

The First Euro-Asia Physics Summit

Where Science and Politics meet.

"Physics Towards Science Innovations"

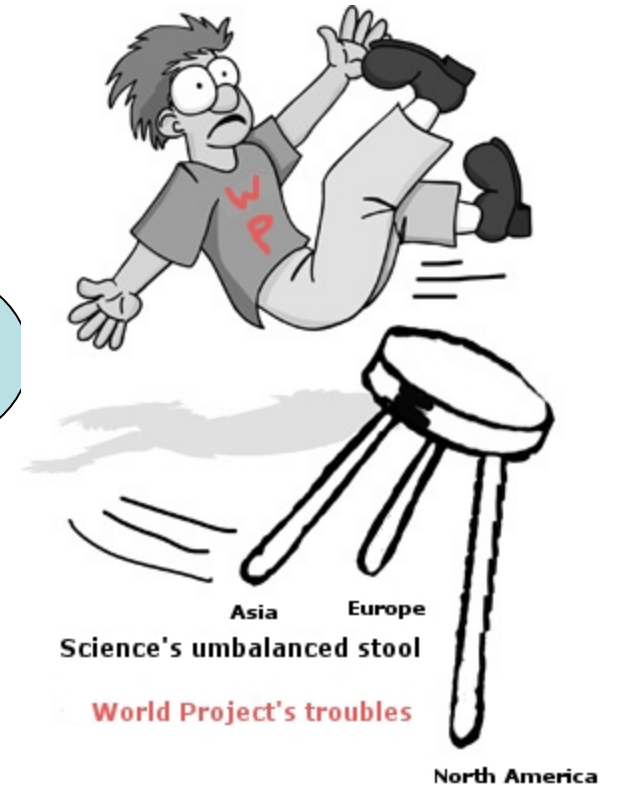
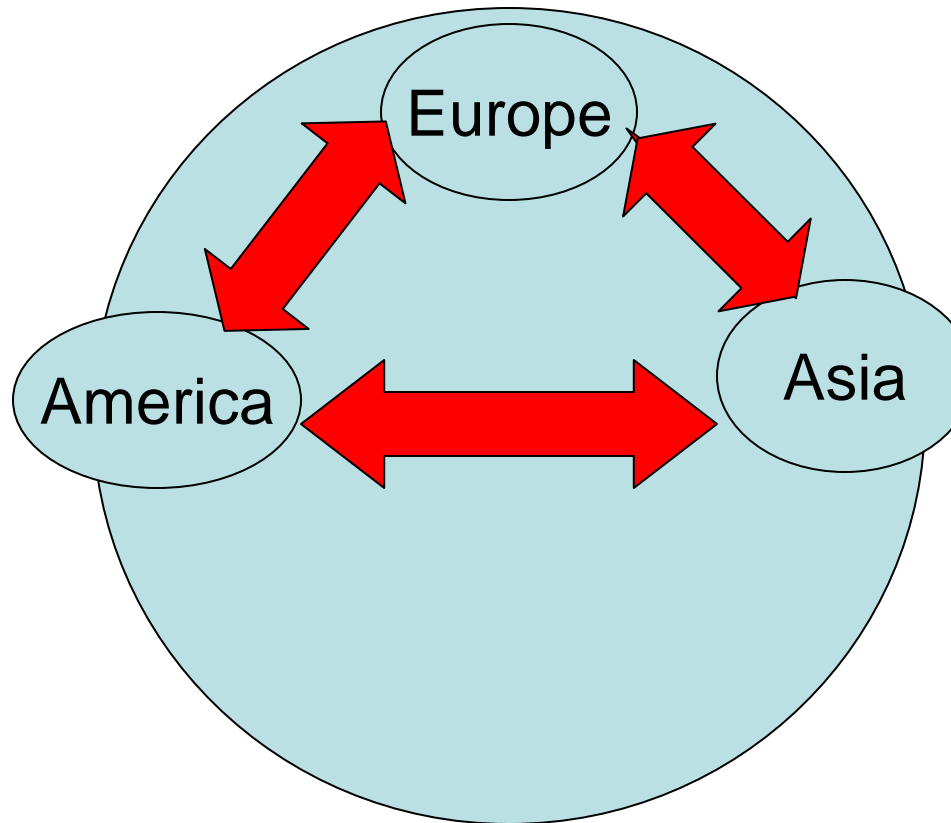
Tsukuba Japan, March 24-26, 2010

EU Commission
Brussels, Dec. 8, 2009

Denis Perret-Gallix
ASEPS Co-President
IN2P3-CNRS (France)

An Asia-Europe initiative

To balance Physics Research cooperation among the 3 main regions



So that World-wide projects can be initiated and run successfully

Two examples

EU Commission
Brussels, Dec. 8, 2009

Denis Perret-Gallix
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Internet: the World Bandwidth (Gb/s) 2005



Sources : International Telecommunication Union (ITU), www.itu.int ;
TeleGeography Research, *Global Internet Geography 2006*, www.telegeography.com

D'après Marie-Françoise Durand, Philippe Copinschi, Benoit Martin, Delphine Placidi, *Atlas de la mondialisation*, Paris, Presses de Sciences Po, 2008.

Benoit Martin, décembre 2006

Le journal du CNRS n° 231 avril 2009

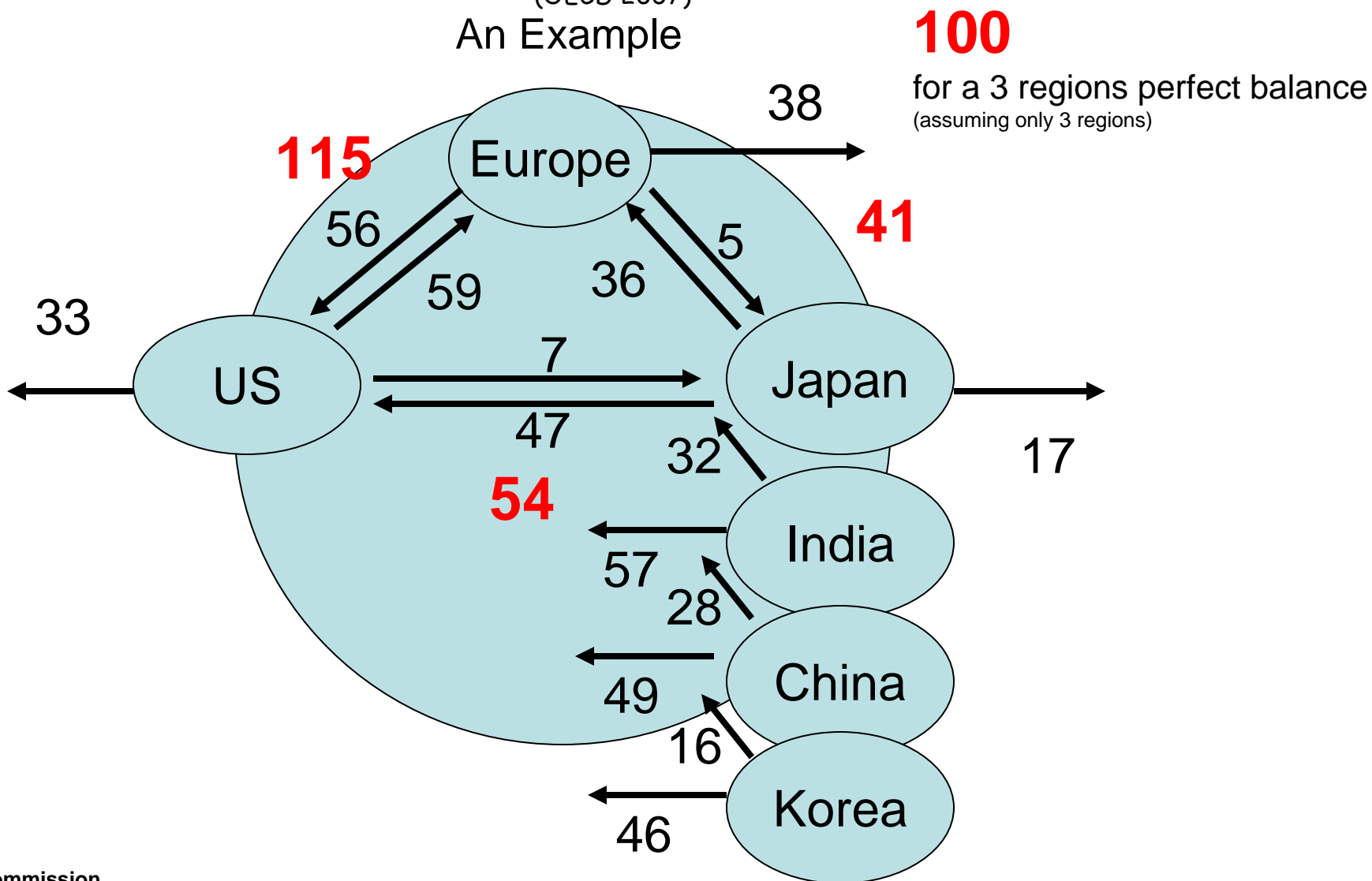
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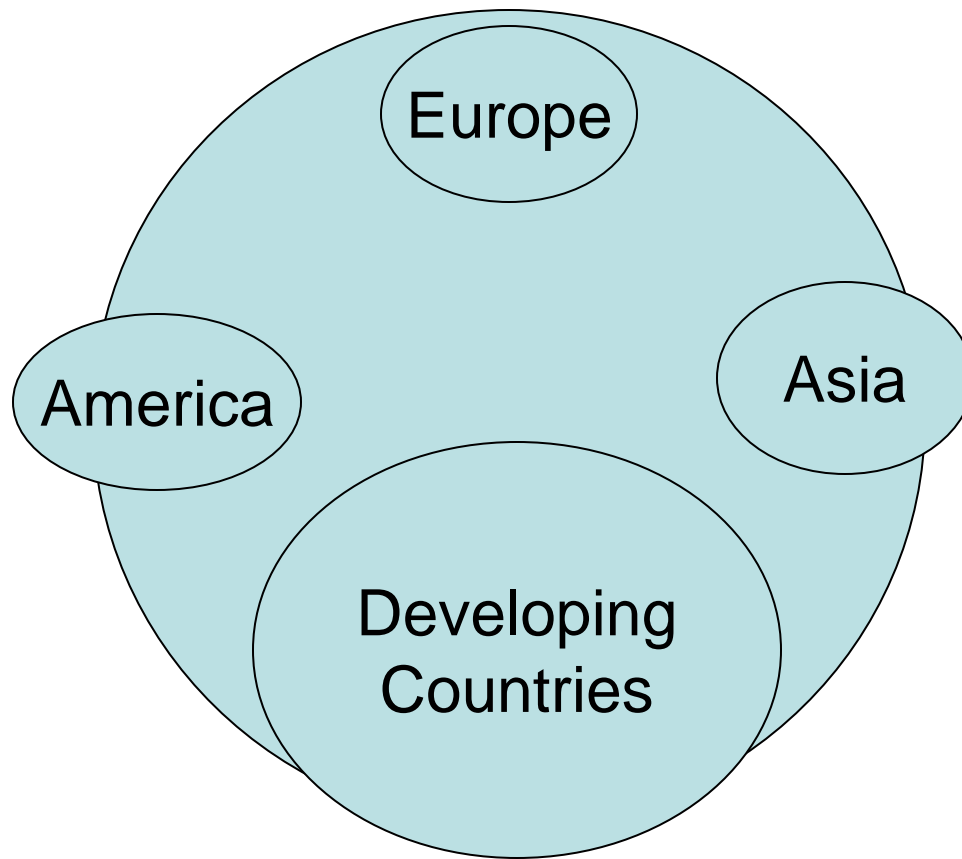
Patents in co-invention

(OECD 2007)

An Example



Involving Developing Countries in the frontier international research projects
is a Must



To bridge the knowledge and digital gap

ASEPS Hosted by Japan, March 24-26, 2010

Co-organisation: CNRS-CEA(France) + JSPS(Japan) + ...

In cooperation with EU Research DG

EuroHORCs- AsiaHORCs (Head Of Research Councils)


Physics Societies are strongly Involved
EPS, AAPPS, JPS, SFP,.....

Participants:

Scientists, Government/Funding Agency Decision Makers
and Industry Leaders

All Euro-Asia-Pacific Countries including Russia

Informative, Pedagogical and Practical

- To discuss **cooperation and strategies** on scientific projects and large scale infrastructures. To identify common interest on roadmap items (ESFRI 44 projects (30B€, country level projects, ...))
 - Setup working groups to study cross-support
- To setup a framework **to support** the cooperation human resources:
 ASEPS Foundation



Asia-Europe Physics Summit (ASEPS) March 24-26, 2010 Tsukuba (Japan)

"Physics towards science innovations"

The AAPPS (Association of the Asia-Pacific Physical Societies) and the EPS (European Physical Society) are happy to announce the first Asia-Europe Physics Summit (<http://aseps.kek.jp>):

"Physics towards Science Innovations"
to be held in Tsukuba (Japan) on March 24-26, 2010.

This Summit aims at strengthening the cooperation in physics research between European and Asian scientists, physics institutions and countries. A balanced partnership between Europe, Asia and America is a crucial aspect of any world-wide endeavor in the field of science and technology. The Summit will deal with programs addressing either issues in fundamental physics or physics research playing a significant role in other fields (i.e. biology, chemistry, earth, space sciences ...).

The active participation of researchers, decision makers from funding agencies, research organizations and government as well as industry leaders of the European and Asian countries will ensure the success of this initiative.

The purpose of the Summit will be

1. to discuss the common scientific interests of European and Asian countries in various research fields, including large scale infrastructures;
2. to formulate the conditions for a dedicated framework that would enhance Euro-Asia collaborations in physics for the next 15-20 years
3. to involve developing countries in basic research and to suggest ways to bridge the knowledge/digital gap.

Kick-off workshops and intermediate meetings will be soon organized in Europe and Asia to define areas of interest and set the agenda for the Asia-Europe Physics Summit.
To express your interest and receive further mailings, please contact the Asia-Europe Physics Summit secretariat at aseps@kek.jp

Best regards,

Prof. Maciej Kolwas
President
European Physical Society

Prof. Jie Zhang
President
Association of Asia-Pacific Physical Societies

EU Commission
Brussels, Dec. 8, 2010

Supported by the following research organizations and agencies: CNRS, JSPS

IN2P3-CNRS (France)

Physics supports Science Innovation

Knowledge Research

Theoretical Physics: Grand unification of the fundamental forces, impact on other sciences (i.e. String theory approaches in biology)

Astrophysics, cosmology : The new vision of the Universe

Particle Physics: New acceleration and detection technologies: the next 20 years roadmap; The next large world-wide project: technical, industrial, financial, management and political challenges; R&D infrastructures and projects sharing

Nuclear Physics: large scale equipments sharing and projects complementarities:
GANIL, GSI, J-PARC, RIKEN,..

Social and Human Sciences : Global archived document scanning and storing; Open access initiative;

New Materials

Nano-materials : R&D and technology platforms sharing and coordination (Minatec, NIMS, AIST, ..)

Superconductivity : High Tc materials: coordination of a global material screening

Characterization: Synchrotron radiation, FEL and XFEL, Neutron sources, very high magnetic fields...:
Matter (from plasma to bio-cells) at atomic scales and femto-second resolution, ...

Biomedical

Neuro-physics : Neurospin (brain studies)

Modelisation, Simulation of diagnosis equipments

Hadron-therapy: irradiation doses precise estimation through simulation

High-speed alert network system based on the **GRID** for virus (avian flu) or tsunami: coordination and systems interoperability; Global endeavor on drug screening and discovery, ...

Bioinformatics

■ ■ ■

Environment

Energy saving with new materials, clean/green energies, nuclear waste processing

Global heating : geophysics, atmosphere and marine physics new needed measurements and simulation (supercomputers, GRID).

Physics to solve pollution or destruction of the environment issues

Space

Space physics: Common management of launchers from ESA, Russia, China, Japan, India, ... for physics projects in space.

Energy

Sustainable energies, optoelectronics devices, advanced wind/hydro energies,

Fusion, ITER and other approaches (laser or proton/ion beams)

Information and communication

Data Grid : for resource management global research tool, getting researchers connected

Nano-electronics, quantum computer: beyond the Moore law

Robotics : help to the person, work in hostile environment

▪
▪
▪

Supporting International Cooperation

Asia-Euro Physics Foundation

"Innovation in Experimental and Theoretical Physics"

Supported by **public** and **private** organizations

Support:

- **Research exchanges** (short and long term visit, post-doc program)
- **Training schools** needed in the developing countries, in a multi-lateral organisation approach.
- **Joint laboratories** hosted by the main research organizations/universities, coordinated globally

- ASia-Euro Physics Centers:



- Frontier physics research projects gathering **theorists and experimentalists**
- Open to the world research community

Contribute to:

- **Research infrastructures** in the developing countries (i.e. Linac in Vietnam, GRID in ASEAN countries, Synchrotron radiation and neutron sources...)
- Participation of the **developing countries** to the **large scale international projects** (LHC, ILC, space science, ITER, ...)

Wiki: <http://aseps.in2p3.fr> Official Web: <http://aseps.kek.jp> email: aseps@kek.jp

Overview

- World **economies** and our own **quality of life** are bound to **innovation**.
- **Physics research** often lead to **innovation**
- **Even Fundamental/Basic research** sometime induces major way of life (when not civilisation) changes and **creates new industry**

But

- **Research** is now **global**:
International cooperation is a **necessity** (large infrastructures) and a **must** (fighting the knowledge divide).
 - **Asia - North-America - Europe (Russia)** form the **basis** for any **world-wide project**.
- One must reinforce the Europe-Asia cooperation to have a **balanced** and **stable basis** for the foundation of world-wide projects.
- The **Asia-Euro Physics Summit** is a first step in this direction

ASEPS Preparation

- ASEPS is a Joint EPS/AAPPS project
- Wide support to ASEPS (funding agencies, research organisations, scientists)
- ~ 1000 names mailing list ... and growing
- Kickoff meeting, Shanghai Jiao Tong Univ.
 - 4 Problem-Solving Working Groups, membership open
 - 13 Physics Working Groups (in preparation)
- Final Preparation Meeting Brussels, Dec. 8-9 2009 at the European Commission Research DG,
<http://indico.in2p3.fr/conferenceDisplay.py?confId=2297>
- Get Involved <http://aseps.in2p3.fr>
Registration <http://tinyurl.com/Twiki-Registration>



<http://www.aist.go.jp/>

The First Asia-Europe Physics Summit *"Physics towards Science Innovations"*

Epocal International Congress Center (Tsukuba), March 24-26, 2010

Under the aegis of EPS(European Physical Society) and
AAPPS (Association of the Asia-Pacific Physical Societies)

This Summit aims at strengthening the cooperation in physics research between European and Asian countries.

A balanced partnership between Europe, Asia and America is a crucial aspect of any world-wide endeavor in the field of science and technology. The Summit will deal with programs addressing either issues in fundamental physics or physics research playing a significant role in other fields (i.e. biology, chemistry, earth, space sciences ...).



[Japanese page](#)

- Registration to the Summit
- Call for poster
- Summit Programme
- Accommodation
- Access

What's new!

2008/10/23 **ASEPS
preparation meeting in
Brussels Dec. 8-9, 2009**



Problem-Solving Working Groups

- **WG1:** Large scale science platforms for future projects
- **WG2:** New initiatives for inter-disciplinary and innovative frontier Research
- **WG3:** Developing countries and emerging economies involvement, Training and nurturing young scientists.
- **WG4:** Removing barriers and creating new opportunities in international cooperation between Europe and Asia.

Problem-Solving Working Groups

WG1

Large scale science platforms for future projects

- How to organise regional and inter-regional large scale projects ?
(mega science programs)
- May some of the major infrastructures be shared between the 2 regions in a world-wide framework ?
 - The **ESFRI** list in Europe and the various 10-20 years roadmaps both in Europe and Asia
- How countries should be involved
 - treaties, specific agreements, commitment, simple MOU, ...?

Problem-Solving Working Groups

WG2:

New initiatives for inter-disciplinary and innovative frontier research, Research networks

- How to foster more interdisciplinary cooperation to explore new frontiers and to nurture creativity and innovation ?
- How to build research networks on topics involving many research fields?
- How to transfer research knowledge to other research fields and to the industry
so as to contribute solving the scientific/societal needs (energy, environment, health issues...)?

Problem-Solving Working Groups

WG3:

Developing Countries and emerging economies Training and nurturing young scientists

- How to run training activities: through international schools, Euro-Asia research training centres, ...?
- How to involve developing countries in basic research?
- How to support national projects in the developing countries?
- How to involve developing country researchers in international large scale programs?

Problem-Solving Working Groups

WG4:

Removing barriers and creating new opportunities in international cooperation between Europe and Asia

- How to remove the many barriers that are slowing down efforts to setup international programs? In particular due to:
 - The regulations in importing/exporting apparatus for science research, the tax exemption on materials and equipments exchange.
 - The different systems of the many funding agencies involved in supporting an international project.
 - The lack of special international researcher status
- What formal structure could manage and support the ASia-Europe Physics cooperation
 - Would a specific fund help ?
 - How would it be managed ? (scientific committee, Board ?)
 - Would it be under which body ? (ASEM, Euro/Asia Horcs, ...)
 - Who would be the sponsors (public ?, private ?)

Physics Working Groups

- 01 **Particle Physics**: Astroparticles, future accelerators, related theory
- 02 **Nuclear Physics**: High power proton acc., Radioactive beams, nucl. Fusion/fission
- 03 **Astrophysics/Astronomy/Space**: Physics instruments, physics in Space, physics for Space
- 04 **Atomic/Molecular**: ultra cold atoms, quantum information
- 05 **Laser/Optics**: High power lasers, Compact lasers, Photonics, metrology
- 06 **Condensed matter**: High-Tc superconductors, high magnetic fields, **quantum hall effects**
- 07 **Plasma Physics**: On Earth and in the cosmos,
- 08 **Material/Analytical**: New materials including nano-materials and the analysis equipments: synchrotron radiation, (X)FEL, neutron sources
- 09 **Bio-medical Physics**: Instruments like MRI, Ion/Hadron therapy, quantum physics in basic processes
- 10 **Earth and environmental**: Climate change, disaster prediction/alert,
- 11 **Energy related Physics**: Fusion and fission energy, new solar cells, advanced wind and hydro technologies
- 12 **IT/Computational Physics**: Data GRID, Massive simulations
- 13 **Social/Humanity/Education**

Summit program Format

The Summit will last 3 days. Open session talks are 25' (including 2' for questions), 5' are allowed for setting-up. In total a 30' time slot is booked. Breaks are 30'.

March 23, 2010

Arrival day:

Day	Starts at	Ends at	Topic
March 23,	15:30	16:00	Welcome of the speakers, Registration, Poster preparation
	16:00	18:00	Possible Closed session for last minute discussions
	18:20	20:00	Welcome party for the speakers

March 24, 2010

Day	Starts at	Ends at	Topic
March 24,	09:00	10:00	Registration
	10:00	11:00	Open Sessions: Opening talks, Ministry talks (no breaks)
	11:00	12:30	Open Sessions: Keynote talks(2)
	14:00	15:30	Open sessions: Scientific presentations and Posters preview
	16:00	18:00	Open sessions: Posters session
	18:00	19:30	Closed sessions
	19:30	22:00	Banquet

March 25, 2010

Day	Starts at	Ends at	Topic
March 25,	09:00	12:30	Open sessions: Problem solving WG 1-4 and Physics related presentations
	14:00	18:00	Open sessions: Problem solving WG 1-4 and Physics related presentations
	18:00	19:30	Closed Sessions for specific projects or discussions
	19:3	22:00	ASEPS Cocktail

March 26, 2010

Day	Starts at	Ends	Topic
March 26,	09:00	12:30	Open session: Summary WG1-4 (6 + break)=3H30'
	14:00	16:00	Gov./funding agency talks, Conclusions, ASEPS statements, Signature
	16:00	17:00	Press Conference

EU Commission
Brussels, Dec. 8, 2009

Denis Perret-Gallix
ASEPS Co-President
IN2P3-CNRS (France)

Nb	Talk Title	Topics	Physics Working Group	Session	Candidate speakers or Contact persons In discussion in the various Working Groups
1	Basic research in a Global World (Tentative)			Keynote talk	M. Kobayashi (OK)
2	TBA			Keynote talk	A. FERT (97 Physics Nobel, Member of the ASEPS org. not avail.) T. RAMAKRISHNAN (09 Chemistry Nobel, over busy, still trying) C. COHEN-TANNOUDJI (97 Physics Nobel) S. CHU (97 Physics Nobel) C.N. Yang (57 Physics Nobel laureate)
3	Poster Preview	Posters Highlights	All	Before the Poster Session	
4	Summary talk WG-1			WG-1	WG-1 Convener
5	Summary talk WG-2			WG-2	WG-2 Convener
6	Summary talk WG-3			WG-3	WG-3 Convener,
7	Summary talk WG-4			WG-4	WG-4 Convener

Being updated after the PC meeting

Nb	Talk Title	Topics	Physics Working Group	Session	Candidate speakers or Contact persons In discussion in the various Working Groups
8	Building International Research Plateforms	CERN,ESA, ITER or EMBO as a template for other Int. org.	High energy physics	WG-1	CERN Council President, CERN DG ESADG ITER DG EMBO
	High energy physics, a silk road-map ?				Ken PEACH (Oxford) Frank LINDE (NIKHEF) Siegfried BETHKE (MPI fur Physik) Umberto D'ALESI (INFN) Hiroyuki AHARA (Univ. of Tokyo) Akira TAKABE (Osaka Univ.)
9	New Methods for Particle Acceleration and Detection, Toward a Unified Road Map	Plasma acceleration, ultra precision detector	High Energy Physics	WG-1	
10	The Physics For and In Space	Space Physics	Space Physics	WG-1	ESADG JAXA/ISAS DG China National Space Administration DG ISRO (India) DG
11	Lasers and plasma physics: the Ultra Era	Ultra high power, ultra small time res.	Laser/Optics	WG-2	Gerard MOUROU (Ecole Nationale Supérieure de Technique Avancée) Ph. BALCOU (CELI, Talence) Toshiki TAJIMA (Ludwig-Maximilians Univ.)
12	Impact of High Power Accelerators to produce secondary rare isotopes and for accelerator driven systems	Radioactive beams	Nuclear Physics	WG-1	S. GALES(IN2P3,CNRS), Ph. CHOMAZ (Irfu, CEA), Tohru MOTOBAYASHI (RIKEN) Horst STOCKER (GSI) Being discussed by the Nuclear Physics Working Group
13	Synergy and complementarity of Asia-Europe facilities	Nuclear Physics facilities	Nuclear Physics	WG-1	ANPhA/NuPECC

Being updated after the EC meeting

Nb	Talk Title	Topics	Physics Working Group	Session	Candidate speakers or Contact persons In discussion in the various Working Groups
14	High Magnetic Fields: generation and application	MRI and Brain science, solid-state 1-D studies,	Bio-Medical physics, material/analytical	WG-2	Yasuhiro IYE (Institute for Solid State Physics, Univ. of Tokyo) Denis LE BIHAN (CEA)
15	Nano physics First Deliveries, the Road Ahead	Nano-physics, Spintronics,	Material/Analytical	WG-2	Sumio IJIMA (Meijo Univ.) Ch. COLLIEX (CNRS) A. Fert's Team
16	The Universe, Source of Energy ?	Astrophysics/Cosmology	Astrophysics/astronomy	WG-2	Masanori IYE (ELT Extremely Large Telescope, National Astronomical Observatory of Japan) Karsten DANTZMANN (LISA, Albert Einstein Institute, Hannover) ESO
17	Global Computing, Grasping the World through Analysis and Modeling	Computational Physics, simulation, Data analysis, the GRID, Cloud computing,	IT/computing	WG-2	Tim BERNERS-LEE (W3C),
18	Energy, Physics to the Rescue	Fusion, Solar, Wind, fuel cells, Energy transport and storage, Energy saving, ...	Energy Physics	WG-1	Tran Minh QUANG (EPFL, Lausanne, EFDA, the European Fusion Development Agreement)
	High Tc superconductivity	maybe part of 18: "Energy, Physics to the rescue" ?			Hideo HOSONO (Tokyo Institute of Technology)

Being updated after the EC meeting

Nb	Talk Title	Topics	Physics Working Group	Session	Candidate speakers or Contact persons In discussion in the various Working Groups
19	The Physics of Climate Change	Geophysics and environment	Environment Physics	WG-2	Sir David KING (UK) Paul WILLIAMS (Univ. Reading, UK) Alan THORPE (Met Office, UK)
20	Darwin and Physics	Origin of life, origin of man the role of Physics, quantum bio-physics	Bio-Medical Physics	WG-2	Paul Davies (UK) now at Arizona state university
21	Microscopy: from light to eXtreme rays	microscopy, Synchrotron radiation and XFEL	Material/Analytical	WG-2	Ch. COLLIEX(CNRS) DESY XFEL (Germany)
22	Bridging the Knowledge Divide	Cooperation with the developing countries, support to national projects, participation to international research infrastructures	All	WG-3	AAPPS(Malaysia, Vietnam or,,), Peter Fulde, President of APCTP see WG-3
23	Science is no-frontiers, it needs no custom !	Mitigating the custom regulation for research	All	WG-4	see WG-4

Being updated after the EC meeting

ASEPS Statements Definitions

- **Acronyms:**
ASEPS: ASia-Europe Physics Summit, ASEP: ASia-Europe Physics
- **Regions**
In the following Asia stands for Asia-Oceania and Europe includes Russia and the former USSR states.
- **The Signatory Parties**
The possibility to be part of the signatory parties is open to representatives from country governments, funding agencies or national and international organisations. All countries from the Europe and Asia are potential members of ASEPS.
- **Scope: Physics Research**
In the following Physics Research or shortly Physics stands for "All research related to Physics: from the basic and knowledge research to the applications of physics to the other fields of research including energy, environment, biology and health science."

ASEPS Statements

- **Statement I:** Short term objective: **Strengthening Asia-Europe Physics cooperation**
- The Signatory Parties call for strengthening existing cooperation and for implementing new programs in Physics research between Asia and Europe.
- **Statement II:** Long term objective: **World balanced cooperation**
The final goal acknowledged by the Signatory Parties is to raise the level of the Asia-Europe Cooperation in Physics to reach a balanced cooperation at the world level.
- **Statement III:** Creating **a Task Force**
To this end, the Signatory Parties ask the ASEPS organisers to create a Task Force whose main objective is to **propose a sustainable funding and associated operational structure** within one year before the next ASEPS.
The ASEPS task force will be formed by representatives of the 3 following communities: **government/funding agencies, industry and research.**

In discussion after the EC meeting

ASEPS Statements

- **Statement IV: ASEPS**

- The Signatory Parties acknowledge the **role of the ASEPS working groups** to identify all issues hampering or slowing down Physics research cooperation between the Asian and European countries and to discuss a set of actions and structures to overcome these difficulties.
The Working groups shall advise the Task force

- **Statement V: ASEPS expects:**

The Signatory Parties ask the Task force to specifically address:

- the **policies and structures** needed to develop, create and manage international research platforms,
- the participation of the **developing countries**,
- the **education and training** of young researchers,
- the **outreach** and information dissemination to the society.

- **Statement VI: Non Asian-Europe Countries**

non exclusive ...

The participants encourage discussions and information exchanges with the non-Asian-Europe countries and to benefit from their advices and expertise.

First Asia-Europe Physics Summit

Tsukuba (Japan)
March, 24-26 2010

Every Countries should be represented

<http://aseps.in2p3.fr>