

ExPPL and Schools in Asia

FJPPL workshop (Tsukuba), May 20-21, 2009

With the kind help of:

Lydia Roos (FCPPL),

Vincent Breton (FKPPL),

Patrick Aurenche (FVPPL)

FxPPL and related schools in ASIA

- **FJPPL** (France-Japan) Particle Physics Laboratory Irfu-IN2P3
- **FCPPL** (France-China) "" Irfu-IN2P3 O. Martineau-Huynh's talk
- **FKPPL** (France-Korea) "" IN2P3
- **FVPPL** (France-Vietnam) "" Irfu-IN2P3

- **ACGRID** School (Vietnam, Malaysia, ...):
Advanced Computing and Grid technology (ICT-Asia network-MAE)

- **FAPPS**: France-Asia Particle Physics School (Les Houches, Fujiyoshida)
 - France, China, Japan, Korea, Vietnam and ASEAN

- **Accelerator School** in Vietnam, in discussion
Japan-France (S. Kurokawa, A. Mueller)



- France-Japan Particle Physics Lab.
FJPPL

国際連携研究所

Soon to be named:

The Toshiko Yuasa Lab.

湯浅年子博士：生誕100周年 原子核の構造研究、日仏の懸け橋に Mainichi Daily

Courtesy of T. Yuasa's Family and Ochanomizu Univ.

France-Japan Particle Physics
International Associated Laboratory

FJPPL

- Motivations: beyond the usual mere researcher exchange
 - Because long term projects need **teams**, not only individuals
 - It gives **higher visibility** to the collaborations
 - It helps **structure** research teams within each country
- Based on:
 - A **network** of French labs from CNRS, CEA and Universities
 - A network of Labs from KEK and Universities
- **Two-site Laboratory** opening access for:
 - Japanese researchers to France and Europe research activities
 - French to the Japan and Asia research activities
- **2 Co-directors**
 - Japan: *Fumihiko Takasaki (KEK)*
 - France: *Denis Perret-Gallix (IN2P3/CNRS)*
- LIA Budget
 - **Travel money** (project budgets are separately managed)
 - Each party manages its own budget
- Annual "call for proposals" (**bottom-up**)
- Annual general workshop
 - Status report by each collaboration
 - Presentation of new proposals
- Steering Committee (**top-down**)
 - Projects Selection, scientific suggestions, lab. organisation
 - Make sure the project budgets are available



With Irene Joliot-Curie

FJPPL Timeline

Signed May 29th, 2006, for 4 years

4rd Call for proposals closed (November 10, 2008)

3rd Workshop in Japan May 20-21 2009

- KEK-IN2P3-Irfu Directorate Meeting: **May 22 (Morning) 2009**
- FJPP LIA Steering committee: **May 22 (Afternoon) 2009**

Program ends May 2010: Review Advisory Committee

Options: termination, renewal, extension (UMI and European wide)

Supporting programme EMC2:

- CNRS-IN2P3, CEA-Irfu, French Ministry of Foreign Affairs MOU
- Invitation (40-80 €/day+ taxes) 3 months -> 2 years in French Laboratories
- US and Japanese physicists on LHC/ILC programme
- J. Tojo (2 years), T. Kondo (x2), Y. Iida, I. Ueda,...
- **Extension of the EMC2 program is currently discussed**

FJPPL Summary

- 25 projects,
- ~ 320 physicists involved (*170 French + 150 Japanese*)
- Budget request ~ 1 M€ (*CNRS-IN2P3-DRI, CEA-Irfu, KEK*)
- KEK: 1 office + meeting room
- IN2P3 host labs (LAPP, LPNHE, LLR, LAL) and CEA-Irfu
- LAPP: FJPPL accounting and administration management
- Open to other European and Asian countries collaborations





France China Particle Physics
Laboratory
中法粒子物理实验室
FCPPL

<http://fcpppl.in2p3.fr>

Lydia Roos, **Olivier Martineau-Huynh**, Jin Shan, Gao Yuanning



FKPPL: an International Associated Laboratory between Korea and France

V. Breton

CNRS-IN2P3, LPC Clermont-Ferrand

FJPPL workshop

A brief history of FKPPL



- 2005
 - **December: first contacts between François Le Diberder, Do-Won Kim and Marianne Noël**
 - François Le Diberder: deputy director of CNRS Institute of Nuclear and Particle Physics
 - Do-Won Kim: professor of physics at Kangnung University
 - Marianne Noël: Attache for science and technology at French embassy in Seoul
- 2007
 - **April : signature of CNRS – KISTI MoU during the 3rd session of the Korea-France joint committee for scientific and technological cooperation**
 - **November : Visit to Korea of Blaise Pascal University president**
 - **December : François le Diberder visit to Korea - addition of new partners and of a new project on ILC microelectronics**
- 2008
 - **March 20th 2008: signature of the LIA creation document at the French Embassy in Seoul**

FKPPL International Associated Laboratory Partners



- **Korean partners**

- ✓ **KISTI (Daejeon)**
- ✓ Chonnam National University (Gwangju)
- ✓ Ewha Womans University (Seoul)
- ✓ Kangnung National University
- ✓ Korea Institute of Radiological and Medical Sciences (Seoul)
- ✓ Pohang Accelerator Laboratory (Seoul)
- ✓ Sung Kyun Kwan University

- **French partners**

- ✓ **CNRS**
- ✓ Blaise Pascal University (Clermont-Ferrand)
- ✓ University Paris XI (Orsay)
- ✓ Ecole Polytechnique (Palaiseau)

FKPPL scientific projects



- FKPPL focuses on particle physics and e-science
 - ✓ Both require international collaboration
 - ✓ Particle physics is the first user community to have completely adopted the grid technology

Project name	Coordinators	Partners
ILC calorimeter (particle physics)	Yongmann Yang, EWHA Jean-Claude Brient, LLR	EWHA Womans Univ., Kangnung Nat. Univ.,LPC, LLR
ILC microelectronics (particle physics)	Jongseo Chai, SKKU Christoph de la Taille, LAL	Sung Kyun Kwan Univ., Korea Institute of Radiological and medical Sciencces, Pohang Accel. Lab. LAL, LLR
Grid computing	S. Hwang, KISTI D. Boutigny, CC-IN2P3	KISTI, CC-IN2P3
WISDOM (in silico drug discovery)	Doman Kim, CNU V. Breton, LPC	Chonnam Nat. Univ., KISTI, Kangnung Nat. Univ., LPC
ALICE (heavy ions physics)	Yongwook Baek, KNU Pascal Dupieux, LPC	Kangnung Nat. Univ. LPC
CDF (particle physics)	Kihyeon Cho, KISTI Aurore Savoy-Navarro, LPNHE	KISTI, LPNHE

Recent and future activities



- **First FKPPL workshop**
 - Lyon February 25-27, 2009
 - <http://indico.in2p3.fr/conferenceTimeTable.py?confId=1658>
- **New projects proposed for 2010**
 - Geant4 DNA: modeling the impact of radiation on biological systems
 - life molecular response to radiation exposure (KBSI, CNU, CNRS)



France Vietnam Particle Physics Laboratory FVPPL

<http://fvpppl.in2p3.fr>

French Director: Patrick Aurenche (Theoretical Physics, LAPTH)

Short History

- 10-15 years of **cooperation** in:
 - Nuclear physics
 - Particle physics
 - Astrophysics
 - Grid Computing
- Many **Schools** in Vietnam
- Many Vietnamese are prof./researchers in France
 - The Father of the Moriond schools (Jean Tran Thanh Van)
- Current situation: **two projects** to be approved:
 - FVPPL: with VAEC and the Universities
 - Bilateral agreement CNRS-VAST (Vietnam Academy of ST)

Research Program

- **Nuclear Physics and Applications**
 - **Nuclear Structure** far from stability
 - CNRS-IN2P3, GANIL, Univ. of Paris 11 and Lyon 1
 - → Dense stellar objects
 - → Medical Imaging
 - **Low level of Radioactivity**: Low background detectors
 - CNRS-IN2P3, Univ. of Bordeaux 1 and Paris 11, CEA-Laboratoire National Henri Becquerel).
 - Environmental and biomedical applications
 - **First Plasma laboratory**
 - INP-Grenoble, Université Grenoble 1)
- **Particle Physics, Astrophysics and Applications**
 - **LHC (Atlas)**
 - CNRS-IN2P3, Univ. Savoie, Clermont 2, Aix-Marseille 2, INP-Grenoble, Univ. Grenoble 1, Paris 6, 7, 11, CEA-Irfu
 - **Pierre Auger Observatory**
 - VAEC-INST (CNRS-IN2P3, Univ. Paris 6 et 11).
- **Computing Grid and Applications**
 - **Development of the Grid infrastructure** for physics and bio-medical applications
 - Epidemiology, Avian Flu alert and monitoring, telemedicine
 - Simulation/data analysis in Particle and Nuclear physics

Training Program

Summer Schools

- **Vietnam School of Physics (VSOP)** (since 1994)
 - Condensed Matter physics, particle physics and nuclear physics
- **School of Physics at the LHC (LHCS)** (first January 2009)
 - Hand-on training
- **School on Advanced Computing and Grid Technologies for Research (ACGRID)**
 - Hanoi... expanded to Malaysia, Philippines...
- **School on Accelerator Physics** (fall 2009)
 - Alex Mueller and Shin-Ichi Kurokawa
- **School on Nuclear Sciences and applications**
 - Nuclear Physics at extreme conditions (NPEC) fundamental research
 - Application of nuclear science: nuclear medicine (Therapy and Diagnosis) physicians, physicist, engineers and technicians

ACGRID School and Symposium



Advanced Computing and GRID Technologies for Research

Computing in Research

- No scientific research without computing expertise
 - Experimental design, simulation, experiment construction, data taking, data analysis, model interpretation and theory development
 - **All these activities need computing support**
- New computing tools are complex and need training
- **ACGRID** stands for:
 - **Advanced Computing**
 - Distributed computing: **GRID, BOINC**
 - General purpose Advanced Tools: **ROOT, GEANT4, TAVERNA**
 - Software engineering: Languages, CASE, Databases,
 - Artificial Intelligence: Symbolic manipulation, Genetic algorithm,
 - New architectures (multi-core): parallelism, ...
 - **Grid**
 - Access to massive computing power

2007: The first EGEE GRID nodes

- Use of the IoIT Network and Teaching Infrastructure.
- In addition
 - 35 new computers installed
 - 25 GRID servers + 10 desktops
- 5 GRID nodes are been installed
 - IoIT(Hanoi), HUT, MS&T, IFI, IoIT(HCMC)
 - Steering committee (Vietnam, France, Taiwan)
- GRID: Opening for new collaborative projects
 - Nuclear and Particle Physics
 - Alert system for Avian Flu (IFI, MICA, IoIT, ...) + Korea + China + Japan (?)



2009: Forming the ACGRID Network

- **Vietnam**: Hanoi (IFI) Sept. 21- Oct. 2nd, 2009
- **Malaysia**: Kuala Lumpur (Malayan Univ.): Nov. 9-13, 2009
- **Philippines, Indonesia** in discussion

Part of the 35 computers



2009-05-21

D. Perret-Gamix
IN2P3/CNRS

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2009-05-21

D. Perret-Gallix
IN2P3/CNRS

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Organizers and Sponsors

IN2P3: National Institute of Nuclear and Particle Physics (**CNRS**)

IoIT: Institute of Information Technology (**VAST**)



CNRS- International Relation Direction

**ICT-ASIA network: French sponsored IT programme in Asia:
Foreign Affairs Ministry, CNRS, INRIA, GET, ...**

Taiwan Academy Sinica: EGEE GRID

HealthGrid: the CD-ROM proceedings

Thanks

- **All the School Professors:**

- **FR:** Jean Salzemann, Matthieu Reichstadt, Vincent Bloch, Nicolas Spalinger, Sébastien Incerti
- **UK:** Georgina Moulton
- **CH:** Nicolas Maire
- **TW:** Hung-Chun Lee
- **CERN:** René Brun,

- **All Symposium Speakers**

- **FR:** Francois Le Diberder, Dominique Boutigny
- **JP:** Akiya Miyamoto, Toshikazu Ebisuzaki, Takashi Sasaki
- **TW:** Simon Lin
- **VN:** Nguyen Tien Dung, Do Van Long, Nguyen Ngoc Binh, Gang Chen

- **All the students**

- More than 100 students did register (Vietnam, Lao, Malaysia, Korea, China...)
- We could only accepted 45 for technical limitations.

France-Asia Particle Physics School (FAPPS)

From Les Houches (Sept 2008) to Fujiyoshida (Nov. 2009)

