

INTRODUCTION

Introduction

The Asia Pacific Center for Theoretical Physics (APCTP), the nation's first and only international research institute, was established in Korea in June 1996, with Professor C. N. Yang as its founding President.

As an international non-governmental organization, its current 17 member countries include Australia, Beijing, Canada, India, Japan, Kazakhstan, Korea, Lao PDR, Malaysia, Mongolia, Philippines, Singapore, Taipei, Thailand, Uzbekistan, Vietnam and Kyrgyzstan. More countries in the Asia-Pacific region are expected to join the Center in the near future.

Aim * As an international organization in the field of theoretical physics, the Center aims to lead basic science in the Asia Pacific region

Roles * To create a basic research hub and to enhance global leadership capability
* To provide an academic platform for theoretical physics community in the Asia Pacific region

Key Milestones

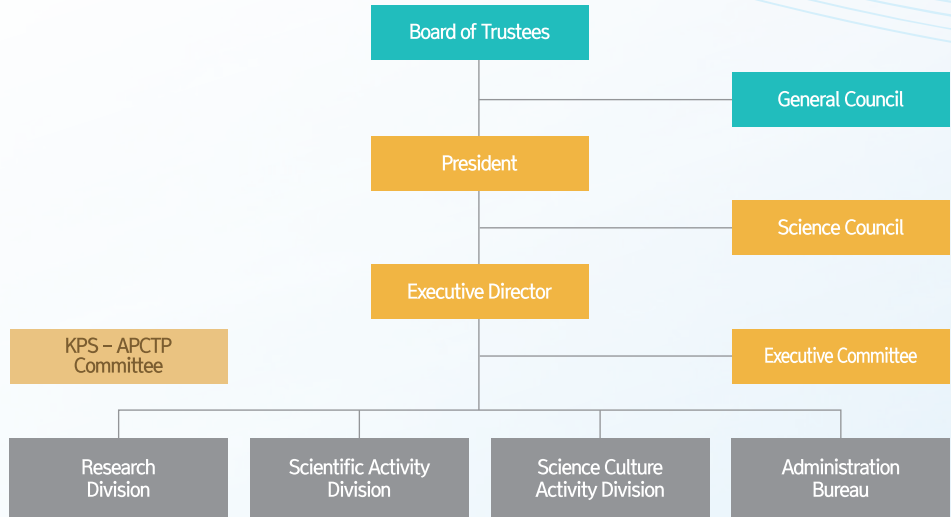
- 1993. 02 Formation of the International Planning Committee (IPC)
- 1994. 05 IPC recommends Korea as the host of the APCTP
- 11 Association for Science Cooperation in Asia (ASCA) endorses the proposal to host the APCTP in Korea
- 1995. 09 UNESCO PAC, IUPAP, and AAPPS endorse the proposal for APCTP
- 1996. 06 Inauguration Conference and establishment of the APCTP
- 11 The president of Korea supports the APCTP at the APEC Science Ministers Meeting
- 1997. 01 The Board appoints Professor C.N.Yang (1957 Nobel Laureate for Physics) as the 1st President and Chairperson
- 04 Registration of the APCTP
- 2001. 01 Activity-Financing Contract between UNESCO and APCTP
- 08 Relocation of the APCTP Headquarters to the POSTECH campus in Pohang
- 2004. 04 Professor R.B Laughlin (1998 Nobel Laureate for Physics) appointed as the 2nd president
- 2005. 10 Launch of the APCTP Web journal, Crossroads
- 12 Professor N.H. Hieu elected as the 3rd Chairperson
- 2006. 11 APCTP 10th Anniversary Ceremony / LAO PDR and Mongolia become new members
- 2007. 04 Professor P. Fulde appointed as the 3rd President
- 2008. 03 India becomes a new member
- 06 Launch of Junior Research Group (JRG) Program
- 2010. 04 Professor Won Namkung elected as the 4th chairperson
- Professor P. Fulde reappointed as the 4th president
- 2012. 03 Uzbekistan becomes a new member
- 2013. 07 Professor Seunghwan Kim appointed as the 5th President
- 11 Professor Paul A. Pearce elected as the 5th chairperson
- Kazakhstan becomes a new member
- 2014. 04 Reconnected with APEC PPSTI as an APEC Endorsed Institute
- 2015. 06 Professor Bum-Hoon Lee appointed as the 6th president
- 2016. 03 APCTP 20th Anniversary Ceremony
- 06 Canada becomes a new member
- 11 The Board appoints Prof. Won Namkung appointed as the 6th chairperson of the Board and Acting President
- 12 AAPPS Headquarters established
- 2017. 11 Prof. Yunkyung Bang appointed as the 7th president
- Noboru Kawamoto appointed as the 7th chairperson
- 2019. 08 Kyrgyzstan becomes a new member
- 11 Prof. Yunkyung Bang appointed as the 8th president
- Noboru Kawamoto appointed as the 8th chairperson
- 2020. 04 Launch of Senior Advisory Program (SAG) Program



① Inauguration conference of APCTP
② APCTP 10th Anniversary
③ MPG - APCTP - POSTECH
④ APCTP 20th Anniversary

Organization Chart

- Board of Trustees** 15 Trustees including Chairperson and President Yunkyu Bang
- General Council** Representatives from 17 member countries
- Science Council** 7 world-renowned scholars



Chairperson of the Board
Noboru KAWAMOTO



President
Yunkyu Bang



Executive Director
Jae-Hyung Jeon



ACTIVITIES

Research Programs

Junior Research Group (JRG)

The Center collectively supports and funds outstanding mid-career physicists' inspirational ideas and their research projects. Each group leader can organize a research group and run it independently. All JRGs have successfully achieved their best research results with noticeable contributions to physics community and beyond.



[JRG – Group Leader]

- Electronic Structure and Magnetism - Prof. Igor DI MARCO
- Physics beyond the Standard Model and its Phenomenology - Prof. Hiroshi OKADA
- Physics of matter at non-equilibrium - Prof. Yuji HIRONO
- Observational Cosmology - Prof. Stephen APPLEBY
- String Theory and Quantum Chromodynamics - Prof. Matti JARVINEN
- Dualities in String/M-theory and Quantum Gravity - Prof. Kanghoon LEE
- Black Holes, Quantum Gravity and String Theory - Prof. Imtak JEON
- Non-equilibrium many-body physics - Prof. Ryo HANAI
- Holography and Black holes - Prof. Junggi YOON
- Statistical physics of ecology and evolution - Prof. Hyejin PARK

[Past JRG – Group Leader]

- Condensed Matter & Field Theory - Prof. Xin WAN
- Multi-Scale Modeling - Prof. Xin ZHOU
- String Theory in Strongly Interacting Systems - Prof. Youngman KIM
- Design Principles of Cellular Networks - Prof. Junghyo JO
- Astro-Particle Physics and Cosmology - Prof. Ki Young CHOI
- Physical Cosmology - Prof. Arman SHAFIELOO
- Ultracold Atom Gases - Prof. Gentaro WATANABE
- Biological and Soft Matter Theory - Prof. YongSeok JHO
- Supergravity and String Theory - Prof. Eoin O COLGAIN
- Classical and Quantum Theory of Gravity - Prof. Dong-han YEOM
- Statistical Physics and Complex Dynamics - Prof. Hang-Hyun JO
- Phenomenology of new Physics in Dark matter searches and Collider experiments - Prof. Myeonghun PARK
- Emergent Dynamics of Complex Living Systems - Prof. Pan-Jun KIM
- Generation and Evolution of Cosmic Structure - Prof. Jinn-Ouk GONG
- Loop Quantum Gravity and the Small Scale Structure of Space-time - Prof. Hanno SAHLMANN
- Cooperative Phenomena in Correlated Electron Systems - Prof. Tetsuya TAKIMONO
- Many-body theory and correlated systems - Prof. Alireza AKBARI
- Quantum Information and Many-body theory - Prof. Jaeyoon CHO
- Quantum Phase Transitions in Strongly Correlated Electron systems - Prof. Ki-Seok KIM
- String Theory and Quantum Geometry - Prof. Dongmin GANG
- Quantum Field Theory and String Theory - Prof. Jaewon SONG

Young Scientist Training Program (YST)

With the stimulating and active scientific environment, a variety of scientific activities and in-house researchers, the Center gives an opportunity to young promising physicists (scientists) from the Asia Pacific region to increase their research capability. (endorsed by APEC's PPSTI)



Senior Advisory Group (SAG)

Groups of established senior researchers provide active support for the young scientists of the Center through collaborative research activities such as mentoring, consulting, advisory sessions and lectures for innovative research outcomes.

[SAG – Group Leader]

- Solid-state/Atomic/Molecular Physics - Prof. Naoto NAGAOSA
- Particle/Nuclear Physics, Astrophysics - Prof. Misao SASAKI
- Statistical Physics, Quantum Theory - Prof. Fuchun ZHANG

Scientific Activities

The center aims to advance the basic science through academic activities and international cooperation that connects the world and lead trends in physics research.

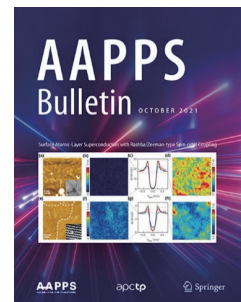
Academic Programs

The Center provides an academic platform to discuss frontier research topics and promotes international collaborations. In-depth studies and intensive discussions on particular topics of physics are also actively performed on this platform by small groups of domestic and international physicists. Every year, more than 4,000 researchers participate in the conferences, workshops, schools, or long-term academic programs at the Center.



Publication of the AAPPS Bulletin

In order to develop the AAPPS Bulletin as a representative journal of the Asia Pacific region, the Center which is a headquarters of the Association of Asia Pacific Physical Societies (AAPPS) publishes influential articles in cooperation with the AAPPS and a global publishing network.



Strategic Agenda Development in Science Diplomacy

Under the goal of strengthening the global science, technology and innovation (STI) network and scientific cooperation with nongovernmental organizations, the Center collaborates with international organizations including APEC, etc. and jointly develops global STI agendas and solutions.

Call for Programs [Homepage https://apctp.org](https://apctp.org) [E-mail sec@apctp.org](mailto:sec@apctp.org)

The Asia Pacific Center for Theoretical Physics (APCTP) is an international scientific organization which pursues the highest quality research in all areas of theoretical physics and promotes cooperation among scientists from its member countries or Asia Pacific regions and beyond. With these goals, APCTP calls for proposals for programs every year. Inputs and proposals from scientific proposals will constitute core activities of the Center.

Physics Outreach Program

The Center carries out diverse science-communication activities to communicate with the general public and strengthen scientific ties among scientists in the region. The monthly web journal (<http://crossroads.apctp.org>) is published and distributed on-line.



Science Communication School

Pohang Family Science Festival

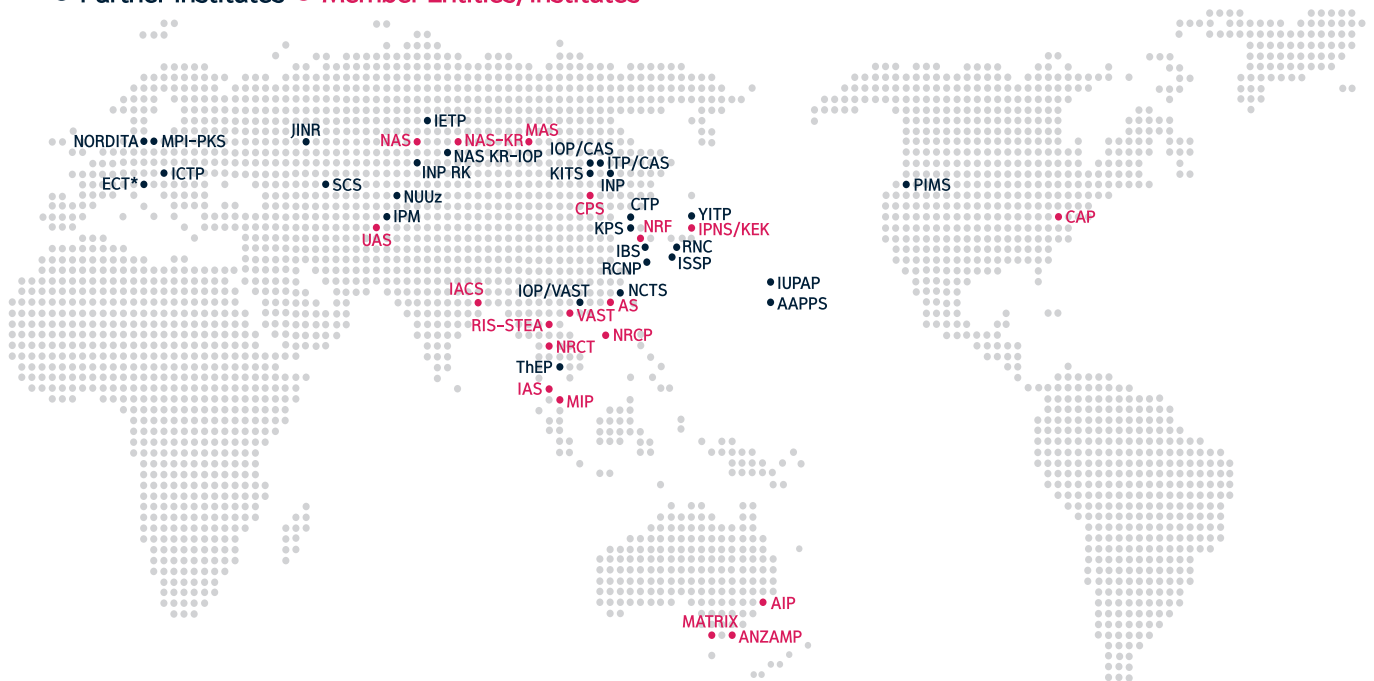
"Best Science Book 10" selected by APCTP

ACTIVITIES

International Cooperation

In cooperation with member countries and institutes, the Asia Pacific Center for Theoretical Physics (APCTP) has led research excellence in the field of theoretical physics and would like to share the excitement and wonder of science with the general public.

● Partner Institutes ● Member Entities/Institutes



Member Entities /Institutes 17 members

Australia (ANZAMP, MATRIX & AIP) | Beijing (CPS) | Canada (CAP) | India (IACS) | Japan (IPNS/KEK) | Kazakhstan (NAS) | Korea (NRF) | Lao PDR (RIS-STEAM) | Malaysia (MIP) | Mongolia (MAS) | Philippines (NRCP) | Singapore (IAS) | Taipei (AS) | Thailand (NRCT) | Uzbekistan (UAS) | Vietnam (VAST) | Kyrgyzstan (NAS KR)

Partner Institutes | 30 partnerships with 34 Institutes

- ICTP (The International Center for Theoretical Physics, Italy)
- NCTS (National Center for Theoretical Science, Taipei)
- PIMS (The Pacific Institute for the Mathematical Sciences, Canada)
- ECT* (The European Centre for Theoretical Studies in Nuclear Physics and Related Areas, Italy)
- ITP/CAS (Institute of Theoretical Physics, Chinese Academy of Sciences, Beijing)
- MPI-PKS (Max Planck Institute for Physics of Complex Systems, Germany)
- JINR (The Joint Institute for Nuclear Research, Russia)
- IPNS/KEK (Institute of Particle and Nuclear Studies of High Energy Accelerator Research Organization, Japan)
- YITP (Yukawa Institute for Theoretical Physics, Kyoto University, Japan)
- IOP/CAS (The Institute of Physics, Chinese Academy of Sciences, Beijing)
- ISSP (Institute for Solid State Physics, University of Tokyo, Japan)
- KPS (Korean Physical Society, Korea)
- AAPPS (Association of Asia Pacific Physical Society)
- IOP/VAST (The Institute of Physics, Vietnam Academy of Science and Technology, Vietnam)
- ThEP (The Thailand Center of Excellence in Physics, Thailand)
- IBS (Institute For Basic Science, Korea)
- IUPAP (International Union of Pure and Applied Physics)
- INP RK (Institute of Nuclear Physics, Japan)
- IETP (Scientific Research Institute of Experimental and Theoretical Physics, Kazakhstan)
- RCNP (Research Center for Nuclear Physics, Japan)
- Indonesian Physical Society, National University of Laos, Myanmar Physical Society, Mongolian Physical Society, Vietnamese Physical Society
- NUUZ (National University of Uzbekistan named after Mirzo Ulugbek, Uzbekistan)
- SCS (State Committee of Science, Ministry of Education and Science, Republic of Armenia, Armenia)
- IPM (Institute For Research in Fundamental Sciences, Iran)
- CTP (Center for Theoretical Physics Seoul National University, Korea)
- KITS (Kavli Institute for Theoretical Sciences, China)
- NAS KR-IOP (Academician J. Jeenbaev Institute of Physics of the National Academy of Science of the Kyrgyz Republic, Kyrgyzstan)
- NORDITA (The Nordic Institute for Theoretical Physics, Sweden)
- INP (The Institute for Nonperturbative Physics, Nanjing University, China)
- RNC (RIKEN Nishina Center for Accelerator-Based Science, Japan)

VISIT the APCTP

How to reach APCTP

1 From Pohang airport

| by taxi (30 min)

2 From Pohang station (KTX)

| by taxi (20 min)

| by intercity bus (40 min ~1 hr)

• Bus no. 5000 : Pohang station (KTX)

to Pohang Intercity Bus Terminal

▶ tranfer bus no. 207 : Pohang Intercity Bus Terminal to POSTECH

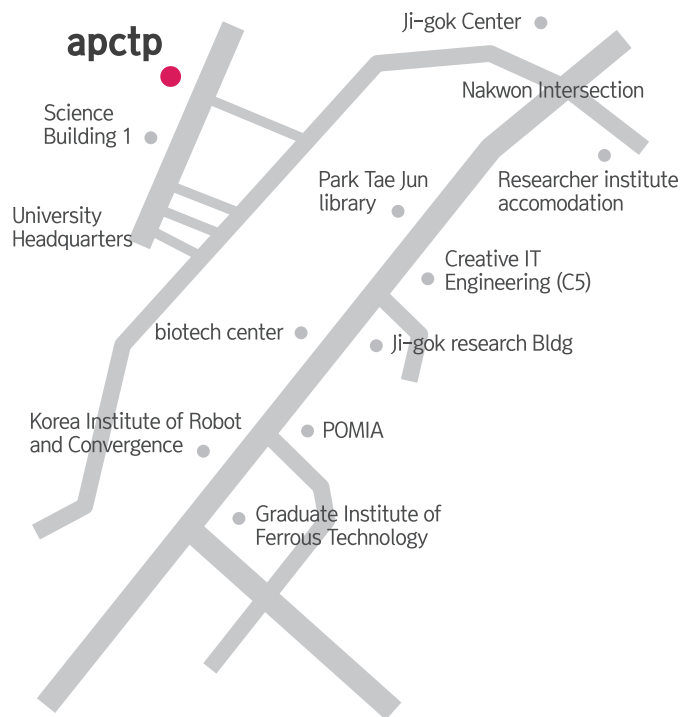
3 From Pohang Express Bus Terminal and Pohang Intercity Bus Terminal

| From Pohang Express Bus Terminal (20 min) and Pohang Intercity Bus Terminal (10 min)



apctp

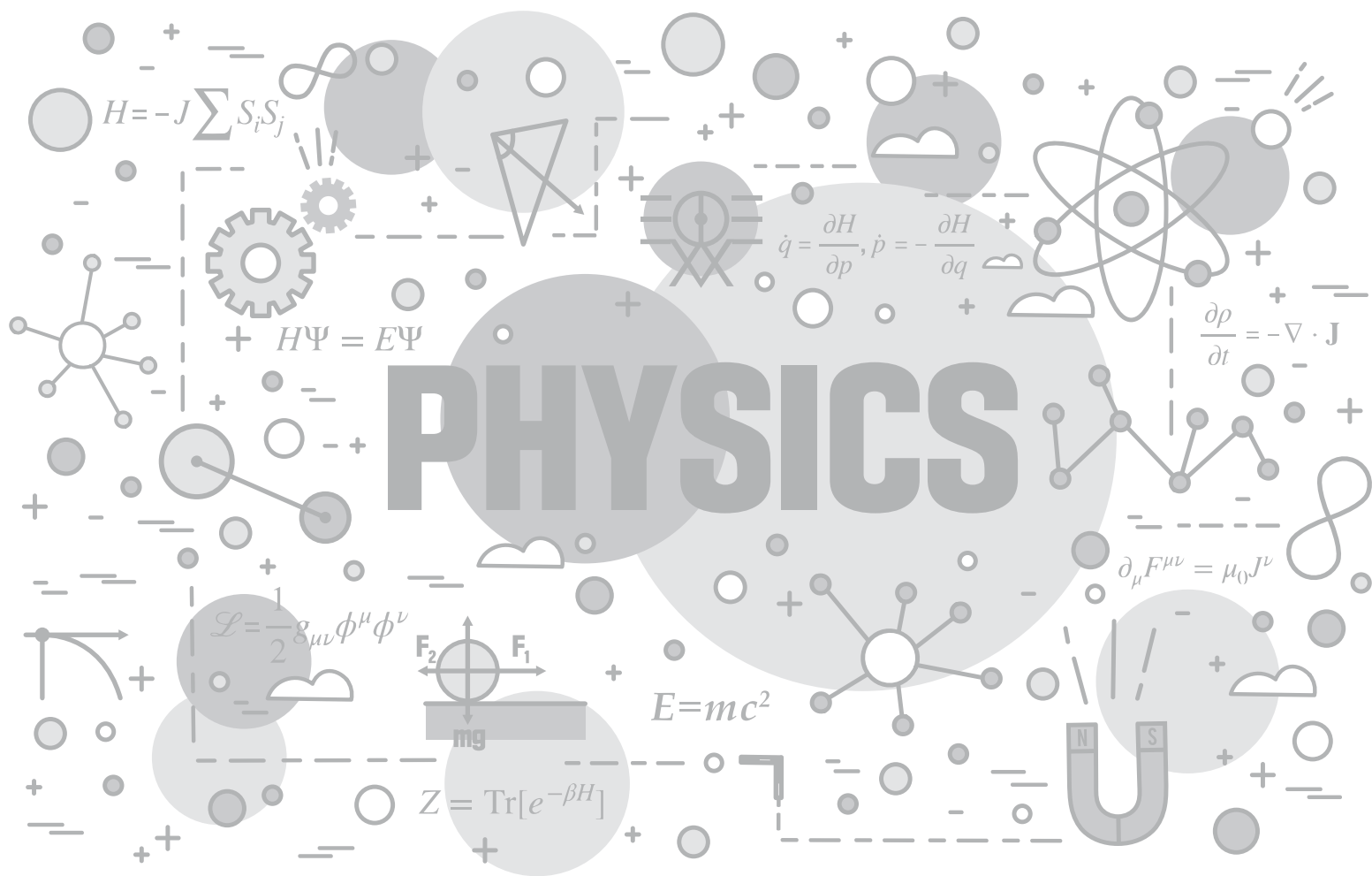
Hogil Kim Memorial Bldg 501



APCTP Facilities

APCTP is equipped with excellent research and visiting infrastructures on the campus of POSTECH located in Pohang, Korea. It provides visitor offices, lecture and meeting halls, easy internet access, and accomodations in quiet, friendly environments.





apctp asia pacific center for
theoretical physics

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