

Program (CEST)

Sunday, 15 May 2022

17:00 – 21:00 Registration

18:00 *BUFFET SUPPER and informal get-together*

Monday, 16 May 2022

08:00 *BREAKFAST*

08:45 – 09:00 Organizers **Welcome and Goals**

Light Source Applications (Convener: Andreas Maier)

09:00 – 09:05 Andreas Maier **Introduction**

09:05 – 09:35 Agostino Marinelli **X-Ray Free-Electron Lasers: State of the Art and Opportunities for Advanced Particle Accelerators**

09:35 – 10:05 Félicie Albert **Laser Plasma Accelerators: Next Generation X-Ray Light Sources**

10:05 – 10:30 **Discussion**

10:30 – 11:00 *COFFEE / TEA BREAK*

Particle Physics Applications (Convener: Edda Gschwendtner)

11:00 – 11:05 Edda Gschwendtner **Introduction**

11:05 – 11:35 Beate Heinemann **HEP Applications of Plasma Wakefield Accelerators**

11:35 – 12:05 Brian Foster **Applications of Plasma-Wave Acceleration Techniques to Particle Colliders**

12:05 – 12:30 **Discussion**

12:30 – 14:00 *LUNCH BREAK*

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Health and Industrial Applications (Convener: Jörg Schreiber)

14:00 – 14:05	Jörg Schreiber	Introduction
14:05 – 14:35	François Sylla	Laser Plasma Accelerators to Address the Industrial Inspection Market
14:35 – 15:05	Ulrich Schramm	Establishing Laser Accelerated Proton Beam Performance for Dose Controlled Irradiation Studies
15:05 – 15:30	Discussion	
15:30 – 16:00	<i>COFFEE / TEA BREAK</i>	

Simulation / Theory (Convener: Jean-Luc Vay)

16:00 – 16:05	Jean-Luc Vay	Introduction
16:05 – 16:35	Maxence Thévenet	Theoretical Basis and Exascale Simulations
16:35 – 17:05	Marija Vranić	Laser-Electron Collisions and Laser-Plasma Interaction in QED Regime (Theory and Simulations)
17:05 – 17:30	Discussion	
18:30	<i>HERAEUS DINNER</i> (social event with cold & warm buffet with complimentary drinks)	

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Tuesday, 17 May 2022

08:00 *BREAKFAST*

Driver Technology (Convener: Jens Limpert)

09:00 – 09:05	Jens Limpert	Introduction
09:05 – 09:35	Stefan Karsch	Ti:Sapphire Lasers as Drivers for Plasma-Based Accelerators
09:35 – 10:05	Laura Corner	Laser Technology for LWFA
10:05 – 10:30	Discussion	
10:30 – 11:00	<i>COFFEE / TEA BREAK</i>	

Plasma Technology (Convener: Patric Muggli)

11:00 – 11:05	Patric Muggli	Introduction
11:05 – 11:35	Brigitte Cros	Overview of Plasma Technology for Accelerators
11:35 – 12:05	Howard Milchberg	Optical Guiding of High Intensity Laser Pulses for Laser Wakefield Acceleration
12:05 – 12:30	Discussion	
12:30 – 14:00	<i>LUNCH BREAK</i>	
14:00 – 15:30	Poster Session Introductions	
15:30 – 17:30	Poster Session / COFFEE	
17:30 – 19:00	<i>WORKSHOP DINNER AND EXTENDED DISCUSSIONS</i>	

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Wednesday, 18 May 2022

08:00 *BREAKFAST*

Plasma Astrophysics (Convener: Frank Jenko)

09:00 – 09:05 Frank Jenko **Introduction**

09:05 – 09:35 Frederico Fiuza **Cosmic-Ray Driven Instabilities**

09:35 – 10:05 Tony Bell **The Surprising Effectiveness of
Cosmic Ray Acceleration**

10:05 – 10:30 **Discussion**

10:30 – 11:00 *COFFEE / TEA BREAK*

Diagnostics (Convener: Mike Downer)

11:00 – 11:05 Mike Downer **Introduction**

11:05 – 11:35 Malte Kaluza **High-Resolution Diagnostics for
Plasma-Based Accelerators - a Tool for
Detailed Insights into the Interaction**

11:35 – 12:05 Enrica Chiadroni **Electron Beam Diagnostics**

12:05 – 12:30 **Discussion**

12:30 – 14:00 *LUNCH BREAK*

Machine Learning in Wakefield Acceleration (Convener: Adi Hanuka)

14:00 – 14:05 Adi Hanuka **Introduction**

14:05 – 14:35 Remi Lehe **Overview of Gaussian Processes and
Bayesian Optimization for Plasma-
Based Accelerators**

14:35 – 15:05 Alexander Scheinker
(online) **Overview of Adaptive Machine
Learning Methods: Towards Virtual
6D Phase Space Diagnostics**

15:05 – 15:30 **Discussion**

End of Seminar / Departure