

SOME INTERNATIONAL COLLABORATIONS IN VIETNAM

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- **Vietnam School of Physics (VSOP).**
- **School on Physics at the LHC (LHCS)**, started in January 2009 (*in collaboration with some ATLAS groups in France and CERN*). Speakers come from Europe, Japan and Taiwan so far.
- **VAST – CERN agreement (2008)** for high energy physics and technologies.
- **VAST – CNRS agreement (2009)** including an LHC training and research program, in particular, the so-called ATLAS-Vietnam program.

Abbreviations:

VAST = Vietnamese Academy of Science and Technology

IOP = Institute of Physics (of Vietnam)

RdV= Rencontres du Vietnam

VIETNAM SCHOOL OF PHYSICS

(an annual school since 1994)

The **Vietnam School of Physics** (VSOP) started in 1994 by the initiative of

- **Tran Thanh Van**, the president of Rencontres du Vietnam (RdV), France,

and,

- **Nguyen Van Hieu**, then president of the Vietnam National Centre for Science and Technology (today VAST), Vietnam,

in cooperation with

- **Patrick Aurenche** (LAPTH, Annecy, France), who has traveled to Vietnam almost every year since 1994 to organize the school with his Vietnamese colleagues.

A number of other people from Vietnam, France, Korea, Taiwan, Thailand and USA have been involved in the organization of the VSOP. The school advisory committee includes different people from different countries.

The school has been organized every year since 1994 in different places of Vietnam.

MAIN ORGANIZING INSTITUTIONS:

- Institute of Physics (IOP), Hanoi
- Laboratoire d'Annecy-Le-Vieux de Physique Théorique (LAPTH), Annecy

MOTIVATIONS:

The purpose of the school was to expose Vietnamese students to modern physics at a time when the country was still relatively poor and isolated and help these young people to establish international links which would hopefully provide them a chance to acquire a higher education in Vietnam or abroad, and later form the academic elite of the country.

MAIN SPONSORS:

- Rencontres du Vietnam (RdV), France
- VAST, Vietnam
- CNRS, France
- APCTP, Pohang, Korea
- ICTP, Trieste, Italy.

At the beginning the school was financed mostly by RdV (remaining today the main sponsor of the school) and then also by IOP, VAST, and other local institutions.

Later, the sponsor list included international organizations such as ICTP (Italy), CNRS (France) and APCTP (Korea). The home labs and institutions of many invited speakers have also made important contributions to the school by supporting the speakers' trips to Vietnam.

These grants together have been an important factor of keeping the VSOP as an international scientific activity for many years.

SPEAKERS:

The invited speakers comes from many countries but mostly from developed countries,

- in Asia-Pacific region: *Australia, India, Japan, Korea, Taiwan, Thailand* and *Vietnam*,

- in Europe: *Austria, Belgium, Croatia, France, Germany, Holand, Italy, Russia, Spain* and *Switzerland*,

- in North America: *Canada* and *USA*.

Some of the former VSOP speakers are here now, attending this conference:

- **Belen Gavela**
- **Pham Quang Hung**
- **Boaz Klima**
- **Francois Le Diberder**
- **Meenakshi Narain.**

Greg Landsberg also paid several visits to the VSOP's.

Chian-shu Chen and **Francois Le Diberder** were speakers of the first LHCS.

Sorry if I miss some names.

STUDENTS:

The VSOP usually accepts around **40 – 50 students a year** (depending on the location and the budget of a school) from Vietnam and other countries. A few schools accepted less or more than 40 – 50 students.

The students are principally from Vietnam and neighboring countries: *China, Laos, Malaysia, Taiwan* and *Thailand*

but sometimes there are also students from other countries: *Australia, Bangladesh, India, Japan, Korea, Mongolia, Nepal, Pakistan* and *USA*.

Counting the workshops sometimes accompanying the school, the participants of the VSOP come practically from almost all the continents of the world.

The presence of foreign students and speakers is crucial to open the Vietnamese to the outside world and creates links between the young generations of these countries. It allows young people to compare their academic experience and research conditions, it creates some long lasting relations and it also shows the young people how important it is for scientists to master the English language. A healthy competition arises also in the lectures or exercise and mini-seminar sessions.

PROGRAMS:

In an early period, the school was devoted to particle physics (PP) and astrophysics/cosmology (referred commonly hereafter to as PP) but later, since 1998, the school program has also included condensed matter physics (CMP) under a general thread “*Quantum field theory and applications to particle physics and condensed matter physics*”.

Since the last year, however, the VSOP program has alternated between PP and CMP.

- 1994 – 1997: Schools for PP only.
- 1998 – 2008: Common schools for PP and CMP.

- Since 2009: Separate schools in alternative years of every two years for PP and CMP.
- Next year (2011): VSOP on PP will be commonly organized with the so-called BCVSPIN school.

The VSOP program has been designed to consolidate the student background before introducing them to modern methods and developments in fields of physics to which the school is devoted in order to help students to make a better orientation and to be more independent in their further study and research. To promote interactions and contacts between participants is another purpose of the school program.

There are many examples of young scientists who could prepare a Ph. D. or attend other scientific activities abroad thanks to the contacts established at the schools. For those staying in Vietnam where the condition for work is in general more difficult, the new knowledge, experiences and encouragement accumulated during their participation in the VSOP proved useful for their future study and research.

The school program, besides regular lectures and discussion/exercise sessions, also includes mini-seminars, where students with the help of senior participants (e.g., lecturers, organizers, etc.) can give short, 20 min., talks on topics of their choice.

The mini-seminars are not only a good opportunity for students to present their research results or talk on the topics of their interest before an international audience (which is the first time for almost all of them) but they are also useful to train the students to give reports in English. Most of the mini-seminar talks are prepared very professionally. Possibly, the mini-seminar sessions are one of the features of the VSOP most enjoyed by the students.

Some more detailed information of the VSOP can be found at its website

<http://www.iop.vast.ac.vn/activities/vsop/>

The VSOP is part of a series of scientific activities organized by RdV with VAST and other Vietnamese institutions. It is the fruit of Vietnamese-French partnership and it has proved to be an activity of science, friendship and collaboration between physicists from Vietnam and other countries in the world, in particular, those in the region. To keep such a school for 15 years, not only many people including speakers, students, sponsors, organizers, etc. have worked hard but also the financial support from RdV and other institutions, namely, APTCP, ICTP and CNRS, as well as the contribution of the IOP and LAPTH to the school organization have played a crucial role.

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