



SFB/Transregio 21

3rd International Summerschool 2010

October, 3rd – 5th 2010
Heinrich-Fabri-Institut, Blaubeuren

Topics:

**03.10.2010 Quantum tomography and sensing
(Chair: S. Huelga, F. Schmidt-Kaler)**

**Quantum effects in biology
(Chair: S. Huelga)**

**04.10.2010 Quantum effects in biology
(Chair: S. Huelga)**

**Quantum tomography and sensing
(Chair: S. Huelga, F. Schmidt-Kaler)**

**05.10.2010 Quantum tomography and sensing
(Chair: S. Huelga, F. Schmidt-Kaler)**

**Hybrid quantum systems
(Chair: J. Fortagh, R. Kleiner)**



Program

TA	= Talk
TU	= Tutorial with discussion

Sunday, 3.10.2010

From 11:30 Arrival

12:30 – 14:00 Lunch

Quantum tomography and sensing I (Chair: S. Huelga, F. Schmidt-Kaler)

14:00 – 15:30 I. Walmsley (University of Oxford) TU
Unravelling a quantum experiment: tomography from the
experimentalist's perspective

Quantum effects in biology I (Chair: S. Huelga)

15:45 – 16:30 G. Scholes (University of Toronto) TA
Energy transfer theory and lessons
learned from photosynthetic light-harvesting I

16:30 – 17:00 Coffee Break

17:00 – 17:15 CO.CO.MAT. PhD award 2010 talk and ceremony

17:15 – 18:30 E. Harel (University of Chicago) TU
Multidimensional Optical Spectroscopy: Foundations

18:30 Dinner

20:00 – 20:45 G. Scholes (University of Toronto) TU
"Quantum Biology: History and Future"

Monday, 4.10.2010

From 7:30 Breakfast

Quantum effects in biology II (Chair: S. Huelga)

9:00 – 10:30 G. Scholes (University of Toronto) TU
Energy transfer theory and lessons
learned from photosynthetic light-harvesting II

10:45 – 12:15 M. Plenio (Universität Ulm) TU
Theoretical Aspects of Quantum Effects in Biology

12:30 – 14:00 Lunch

Quantum tomography and sensing II (Chair: S. Huelga, F. Schmidt-Kaler)

14:00 – 15:30	I. Walmsley (University of Oxford) Unravelling a quantum experiment: how to design an experiment and get useful data	TU
15:45 – 16:30	R. Laflamme (University of Waterloo) Overview of quantum error correction	TU

16:30 – 17:00 Coffee break

17:00 – 17:45	M. Cramer (Universität Ulm) Efficient reconstruction of quantum states	TA
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Quantum effects in biology III (Chair: S. Huelga)

17:45 – 18:30	E. Harel (University of Chicago) Multidimensional Optical Spectroscopy: Application to Energy transfer in Photosynthetic Complexes	TU
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18:30 Dinner

20:00 – 20:45	R. Laflamme (University of Waterloo) Experimental quantum error correction	TA
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Tuesday, 5.10.2010

From 7:30 Breakfast

Quantum Tomography and sensing III (Chair: S. Huelga, F. Schmidt-Kaler)

9:00 – 10:30	R. Laflamme (University of Waterloo) Characterising noise and benchmarking quantum information processors	TU
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Hybrid Quantum Systems (Chair: J. Fortagh, R. Kleiner)

11:30 – 12:30	R. Kleiner (Universität Tübingen) " Superconductor/ferromagnet hybrid quantum systems"	TU
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12:30 – 14:00 Lunch

14:00 – 15:00	E. Goldobin (Universität Tübingen) " Fractional flux quanta in hybrid Josephson junctions"	TU
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15:15 – 16:15	J. Fortagh (Universität Tübingen) " Cold atom/solid state hybrid quantum devices"	TU
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16:15 – 17:00 Coffee break

From 17:00 Departure
