

REPORT OF THE ACTIVITIES OF COMMISSION C12 2010

IUPAP CC&C Meeting Delhi 5-6 November 2010

Dan-Olof Riska/chair

1. IUPAP young scientist prize in nuclear physics

At the award session on July 7 during the International Nuclear Physics Conference in Vancouver, 3 young scientist prizes were awarded to the following recipients:

Dr. Kenji Fukushima (Kyoto University):

For his development of the effective chiral model with the Polyakov loop coupling as an effective theory for the quark degrees of freedom. The model incorporates the confinement/deconfinement transition and describes the role of confinement and dynamical breaking of chiral symmetry in hot and dense matter, in situations where numerical lattice simulations are inapplicable.

Dr. Peter Mueller (Argonne National Laboratory):

For his leadership in the development of laser trapping and cooling techniques to make the first precise measurements of the charge radii of the neutron-rich nuclei, ${}^6\text{He}$ and ${}^8\text{He}$, and for highly sensitive trace isotope abundance analysis and for experimental studies of fundamental interactions.

Dr. Lijuan Ruan (Brookhaven National Laboratory):

For her pivotal role in the development of multi-gap resistive plate chamber (MRPC) technology for use in particle identification via the time-of-flight technique and in the installation and commissioning of the STAR Time-of-Flight (TOF) detector and for her forefront, original research on the production and transport of particles containing strange and charm quarks.

The following process was employed for the selection of the winners of the young scientist prizes:

(1) A widely distributed and both nationally and internationally published call for nominations, with a deadline of October 1, 2009.

(2) By the deadline 22 well documented and supported nominations for the 3 prizes were received.

(3) All 14 members of commission C12 actively participated in the process of selecting 3 prize winners from the 22 nominations in 4 steps.

Step 1: For each nominee 3 different members of C12 were assigned for an assessment of his/her merits. By using weighted criteria for each candidate this process converged to a preliminary short list of 10 candidates.

Step 2: Each member of C12 was asked to select 3 nominees from the short list of 10 in priority order, giving 3 points to the first nominee, 2 points to the second and 1 point to the third nominee. This process converged to 4 nominees, whose point sums were clearly larger than those of the remainder.

Step 3: Each member of C12 was asked to enter qualitative arguments in favor of candidates in the secondary short list of 4. This process led to unanimity on two of the 4 nominees on the short list. For the selection of one out of the remaining 2 nominees 6 C12 members gave arguments in favor of one and 4 in favor of the other. These arguments referred to the type of work done by the two candidates, the bibliometrical indices of their published work and the goal of a geographical balance between the prize winners.

A second stage of these email exchanges led to 8 "votes" in favor of the nominee, who received 6 supporting emails in the first stage and 4 in favor of the nominee, who received 4 supporting emails in the first stage. One C12 member abstained in this "step 3" and the chair cast no "vote". As C12 has 14 members, the majority of 8 votes for the first against the minority of 4 for the second nominee, then brought this selection process to conclusion.

2. C12 annual meeting in Vancouver, 5 July, 2010

The annual meeting of the commission C12 was held at the University of British Columbia on 5 July, 2010 in connection with the IUPAP sponsored conference International Nuclear Physics Conference INPC 2010. The minutes are appended to this report.

At the meeting the chair was mandate to activate the formation of the new IUPAP-IUPAC joint working group on the evaluation and adjudication super-heavy elements beyond $Z=112$. The earlier group has continued its work without any clear IUPAP mandate, and has completed reports on elements 114 and 116. The matter will be pursued by IUPAP secretary general Kirby-Harris together with IUPAC executive director Terry Renner.

3. Conference recommendations

At the annual meeting of C12 the following recommendations for IUPAP conference sponsorship were made:

Conferences in 2011:

Category A support:

1. The 22nd conference on ultrarelativistic heavy-ion collisions ("**Quark Matter 2011**"), Anney, France, May 23-28, 2011,
2. The 19th Particles and Nuclei International Conference ("**PANIC 2011**"), Cambridge, Massachusetts, USA, July 24-29, 2011.

Category B support:

The first International Conference on Advances in Radioactive Isotopes Science ("**ARIS 2011**"), Leuven, Belgium, May 29-June 3, 2011

Category C support:

1. The 9th Latin American Symposium on Nuclear Physics and Applications, Quito, Ecuador, July 18-22, 2011,
2. The 13th Workshop on Nuclear Physics and the 7th International Symposium on Nuclear and Related Techniques ("**WONP-NURT 2011**"), Havana, Cuba, February 2-11, 2011.

Conferences in 2012:

In addition the C12 commission decided to recommend preapproval for the

The 20th International Conference on Few-Body Problems in Physics ("**Few Body 20**"), Fukuoka, Japan, 20-25 August, 2012.