

Second International Workshop on Parallel MRI

Latsis Symposium 2004 - University and ETH Zurich

Thursday, Oct 14: Auditorium F1, ETH Main Building

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| 17:15 | Public Introductory Lecture (in German language) | Klaas Pruessmann |
| 18:00 | Reception in the Lecturers' Foyer, Floor J | |

Friday, Oct 15, Auditorium F1, ETH Main Building

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| 08:20 | Opening Remarks | Klaas Pruessmann |
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| 08:30 | Keynote Lecture | Joseph W. Carlson |
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Basics and Reconstruction Moderators: Daniel Sodickson, Klaas Pruessmann

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| 09:00 | Foundations and Basic Methods | Joseph Hajnal |
| 09:30 | Advanced k-Space Techniques | Mark Griswold |
| 10:00 | Iterative Reconstruction | Klaas Pruessmann |
| 10:30 | <i>Break</i> | |

Reconstruction II Moderators: Joseph Hajnal, Jeffrey Tsao

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| 11:00 | Regularization in Parallel Imaging Reconstruction | Fa-Hsuan Lin |
| 11:30 | Solution for Entropy driven g-factor Correction at any Speedup | David Larkman |
| 11:42 | The Cramer-Rao Bound for Parallel MRI: Optimum SNR, Minimum Error, and the g-Function | Molly Scheffé |
| 11:54 | On the GRAPPA-Operator | Martin Blaimer |
| 12:06 | Fast Parallel Image Reconstructions for Spiral Trajectories | Robin Heidemann |
| 12:18 | Efficient Iterative Reconstruction for Parallel MRI in Inhomogeneous B0 | Christoph Barmet |
| 12:30 | SNR: Performance Assessment of MRI including Parallel Imaging | Shirley Khan |

12:45 *Lunch*

Coils, Arrays, and Detection Moderators: Mark Griswold, Steven Wright

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| 14:00 | Coil Arrays for Parallel MRI: Introduction and Overview | Steven Wright |
| 14:30 | Transmit and Receive Arrays for Ultra High Field Parallel Imaging | Gregor Adriany |
| 15:00 | Receiver Technology | Jeff Duyn |
| 15:30 | Flux Ducting | Joseph Hajnal |
| 16:00 | <i>Break</i> | |
| 16:30 | A 32-Element Cardiac Array | Randy Duensing |
| 16:42 | Promising Double Spiral Design for Volume Array Head Coils | Matthias Mueller |
| 16:54 | Parallel Imaging for Continuously Moving Table MRI Using Moving RF Coils and In-place Sensitivity Calibration | Stephan Kannengiesser |
| 17:06 | Reducing the Number of RF Channels in Parallel Imaging | Arne Reykowski |
| 17:18 | Superconducting Array for Parallel Imaging | Jaroslaw Wosik |

Applications in Body Imaging Moderators: Peter Boesiger, Peter Jakob

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| 17:30 | Body Imaging with Parallel Acquisition Techniques | Stefan Schoenberg |
| 18:00 | Parallel Body Imaging at 3T | Marcus von Falkenhausen |

18:30 **Poster Viewing**

Saturday, Oct 16, Auditorium Maximum, ETH Main Building

Dynamic Imaging and Sampling Strategies

Moderators: Walter Block, Daniel Sodickson

08:20	The UNFOLD Strategy can help Parallel Imaging	Bruno Madore
08:50	k-t SENSE: Dynamic Parallel Imaging by Joint Space-Time Consideration	Jeffrey Tsao
09:20	k-t GRAPPA	Feng Huang
09:32	Controlled Aliasing In Parallel Imaging	Felix Breuer
09:44	Optimal Selection of Phase Encodings in Parallel MR Imaging	Mathews Jacob
09:56	Parallel Imaging Methods for Contrast Enhanced MR Angiography using 3D Non-Cartesian Trajectories	Arjun Arunachalam
10:08	Pushing The Speed Limit in SENSE Using Novel Sampling Strategies	Shahin Fattahi
10:20	Self-calibrated and -navigated Parallel Imaging for Diffusion and Perfusion MRI	Roland Bammer
10:32	Auto-Calibrated Parallel Imaging using Dual-Density Spirals	Keith Heberlein

10:45 *Break*

Artifact Reduction

Moderators: David Larkman, Bruno Madore

11:15	Artifact Reduction based on Parallel Data Acquisition	David Larkman
11:45	Artifact Removal using a Parallel Imaging Approach	Richard Winkelmann
11:57	Parallel Imaging and MR Motion Correction	Philipp Batchelor

12:10 *Lunch*

Large Arrays and High Fields

Moderators: Jeff Duyn, Andrew Webb

13:45	Massively Parallel MRI	Daniel Sodickson
14:15	Parallel Imaging for Mouse Phenotyping	R. Mark Henkelman
14:45	Limitations and High Field Potential of Parallel MRI	Florian Wiesinger
15:15	Parallel MRI at 7 Tesla	Kamil Ugurbil
15:45	Parallel Imaging Potential at 7 Tesla for Multi Channel Headcoil with Densely Spaced Elements	Steen Moeller
15:57	Parallel Imaging using a Four Coil Array at 600 MHz	Andrew Webb
16:09	PPA with a Four Channel Transmit/Receive Microstrip Array for 17.6 T	Tobias Wichmann
16:21	On the Role of Dielectric Resonance in Parallel MRI	Florian Wiesinger

16:35 **Poster Viewing**

19:00 **Uetliberg Night** - Social event high above the city

Sunday, Oct 17, Auditorium Maximum, ETH Main Building

Applications in Neuroimaging

Moderators: John Gore, Kamil Ugurbil

08:20	On The Benefits Of Accelerated Parallel Imaging for fMRI	Jacobus de Zwart
08:50	Parallel Imaging Improves Diffusion Tensor Studies	Susumu Mori
09:20	Parallel Spectroscopic Imaging	Ulrike Dydak
09:50	Clinical Neuroimaging	Marcus von Falkenhausen

10:20 *Break*

Applications in Cardiac and Lung Imaging

Moderators: Peter Kellman, Mark Ladd

10:50	Parallel Methods for Cardiac Imaging	Peter Kellman
11:20	Sensitivity Encoding in Clinical Cardiovascular MRI	Raja Muthupillai
11:50	Parallel Lung Imaging	Peter Jakob
12:20	MR Coronary Angiography using a Parallel Acquisition Technique and an Intravascular Contrast Agent	Stefan Maderwald
12:32	SENSE-Accelerated Cardiac Strain MRI with DENSE	Anthony Aletras

12:45 *Lunch*

Perspectives

Moderators: Peter Boernert, Joseph Hajnal

14:15	Parallel Imaging with SQUID Arrays	Frank Seifert
14:45	Parallel Wireless Communication with Antenna Arrays	Helmut Boelcskei
15:15	On parallel transmission - Transmit SENSE	Peter Boernert
15:45	B1 Inhomogeneity Reduction with Transmit SENSE	Andrew Stenger
15:57	A New Method for the Design of RF Pulses in Transmit SENSE	William Grissom
16:09	Considerations for the Design of Transmit SENSE Coil Arrays	Ulrich Katscher

16:25 *Break*

Vendor Updates

Moderators: Mark Griswold, Klaas Pruessmann

17:00	Philips Medical Systems	Miha Fuderer
17:15	ASSET – Parallel Imaging on the GE Scanner (GE Medical Systems)	Kevin King
17:30	Siemens Medical Solutions	Stephan Kannengiesser
17:45	Parallel Imaging of Toshiba: “SPEEDER” (Toshiba Medical Systems)	Yoshio Machida
18:00	Next Generation RF Coil Arrays (MRI Devices Corporation)	Randy Duensing

18:15 **Closing Remarks** Klaas Pruessmann