



# SQM2022

The 20th International Conference on Strangeness in Quark Matter  
13-17 June 2022 Busan, Republic of Korea

# PROGRAM BOOK

Organized by PNU  
& SQM 2022 LOC



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## Welcome Message

Welcome to the **SQM2022** in Busan,



The international conference on SQM (Strangeness in Quark Matter) is one of the mostly efficient and attractive conferences, which are being currently held in world class, for the experimental and theoretical physicists studying the role of the strange and heavy flavor quarks in high energy heavy-ion (nucleus-nucleus) collisions and in astrophysical phenomena.

The SQM2022 will be the 20th edition of the conference series following the recent events in the Brookhaven National Laboratory, New York (2021 - online only), Bari (2018) and Utrecht (2017). The conference is focusing on the following scientific issues:

- Strangeness and heavy quark production in nuclear collisions and hadronic interactions
- Hadron resonances in the sQGP (strongly-interacting Quark-Gluon Plasma)
- Bulk matter phenomena associated with strange and other heavy quarks
- Strangeness in astrophysics
- QCD phase structure
- Collectivity in small systems
- Open questions and new developments

Busan (Republic of Korea) is one of the largest city having the most beautiful beach in east-southern coast of the Korean peninsula. In a nice conference venue just at the beach, the world-class scientists will be gathering and enjoying the most recent scientific achievements in the experiments of the world-largest accelerators as well as in the theory newly and creatively developed for describing the recent experimental observations and for suggesting new challenges.

The SQM2022 local organizing committee really wishes all participants in-person and via online to enjoy every session and discussions of the conference and its venue.

June 2022

Prof. Dr.   
Chair  
On behalf of the SQM2022 Local Organizing Committee





## International Advisory Committee members

<b>Jörg Aichelin</b>	SUBATECH Nantes	France
<b>Federico Antinori</b>	INFN Padova	Italy
<b>Francesco Becattini</b>	Firenze University / INFN Firenze	Italy
<b>Marcus Bleicher</b>	HFHF / Goethe University Frankfurt	Germany
<b>Peter Braun-Munzinger</b>	GSI	Germany
<b>Helen Caines</b>	Yale University	USA
<b>Andrea Dainese</b>	INFN Padova	Italy
<b>Xin Dong</b>	LBL	USA
<b>Domenico Elia</b>	INFN Bari	Italy
<b>Laura Fabbietti</b>	Technical University of Munich	Germany
<b>Wojtek Florkowski</b>	Jagiellonian University	Poland
<b>Tetyana Galatyuk</b>	Technical University Darmstadt / GSI	Germany
<b>Marek Gaździcki</b>	Jan Kochanowski University of Kielce	Poland
	Goethe University Frankfurt	Germany
<b>Paolo Giubellino</b>	GSI/FAIR	Germany
<b>Boris Hippolyte</b>	University of Strasbourg / IPHC-IN2P3	France
<b>Mei Huang</b>	GUCAS	China
<b>Huan Z. Huang</b>	UCLA	USA
<b>Sangyong Jeon</b>	McGill University	Canada
<b>Alexander Kalweit</b>	CERN	Switzerland
<b>Kangseog Lee</b>	Chonnam National University	Korea
<b>Yen-Jie Lee</b>	MIT	USA
<b>Maria Paola Lombardo</b>	INFN Firenze	Italy
<b>Christina Markert</b>	University of Texas at Austin	USA
<b>Berndt Müller</b>	Duke University	USA
<b>Azwinndini Muronga</b>	Nelson Mandela University	South Africa
<b>Grazyna Odyniec</b>	LBL	USA
<b>Dennis V. Perepelitsa</b>	University of Colorado	USA
<b>Claudia Ratti</b>	University of Houston	USA
<b>Lijuan Ruan</b>	BNL	USA
<b>Chihiro Sasaki</b>	University of Wroclaw	Poland
<b>Cesar Luiz da Silva</b>	LANL	USA
<b>Alexander Sorin</b>	JINR	Russia
<b>Horst Stöcker</b>	FIAS / Goethe University Frankfurt / GSI	Germany
<b>Joachim Stroth</b>	Goethe University Frankfurt / GSI	Germany
<b>Fuqiang Wang</b>	Purdue University	USA
<b>Nu Xu</b>	LBL	USA
<b>Zhangbu Xu</b>	BNL	USA
<b>Pengfei Zhuang</b>	Tsinghua University	China

## Regional Organizing Committee

<b>Sadhana Dash</b>	Indian Institute of Technology Bombay	India
<b>Heng-Tong Ding</b>	Central China Normal University	China
<b>Shinichi Esumi</b>	University of Tsukuba	Japan
<b>Taku Gunji</b>	University of Tokyo	Japan
<b>Tetsufumi Hirano</b>	Sophia University	Japan
<b>Masakiyo Kitazawa</b>	Osaka University	Japan
<b>Lokesh Kumar</b>	Panjab University	India
<b>Feng Liu</b>	Central China Normal University	China
<b>Bedanga Mohanty</b>	National Institute of Science Education and Research	India
<b>Subrata Pal</b>	Tata Institute of Fundamental Research	India
<b>Victor Roy</b>	National Institute of Science Education and Research	India
<b>Kenta Shigaki</b>	Hiroshima University	Japan
<b>Qun Wang</b>	University of Science and Technology of China	China
<b>Yaping Wang</b>	Central China Normal University	China
<b>Yifei Zhang</b>	University of Science and Technology of China	China

## Local Organizer Committee

<b>Sungtae Cho</b>	Kangwon National University	
<b>Byungsik Hong</b>	Korea University	(Co-Chair)
<b>Beomkyu Kim</b>	Sungkyunkwan University	
<b>Eun-Joo Kim</b>	Jeonbuk National University	
<b>Yongsun Kim</b>	Sejong University	
<b>Youngman Kim</b>	Institute for Basic Science	
<b>MinJung Kweon</b>	Inha University	
<b>Chang-Hwan Lee</b>	Pusan National University	
<b>Su Hwang Lee</b>	Yonsei University	(Co-Chair)
<b>Sanghoon Lim</b>	Pusan National University	
<b>Dong Ho Moon</b>	Jeonnam National University	
<b>Seung-il Nam</b>	Pukyong National University	
<b>Inkyu Park</b>	University of Seoul	
<b>In-Kwon Yoo</b>	Pusan National University	(Chair)
<b>Jin-Hee Yoon</b>	Inha University	



	June 12 Sun	June 13 Mon	June 14 Tue
	Lecture for Student 09:00-11:00 Online-Only	Opening & Overview 09:00-10:35 Grand Ballroom	Parallel 09:00-10:20 Grand Ballroom 1, 2, 3, Sydney Room
		Coffee Break 10:35-11:05	Coffee Break 10:20-10:50
	Lecture for Student 11:00-13:00 Online-Only	Overview 11:05-12:30 Grand Ballroom	Parallel 10:50-12:30 Grand Ballroom 1, 2, 3, Sydney Room
	Lunch 13:00-14:00	Lunch 12:30-14:00 Sicily Room (1F)	Lunch 12:30-14:00 Sicily Room (1F)
Registration	Lecture for Student 11:00-13:00 Online-Only	Overview 14:00-15:50 Grand Ballroom	Parallel 14:00-15:40 Grand Ballroom 1, 2, 3, Sydney Room
		Coffee Break 15:50-16:20	Coffee Break 15:40-16:10
	Lecture for Student 16:00-18:00 Online-Only	Overview 16:20-18:25 Grand Ballroom	Parallel 16:10-17:10 Grand Ballroom 1, 2, 3, Sydney Room
-	Welcome Reception 18:45-22:00 Annex Garden (1F)	Poster Session 17:10-19:00 Online-Only	IAC Meeting 19:00-22:00
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June 15 Wed	June 16 Thu	June 17 Fri
Parallel 08:40-10:20 Grand Ballroom 1, 2, 3, Sydney Room	Plenary 08:40-10:20 Grand Ballroom	Plenary 08:40-10:20 Grand Ballroom
Coffee Break 10:20-10:50	Coffee Break 10:20-10:50	Coffee Break 10:20-10:50
Parallel 10:50-12:30 Grand Ballroom 1, 2, 3, Sydney Room	Plenary 10:50-12:30 Grand Ballroom	Plenary 10:50-12:30 Grand Ballroom
Lunch 12:30-14:30 Sicily Room (1F)	Lunch 12:30-14:00 Sicily Room (1F)	Lunch 12:30-14:00 Sicily Room (1F)
Plenary 14:30-16:10 Grand Ballroom	Plenary 14:00-15:30 Grand Ballroom	Plenary 14:00-15:40 Grand Ballroom
Coffee Break 16:10-16:40	Coffee Break 15:30-16:00	Coffee Break 15:40-16:10
Plenary 16:40-18:45 Grand Ballroom	Plenary 16:00-18:15 Grand Ballroom	Plenary 16:10-15:50 Grand Ballroom
Public Lecture 19:30-21:30 Grand Ballroom	Banquet 19:15-21:30 Grand Ballroom	Closing 17:50-18:10 Grand Ballroom
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# 03 Conference Venue

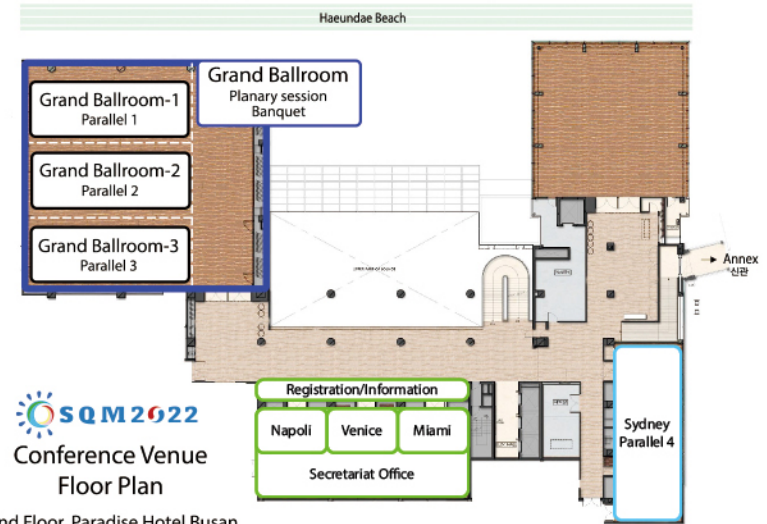


**PARADISE**  
HOTEL BUSAN



The conference will be held at Paradise Hotel Busan, with a panorama view of the scenic beauty of Haeundae Beach, which is a five-star hotel in Busan with 532 guest rooms. With stylish and cozy rooms, a high-end ocean spa and Korea's first luxury all-day dining restaurant, the hotel is ideal for every guest, whether for business or pleasure.

## Floor plan



**SQM2022**  
Conference Venue  
Floor Plan

2nd Floor, Paradise Hotel Busan  
Lunch place is on the 1<sup>st</sup> floor

## ■ General Information

<b>Registration Desk</b>	2 <sup>nd</sup> floor of Paradise hotel
<b>Opening hours</b>	· 1 pm – 6 pm (Sunday, 12nd) · 9 am – 6 pm (Monday – Friday)
<b>Registration Fee Includes</b>	Lunch, Banquet, Registration package
<b>Name Tag &amp; Conference Package Pick-up</b>	Registration Desk
<b>Wi-fi</b>	Paradise_BQ (Inside of Ballroom and Meeting room), ParadiseHotel (etc. places, ex.hallway)
<b>Banquet</b>	Grand Ballroom (7:15pm, Thursday)

**Medical Room** 4<sup>th</sup> Floor in Main Building  
· 10 am – 7 pm

**Minor problem** SQM2022 Secretariat Office (2F)

**In case of Emergency AED**



**Main building**  
· 1F Reception of Hotel  
· 4F Reception of Sauna CIMER

**Annex building**  
· 1F, Reception of Hotel  
· 4<sup>th</sup> Floor, Reception of Sauna

## COVID-19 Screening Centers

<b>Name</b> Incheon Airport T1 COVID-19 Testing Center(East)	<b>Name</b> Incheon Airport T1 COVID-19 Testing Center(West)	<b>Name</b> Incheon Airport T2 COVID-19 Testing Center
<b>Location</b> Terminal 1 Transit Center outdoor(1F), East side (Near entrance/exit door next to Capsule Hotel Darakhyu)	<b>Location</b> Terminal 1 Transit Center outdoor(1F), West side (Near entrance/exit door next to Capsule Hotel Darakhyu)	<b>Location</b> Terminal 2 Parking lot(B1), West side (In front of Security Pass Office)
<b>Contact</b> +82-1600-5110	<b>Contact</b> +82-1533-2030	<b>Contact</b> +82-32-741-9000 +82-32-743-7080

- Incheon Airport COVID-19 Testing Center provides COVID-19 tests and issues certificates for inbound and outbound passengers.
- Incheon Airport manages 2 COVID-19 Testing Centers (East / West) at T1 and 1 COVID-19 Testing Center (West) at T2.
- Incheon Airport COVID-19 Testing Center offers the following tests :  
① RT-PCR ② Antigen/Antibody.
- Please select the testing center and time at your convenience since all testing centers offer the same type of tests at the same price.
- You must bring your passport to take the COVID-19 test and get a certificate.

## Cost

Category	PCR Test		Antigen Test		(Travel to China) PCR + Antibody / PCR Test twice	
	Weekdays	Weekends (Weekdays 7AM~9AM / Holidays)	Weekdays	Weekends (Weekdays 7AM~9AM / Holidays)	Weekdays	Weekends (Weekdays 7AM~9AM / Holidays)
Koreans	KRW 116,000	KRW 120,000	KRW 66,000	KRW 70,000	KRW 166,000	KRW 170,000
Foreigners	KRW 124,000	KRW 130,000	KRW 74,000	KRW 80,000	KRW 174,000	KRW 180,000

- ※ Cost of COVID-19 test is calculated based on National Health Insurance and includes issuing certificate of negative test result charges
- ※ All COVID19 testes at Incheon Airport would include the medical consultation and documentation fee by the Medical Service Act by Korean government.

## Reservation

1. Contact (phone numbers) above
2. Online : <https://safe2gopass.com/>

## Near Busan Paradise Hotel

- PCR
- Antigen



<b>Haeundae Bumim Hospital</b>	584 Haeun-daero, U-dong, Haeundae-gu, Busan <b>+82-051-602-8196</b> PCR cost : KRW 150,000 + 20,000 (Foreigners) Antigen KRW 35,000 +20,000 (Foreigners)
<b>Eden Ent Clinic</b>	2F, 600, Haeun-daero, Haeundae-gu, Busan, Republic of Korea <b>+82-051-791-1700</b> Antigen KRW 50,000 (Foreigners)
<b>강보승이비인후과</b>	1380-22 Jung-dong, Haeundae-gu, Busan, Republic of Korea <b>+82-051-744-2718</b> Antigen KRW 35,000 (Foreigners)
<b>행복한내과</b>	26 Jungdong 1-ro, Haeundae-gu, Busan, Republic of Korea <b>+82-051-741-3311</b> Antigen KRW 40,000 (Foreigners)
<b>Correct medical clinics</b>	17 Jungdong 1-ro, Haeundae-gu, Busan, Republic of Korea <b>+82-051-743-7505</b> Antigen KRW 40,000 (Foreigners)

# 05 Transportation Information

## To Busan



The main international airport in Korea is Incheon International Airport (ICN, RKSI). International flights from almost all Europe, America, Africa, and Asia arrive. Participants from neighboring countries such as China, Japan, and other South East Asia countries can directly travel to Busan via flights to Busan-Gimhae International Airport (PUS, RPKK).



For more details ...

## To Conference Venue



### ■ Departure from Airport (1 hr. 20 min.)

- Arrive at the Busan-Gimhae Airport.
- Get on the Busan-Gimhae Light Rail Transit(Purple Line) in the direction of Sasang. (7 min.)
- Transfer to Subway Line #2(Green Line) in the direction of Haeundae-Jangsan at the Sasang Station. (45 min.)
- Get off the subway at the Haeundae Station.

### ■ Departure from Train Station (1 hr.)

- Arrive at the Busan Train Station.
- Get on Subway Line #1(Orange Line) in the direction of Nopo. (10 min.)
- Transfer to Subway Line #2(Green Line) in the direction of Haeundae-Jangsan at the Seomyeon Station. (30 min.)
- Get off the subway at the Haeundae Station.

※ Taxis (non-black) are also available at the airport and train station to the conference venue.



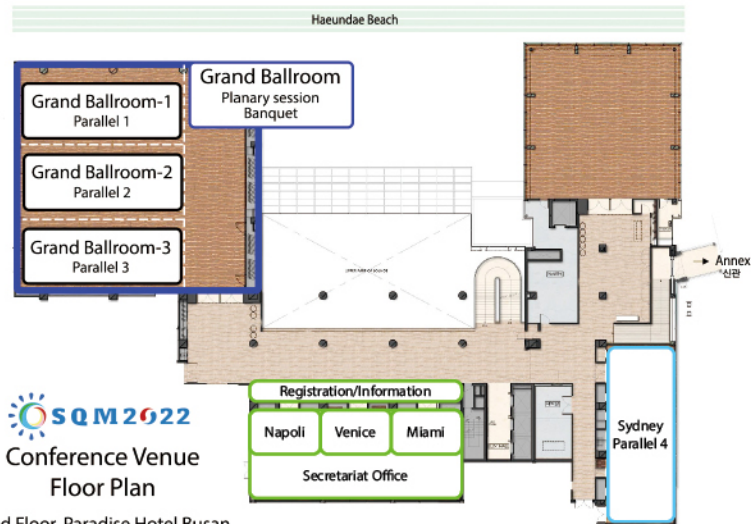
## ARRIVED at Venue





## Session Location

Grand Ballroom	GBR
Grand Ballroom 1	GBR1
Grand Ballroom 2	GBR2
Grand Ballroom 3	GBR3
Sydney Room	SR



2nd Floor, Paradise Hotel Busan  
Lunch place is on the 1<sup>st</sup> floor

## Sunday, 12 June 2022

## Online-Only Lecture for Students

Date	Title	Presenters
09:00	Heavy flavors and jets in QGP	Yen-Jie Lee (Massachusetts Inst. of Technology (US))
11:00	The chiral magnetic effect and the relativistic heavy-ion collisions: a review of theory and experiment	Ho-Ung Yee (University of Illinois at Chicago)
14:00	Particle production and the statistical model	Anton Andronic (Westfälische Wilhelms-Universität Muenster (DE))
16:00	Spin polarization phenomena	Xu-Guang Huang

## Monday, 13 June 2022

## GBR Opening &amp; Overview (Chair : In-Kwon Yoo)

Date	Title	Presenters
09:00	Opening	In Kwon Yoo (Pusan National University (KR))
09:20	Recent results on light flavor and correlation from ALICE	You Zhou (Niels Bohr Institute (DK))
09:45	Recent results on heavy flavor and quarkonia from ALICE	Enrico Scomparin (Universita e INFN Torino (IT))
10:10	Recent results from CMS	Jing Wang (Massachusetts Inst. of Technology (US))
10:35	Coffee Break	

## GBR Overview (Chair : Nu Xu)

Date	Title	Presenters
11:05	Recent results from STAR	Barbara Trzeciak (Czech Technical University in Prague)
11:40	Recent results from ATLAS	Yeonju Go (University of Colorado Boulder (US))
12:05	Recent results from LHCb	Yanxi Zhang (Peking University (CN))
12:30	Lunch	

## GBR Overview (Chair : Zhangbu Xu)

Date	Title	Presenters
14:00	Recent results from PHENIX	Ron Belmont (University of North Carolina at Greensboro)
14:25	Recent results from SHINE	Szymon Pulawski (University of Silesia (PL))
14:50	Recent results from HADES	Lukáš Chlad
15:15	Theory overview in heavy-ion physics Overview	Joseph Kapusta (University of Minnesota (US))
15:50	Coffee Break	

## GBR Overview (Chair : Jorg Aichelin)

Date	Title	Presenters
16:20	Exotic particles	Su Houng Lee
16:45	From Lattice to observables	Masakiyo Kitazawa
17:10	Hadron production	Che-Ming Ko
17:35	Fluctuations of conserved charges and correlation	Anar Rustamov (National Nuclear Research Center (AZ))
18:00	Recent development of hydrodynamics	Sangyong Jeon



Tuesday, 14 June 2022

**GBR1 PA1 - Bulk Matter Phenomena, QCD Phase Diagram and Critical Point** (Chair : Olga Soloveva)

Date	Title	Presenters
09:00	Measurement of quarkonium elliptic flow in pPb collisions at 8.16 TeV with the CMS detector	Kisoo Lee (Korea University (KR))
09:20	Equilibrium and Dynamical Properties of Hot and Dense Quark-Gluon matter from Holographic Black Holes	Joaquin Grefa
09:40	(3+1)-D viscous hydrodynamics CLVisc at finite net baryon density: identified particle spectra, anisotropic flows and flow fluctuations across BES energies	Xiang-Yu Wu
10:00	Quarkonia production and elliptic flow in small systems measured with ALICE	Rita Sadek (Centre National de la Recherche Scientifique (FR))
10:20	Coffee Break	

**GBR1 PA1 - Bulk Matter Phenomena, QCD Phase Diagram and Critical Point** (Chair : Mesut Arslanodk)

Date	Title	Presenters
10:50	Collectivity and baryon junctions in ultra-peripheral heavy-ion collisions	Chun Shen (Wayne State University)
11:10	Observation of azimuthal angular decorrelation in dijet photoproduction in ultraperipheral lead-lead collisions at 5.02 TeV with the CMS experiment	Aleksandr Bylinkin (The University of Kansas (US))
11:30	Particle production as a function of underlying event-activity and very forward energy with ALICE	Feng Fan (Central China Normal University CCNU (CN))
11:50	Freezing out critical fluctuations	Maneesha Sushama Pradeep
12:10	Femtoscopic measurements of two-kaons combinations in Au+Au collisions at the STAR experiment	Diana Pawłowska (Warsaw University of Technology)
12:30	Lunch	

**GBR1 PA1 - Bulk Matter Phenomena, QCD Phase Diagram and Critical Point** (Chair : Beomkyu Kim)

Date	Title	Presenters
14:00	Seventh and eighth order cumulants of net-proton number distributions in heavy-ion collisions at RHIC-STAR	Ashish Pandav

14:20	Measurements of global and local polarization of hyperons in 200 GeV isobar collisions from STAR	Xingrui Gou (Shandong University)
14:40	Measurements of collectivity in the forward region at LHCb	Imanol Corredoira (Universidade de Santiago de Compostela (ES))
15:00	Elliptic and triangular flow of (multi-)strange hadrons and $\phi$ mesons in BES-II energies at STAR	Like Liu
15:20	Global spin alignment of $\phi$ and $K_0^*$ vector mesons in Au+Au collisions from RHIC BES-II program	Gavin Wilks (University of Illinois at Chicago)
15:40	Coffee Break	

**GBR1 PA1 - Bulk Matter Phenomena, QCD Phase Diagram and Critical Point** (Chair : Jin Hee Yoon)

Date	Title	Presenters
09:00	Elliptic flow of strange and multi-strange hadrons in isobar collisions at $\sqrt{s_{NN}} = 200$ GeV at RHIC	Priyanshi Sinha
09:20	Search for the Chiral Magnetic Wave in Pb-Pb collisions with the ALICE detector	Wenya Wu (Fudan University (CN))
09:40	QCD phase diagram in strong magnetic fields from competition between the magnetic catalysis and the QCD Kondo effect	Koichi Hattori (Yukawa Institute for Theoretical Physics)

**GBR2 PA2 - Heavy-flavor and Quarkonia** (Chair : Dong Ho Moon)

Date	Title	Presenters
09:00	Measurement of quarkonium production and polarization in pp and Pb-Pb collisions with ALICE	Xiaozhi Bai (University of Science and Technology of China (USTC))
09:20	Detailed study of bottomonium suppression with the measurement of the $\Upsilon(3S)$ meson in PbPb collisions at 5.02 TeV with CMS	Soohwan Lee (Korea University (KR))
09:40	Investigation of in-medium effects of charmonia using azimuthal anisotropy and jet fragmentation function in PbPb collisions at 5.02 TeV with the CMS experiment	Gyeonghwan Bak (Chonnam National University (KR))
10:00	$\Psi(2S)$ production and nuclear modification factor in nucleus-nucleus collisions with ALICE	Hushnud Hushnud (Saha Institute of Nuclear Physics)
10:20	Coffee Break	

**GBR2 PA2 - Heavy-flavor and Quarkonia** (Chair : Pol-Bernard Gossiaux)

Date	Title	Presenters
10:50	Measurement of non-prompt and prompt $D^0$ azimuthal anisotropy in Pb-Pb collisions at $\sqrt{s_{NN}} = 5.02$ TeV	Milan Stojanovic (Purdue University (US))
11:10	New insights on heavy flavor dynamics and hadronization from small to large collision systems from $\Lambda_c^+$ production with CMS	Soumik Chandra (Purdue University (US))
11:30	Studies of heavy flavor dynamics using $B^+$ , $B_s^0$ and $B_c$ mesons with CMS	Florian Damas (LLR - Centre National de la Recherche Scientifique (FR))
11:50	Charm production: constraint to transport models and charm diffusion coefficient with ALICE	Martin Andreas Volkl (Ruprecht Karls Universitaet Heidelberg (DE))
12:10	Constraining hadronization processes with charm baryons in pp and p-Pb collisions with ALICE	Jinjoo Seo (Inha University (KR))
12:30	Lunch	

**GBR2 PA2 - Heavy-flavor and Quarkonia** (Chair : Krista Lizbeth Smith)

Date	Title	Presenters
14:00	Beauty production in heavy-ion collisions with ALICE at the LHC	Stefano Politano (Politecnico di Torino (IT))
14:20	Heavy-flavour jet properties and correlations from small to large systems measured by ALICE	Antonio Carlos Oliveira Da Silva (University of Tennessee - Knoxville)
14:40	Measurements of $J/\psi$ production in Ru+Ru and Zr+Zr collisions at $\sqrt{s_{NN}} = 200$ GeV from STAR experiment	Qian Yang (Shandong University)
15:00	In-medium transport of $\chi(3872)$ and $B_c$ at the LHC	Biaogang Wu (Texas A&M University)
15:20	ALICE determines the scattering parameters of D mesons with light-flavor hadrons	Emma Chizzali (Technische Universitaet Muenchen (DE))

**GBR2 PA2 - Heavy-flavor and Quarkonia** (Chair : Yongsun Kim)

Date	Title	Presenters
16:10	Heavy-flavour meson and baryon production in high-energy nucleus-nucleus collisions	Andrea Beraudo (INFN, sezione di Torino (IT))
16:30	Probing the electromagnetic field with heavy quarks and $Z^0$ decaying leptons and $Z^0$ leptonic invariant mass in ultrarelativistic heavy ion collisions	Yifeng Sun (INFN-LNS)

16:50	Understanding mass hierarchy in different energy loss mechanisms through heavy flavor data	Bojana Ilic (Blagojevic)
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**GBR3 PA3 - Light-flavor and Strangeness** (Chair : Jan Staudenmaier)

Date	Title	Presenters
09:00	The quark number scaling of strange quark and light quarks as well as the approach to solving the $R_{AA}-v_2$ puzzle in heavy-ion collisions	Wenbin Zhao (Wayne State University)
09:20	Results of femtosopic correlations at CMS	Raghunath Pradhan (Indian Institute of Technology Madras (IN))
09:40	Constraints on hadron resonance gas interactions via first-principles Lattice QCD susceptibilities	Jamie Karthein (MIT)
10:00	Light-flavor hadron production in small collision systems	Adrian Fereydon Nassirpour (Lund University (SE))
10:20	Coffee Break	

**GBR3 PA3 - Light-flavor and Strangeness** (Chair : Jamie Karthein)

Date	Title	Presenters
10:50	(Anti)nucleosynthesis in heavy-ion collisions and (anti)nuclei as "barynometer" of the collision	Mario Ciacco (Universita e INFN Torino (IT))
11:10	A multi-differential investigation of strangeness production in pp collisions with ALICE	Romain Schotter (Centre National de la Recherche Scientifique (FR))
11:30	Baryon number transport, strangeness conservation and $\Omega$ -hadron correlations	Xiatong Wu (Department of Physics and Astronomy, University of California, Los Angeles, CA 90095, USA)
11:50	Enhancement of baryon-to-meson ratios around jets as a signature of medium response	Ao Luo
12:10	Production of pions, kaons, and (anti-) protons in Au+Au collisions at $\sqrt{s_{NN}} = 54.4$ GeV at RHIC	Krishan Gopal (IISER Tirupati)
12:30	Lunch	

**GBR3 PA3 - Light-flavor and Strangeness** (Chair : Seung-il Nam)

Date	Title	Presenters
14:00	Strange hadron production in Au+Au collisions at RHIC Beam Energy Scan	Yingjie Zhou

14:20	In-medium effects on hidden strangeness production in heavy-ion collisions	Taesoo Song
14:40	Interpretation of particle yields in pp interactions at $\sqrt{s_{NN}} = 8.8, 12.3$ and $17.3$ GeV within statistical hadronization model	Krzysztof Piasecki <i>(University of Warsaw, Poland)</i>
15:00	Constraining the $\bar{K}N$ coupled channel dynamics using femtoscopic correlations with ALICE at the LHC	Maximilian Korwieser <i>(Technische Universitaet Muenchen (DE))</i>
15:20	Results on system size dependence of strangeness production in the CERN SPS energy range from NA61/SHINE	Piotr Podlaski <i>(University of Warsaw (PL))</i>
15:40	Coffee Break	

### GBR3 PA3 – Detector Upgrades and Future Experiments (Chair : Inkyu Park)

Date	Title	Presenters
16:10	Development of future electromagnetic calorimeter technologies and applications for the Electron-Ion Collider with GEANT4 simulations	Zhaozhong Shi <i>(Los Alamos National Laboratory)</i>
16:30	Joint ATLAS/CMS ZDC upgrade project for the High Luminosity LHC	Riccardo Longo <i>(Univ. Illinois at Urbana Champaign (US))</i>

### SR PA4 - Resonances and Hyper-nuclei (Chair : Sungtae Cho)

Date	Title	Presenters
09:00	Light (anti-)cluster production from nonlocal many-body scatterings in high-energy nuclear collisions	KaiJia Sun <i>(Cyclotron Institute)</i>
09:20	Measurement of the production of (anti) (hyper)nuclei	Chiara Pinto <i>(Technische Universitaet Muenchen (DE))</i>
09:40	Exploring the hadronic phase of relativistic heavy-ion collisions with resonances in ALICE	Dukhishyam Mallick <i>(National Institute of Science Education and Research (NISER) (IN))</i>
10:00	Hypernuclei and light nuclei production with phase space coalescence in UrQMD	Jan Steinheimer
10:20	Coffee Break	

### SR PA4 - Resonances and Hyper-nuclei (Chair : Chiara Pinto)

Date	Title	Presenters
10:50	Understanding the nature of $f_0(980)$ with ALICE at the LHC	Junlee Kim <i>(Jeonbuk National University (KR))</i>

11:10	Rescattering effects on resonances production in small systems with ALICE at the LHC	Antonina Rosano <i>(Universita e INFN, Catania (IT))</i>
11:30	Measurements on the production and lifetime of light hypernuclei at STAR	Yuanjing Ji <i>(Lawrence Berkeley National Lab)</i>
11:50	Production of $K^{*0}$ in Au+Au collisions at $\sqrt{s_{NN}} = 14.6$ and $19.6$ GeV in BES-II from STAR	Aswini Kumar Sahoo <i>(IISER, Berhampur)</i>
12:10	Collective flow of light nuclei and hyper-nuclei in Au+Au collisions at $\sqrt{s_{NN}} = 3, 14.6, 19.6, 27,$ and $54.4$ GeV using the STAR detector	Rishabh Sharma <i>(Indian Institute of Science Education and Research (IISER) Tirupati)</i>
12:30	Lunch	

### SR PA4 – Other Topics (Chair : Matteo Buzzegoli)

Date	Title	Presenters
14:00	Scaling properties of background- and chiral-magnetically-driven charge separation in Au+Au, Ru+Ru, and Zr+Zr collisions at $\sqrt{s_{NN}} = 200$ GeV	Roy Lacey
14:20	Estimate of a new baseline for the chiral magnetic effect in isobar collisions at RHIC	Yicheng Feng
14:40	$J/\psi$ photoproduction and the production of dileptons via photon-photon interactions in hadronic Pb–Pb collisions measured with ALICE	Laure Marie Massacrier <i>(Universit� Paris-Saclay (FR))</i>
15:00	Thermal radiation and direct photon production in Pb-Pb and pp collisions with dielectrons in ALICE	Hikari Murakami <i>(University of Tokyo (JP))</i>
15:20	Understanding the initial state effects by the measurement of the Drell-Yan process in pPb collisions with CMS	Hyunchul Kim <i>(Chonnam National University (KR))</i>
15:40	Coffee Break	

### SR PA4 – Other Topics (Chair : Youngman Kim)

Date	Title	Presenters
16:10	Observation of $\gamma\gamma \rightarrow \tau\tau$ production in PbPb collisions with the CMS experiment	Georgios Krintiras <i>(The University of Kansas (US))</i>
16:30	Measurement of exclusive vector meson photoproduction in pPb and PbPb collisions with the CMS experiment	Subash Chandra Behera <i>(Indian Institute of Technology Madras (IN))</i>
16:50	Electroweak-boson production from small to large collision systems with ALICE at the LHC	Guillaume Tallepied <i>(GSI - Helmholtzzentrum fur Schwerionenforschung GmbH (DE))</i>

**GBR1 PA1 - Bulk Matter Phenomena, QCD Phase Diagram and Critical Point** (Chair : Zi-Wei Lin)

Date	Title	Presenters
08:40	Calculating QCD phase diagram trajectories of nuclear collisions using a semi-analytical model	Todd Mendenhall
09:00	Local equilibrium and Lambda polarization in high energy heavy ion collisions	Andrea Palermo (INFN Florence, Florence University, Goethe University Frankfurt)
09:20	Resummed lattice QCD equation of state at finite baryon density: strangeness neutrality and beyond	Paolo Parotto
09:40	Assessing critical point signatures through proton intermittency in NA61/SHINE	Nikolaos Davis (Institute of Nuclear Physics, Polish Academy of Sciences (PL))
10:00	Quark susceptibilities, transport properties and heavy quark production in an extended Quasi-Particle Model with $N_f=2+1+1$ flavors	Maria Lucia Sambataro (INFN, Università degli Studi di Catania)
10:20	Coffee Break	

**GBR1 PA1 - Bulk Matter Phenomena, QCD Phase Diagram and Critical Point** (Chair : Philipp Gubler)

Date	Title	Presenters
10:50	Exploration of the phase diagram within a transport approach	Olga Soloveva (Helmholtz Research Academy Hesse for FAIR (HFHF), Goethe University Frankfurt)
11:10	Anomalous enhancement of dilepton production due to soft modes in dense quark matter	Toru Nishimura
11:30	Net-conserved charge fluctuations in ALICE and long-term perspectives	Mesut Arslanodk (Yale University (US))
11:50	Measurements of charge, strangeness, and baryon number balance functions in pp and Pb-Pb collisions in ALICE	Sumit Basu (Lund University (SE))
12:10	Novel Effects of Rotational Polarization in Relativistic Nuclear Collisions	Jinfeng Liao

**GBR2 PA2 - Heavy-flavor and Quarkonia** (Chair : Dong Jo Kim)

Date	Title	Presenters
08:40	Elliptic and triangular flow of charmonia in heavy ion collisions	Sungtae Cho
09:00	Coalescence plus fragmentation approach for the hadronization mechanism of heavy hadrons from AA to pp collisions	Vincenzo Minissale (INFN-LNS)

09:20	Heavy-flavor anisotropic flow at RHIC and LHC energies within a full transport approach	Lucia Oliva (Università di Catania, INFN Catania)
09:40	Multiplicity-dependent production of heavy mesons with strangeness in small systems at LHCb	Chenxi Gu (Tsinghua University (CN))
10:00	PHENIX Probing QCD Matter Through Heavy Flavor and Quarkonium at RHIC	Rachid Nouicer (Brookhaven National Laboratory)
10:20	Coffee Break	

**GBR2 PA2 - Heavy-flavor and Quarkonia, Light-flavor and Strangeness, Resonances and Hyper-nuclei** (Chair : Chlad Lukáš)

Date	Title	Presenters
10:50	Heavy flavor and hard probes of the Quark Gluon Plasma with ATLAS	Wenkai Zou (Columbia University (US))
11:10	Production of Charged Kaons and $\phi(1020)$ in Ag+Ag Collisions at $\sqrt{s_{NN}} = 2.55$ GeV	Marvin Kohls (Goethe Universität Frankfurt am Main)
11:30	Studies of low-x phenomena with the LHCb detector	Thomas Boettcher (University of Cincinnati (US))
11:50	First observation of $\chi_{c0}$ in heavy-ion collisions at RHIC	Junlin Wu
12:10	Molecular structure hadron in coalescence model	HyungOk Yoon (Yonsei university)

**GBR3 PA3 - Detector Upgrades and Future Experiments** (Chair : Sarah Porteboeuf)

Date	Title	Presenters
08:40	A truly cylindrical inner tracker for ALICE	Alperen Yuncu (Ruprecht Karls Universität Heidelberg (DE))
09:00	The physics program of the NA60+ experiment at the CERN SPS	Alessandro De Falco (Università e INFN, Cagliari (IT))
09:20	The LHCspin project	Marco Santimaria (INFN e Laboratori Nazionali di Frascati (IT))
09:40	Simulation study of Dual-Readout Calorimeter for a forward calorimeter at the Electron-Ion Collider	Yongjun Kim (Pusan National University)
10:00	The sPHENIX program for quarkonia and open heavy flavor	Marzia Rosati (Iowa State University (US))
10:20	Coffee Break	

**GBR3 PA3 - Bulk Matter Phenomena, QCD Phase Diagram and Critical Point** (Chair : Vytautas Vislavicius)

Date	Title	Presenters
10:50	Interplay between core and corona from small to large systems	Yuuka Kanakubo

11:10	Fluctuations in heavy ion collisions and global conservation effects	Roman Poberezhnyuk (Bogolubov Institute for Theoretical Physics)
11:30	Longitudinal decorrelation measurements from pp to A+A with the ATLAS detector	James Lawrence Nagle (University of Colorado Boulder)
11:50	New constraints of QCD matter from improved Bayesian parameter estimation with the latest LHC data	Dong Jo Kim (University of Jyväskylä (FI))
12:10	Lattice QCD results for the heavy quark diffusion coefficient	Luis Altenkort

**SR PA4 – Other Topics** (Chair : Dániel Barta)

Date	Title	Presenters
08:40	The medium-modified $g \rightarrow c\bar{c}$ splitting function in the BDMPS-Z formalism	Sohyun Park (CERN)
09:00	Reconstructing neutron star equation of state from observational data via automatic differentiation	Shriya Soma
09:20	Extending the ALICE strong-interaction studies to nuclei: measurement of proton-deuteron, $K_{\pm}$ -deuteron, and $\Lambda$ -deuteron correlations in pp collisions at $\sqrt{s_{NN}} = 13$ TeV	Harald Appelshaeuser (Goethe University Frankfurt (DE))
09:40	Initial electromagnetic field dependence of photon-induced production in isobaric collisions at STAR	Kaifeng Shen
10:00	The dark side of ALICE: from antinuclei interactions to dark matter searches in space	Pavel Larionov (CERN)
10:20	Coffee Break	

**SR PA4 – Other Topics, Bulk Matter Phenomena, QCD Phase Diagram and Critical Point** (Chair : Aleksas Mazeliauskas)

Date	Title	Presenters
10:50	Quarkonia production in ultraperipheral PbPb collisions at LHCb	Weisong Duan (South China Normal University (CN))
11:10	Probing the valence quark region of nucleons with Z bosons at LHCb	Hengne Li (South China Normal University (CN))
11:30	Causality violations in realistic nuclear collision simulations	Christopher Plumberg
11:50	Single transverse spin asymmetry of very forward neutral pion	Hee-Jin Kim (Inha University)
12:10	Dynamics of the QCD matter in heavy ion collisions and binary neutron star mergers	Anton Motornenko (Frankfurt Institute for Advanced Studies)

**GBR PL - Bulk Matter Phenomena, QCD Phase Diagram and Critical Point** (Chair : Sangyong Jeon)

Date	Title	Presenters
14:30	High moments of net-proton and the QCD phase structure	Ho San Ko
14:55	Critical point particle number fluctuations from molecular dynamics	Volodymyr Vovchenko (Lawrence Berkeley National Laboratory)
15:20	Light-nuclei and hyper-nuclear collectivity measurement at the high baryon density region	Xionghong He
15:45	Thermal dilepton measurements in heavy ion collisions	Zaochen Ye (Rice University (US))
16:10	Coffee Break	

**GBR PL - Heavy-flavor and Quarkonia** (Chair : Peter Braun-Munzinger)

Date	Title	Presenters
16:40	Heavy-flavor jets in heavy ion collisions	Saehanseul Oh (LBNL)
17:05	Production of hidden heavy-flavor mesons as open quantum systems	Pol-Bernard Gossiaux
17:30	Recent experimental results on quarkonia	Jaebeom Park (Korea University (KR))
17:55	Recent experimental results on heavy flavor	Qipeng Hu (Lawrence Livermore Nat. Laboratory (US))
18:20	Resonance production and interaction from low to high energy	Jihye Song (Pusan National University)

**Thursday, 16 June 2022**

**GBR PL - Bulk Matter Phenomena, QCD Phase Diagram and Critical Point** (Chair : Johanna Stachel)

Date	Title	Presenters
08:40	Global polarization and spin alignment in heavy-ion collisions	Subhash Singha
09:05	Experimental status of the chiral magnetic effect	Evan Finch (Southern Connecticut State University)
09:30	Polarization in heavy ion collisions: a theoretical review	Matteo Buzzegoli
09:55	Insights on the initial conditions and evolution of hadronic collisions with flow observables	Vytautas Vislavicius (University of Copenhagen (DK))
10:20	Coffee Break	

## GBR PL – Detector Upgrades and Future Experiments

(Chair : Byungsik Hong)

Date	Title	Presenters
10:50	The preparation of beam commissioning of RAON heavy ion accelerator facility	Taeksu Shin (Institute for Basic Science)
11:15	Status and performance of sPHENIX	Hideki Okawa (Fudan University (CN))
11:40	Heavy-ion physics at the LHC with detector upgrades for Runs 3 and 4	Sarah Porteboeuf (Université Clermont Auvergne (FR))
12:05	Physics program of the ALICE 3 experiment for the LHC Runs 5 and 6	Raphaelle Bailhache (Goethe University Frankfurt (DE))
12:30	Lunch	

## GBR PL – Astrophysics (Chair : Chang-Hwan Lee)

Date	Title	Presenters
14:00	From accelerator measurements to particle astrophysics results	Philip Von Doetinchem (University of Hawaii at Manoa)
14:20	Model dependent and independent study of neutron star matter	Yeunhwan Lim (Ewha Womans University)
14:40	State of neutron star observations	Sharon Morsink (University of Alberta)
15:10	From quarks to black holes: micro- and macrophysics of neutron star	Andreas Bauswein
15:30	Coffee Break	

## GBR PL – Astrophysics & Other Topics (Chair : Elena Bratkovskaya)

Date	Title	Presenters
16:00	High- $\mu_b$ model for accelerator experiments and neutron stars	Jan Steinheimer
16:20	The phases of cold dense nuclear matter	Armen Sedrakian
16:40	Gravitational waves from compact star mergers	Carolyn Raithel (Princeton University)
17:00	Electroweak probe in heavy-ion collisions	Andre Govinda Stahl Leiton (CERN)
17:25	Recent experimental results on ultra-peripheral collisions	Yongsun Kim (Sejong University (KR))
17:50	Probing neutron skin and symmetry energy with isobar collisions	Haojie Xu (Huzhou University)

## Friday, 17 June 2022

## GBR PL - Light-flavor and Strangeness (Chair : Boris Hippolyte)

Date	Title	Presenters
08:40	Strangeness production from small to large systems at the LHC	Livio Bianchi (Universita e INFN Torino (IT))
09:05	Midrapidity cluster formation in heavy ion collisions	Elena Bratkovskaya
09:30	Two and three-body interactions among kaons and nucleons tested at the LHC	Ramona Lea (Universita di Brescia (IT))
09:55	Light and strangeness production and collectivity at high $\mu_B$ region	Sooraj Krishnan Radhakrishnan (State University of New York (US))
10:20	Coffee Break	

## GBR PL - Resonances and Hyper-nuclei, Summary

(Chair : Joachim Stroth)

Date	Title	Presenters
10:50	Resonances in heavy ion collisions	Dmytro Oliinychenko (INT, UW)
11:15	Hypernuclei at relativistic energies	Benjamin Donigus (Johann-Wolfgang-Goethe Univ. (DE))
11:40	Summary I (Th)	Berndt Mueller
12:30	Lunch	

## GBR PL - Other topics, Heavy-flavor and Quarkonia, Summary

(Chair : Su Houng Lee)

Date	Title	Presenters
14:00	Short-range correlated nucleon pairs in heavy nuclei	Meytal Duer
14:25	New experimental directions in the study heavy-quark interactions in the QGP	Fabrizio Grosa (CERN)
14:50	Summary II (Ex)	Nu Xu
15:40	Coffee Break	

## GBR PL – Other topics, Heavy-flavor and Quarkonia, Summary

(Chair : Fuqiang Wang)

Date	Title	Presenters
16:10	Summary III (Th)	Vincenzo Greco
17:00	Summary IV (Ex)	Peter Braun-Munzinger (GSI - Helmholtzzentrum für Schwerionenforschung GmbH (DE))



## | Online-Only

Tuesday, 14 June 2022

Id	Title	Presenters
BLK-01	Effect of variation in relaxation time on elliptic flow in PbPb and AuAu collisions	Nikhil Hatwar
BLK-02	Energy dependence of $N_c N_p / N_d^2$ in the vicinity of a first-order chiral phase transition	KaiJia Sun
BLK-03	Correlations between multiparticle cumulants and mean transverse momentum in small collision systems with the CMS detector	Shengquan Tuo
BLK-04	Search for elliptic azimuthal anisotropies in photon-proton and pomeron-Pb interactions with ultraperipheral pPb collisions with the CMS experiment	Subash Chandra Behera
BLK-05	Differential study of $\Delta$ -hyperon polarization in a few-GeV regime within transport model approach	Oleksandr Vitiuk
BLK-06	Scaling approach to nuclear structure in nuclear collisions	Chunjian Zhang
BLK-07	Probing novel baryonic spin Hall effect using $\Delta$ spin polarization at STAR	Qiang Hu
BLK-08	Non-identical particle femtoscopy in Pb-Pb collisions at 5.02 TeV with ALICE	Pritam Chakraborty
BLK-09	Directed flow of identified particles in Au+Au collisions at $\sqrt{s_{NN}} = 14.6$ and 19.6 GeV	Zuowen Liu
BLK-10	Triangular flow of strange and multi-strange hadrons in BES-II energies at RHIC	Prabhupada Dixit
BLK-11	Search for critical point in NA61/SHINE	Tobiasz Czopowicz
BLK-12	Deuteron number fluctuations and proton-deuteron correlations in high-energy heavy-ion collisions in STAR experiment at RHIC	Debasish Mallick
BLK-13	Charge and heat transport coefficients of a weakly magnetized hot and dense QCD medium	Shubhalaxmi Rath
BLK-14	Nonuniform-temperature effects on the phase transition	Lijia Jiang
BLK-15	Multi-Fluid Hydrodynamics for RHIC BES/FAIR/NICA, Remade	Iurii Karpenko

Id	Title	Presenters
BLK-16	Higher-order event-by-event mean- $p_T$ fluctuations in pp and A-A collisions with ALICE	Swati Saha
BLK-17	Fluctuations of conserved charges in strong magnetic fields	Heng-Tong Ding
BLK-18	Exploring the QCD phase diagram with complex Langevin	Benjamin Jäger
BLK-19	PointNet for fast event characterisation in heavy-ion collision experiments	Manjunath Omana Kuttan
BLK-20	Modification of hadron multiplicity ratios at the chiral phase transition	Thiranat Bumnedpan
BLK-21	Charged kaon femtoscopy with Lévy sources in $\sqrt{s_{NN}} = 200$ GeV Au+Au collisions at PHENIX	László Kovács
BLK-22	New measurements in fixed-target collisions at LHCb	Sara Sellam
BLK-23	Probing Effect of Nuclear Shape Coexistence in Heavy-Ion Collisions using Glauber Model	Aman Dimri
BLK-24	Flow and transverse momentum correlation in Pb+Pb and Xe+Xe collisions with ATLAS: assessing the initial condition of the QGP	Somadutta Bhatta
BLK-25	Topological separation of dielectron signals in Pb-Pb collisions with ALICE	Jerome Jung
BLK-26	Baryon number, strangeness, and electric charge fluctuations in hydrodynamics at the LHC	Deokrat Almaalol
BLK-27	Exploring the criticality of QC	Noriyuki Sogabe
DET-01	The ALICE FoCal	Dong-Geon Kim
DET-02	Production of $P_c(4312)$ state in electron-proton collisions	Inwoo Park
HF-01	Ground and excited quarkonium states as probes of MPI in small systems with ALICE	Tabea Maria Eder
HF-02	Measurements of quarkonia production in jets at LHCb	Naomi Cooke
HF-03	Spin-Dependent Heavy-Quark Interactions and Transport in the QGP	Zhanduo Tang
HF-04	Heavy quarkonium dynamics at next-to-leading order in the binding energy over temperature	Ajaharul Islam
HF-05	Medium-enhanced $c\bar{c}$ production	Aleksas Mazeliauskas
HF-06	Probing initial longitudinal geometry and electromagnetic field with directed flows of soft and heavy flavor hadrons	Zefang Jiang
HF-07	Saturation and subnuclear structure from heavy flavour data	Farid Salazar

Id	Title	Presenters
HF-08	Measurement of medium effects on $B^+$ meson production ( $B_{ppb}^+$ ) in pPb collisions at LHC energies with the CMS detector	Sunil Manohar Dogra
HF-09	Heavy flavor and exotic production at LHCb	Krista Lizbeth Smith
HF-10	Screening of moving heavy quark and modification quarkonium states in quark gluon plasma	Jobin Sebastian
HF-11	Correlation of Upsilon states with underlying event activity 13 TeV pp collisions measured by the ATLAS experiment	Iakov Aizenberg
HF-12	Impacts of heavy-flavor probes in small colliding systems	Weiyao Ke
HF-13	Heavy quark transport through viscous quark-gluon plasma	Adiba Shaikh
HF-14	$J/\psi$ in Small Systems with PHENIX	Krista Lizbeth Smith
LF-01	Study the production of identified hadrons in Au+Au collisions at $\sqrt{s_{NN}} = 54.4$ GeV using the STAR detector	Arushi Dhamija
LF-02	Fluctuations in Lambda multiplicity distribution in Au+Au collisions at $\sqrt{s_{NN}} = 3$ GeV at STAR	Jonathan Gonzalo Ball Cap
LF-03	Anisotropy of the QGP revealed through high- $p_T$ data	Stefan Stojku
LF-04	Exploring jet transport coefficients in the strongly interacting quark-gluon plasma	Iliia Grishmanovskii
LF-05	QGP tomography with ebe-DREENA framework	Dusan Zigic
LF-06	Strangeness production in Au+Au collisions at $\sqrt{s_{NN}} = 27, 19.6,$ and $14.5$ GeV from STAR	Sameer Aslam
LF-07	Multistrange hyperon production on nuclear targets	Merino Carlos
OTH-01	Pseudo-gauge dependence of spin polarization in heavy-ion collisions	Matteo Buzzegoli
OTH-02	Identified hadron spectra in high-statistics p+p collisions at 158 GeV/c	Anirvan Shukla
OTH-03	Asteroseismology of compact stars with nucleonic and strange-quark matter cores	Dániel Barta
OTH-04	Causal second order magnetohydrodynamics from kinetic theory using RTA approximation	Ankit Kumar Panda
OTH-05	Global and local $\Lambda$ polarization from 27 to 200 GeV from a 3D viscous hydrodynamic model	Ondrej Lomicky
OTH-06	Studying Hadronization by Machine Learning Techniques	Gergely Barnafoldi
OTH-07	Gravitational form factor of soliton in 1+1 dimensional $\phi^4$ model	Hiroaki Ito
OTH-08	Chiral Magnetic Effect and Isobar Collisions	Jinfeng Liao

Id	Title	Presenters
OTH-09	Probing neutron-skin thickness with free spectator neutrons in ultracentral high-energy isobaric collisions	Lu-Meng Liu
OTH-10	Berry monopole and topology of color superconductivity	Noriyuki Sogabe
RES-01	Multiplicity-dependent study of $\Lambda(1520)$ resonance production in pp collisions at $\sqrt{s_{NN}} = 5.02$ and 13 TeV with ALICE	Sonali Padhan
RES-02	Lifetime measurements of light hypernuclei in Au+Au collisions from STAR experiment	Xiujun Li
RES-03	Event shape and multiplicity dependence of $K^*(892)\pm$ mesons at mid-rapidity in pp collisions at $\sqrt{s_{NN}} = 13$ TeV with ALICE at the LHC	Suman Deb
RES-04	Mesonic strange resonances in p+p collisions at SPS energies	Angelika Magdalena Tefelska
RES-05	$K^\pm$ production in Pb-Pb collisions with ALICE at the LHC	Prattay Das
RES-06	Charged particle multiplicity dependence of charged $K^*$ production in pp collisions with ALICE	Antonina Rosano
RES-07	The $\phi$ meson in nuclear matter from dilepton and $K^+K^-$ decays	Philipp Gubler
RES-08	Kinetic versus potential mechanism for deuteron production in heavy-ion collisions from SIS to RHIC energies	Gabriele Coci





## | Haeundae



## ■ Nearest Station

Haeundae Station(②, 해운대)

- **Walk** : ~10 min. or just right in front of the conference venue.

When people mention Busan, the first thing that comes to mind is the sea! Among Busan's various beaches, Haeundae Beach is the best-known destination. Not only in summer but all year round, Haeundae Beach attracts a multitude of tourists seeking the dynamic atmosphere of Busan. Haeundae Beach is one of Korea's hottest summer destinations, attracting over 10 million visitors every season. Its 1.5 km white sandy beach is lined with many entertaining facilities, attracting men and women of all ages from all parts of the world. Haeundae Beach has become the most popular spot for foreign tourists and vacationers from all over the country who enjoy swimming and sunbathing on a sunny beach.



*For more details ...*

## | Shinsegae Centumcity



## ■ Nearest Station

CentumCity Station(②, 센텀시티)

Shinsegae Centumcity is the largest department store on the earth. It has general goods in the department store (i.e., clothing, cosmetics, jewelry, luxuries) and duty-free stores, spa, ice link, cinemas, cafeterias, cafes, restaurants, supermarkets, and bookstores. To do all things in the Shinsegae Centumcity, maybe you cannot finish in one day.

## | Gwangalli

## ■ Nearest Station

Haeundae Station(②, 금련산)

- **Walk** : ~10 min.

Gwangalli Beach is a famous beach and one of Busan's representative hot spots, together with Gwangandaegyo Bridge. It is the closest beach to the city center and also a trendy meeting place for Busan's youth. Along with its white sandy beach, Gwangalli is filled with diverse attractions such as restaurants serving delicious foods, coffee shops with an open view of the sea, exotic stores hidden in alleyways, and the Namcheon-dong Cherry Blossom Street, which shines with pink cherry blossoms in spring.



## | Busan citizens park



## ■ Nearest Station

Bujeon Station(①, 부전)

- **Walk** : ~25 min.

Military camp and park—these two words do not match well together. However, there is a place where a military camp is reborn as a park, namely Busan Citizens Park. For 70 years after the liberation in South Korea, this place had been called the "US Army Camp Hialeah," but now it's back as a resting area for people in Busan.

## | Dongnaeupseong



## ■ Nearest Station

Myeongnyun Station(①, 명륜)

- **Bus** : ~30 min. / **Walk** : ~15 min.

The stone walls of the Dongnaeupseong Walled Town have been recently restored by placing new bricks on top of the old ones. While walking along the stone walls, you will encounter the magnificent North Gate, where you can enjoy an open and peaceful view of Eupseong Square. Moreover, you will appreciate its undulating path and beautiful scenery along the staircase-style trail.

## Beomeosa

- **Nearest Station**  
Beomeosa Station(①, 범어사)
- **Bus** : ~30 min.

Beomeosa Temple in Geumjeong-gu, Busan, is the third-largest temple in the Yeongnam area following Haeinsa Temple and Tongdosa Temple. Built during the reign of Munmu of Silla, it has become famous as a Buddhist temple that has historically nurtured many Buddhist monks. Located at Geumjeongsan Mountain, the temple boasts a beautiful valley and outstanding mountains and is crowded all year around.



## Taejongdae



- **Nearest Station**  
Choryang Station(①, 초량)
- **Bus** : ~1 hr.

This place allows you to walk along the green forest path and view the blue ocean simultaneously. The multi-colored rocky coast boasts its beauty formed by years of crashing waves. We're talking about Taejongdae Park at the southern end of Yeongdo, Busan. Taejongdae was named after King Taejong Muyeol of Silla, who used to stop by the region and practice archery as he was mesmerized by the beauty of the landscape. Taejongdae Park, where unique rocks are formed, and visitors are greeted by the dense forest surrounded by the deep blue ocean, is a leading travel destination in Korea.

## Songdo



- **Nearest Station**  
Jungang Station(①, 중앙)
- **Bus** : ~30 min.

Opened in 1913, Songdo Beach is the first beach in Korea. After its golden age in the 1960s and 1970s, the beach became deserted. Those who wished to bring it back to its former beauty joined forces to repair the abandoned beach, making it even more breathtaking than it was in its heyday. With its spotless sandy beach, clear water, cloud trails, and an overwater cable car, Songdo Beach is once again a popular tourist destination receiving over five million visitors per year.

## Yongdusan park

- **Nearest Station**  
Jungang Station(①, 중앙)
- **Walk** : ~15 min.

Even though the road to Yongdusan Park has an ascending slope, the trees cast a cool shade along the road, making it a pleasant walk to the entrance of the park. For travelers who will take the Busan Metro, they can use the escalator entrance close to the station to reach the park more conveniently. The citizen's bell and flower clock placed under the elegant pavilion greet visitors. The citizen's bell, made through donations by Busan residents, is used to welcome New Year's Eve. If you wish to tread on rosy paths only, do not forget the flower clock at Yongdusan Park.



## Gamcheon Culture Village



- **Nearest Station**  
Toseong Station(①, 토성)
- **Walk** : ~30 min.

While the village's beautiful landscape gave it the nickname of the Machu Picchu of Korea, the town was a part of the painful history of Busan. Refugees settled in Gamcheon Village during the Korean War and cultivated the mountainous region to make a living. In 2009, students, artists, and residents decorated the village as a part of the Village Art Project, and the town grew into a leading tourist attraction of Busan since then.

## Morundae



- **Nearest Station**  
Dadaepo Beach Station(①, 다대포)
- **Walk** : ~10 min.

There is a small hill protruding out towards the sea at the left end of Dadaepo Beach. This is Morundae. This island is often foggy and cloudy due to the sea currents, which make the island nearly invisible. Hence the name Morundae, meaning an island sinking under the cloud.

## Dadaepo



- **Nearest Station**  
Dadaepo Beach Station(①, 다대포)
- **Walk** : ~5 min.

Dadaepo Beach, where Nakdonggang River and the South Sea meet, allows you to enjoy the beauty of nature with Busan's sunrise, sunset, and sandy beach. The smoothness of Dadaepo Beach's soft white sand is thanks to the long weathering period. The unique texture of the sand brushing between the toes provides a refreshing and pleasant sensation. The shallow and warm beach also makes it the perfect play place for children. The colorful toy forklifts and trucks parked on the white sandy beach create a cute scene. Recently, the beach is packed with people paddleboarding or kiteboarding.

## Lotte World Adventure & OSIRIA Tourist Complex



- **Nearest Station**  
OSIRIA Station(㉞, 오시리아)
- **Walk** : ~15 min.

The Lotte World Adventure is the only theme park at Busan (in 2022). The park has 17 riding attractions in 158,000m2. Several parades and performances also will be held. The sector the park placed is "OSIRIA tourist complex". It has many places to go, i.e., IKEA, Lotte Premium Outlet (Shopping mall), Busan Science Museum, Hilton Hotel and Ananti Cove (Resort Area), etc.

You can find more tourists' places in [visitbusan.net](http://visitbusan.net)

## Sponsors

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## Survival Phrases



For more details ...

<b>Hello</b>	➔	<b>annyeonghaseyo</b> 안녕하세요
<b>Goodbye</b> (to the person leaving)	➔	<b>annyeonghigaseyo</b> 안녕히가세요
<b>Thank you</b>	➔	<b>gamsahamnida</b> 감사합니다
<b>Just a moment</b>	➔	<b>jamsimanyo / jamkkanmanyo</b> 잠시만요 / 잠깐만요
<b>Excuse me</b>	➔	<b>silyehamnida</b> 실례합니다
<b>Nice to meet you</b>	➔	<b>mannaseo bangapseumnida</b> 만나서 반갑습니다
<b>Please give me _____</b>	➔	<b>juseyo</b> _____ 주세요
<b>Where is the bathroom?</b>	➔	<b>hwajangsireun eodie isseoyo</b> 화장실은 어디에 있어요?
<b>Do you have wifi here?</b>	➔	<b>waipai isseoyo</b> 와이파이 있어요?
<b>Do you have wifi here?</b> (formal)	➔	<b>waipai itseumnikka</b> 와이파이 있습니까?
<b>Please help!</b>	➔	<b>dowajuseyo</b> 도와주세요!
<b>Take me to the hospital</b>	➔	<b>byeongwone ga juseyo</b> 병원에 가 주세요
<b>Please give me a menu</b>	➔	<b>menyupan juseyo</b> 메뉴판 주세요
<b>How much is this?</b>	➔	<b>igeo eolmayeyo</b> 이거 얼마예요?

















## Find us at

SQM 2022 Local Organizing Committee

## Corresponding to HIPEX

Department of Physics  
Bldg.311, Room No. 206-2  
Pusan National University  
2, Busandaehakro63beon-gil,  
Geumjeong-gu, Busan, Republic of Korea  
(46241)

## Email

[sqm2022@hipex.phys.pusan.ac.kr](mailto:sqm2022@hipex.phys.pusan.ac.kr)