

SpinTech VIII

8th International School & Conference on
Spintronics and Quantum Information Technology

August 10–13, 2015
Basel, Switzerland
Congress Center



Chair: Daniel Loss, University of Basel
Co-Chair: Seigo Tarucha, University of Tokyo

<https://spintech8.unibas.ch>

Welcome to Basel

We wish you a successful and enjoyable time at SpinTech VIII

Important contacts

Chair

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Login Wi-Fi (free)

SSID:
User-ID:
Password:

valid until August 10, 2015.
The new password will be announced in the Tuesday morning session.

Basel City tour

Tuesday, 20.30 pm

Would you like to get to know Basel in one hour?

This tour offers a memorable overview of Basel and its long history of over two thousand years. On this one-hour walking tour you will see picturesque sites and squares, architectural highlights, the historic center and City Hall, the famous Basler Muenster with tombs of J. Bernoulli, Erasmus, and other illuminaries.

For registration ('first come first serve'), please enter your name on the list at the reception desk before Tuesday, Aug. 11, 10 am. Please bring your *Mobility Ticket* (issued for free at your hotel) to the tour!



8th International School and Conference on Spintronics and Quantum Information Technology (SPINTECH VIII) Aug 10-13, 2015; Basel, Switzerland

Monday Aug 10	Tuesday Aug 11
8:00- Registration	
8:45-9:00 Opening	
9:00-10:10 Awschalom	Marcus
10:10-10:40 Coffee break	Coffee break
10:40-11:50 Tarucha	Tserkovnyak
11:50-12:25 Marie	Zumbühl
12:25-14:30 Lunch break	Lunch break Posters A
14:30-15:05 Xue	
15:05-16:15 Klinovaja	Stano Ensslin
16:15-16:45 Coffee break	Coffee break
16:45-17:55 Nakamura	Jarillo-Herrero Ando
17:55-18:05 Short break	Short break
18:05-18:40 Majer	Gül
18:40-19:15 Brüne	Chesi; Henriques
19:15-19:50	Smejkal; Mook
19:30 welcome reception	

20:30
city tour

Wednesday Aug 12	Thursday Aug 13
Heinz	Fujita; Broome
Demokritov	Morello
Coffee break	Coffee break
Brataas	Itoh
Tokura	De Franceschi
Poggio	Eriksson; Brauns
Lunch break Posters B	Lunch break
Maletinsky	Vignale; Botzem
Christle	Oiwa
Coffee break	Samarth
Yazdani	Coffee break
Meyer; Csonka	Yeats; Cheng
Short break	Trif
Fabian	Short break
Fuchs; Hennel	Kohda; Schäpers
	Aguado; Baumgartner

20:00
conference dinner

school lecture: 60'+10'
conference talk: 30'+5'
contributed talk: 15'+2.5'

Monday, August 10

8:00 –	Registration
8:45 – 9:00	Opening
9:00 – 10:10	David Awschalom , University of Chicago “Quantum control of single spins in diamond and silicon carbide” (Lecture)
10:10 – 10:40	<i>Coffee Break</i>
10:40 – 11:50	Seigo Tarucha , University of Tokyo “Multiple spin qubits with improved gate fidelity” (Lecture)
11:50 – 12:25	Xavier Marie , Université de Toulouse “Spin and valley dynamics in MoS ₂ , MoSe ₂ and WSe ₂ monolayers”
12:25 – 14:30	<i>Lunch Break</i>
14:30 – 15:05	Qi-Kun Xue , Tsinghua University “Quantum anomalous Hall effect in magnetic topological insulator”
15:05 – 16:15	Jelena Klinovaja , University of Basel “Engineering topological quantum states: From 1D to 2D” (Lecture)
16:15 – 16:45	<i>Coffee Break</i>
16:45 – 17:55	Yasunobu Nakamura , University of Tokyo “Quantum magnonics with a macroscopic ferromagnetic sphere” (Lecture)
17:55 – 18:05	<i>Short Break</i>
18:05 – 18:40	Johannes Majer , Vienna University of Technology “Hybrid quantum systems: Coupling color centers to superconducting cavities”
18:40 – 19:15	Christoph Brüne , University of Würzburg “Transport and induced superconductivity in the topological surface and edge states of HgTe”
19:30 –	Welcome Reception

Tuesday, August 11

9:00 – 10:10	Charles Marcus , Niels Bohr Institute, Copenhagen “Noise suppression and filtering in spin qubits” (Lecture)
10:10 – 10:40	<i>Coffee Break</i>
10:40 – 11:50	Yaroslav Tserkovnyak , UCLA “Spin and orbital magnetic response on the surface of a topological insulator” (Lecture)
11:50 – 12:25	Dominik Zumbühl , University of Basel “Spin relaxation in GaAs spin qubits”
12:25 – 15:05	<i>Lunch Break</i> POSTER SESSION A
15:05 – 15:40	Peter Stano , RIKEN “Helical order in one dimensional semiconductors”
15:40 – 16:15	Klaus Ensslin , ETH Zürich “Non-local transport via edge-states in InAs/GaSb coupled quantum wells”
16:15 – 16:45	<i>Coffee Break</i>
16:45 – 17:20	Pablo Jarillo-Herrero , MIT, Cambridge “Quantum transport in van der Waals heterostructures”
17:20 – 17:55	Kazuya Ando , Keio University “Spin-current emission governed by nonlinear spin dynamics”
17:55 – 18:05	<i>Short Break</i>
18:05 – 18:40	Önder Gül , Delft University of Technology “Experimental progress on Majoranas in semiconductor nanowires”
18:40 – 18:57	Stefano Chesi , Beijing CSRC “Theory of box-model hyperfine couplings and transport signatures of long-range nuclear-spin coherence in a quantum-dot spin valve” (Contributed)
18:58 – 19:15	Andre Henriques , University of Sao Paulo “Model for the light-induced magnetization in singly charged quantum dots” (Contributed)
19:15 – 19:32	Libor Smejkal , ASCR, Prague “Magnetotransport in noncollinear antiferromagnets $\text{Ir}_x\text{Mn}_{1-x}$ ” (Contributed)
19:33 – 19:50	Alexander Mook , MPI for Microstructure Physics, Halle “Topological magnon states – a way to nano-scale magnon waveguides” (Contributed)
20:30 –	City Tour

Wednesday, August 12

9:00 – 9:35	Tony Heinz , Stanford University “Probing and controlling the valley degree of freedom in two-dimensional transition metal dichalcogenide crystals”
9:35 – 10:10	Sergej Demokritov , University of Münster “Excitation of magnetization dynamics by pure spin currents”
10:10 – 10:40	<i>Coffee Break</i>
10:40 – 11:15	Arne Brataas , NTNU, Trondheim “Spintronics with insulating antiferromagnets”
11:15 – 11:50	Yoshinori Tokura , RIKEN “Spin dependent quantum transport in Rashba semiconductors and topological insulators”
11:50 – 12:25	Martino Poggio , University of Basel “Measuring nanometer-scale spin systems by ultrasensitive cantilever magnetometry”
12:25 – 15:05	<i>Lunch Break</i> POSTER SESSION B
15:05 – 15:40	Patrick Maletinsky , University of Basel “To be announced”
15:40 – 16:15	David Christle , University of Chicago “Isolation and control of spins in silicon carbide”
16:15 – 16:45	<i>Coffee Break</i>
16:45 – 17:20	Ali Yazdani , Princeton University “Spotting the elusive Majorana under the microscope”
17:20 – 17:37	Ernst Meyer , University of Basel “Probing structure and majorana wave-function of mono-atomic Fe chains on superconducting lead” (Contributed)
17:38 – 17:55	Szabolcs Csonka , BME, Budapest “Quantum interference and local electrical tuning in InAs Nanowire based Cooper Pair Splitter device” (Contributed)
17:55 – 18:05	<i>Short Break</i>
18:05 – 18:40	Jaroslav Fabian , University of Regensburg “Spintronics with novel 2d materials”
18:40 – 18:57	Gregory Fuchs , Cornell University “Time-resolved magneto-thermal microscopy of spin Hall effect driven dynamics” (Contributed)
18:58 – 19:15	Szymon Hennel , ETH Zürich “Generation and detection of spin currents in semiconductor nanostructures with strong spin-orbit interaction” (Contributed)
20:00 –	Conference Dinner

Thursday, August 13

9:00 – 9:17	Takafumi Fujita , Delft University of Technology “Triple quantum dot spin CCD” (Contributed)
9:18 – 9:35	Matthew Broome , University of New South Wales “Control of two-electron spin correlations on precision-placed donors in silicon” (Contributed)
9:35 – 10:10	Andrea Morello , University of New South Wales “Quantum information processing with single donors in silicon”
10:10 – 10:40	<i>Coffee Break</i>
10:40 – 11:15	Kohei Itoh , Keio University “The role of isotope engineering in silicon and diamond quantum information processing”
11:15 – 11:50	Silvano De Franceschi , CEA Grenoble “CMOS bricks for silicon spin qubits”
11:50 – 12:07	Mark Eriksson , University of Wisconsin-Madison “Semiconductor quantum dot spin-charge hybrid qubits” (Contributed)
12:08 – 12:25	Matthias Brauns , University of Twente “G-factor anisotropy in Ge-Si core-shell nanowires” (Contributed)
12:25 – 14:30	<i>Lunch Break</i>
14:30 – 14:47	Giovanni Vignale , University of Missouri “Magneto-transport driven by spin-orbital scattering” (Contributed)
14:48 – 15:05	Tim Botzem , RWTH Aachen “Quadrupolar and anisotropy effects on dephasing in two-electron spin qubits in GaAs” (Contributed)
15:05 – 15:40	Akira Oiwa , Osaka University “Photon-electron spin coupling using gate-defined GaAs double quantum dots”
15:40 – 16:15	Nitin Samarth , Penn State University “Topological spintronics”
16:15 – 16:45	<i>Coffee Break</i>
16:45 – 17:02	Andrew Yeats , University of Chicago & UCSB “Persistent optical gating of a topological insulator” (Contributed)
17:03 – 17:20	Guanglei Cheng , University of Pittsburgh “Correlated nanoelectronics at LaAlO ₃ /SrTiO ₃ interface” (Contributed)
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17:20 – 17:55	Mircea Trif , Université Paris Sud “Cavity quantum electrodynamics with mesoscopic topological superconductors”
17:55 – 18:05	<i>Short Break</i>
18:05 – 18:22	Makoto Kohda , Tohoku University “Spin-orbit induced electrical spin generation and detection in InGaAs quantum point contacts” (Contributed)
18:23 – 18:40	Thomas Schäpers , Research Center Jülich “Spin-transport in InAs nanowire quantum point contacts” (Contributed)
18:40 – 18:57	Ramon Aguado , CSIC, Madrid “Subgap spectrum of normal-superconductor nanowire junctions: helical regime and Majorana bound states from exceptional points” (Contributed)
18:58 – 19:15	Andreas Baumgartner , University of Basel “Giga-Hertz quantized charge pumping in bottom gate defined InAs nanowire quantum dots” (Contributed)

abstracts and posters see
<https://spintech8.unibas.ch>

Conference Dinner SpinTech VIII

Wednesday August 12, 2015, 8 pm



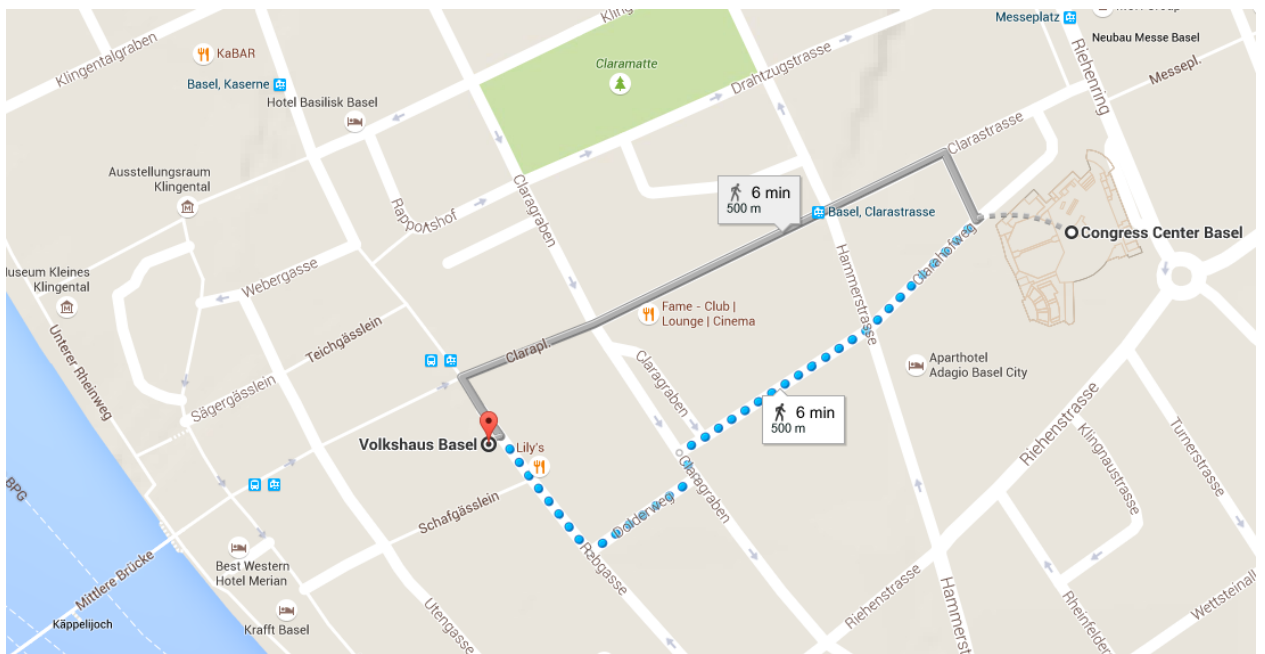
**VOLKSHAUS
BASEL**
SEIT 1925

Location
Volkshaus Basel
Rebgasse 12
4058 Basel





**VOLKSHAUS
BASEL**
SEIT 1925



○ Congress Center Basel

Messeplatz 21, 4058 Basel

1. Head southwest on Clarastrasse toward Clarastrasse

↑ 270 m

2. Turn left onto Claragraben

↙ 21 m

3. Turn right onto Dolderweg

↘ 92 m

4. Turn right onto Rebgasse

↘ 100 m
Destination will be on the left

○ Volkshaus Basel

Rebgasse 12-14, 4058 Basel

