

## C5 Activity Report for the IUPAP Council and Commission Chairs Meeting October 2018-October 2019

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### Activity Report

This review covers the period October 2018 – October 2019 with a summary of the immediate previous 12 month period.

#### 1.0 Activity Previous Period April 2018 – October 2019

#### 1.1 Conferences Organized and Endorsed

##### Type B

QFS2018, International Symposium on Quantum Fluids and Solids, July 25-31, Tokyo, Japan. This conference was held on the Hongo campus of the University of Tokyo, Ito Center. It was the 23 regular conference in the series on Quantum Fluids and Solids dating back to 1975 in various countries Czech Republic(1), France(2), Germany(1), Italy(1), Japan(3), Russia(1), UK(1), USA(13) in Europe, Asia, and the Americas. For QFS2018, there were 255 registrants, 52 invited talks, and 147 poster presentations with four prizes for best posters. The conference organizers were *Conference Chair*: Hiroshi Fukuyama (Univ. Tokyo), *Conference Vice-Chair*: Makoto Tsubota (Osaka City Univ.); *Organizing Committee*, Hiroshi Fukuyama (chair), Makoto Tsubota (vice chair), Seiji Higashitani, Koichi Matsumoto, Shinichi Ohkoshi, Yutaka Sasaki, Keiya Shirahama, Masaru Suzuki, Takeo Takagi; *Program Committee*, Makoto Tsubota (chair), Hiroki Ikegami, Takeshi Mizushima; *Publication Committee*: Takeo Takagi (chair), Hyoungsoon Choi; *Local Organizing Committee*: Hiroshi Fukuyama (chair), Tomohiro Matsui, Masashi Morishita, Satoshi Murakawa, Sachiko Nakamura.

The 12 main conference topics were: Topological Quantum Fluids, Qubits and Quantum Information, Superconductors, Quantum Turbulence, Superfluid He-3, Superfluid He-4, Quantum Solids, Spin Liquids and Magnetism, Cold Gases, Neutron Stars, Fluids in Nanopores, Novel Techniques

## **1.2 Commission Meetings**

Commission C5 met at LT28 in August 2017. Subsequent business has been conducted by e-mail and will continue in this mode until the next face-to-face meeting in 2020 which is the next international Low Temperature Conference. The site of LT29 in 2020 has been identified and the conference has been accepted and endorsed by the C5 commission and IUPAP. Work is in progress to identify the next Low Temperature Conference (LT30, Type A) in 2023, the next ultra-low temperature conference in 2020 (ULT2020-Type B), and the next QFS conference (QFS2021-Type B)

## **1.3 C5 Sponsored Prizes Awarded**

IUPAP C5 Young Investigator Prize awarded every three years:

Dr. Clifford Hicks (Max-Planck Institute for Chemical Physics of Solids, Dresden, Germany),

Vlad Pribiag (University of Minnesota, Minneapolis, USA)

Fritz London Memorial Prize:

William Halperin (Northwestern University, Evanston, Illinois USA), James Sauls (Northwestern University, Evanston, Illinois USA), Jeevak Parpia (Cornell University, Ithaca, NY USA)

Simon Memorial Prize:

Professor Louis Taillefer (University of Sherbrooke and the Canadian Institute for Advanced Research, Sherbrooke Canada)

## **2.0 Activity Current Period**

### **2.1 Sponsored Conferences held this Period**

#### **Type B**

International Conference on Quantum Fluids and Solids (QFS 2019)

August 7-13, 2019, University of Alberta, Edmonton, Canada

Chairs: John Beamish, John Davis

This proposal, following recommendation by the QFS steering committee (in August 2017), was endorsed and accepted by was approved by the C5 commission and by IUPAP and will receive support by C5. This conference will be held in a few days from the time of submission of the present report.

### **2.2 Anticipated, Accepted and Sponsored Conferences**

#### **Type A**

29th International Conference on Low Temperature Physics (LT29) August 16-22, 2020, Sapporo, Japan

About 1,200 participants

Co-Chair: Naoto Nagaosa and Yoshiteru Maeno

This proposal was approved by C5 at its meeting at LT28. It was submitted for approval for Type A sponsorship to IUPAP and has been accepted for support.

#### **Type B**

ULT2020, Frontiers of Low Temperature Physics. August 24-27 2020, Sapporo, Japan.

Chair: Keiya Shirahama, Keio University

This conference, will be a satellite of LT29 (Type A) and will cover topics similar to those listed above for ULT2017 expanded to include new subjects of topical interest, especially on quantum information science. The number of anticipated attendees is ~200. It was submitted for approval for Type B sponsorship to IUPAP and has been accepted for support.

William Halperin, C5 chair

August 2019