

Session Program

12-26 May 2019



5th Summer School on INtelligent signal processing for FrontIEr Research and Industry

PLENARY MORNING SESSION

Huazhong University of Science and Technology in Wuhan, China

Tuesday 14 May

08:00

PLENARY MORNING SESSION: A VISION OF THE MAIN FRONTIER RESEARCH FIELDS COVERED BY THIS SCHOOL

Session | Location: Huazhong University of Science and Technology in Wuhan, China | **Convener:** Prof. Philip Patrick ALLPORT

08:00-09:50

VISION ON THE NEW TRENDS ON ASTROPHYSICS AND COSMOLOGY: FROM LARGE GROUND BASE SURVEYS TO SPACE MISSIONS

Speaker

Prof. Zuhui FAN

09:00-11:00

VISIT during the INFIERI School: ZAIGA project presentation at the WUHAN University

09:50-10:10

Coffee/Tea Break

10:10-12:00

A VISION ON THE MAIN DIRECTIONS IN HIGH ENERGY PHYSICS IN THE NEXT DECADES

Speaker

Prof. Aurore SAVOY NAVARRO

12:00

Wednesday 15 May

08:00

PLENARY MORNING SESSION: INTELLIGENCE ON THE INSTRUMENTS: THE TECHNOLOGY SIDE

Session | Location: Huazhong University of Science and Technology in Wuhan, China | **Convener:** Dr Francesca CAVALLARI

08:00-09:50 NEW DEVELOPMENTS ON SILICON TECHNOLOGY

Speaker

Prof. Gianluigi CASSE

09:50-10:10 Coffee/Tea Break

09:50-12:10

Visit of Dr Yann Moreau from the General Consulate of France at Wuhan

10:10-12:00 COLD DETECTORS: FROM ASTROPHYSICS TO QUANTUM COMPUTING

Speaker

Dr Jean-Luc SAUVAGEOT

16:00

Thursday 16 May

08:00

PLENARY MORNING SESSION: INTELLIGENCE ON THE INSTRUMENTS: THE PARTICLE PHYSICS CASE

Session | Location: Huazhong University of Science and Technology in Wuhan, China | **Convener:** Prof. Gianluigi CASSE

08:00-09:50 NEW HIGH GRANULARITY CALORIMETERS for HIGH ENERGY PHYSICS

Speaker

Dr David BARNEY

09:50-10:10 Coffee/Tea Break

10:10-12:00

HIGH PERFORMANCE TIMING DETECTORS FOR HIGH ENERGY PHYSICS EXPERIMENTS & NEW DEVELOPMENTS FOR High LUMINOSITY LHC

Speaker

Dr Francesca CAVALLARI

12:00

Friday 17 May

08:00

PLENARY MORNING SESSION: INTELLIGENCE ON THE INSTRUMENTS: THE ASTROPHYSICS:CASE; FROM UNDERGROUND TO TERRESTRIAL TO SPACE EXPERIMENTS

Session | Location: Huazhong University of Science and Technology in Wuhan, China | **Convener:** Dr Robert PATTI

08:00-09:50

KAGRA: 2ND GENERATION OF GRAVITATIONAL WAVE (GW) EXPERIMENT & FIRST UNDERGROUND GW EXPERIMENT

Speaker

Prof. Osamu MIYAKAWA

09:50-10:10 **Coffee/Tea Break**10:10-12:00 **DARK MATTER SEARCHES: AN OVERVIEW**

Speaker

Prof. Charling TAO

12:00

Saturday 18 May

08:00

PLENARY MORNING SESSION: THE BRAIN EXPLORATION AND RELATED NEW TECHNOLOGIES

Session | Location: Huazhong University of Science and Technology in Wuhan, China | **Convener:** Prof. Nicola D'ASCENZO

08:00-09:50 DIGITAL PET 2.0

Speaker

Prof. Qingguo XIE

09:50-10:10 Coffee/Tea Break

10:10-12:00 INTRODUCTION TO QUANTUM COMPUTING

Speaker

Prof. Man-Hong YUNG

12:00

Monday 20 May

08:00

PLENARY MORNING SESSION: DATA TRANSMISSION: HIGH RATE, HIGH SPEED AND NEW TRENDS IN DATA COMMUNICATION

Session | Location: Huazhong University of Science and Technology in Wuhan, China | **Convener:** Prof. Yoshinobu UNNO

08:00-09:50 QUANTUM COMPUTING: ALTERNATIVE APPROACHES

Speaker

Dr Robert PATTI

09:50-10:10 Coffee/Tea Break

10:10-12:00

HIGH RATE/HIGH SPEED DATA TRANSMISSION CHALLENGES & SOLUTIONS: PHOTONICS APPLIED TO TELECOM

Speaker

Prof. Ming TANG

12:00

Tuesday 21 May

08:00

PLENARY MORNING SESSION: INTRODUCTION TO ARTIFICIAL INTELLIGENCE

Session | Location: Huazhong University of Science and Technology in Wuhan, China | **Convener:** Prof. Jesus MARCO DE LUCAS

08:00-09:50

THE HARDWARE SIDE OF ARTIFICIAL INTELLIGENCE: PIXEL-EMBEDDED SIGNAL PROCESSING FOR THE NEXT GENERATION OF RADIATION DETECTORS AT THE LHC AND FREE ELECTRON LASER MACHINES

Speaker

Prof. Lodovico RATTI

09:50-10:10

Coffee/Tea Break

10:10-12:00

PROGRAMMING FOR BIG DATA PROCESSING

Speaker

Prof. Hai JIN

12:00

Wednesday 22 May

08:00

PLENARY MORNING SESSION: BIG DATA DAY

Session | Location: Huazhong University of Science and Technology in Wuhan, China | **Convener:** Dr Rogerio IOPE

08:00-09:50 **BIG DATA & FUNDAMENTAL RESEARCH: CHALLENGES & PERSPECTIVES**

Speaker

Prof. Jesus MARCO DE LUCAS

09:50-10:10 **Coffee/Tea Break**

10:10-12:00

GPGPU COMPUTING FOR REAL TIME EVENT FILTERING (WITH THE HEP AS AN EXAMPLE CASE)

Speaker

Dr Dorothea VOM BRUCH

12:00

Thursday 23 May

08:00

PLENARY MORNING SESSION: NEW DIRECTIONS in HIGH PERFORMANCE COMPUTING

Session | Location: Huazhong University of Science and Technology in Wuhan, China | **Convener:** Dr Dorothea VOM BRUCH

08:00-09:50 MACHINE LEARNING AND DEEP LEARNING

Speaker

Dr Lara LLORET IGLESIAS

09:50-10:10 Coffee/Tea Break

10:10-12:00 THE BRAIN & THE NEW TECHNOLOGIES: THE MEDICAL POINT OF VIEW

Speaker

Prof. Min ZHANG

12:00

Friday 24 May

08:30

PLENARY MORNING SESSION: NEW DIRECTIONS in HIGH PERFORMANCE COMPUTING

Session | Location: Huazhong University of Science and Technology in Wuhan, China | **Convener:** Dr Lara LLORET IGLESIAS

08:30-10:00 **NEW INTEL FPGA TECHNOLOGY**

Speaker

Mr Dylan WANG

10:00-10:20 **Coffee/Tea Break**

10:20-12:00 **COMPUTATIONAL SPECTRAL VIDEO IMAGING**

Speaker

Prof. Xun CAO

12:00-13:00 **NEUROMORPHIC COMPUTING WITH SPINTRONIC NANODEVICES**

Speaker

Dr Danijela MARKOVIC

13:00