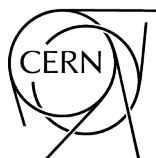


2014 Asia–Europe–Pacific School of High-Energy Physics

Puri, India

4 – 17 November 2014

Editors: M. Mulders
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Abstract

The Asia–Europe–Pacific School of High-Energy Physics is intended to give young physicists an introduction to the theoretical aspects of recent advances in elementary particle physics. These proceedings contain lecture notes on quantum field theory and the electroweak Standard Model, the theory of quantum chromodynamics, flavour physics and CP violation, neutrino physics, heavy-ion physics, cosmology and a brief introduction to the principles of instrumentation and detectors for particle physics.

Preface

The second event in the series of the Asia–Europe–Pacific School of High-Energy Physics took place in Puri, India, from 4 to 17 November 2014. A strong team from IISc, IOP, NISER, TIFR and VECC, took care of the local organization, while CERN and KEK collaborated to provide administrative support in preparation for the School.

The staff and students were housed in comfortable accommodation in the Toshali Sands Hotel that also provided the conference facilities. The students shared twin-bed rooms, mixing nationalities to foster cultural exchange between participants from different countries.

A total of 64 students of 22 different nationalities attended the school. About 70% of the students were from Asia-Pacific countries, most of the others coming from Europe. More than 80% of the participants were working towards a PhD, while most of the others were advanced Masters students; the School was also open to postdocs. Over 80% of the students were experimentalists; the school was also open to phenomenologists.

A total of 33 lectures were complemented by daily discussion sessions led by five discussion leaders. The teachers (lecturers and discussion leaders) came from many different countries: Australia, China, France, Germany, India, Japan, Korea, the Netherlands, Russia, Switzerland and Taiwan.

The programme required the active participation of the students. In addition to the discussion sessions that addressed questions from the lecture courses, there was an evening session in which many students presented posters about their own research work to their colleagues and the teaching staff.

Collaborative student projects in which the students of each discussion group worked together on an in-depth study of a published experimental data analysis were an important activity. This required interacting, outside of the formal teaching sessions, with colleagues from different countries and different cultures. A student representative of each of the five groups presented a short summary of the conclusions of the group's work in a special evening session.

In addition to the academic side of the School, the participants had the occasion to experience many aspects of Indian culture, including visits to the Sun Temple at Konark, to numerous sites and temples in and around the city of Bhubaneswar, and to observe the natural beauty of Lake Chilka and its associated wildlife. They also had ample opportunity to appreciate excellent Indian food, including some delicious dinners served in the open air with live performances of Indian dance.

Our thanks go to the local-organization team and, in particular, to Subhasis Chattopadhyay, Rohini Godbole, Gobinda Majumdar, Prolay K. Mal, Sreerup Raychaudhuri and Pradip K. Sahu, for all their work and assistance in preparing the School, on both scientific and practical matters, and for their presence throughout the event. Our thanks also go to the hotel management and staff who assisted the School organizers and the participants in many ways.

Very great thanks are due to the lecturers and discussion leaders for their active participation in the School and for making the scientific programme so stimulating. The students, who in turn manifested their good spirits during two intense weeks, undoubtedly appreciated listening to and discussing with the teaching staff of world renown.

We would like to express our special appreciation to Professor Rolf Heuer, Director General of CERN, and Professor Atsuto Suzuki, Director General of KEK, for their lectures on the particle-physics programmes in Europe and in Asia. We would also like to thank Professor K. Vijayaraghavan, Secretary of the Department of Science and Technology, for his welcome address, and Professor Naba Mondal, leader of the India-based Neutrino Observatory, for his presentation on high-energy physics in India.

We are very grateful to Kate Ross from CERN, and to Misa Miyai and Ritsuko Ota from KEK, for their untiring efforts on administration for the School. We would also like to thank the members of the International Committees

Sponsorship from numerous bodies in many countries covered the cost of travel and/or local expenses of their staff and students who attended the School. In addition, general sponsorship is gratefully acknowledged from: Bose Institute, India; CEA/Irfu, France; CNRS/IN2P3, France; CERN; DESY, Germany; ICTP; KEK, Japan; TIFR, India.

Nick Ellis
(Chair of the International Organizing Committee)





People in the photograph

1	Raveendrababu Karanam	37	Aleksandr Azatov
2	Divekar S.T.	38	Lucia Grillo
3	Reza Goldouzian	39	Artur Shaikhiev
4	Ashim Roy	40	Debjyoti Bardhan
5	Kalyanmoy Chatterje	41	SK Noor Alam
6	Martijn Mulders	42	Aliaksei Hrynevich
7	Nick Ellis	43	Valery Rubakov
8	Sandeep Bhowmik	44	Sudhir Vempati
9	Rajesh Ganai	45	Chandan Gupta
10	Rohini Godbole	46	Simon Stark Mortensen
11	Subikash Choudhury	47	Timofey Maltsev
12	Jayita Lahiri	48	Andrey Kupich
13	Alexander Bylinkin	49	Weimin Song
14	Tatsuhiko Tomita	50	Prasanth Krishnan KP
15	Deepanjali Goswami	51	Md. Mohsin
16	Ipsita Saha	52	Ram Krishna Dewarjee
17	Indrani Chakraborty	53	Tom Ravenscroft
18	Norma Sidik Risdianto	54	Anastasiia Kozachuk
19	Nairit Sur	55	Ievgen Korol
20	Subhasis Chattopadhyay	56	Kouhei Hanzawa
21	Koichi Hamaguchi	57	Ralitsa Sharankova
22	Robyn Lucas	58	Alexey Baskakov
23	Sylvestre Pires	59	Niladribihari Sahoo
24	Rose Koopman	60	Inayat Bhat
25	Yusho Homma	61	Bibhuprasad Mahakud
26	Ryutaro Nishimura	62	Dibyakrupa Sahoo
27	Subash Adhikari	63	Fabian Kuger
28	Narayan Rana	64	Genesis Perez
29	Soumita Pramanick	65	Lydia Roos
30	Kuo-Lun Jen	66	Tran Nam
31	Yuki Nakai	67	Monika Blanke
32	Nadine Fischer	68	Ian-Woo Kim
33	Sijing Zhang	69	Soureek Mitra
34	Li-Chu Chang	70	Cheng-Wei Chang
35	Kate Ross	71	Neil Barrie
36	Dinesh Kumar	72	Marian Stahl

PHOTOGRAPHS (MONTAGE)





Contents

Preface	
<i>N. Ellis</i>	v
Photograph of participants	vii
Photographs (montage)	x
Field Theory and the EW Standard Model	
<i>R.M. Godbole</i>	1
QCD	
<i>P. Skands</i>	63
Flavour Physics and CP Violation	
<i>S.J. Lee</i>	125
Neutrino Physics	
<i>Z.Z. Xing</i>	177
Heavy Ion Physics	
<i>S. Gupta</i>	219
Cosmology	
<i>V. Rubakov</i>	239
Instrumentation	
<i>I. Wingerter</i>	295
Organizing Committees	315
Local Organizing Committee	315
List of Lecturers	316
List of Discussion Leaders	316
List of Students	317
List of Posters	318