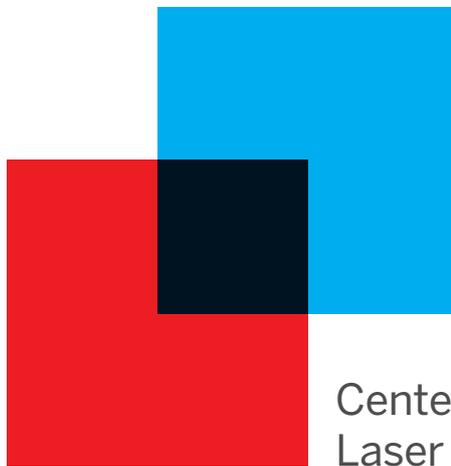


PIER Graduate Week 2023

Interdisciplinary lecture
and workshop week for PhD
students



16–23 OCT '23

Center for Free-Electron
Laser Science, SR I-V



Partnership of
Universität Hamburg and DESY



Course Overview

Programme / registration:
pier-hamburg.de/gradweek2023

| | Time | Course | Monday, 16 OCT | Tuesday, 17 OCT | Wednesday, 18 OCT | Thursday, 19 OCT |
|--------------------|---------------------|--|--|--|--|--|
| Morning sessions | 09:00 – 10:30 | / Course 1: Physics and artificial intelligence SR I-III | Gregor Kasieczka, Universität Hamburg Physics & AI: Foundations and Applications of Machine Learning in Fundamental Physics Research | Gregor Kasieczka, Universität Hamburg Physics & AI: Foundations and Applications of Machine Learning in Fundamental Physics Research | Gregor Kasieczka, Universität Hamburg Physics & AI: Foundations and Applications of Machine Learning in Fundamental Physics Research | Gregor Kasieczka, Universität Hamburg Physics & AI: Foundations and Applications of Machine Learning in Fundamental Physics Research |
| | 10:30 – 11:00 | Coffee break | | | | |
| | 11:00 – 12:30 | / Course 1: Physics and artificial intelligence SR I-III | Gregor Kasieczka, Universität Hamburg Physics & AI: Foundations and Applications of Machine Learning in Fundamental Physics Research | Gregor Kasieczka, Universität Hamburg Physics & AI: Foundations and Applications of Machine Learning in Fundamental Physics Research | Gregor Kasieczka, Universität Hamburg Physics & AI: Foundations and Applications of Machine Learning in Fundamental Physics Research | Gregor Kasieczka, Universität Hamburg Physics & AI: Foundations and Applications of Machine Learning in Fundamental Physics Research |
| Afternoon sessions | 12:30 – 14:00 | Lunch break | | | | |
| | 14:00 – 15:00 | / Course 2: The physics of the life sciences: Connections of fundamental physics to modern biology & medicine SR I-III | Alessandra Picchiotti, Universität Hamburg Introduction to the lectures Optogenetics | Helen Ginn, DESY Teasing out the secrets of subtle protein dynamics | Roland Thünauer, CSSB Hamburg Super resolution light microscopy by single molecule localization and structured illumination | Maya Topf, LVI / UKE / CSSB Hamburg Integrative modelling of macromolecular assemblies using data from cryo-EM & mass spectrometry |
| | 15:00 – 15:15 | Coffee break | | | | |
| | 15:15 – 16:15 | / Course 2: The Physics of the life sciences: Connections of fundamental physics to modern biology & medicine SR I-III | Susann Quinn, University College Dublin Time-resolved spectroscopy, a powerful tool for the study of photosensitised processes in DNA | Pedram Mehrabi, Universität Hamburg Multidimensional serial crystallography | Antonio Failla, UKE Hamburg Super resolution light microscopy, studying the interplay between light and matter up to the molecular level | Jürgen Finsterbusch, UKE Hamburg From NMR to brain function, tissue microstructure, and metabolism in vivo |
| | 16:15 – 16:30 | Coffee break | | | | |

| | Time | Course | Monday, 16 OCT | Tuesday, 17 OCT | Wednesday, 18 OCT | Thursday, 19 OCT | |
|------------------------------------|---------------------|--|---|---|---|---|--|
| Afternoon sessions | 16:30 – 17:30 | / Course 2: The Physics of the life sciences: Connections of fundamental physics to modern biology & medicine HARBOR, building 610 People divided in small groups | <ol style="list-style-type: none"> How protein crystals are made (a.g. Pearson) Analysis of protein conformations, practical demo (a.g. Ginn) LADOM demonstration - Laser Assisted DNA optical Mapping (a.g. Fernandez-Cuesta) Guided tour of the attolab in DESY (a.g. Calegari) Guided tour of T-REX Beamline (a.g. Pearson) | <ol style="list-style-type: none"> How protein crystals are made (a.g. Pearson) Analysis of protein conformations, practical demo (a.g. Ginn) LADOM demonstration - Laser Assisted DNA optical Mapping (a.g. Fernandez-Cuesta) Guided tour of the attolab in DESY (a.g. Calegari) Guided tour of T-REX Beamline (a.g. Pearson) | <ol style="list-style-type: none"> How protein crystals are made (a.g. Pearson) Analysis of protein conformations, practical demo (a.g. Ginn) LADOM demonstration - Laser Assisted DNA optical Mapping (a.g. Fernandez-Cuesta) Guided tour of the attolab in DESY (a.g. Calegari) Guided tour of T-REX Beamline (a.g. Pearson) | <ol style="list-style-type: none"> MRI demo at UKE (until 19:00 in the evening – guided by Fisterbusch) How protein crystals are made (a.g. Pearson) Analysis of protein conformations, practical demo (a.g. Ginn) | |
| | 17:30 – 18:00 | | Coffee break | | | | |
| Evening sessions | 18:00 – 20:00 | / Evening sessions | / Scientific colloquium: Nils Schweingruber, UKE Artificial intelligence in neurointensive medical care SR I-III Catering included | / Industry talk: Jasone Garay Garcia Flight Physics at AIRBUS SR I-III Catering included | / Poster session with barbecue CFEL foyer BBQ included | | |
| | | Soft skills and career planning workshops on 20 / 23 October: | | | | | |
| Additional sessions on 20 + 23 Oct | | / Skills course A 20 Oct 9:30 am - 5:30 pm | Presentation skills: Vocal power and physical presence for scientists Elena Kaufman SR V, CFEL | | | | |
| | | / Skills course B 20 Oct 9:30 am - 5:30 pm | Career planning skills: Get active and plan your career Iris Köhler ONLINE | | | | |
| | | / Skills course C 20 Oct 10 am - 1 pm | Individual 25 minutes career speed counselling for doctoral researchers Annette Leemans Room 01.060, CFEL | | | | |
| | | / Skills course D 23 Oct 9:30 am - 5:30 pm | Act self-confidently and constructively in academic competition Anna Momber-Heers SR I, CFEL | | | | |
| | | End of event | | | | | |