

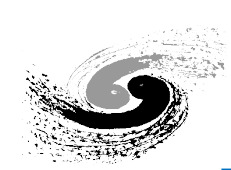
# **IHEP Administration and Management**

**Yuhui Dong**

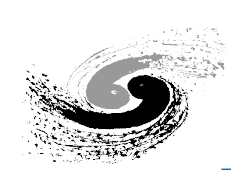
**Institute of High Energy Physics**

**Sep. 20, 2023**

**INTERNATIONAL ASSESSMENT 2023**



- “The committee was uniformly very impressed with IHEP.”
- “IHEP has become one of the major particle physics laboratories in the world.... Overall, with the exception of CERN, we find IHEP to be roughly comparable to the other major high energy physics laboratories in the world - SLAC, Fermilab, KEK, etc.”
- “A problem, however, is that the **human resources may not be adequate** to support such an ambitious program as is envisioned for the future.”



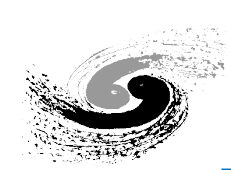
# Implementation

- To address the issue of manpower shortage, we allocate human resources appropriately according to **the phase of each project**.
- Matrix management; recruitment of talent members

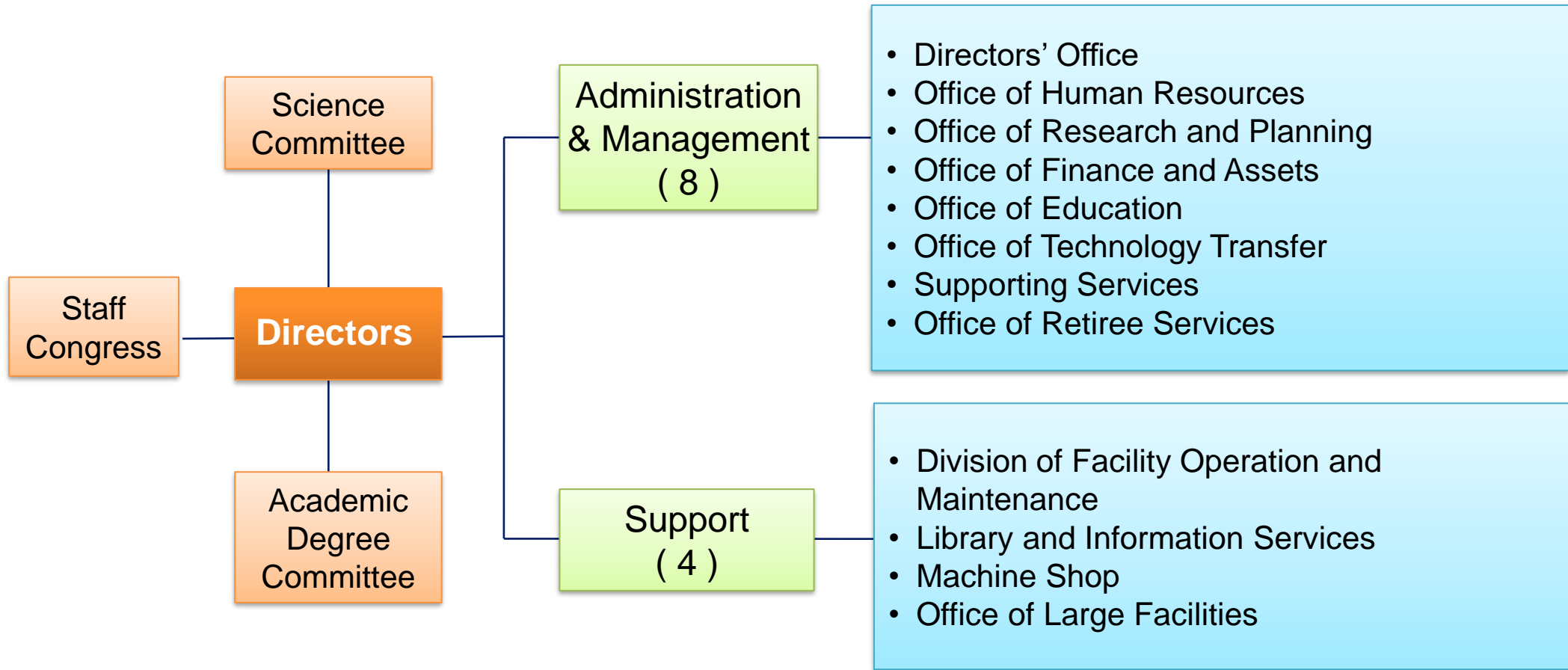
Taking the Accelerator Division as an example:

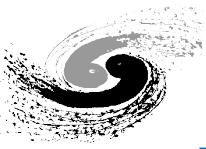
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026 onward	
<b>HEPS-TF (~60 FTE)</b>												
	<b>PAPS constr. (~20 FTE)</b>				<b>PAPS Op. (~10 FTE)</b>							
			<b>HEPS constr. (~120 FTE)</b>						<b>HEPS Op. (~100 FTE)</b>			
	<b>BEPCII Op. (~50 FTE)</b>				<b>BEPCII Op. (~30 FTE)</b>							
						<b>BEPCII-U constr. (~30 FTE)</b>				<b>BEPCII-U Op. (~30 FTE)</b>		
	<b>Miscellaneous R&amp;D (~30 FTE)</b>											
	<b>CEPC R&amp;D (~20 FTE)</b>										<b>CEPC constr. (&gt;200 FTE)</b>	
<b>Total:</b>	~160	~180	~180	~240	~240	~240	~240	~240	~240	~240	<b>&gt;240</b>	

(Details will be given in Yuhui Li's talk)



# Administration and Management Matrix





# High-Level Administration

- Comprised of 200 representatives elected from IHEP staff, for five year terms
- Important channel to enable staff participation in decision-making, management and supervision.
- Staff Congress meeting held every year to review status reports from administrative bodies

Staff Congress

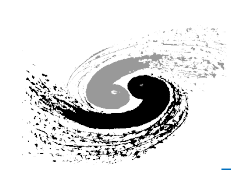
Science Committee

Directors

Academic Degree Committee

- Comprised of outstanding professors
- Review and consultative body to the Director
- Suggestions and guidance on science goals, plans and activities,
- Evaluations and recommendations for high-level staff recruitment

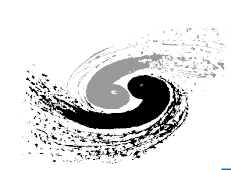
- Focus on issues related to academic education
- Responsible for selection of supervisors and training programs, and the awarding of degrees



# Executive Committee

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- **Comprised of the Director, Deputy Directors, Assistant Directors, etc.**
- **Institute's highest decision-making body**
- **Committee meetings are normally held once every two weeks**
  - Address and implement relevant decisions by the Chinese Academy of Sciences
  - Review and resolve any outstanding issues, including administrative work, research and development planning, budgets, personnel etc.
- **Effective mechanism to ensure management performance**
- **Director's Office is responsible for informing about and implementing decisions**

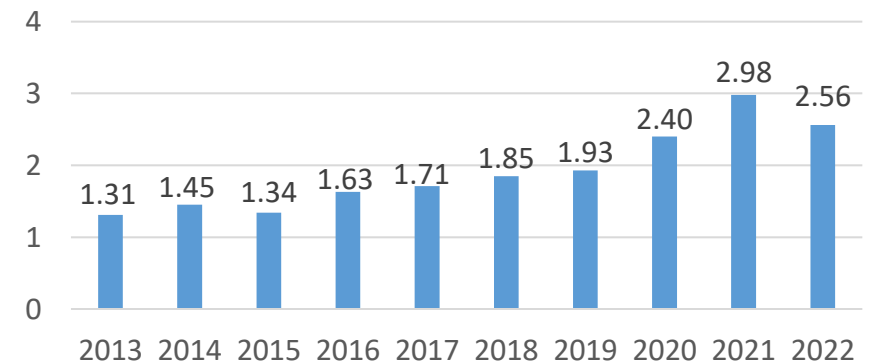


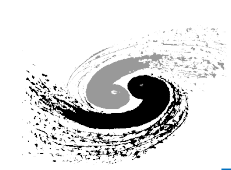
# Research and Planning

- **Organize annual strategic forum**
  - More than 100 attendees, including academicians, institute and division leaders, and representatives of senior and young scientists
  - Review and evaluate the research projects and strategic plans
  - Guidelines for the institute's future
  
- **Closely communicate with policy makers and funding agencies**
  - Setting up dedicated liaisons with NSFC, MoST and CAS, to pursue more funding and establishing of more projects
  - Provide guidance to refine funding proposals, for higher success of grant applications



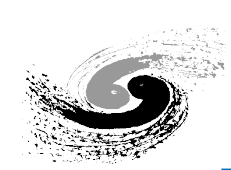
**Income in Billion Yuan**





- **Joint meetings among management offices**
  - Office of Research and Planning
  - Office of Finance and Assets
- **Manage the institute's budget for research and for the operation of facilities**
- **Monitor ongoing research projects, address issues identified in the research process**
- **This measure is very helpful to guarantee the proper implementation and performance of research projects.**



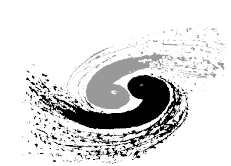


- **Responsible for managing the construction of large facilities**

- BEPCII (Beijing Electron-Positron Collider II)
- Daya Bay (Daya Bay Reactor Neutrino Experiment)
- JUNO (Jiangmen Underground Neutrino Observatory)
- ADS (Accelerator Driven Subcritical System)
- LHAASO (Large High Altitude Air Shower Observatory)
- HEPS (High Energy Photon Source)
- PAPS (Platform of Advanced Photon Source Technology R&D)
- Space Science Missions: Insight-HXMT (Insight-Hard X-ray Modulation Telescope), GECAM(Gravitational wave high-energy Electromagnetic Counterpart All-sky Monitor), POLAR(Gamma-ray Burst Polarimeter), EP/FXT(Einstein Probe/Follow-up X-ray Telescope), SVOM/GRM(Space-based multi-band astronomical Variable Objects Monitor/Gamma Ray Monitor), eXTP(enhanced X-ray Timing and Polarimetry), HERD(High Energy cosmic-Radiation Detection), POLAR-2.



- **A key for the success of construction**
  - Communicate with **funding agencies** for all relevant issues
  - **Ensure all regulations** are properly implemented
  - Administration and documentation for project managers
  - **Entire process management**: planning, budget, archives, reports, etc.
  - Organic coordination of management staff among projects to improve efficiency
  - Gradual implementation of on-line project document system

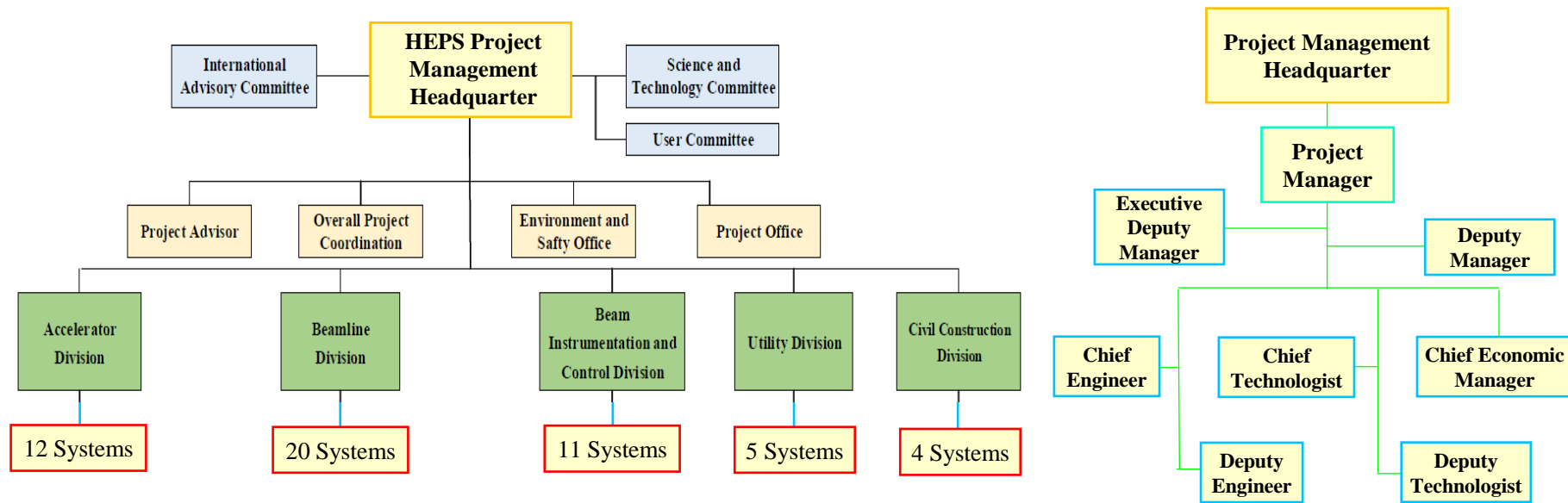


# Management of Large Facilities

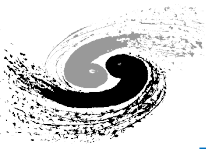
- **Scientific & Engineering Project Management**

- IHEP large facilities are basically managed within this framework:

- **Project Management Headquarter** (In charge of scientific targets, technical schemes, coordination, etc.);  
**Research Divisions; Management Offices; Science and Technology Committees; Project Advisory.**

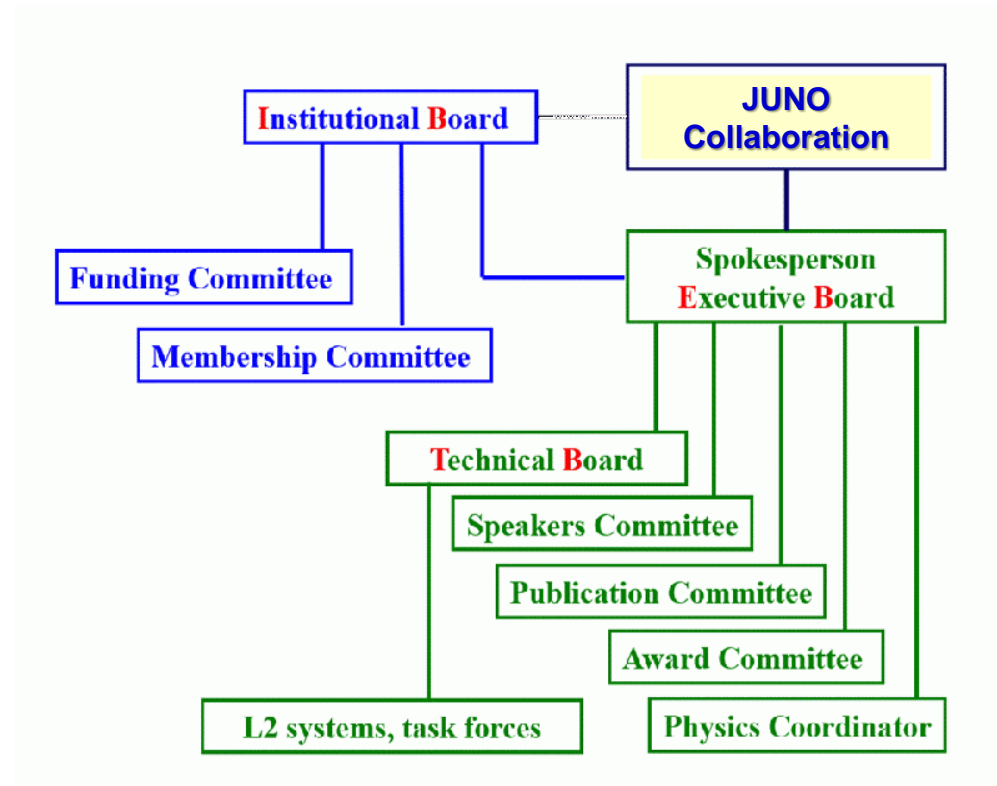


- **User Committee:** for a facility that function as an **opening and sharing platform**, a user committee is also set up during operation (e.g. CSNS, HEPS).



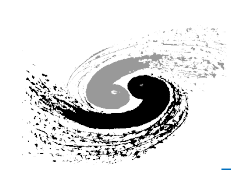
- **International Collaboration Management**

- For large-scale international fundamental scientific research projects (e.g. JUNO, LHAASO), IHEP adopts an **international collaboration management** mode, besides of usual project management mentioned above.



- **JUNO International Collaboration**

- consists of over 700 scientists from 74 institutions in 17 countries and regions;
- controls budget, finance, quality, time limit, etc. through official collaboration agreements signed between IHEP and other institutions.



- IHEP has cultivated **professional management staff for every large scientific facility** project, whose skills covering the whole process of a project. Among these employees in the Large Facilities Office, the elders were empowered with the experience from BEPCII construction, and almost all the young and middle-aged ones have been awarded Project Management Professional (PMP) certification.
- Within the office, the **organic allocation of human resources according to the different focuses of the different stages for each facility** has guaranteed the professional and efficient management of each large scientific facility.

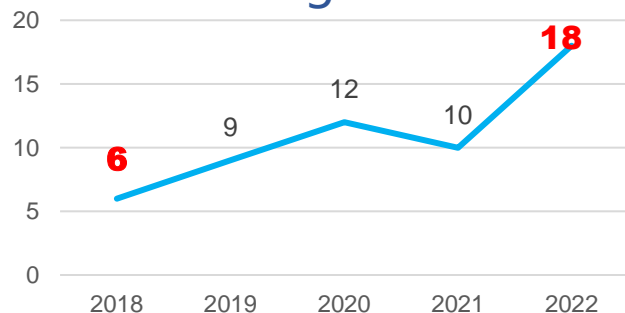


**Human resources is regarded by IHEP as a top priority**

## Key efforts

### Recruit best possible people

- Make full use of favorable policies at national and CAS levels to attract high-level personnel.
- Establish long-term relationships with outstanding candidates



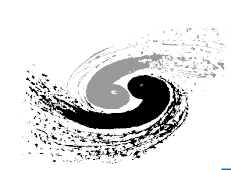
*Since 2018, attracted 55 top-level staff, 8 from within China, and 47 from abroad.*

### Staff development plan

- Focus on cultivating young talents and supporting them to undertake key responsibilities
- Motivate young talents- Tenure-Track, Distinguished Young Research Fellow , Set up a team helping them to have more influence

### Policies related to HR

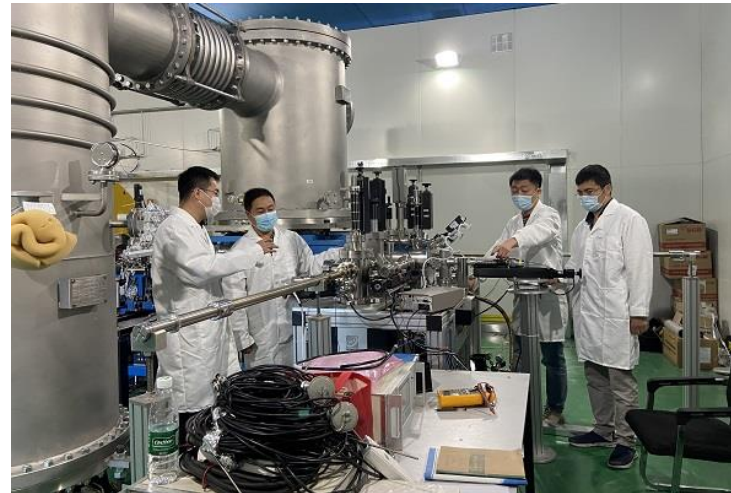
- Optimized the talent evaluation system ,directed by innovative values, capability and contribution
- To establish a mechanism for providing relatively stable support for talents and innovation teams
- Performance-based salary system

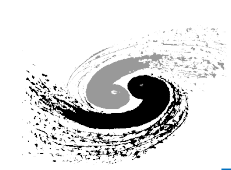


# Human Resources

During the past three years of the epidemic, we have ensured the smooth progress of the institute's work, and even completed more workload than before.

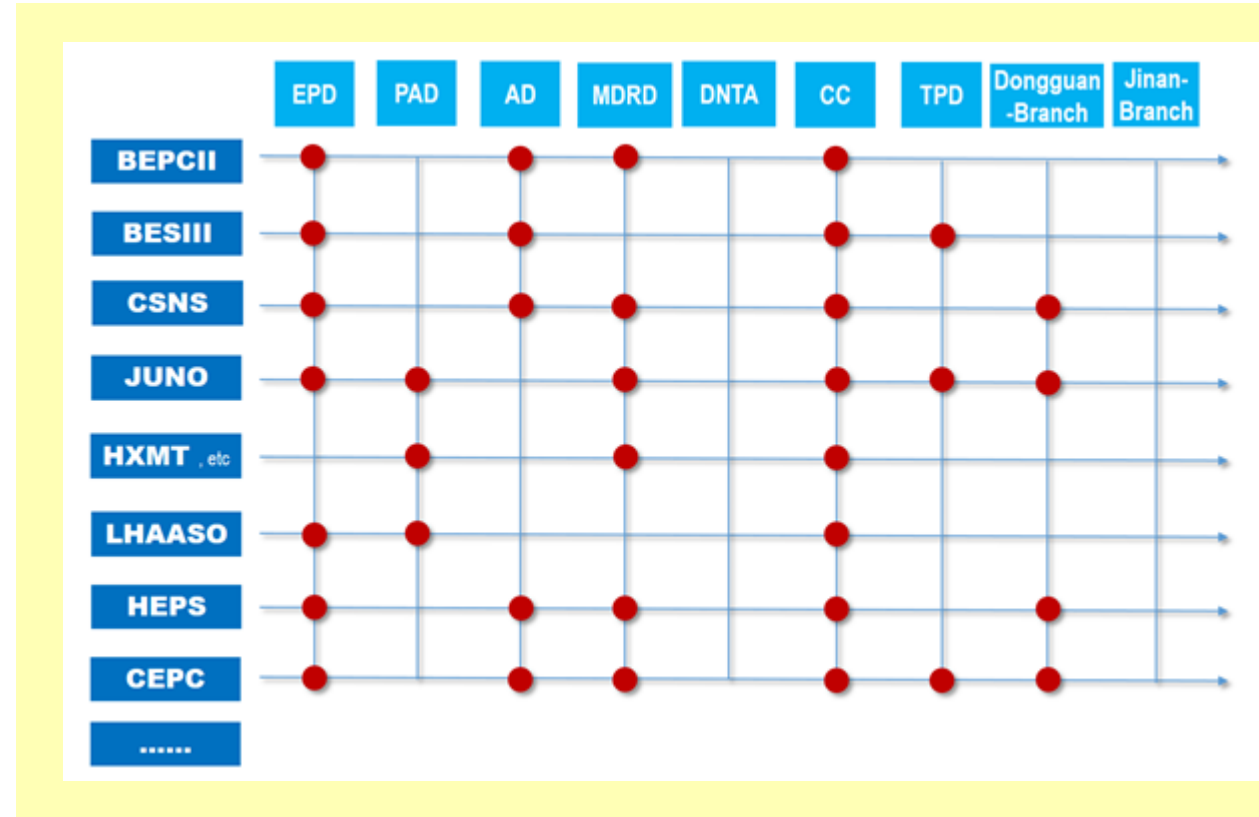
With the goal of completing tasks on schedule, we have taken various measures to promote work, such as **working from home, relying on IT to carry out on-line tasks, automation of BESIII data taking, remote shift, and so on.**





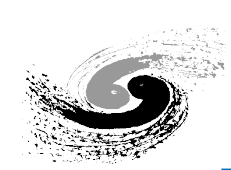
# How we can?

- **Matrix management for personnel** : maximize the advantages of professional teams
- Refine project planning, **scheduled human resources in a staggered manner**
- **IT services**: Zoom, Tencent meetings ...improved work efficiency and strengthened the management of the off-site departments
- **Hired research financial assistants**: scientists and engineers can focus on their work.
- **A Youth Talent Enhancement Plan**: helping them to take on key tasks as soon as possible



- **A strict annual assessment system**: motivate outstanding staff, adjust incompetent staff
- Optimize the **performance reward and recognition system**, fostering **a culture of respecting talent**
- **Adopt external services for utility management** : water and electricity supply, property management...

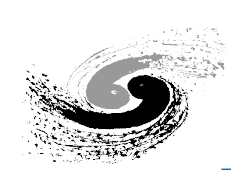




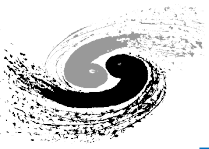
- **IHEP places strong emphasis on undergraduate and graduate education**
  - Operates Department of Modern Physics in the School of Physical Sciences, School of Nuclear Science and Technology of UCAS: 102 UCAS lecturers; Specialized courses and training programs
  - Offer a comprehensive range of programs and resources to support students in their academic and research endeavors.
  - **Established collaborations** (joint courses and trainings) **with 14 top level universities**, to attract outstanding candidates
  - Hosts college students' **summer camp** every year
  - Lectures given by outstanding scientists at universities to enhance the reputation of IHEP
  - Organizes **workshops, conferences, and symposiums** to promote academic exchange and collaboration
  - Provides **scholarships and financial support** to undergraduate and graduate students
- **Every year, 130 students are accepted, about 80% of them from top universities**



- **Ensuring Financial Accounting Quality, Enhancing Service Efficiency, Strengthening Financial Management**
  - Over the past five years, financial income reached 11.7 billion yuan, which is higher than the income of 2013-2017 (7.4 billion).
  - Enhancing efficiency in financial work by optimizing and updating financial management systems, as well as streamlining and improving workflow process.
  
- **Utilizing information system to strengthen data sharing, and improve work efficiency**
  - In 2019, an update was made to the Management Information System
  - Integration was established between the financial reimbursement system and the banking information system
  - A financial electronic record-keeping system was implemented, enabling the electronic storage of financial information from 2013 to 2022.

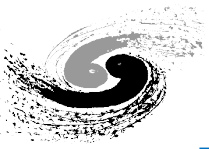


- **Comprehensive procurement workflow has been developed**
  - All cases of procurement, direct purchase and calls for tender, are processed strictly according to the regulations.
  - About 6.7 billion yuans' worth of goods and services acquired in the last five years.
- **Strengthening assets and inventory management, Enhancing assets sharing and utilization**
  - About 42848 sets of research equipment were stocked, totaling 4 billion RMB in the last five years.
  - An online equipment inventory system was established, which optimized the equipment inventory process and enabled remote equipment and inventory recording and control.



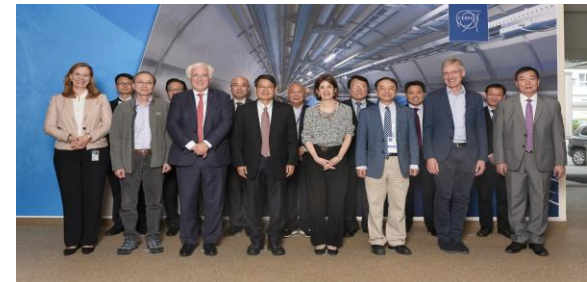
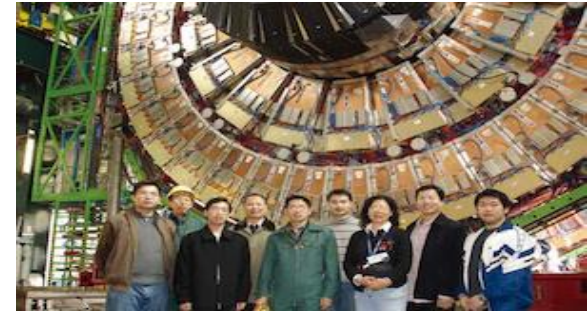
- **A new branch for engineering and technological development were set up**
  - Jinan branch is a remote scientific research unit serving as a platform for the transformation of scientific and technological achievements.
- **Establish agreements with investors to promote technology transfer to enterprises, including**
  - A joint venture company to promote the transfer of the **BNCT project** and the industrialization of key core technologies.
  - Setting up of a joint venture for the advanced **packaging defect detection** in integrated circuits.
  - A joint research and development platform for the production and sales of **Silicon based detector technology**.
  - Establishing a company to transform and industrialize the achievements of **electron beam irradiation technology for treating medical waste**.

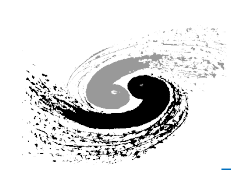




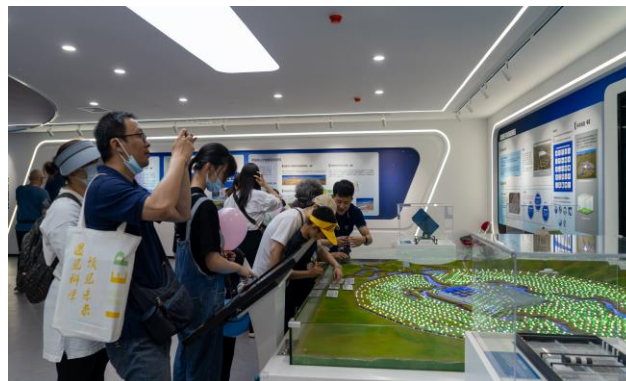
# International Collaborations

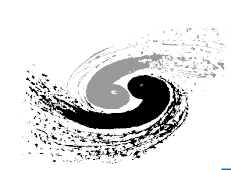
- **IHEP actively facilitates international collaboration in many ways**
  - Visas, foreign fellowships, students & postdocs, dorms, etc.
  - Start to recruit foreign staff
  - Established a steering committee to promote international collaboration and solve problems
- **In the first three years, the international visits were severely affected by the epidemic, while in the recent two years, the international visits have gradually recovered.**
- **Dozens of agreements with universities and institutions around the world.**
- **Bilateral cooperative meetings**
  - IHEP-KEK, IHEP-INFN, IHEP-CERN
  - France-China Particle Physics Laboratory (FCPPL)
- **Promote large international projects in China**
  - ATLAS, CMS, LHCb, ILC, BELLE II, PANDA, AMS, COMET, EXO/nEXO, and DarkSide
- **Attract international partners to join China-based projects**
  - BESIII, Daya Bay, JUNO, LHAASO, CEPC, eXTP, HERD, etc.





- **Dedicated teams for dissemination and outreach**
  - Directors' Office
  - Library and Information Services
  - Office of Research and Planning
- **Outreach through news media, online publicity, social media, Open Days, journals and publishing**
- **Publication of sci-tech periodicals**
  - Chinese Physics C
  - Radiation Detection Technology and Methods
  - Modern Physics, a Chinese-language popular science magazine





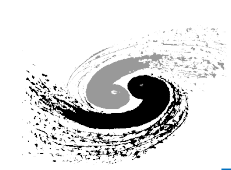
- **INSPIRE**

- Since 2014, IHEP INSPIRE team continues to work hard to contribute to the development of the INSPIRE high energy physics academic information platform with partners at CERN, DESY, Fermilab, SLAC and IN2P3.

- **Middel School Campus Cosmic-ray Observation Collaboration(CCOC)**

- Relying on LHAASO and Modern Physics
- Established on September 28, 2020
- 31 members (25 middle schools + 6 persons)

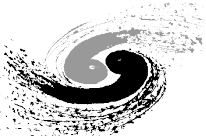




- **Division of Supporting Services takes care of the logistics, working with a property management company**
  - Utilities maintenance, electricity, water, central heating and cooling
  - Security, infrastructure and house property management
- **Campuses:**
  - Beijing downtown, 26.8 hectares;
  - Dongguan, 66.7 hectares;
  - Huairou, 69 hectares, for HEPS and PAPS;
  - Jinan, 4 hectares, tech transfer
- **Improve living conditions for single employees, graduate students, and postdocs**
  - Two graduate apartment buildings, one staff dormitory building, one postdoctoral apartment building have been renovated
  - The staff canteen has been renovated
- **Infrastructure progress of HEPS**
  - Started in June 2019
  - Completed and accepted in December 2022




























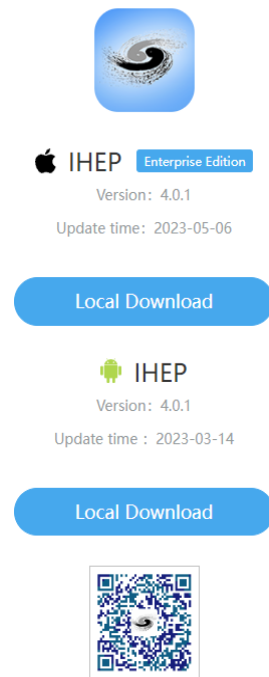
- More than 30 IT applications developed by Computing Center over the past 5 years, which greatly improved the collaboration and management efficiency of the institute

- Provide one-stop/Easy e-IHEP Service for all the people
- Facilitate management and improve operation/business efficiency
- Online processing of administration/business workflows
- HR, Finance, Purchase, Asset, Project, IHEPDocs, Overleaf, Email, Indico, IHEP APP...

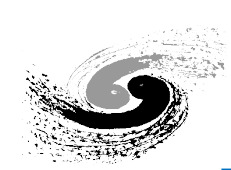
 HRMS	 Finance	 Procurement	 Contract	 Visit publicity	 Visiting record	 Performance
 Seal	 Assets	 Asset Inventory	 Network	 Project	 Project Review	 Booking
 Examine	 Digital archives	 Business trip	 Documents	 Interviews	 Apartment	



The image shows three screenshots of IHEP IT services. The first is a 'One-stop work platform' login page with a 'Sign in' button and QR codes for app download, Weibo, and WeChat. The second is the 'IHEP EVENT SCHEDULE SERVICE' interface, featuring a calendar and a message about scheduling meetings. The third is the 'IHEP DOCS' interface, highlighting document sharing and storage with the slogan '多人共享 文档协同 高效合作 安全存储'.



The image displays the IHEP mobile application download information. It includes the IHEP logo, the text 'IHEP Enterprise Edition', the version '4.0.1', and the update time '2023-05-06'. Below this is a 'Local Download' button. For the Android version, it shows 'IHEP', version '4.0.1', update time '2023-03-14', and another 'Local Download' button. At the bottom, there is a QR code for app download.



- The administrative and management system has been ensured the successful operation of the institute, especially with the increase in projects and tasks increased in the last few years.
- The management teams are confident to start new missions



**Thank you!**