

HALOS HAMBURG AUTUMN SCHOOL

LIFE SCIENCES AT ADVANCED PHOTON AND ELECTRON SOURCES

THIS SCHOOL IS VIRTUAL: CLICKING ON THE SESSION TITLE SHOULD OPEN THE ZOOM LINK FOR THAT TALK. ANY PROBLEMS PLEASE EMAIL ARWEN.PEARSON@CFEL.DE

MONDAY 20TH SEPTEMBER - SMALL ANGLE X-RAY SCATTERING

- 9:30-9:50 [WELCOME AND INTRODUCTION TO HALOS](#) (ARWEN PEARSON, UHH)
- 9:50-10:00 BREAK
- 10:00-11:00 [INTRODUCTION TO SAXS - WHAT, HOW AND WHY?](#) (CY JEFFRIES, EMBL)
- 11:00-11:10 BREAK
- 11:10-12:10 [FROM DATA TO MODEL: TACKLING THE AMBIGUITIES IN THE ANALYSIS OF SOLUTION SCATTERING FROM BIOMACROMOLECULES](#) (YUNYUN GAO, UHH)
- 12:10-14:00 BREAK
- 14:00-17:00 [PRACTICAL SAXS DEMONSTRATION](#) (MELISSA GRAEWERT, EMBL)

TUESDAY 21ST SEPTEMBER - FLUORESCENCE MICROSCOPY AND CORRELATIVE IMAGING

- 9:30-10:30 [INTRODUCTION TO FLUORESCENCE MICROSCOPY AND SUPER-RESOLUTION METHODS](#) (RAINER KAUFMANN, CSSB/UHH)
- 10:30-11:00 BREAK
- 11:00-12:00 [BIOLOGICAL X-RAY IMAGING](#) (LIZ DUKE, EMBL)
- 12:10-14:00 BREAK
- 14:00-17:00 [PRACTICAL ADVANCED FLUORESCENCE MICROSCOPY DEMONSTRATION](#) (RAINER KAUFMANN, CSSB/UHH, ROLAND THUENAUER, CSSB)

WEDNESDAY 22ND SEPTEMBER - ELECTRON MICROSCOPY AND IMAGING

- 9:30-10:30 [AN INTRODUCTION TO ELECTRON MICROSCOPY FOR STRUCTURAL MOLECULAR BIOLOGY](#) (CORNELIA CAZEY, CSSB)
- 10:30-10:45 BREAK
- 10:45-11:45 [FROM PROTEINS TO CELLS TO CELLULAR MOVIES USING ELECTRON MICROSCOPE](#) (EMMANUELLE QUEMIN, CSSB)
- 11:45-14:00 BREAK
- 14:00-15:00 [DATA ANALYSIS PRINCIPLES SPA: FROM 2D PROJECTION IMAGES TO 3D MODEL](#) (CAILLAN CROWE-MCAULIFFE, UHH)
- 15:00-17:00 [PRACTICAL ELECTRON MICROSCOPY DEMONSTRATION](#) (CAROLIN SEURING, CSSB & ANNA MUNKE, DESY)

THURSDAY 23RD SEPTEMBER - TIME-RESOLVED CRYSTALLOGRAPHY, ELECTRON DIFFRACTION & NEW REFINEMENT METHODS

9:00-10:00 [INTRODUCTION TO TIME-RESOLVED STRUCTURAL BIOLOGY](#) (ARWEN PEARSON, UHH)

10:00-10:15 BREAK

10:15-11:15 [VAGABOND - A NEW APPROACH TO MACROMOLECULAR MODEL BUILDING AND REFINEMENT](#) (HELEN GINN, DIAMOND LIGHT SOURCE)

11:15-11:30 BREAK

11:30-12:30 [SERIAL ELECTRON DIFFRACTION FOR MACROMOLECULES](#) (ROBERT BÜCKER, CSSB)

12:30-14:00 BREAK

14:00-17:00 [PRACTICAL TIME-RESOLVED SERIAL SYNCHROTRON CRYSTALLOGRAPHY AT T-REXX](#) (PEDRAM MEHRABI & EIKE SCHULZ, UHH)

FRIDAY 24TH SEPTEMBER - FREE ELECTRON LASERS FOR LIFE SCIENCE & SPECTROSCOPY

9:00-10:00 [X-RAY BASED SPECTROSCOPIES TO PROBE BIOLOGICAL SYSTEMS](#) (NILS HUSE, UHH) 45 MINUTE PRERECORDED LECTURE FOLLOWED BY 15 MINUTE Q&A 9:45-10:00

10:00-10:15 BREAK

10:15-11:15 [CRYSTFEL FOR SERIAL CRYSTALLOGRAPHIC DATA PROCESSING](#) (TOM WHITE, DESY) 30 MINUTE PRE-RECORDED LECTURE FOLLOWED BY 30 MINUTE ONLINE Q&A 10:45-11:15)

11:15-11:30 BREAK

11:30-12:30 [COHERENT X-RAY IMAGING METHODS FOR BIOMACROMOLECULES](#) (TAIS GORKHOVER, UHH)

12:30-14:00 BREAK

14:00-17:00 [THE EUROPEAN XFEL - VIRTUAL TOUR AND INTRODUCTION TO FACILITIES](#) (ROBIN SCHUBERT, EUROPEAN XFEL)