CUSTIPEN-Beijing Workshop on RIB Science: 2nd China-US-RIB Meeting Oct 16-18, Beijing



Working Group 8: Education

Conveners: Morten Hjorth-Jensen^{1,2} & Shan-Gui Zhou (周善贵)^{3,4,5,6}

 ¹ National Superconducting Cyclotron Laboratory and Department of Physics and Astronomy, Michigan State University, East Lansing, MI 48824, USA
 ² Department of Physics, University of Oslo, N-0316 Oslo, Norway
 ³ Institute of Theoretical Physics, Chinese Academy of Sciences, Beijing
 ⁴ School of Physical Sciences, University of Chinese Academy of Sciences, Beijing
 ⁵ Center of Theoretical Nucl. Phys., National Laboratory of Heavy Ion Accelerator, Lanzhou
 ⁶ Synergetic Innovation Center for Quantum Effects & Application, Hunan Normal Univ., Changsha

Confucius: Teacher & Education

When walking in a group of three, my teachers are always present. I draw out what is good in them so as to emulate it myself, and what is not good in them so as to alter it in myself.

The Analects of Confucius, translated by R. Eno



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An excerpt of 2015 Workshop Summary

Education and outreach are key components of any vision of the future of the field of nuclear science. The TALENT initiative, currently involving North America and Europe, could be an excellent platform to provide an advanced and comprehensive theoretical training to graduate students and young researchers in China in low-energy nuclear physics. Other initiatives should be explored to address training in experimental nuclear physics. This leads to the following recommendation: **5. We recommend that the Chinese community join the TALENT initiative.**

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WG: Shangui ZHOU (ITP)(contact person),
Furong XU (PKU)
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Summary of the first FRIB-China Workshop on Physics of Nuclei and Hadrons (May 28-30, 2015, NSCL)

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Memo of a Skype meeting on TALENT course(s) in China

Date & time: 10:00-10:50 (GMT), Apr. 20, 2017 Participants: Dick Furnstahl, Morten Hjorth-Jensen, Furong Xu, and Shan-Gui Zhou

FX and SGZ talked about the interest of the Chinese nuclear physics community in running TALENT course(s) in China and some preparations for doing so. DF and MHJ introduced TALENT courses in general and mentioned the interest of TALENT Board members in bringing TALENT course(s) to China. More discussions were made concerning how to proceed in order to start the first TALENT course in China in 2018. The following consensus was reached:

- To run TALENT course(s) in China will make more *TALENTS* in a third continent, i.e., in Asia, eight years after the TALENT Project was initiated by nuclear scientist commun from it. Memo of a Skype meeting
- The first TALENT course will be run in Henan Normal University, Xin-Xiang in July/August, 2018. Chun-Wang Ma will be the local host.
- According to the general rules and previous experiences, no more than two topics could be accommodated in one TALENT course. This should be also the case for TALENT course(s) in China.
- The Chinese nuclear physicists, in particular, many experimentalists welcome very much TALENT course(s) in low energy nuclear reactions. Nuclear structure colleagues are also very eager to have TALENT course(s) on, e.g., many-body methods, nuclear forces, etc.
- One TALENT course on low energy nuclear reactions has been planned for 2018 in the US by Filomena Nunes. Morten will discuss with Filomena about the progress of this course and in case that this course cannot be run in China, think about the possibility of organizing another reaction team.
- One way to cover both nuclear structure and reaction in a TALENT course is to link more tightly lectures on nuclear structure and reactions. In this case, the period of one course may be as long as four weeks and roughly speaking, two for structure and two for reaction. There should certainly be some overlaps. Dick will discuss this with other members in the TALENT Board.
- Postdoc fellows and junior faculty members (and even former students) can join as assistants to lecturers.
- In July, Furong and Shan-Gui will prepare and submit an introduction of the first TALENT course in China to National Natural Science Foundation of China (NNSFC) in order to get financial support. Before that, more discussions should be made to fix the topics and lecturers.



TALENT2018 @ Xin-Xiang

Henan Normal University; Host: Chun-Wang Ma

- Date: Middle July to middle August, 2018; 4 weeks
- Topic(s): Many-body methods, focusing on nuclear shell model with applications to structure and reactions
- Budgets: NSFC + supports from PKU, ITP, HNU, BNU, SINAP, IMP, CIAE, etc.



To be discussed

TALENT in China should benefit Chinese nuclear physics community and we should work hard to ensure the success of TALENT2018 so that TALENT in China can be continued

- □ What is desirable and useful to the Chinese community?
- Lecturers: Should there be Chinese lecturers(s)?
- □ "Students": Should junior researcher(s) included or not?
- □ Which skills & learning outcomes do we want our students to acquire?
- □ What is pedagogically possible to achieve?
- □ Language might be a big barrier for Chinese students
- Future TALENT courses in China should focus more on nuclear reactions, which topics and how?

Survey courses of nuclear physics

Many research groups are small and fragmented, course(s) of general interests are not available in many institutions.Therefore we should promote not only specialized courses like TALENT, but also basic courses.

- Survey of Nuclear Physics 2017 by Witold Nazarewicz: <u>https://people.nscl.msu.edu/~witek/Classes/PHY802/NuclPhys802-2017.html</u>
- Topics in Nuclear Physics 2017 by Dick Furnstahl: <u>http://www.physics.ohio-state.edu/~ntg/6805</u>

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- Courses of nuclear physics by Yanlin Ye & Hui Hua, PKU
- Courses of nuclear theory by Yu-Min Zhao, Shanghai Jiaotong Univ.
- □ Courses of nuclear astrophysics by Michael Smith, Beihang Univ.

Postdoctoral fellows

- □ The FRIB-CSC program mainly attracts postdoc fellows from China, how about the other way around?
- The FRIB-CSC postdoc fellows are now mainly from IMP & PKU. How about an extension to other institutions?
- In TALENT2018 China, FRIB-CSC postdoc fellow(s) could teach as assistants

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