

PROGRAMME

5TH WORKSHOP ON ENERGY FOR SUSTAINABLE SCIENCE AT RESEARCH INFRASTRUCTURES

Organized by CERN/ERF/ESS in cooperation with ARIES. Hosted by PSI.

THURSDAY, 28 NOVEMBER 2019

Plenary Session	
	Room: Auditorium WHGA/001 PSI West
	Convener: M. Seidel, PSI
09:00	Welcome – Th. Strässle, PSI Director a.i.
09:10	Introduction & goals – F. Bordry, CERN
09:30	The Swiss energy strategy 2050 and energy research landscape – S. Oberholzer, Swiss Federal Office for Energy
10:00	Research on sustainable energy at PSI – Th. Schmidt, PSI
10.30	Coffee break
11:00	Large systems energy storage – Michael Düren, University Giessen
11:30	Efficient infrastructure to run supercomputers and how the lesson learned can be applied to other scientific instruments – L. Gilly, CSCS
12:00	Realisation of a new research infrastructure in Belgium: MYRRHA - O. Van der Borgh, SCK-CEN
12:30	Sustainability considerations of present and future accelerators and infrastructure at DESY – W. Leemans – DESY
13:00	Lunch / Foyer Auditorium

THURSDAY, 28 NOVEMBER 2019

	Parallel session Sustainable technology developments by RI's	Parallel session Energy management at research infrastructures I
	Room: Auditorium – WHGA/001 PSI West	Room: PSI Education Center - OSGA/EG6 PSI East
	Convener: F. Lehner, DESY	Convener: C. Bocchetta, ESS
14:30	Study of surface effects in s.c. accelerator cavities using muon spectroscopy – A. Suter, PSI	Compact accelerator driven neutron source in the European landscape: efficiency and sustainability aspects – F. Sordo, ESS Bilbao
14:55	Increasing the energy efficiency of particle accelerators by using superconducting radio frequency niobium-3 tin cavities – R. Porter, Cornell Univ.	Energy consumption and sustainability of operations at the extreme light Infrastructure – A. Weeks, ELI
15:20	Application of fuel cells for UPS – F. Büchi, PSI	Reducing energy costs and environmental impacts for research infrastructure – The SKA case study – A. Schutte, Jodrell Bank Observatory
15:45	Shining X-rays on a reactor: a necessary step to rationally design or optimize (electro-) catalysts – M. Nachtegaal, PSI	District heating and use of waste heat recovery at the ESS – S. Strömberg, Eon
16.10	Coffee break / Foyer Auditorium	Coffee break – PSI Restaurant OASE

	Parallel session Energy efficient technologies I	Parallel session Energy management at research infrastructures II
	Room: Auditorium – WHGA/001 PSI West	Room: PSI Education Center - OSGA/EG6 PSI East
	Convener: A. Weeks, ELI	Convener: C. Bocchetta, ESS
16:40	Efficiency considerations of solid state pulse modulators – J. Biela, ETHZ	Energy monitoring and heat recovery at DESY – J.P. Jensen, DESY
17:05	Energy management for national high magnetic field facility in Grenoble – F. Debray, LNCMI	Energy consumption considerations in the beam physics design and optimization of the ESS Linac – M. Eshraqi, ESS
17:30	Low loss s.c. cavities – F. Gerigk, CERN	Energy Management at ALBA – J. Casas, ALBA
17:55	MgB ₂ based power transmission lines for the powering of the HL-LHC superconducting magnets – A. Ballarino, CERN	Closeout
18:20	Closeout	
18:45	Workshop dinner, PSI Restaurant OASE	

FRIDAY, 29 NOVEMBER 2019

Parallel session Energy efficient technologies II		Parallel session Cryogenic systems and conventional cooling	
Room: Auditorium – WHGA/001 PSI West		Room: PSI Education Center - OSGA/EG6 PSI East	
Convener: A. Weeks, ELI		Convener: S. Claudet, CERN	
08:30	Status of high efficiency RF power sources – Outcome of Uppsala workshop – R. Ruber, Uppsala Univ.		Technology and economics of He refrigerations using the example of ESS – John G. Weisend
08:55	Challenges of a megawatt CW class solid state power amplifier for the SPS at CERN – E. Montesinos, CERN		Energy efficient helium-neon refrigerator for FCC – L. Tavian, CERN
09:20	Permanent magnets for light sources – J. Chavanne, ESRF		Recent studies on water consumption and improvements on cooling towers effluents – S. Deleval, CERN
09:45	High current pulsed magnets for energy efficient beam transport systems – P. Spiller, GSI		Efficiency versus sobriety: optimized cryogenic design of stand-alone superconducting magnets – P. Lebrun, ESI
10:10	Coffee break / Foyer Auditorium		

Plenary session	
Room: Auditorium – WHGA/001 PSI West	
Convener: F. Bordry, CERN	
10:40	Lifecycle assessment: usefulness for and applicability to research infrastructures – M. Margni, Polytechnique Montréal (remote presentation)
11:10	Ecological diversity – T. Welander, ESS
11.40	Summary sustainable technology developments by RI's – F. Lehner, DESY
11:55	Summary energy management – C. Bocchetta, ESS
12:10	Summary energy efficient technology – A. Weeks, ELI
12:25	Summary cryogenic systems and conventional cooling – S. Claudet, CERN
12.40	Closing remarks – M. Seidel, PSI
13:00	Lunch / Foyer Auditorium
14.30	PSI facility tour
16.30	End