Active Colloids in Phase Separating Medium NARAYANAN, Theyencheri
- 15:10 Self-propelled particles in 3D: phase behaviour and dynamics SAKAI, Nariaki

- **Session C:** The Appleton Tower Lecture Theatre 5 Wednesday, June 5
- 10:30 Bistability in wall aggregation of active Brownian particles CHELAKKOT, Raghunath
- 10:50 Dial-a-plume: Localised Photo-Bio-Convection On Demand POLIN, Marco
- 11:10 Optimizing dissipation in active matter: dynamical phase transitions, clustering and collective motion FODOR, Etienne
- 11:30 Acoustic confinement of swimming bacteria HOYOS, Mauricio
- 11:50 Active matter and active materials: Emerging behavior in intrinsically out of equilibrium systems PAGONABARRAGA, Ignacio
- 12:10 Active filaments: Emergent conformational and dynamical properties WINKLER, Roland G.
- Session D (shared with Living Soft Matter): The Appleton Tower Lecture Theatre 4 Friday, June 7
- 10:30 Defect dynamics and reconfigurable flows in confined active soft matter IGNÉS-MULLOL, Jordi
- 10:50 Correlation length of bacterial turbulence MARTINEZ, Vincent Arnaud
- 11:10 Wave Front Propagation Speeds in a Bacteriophage Bacteria System CLAYDON, Rory
- 11:30 Active vesicles: a minimal model for cell motility ABAURREA-VELASCO, Clara
- 11:50 Stress management in composite biopolymer networks TAUBER, Justin
- 12:10 Hydrodynamic coupling between artificial cilia VILFAN, Mojca

#### Arrested Soft Matter

Session A: The Appleton Tower Lecture Theatre 2 Monday, June 3

15:30 **Keynote**: Topology, softness and rigidity in gel networks DEL GADO, Emanuela

16:10 Strain localisation during yielding of soft materials BARLOW, Hugh

- 16:30 Multi-scale relaxation in aging gels: from localized plastic events to system-spanning 'quakes' BUZZACCARO, Stefano
- 16:50 Microscopic Force Measurements in Colloidal Gels DONG, Jun
- 17:10 Using sequential gelation as a method to direct gel structure and mechanics IMMINK, Jasper

Session C: The Appleton Tower Lecture Theatre 4

- Wednesday, June 5
- 10:30 Surface Active Microgels: a step towards soft stabilisers CROSBY, David
- 10:50 Strongly heterogeneous motion at the depinning transition in dense dispersions FUCHS, Matthias
- 11:10 The microscopic role of deformation in the dynamics of soft colloids GNAN Nicoletta
- 11:30 Relaxation of weakly self-propelled particles dramatically changes at glass transition LEOCMACH, Mathieu
- 11:50 Sheared colloidal gels: Effects of having a viscoelastic matrix MASSARO, Roberta
- 12:10 Anisotropic Dynamics and Kinetic Arrest of Dense Colloidal Ellipsoids in the Presence of an External Field Studied by Differenti

PAL, Antara

- **Session D:** The Appleton Tower Lecture Theatre 2 Wednesday, June 5
- 13:30 Chain-length dependent relaxation dynamics and glass-formation in polymers MATTSSON, Johan
- 13:50 Correlations and forces in sheared fluids with or without quenching ROHWER, Christian
- 14:10 Orthogonal superposition rheometry of model colloidal glasses with short-ranged attractions PETEKIDIS, George
- 14:30 Shear-stress relaxation in free-standing polymer films WITTMER, J. P.
- 14:50 Jamming in star polymer solutions and melts GURY, Leo
- 15:10 Jamming and yielding in an athermal dense suspension of amorphous particles MAJUMDAR, Sayantan

**Session B:** The Appleton Tower Lecture Theatre 1 Thursday, June 6

- 10:30 Keynote: Towards an Understanding of the Glass Transition? Insights from Experiment and Simulation ROYALL, Paddy
- 11:10 Microscopic pathways for stress relaxation in repulsive colloidal glasses DALLARI, Francesco
- 11:30 Arresting colloidal model systems NIKOLAENKOVA, Anna
- 11:50 Slowing down supercooled liquids by manipulating their local structure SMALLENBURG, Frank
- 12:10 How active forces influence nonequilibrium glass transitions SZAMEL, Grzegorz

#### Colloidal Soft Matter

Session A: The Appleton Tower Lecture Theatre 1 Monday, June 3

- 15:30 **Keynote**: Law and Disorder: The unusual behaviour of ultraweak crystals SPRAKEL, Joris
- 16:10 Nanoscale optical imaging of individual and densely packed microgel colloids SCHEFFOLD, Frank
- 16:30 Distributions of first passage times reveal underlying free energy landscapes THORNEYWORK, Alice
- 16:50 Aggregation of colloidal particles in the presence of hydrophobic anions TREFALT, Gregor
- 17:10 Vertically-vibrated granular rods: topological defects and influence of imposed geometry VELASCO, Enrique

**Session B:** The Appleton Tower Lecture Theatre 5 Tuesday, June 4

13:30 **Keynote**: Mix and Melt Colloidal engineering SACANNA, Stefano

- 14:10 Assembly of patterned colloids close to a patterned substrate BIANCHI, Emanuela
- 14:30 Reentrant transitions of adaptive dsDNA colloids LAURATI, Marco
- 14:50 Dynamics of a forced large colloidal particle in a bath of colloidal hard spheres: Simulations and theory PUERTAS, Antonio
- 15:10 An electric field responsive colloidal metamaterial ROGIER, Faranaaz
Session C: The Appleton Tower Lecture Theatre 2

Thursday, June 6

- 10:30 Environmental nanoparticle-induced toughening and pinning of a crack in a biopolymer hydrogel BAUMBERGER, Tristan
- 10:50 Hard times for hard spheres: Enhanced crystallization of the Laves phase from soft colloids COLI, Gabriele Maria
- 11:10 Dynamics of soft and permeable particles suspensions NAEGELE, Gerhard
- 11:30 Modification of wave velocity in a string fluid SCHWABE, Mierk
- 11:50 What controls the response of soft microgels to overcrowded environments: cross-link density or architecture?

SCOTTI, Andrea

12:10 Shape is coupled to diffusion for flexible colloidal chains VERWEIJ, Ruben W.

Session D (shared with Processing & Stressed Soft Matter): The Appleton Tower Lecture Theatre 5 Friday, June 7

- 10:30 Reversible cluster formation, gelation and glassy dynamics in colloidal dispersions CASTAÑEDA-PRIEGO, Ramón
- 10:50 Structure of colloidal dispersions under shear probed by X-ray cross-correlation analysis KOOF, Michael
- 11:10 Advanced modelling of microgel structure across the volume phase transition NINARELLO, Andrea
- 11:30 External and internal deformations of colloidal crystals BUTTINONI, Ivo
- 11:50 Extrusion of shear thickening suspensions: Variations in local solid concentrations O'NEILL, Rory
- 12:10 Dynamics of non-spherical particles in non-Newtonian fluids with applications to microfluidic separations NARSIMHAN, Vivek

# Interfacial Soft Matter

- **Session C:** The Appleton Tower Lecture Theatre 4 Wednesday, June 5
- 13:30 Capillary phenomena in miscible fluids CARBONARO, Alessandro
- 13:50 Investigating the aging of model liquid infused porous surfaces GOODBAND, Sarah
- 14:10 Phase transitions on non-uniform curved surfaces: Coupling between phase and location LAW, Jack O.
- 14:30 Thermophoresis in self-associating systems PIAZZA, Roberto
- 14:50 Time-resolved charging dynamics of confined electric double layer TIVONY, Ran
- 15:10 Biologically Active Liquid Crystal Droplets SHARMA, Kamendra

**Session A:** The Appleton Tower Lecture Theatre 4 Thursday, June 6

- 10:30 **Keynote**: Growing and shrinking bubbles, enhanced Ostwald ripening via mass transport in nanometer thick films
  - DAGASTINE, Ray
- 11:10 How to unify diffusio-phoresis, Marangoni and osmotic flows with interfacially driven transport of soft matter?

BACCHIN, Patrice

- 11:30 The effect of interfacial viscosity on the dynamics, rheology, and breakup of droplets NARSIMHAN, Vivek
- 11:50 Soluble surfactant spreading: How the amphiphilicity sets the Marangoni hydrodynamics SAINT-JALMES, Arnaud
- 12:10 Dynamics of Membrane Wrapping of Microparticles SPANKE, Hendrik

**Session B:** The Appleton Tower Lecture Theatre 4 Thursday, June 6

13:30 **Keynote**: Demixing on curved surfaces KRAFT, Daniela

14:10 Formation of Suspended Bilayers at the Air-Water Interface: A Novel Bacterial Membrane Mimic AYSCOUGH, Sophie

14:30 Ions can generate large membrane curvatures MARZIEH Karimi

14:50 Collective dynamics in a mixed lipid bilayer NAGAO, Michihiro

15:10 Nanoparticle engulfment by bilayer membranes with compositional asymmetry SREEKUMARI, Aparna

Session D: The Appleton Tower Lecture Theatre 2

Friday, June 7

10:30 How are salivary pellicles affected by surfactants of different ionic character? BOYD, Hannah

10:50 Anisotropic self-assembly from isotropic colloidal building blocks BUZZA, Martin

- 11:10 Microgels adsorbed at liquid-liquid interfaces: insights from realistic modelling and experiments CAMERIN, Fabrizio
- 11:30 Confocal microscopy study of the interaction between particle-stabilised droplets and a solidification front DICKINSON, Katy

11:50 Ionic Coulomb blockade as a fractional Wien effect KAVOKINE, Nikita

12:10 Tribological properties of nanoconfined ionic liquids at metallic interfaces LAINE, Antoine

# Living Soft Matter

Session C: The Appleton Tower Lecture Theatre 4

Tuesday, June 4

- 10:30 Tooling up to build an artificial cell BEALES, Paul
- 10:50 Phase transition behaviour in single solid-supported lipid bilayer GERELLI, Yuri
- 11:10 Model of ciliated-cell collective behavior and mucus transport in bronchial epithelium GSELL, Simon
- 11:30 Misalignment between magnetic dipole moment and cell axis in the magnetotactic bacterium Magnetospirillum magneticum AMB-1 LE NAGARD, Lucas
- 11:50 Fluid flow and motility control initial bacterial colonization on curved surfaces SECCHI, Eleonora
- 12:10 Low Dose Antibiotics Can Cause Bacterial Aggregation TAVADDOD, Sharareh

Session A: The Appleton Tower Lecture Theatre 5 Thursday, June 6

- 10:30 Keynote: Phase-separation in an elastic matrix: from living cells to synthetic materialsDUFRESNE, Eric
- 11:10 Unjamming overcomes kinetic arrest in terminally differentiated cells and promotes collective motility of carcinoma

GIAVAZZI Fabio

- 11:30 Toward the creation of 2D or 3D clusters of cells in acoustic levitation JEGER, Nathan
- 11:50 Confinement-induced transition between wave-like collective cell migration modes LE GOFF, Magal
- 12:10 Label-free, spatio-temporal monitoring of cytosolic mass, osmolarity and volume, in living cells MIDTVEDT, Daniel

Session B: The Appleton Tower Lecture Theatre 5

Thursday, June 6

13:30 **Keynote**: Peeking and poking biological matter using optical tweezers in combination with singlemolecule fluorescence microscopy

PETERMAN, Erwin

14:10 Bacterial chromosome organization: special crosslinks, confinement effects and molecular crowders play the pivotal roles

CHATTERJI, Apratim

- 14:30 Inter-protein forces as a cell-membrane organization principle DESTAINVILLE, Nicolas
- 14:50 Adhesion remodelling upon cell shrinking STAYKOVA, Margarita
- 15:10 Bacteria as living patchy colloids: Phenotypic heterogeneity in surface adhesion VISSERS, Teun

Session D (shared with Active Soft Matter): The Appleton Tower Lecture Theatre 4 Friday, June 7

See Active Soft Matter Session D for detail.

# Making and Measuring Soft Matter

Session A: The Appleton Tower Lecture Theatre 5

Monday, June 3

- 15:30 **Keynote**: *Hierarchical biomechanics: from single folded proteins to cross-linked protein networks* DOUGAN, Lorna
- 16:10 Design and synthesis of catalytically active CoFe<sub>2</sub>O<sub>4</sub>@Pt nanostructures MARTINEZ, Yeimy
- 16:30 Functional Multicomponent Protein Networks with Tunable Domain Size RIOS DE ANDA, Ioatzin
- 16:50 The structural colors of random assembled monodisperse colloids SCHERTEL, Lukas
- 17:10 Biomimetic folding particle chains VAN OOSTRUM, Peter

Session B: The Appleton Tower Lecture Theatre 1 Wednesday, June 5

10:30 **Keynote**: Measuring Flow in Yield Stress Fluids LYNCH, Matt

- 11:10 Tracking-free one- and two-point microrheology of soft materials CERBINO, Roberto
- 11:30 Colloidal SU-8 polymer rods for three-dimensional confocal imaging and optical tweezing FERNÁNDEZ-RICO, Carla

11:50 Operation Windows for Interfacial Rheometry RENGGLI, Damian

12:10 Learning force fields from stochastic trajectories RONCERAY, Pierre Session C: The Appleton Tower Lecture Theatre 1

Thursday, June 6

- 13:30 'Hot Spots' in pore scale flow through soft carbon fibre felt electrodes limit the efficiency of Redox Flow Battery operation
  BOEK, Edo
- 13:50 Polymer dynamics and the new high-resolution J-NSE at MLZ PASINI, Stefano
- 14:10 Bottom-up Synthesis of Polymeric Micro- and Nanoparticles with Regular Anisotropic Shapes LESOV, Ivan
- 14:30 Switchable 3d morphing configurations by stimuli responsive heterogeneous hydrogel LI, Yifan
- 14:50 Polymeric nanoparticles aplenty NIKOUBASHMAN, Arash
- 15:10 Preserving the cavity of hollow microgels by introducing charges into the polymeric network TURNHOFF, Sarah K.

# Polymeric Soft Matter

Session A: The Appleton Tower Lecture Theatre 5

Tuesday, June 4

- 10:30 **Keynote**: Flow-Induced Crystallization of Engineering Thermoplastics COLBY, Ralph
- 11:10 Load distributions in multi-network elastomers BOSE, Anwesha
- 11:30 Biomcompatible hydrogels: formation and structure RAFFAELLI, Chiara
- 11:50 Domain formation in compaction of a semiflexible polymer CURK, Tine
- 12:10 Random-packed structures of rings as a model system of Soft Matter problems GARCÍA, Nicolás A.
- Session C: The Appleton Tower Lecture Theatre 2

Tuesday, June 4

- 13:30 General methodology to identify the minimum alphabet size for heteropolymer design COLUZZA, Ivan
- 13:50 A geometric model for the erosion and fragmentation of polymers in the ocean FABRE, Pascale
- 14:10 Structure and Dynamics of Single-Chain Polymeric Nanoparticles under Shear Flow in Dilute and Concentrated Solution

FORMANEK, Maud

- 14:30 Topological Tuning of Polymer Dynamics MICHIELETTO, Davide
- 14:50 Direct visualization of comb polymer dynamics in unentangled semi-dilute solutions using single molecule studies

PATEL, Shivani Falgun

15:10 Characterizing and controlling elastic turbulence in a viscoelastic fluid VAN BUEL, Reinier Session B: The Appleton Tower Lecture Theatre 2

Wednesday, June 5

10:30 **Keynote**: Why 'bad' is 'good': Polydispersity in polymeric nanostructures SCHMID, Friederike

11:10 Nanocomposites Drying : Structural Evolution from Solution to Solid ERMAN, Azad

- 11:30 The microscopic origin of the rheology in supramolecular entangled polymers GOLD, Barbara
- 11:50 Unipletion in colloid-polymer mixtures GONZÁLEZ GARCÍA, Álvaro

12:10 Structure and elasticity of the endothelial glycocalyx LOBASKIN, Vladimir

Session D (shared with Self-assembled Soft Matter): The Appleton Tower Lecture Theatre 1 Friday, June 7

10:30 Smart Adsorption, playing with geometry to enhance selectivity CAPONE, Barbara

10:50 Investigating DNA-based dendrimers: theory and experiment JOCHUM, Clemens

- 11:10 Polymer foams by using microfluidics RUSSO, Maria
- 11:30 Silk: A natural example of a sticky entangled polymer SCHAEFER, Charley
- 11:50 Material properties of hybrid lipid-polymer vesicles: towards artificial systems for enhanced membrane protein function

SENEVIRATNE, Rashmi

12:10 Condensation and demixing in solutions of DNA nanostars and their mixtures LOCATELLI, Emanuele

# Processing & Stressed Soft Matter

Session A: The Appleton Tower Lecture Theatre 1

Tuesday, June 4

10:30 Keynote: Cavitation and Puncture: Crack Nucleation in Soft Solids CROSBY, Al

11:10 Soft lubrication with polymer brushes BUREAU, Lionel

- 11:30 Demonstrating stress transfer between networks in multiple network elastomers with mechanochemistry CHEN Yinjun
- 11:50 High dynamic range, bio-inspired stress-sensing in polymers CLOUGH, Jessica
- 12:10 Mechanical Properties and Failure of Physically Assembled Polystyrene-Polyisoprene-Polystyrene Gels in
   a Mid-block Selective Sol

Kundu, Santanu

Session B: The Appleton Tower Lecture Theatre 1

#### Wednesday, June 5

- 13:30 **Keynote**: From soft matter rheology to civil engineering OVARLEZ, Guillaume
- 14:10 On flow, fracture and getting jammed Failure modes in dense suspensions BISCHOFBERGER, Irmgrad

14:30 Temperature Dependent Aging and Yield of Drilling Fluids CLARKE, Andrew

- 14:50 A minimal-length approach unifies rigidity in under-constrained materials MERKEL, Matthias
- 15:10 Repulsion, attraction and contact in dense suspensions ROYER, John

- **Session C:** The Appleton Tower Lecture Theatre 2 Thursday, June 6
- 13:30 Sorting cells in microfluidics based on their intrinsic properties FEDOSOV, Dmitry
- 13:50 Influence of surfactant dynamics on the length scale of avalanches in foam coalescence MIKHAILOVSKAYA, Alesya
- 14:10 Capillary Rheo-SANS: Measuring the rheology and nanostructure of soft matter at high shear rates MURPHY, Ryan P.
- 14:30 Crack Propagation Behaviour of Polyurethane Thermoplastic Elastomers in Cyclic Fatigue SCETTA, Giorgia
- 14:50 Small-scale fracture in soft solids STYLE, Robert
- 15:10 Dynamics of Viscoelastic Filaments based on Onsager Principle ZHOU, Jiajia

Session D (shared with Colloidal Soft Matter): The Appleton Tower Lecture Theatre 5 Friday, June 7

See Colloidal Soft Matter Session D for detail.

# Self-assembled Soft Matter

**Session A:** The Appleton Tower Lecture Theatre 2 Tuesday, June 4

- 10:30 **Keynote**: Ionic Liquid Crystals: Controlling Self-Assembly and Function through Charge and Symmetry LASCHAT, Sabine
- 11:10 Under the Smectic Blanket: Biaxial, Twist- and Splay-bend nematics revealed destabilizing the Smectic phase of Hard Boomerangs CHIAPPINI, Massimiliano
- 11:30 Understanding the helix pitch of the equilibrium cholesteric CNC phases HONORATO-RIOS, Camila
- 11:50 Controlling Gel Properties by Chirality DAVE, Adams
- 12:10 Monitoring Self-Assembly of Nanocrystal Superlattices by Time- and Space-Resolved SAXS LOKTEVA, Irina

Session C: The Appleton Tower Lecture Theatre 1 Tuesday, June 4

- 13:30 Tracking the Molecular Organisation of Water and Alcohol Mixtures at Hydrophobic Solid Interfaces FOSTER, Will
- 13:50 Chirality-Controlled Self-Assembly via Topological Defects GRELET, Eric
- 14:10 Pressure-stimulated supercrystal formation in nanoparticle suspensions LEHMKÜHLER, Felix
- 14:30 An old tool for a new problem: tunable electrostatic adsorption via Pnipam microgels SENNATO, Simona
- 14:50 Assembly of clathrates from tetrahedral patchy colloids with narrow patches NOYA, Eva G
- 15:10 Unique mechanics of biopolymer microgels prepared inside artificial cells YANAGISAWA, Miho

- **Session B:** The Appleton Tower Lecture Theatre 5 Wednesday, June 5
- 13:30 Keynote: Squids as soft matter: evolved self-assembly of gradient-index lenses and light guides SWEENEY, Alison
- 14:10 Colloids Get Creative: Key to Open Crystals CHAKRABARTI, Dwaipayan
- 14:30 Mosaics of patchy rhombi: from close-packed arrangements to open lattices KARNER, Carina
- 14:50 Self-assembly of type I collagen fibrils in solution NUDELMAN, Fabio
- 15:10 Binary Hard Sphere Icosahedral Quasicrystals VAN BLAADEREN, Afons

**Session D** (shared with Polymeric Soft Matter): *The Appleton Tower Lecture Theatre 1* Friday, June 7

See Polymeric Soft Matter Session D for detail.

# **Schedule of Posters**

#### **McEwan Hall Basement**

| 19:00   |  |  |
|---------|--|--|
| AC1     | to   | AC49   |
| AR1     | to   | AR17   |
| CO1     | to   | CO20   |
| IN1     | to   | IN22   |
| PO1     | to   | PO16   |
| SA1     | to   | SA18   |
| 0-19:00 | )  |  |
| CO21    | to   | CO52   |
| IN23    | to   | IN45   |
| LI1     | to   | LI16   |
| MA1     | to   | MA9  |
| PO17    | to   | PO41   |
| PR1     | to   | PR17   |
| SA19    | to   | SA36   |
|         | 19:00<br>AC1<br>AR1<br>CO1<br>IN1<br>PO1<br>SA1<br>00-19:00<br>CO21<br>IN23<br>LI1<br>MA1<br>PO17<br>PR1<br>SA19 | AC1 to<br>AR1 to<br>CO1 to<br>IN1 to<br>PO1 to<br>SA1 to<br>SA1 to<br>CO21 to<br>IN23 to<br>LI1 to<br>MA1 to<br>PO17 to<br>PR1 to<br>SA19 to |

The presenter of the most popular poster at each session will be awarded a pair of binoculars, kindly donated by Zeiss. The company is also sponsoring the refreshments for both sessions.

## Please vote for your most popular poster at each session on the Conference app.

A poster index ordered alphabetically by presenter follows. Abstracts can be found on the app.

| Presenting Author         | Title  | CODE  |
|---------------------------|--|-------|
| ALEXANDER, Lachlan C.     | Bacterial Microswimmers in Colloidal Liquid Crystals                                     | AC 1  |
| ALVAREZ, Laura            | Reconfigurable thermo-responsive active colloids   | AC 2  |
|                           | Dynamics of poly(methyl methacrylate) chain in thin films during solvent annealing       | PO 3  |
| AOKI, Hiroyuki            | studied by neutron reflectometry   |       |
| AOYAMA, yurina            | Fabrication of 2D Charged Colloidal Crystals by Electrostatic Particles Adsorption on    | CO 52 |
|                           | Oppositely Charged Substrates  |       |
| ARAKI, Takeaki            | Illumination-induced motion of Janus particle in binary mixtures                         | AC 3  |
| BABU Sujin B              | Dynamical arrest in binary colloidal system with static and dynamic cages.               | AR 2  |
| BAEK, Yongjoo             | A systematic Markovian approximation for active particles                                | AC 4  |
|                           | Demonstration of a touch-responsive photonic laminate from cellulosic material and roll- | MA 9  |
| BARTY-KING, Charles H     | to-roll processing   |       |
| BELL-DAVIES, Miranda      | Correlated diffusion of colloidal particles in two-dimensional random confinement        | CO 30 |
| BEN XU                    | New Energy Generator by Trampolining Elastic Gel (NEGTEG)                                | AC 5  |
| BINTEIN, Pierre           | Kirigami fog nets  | IN 1  |
| BISWAS, Subhadip          | Equilibrium phases of soft macromolecular confinement                                    | IN 2  |
| BLAAK, Ronald             | Development of coarse-grained models for polymer materials                               | PO 5  |
| BOATTINI, Emanuele        | Revealing hidden structures with unsupervised learning                                   | CO 2  |
| BOCQUET, Marie-Laure      | How Graphene and Hexagonal Boron Nitride get electrified in water?                       | IN 3  |
|                           | The Polymer Network of the Cytoskeleton affects Intracellular Phase Separation in        | LI 1  |
| BOEDDEKER, Thomas         | Eukaryotic Cells   |       |
|                           | Enhancing lipid extraction from micro-algae suspensions using depletion flocculation and | LI 2  |
| BOEK, Edo                 | micro-fluidics   |       |
| BOON, Willem              | Surface charging kinetics reveals reaction mechanism                                     | IN 44 |
| BOTIN, Denis              | Complete density dependence of charged sphere colloid electrophoretic mobilities.        | CO 3  |
| BRADLEY, Joe              | Jamming and shear thickening in a centrifuge   | CO 4  |
|                           | Electric Field Induced Self-Assembly of Highly Crosslinked Ionic Microgels: Correlations | SA 15 |
| BRIJITTA, Joseph Boniface | from Microscopic and Scattering Studies  |       |
| BRITO, Mariano E.         | Deswelling effects on transport properties of ionic microgel suspensions                 | PO 6  |
| BROWN, Aidan              | A phase diagram for an active nematic confined to a spherical shell                      | AC 6  |
| BUREAU, Lionel            | Adhesive interactions under flow at blood cell/vascular wall mimetic interfaces          | LI 3  |

| CANALE, Luca             | Nanotribology of ice  | IN 4  |
|--------------------------|---|-------|
|                          | Coupled phase separation and surface migration in binary polymer gels: A multiscale       | PO 7  |
| CHAKRABARTI, Buddhapriya | simulation study  |       |
| CHAMBON, Lucille         | Soft micron-sized hollow rods of high aspect ratio  | PO 8  |
| CHANDRAGIRI, Santhan     | Active nematics in channels   | AC 7  |
|                          | Self assembled linear polymeric chains with tuneable semiflexibility using isotropic      | PO 9  |
| CHATTERJI, Apratim       | interactions  |       |
|                          |   | LI 8  |
| CHEN, Jinju              | How different chemical treatment affects mechanical fingerprint of P.fluorescens biofilms |       |
|                          | Circle microswimmers in crowded media. Limit of ideal trajectories and the influence of   | AC 8  |
| CHEPIZHKO, Oleksandr     | noise.  |       |
| CHIAPPINI, Massimiliano  | Machine learning phases of matter and spatially varying order parameters                  | SA 2  |
| CHUPAKHIN, Alexander     | Experimental investigation of EVOH precipitation in a T-shaped microchannel               | PO 1  |
| CIACH, Alina             | Density Functional Theory for Systems with Competing Interactions                         | SA 3  |
| CĪMURS, Janis            | Stable structures of paramagnetic particles in precessing magnetic field                  | SA 14 |
|                          | Exploiting Scaling Laws for Designing Polymeric Bottle Brushes: a Theoretical Coarse-     | PO 10 |
| CORSI, Pietro            | Graining for Homopolymeric Branched Polymer   |       |
| CRUZ, Carolina           | Electrical Double Layers Close to Ionic Liquid-Solvent Demixing                           | IN 5  |
|                          | Rheology and extrusion 3D printing of nanocomposite hydrogels based on cellulose          | PR 1  |
| d'ÁVILA, Marcos Akira    | nanocrystals  |       |
| DAMERAU, Brian           | Reinforcing Soft Gels   | AR 3  |
| DE GRAAF, Joost          | The Impact of Hydrodynamics on Colloidal Gelation under Gravity                           | AR 4  |
|                          | Increasing the extensibility of chemically crosslinked hydrogels with dynamic             | PR 2  |
| DEBERTRAND, Louis        | coordination bonds  |       |
| DEN OTTER, Wouter        | Fluctuating stresses and the intrinsic viscosity of colloids                              | CO 5  |
| DHAS, Darish Jeswin      | Stability of a particle-laden film falling down an incline                                | CO 6  |
| DHUMAL,Umesh             | Phase behaviour of mixtures of hard and penetrable particles                              | SA 4  |
| DIAZ-DE ARMAS, Ariel     | Effect of nano-confinement in the phase behaviour of hard platelets                       | IN 6  |
| DIJKSTRA, Marjolein      | Watching the Birth of a Binary Icosahedral Quasicrystal of Hard Spheres                   | CO 7  |
| DJAFER-CHERIF, Ilyas     | Active junctions as a pathway to stress generation in morphogenesis                       | LI 4  |

|                                   | Magnetic properties of magnetoactive elastomers studying by molecular dynamics            | PO 39 |
|-----------------------------------|---|-------|
| DOBROSERDOVA, Alla                | simulations   |       |
| DODOO, Jennifer                   | Stressed magnetic droplets  | PR 3  |
| DOHNI, Balkis                     | Interface properties of phase separated colloid-polymer mixtures                          | IN 7  |
| DONG, Junhao                      | Unifying viscous and inertia regimes of discontinuous shear thickening suspensions        | CO 18 |
|                                   | Acoustic propulsion of metallic nano-cylinders: contribution of the local vertical        | AC 10 |
| DUMY, Gabriel                     | acceleration  |       |
| DUSSI, Simone                     | Fracture of diluted networks: cracking or yielding?                                       | PR 4  |
| EDERA, Paolo                      | Multiscale study of nonaffine dynamics in stressed soft solids at the yielding transition | PR 5  |
| EMMERICH, Théo                    | Single channel ionic transport in an etched boron nitride crystal                         | CO 50 |
|                                   | Contact Aggregation and Bridging of Athermal Nanorod Dispersions -A Molecular             | PO 11 |
| ERIGI, Umashankar                 | Dynamics Study  |       |
| ERMAN, Azad                       | Nanocomposites Drying : Structural and Mechanical Analysis                                | PO 12 |
| FEDOSOV, Dmitry                   | Toward theoretical model for cell blebbing  | LI 5  |
|                                   | Two-dimensional complex tessellations beyond triangular symmetry by sequential            | SA 6  |
| FERNANDEZ-RODRIGUEZ, Miguel Angel | assembly of soft colloids   |       |
| FISCHER, Julian                   | Flow-induced Structural Changes of Microemulsions studied by Microfluidic-SANS            | PR 6  |
| FONG, Rebecca                     | Small molecule segregation in poly(vinyl alcohol) films                                   | IN 8  |
|                                   | Optimising Membrane Uptake of Patchy Nanoparticles by Artificial Evolution of Coarse      | LI 6  |
| FORSTER, Joel                     | Grain Simulations   |       |
| FRANCO, Silvia                    | Rheology and phase behaviour of multi-responsive soft microgels                           | CO 8  |
| FRANOSCH, Thomas                  | Time-dependent active microrheology in dilute colloidal suspensions                       | PR 7  |
| FRENCH Joseph                     | Probing the interface of colloidal interaction; experimentally examining the double layer | CO 9  |
|                                   | overlap.  |       |
| FRENCH, David                     | Tailored bicontinuous soft solids for energy applications                                 | IN 9  |
| FRENZEL, Lara                     | Anomalous Dynamics of Concentrated Silica-PNIPAm Nanogels                                 | CO 23 |
| FRIELINGHAUS, Henrich             | Model Complex Fluids with Dispersed Clay Particles  | IN 10 |
|                                   | The emergence of cooperativity accompanying vitrification: Insights from density          | AR 1  |
| FURUKAWA, Akira                   | fluctuation dynamics  |       |
| FUSSELL, Fussell                  | Thermoresponsive gelation of pNIPAM microgels in the presence of non-ionic surfactant     | AR 5  |
| GAHAN, Lianne D                   | Coarse Grained Simulations of Amyloid-\$\beta\$ in Alzheimer's Disease                    | SA 7  |

| GARCIA, Nicolás A.         | Static and dynamics of entanglements in the lamellar phase of block copolymers            | PO 13 |
|----------------------------|---|-------|
| GARLEA, Ioana C.           | Self-organization of networks formed by block copolymer stars                             | PO 14 |
| GEIGER, J. D.              | Rotational and translational diffusion of elliptical particles                            | CO 14 |
| GERBER, Dominic            | Controlling crystal growth soft hydrogels   | SA 8  |
| GIBSON, Colin              | Molecular migration in semi-crystalline polymer films                                     | IN 11 |
| GONZÁLEZ GARCÍA, Álvaro    | Compartmentalisation of tiny depletants in crowded discotics                              | CO 10 |
| GOODBAND, Rachel           | Biomimetic Polymeric Membranes  | SA 9  |
| GOULD, Emily               | Autonomous analysis of confocal images: using machine learning to recognize bijels        | MA 1  |
| GOZDZ, Wojciech            | Investigation of fluid-fluid and solid-solid phase separation of symmetric non-additive   | CO 11 |
|                            | hard spheres at high density.   |       |
|                            | When bigger is faster: how non-commensurability in particle size favors self-diffusion in | SA 10 |
| GRELET, Eric               | smectics  |       |
| GRIFFITHS, Sam             | Activity-Induced Breakup of Colloidal Aggregates  | AC 11 |
| GRUBER, Markus             | Critical dynamics of active microrheology in a colloidal glass                            | AR 6  |
| GVOZDEN, Katarina          | Self-assembly of all-DNA patchy rods  | SA 11 |
| HAFNER, Anne E.            | In sillico fibrillogenesis of collagen mimetic molecules                                  | SA 12 |
| HANSEN, Jan                | Non-equilibrium states of protein solutions: phase separation and dynamical arrest        | AR 7  |
| HANSEN, Jan                | From protein phase behavior to second virial coefficient                                  | CO 12 |
| HENRICH, Oliver            | Coarse-Grained Modelling of DNA Hydrogels   | SA 13 |
| HERMANN, Sophie            | Phase coexistence of active Brownian particles: Anything for a quiet life                 | AC 13 |
|                            | Membranes at the Solid-Liquid Interface Studied with Grazing Incidence Neutron Spin       | IN 12 |
| HOLDERER, Olaf             | Echo Spectroscopy   |       |
| HOSAKA, Yuto               | Shear viscosity of active enzyme solutions  | AC 14 |
| HOUGHTON, Mark             | A Node Coupling Approach to Modelling Random Fibre Networks                               | PO 15 |
| HSU, Hsiao-Ping            | Entanglement effect in highly strained polymer melts                                      | PR 8  |
| HULIKAL CHAKRAPANI, Thejas | Mesoscopic modeling of ink penetration into paper   | IN 13 |
| HUTCHINSON, Joseph D.      | Grain Growth in Impurity-Doped Two-Dimensional Colloidal Hard Sphere Crystals             | CO 13 |
|                            | Tailoring plasmonic response by Langmuir–Blodgett gold nanoparticle templating for the    | IN 14 |
| IGNÉS-MULLOL, Jordi        | fabrication of SERS substrates  |       |
| ILHAN, Beybin              | A Method for Reversible Control over Nano-Roughness of Colloidal Particles                | CO 49 |
| ISHIMOTO, Yukitaka         | Dynamical rheological properties of in-silico epithelial tissue by vertex models.         | LI 7  |

| JHALARIA, Mayank            | Glass to liquid transition in model matrix-free polymer grafted nanoparticle systems        | AR 8  |
|-----------------------------|---|-------|
| JIANG Yujie                 | Shear-switched Bistability in Binary Systems  | CO 15 |
| JØRGENSEN, Loren            | Impact of highly concentrated suspension drops  | CO 16 |
| JOSEPH, Pierre              | Pore cross talk in colloidal filtration studied by nanofluidic chips                        | CO 17 |
| JUDGE, Nicola               | Self-Assembling Block Copolymers in the Nucleation of Hydroxyapatite                        | SA 16 |
| JUNG, David                 | Ordered nanostructure formation in fluid mixtures with antagonisic salts                    | IN 15 |
|                             | Controlled self-aggregation of polymer-based nanoparticles employing shear flow and         | PO 17 |
| KAHL, Gerhard               | magnetic fields   |       |
|                             |   | SA 17 |
| KAHL, Gerhard               | Novel hybrid crystal-liquid phase formed by heterogeneously decorated colloidal particles   |       |
| KAPTEIJNS, Geert            | Quantifying the mechanical disorder of solids   | AR 9  |
|                             | Experiencing the Force: giant photomechanical transduction in a thermophoretic              | AC 15 |
| KAVOKINE, Nikita            | quantum dot suspension  |       |
| KHOBAIB, Khobaib            | Opening and closing of particle shells on droplets via electric fields and its applications | SA 18 |
| KIKUCHI, Kei                | The swimming modes of barnacle cypris larvae  | AC 16 |
|                             | Self-assembled Copolymer Adsorption Layer-Induced Block Copolymer Nanostructures in         | IN 16 |
| KIM, So Youn                | Thin Films  |       |
| KING, David                 | Viscoelastic Properties of Rigid Star-Like Polymers   | PO 18 |
| KLEBES, Jason               | Geometry of the particle monolayer on Pickering emulsions droplets                          | IN 17 |
| KOBAYASHI, Hideki           | Self-consistent multi-scale simulation of colloidal mixtures                                | CO 19 |
| KOBAYASHI, Yusei            | Self-assembly and thermal conductivity of nanofluid using Janus or homogeneous              | CO 20 |
|                             | nanoparticles   |       |
| KOLLI, Hima Bindu           | Tunable polymer-liquid crystalline mixtures: phase behaviour and surface migration          | PO 19 |
| KRAUSSER, Johannes          | Pathways of amyloid aggregation on lipid membranes  | SA 19 |
| KRUTEVA, Margarita          | Structure and dynamics of ring and linear polymer blends                                    | PO 20 |
| KSIĘŻARCZYK, Karolina       | Chemical modulation of phage stability  | LI 9  |
|                             | Oscillatory depletion forces present between silica microparticles in solutions of various  | IN 18 |
| KUBIAK, Katarzyna           | polyelectrolytes  |       |
|                             | The Role of Chain Splay in Probing the Changes in Lipid Molecular Shapes at Variable        | IN 19 |
| KULKARNI, Chandrashekhar V. | Conditions.   |       |

|                             | Physicochemical Interactions of Imidazolium-based Ionic Liquids with Monoglyceride        | SA 1  |
|-----------------------------|---|-------|
| KULKARNI, Chandrashekhar V. | Lipids  |       |
| KUNDU, Santanu              | Self-assembled gels of Fmoc and P3HT  | SA 27 |
| KURON, Michael              | Simple swimmers reverse direction near a surface  | AC 17 |
| KYEREMAH, Charlotte         | Observation of Nematic Liquid Crystal Textures in a Fourier Phase Contrast Microscopy     | SA 20 |
|                             | Internal structure and dynamics of homogeneously and heterogeneously crosslinked          | PO 2  |
| KYREY, Tetyana              | PNIPAM microgels  |       |
| LAGANAPAN, Aleena           | On the brownian and precessional motion of dense ellipsoidal colloids                     | CO 22 |
| LAKEY, Christopher          | Swimmers in Smectics  | AC 18 |
| LATREILLE, Pierre-Luc       | Boosting of the diffusion of soft nanoparticles in confined media                         | LI 10 |
| LE GOFF, Magali             | Critcality at finite deformation rates in sheared yield stress materials under external   | CO 24 |
|                             | excitations   |       |
| LEE, Eunsang                | Thermodyanmics of Supramolecular Polymers with Hydrogen Bonding Ends                      | PO 21 |
| LEE, Seunghwan              | Soft Matter at a rubbing interface: a therapeutic application in total joint arthroplasty | IN 20 |
|                             | Heterogeneous local order in soft matter systems studied by X ray cross correlation       | SA 21 |
| LEHMKÜHLER, Felix           | methods   |       |
| LEONI, Fabio                | Neural networks for nucleation  | CO 25 |
| LESNIEWSKA, Magdalena       | Microfluidic Flow of Colloid-Liquid Crystal Composite Materials                           | CO 26 |
| Li, Tao                     | Controlling the Morphology Evolution of a Particle-Stabilized Multi-Component System      | AR 10 |
| LIEBETREU, Maximilian       | Hydrodynamic Inflation of Ring Polymers under Shear                                       | PO 22 |
| LITWINOWICZ, Matthew        | Migration of amphiphilic molecules in a curable polymer matrix                            | IN 21 |
| LIU, Chang                  | Quickly Reversible Structural Evolution Reinforces Slide-Ring Gels                        | PO 41 |
|                             | Consensus vs polarization: Collective behavior of active particles with selective         | AC 19 |
| LOBASKIN, Vladimir          | interactions  |       |
| LOCATELLI, Emanuele         | Structural properties of mixtures of stars polymers and long chains                       | PO 23 |
| LOPEZ, Hender               | Short-time diffusive dynamics of proteins in a naturally crowded environment              | CO 27 |
| MAC INTYRE, Jonatan         | Particle concentration effect on the T1 events' distribution in foams                     | AR 11 |
| MACIOLEK, Anna              | "Current-mediated synchronization of a pair of beating non-identical flagella             | AC 20 |
| MACIOLEK, Anna              | Coarsening phenomena around hot Janus colloid   | AC 21 |
| MAIMOUNI, Ilham             | Microfluidic-based polymeric foams as potential photonic structures                       | PO 16 |

|                            | Electro-hydrodynamic coupling in ionic transport through one-nanometer radius carbon   | IN 22 |
|----------------------------|--|-------|
| MARCOTTE, Alice            | nanotubes  |       |
| MARIN AGUILAR, Susana      | Exploring rotational dynamics in glassy patchy particles systems                       | AR 12 |
| MARTIN-GOMEZ, Aitor        | Collective motion of assemblies of active Brownian filaments                           | AC 23 |
| MARTÍNEZ-RATÓN, Yuri       | Nematic and Triatic phases of hard isosceles triangles: One component fluid and binary | CO 28 |
|                            | mixtures   |       |
| MARTINEZ, Vincent          | Rheo-imaging of a swimming bacterial suspension: effect of system-size                 | AC 22 |
| MARTINEZ, Vincent Arnaud   | Dynamics of turbid colloidal suspensions using Differential Dynamic Microscopy         | MA 2  |
| MARTINEZ, Yeimy            | Design and synthesis of catalytically active CoFe2O4@Pt nanostructures                 | AC 49 |
| MATSUYAMA Akihiko          | Theory of twist-bend nematic phases for banana-shaped molecules with axial chirality   | PO 24 |
| MAULEON AMIEVA, Abraham    | Spontaneous Behaviour in Electrically-activated Colloids                               | AC 24 |
|                            | Utilising Force Spectroscopy to Investigate Desorption and Single Chain Pull-out from  | IN 23 |
| MCCLEMENTS, Jake           | Polymer Thin Films   |       |
| MCHALE, Lewis              | A constraints-based approach to tuning the rheology of a non-model suspension          | CO 29 |
|                            | Physical mechanisms of cell-cell cohesion and aggregation in liquid suspensions of     | LI 11 |
| MELAUGH, Gavin             | bacteria   |       |
| MOELLER, Nadir             | Role of pH in Microswimming  | AC 25 |
|                            | The effect of architecture and topology on the self-assembly of polymer-grafted        | SA 22 |
| MOINUDDIN, Mohammad        | nanoparticles  |       |
| MOORE, Fergus              | Anomalous dynamics of active particles in porous media                                 | AC 26 |
| MORCILLO PEREZ, Carmen     | Complex Formulations Drying on Complex Substrates                                      | CO 31 |
| MOSBY, Lewis               | Understanding the Tip Tracking Mechanism of End-Binding Proteins on Microtubules       | LI 12 |
| MUIR, Edward               | Fracking Bacteria: The mechanical origin of submerged colony morphology                | LI 13 |
|                            | Out-of-equilibrium active membranes: incorporation of bacteriorhodopsin in a floating  | IN 24 |
| MUKHINA, Tetiana           | lipid bilayer  |       |
| MUNTZ, lain                | Interaction Between Nearly Hard Colloidal Spheres at an Oil-Water Interface            | IN 25 |
| MURALEEDHARA PAI, Mayarani | On the origin and evolution of depletion zone in coffee stains                         | CO 32 |
| MUSTAKIM, Mahammad         | Sub-Arrhenius diffusion in a binary colloidal system                                   | CO 33 |
| NAEBELE, Gerhard           | Dynamics of protein dispersions with competing interactions: Theory, simulation and    | CO 34 |
|                            | experiment   |       |

|                               | Complex coacervation of food grade cationic surfactant Lauric Arginate with anionic algal | PO 34 |
|-------------------------------|---|-------|
| NALLAMILLI, Trivikram         | polysaccharide Lambda Carrageenan   |       |
| NARDINI, Cesare               | Effect of long-range interactions on reversible to irreversible transition                | AC 27 |
| NAVEEN KUMAR, Parinamipura M. | Monodisperse Liquid Crystal Droplets for Bio  | PO 26 |
|                               | Real-space study of homogeneous crystallization of (nearly) hard sphere colloids by       | SA 23 |
| NIKOLAENKOVA, Anna            | arresting the dispersion  |       |
| NIKOUBASHMAN, Arash           | Semiflexible Polymers in Spherical Confinement  | PO 4  |
|                               | Self-assembly in magnetic filament systems of different topologies: influence of          | SA 36 |
| NOVAK, Ekaterina              | additional central interaction  |       |
| NOVAK, Sanja                  | Stimuli-responsive hierarchical self-assemblies of DNA-polymer hybrids                    | SA 24 |
|                               | Nucleation of pseudo hard-spheres and dumbbells at moderate metastabilities:              | SA 5  |
| NOYA, Eva G                   | appearance of A15 Frank-Kasper phase at inte  |       |
| O'CONNELL, Adam               | Rheology and light scattering on locust bean gum solutions                                | PO 25 |
| O'NEILL, Rory                 | Extrusion of shear thickening suspensions: Variations in local solid concentrations       | CO 36 |
| OHZONO, Takuya                | Site-specific attraction of surface colloids driven by gradients of liquid crystalline    | CO 44 |
|                               | distortions   |       |
| OKUZONO, Tohru                | Another mechanism of diffusiophoresis with chemical reaction on a colloidal particle      | CO 35 |
|                               | An effect of surface ordering on the smectic A to hexatic B phase transition in free      | IN 28 |
| OSTROVSKIY, Boris             | standing smectic films  |       |
|                               | Self-assembly of chiral mesophases from block copolymers using particle-based             | SA 25 |
| PADMANABHAN, Poornima         | simulations   |       |
|                               | Stimuli Responsive Nematic and Smectic Liquid-crystalline Orders in Suspensions of        | SA 26 |
| PAL, Antara                   | Colloidal Ellipsoids Studied by SAXS  |       |
| PALADI, Florentin             | Parametric Modelling of Phase Transitions   | AR 13 |
| PALBERG, Thomas               | Low density Colloidal Coulomb Glasses   | AR 16 |
|                               | The role of topological defects on the two-stage melting and elastic behavior of Active   | AC 28 |
| PALIWAL, Siddharth            | Brownian colloids   |       |
| PANERU, Govind                | Realization of an artificial active bath with controlled activity                         | AC 29 |
| PARASCHIV, Alexandru          | Dynamic clustering regulates activity of mechanosensitive membrane channels               | IN 29 |
|                               | The effect of dispersion transport properties on the concentration-polarization layer in  | PR 9  |
| PARK, Gun Woo                 | crossflow ultrafiltration   |       |

| PASZKOWSKA, Karolina       | The interaction between T4 bacteriophages and different polypropylene surfaces              | LI 14 |
|----------------------------|---|-------|
| PETERSEN, Charlotte        | Subdiffusion in soft crowded media  | PR 10 |
|                            | Capillary deposition of microorganisms in a microfluidic channel for the study of cells in  | AC 30 |
| PIOLI, Roberto             | spatially controlled environments   |       |
| PULLAGURA, Bhargav Krishna | Production of microfibers using solvent removal in microfluidics                            | PR 11 |
|                            | Mechanical Characterization of Human Serum Albumin Microcapsules Using Electro-             | IN 30 |
| PURI, Sneha                | deformation Technique   |       |
| PUSHKIN, Dmitri O.         | Biological mixing across dimensions   | AC 9  |
| QI, Kai                    | Enhanced rotational diffusion of squirmers in viscoelastic fluids                           | AC 31 |
| RADHAKRISHNAN, Rangarajan  | Asymmetric stress response in oscillatory shear of dense non-Brownian suspension            | CO 37 |
|                            | studied by particle simulation  |       |
| RAVAL, Jeel                | Effect of Adhesion on the shape transformation of vesicles.                                 | IN 31 |
| REICHERT, Julian           | Transport coefficients of dense active Brownian particles                                   | AC 32 |
|                            | Chain-length dependent rheology and relaxation dynamics in glass-forming oligomers and      | AR 14 |
| REYNOLDS, Matthew          | polymers  |       |
| RICHARDS, James            | Competing Time Scales Lead to Oscillations in Shear-Thickening Suspensions                  | PR 12 |
| RIGBY, Natasha             | Stimuli-Responsive Lipogel Capsules   | IN 32 |
| ROCA-BONET, Sergi          | Dimeric and trimeric colloids driven by Thermophoresis                                      | AC 33 |
| RODENBURG, Jeroen          | Ratchet-induced variations in bulk states of an active ideal gas                            | AC 34 |
| RODRIGUES, Sergio          | Nanostructure of particles revealed by SAXS/WAXS  | MA 3  |
| RODRÍGUEZ-MATUS, Marcela   | Dynamic boundary layers in charged nanopores  | IN 33 |
| Rogier, Faranaaz           | Active particles at crowded liquid interfaces   | AC 35 |
| ROLLER, Jörg               | Translational and rotational dynamics of elliptical PMMA colloids                           | CO 38 |
| ROMA, Elia                 | Thermoresponsive Block Copolymer Grafted on Core-Shell Nanoparticles                        | PO 27 |
|                            | Connecting elasticity and effective interactions of microgels: the validity of the Hertzian | PO 28 |
| ROVIGATTI, Lorenzo         | model   |       |
| RUDOLF, Marcel             | Confocal microscopy of optically trapped colloids   | CO 39 |
| RUIZ-LOPEZ, Jose           | Cornstarch suspensions in squeeze flow  | CO 40 |
| RYCROFT, Ewan              | The Effects of Complex Rheology on the Swimming Velocities of a Flagellated Alga            | AC 36 |
|                            | Standing up and peeling off of nanosized shish-kebab structures formed in melt-spun         | PO 29 |
| SABER, Wiebke F. C.        | HDPE and nylon6/clay nanohybrid fibres  |       |

| SAINT-JALMES, Arnaud | Designing responsive foams with an adjustable temperature threshold of destabilization  | IN 34 |
|----------------------|---|-------|
| SAVORANA, Giovanni   | Miscible Two-fluid Channel Flow: Velocity Profiles and Hydrodynamic Stability           | IN 35 |
| SCACCHI, Alberto     | Flow induced crystallization of penetrable particles                                    | CO 41 |
| SCHAERTL, Nicole     | Competing solidification and fractionation kinetics in hard sphere melts                | CO 1  |
|                      | Rapid confocal imaging of vesicle- to-sponge phase droplet transition in dilute         | IN 45 |
|                      | dispersions of the C10E3 surfactant   |       |
| SCHRODER, André      |   |       |
| SENNATO, Simona      | How do halloysite nanoclays interact with negatively-charged polyelectrolytes?          | CO 42 |
| SERNA, Horacio       | Effects of confinement on self-assembly in systems with competing interactions          | SA 28 |
| Shakirov, Timur      | Folded alkane chains and the emergence of the lamellar crystal                          | PO 30 |
| SHEK, Alvin          | Sticky Slips  | IN 36 |
| SHIVERS, Jordan      | Nonlinear Poisson effect in critical mechanical networks                                | LI 15 |
| SICHER, Alba         | Bioinspired structural color from phase separating polymers                             | PO 40 |
| SINGH, Rajesh        | Nucleation and growth in a scalar momentum-conserving active matter                     | AC 37 |
| SKINGLE, Chloe       | Controlled Interfacial Shear for Alignment of Cellulose Nano-crystals                   | IN 37 |
| SLEPUKHIN, Valentin  | Topological effects in cross linked bundles of semiflexible filaments                   | PO 31 |
|                      | Dynamics of a polymer-nanoparticle composite: Effect of nanoparticle size and volume    | PO 32 |
| SORICHETTI, Valerio  | fraction  |       |
| SOTTMANN, Thomas     | Nanostructure of foamable polyol-rich CO2-microemulsions                                | IN 38 |
|                      | A model of tethered lipid bilayers using anchor-harpoon surfactants on designed         | IN 26 |
| SQUILLACE, Ophelie   | electrodes  |       |
| SQUILLACE, Ophelie   | Partitioning of flavors in polyvinyl acetate based matrices with polarity mismatch.     | IN 27 |
| STENBERG, Samuel     | Ionic liquid phase transitions near charged, perfectly conducting electrodes            | IN 39 |
| Stephen Williams     | Colloidal transport in heterogeneous landscapes of micro-swimmer activity               | AC 38 |
| STOEV, Iliya         | On the Role of Flexibility in Linker-Mediated DNA Hydrogels                             | SA 29 |
| SZAMEL, Grzegorz     | How active forces influence nonequilibrium glass transitions                            | AC 12 |
| TAKAE, Kyohei        | Shape controls polarization: Self-organization into ferroelectric and antiferroelectric | CO 21 |
|                      | crystals by shape-anisotropic particles   |       |
| TAKAMICHI, Terao     | Molecular simulation of generalized Gaussian-core model                                 | CO 43 |
| TAKIKAWA, Yoshinori  | Freedericksz transition in dual frequency nematic liquid crystal PCPB / MBBA mixtures   | PO 33 |
| TAN, Zihan           | Quasi-two-dimensional dispersion dynamics of protein monolayers                         | LI 16 |

|                                   | Numerical prediction of colloidal phase separation by direct computation of Navier-            | AR 15 |
|-----------------------------------|--|-------|
| TATENO, Michio                    | Stokes equation  |       |
| TAVARES, José M.                  | Irreversible aggregation with two time scales  | SA 30 |
| TEN NAPEL, Daniël                 | Active Colloidal Circlers  | AC 39 |
| TESTA Andrea                      | Active Coacervate Droplets   | AC 40 |
| TRBOJEVIC, Nina                   | Templating the twist-bend nematic liquid crystal phase   | SA 31 |
| TREFALT, Gregor                   | Non-Exponential Double-Layer Forces  | CO 45 |
| TRINH, Pierre                     | Reactive foams : can we accelerate chemical reactions  | IN 40 |
|                                   | Novel Amphiphilic Polycarbonate Di-Block Copolymers Applied to Nonionic                        | IN 41 |
| TSENG, Shih-Yu                    | Microemulsions   |       |
| UM, Eujin                         | Synchronization of droplet breakup from oscillating interfaces of fluids                       | PR 13 |
| UNDERHILL, Patrick                | Propulsion of catalytic Janus spheres in viscosified solutions                                 | AC 41 |
| VAN DAMME, Robin                  | Interparticle torques suppress motility-induced phase separation for rod-like particles        | AC 42 |
| VENTURA ROSALES, Ivonne Elizabeth | Microelasticity of deformable spherical diblock copolymer brushes                              | PO 35 |
| VIS, Mark                         | Quantification of the structure of colloidal gas-liquid interfaces                             | CO 46 |
| VITORINO, Miguel                  | Measuring nanoscale properties of water capillary menisci                                      | MA 4  |
| VLIEGENTHART, Gerrit              | Filamentous Active Matter: Band Formation, Bending, Buckling, and Defects                      | AC 43 |
| VOIGTMANN, Thomas                 | Active Brownian Particles at High Densities  | AC 44 |
| WAGNER, Susanne                   | Structure and thermodynamics of elliptic patchy particles                                      | SA 32 |
| WATANABE, Chiho                   | Molecular diffusion in cell-mimicking droplets depending on size and shape                     | IN 42 |
|                                   | Membrane adhesion of liposomes increases membrane tension and regulates in-                    | IN 43 |
| WATANABE, Chiho                   | membrane molecular diffusion   |       |
| WEISS, Lisa B.                    | Hydrodynamics and filtering of knotted ring polymers in nanochannels                           | PR 14 |
|                                   |  | PR 15 |
| WEISS, Lisa B.                    | Semidilute mixtures of circular and linear polymers - towards novel separation techniques      |       |
| WESTERMEIER, Fabian               | Measuring the dynamics of soft matter using coherent X-ray radiation                           | MA 5  |
| WILLIAMSON, Jack                  | The Synthesis and Materials Properties of Aromatic Cation Liquid Crystals                      | MA 6  |
| WINKLER, Roland G.                | Active Brownian particles: Local pressure in nonequilibrium systems                            | AC 45 |
| WOOD, Jared                       | Self Assembly  | SA 33 |
|                                   | A grating-aligned shock-resistant ferroelectric liquid crystal electro-optic shutter with sub- | SA 34 |
| WYATT, Peter James McCormack      | millisecond response times   |       |

| YAMAMOTO, Jun           | Phantasmagoric liquid crystals   |       |  |
|-------------------------|--|-------|--|
| YAN, Tingzi             | Solid polymer electrolytes based on polymer blends   |       |  |
| YANAGISAWA, Miho        | Sol-gel coexisting phase of polymer microgel triggers buckling without applying pressure       |       |  |
| YANG, Yushi             | What changes the collective behaviour of a group of zebrafish                                  | AC 46 |  |
| YETHIRAJ, Anand         | Non-equilibrium, driven self-assemblies in an oil-in-oil emulsion                              |       |  |
|                         | Systems with broken third Newton's law: Dissipative phase transitions and particle-            | AC 48 |  |
| YURCHENKO, Stanislav O. | resolved studies with complex plasmas  |       |  |
| YURCHENKO, Stanislav O. | 2D colloids in rotating electric fields: Tunable interactions and particle-resolved studies of | CO 47 |  |
|                         | generic phenomena  |       |  |
| ZAMPONI, Michaela       | Upgrades of the neutron backscattering spectrometer SPHERES                                    | MA 7  |  |
| ZAMPONI, Michaela       | MPONI, Michaela The role of functionality on the branch point motion in star polymers          |       |  |
|                         | A microscale approach to yield stress materials: investigation of nonlinearity and yielding    | PR 17 |  |
| ZANCHETTA, Giuliano     | with an optofluidic micro-rheometer  |       |  |
| ZHANG, Chi              | Establishing uniform emulsions as a model system for studying dynamics and rheology            | CO 48 |  |
|                         | across the glass and jamming transitions   |       |  |
| ZHANG, Zhaopeng         | PVdF-HFP/PVDF-based polymer blends and gels for Li-ion battery electrolyte applications        | PO 38 |  |
|                         | Microstructure and Dynamics of Magnetic Nickel-Silica Janus Particles in a Static              | AR 17 |  |
| ZINN, Thomas            | Magnetic Field   |       |  |
|                         | New opportunities for multi-speckle x-ray photon correlation spectroscopy at ultra-small-      | MA 8  |  |
| ZINN, Thomas            | angles   |       |  |
|                         | Dynamic properties and relaxation times of a cluster interacting superparamagnetic             | CO 51 |  |
| ZVEREV, Vladimir        | particles in an oscillating magnetic field   |       |  |

# Report on International Soft Matter Conference 2020 (Status as of April 2019)

#### Report on International Soft Matter Conference 2020 (Status as of April 2019)

Page 1 – Venue options

Page 2 – to do list

Page 3 – program committee members; proposed advisory board; job description of program committee

Page 4 – job description of the local organizing committee, job description of the advisory committee

Page 5 – sample invitation letter to professional society to join advisory group

Page 6 – Conference structure ISMC 2016, ISMC 2019 (proposed), topics covered at ISMC 2016

Pages 7-8 – ISMC 2019 topics

Page 9 – ISMC 2020 proposed budget

Pages 10-16 MIT Venue details for ISMC 2020

The main objective of the International Soft Matter Conference is to bring together scientists working in different areas of soft matter that otherwise attend different meetings and encourage them to interact with each other. It is designed to be more than parallel symposia on different topics, but instead to encourage exchange of ideas and methods between different fields. For that reason a typical day of the conference consists of

- several plenary lectures by leaders of the field to the whole conference (typically one in the morning and one in the afternoon) requiring a large lecture hall for ~1000 people (the target size of the conference is 800 – 1000);
- ii. several (3-4) parallel sessions of invited talks in close proximity of each other so that people can easily switch from session to session
- iii. poster sessions with hundreds of posters presented by students and post-docs exhibiting the broad spectrum of soft matter research.

The current options we have at MIT are limited by the rooms we were able to reserve for the conference. We cannot reserve any classrooms until 6 months before the event (around Christmas break). The rooms that we were able to reserve are at two locations ~20 minute walk from each other – one on west campus (Kresge & Student Center west of Massachusetts Avenue) and the other on East campus (Samberg & Tang Centers)- see the map on page 10.

The current options for the ISMC 2020 are (see pages 10-15 for details):

- East-West Option. To have all plenary lectures in the morning in Kresge auditorium (1200 seats) and poster session in the morning & during lunch in Sala at the Stratton Student Center on West Campus and then have everybody move to East Campus for the afternoon break-out sessions. Available rooms: Samberg 7<sup>th</sup> floor MIT room: 400, Samberg 6<sup>th</sup> floor Dining rooms ¾ :200 + 5/6: 200; and nearby Tang Center with Wang Auditorium for ~290. Positive larger modern rooms. Negative: inconvenient to walk back and forth between West and East Campuses; the rent of East campus facilities is quite high (~\$50k).
- 2. West Campus outdoor option. To keep all events on West Campus: Plenary lectures and one of the break-out sessions at the Kresge auditorium, while the three remaining break-out sessions at Kresge Little theater (200 seats), and two rooms in the Stratton Student Center: 2<sup>nd</sup> floor Sala de Ruerto Rico (200 + seats) and 3<sup>rd</sup> floor Twenty Chimneys (150 people). Positive: close location. Negative: poster session would have to be outside under the tent at the Kresge oval (which is expensive and could be a problem depending on weather).
- 3. West Campus indoor option. Plenary lectures and one of the break-out sessions at the Kresge auditorium, while the remaining break-out sessions at Kresge Little theater (200 seats), and two rooms in the Stratton Student Center: 3<sup>rd</sup> floor Twenty Chimneys (150 people) and 4<sup>th</sup> floor room 407 (130 seats). We could even add fifth session or another event at the 4<sup>th</sup> floor room 491 (130 seats). In this case, poster session would be inside at the 2<sup>nd</sup> floor Sala de Ruerto Rico and West Lounge. Positive: close location, indoor poster session. Negative: two smaller break-out rooms ok for a smaller meeting size (or with more break-out sessions).

# ISMC 2020 (June 28 – July 2)

# To do list

- The program committee will work closely with the local organizing committee
- Head of the local organizing committee (Niels Holten-Andersen) needs to assign people in charge of each of the following tasks:
  - 1. conference rooms reservations (see page 1 and pages 10-16)
    - i. Kresge auditorium (1200 seats)
    - ii. Three additional large auditoriums (200-400 seats) for parallel sessions that are closest to each other to allow people easily go between them.
    - iii. poster sessions location
  - dorm rooms reservations as many as possible at MIT (will not know until March 2020 how many rooms!), but also at other local universities (BU – contract for block and guaranteed minimum, have to pay if minimum is not met)
  - negotiation of lower rates and reservation of hotel rooms (through MIT Conference Services Office?)
  - 4. conference web site
  - 5. conference logo
  - 6. registration: fee structure, methods of payment (through MIT Conference Services Office)
  - 7. conference advertisement methods
  - 8. welcome reception before the conference
  - 9. banquet preferentially at a nice off campus location (e.g. Isabella Steward Garden Museum, Harvard's Annenberg Hal, of similar) May need to arrange transportation
  - 10. lunch options, coffee breaks
  - 11. competitions, fun social/scientific events design (soft robotics) competition, Soft Olympiad from regional teams, cooking, cosmetics, public events
  - 12. A/V equipment, sound experts
  - 13. poster boards, pins poster sessions Chair
  - 14. job/career fair for both academic and industrial track in soft matter
  - 15. panel discussion on future of soft matter coordinate with program committee
  - 16. short course for graduate students (and industrial participants?) before the conference coordinate with program committee
  - 17. industrial contacts for conference support and participation in the conference (both equipment exhibits and posters; potential industrial speakers need to be coordinated with program committee.
  - 18. proposals to NSF (there are several divisions related to soft matter), NIH, DOE, ... to partially support the conference
  - 19. contact MIT departments for partial support
  - 20. fundraising at local universities (Harvard, Brandeis, BU, BC, Northeastern, Tufts, ...)
  - 21. fundraising from government agencies (NSF, NIH, DOE, etc.)
  - 22. Equipment exhibits by companies/sponsors
  - 23. organizing excursions, tours for accompanying people, childcare options, ...

# Program committee members for ISMC 2020 (June 29 – July 2)

1-5 American sub-unit of WG-15

- 6. A representative from ISMC 2021 (Asia Hajime Tanaka to nominate)
- 7. A representative from ISMC 2019 (Europe –Gerhard Gompper to nominate)
- 8. A representative from local organizing committee (MIT)

9. A representative from the Council of Soft-Matter-Related **Professional Organizations** APS (GSOFT, DBIO, DPOLY,

GSNP, DFD, ...), ACS (Colloidal, POLY, PMSE, ...), MRS, AIChE, Rheology, ...

- 10. Representative the Advisory Board Council of Regional Soft Matter Organizations
- 11. A representative from the Advisory Board Industrial Council
- 12. A representative from the Advisory Board Council of American Countries (Mexico, Brazil, Canada, ...)

## **Advisory Board**

(organize a meeting at the American ISMC conference possibly with lunch or dinner) – see a draft of the letter to I on page 5)

- I. Council of Soft-Matter-Related Professional Organizations (Biophysical, MRS, AIChE, Rheology, Adhesion, APS, ACS, ...); Representatives from IUPAP Commissions C3 (statistical physics), C6 (biological physics), C10 (structure & dynamics of condensed matter), C20 (computational physics); Representatives from IUPAC Divisions (Physical & Biophysical, Polymer, Colloids)
- II. Council of US Regional Soft Matter Organizations. Geographic representatives from regional soft matter organizations (New England Complex Fluids, New York, Mid-Atlantic, Virginia, Triangle, Atlanta, Chicago, California, ...)
- III. Industrial Council (Dow, Exxon, Cabot, L'Oreal, DuPont, BASF, Unilever, P&G, Mitsubishi Chemical, Merk, JSOL/J-OCTA, Toray, AGC, Hosokawa Micron, ...)
- IV. Council of American Countries (Mexico, Brazil, Canada, ...)

## Job description of the program committee

Designing the structure and topics of the sessions and selecting speakers.

Decide whether invited speakers will be selected from contributed abstracts. If so, then does the program committee do the selection, or is there a special, ad hoc selection committee? In Rome, there was a committee of 10 - 12 that had expertise in the  $\sim 16$  scientific topical sessions that did the

selection of contributed talks. It was not involved in the selection of the plenary talks, just the contributed ones. If we decide to go with a model of ~8 plenary, ~50 keynote and ~ 70 invited talks (both directly and from posters) the hardest task would be to select topics for 2-hour-long sessions (either 2 keynote + 3 invited or 5

keynote) or 1-hour-long sessions (2 keynote talks) that are interesting enough to attract people from other areas of soft matter to attend.

Can we form a  $\sim 12$  member program committee with the expertise in all scientific topics of soft matter that will design the whole program all  $\sim 24$  scientific sessions. Alternatively, we could have several program committees with complementary expertise in different scientific areas of soft matter, but this complicates the organization.

Selecting ~8 plenary speakers could either be a separate task for a subgroup of program committee or a task of the whole program committee. Alternatively, plenary speakers can also be selected by 14 members of WG-15 and approved by the program committee (we need to ensure coherence of the program).

## Job description of the local organizing committee (see to do list on page 2 for details)

- 1. reserving rooms for plenary & parallel sessions, posters, lunches, etc.
- 2. arranging for equipment for lectures and poster sessions
- 3. dorm rooms reservations as many as possible at MIT, but also at other local universities (BU, ...)
- 4. negotiation of lower rates and reservation of hotel rooms (this could be done through MIT Conference Services Office)
- 5. industrial contacts for conference support and participation in the conference (both equipment exhibits and posters; potential industrial speakers need to be coordinated with program committee).
- 6. proposals to NSF (there are several divisions related to soft matter), NIH, DOE, ... to partially support the conference
- 7. contact MIT departments for partial support
- 8. fundraising at other local universities (Harvard, Brandeis, BU, BC, Northeastern, ...)
- 9. organizing banquet preferentially at a nice location off campus (e.g. Isabella Steward Garden Museum, Harvard Annenberg Hall, of similar) arranging for transportation
- 10. organizing a short course before the conference in consultation with the program committee
- 11. potentially job/career fair for both academic and industrial track in soft matter, publication fair with editors
- 12. organizing excursions, tours for accompanying people, excursions, childcare options, ...
- 13. designing and building a website for the meeting, designing a logo for the meeting (in consultation with the program committee)
- 14. running registration, budget accounting
- 15. advertising the meeting (who controls the distribution lists?)
- 16. fun social/scientific events design (soft robotics) competition, Soft Olympiad from regional teams, cooking, cosmetics, public events

## Job description of the advisory committee

- 1. Developing ideas/proposals with topics for scientific sessions and suggesting them (along with names of potential speakers) to the program committee
- 2. Developing ideas for other events at the conference roundtable discussions, forums on future directions of soft matter including life and AI, funding, international and cross-country collaborations
- 3. To solicit and discuss proposals of future American ISMC 2023. It would be great to announce the next meeting at the ISMC 2020.
- 4. Council of US regional soft matter organizations to discuss coordination and exchange between regional meeting as well as developing proposals for the ISMC2023.
- 5. Industrial council to design a possible roundtable on basic research for industry: what will in the future replace Bell, Exxon, labs of the past? Nature of jobs for students nature of research industrial.
- 6. What other functions would be good to charge Advisory Board with if we are considering this to be the beginning of the new society?
- 7. Should we contact editors of the relevant journals asking them for suggestions of topics, inviting them to the conference and, possibly, organizing an event related to publishing (besides poster prizes)?

I am writing on behalf of the International Union of Pure and Applied Physics (IUPAP) Working Group on Soft Matter (WG-15). We are beginning to build an advisory board of the American Unit of IUPAP WG-15 and would like to partner with your organization in order to enhance connectivity and strengthen the soft matter community.

One of the mandates of our working group is the organization of an International Soft Matter Conference (ICSM), which rotates every 3 years to different geographic regions (Europe-Africa, the Americas, and Asia-Pacific). We have scheduled the 2020 meeting to be held in the US, at the MIT campus during the week of June 29 – July 3.

The tasks of the advisory board include developing ideas/proposals with topics for scientific sessions of ISMC 2020 and suggesting them along with names of potential speakers to the program committee as well as developing ideas for other events at the conference - roundtable discussions, forums and other activities.

Would you or a representative from your organization consider joining the advisory board of the American Unit of IUPAP WG-15? We expect this would require a minimum of your time, perhaps 1-2 conference calls and a few emails.

Sincerely,

Michael Rubinstein

IUPAP WG-15 webpage: http://iupap.org/working-groups/wg15-soft-matter/.

#### **ISMC2016** Conference structure

5 days: 3 full days + 2 half days = 4 equivalent full days

2 time slots per day \*4 days = 8 time slots  $\rightarrow$  5 two-hour and 3 one hour slots = 13 hours total

4 parallel sessions \* 8 time slots = 32 sessions with 13\*4=52 total hours plus 9 plenary

#### **Proposed ISMC2020 Conference structure**

If we restrict to 3 parallel sessions \* 8 time slots = 24 sessions with 24\*2 hours = 48 hours plus 8 plenary

For each non-plenary session we can have either 4 half-hour invited talk or two half-hour keynote talks three 20-minute invited talks with total four or five speakers

Thus we can have ~100-130 speakers including plenary, keynote and invited).

#### Subjects covered at ISMC2016

(5 days: 3 full days + 2 half days = 4 equivalent full days)

(2 time slots per day \*4 days = 8 time slots -5 two-hour and 3 one-hour slots = 13 hours total)

If we have 4 parallel sessions \* 8 time slots = 32 sessions with 13 hours\*4 days=52 total hours plus 9 plenary).

If we restrict to 3 parallel sessions \* 8 time slots = 24 sessions with 24\*2 = 48 hours plus 8 plenary).

For each non-plenary session we can have either 4 half-hour invited talk or two half-hour keynote talks and three 20minute invited talks with total four or five speakers). Thus we can have  $\sim 100-130$  speakers including plenary, keynote and invited).

Need to carefully select topics/speakers for  $\sim$ 24 sessions and  $\sim$ 8 plenary talks. Solicit ideas from the advisory board. Program committee selects and assembles the optimal subset of sessions/plenary talks in consultation with a local committee to fit the program schedule.

#### 32 sessions of ISMC2016

Note that ~ half of them are repeats (marked in matching colors)

| Session 1 Dynamical Processes in Complex Fluids   |
|---|
| Session 2 Functional Soft Materials               |
| Session 3 Biophysics                              |
| Session 4 Microfluidics and Interfacial Phenomena |
| Session 5 Soft Materials and Self Assembly        |
| Session 6 Polymers                                |
| Session 7 Active Matter                           |
| Session 8 Rheology                                |
| Session 9 Colloids                                |
| Session 10 Rheology                               |
| Session 11 Functional Materials and Interfaces    |
| Session 12 Biomaterials and Biopolymers           |
| Session 13 Colloids                               |
| Session 14 Dynamical processes in complex fluids  |
| Session 15 Soft glasses                           |
| Session 16 Biomaterials and Biomembranes          |

| Session 17 Polymers and Colloids                   |
|--|
| Session 18 Self Assembly                           |
| Session 19 Active Matter                           |
| Session 20 Microfluidics and Interfacial Phenomena |
| Session 21 Colloids                                |
| Session 22 Dynamical Processes in Complex Fluids   |
| Session 23 Self Assembly                           |
| Session 24 Soft Materials                          |
| Session 25 Polymers and Colloids                   |
| Session 26 Self Assembly                           |
| Session 27 Biophysics                              |
| Session 28 Soft Materials                          |
| Session 29 Polymers and Colloids                   |
| Session 30 Dynamical Processes in Complex Fluids   |
| Session 31 Biophysics and Biomaterials             |
| Session 32 Liquid Crystals                         |

# The ISMC 2019 Conference is organized around the following topics:

#### **Active Soft Matter**

Natural and synthetic swimmers, active gels, growing cell colonies, etc. <u>Hartmut Löwen (Düsseldorf)</u>: Optimal navigation strategies of active colloids in complex environment <u>Eric Clément (ESPCI, Paris)</u>: Spontaneous and driven active matter flows

## **Arrested Soft Matter**

Colloidal and polymer glasses, gels and networks, associative and composite systems with slow dynamics, quiescent and under flow.

<u>Emanuela Del Gado (Georgetwon)</u>: Rheology of arrested soft matter <u>Paddy Royall (Bristol)</u>: Towards an Understanding of the Glass Transition? Insights from Experiment and Simulation

## **Colloidal and Granular Soft Matter**

Synthesis, structure, dynamics of particulate systems, wet or dry, and analogies between the two classes of materials <u>Stefano Sacanna</u> (New York University): Joris Sprakel (Wageningen): Law and Disorder: The unusual behaviour of ultraweak crystals

## **Interfacial Soft Matter**

Surfactants, emulsions (including Pickering emulsions), membranes, films (on substrates and free-standing) <u>Daniela Kraft (Leiden)</u>: Lipid phase separation in curved geometries: from geometric pinning to antimixing <u>Ray Dagastine (Melbourne)</u>: Growing and shrinking bubbles, enhanced Ostwald ripening via mass transport in nanometer thick films

#### **Living Soft Matter**

Biomolecules, cells, tissue engineering, interfacing synthetic soft matter and tissues <u>Eric Dufresne (ETH, Zürich)</u>: Phase-separation in an elastic matrix: from living cells to synthetic materials

## Making and Measuring Soft Matter

New methods and materials, including single-molecule studies

Matt Lynch (Proctor & Gamble, Cincinnati): Revealing Processability of Structured Fluids by Microfluidics <u>Lorna Dougan (Leeds)</u>: Hierarchical biomechanics: from single folded proteins to cross-linked protein networks

#### **Polymeric Soft Matter**

Synthesis, structure, dynamics, properties of homogeneous, heterogeneous, biological, liquid crystalline and crystalline polymer systems <u>Friederike Schmid (Mainz)</u>: Why "bad" is "good": Polydispersity in polymeric nanostructures Ralph Colby (Penn State): Flow-Induced Crystallization of Engineering Thermoplastics

#### **Processing & Stressed Soft Matter**

Rheology, microfluidics, flow in complex geometries, additive manufacturing; Bonding, buckling, fracture, tackiness

<u>Guillaume Ovarlez (Solvay/Bordeaux)</u>: From soft matter rheology to civil engineering <u>Al Crosby (Massachusetts Amherst)</u>: Cavitation and Puncture: Crack Nucleation in Soft Solids

#### Self-assembled Soft Matter

Synthetic and biomimetic, supramolecular assemblies <u>Alison Sweeney (Pennsylvania)</u> <u>Sabine Laschat (Stuttgart)</u>: Ionic Liquid Crystals: Controlling Self-Assembly and Function through Charge and Symmetry

| BUDGET<br>ISMC 2020 6/29-7/2/2020- Costs are estimated              |              | Expected total      | l attendees    |       | 700          |
|---|--------------|---------------------|----------------|-------|--------------|
|   |              |                     |                |       |              |
| P   | per unit/hr. | Units               |                | Total |              |
| Facilities Use  | 44 475       |                     | 1              |       | 44 475       |
| See Attached meeting room hst/possible uses & capacities            | 44,475       | Est Total           | 1              | ¢     | 44,475       |
| Food and Roverage   |              | Est. 10tal          |                | 3     | 44,473.00    |
| Somberg Conference Center Coffee break with space (4 days/80%) *    | 22           |                     | 2240           |       | 19 280       |
| Required F&B minimum is \$29,256                                    | 22           |                     | 2240           |       | т),200       |
| Sala Poster Coffee Breaks with snack (4 days/80%)                   | 20           |                     | 2240           |       | 44,800       |
| Welcome Reception (light, with beer/wine for 85%)                   | 70           |                     | 595            |       | 41,650       |
| West Campus Linens for food service, registration                   | 5,187        |                     | 1              |       | 5,187        |
|   |              | Est. Total          |                | \$    | 140,917.00   |
| Registration and Coordination                                       |              |                     |                |       |              |
| Event Registration and Coordination                                 | 52           |                     | 700            |       | 36,400       |
|   |              | Est. Total          |                | \$    | 36,400.00    |
| Presentation Technology & Staging                                   |              |                     |                |       |              |
| AV (Estimate only, space/final agenda pending)                      | 33,000       |                     | 1              |       | 33,000       |
|   |              | Est. Total          |                | \$    | 33,000.00    |
| Miscellaneous   |              |                     |                |       |              |
| Electricians for Kresge Lobby                                       | 500          |                     | 1              |       | 500          |
| Grounds crew for trash removal                                      | 500          |                     | 1              |       | 500          |
| Furniture Rental/Tables/Reg Counters                                | 3,600        |                     | 1              |       | 3,600        |
| Conference Bag/Giveaway (TBD)                                       | 15           |                     | 700            |       | 10,500       |
| Security details for 1 reception and one overnight for registration | 95           |                     | 20             |       | 1,900        |
| Poster display panels (based on 4 posters per double-sided board)   | 112          |                     | 17             |       | 1,904        |
| Movers  | 1,000        |                     | 1              |       | 1,000        |
| Liability Insurance Coverage  | 500          |                     | 1              |       | 500          |
|   |              | Est. Total          |                | \$    | 20,404.00    |
|   |              | Est. Grand<br>Total |                |       | \$275,196.00 |
|   |              |                     | Est. Per       |       | \$393.14     |
|   |              |                     | person         |       |              |
| Bank fees - 5% per each credit card transactions                    |              |                     | Est.<br>Credit |       | \$19.66      |
|   |              |                     | card           |       |              |
|   |              |                     | fee            |       | 0410 50      |
| (transaction = charge or a refund)<br><b>Per Person</b>             |              |                     | Total Est.     |       | \$412.79     |

Banquet on Spirit of Boston @ \$150 per person paid by attendee (includes transportation)

OTHER possible costs: Publications (Website, program, proceedings); speaker travel; awards, etc...
| Start date  | End<br>Date | Event<br>Start | Event End | Building                         | Roo Use I   |   | Lecture<br>Capacity              | Current<br>Hourly<br>Rental | Multi-<br>day |  |  |
|---|-------------|----------------|-----------|----------------------------------|---|---|----------------------------------|-----------------------------|---------------|--|--|
| 6/28/20   | 7/2/20      | 7:00 AM        | 11:00 PM  | Kresge Complex (W16)             | Kresge Lobby  | Registration/coffee                             | N/A<br>*                         | N/A*                        | N/A*          |  |  |
| 6/29/20   | 7/2/20      | 7:00 AM        | 11:00 PM  | Kresge Complex (W16)             | Kresge Aud (W16)  | Plenary/Breakout                                | 1061                             | \$ 284.00                   | \$ 7,589.00   |  |  |
| 6/29/20   | 7/2/20      | 7:00 AM        | 11:30 PM  | Tang Center (E51)                | Wong Auditorium/Ting Foyer                                      | Breakout  | 289                              | \$ 284.00                   | \$ 7,589.00   |  |  |
| 6/29/20   | 7/2/20      | 8:00 AM        | 5:00 PM   | Samberg Conference Center (E52)  | Salon M, I, T, East, West, Dining<br>Room 3,4,5,6 & Foyer Space | Breakout/Coffee                                 | 800                              | N/A                         | \$ 19,822.00  |  |  |
| 6/29/20   | 7/2/20      | 7:00 AM        | 11:00 PM  | Stratton Student Ctr (Bldg. W20) | Sala De Puerto Rico^  | Posters/coffee                                  |                                  | \$ 284.00                   | \$ 7,589.00   |  |  |
| 6/29/20   | 7/2/20      | 7:00 AM        | 11:00 PM  | Stratton Student Ctr (Bldg. W20) | West Lounge^  | Posters/coffee                                  |                                  | \$ 70.00                    | \$ 1,886.00   |  |  |
| Additional spaces currently on hold for other possible scenarios (cost not included on space estimates in draft budget) |             |                |           |                                  |   |   |                                  |                             |               |  |  |
| 6/29/20   | 7/2/20      | 7:00 AM        | 11:00 PM  | Stratton Student Ctr (Bldg. W20) | Pdrs 1&2  | Breakout  | 40                               | \$ 70.00                    | \$ 1,886.00   |  |  |
| 6/29/20   | 7/2/20      | 7:00 AM        | 11:00 PM  | Stratton Student Ctr (Bldg. W20) | Twenty Chimneys   | Breakout  | 150                              | \$ 70.00                    | \$ 1,886.00   |  |  |
| 6/29/20   | 7/2/20      | 7:00 AM        | 11:00 PM  | Stratton Student Ctr (Bldg. W20) | Room 407  | Breakout  | 130                              | \$ 70.00                    | \$ 1,886.00   |  |  |
| 6/29/20   | 7/2/20      | 7:00 AM        | 11:00 PM  | Stratton Student Ctr (Bldg. W20) | Room 491  | Breakout  | 130                              | \$ 70.00                    | \$ 1,886.00   |  |  |
| 6/29/20   | 7/2/20      | 7:00 AM        | 11:00 PM  | Kresge Complex (W16)             | Rehearsal Room A  | Breakout  | 75                               | \$ 70.00                    | \$ 1,886.00   |  |  |
| 6/29/20   | 7/2/20      | 7:00 AM        | 11:00 PM  | Kresge Complex (W16)             | Rehearsal Room B Breakout                                       |   | 75                               | \$ 70.00                    | \$ 1,886.00   |  |  |
| 6/29/20   | 7/2/20      | 7:00 AM        | 11:00 PM  | Stratton Student Ctr (Bldg. W20) | Stratton Balcony  | Possible breaks N/A **                          |                                  | N/A**                       | N/A**         |  |  |
| 6/28/20   | 7/2/20      | 7:30 AM        | 11:00 PM  | Stata (Bldg.32)                  | Vest Student Street Combo                                       | Possible poster space if lecture hall confirmed | poster space if<br>all confirmed |                             | \$ 4,515.00   |  |  |
| 6/28/20   | 7/2/20      | 7:30 AM        | 11:00 PM  | Stata (Bldg.32)                  | TSMC Lobby  | Possible poster space if lecture hall confirmed |                                  | \$ 70.00                    | \$ 1,886.00   |  |  |
| 6/26/20   | 7/3/20      | 7:00 PM        | 11:30 PM  | CAC Outdoor Spaces               | Kresge Oval   | Tent setup                                      |                                  | \$ 70.00                    | \$ 2,285.00   |  |  |
| 6/28/20   | 7/2/20      | 7:00 AM        | 11:30 PM  | Lobby 13                         | Lobby 13  | Possible poster space if lecture hall confirmed |                                  | \$ 284.00                   | \$ 7,589.00   |  |  |
| 6/29/20   | 7/2/20      | 7:00 AM        | 11:00 PM  | Kresge Complex (W16)             | Little Theatre  | Breakout  | 6/29/<br>00                      | \$ 284.00                   | \$ 7,589.00   |  |  |

44

#### Notes:

All prices above are current and subject to change each year on July 1

For large spaces (\$284) , There is an additional 2 hours added to total rental cost to

cover time needed by facility to setup/breakdown space. For mid-leval spaces (\$70),

there is an hour added to rental cost.

Published capacities may vary depending on AV or any additional setup needed in the space. Final capacities will be determined upon setup needs.

\* included with rental of Kresge Main

\*\* included with rental of Mezzanine or Twenty Chimneys

^ Sala de Puerto Rio and West Lounge are adjoining and would be used in combination for poster session As of 3/19/2019

Map of MIT site with distances between Kresge Complex (W16) and Student Center (W20) on West Campus and Samberg Center (E52) and Tang Center (E51) on East Campus



#### Stratton Student Center (W20)

#### First Floor Second Floor Third Floor Fourth Floor

Below are descriptions of Student Center facilities presented by floors. Please refer to the floor diagrams on opposite pages for additional specifics regarding room features.

#### First Floor

#### Stratton Student Center Lobby

Promotional tables in the lobby are available Monday through Friday between the hours of 9AM and 5PM for student organizations and departments. Vendors, selling products and services, can apply to reserve a vendor table during the day. Occasionally, groups of tables may be reserved for events of general interest to the MIT community, however, special permission of the CAC must be obtained.

#### Second Floor

#### Lobdell Dining Hall (W20-208)

This facility is available Monday through Friday after 4:30 PM and Saturday and Sunday all day. It is generally used for parties, dances, movies, and banquets. If Lobdell is not reserved, the Lobdell balconies can be reserved separately (see their description under the Third Floor section). This room is equipped with a movie screen. Student groups are required to reset the room to its dining configuration after their events; a diagram is posted in Lobdell, and a CAC manager can provide a copy of the diagram if needed. If the reset is not done, a fee of \$250.00 will be charged to the student group's account.

#### Sala de Puerto Rico (W20-202)

This is a multipurpose room with a wooden floor which is ideal for events such as parties, dances, large banquets and receptions, career fairs, lectures, and limited theatrical productions. This room is equipped with a movie screen, adjustable lighting, and theatrical lighting.

#### West Lounge (W20-201)

West Lounge has a laminate floor and double doors which lead into the Sala de Puerto Rico; therefore, it is often used to support large functions in the Sala (e.g. as a coat room or dressing room). It is also available to be used separately for luncheons, receptions, rehearsals, and meetings. West Lounge is equipped with a movie screen.



#### Third Floor

#### Twenty Chingsys (W21-306)

and Mezzanine Lounge (W20-307)

These more are virtually identical and located across the hall from one another. Each is ideal for banquete, meetings, and lectures and may be used together and/or in conjunction with the Stratton Baltony for an effective workshop series or small conference site. Because these rooms are corpeted, no dancing is permitted. Twesty Chimneys is also adjacent to the South Lobdell Balcony which can sometimes be used in conjunction with a large event. Each room is equipped with a movie screen.

#### Stratton Balsony

This is the open jounge area located between Twenty Chimneys and the Mezzanine Lounge. It can be reserved in conjunction with an event in either Twenty Chimneys or the Mezzanine Lounge, it is ideal for registration, buffet setups, coffee service, and receptions. No alcohol is permitted.

#### North (W20-305N)

#### and South Lobdell (W20-3055) Balsonies

Each of the balconies of Lobdell Onling Hall has a college/bite wall which is used to separate it from the Dining Hall. Each can be echeduled for events when Lobdell Court is not in operation. The tables and chairs on the balconies carried be removed but may be moved against the wall or used in conjunction with an event. Each baloony is ideal for banquets.

#### Private Dining Rooms #1 (W20-301)

#### and #2 (W20-302) (PDRs)

Each room is appropriate for small meetings and small diving functions. Only PDR 2 has a movie screen. In addition, there is a collapsible wall between these two rooms which can be opened to accommodate larger events. Used together as one room, PDRs 1.8.2 are ideal for meetings, lectures, and receptions. They can also be used as a support room for large events in Twenty Chimneys, the Mezzanine Lounge, and Lobdel. Because the rooms are carpeted, no standing is permitted.

## Private Dining Room #3 (W20-303) and A4 (W20-308A)

These rooms have a permanent boardroom style setup consisting of one large conference table with 18 chairs around it. PDR #3 has a movie screen. PDR #4 has a whiteboard.

#### Coffeehouse Lounge (W20-308)

This room is a multi-purpose room. The Lounge is available for day and weekend events to all recognized MIT groups, and features a sound system, projector, and program media. On weakday evenings during the academic term, the space is available to student groups who are hosting events open to the entire MIT Community, these events require a special booking process, so get in touch with CAC for more Information.



#### Fourth Floor

#### Room 400 (W20-400)

This windowless room in the middle of the fourth floor has a permanent u-shape set up with additional stadium seating in the rear. There is both a movie screen and a white board in the room. The room is equipped with a projector. Alcohol is not permitted in Room 400. During the academic year this room is reserved through the Undergraduate Association (W20-401, 253-2698) for events Monday-Friday after 5PM and on weekends. Contact CAC for use of Room 400 before 5PM Monday through Friday and at all times during the summer months.

#### Room 407 (W20-407)

The room has a tiled floor, a chalkboard, movie screen, and coat hooks. The room is equipped with a sound system. The room is ideal for meetings; lectures; and music, dance, and drama rehearsals. Alcohol is not permitted.

#### Room 491 (W20-491)

The room has a tiled floor, a chalkboard, movie screen, and coat hooks. Room features a built in sound system, projector, and program media. The room is ideal for meetings; lectures; and music, dance, and drama rehearsals. Alcohol is not permitted.



#### Samberg Conference Center, Chang Building (E52)

The Samberg Conference Center, located on the sixth and seventh floors of the Chang Building (E52), is available for bookings by members of the MIT community. For information and to enquire about availability, please visit the Samberg Conference Center website (<u>sambergconferencecenter mit edu</u>). Please note that in the below chart the numbers for sealed arrangements (rounds, crescent rounds, etc.) reflect plated meal maximums, other services/furniture (such as with a buffet set-up) will lower those maximums.

#### 6th Floor

Salon T

East

Salon MIT

Combined Salon 

|                                  | Rounds | Crescent<br>Rounds | Classroom | Theater | Reception | U-Shape | Hoficw<br>Sq. | Conference<br>Style |
|----------------------------------|--------|--------------------|-----------|---------|-----------|---------|---------------|---------------------|
| Dining<br>Room 1                 | -      | 9                  | 8         | 1       |           | -       |               | Fixed for 16        |
| Dining<br>Room 2                 | .40    | 22                 | 70        | 45      | 50        | 15      | 15            | 15                  |
| Dining<br>Room 3                 | BD     | 50                 | -40       | 100     | 100       | 30      | 25            | 25                  |
| Dining<br>Room 4                 | 90     | 50                 | 50        | 120     | 125       | 35      | 30            | 30                  |
| Dining<br>Room 3 & 4<br>Combined | 150    | 100                | 75        | 200     | 200       | 60      | 45            | 50                  |
| Dining<br>Room 5                 | 130    | 60                 | 50        | 160     | 150       | 40      | 30            | 35                  |
| Dining<br>Room 6                 | 60     | 30                 | 25        | 60      | 65        | 18      | 15            | 15                  |
| Dining<br>Room 5 & 6<br>Combined | 150    | 90                 | 75        | 200     | 200       | 60      | 45            | 45                  |
| 7th Floor                        |        |                    |           |         |           |         |               |                     |
|                                  | Rounds | Crescent<br>Rounds | Classroom | Theater | Reception | U-Shape | Hollow<br>Sq. | Conference<br>Style |
| Salon<br>West                    | 60     | 30                 | 30        | 60      | 75        | 20      | 88            | 18                  |
| Salon M                          | 100    | 60<br>70           | 45        | 125     | 120       | 35      | 25            | 25                  |

.45

-

### Kresge Auditorium (W16)

Kresge is fully-accessible.

Note: While many of the spaces in Kresge may be used to support events in other Kresge spaces, each facility MUST be reserved SEPARATELY.

## Main Kresge (W16-109)

This large auditorium seats a maximum of 1215 people, although only 1132 seats are available when the stage is extended over the pit seating section. It is used for concerts, lectures, conferences, plays, and other major events. No food or beverage is permitted in the auditorium. Special theatrical lighting can be arranged by contacting E33, <u>web.mit.edu/e33</u>, or by contacting CAC for contact information on outside lighting vendors. The use of musical instruments is subject to charge and permission must be obtained at least three (3) weeks in advance from the Music Department (4-246, 253-3210). There is a movie screen. MIT Audio-Visual services are required for access to the audio booth and the sound system and projection controlled by the booth. CAC can provide a small self-help audio system with one microphone. If your event requires additional audio-visual services, notify MIT Audio-Visual (4-017, 253-2808) after you reserve the event space.

## Little Theatre (W16-035)

This small theater seats a maximum of 194 with the pits seats in place and 200 with the pits seats out. As the Institute's only legitimate theater, it is generally used for theatrical performances and conferences. No food or beverage is permitted in the theater. There is a movie screen. Theatrical lighting and audio equipment are available for use by approved personnel.

## Kresge Lobby (W16-100LA)

This is the lobby outside of Main Kresge. It can be used as a reception or registration space for events in Main Kresge with 48 hour notice. It is also sometimes possible to reserve the lobby separately when there are no conflicting events in Main Kresge auditorium or the Little Theatre. Alcohol can be served in Kresge Lobby, but cannot be openly served without additional plans in place, if other events are occurring in the building.

## Rehearsal Rooms A (W16-033) and B (W16-030)

These windowless rooms are designed for musical and theatrical rehearsals, as well as small meetings. They have hardwood sprung floors and variable lighting. Each room has a whiteboard, a movie screen, and a Smart TV. They can be used in conjunction with events in Main Kresge and the Little Theatre as well as press rooms, coat rooms, break-out rooms, dressing rooms, etc.





a diagram from a conference that puts ONLY their sponsors in the lobby. Their registration and most of their coffee tables are in a tent on the oval just outside the lobby.

If we do registration, coffee and sponsors inside the lobby, we are guessing 8 sponsor tables would fit. Note that the lobby is quite full with about 400 people during coffee breaks. Larger groups tend to spill outside onto the brick and lawn during breaks when there is no tent option which is pleasant enough in good weather.

## Men's (W16-010) and Women's (W16-021) Dressing Rooms

These may be used as dressing rooms for performers and guest speakers in conjunction with events in Main Kresge and Little Theatre. Both have showers.

## Green Room

This room is to be used in conjunction with events in Kresge. Has a private bathroom.

## Tang Center (E51)

The Tang Center is located at 70 Memorial Drive. Classrooms in the Tang Center are reserved by Sloan Educational Services (E52-101, 253-1510) for Sloan School groups. For non-Sloan groups, please contact the Schedules Office (5-111, 253-4788). The Wong Auditorium and the Ting Foyer can be reserved by contacting CAC (W20-500, 253-3913).

## Wong Auditorium (E51-115)

The Wong Auditorium can serve as the ideal location for lectures and symposiums. This auditorium has a capacity of 291 with 3 removable seats at the front of the auditorium. Within the Auditorium there is an audio amplification system with surround sound capability, video and audio taping capability, VCR, slide projector, and a large screen. Audio taping is provided by Academic Media Production Services (AMPS) 253-7603. For all other audio-visual needs, please contact the MIT AV Department 253-2808.

## **Ting Foyer**

Ting Foyer is the area directly outside Wong Auditorium. It can be used as a reception or registration space for events in Wong Auditorium. It is also sometimes possible to reserve the lobby separately when there are no conflicting events in Wong Auditorium, with a 48 hour notice.

# **SMC2021**

The 7th International Soft Matter Conference

## 12th - 17th December 2021

Venue: Osaka International Convention Center Osaka, Japan

## **Organizing Committee:**

Ryoichi Yamamoto, Kyoto University (Chair) Hajime Tanaka, University of Tokyo (Chair, honorary) Takeaki Araki, Kyoto University Masayuki Imai, Tohoku University Toshihiro Kawakatsu, Tohoku University Hirotsugu Kikuchi, Kyushu University Shigeyuki Komura, Tokyo Metropolitan University Kunimasa Miyazaki, Nagoya University Takashi Taniguchi, Kyoto University Jun Yamamoto, Kyoto University

Please visit to conference site (http://ismc2021.jp)





#### From Osaka International Airport (Itami Airport)

Approx. 30 minutes to Osaka Station by airport bus 15 minutes by Osaka city bus from JR Osaka station.

#### From Shin-Osaka Shinkansen (Bullet Train) Station

Approx. 5 minutes to Osaka station by JR local train 15 minutes by Osaka city bus from JR Osaka station.



KYOTO FUKUOKA TOKYO NAGOYA OSAKA