



Institute for Complex Adaptive Matter

ICAM Newsletter - November 2020

Welcome to the ICAM late Fall Newsletter. Please share our news with your colleagues across your institution.

This has been a trying year for the ICAM research community, and we have all had to adjust to the new realities of online collaboration, teaching, and the slow-down of experimental work. We have also lost members of our community, with the passing of Phil Anderson in January and Steve Berry in July. Yet we have been able to adapt to this new normal. ICAM successfully held the [ICAM Global summit](#) in July, which was well attended and featured round-table discussions on [Physics in the h-index era](#) and on the [Life and Physics of Phil Anderson](#) that were very widely attended and can be viewed online. Various ICAM workshops and schools, such as [Condensed Matter in all the Cities](#) and the [Jülich Autumn school on correlated electrons](#) were also held online, with great success. We launched “Emergence Online”, a Facebook group that has helped advertise online seminars and schools.

However, online has its drawbacks: Zoom is tiring, and it is difficult to start fresh collaborations. Online workshops are difficult when one is also teaching and working from home. All of us will welcome a return to face-to-face research and collaboration.

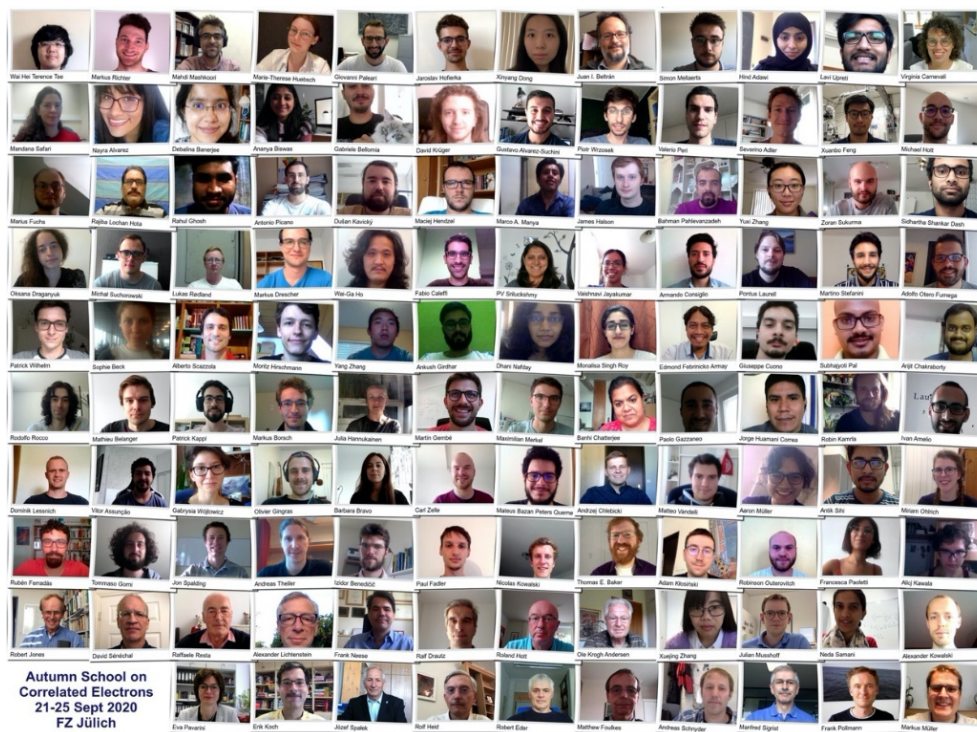


Figure 1: Participants in the ICAM/Jülich school on correlated electrons.

With the end of the pandemic still distant, but nevertheless, within sight, there is room for gentle optimism. With the arrival of C-19 vaccines in the spring, ICAM is gearing up to help our community make a gradual resumption of face-to-face research activities, including workshops, schools and science exchanges, starting in the summer of 2021. The recent award of a 1M grant from the Gordon and Betty Moore Foundation (see below) and a new NSF-C grant in China will provide valuable additional resources for these new activities. We also hope to hold our first face-to-face annual meeting after pandemic in Singapore, January 2022. Please read on for new details. We want to encourage you all to be upbeat in your view of the future, and to start planning for new workshop and school activity and new science exchanges.

The image shows two handwritten signatures in blue ink. The first signature is 'Piers Coleman' and the second is 'Rajiv Singh'.

Piers Coleman and Rajiv Singh
ICAM Co-directors



1M QUANTEMX II GRANT AWARDED TO ICAM
BY THE GORDON AND BETTY MOORE FOUNDATION

The Institute for Complex Adaptive Matter ([ICAM](#)) received formal approval of its grant of approximately \$1 million from the Gordon and Betty Moore Foundation to fund international science exchanges on quantum matter. The \$982,625 grant will support ICAM's

QuantEmX II project enabling research collaborations around the globe. It is part of the Gordon and Betty Moore Foundation's \$185 million [Emergent Phenomena in Quantum Systems](#) program of research into quantum materials.

Starting in the coming year, this generous new grant will enable a whole new range of experiments and collaborations to blossom across the United States and with the wider world. It will also enable scientists across the globe to travel to facilities both in the U.S. and internationally, such as the National High Magnet Field Lab in Tallahassee, the Oak Ridge Spallation Neutron source and the Stanford Synchrotron Radiation Light Source. The grant will enable young experimentalists across the world to make exchange visits, learning from prominent scientists and introducing them to new ways of doing science and discovering exotic new materials.

Applications for science exchange grants will be solicited in January 2021 and we expect travel to begin in summer of 2021. Details will be posted on our website.

ICAM ANNUAL MEETINGS: ONLINE 2021, SINGAPORE 2022

In the summer of 2021, ICAM will have a second online Global Summit following our successful online Global Summit in summer of 2020. Our next in person ICAM annual meeting is planned to take place in Singapore in January of 2022. This meeting will be jointly organized by ICAM together with the Center for Advanced 2D Materials, National University of Singapore and Nanyang Technological University. We expect to have the proposed dates for the annual meeting soon.

ICAM WORKSHOP CALL FOR 2021

With the anticipation of a resumption of workshop activities in mid 2021, ICAM has a call out for proposals for workshops to take place during the second half of 2021, from July through the end of December. The deadline for new workshop proposals is January 4, 2021. (Workshops that were postponed due to the Sars-covid pandemic do not need to re-apply, but we would like them to update us on the revised dates of their meetings.)

ICAM provides up to 30k of seed money for workshops and schools, with a typical grant size of about 10k. We aim to support innovative workshops in the areas of soft, quantum and biological matter that catalyze new directions of research and promote new interactions between different branches of research. We typically do not support repeat workshops or conferences, unless it is for a special symposium or research thrust within a larger meeting.

Please apply before the deadline!

ICAM REMEMBERS STEPHEN BERRY

R. Stephen Berry, University of Chicago chemist, path-breaking interdisciplinary scientist and founding ICAM member, died July 26 age 89.

Berry, a chemist by profession, was a pioneer of complex adaptive matter, and his theoretical work ranged far and wide across science, from his early work in sustainable energy to his work on finite-time thermodynamics: he believed deeply in the interdisciplinary frontier of science.

Steve Berry was a co-founder of the Telluride Science Research Center. He had a long involvement with the Aspen Center for Physics. Berry became an enthusiastic supporter of ICAM from its founding meeting in 1999, and we knew him for his enthusiasm for science, linking the frontiers of physics, chemistry and biology.

“He wanted scientists to not just remain in ivory towers, but to change the world,” said Carla Friedman Berry, his wife of 65 years, [1] “For him, science was an instrument to better the world”. ICAM honored him on the occasion of his 80th birthday at its annual meeting in

Hangzhou, 2011. Stephen was a tireless contributor to the ICAM Science Steering Committee, contributing insightful and generally upbeat advice to workshop organizers. Many a workshop has benefitted from his suggestions. Steve actually participated in our 2020 annual meeting, literally days before his passing.

We miss him dearly and remember him fondly.



Steve Berry celebrating his 80th birthday at the ICAM annual meeting in Hangzhou, 2011. Also shown are Hong Ding (left) and in the background, taking a photograph is ICAM founder, David Pines.

[1] <https://news.uchicago.edu/story/r-stephen-berry-one-most-influential-chemists-his-generation-1931-2020>