



SACLA Users' Meeting 2023

# Overview

Makina Yabashi

On behalf of SACLA

March 2, 2023

# SACLA Users' meeting 2023

- Third “online” meeting
- 194 registrations
- Special thanks to ...

Yoneda-sensei (Chair of SACLA UC)

Yabuuchi-san, SACLA BL staff, and secretary  
office of RIKEN SPring-8 Center

# SPring-8 & SACLA:

## Recent situation and perspective

- In Japan, NanoTerasu (3-GeV SR facility @ Sendai) will start operation in FY2024
- SPring-8 is seeking an opportunity for upgrade to “SPring-8-II” in the mid 2020’s; SACLA linac has been fully served as an injector for SPring-8 since 2021; Started upgrade of beamlines
- FY2022: 10-year anniversary since SACLA inauguration
- Become competitive
- But SACLA is keeping excellent visibility and productivity, leading XFEL science
- Increase of electricity cost: FY2022 managed to operate SACLA as scheduled. We continuously try to secure the operation time
- Enhance contribution to growth of XFEL community
- Expectation to solve societal problems

# Program Day 1

JST	GMT	PST	Session	Title	Speaker
9:30	0:30	16:30	Welcome		
9:40	0:40	16:40	Facility Session	Overview	M. Yabashi (SACLA)
9:45	0:45	16:45		Facility Update	T. Yabuuchi (SACLA)
10:15	1:15	17:15	Break		
10:30	1:30	17:30	Technical Updates	Hard X-ray Beamlines (BL2/BL3)	T. Osaka (SACLA)
				Soft X-ray Beamline (BL1)	S. Owada (SACLA)
				Synchronized Optical Laser System	T. Togashi (SACLA)
				High-power Optical Laser Systems	K. Miyanishi (SACLA)
				Detector Development Programs	T. Hatsui (SACLA)
11:45	2:45	18:45	Break		
14:00	5:00	21:00	SACLA Basic Development Program 2022	Development of soft X-ray focusing and imaging systems using precise rotational mirrors	S. Egawa (RIKEN)
14:15	5:15	21:15		Development of a time-resolved soft X-ray absorption, reflection and fluorescence spectroscopy station for liquid samples	H. Iwayama (IMS)
14:30	5:30	21:30		Development of a wide-dynamic-range and high-frame-rate CMOS image sensor for soft X-ray III	J. Miyawaki (QST)
14:45	5:45	21:45	Break		
15:00	6:00	22:00	SACLA Basic Development Program 2022	Measurement systems for biomolecular movies using X-ray free electron lasers	S. Iwata (Kyoto Univ.)
15:15	6:15	22:15		Precise wavefront control of focused hard X-ray FEL at SACLA	J. Yamada (Osaka Univ.)
15:30	6:30	22:30		X-ray experiment in pulsed ultrahigh magnetic field beyond 100 T with a portable single turn coil system "PINK"	A. Ikeda (UEC)
15:45	6:45	22:45		Study of magnetized solids/plasmas in the near and above high energy density regime	B. Albertazzi (LULI CNRS)
16:00	7:00	23:00	Break		
16:30	7:30	23:30	Scientific Talks A	Flavin photoreduction mechanism in a DNA photolyase	Y. Bessho (Univ. Tokyo)
17:00	8:00	0:00		Nanoscale subsurface density dynamics upon high-intensity femtosecond laser irradiation on solids	M. Nakatsutsumi (European XFEL)
17:30	8:30	0:30			

Opening

Facility reports

Break

SBD Program

Science  
Highlight<sup>41</sup>

# Program Day 2 AM

JST	GMT	PST	Session	Title	Speaker
9:00	0:00	16:00	Scientific Talks B	Investigation of the photo-induced magnetization dynamics of ferromagnets at SACLA	K. Yamamoto (IMS)
9:30	0:30	16:30		Recent progress and potential applications of stimulated X-ray emission	U. Bergmann (Univ. Wisconsin-Madison)
10:00	1:00	17:00	Break		
10:15	1:15	17:15	Breakout Sessions	Parallel Sessions:	
				A: Experimental Capabilities with Synchronized Laser System	
				B: Experimental Capabilities with High-power Nanosecond Laser System	
12:00	3:00	19:00	Break		
13:30	4:30	20:30	Special Session	Contribution to Sustainable Development Goals (Language: Japanese)	
15:10	6:10	22:10	Break		
15:20	6:20	22:20	Summary and Closing		
15:30	6:30	22:30			

**Science  
Highlight 2**

**Breakout  
Session**

**Toward SDGs  
in Japanese**

**Summary**

Enjoy the Meeting !!