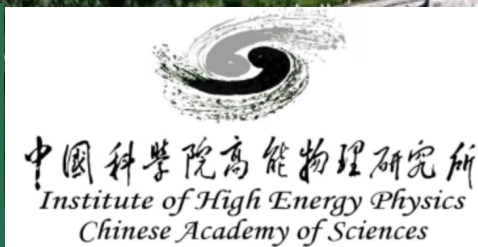


# Status of the preparation for : Joint Workshop of the CEPC Physics, Software and New Detector Concept

<https://indico.ihep.ac.cn/event/13888/>



Yaquan Fang (IHEP)  
on behalf of LOC and SPC

扬州风光

CEPC Physics and Detector Plenary meeting  
March 24, 2021

According to the local COVID-19 prevention regulations, please pay attention that Sukang Code(苏康码绿码) is needed when you arrive in Yangzhou. You can search Sufuban(苏服办) in We Chat and fill in the application in advance.



# Goal of the workshop

- Further understand the **physics potential** at CEPC as well as the **requirements for the detector**:
  - CEPC physics white paper
  - Innovative detector design for CEPC



We cannot “骑鹤” to Yangzhou in practice,  
But we can take flight, high speed train(once a day from Beijing).



# the location of the workshop

With the help of physics department of Yangzhou University :

- 地点：Yangzhou conference center (扬州会议中心)
  - 7 kilometer to downtown (文昌阁)
  - 5.8 kilometer to 瘦西湖
  - 6.2 kilometer to 平山堂
- 时间：April 14-17
  - For April 17<sup>th</sup>, we have only the morning section.
  - **Registration starts from the afternoon of April 13<sup>th</sup>.**
- 规模：~ 150 in person, no more than 200



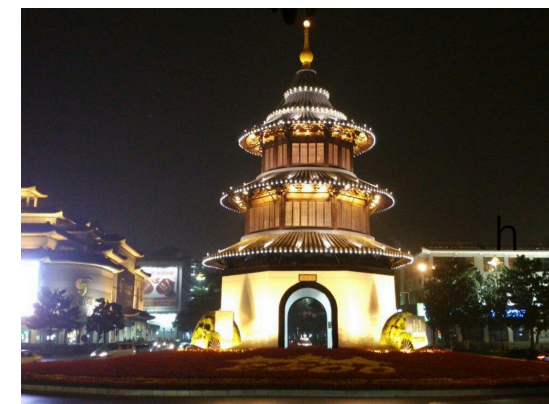
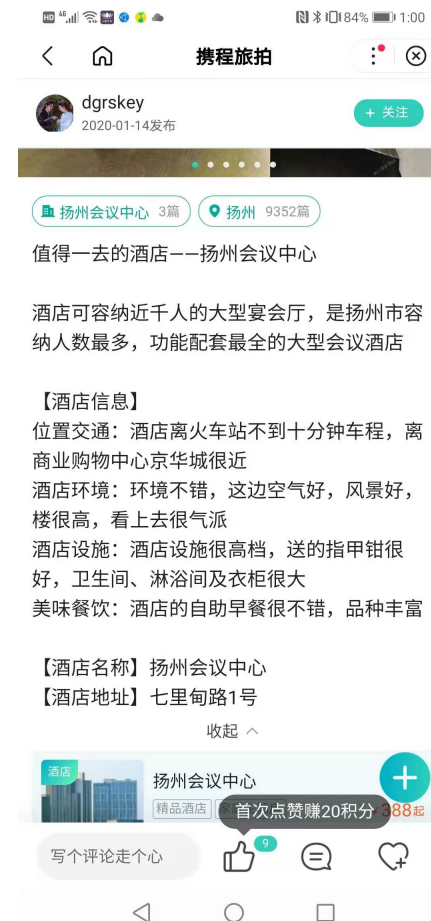
大会场



扬州会议中心分会场



宴会厅



13 remotely attend, 15 partially participate so far

## Participant List

Number of participants: 160

name	institution
CHEN, Yebo	高能所
BAI, Yu	Southeast University
BARREIRO GUIMARAES DA COSTA, Joao Pedro	IHEP
BONDARENKO, Serge	Joint Institute for Nuclear Research
CALIBBI, Lorenzo	Nankai University
CHEN, Shanhong	IHEP
CHENG, Shan	Hunan University
CHEN, Guoming	高能所
CHEN, Mingshui	IHEP
CHEN, Shanzhen	IHEP
CUI, Hanhua	IHEP
DONG, Mingyi	IHEP



# SPC & LOC members and poster

## Scientific Program Committee:

Name	Institute	Name	Institute
Xin Chen	THU	Lianliang Ma	SDU
Yaquan Fang (Co-Chair)	IHEP	Jialun Ping	NNU
Yuanning Gao	PKU	Jianming Qian	Michigan Univ.
Hongjian He	SJTU	Michael Ramsey	SJTU
Xingtao Huang	SDU	Manqi Ruan(Co-Chair)	IHEP
Shan Jin	NJU	Jianchun Wang(Chair)	IHEP
Gang Li	IHEP	Liantao Wang	Chicago Univ.
Haibo Li	IHEP	Zhenjun Xiao	NNU
Qiang Li	PKU	Haijun Yang	SJTU
Weidong Li	IHEP	Lei Zhang	NJU

## Local Organizing Committee:

Name	Institute	Name	Institute
Yaquan Fang(Co-Chair)	IHEP	Yaru Wu	IHEP
Fangqin Kong	Yangzhou Univ.	Tianhong Xing	IHEP
Kun Liu	SJTU	Da Xu	IHEP
Jie Qian	Yangzhou Univ.	Hongjuan Xu	IHEP
Weimin Song	JLU	Kai Yi(Co-Chair)	NNU
Chunyu Wang(Chair)	Yangzhou Univ.	Fengyun Yu	Yangzhou Univ.
Jin Wang	IHEP		

Hope to have 1<sup>st</sup> SPC meeting next week to discuss the agenda of the workshop

**JOINT WORKSHOP OF THE CEPC PHYSICS,  
SOFTWARE AND NEW DETECTOR CONCEPT**

April 14-17, 2021  
Yangzhou Convention Center, Jiangsu province, China  
<https://indico.ihep.ac.cn/event/13888>

**SCIENTIFIC PROGRAM COMMITTEE**

Xin Chen (THU)  
Yaquan Fang (IHEP) Co-Chair  
Yuanning Gao (PKU)  
Hongjian He (SJTU)  
Xingtao Huang (SDU)  
Shan Jin (NJU)  
Gang Li (IHEP)  
Haibo Li (IHEP)  
Qiang Li (PKU)  
Weidong Li (IHEP)  
Zhijun Liang (IHEP)  
Jianbei Liu (USTC)  
Lianliang Ma (SDU)  
Jialun Ping (NNU)  
Jianming Qian (Michigan Univ.)  
Michael Ramsey (SJTU)  
Manqi Ruan (IHEP) Co-Chair  
Jianchun Wang (IHEP) Chair  
Liantao Wang (Chicago Univ.)  
Zhenjun Xiao (NNU)  
Haijun Yang (SJTU)  
Lei Zhang (NJU)  
Hongbo Zhu (IHEP)  
Huaxing Zhu (ZJU)

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Weimin Song (JLU)  
Chunyu Wang (Yangzhou Univ.) Chair  
Jin Wang (IHEP)  
Yaru Wu (IHEP)  
Tianhong Xing (IHEP)  
Da Xu (IHEP)  
Hongjuan Xu (IHEP)  
Kai Yi (NNU) Co-Chair  
Fengyun Yu (Yangzhou Univ.)

**Support Contacts:**  
Fengyun Yu (Yangzhou Univ.) : [fyyu@yzu.edu.cn](mailto:fyyu@yzu.edu.cn), 136 6524 8072  
Hongjuan Xu (IHEP) : [xuhj@ihep.ac.cn](mailto:xuhj@ihep.ac.cn), 152 1043 1173



# tentative agenda

## 28 detector talks so far

Session I, April 14, Wednesday		
13:30	Progress and planning of the Vertex detector (20'+10')	Zhijun Liang
14:00	Progress of the TaichuPix chip (20'+10')	Wei Wei
14:30	Progress of the JadePix chip (20'+10')	Yunpeng Lu
15:00	Wireless readout and control (20'+10')	Xiaoshan Jiang
15:30	break (30')	
16:00	Progress and planning of the Silicon Tracker (20'+10')	Harald Fox
16:30	HV-CMOS sensor design and test (20'+10')	Yanyan Gao
17:00	Tracking for Silicon Tracker at CEPC (20'+10')	Chengdong Fu
Session II, April 15, Thursday		
8:30	Status and planning of ECAL R&D (20'+10')	Yong Liu
9:00	Progress of the crystal ECAL (20'+10')	TBD
9:30	Reconstruction algorithm for ECAL (20'+10')	Shengsen Sun
10:00	break (30')	
10:30	Progress of the CEPC AHCAL (20'+10')	Yukun Shi
11:00	Progress of the CEPC SDCAL (20'+10')	Qiuping Shen
11:30	The CEPC muon detector (20'+10')	Xiaolong Wang
Session III, April 15, Thursday		
13:30	Charge particle ID (20'+10')	Mingyi Dong
14:00	Drift chamber dN/dX simulation and reconstruction (20'+10')	Guang Zhao
14:30	Tracking software for the Drift Chamber (20'+10')	Yao Zhang
15:00	Physics impact of the PID (20'+10')	Shanzhen Chen
15:30	break (30')	
16:00	Progress and planning of the TPC (20'+10')	Huirong Qi
16:30	Front end ASIC and readout electronics for TPC (20'+10')	Zhi Deng
17:00	Optimization of the tracking system (20'+10')	Xin Shi
17:30	Plan of the TDAQ (20'+10')	Zhenan Liu
Session IV, April 16, Friday		
8:30	Progress and planning of MDI (20'+10')	Hongbo Zhu
9:00	Status of beam background study (20'+10')	Haoyu Shi
9:30	Beam pipe, overall mechanics and integration (20'+10')	Quan Ji
10:00	break (30')	
10:30	Status and plan of the LumiCal (20'+10')	Suen Hou
11:00	Solenoid magnet (20'+10')	Feipeng Ning
11:30	Beam energy measurement (20'+10')	Yongsheng Huang
Session V, April 16, Friday		
13:30	The status of CEPSCSW software framework (20'+10')	Jiaheng Zou
14:00	The simulation software for the CEPC experiment (20'+10')	Tao Lin
14:30	Automated validation system for CEPC (20'+10')	Teng Li
15:00	Jet tagging algorithm (20'+10')	Gang Li
15:30	break (30')	
16:00	Integration of Pandora to CEPSCSW (20'+10')	Wenxing Fang
16:30	ArborPFA and Lepton ID in the CEPSCSW (20'+10')	Dan Yu
17:00	Status of ACTS integration to CEPSCSW (20'+10')	Jin Zhang
17:30	Data Management with Rucio and Xcache (20'+10')	Xiaomei Zhang

## 41 physics talks

Higgs (12 talks) – Afternoon sessions of April 14

Yiwei wang (王毅伟):  
Keili Zhang (张凯栗):  
Xiaohu Sun (孙小虎):  
Shufang Su (苏淑芳):  
Gang Li (李刚):

Abdulazem Fadol:

Rvuta Kiuchi:  
Kunlin Ran (冉坤林):  
Yu Bai (白羽):  
Yufeng Zhu (朱永峰):  
Ke Li (李柯):  
Qiyu Sha(沙其雨):

BSM (11 talks): Morning sessions of April 15<sup>th</sup>.

Chengcheng Han (韩成成):  
Michael Baryshev-Musolf, Li Shu (李树), Yulei Zhang (张宇雷):  
Yu Gao (高宇):  
Daiwen Wu (吴培文):  
state for DM  
Jia Liu (刘佳):

Xujia Zhuang (庄胥爱):  
Yang Zhang (张阳), Peter Athron:  
Waqas Ahmed:  
Mengchao Zhang (张孟超):  
王道函/武/杨/张:  
木拉提/武/杨:

Beam parameters at CEPC ttbar runs

Higgs precision measurement at CEPC ttbar run;

Top quark measurement at CEPC ttbar threshold scan;

New Physics via top measurement at the CEPC;

Matrix measurement;

Application of Quantum Computing at Higgs measure

Higgs to ZZ measurement at the CEPC;

Higgs to di muon measurement at the CEPC;

Higgs to bb, cc, gg measurement.

Physics requirement for the c-tagging and VTX reconstruction ana

Higgs CP via Higgs to ZZ final state;

Higgs CP via Higgs to bb final state

Probing bino NLSP at lepton collider

EWPT with exotic Higgs decay

Heavy Neutrino Search in Lepton-rich Higgs boson rare decay

top quark FCNC and measurement with top + jet + MET final

Lepton portal DM, Gravitational waves and collider

Stops and Gauge Search at CEPC

GAMBIT: SUSY Global Fit

SUSY and DM search at the CEPC

Asymmetric DM by displaced lepton jet

Photon-jet events as a probe of Axion-Like Particles

Triple Higgs couplings and machine learning

Flavor Physics (11 talks): Afternoon sessions of April 15<sup>th</sup>.

Lorenzo Calibbi:

Lingfeng Li (李凌峰):

Invited - 1:

Invited - 2:

Yuxin Wang (王悦心):

Yudong Wang(王玉东):

Qinglin (秦臻), Chenshan (程山):

Mingrui Zhao (赵明锐):

Renat Sadykov:

Jun gao(高俊):

Siji Yang (杨思奇):

Flavor Physics at the CEPC

Whatever Flavor Physics

TBD

TBD

pi-0 reconstruction and physics measurement of B0/Bs->2 pi0 final states

physics analysis of Bs->Phi + gamma at the CEPC

Exclusive Z decays

CP measurement with Bs -> J/psi Phi process at the CEPC

ReneSANCe event generator for precision e+e- physics

A new generator for the Higgs hadronization at the CEPC (tentative)

Weak mixing angle measurement at the CEPC Z pole runs; (EM talk due to speakers' time constrain)

EW + QCD, etc (7 talks): Morning sessions of April 16<sup>th</sup>

Zhijun Liang (梁志均): EW measurement at the CEPC

Zhao Li (李钊): NNLO EW Correction

Invited talk from Snowmass EW: TBD

Tiavon Gu (顾嘉萌): SMEFT for the global interpretation of precision Higgs & EW measurement at the CEPC

Huaxing Zhu (朱华星): Jets Meet CFT at the CEPC

Shudong Wang (王书栋): Z mass measurement at the CEPC Z pole run

Zhen Liu (刘真): TBD



# Look forward to meeting you at Yangzhou



扬州早茶（白天皮包水）



## 扬州市历史建筑

### 苏唱街扬州浴室

于1928年由上海人袁炳南建造，用罗马柱装饰店面，属于扬州近代“洋气”建筑的典型，其内部布局显示了扬州沐浴文化特色，也是扬州百年老字号之一。

### Yangzhou Bathhouse in Suchang Alley

The bathhouse was constructed in 1928 by Yuan Bingnan, a man from Shanghai. The shop's elevation is decorated with Roman style columns, which is typical of Western style architecture in Yangzhou in early 20th century. The interior layout of the building reflects the characteristics of bathing culture in Yangzhou. The bathhouse is also one of the old-brand ones in Yangzhou.