

Oberwolfach Mini-Workshop on
**Mathematical and Numerical Analysis of
Maxwell's Equations**

Mathematisches Forschungsinstitut Oberwolfach

December 16 - 22, 2018

Program

Programme for Monday, Dec 17, 2018

- Morning session: 09:00 - 12:30, Lecture room L3
 - 09:00 - 10:00: Rainer Picard (Dresden, Germany):
Memoryless evolutionary problems as dynamic abstract Friedrich systems
 - 10:00 - 10:15: Coffee Break
 - 10:15 - 11:00: Marcus Waurick (Glasgow, UK):
Nonlocal \mathcal{H} - convergence
 - 11:15 - 11:30: Coffee Break
 - 11:30 - 12:30: Martin Costabel (Rennes, France):
Regularity for Maxwell's equations on Lipschitz domains
 - 12:30 - 16:00: Lunch Break
- Afternoon session: 16:00 - 18:30, Lecture room L3
 - 16:00 - 17:00: Peter Monk (Newark, US):
Finite Element Method for Maxwell's equations
 - 17:00 - 17:30: Coffee Break
 - 17:30 - 18:30: Talk in MW 1 or 2
 - 18:30: Dinner

Tuesday, Dec 18, 2018

- Morning session: 09:00 - 12:30, Lecture room L3
 - 09:00 - 10:00: Dirk Pauly (Essen, Germany):
On some compact embeddings in various Hilbert complexes
 - 10:00 - 10:15: Coffee Break
 - 10:15 - 11:00: Ilaria Perugia (Vienna, Austria):
Virtual Elements for Helmholtz
 - 11:15 - 11:30: Coffee Break
 - 11:30 - 12:30: Monique Dauge (Rennes, France):
Resonances of optical micro-resonators
 - 12:30 - 13:30: Lunch Break
- Excursion to Gengenbach: 13:30 - 18:30
<https://www.gengenbach.info/>
 - 13:30: Departure of the bus from MFO
 - 17:30: Departure of the bus from Gengenbach
 - 18:30: Dinner

Wednesday, Dec 19, 2018

- Morning session: 09:00 - 12:30, Lecture room L2
 - 09:00 - 10:00: Alberto Valli (Povo, Italy):
On the helicity of a bounded domain and the Biot-Savart operator
 - 10:00 - 10:15: Coffee Break
 - 10:15 - 11:00: Ana Alonso Rodriguez (Povo, Italy):
High order discrete potentials
 - 11:15 - 11:30: Coffee Break
 - 11:30 - 12:30: Joachim Schöberl (Vienna, Austria):
Solving elasticity in $H(\text{curl})$
 - 12:30 - 16:00: Lunch Break
- Afternoon session: 16:00 - 18:30, Lecture room L2
 - 16:00 - 17:00: Frank Osterbrink (Essen, Germany):
Time-harmonic Maxwell equations in exterior domains with mixed boundary conditions
 - 17:00 - 17:30: Coffee Break
 - 17:30 - 18:30: Lise-Marie Imbert-Gérard (Maryland, US):
Generalized plane waves and Maxwell's equations
 - 18:30: Dinner

Thursday, Dec 20, 2018

- Joint session: 09:00 - 12:30, lecture room L1
 - 09:00 - 10:00: Daniel Wachsmuth (Würzburg, Germany):
An iterative method to solve control problems with L^0 control cost
 - 10:00 - 10:15: Coffee Break
 - 10:15 - 11:00: Antoine Cerfon (New York, US):
Fighting the curse of dimensionality in kinetic simulations of plasmas
 - 11:15 - 11:30: Coffee Break
 - 11:30 - 12:30: Jay Gopalakrishnan (Portland, US):
HX preconditioner in higher dimensions
 - 12:30 - 16:00: Lunch Break
- Afternoon session: 16:00 - 18:30, Lecture room L1
 - 16:00 - 17:00: Ragnar Winther (Oslo, Norway):
Geometric decomposition in finite element exterior calculus
 - 17:00 - 17:30: Coffee Break
 - 17:30 - 18:30: Talk in MW 1 or 2
 - 18:30: Dinner

Friday, Dec 21, 2018

- Morning session: 09:00 - 12:30, Lecture room L1
 - 09:00 - 10:00: Anne-Sophie Bonnet-Ben Dhia (Palaiseau, France):
Time-harmonic Maxwell's equations with sign-changing coefficients
 - 10:00 - 10:15: Coffee Break
 - 10:15 - 11:00: Serge Nicaise (Valenciennes, France):
The time-harmonic Maxwell equations with impedance boundary conditions
 - 11:15 - 11:30: Coffee Break
 - 11:30: Closing session
- 12:30: Lunch