

## **C10 Report (the Structure and Dynamics of Condensed Matter)**

at the IUPAP Council & Commission Chairs Meeting,

(Singapore, November 3-4, 2014)

reported by Yasuhiko Fujii, Chair

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Associate Member (1) :

TaeWon Noh	(Korea)
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### **1. C10 Young Scientist Prize**

#### **2015 Dr. Keji Lai,**

Assistant Professor, Department of Physics,  
University of Texas at Austin, U.S.A.

“For his outstanding contribution in nanoscale impedance imaging of strongly correlated and low-dimensional quantum materials”

Dr. Lai received his B.S degree in Tsinghua University, China in 2001 and Ph.D in Department of Electrical Engineering, Princeton University, U.S.A. in 2006. He became a Post-Doctoral Research Fellow in Department of Applied Physics, Stanford University in 2006 and Research Scientist in 2011. He has been at the present position since 2012.

#### **2014 Dr. Clarina R. de la Cruz,**

Lead Instrument Scientist, Neutron Sciences Directorate  
Oak Ridge National Laboratory, U.S.A.

“For her outstanding achievements in the field of strongly correlated electron systems, specifically in multiferroic materials and unconventional superconductors.”

Dr. Cruz received her undergraduate and Master’s degrees in National Institute of Physics, University of the Philippines, Philippine in 1996-2003 and Ph.D in Department of Physics, University of Houston, U.S.A. and became a Post-Doctoral Fellow in Neutron Sciences Directorate, Oak Ridge National Laboratory and Department of Physics and Astronomy, University of Tennessee, U.S.A in 2007-2009. She became a Lead Instrument Scientist at the present position since 2010.

#### **2013 Dr. Claudio Castelnovo**

Lecturer and SEPnet Fellow, Department of Physics,

Royal Holloway College, University of London, UK

“For his contributions to understanding of new types of order, from the identification of emergent magnetic monopole excitations in spin-ice to the role of thermal fluctuations in topological computing.”

Dr. Castelnovo received his undergraduate and Masters degrees in Dipartimento di Fisica, Università degli Studi di Milano, Milan, Italy in 1995-2000 and Ph.D in Physics Department, Boston University, Boston, U.S.A. in 2001-2006. In 2006-2009 he was a Post-Doctoral Fellow in Rudolf Peierls Centre for Theoretical Physics, University of Oxford, UK and became Lecturer at the present position since 2010.

### **Venue for Winner’s Prize Lecture and Award Ceremony**

C10 covers a wide range of condensed matter physics so that a research field of every year’s YSP winner is not predictable. Therefore, it is not practical to fix the venue for the annual C10 YSP Award Ceremony and Prize Lecture at any biennial or triennial international conference.

On the other hand, the American Physical Society has its Division of Condensed Matter Physics (DCMP) and Division of Materials Physics (DMP) which have covered most of C10’s research fields. Therefore, the annual *APS March Meeting* where several C10 members usually attend is a very good opportunity for C10 to cooperate DCMP and DMP organizers to celebrate a C10 YSP winner.

It’s thanks to both DCMP and DMP for their generous offer and kind arrangements that C10 YSP winner’s Prize Lecture is given at the Invited Session entitled “Buckley/McGroddy/Adler/IUPAP YSP/Nicholson Prize Session” and the Award Ceremony is held at the Evening Reception sponsored by both Divisions.

## **2. C10-Sponsored Conferences**

**2015** The 11<sup>th</sup> International Conference on Materials and Mechanisms of Superconductivity (M<sup>2</sup>S 2015, Geneva, Switzerland, August 23-28, 2015) nominated as Type A

**2014** The 11<sup>th</sup> International Conference on the Structure of Surfaces (ICSOS-11, University of Warwick, UK, July 21-25, 2014) Type C

**2013** No conferences nominated.

## **3. The Issue on “Soft Matter”**

(1) The original assignment given at the IUPAP General Assembly (London, Nov. 2011)

German delegates’ claim: There is a substantial overlap between the Commissions C5, C8, C9 and C10 all covering aspects of condensed matter physics. It is proposed to dedicate C10 specifically to the emerging field of soft matter physics. The name could be either “Commission on Soft Matter” or “Commission on the Structure and Dynamics of Condensed and Soft Matter”.

(2) C10’s Interim Report to the C&CC (Rio de Janeiro, Oct. 2012)

C10 has recognized the emerging soft matter physics as an important research field but has opposed such a proposal as C10 will be dedicated to soft matter because C10 has covered important research fields, which are NOT covered by any other Commissions.

C10 members, most, if not all, of whom are solid state physicists, currently favor (partial) inclusion of soft matter physics in C10 by a possible modification of its title and mandate.

(3) Formation of “Study Group on Soft Matter” at the C&CC (CERN/Geneva, Oct. 2013)

It was proposed to form the Study Group on Soft Matter chaired by C10 Chair (Fujii) to further discuss this issue by inviting 8 related Commission members (C3, C6, C8, C10, C20) and 6 soft matter scientists, totally 14 plus 2 observers. After their intensive discussion via e-mails for

several months, it was unanimously recommended that a new “Commission on Soft Matter” shall be formed in IUPAP and so reported to the President in April 2014.

- (4) In response to the report, a lead time will be required to formally process this issue toward the recommendation by taking one more step through Working Group to be formed by soft matter scientists. This will be seriously discussed at the C&CC Meeting (Singapore, Nov. 2014).

#### **4. Issues to be Recognized and Transferred to the Next Term**

- (1) C10’s Home Page on the IUPAP Web Site

We have planned to establish it, but it’s not completed yet.

- (2) Continuous Cooperation on Soft Matter Issue

In the current term, C10 has taken an initiative in leading it as assigned by C&CC. Regardless of the framework to be formed in the next term, C10 will be a corporate Commission for that purpose.

- (3) Continuous Endorsement of Conferences

There are two major conferences sponsored by C10 (M<sup>2</sup>S and ICSOS) so far. It will be favorable to encourage more conferences to be nominated in the field of condensed matter physics including even soft matter.

- (4) C10 Young Scientist Prize

In the current term, all procedures for call-for nominations, selection, announcement, award & lecture etc. have been fully established.