



## Workshop on an accelerator based source for Nonlinear THz science @ SwissFEL

University of Applied Sciences and Arts  
Northwestern Switzerland FHNW, Brugg-Windisch  
October 03, 2016



# Workshop Program

## October 03, 2016

08h00 – 08h50	Welcome Coffee & Registration	
08h55	Workshop Opening (Urs Staub, PSI)	
<b>09h00 – 10h30</b>	<b>Session 1: Infrared optics, creation and new opportunities</b>	
	(Session Chair: Steve Johnson, ETH Zurich)	
09h00 – 09h20	<b>Simona Bettoni (PSI)</b>	Possible THz source based on wakefield generation
09h20 – 09h55	<b>Dirk van der Marel (University of Geneva)</b>	THz radiation to study viscosity in electron liquids
09h55 – 10h30	<b>Alexej Pashkin (Helmholtz-Zentrum Dresden-Rossendorf)</b>	FEL-based nonlinear THz spectroscopy at the ELBE accelerator
10h30 – 11h00	Coffee Break	
<b>11h00 – 12h30</b>	<b>Session 2: Static control</b>	
	(Session Chair: Gabriel Aeppli, PSI)	
11h00 – 11h35	<b>Jean-Marc Triscone (University of Geneva)</b>	Interfacial control of magnetism in (111) LaMnO <sub>3</sub> /LaNiO <sub>3</sub> superlattices
11h35 – 12h10	<b>Darrell Schlom (Cornell University)</b>	Epitaxial Engineering of Ferroic Layers to Create a Room-Temperature Magnetoelectric Multiferroic
12h10 – 12h30	<b>William Windsor Yoav (PSI)</b>	Lattice control of multiferroic properties in RMnO <sub>3</sub> orthomanganites
12h30 – 13h30	Lunch Break	
<b>13h30 – 15h00</b>	<b>Session 3: Theory (dynamic and static)</b>	
	(Session Chair: Andrea Cavalleri, CFEL)	
13h30 – 14h05	<b>Michael Fechner (ETH Zurich)</b>	Density functional theory predictions of new physics enabled by THz FEL sources: Exotic superconductivity, magnetoelectric multipoles and dynamical multiferroicity
13h05 – 14h40	<b>Antoine Georges (Centre de Physique Théorique – CPHT)</b>	Theory of light-control of solids and non-linear phononics
14h40 – 15h00	<b>Alex Paarmann (Fritz Haber Institute of the Max Planck Society)</b>	Novel concepts for narrowband THz excitation of large amplitude lattice motions
15h00 – 15h30	Coffee Break	
<b>15h30 – 17h00</b>	<b>Session 4: Dynamic control at THz frequencies</b>	
	(Session Chair: Urs Staub, PSI)	
15h30 – 16h05	<b>Andrea Cavalleri (CFEL)</b>	Non-linear THz control of solids
16h05 – 16h40	<b>Steve Johnson (ETH Zurich)</b>	Potential avenues for THz-induced control of order parameters in solids
16h40 – 17h00	<b>Vincent Esposito (PSI)</b>	Nonlinear electron-phonon coupling in doped manganites
17h00 – 18h00	Wrap-up and how to proceed	
18h00	End of workshop	

## Venue

The workshop will be held at the University of Applied Sciences and Arts Northwestern Switzerland FHNW in Brugg-Windisch.

**University of Applied Sciences and Arts  
Northwestern Switzerland FHNW**

Campus Brugg-Windisch  
meeting room: 5.0B15/16  
Bahnhofstrasse 6  
5210 Windisch  
Switzerland

## Website

<http://indico.psi.ch/event/ABSNTHzScience>

## WLAN

**Guest account FHNW**

fhnw-public

password: 5fTE / user name: SwissFEL2016

There is also an **Eduroam network**.

## Contact

For organizational questions please contact:

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## Notes