

APCTP 21 ~ 22

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BULLETIN



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Asia Pacific Center for Theoretical Physics

APCTP BULLETIN

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Member Countries/Regions

Australia, Beijing, Japan, Korea, Lao PDR,
Malaysia, Mongolia, Philippines, Singapore,
Taipei, Thailand, Vietnam

A P C T P

**Topical Research Programs****I. Particle Physics**

1. String Theory and Its Applications
2. Current Trends in Quantum Field Theories
3. CP Violation in Quarks, Leptons and Universe

II. Condensed Matter Physics

1. Strongly Correlated Electron Systems
2. Quantum Coherence and Correlations in Mesoscopic and Nano-Structure Systems
3. Exploration of real materials with many-body theory and ab initio computations

III. Statistical Physics/Complex Systems

1. Statistical Physics of Disordered, Non-equilibrium and Complex Systems

IV. Astrophysics/ Nuclear Physics

1. Creating Mini-Cosmos : Relativistic Heavy Ion Collisions at Highest Energies
2. The Spacetime Structure in General Relativity and Gravitation II
3. Computational Methods in Gravitation and Astrophysics
4. Laboratory, Space and Astro plasma Physics

Winter Schools

1. **The 12th APCTP Winter Workshop on Strongly Correlated Electron Systems** (APCTP Headquarters, Pohang, Jan. 20~26)
2. **APCTP Winter School on Black Hole Astrophysics 2008** (KASI, Daejeon / APCTP Headquarters, Pohang, Jan. 24~29)
3. **5th APCTP-KIAS Winter School on Statistical Physics** (Phoenix Park, Gangwondo, Jan. 28~31)
4. **APCTP Field Theory Winter School 2008** (APCTP Headquarters, Pohang, Feb. 18~22)
5. **YongPyong Astro-Particle and Conformal Topical Physics (APCTP) 2008** (YongPyong Ski Resort, Feb. 25~29)

Conferences & Workshops

1. **The 1st for Emergent Material Research** (APCTP Headquarters, Pohang, May 23~24)
2. **The 32nd Johns Hopkins Workshop on Perspectives in String Theory** (Seoul Nat'l Univ., Seoul, May 28~31)
3. **Atomic and Molecular Physics workshop(AMP 2008)** (Muju Resort, Jun. 19~20)
4. **Nuclear Physics School 2008** (Korea Univ., Jun. 30~Jul. 4)
5. **6th International Symposium on Intrinsic Josephson Effect and Plasma Oscillations in High-Tc Superconductors (Plasma 2008)** (APCTP Headquarters, Pohang, Jul. 17~19)
6. **2008 APCTP-KAIST Summer School for Brain Dynamics** (KAIST, Daejeon, Jul.17~18)
7. **The 8th Summer Institute for Theoretical Physics** (KIAS, Aug. 4~15)
8. **APCTP 2008 LHC Physics Workshop at Korea** (Konkuk Univ., Aug. 19~21)
9. **The 30th International Free Electron Laser Conference** (Hotel Hilton, Gyeongju, Aug. 24~29)
10. **4th Asian conference on High pressure research (AHP)** (Seoul Nat'l Univ., Oct. 14~17)
11. **CosPA 2008 (International Symposium on Cosmology and Particle Astrophysics)** (PIC, POSTECH, Pohang, Oct. 29~31)
12. **1st APCTP WORKSHOP ON MULTIFERROICS** (APCTP, Pohang, Dec. 10 ~ 17)
13. **The Third IUPAP International Conference on Women in Physics** (Sofitel Ambassador Hotel, Seoul, Oct. 8~10)

Focus Programs

1. **Quantum Effects in Non-trivial Background Fields** (APCTP Headquarters, Pohang, Jan 6~15)
2. **Finite-size technology in low dimensional quantum system (IV)** (APCTP Headquarters, Pohang, Jun. 25~Jul. 15)
3. **Unsolved theoretical problems in quantum transport of electrons** (APCTP Headquarters, Pohang, Aug. 14~ 29)
4. **Molecular Dynamics Simulations on Nano/micro Systems** (APCTP Headquarters, Pohang, Aug. 4~12)

External Activities

1. **14th Vietnam School of Physics(VSOP)** (Quynhon Univ, Quynhon, Vietnam, Jan. 3~16)
2. **2008 Taitung International School/Workshop on Cosmology and Gravitation (ISWCG)** (Nat'l Taitung Univ., Taitung Taiwan, Jan.7~10)
3. **21th Spring School on Particles & Fields (SS2008)** (Hsinchu, Taiwan, Mar. 31~Apr. 3)
4. **Fourth Asia Pacific Conference in Quantum Information Science** (Cairns, Queensland, Australia, Jul. 2~5)
5. **The Ninth Asia-pacific Int'l Conference on Gravitation and Astrophysics (ICGA-9)** (Chi-Tou, Taiwan, Jun. 22~26)
6. **Summer Institute 2008** (Chi-Tou, Taiwan, Aug. 10~17)
7. **The 5th International Conference on Nonlinear Science "Dynamics Days Asia Pacific 5" (DDAP5)** (Nara, Japan, Sep. 9~12)
8. **What is Creativity? Emergent Phenomena in Complex Adaptive Systems** (Co-op Inn Kyoto, Oct. 20~23)
9. **22nd Canberra International Physics Summer School: Complex** (Australian Nat'l Univ., Canberra, Australia, Dec. 8~19)

Joint Activities

1. **APCTP-YITP Workshop on "Accretion and Outflow in Astrophysics" and the second Korea-Japan Young Astronomers Meeting (KJYAM)** (Honnouji Kaikan, Kyoto, Japan, Jan. 8~11)
2. **The 2nd Asian Winter School on String Theory** (Hotel Village, Kusatsu-Machi, Agatsuma-Gun Gunma, Japan, Jan. 15~25)
3. **APCTP-BLTP JINR Joint Workshop on "Quarks and Mesons in Nuclear Physics"** (APCTP Headquarters, Pohang, Korea, Apr. 20~24)
4. **Summer School on Particles, Fields and Strings** (Univ. of British Columbia, Vancouver, Canada, Jul. 22~Aug. 1)
5. **MPI-PKS and APCTP Int'l Workshop on Time-Resolved X-Ray Dynamics Summer School on Time-Resolved X-Ray Processes in Atoms, Molecules and Solids** (MPI PKS Dresden, Germany, Jul. 28~Aug. 8)
6. **APCTP - ASEAN Workshop on Advanced Materials Science and Nanotechnology** (Nha Trang, Vietnam, Sep. 15~21)
7. **Black Holes: Theoretical, Mathematical and Computational Aspects** (Banff Int'l Research Station (BIRS), Banff, Alberta, Canada, Nov. 9~14)

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Participating in APCTP Programs

Topical Research Program :

- A major program involving some of the Korean physics communities and groups connected to international counterparts.
- It consists of a set of lectures and/or workshops and schools on specialized research topics.
- It may be broad with the community-led activities and dispersed in time ranging from one month up to six months.

Conferences/Workshops :

- Support conferences and workshops held at APCTP.
- The applications from the member countries of the Center are strongly encouraged.
- It is advised to invite at least one Korean scientist or the center academic coordinator as a member of the organizing committee for better local support and coordination.

Focus Program :

- A major program intended to draw a small group of active international researchers to the Center in a sharply focused field of utmost interest in physics and related area.
- In comparison with Topical Programs, more concentrated and residential during two weeks or one month.
- It may include a set of lectures and/or mini-workshops on specialized research topics.

External Activity :

- Support academic activities in member countries.
- This may be used to encourage active participation from other member countries.
- If selected, the center academic coordinator will be assigned and help to organize the activity according to the APCTP guidelines.

Joint Activity :

The Center holds Joint Activity with institutions under cooperation agreements. The Joint activities are currently carried out in cooperation with ICTP and ECT^{*} in Italy, PIMS and TPI in Canada, MPI-PKS in Germany, JINR in Russia, and RIKEN, KEK, YITP in Japan and more. The Joint Activity can be held at the Center or at cooperating institutions depending on the circumstances.

AP Scholars for Joint Research :

In order to train science leaders for the next generation and perform joint research, we invite established scholars in Asia Pacific for an extended period as an APCTP faculty or an adjunct faculty. This program is expected to strengthen the resident research groups at the Center.

Young Scientist Training Programs :

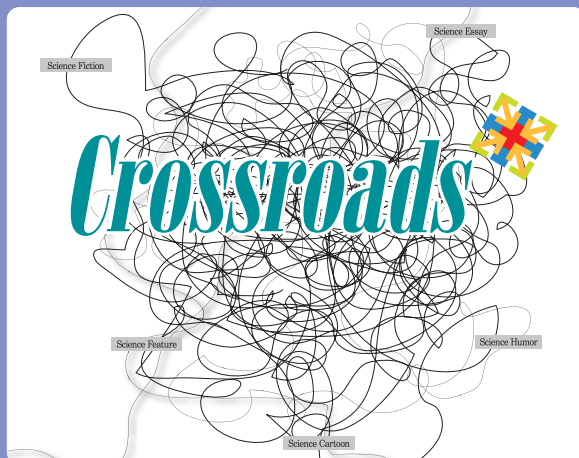
- A new program intended to train young scientists in theoretical physics in the Asia-Pacific region.
- At the postdoctoral level, an appointment for one year, renewable for one or two more years.
- The applications from the member countries of the Center, in particular, the South Asian Countries are strongly encouraged.

Visitor Programs :

The Center strongly encourages from short to long-term visits by researchers or small research groups from the Asia-Pacific region. In particular, young scientists from the South-East Asia are strongly encouraged to apply in connection with the academic programs at the Center.

Scientist Network program for Science Communication :

The Center carries out diverse activities for communicating science to the general public, exploiting the network of center scientists. The web journal that is accessible to laymen readers is published and distributed on-line in multi-lingual forms. The Center scientists and its extensive community offer public lectures and diverse science communication activities.



Journal of Asia Pacific Center for Theoretical Physics

Vision for Science, Future and Humanity

The science web journal Crossroads was founded on October 1, 2005 by APCTP to show the vision for Science, Future and Humanity. The web journal consists of Science Feature Articles, Science Essays, Science Fiction, and various genres of writings. The journal is published monthly and available online both in English and in Korean.
<http://crossroads.apctp.org>