

Kyoto-Heidelberg Joint Workshop 2015 (Within HeKKSaGOn Consortium)  
**Applied Mathematics, Scientific Computing, and Applications**

## Program

**Date:** From August 31<sup>st</sup> to September 2<sup>nd</sup>

**Venue:** Yoshida International House, Yoshida Campus, Kyoto University (**Lecture Room 5&6, B1F**)

**Organizing Committee:** Daichi Kohmoto (Kyoto University) & Michael Winckler (Universität Heidelberg)

## Timetable

	August 31th		September 1st	September 2nd
9:00–10:00	Registration	9:40–10:20	Hayashi	Umeno
10:00–10:20	Opening	10:20–10:40	Coffee Break	Coffee Break
10:20–11:00	Garbe	10:40–11:20	Takada	Reinelt
11:00–11:20	Coffee Break	11:20–12:00	Gutheil	Andrzejak
11:20–12:00	Matsuyama	12:00–14:00	Lunch	Closing & Lunch
12:00–14:00	Lunch	14:00–14:40	Taniguchi	Social Program (Sightseeing Tour)
14:00–14:40	Ueda	14:40–15:20	Molina	
14:40–15:20	Klessen	15:20–15:50	Coffee Break	
15:20–15:50	Coffee Break	15:50–16:30	Mara	
15:50–16:30	Kishimoto	16:30–17:10	Krömker	
16:30–17:10	LT and Demo Session	17:10–17:50	Kanschä	
17:10–17:50		18:30–21:00	Banquet	

## Monday, August 31<sup>st</sup>, 2015

9:00 - 10:00

**Registration**

10:00 - 10:20

**Opening by Michael Winckler**

### [ Session 1: Visualization and System ]

10:20 - 11:00

**Christoph Garbe** (Universität Heidelberg)

*Image Processing and Modeling*

Break

11:20 - 12:00

**Takashi Matsuyama** (Kyoto University)

*The Power Flow Coloring: Giving a Unique ID to a Power Flow from a Power Source to a Power Load*

12:00 - 14:00

**Lunch**

### [ Session 2: Earth and Space ]

14:00 - 14:40

**Yoshikatsu Ueda** (Kyoto University)

*Correlations between Nano Materials and Pure Water; a Theoretical Approach*

14:40 - 15:20

**Ralf Klessen** (Universität Heidelberg)

*Modeling Star Formation and the Dynamics of the Interstellar Medium*

Coffee Break

15:50 - 16:30

**Yasuaki Kishimoto** (Kyoto University)

*Kinetic Simulation of Plasmas -- From transition to plasma to plasma turbulence --*

16:30 - 18:00

LT & Demo Session (to be determined)

## Tuesday, September 1<sup>st</sup>, 2015

### [ Session 3: Physics and Chemistry ]

9:40 - 10:20

**Shigehiko Hayashi** (Kyoto University)

*Understanding and Designing Color Variants of Retinal Binding Proteins by Molecular Simulations*

Break

10:40 - 11:20

**Shoji Takada** (Kyoto University)

*Computational modeling of chromatin and transcription factor dynamics by coarse-grained molecular simulations*

11:20 - 12:00

**Eva Gutheil** (Universität Heidelberg)

*Modeling and Simulation of Multiphase Flows for Engineering and Medical Applications*

12:00 - 14:00

**Lunch**

### [ Session 4: Soft Matters ]

14:00 - 14:40

**Takashi Taniguchi** (Kyoto University)

*Dynamics of two component membranes*

14:40 - 15:20

**John Molina** (Kyoto University)

*Direct numerical simulations of complex colloidal dispersions*

Coffee Break

### [ Session 5: Computational Science ]

15:50 - 16:30

**Hubert Mara** (Universität Heidelberg)

*Integral Invariants for Forensic Tasks in the Humanities*

16:30 - 17:10

**Susanne Krömker** (Universität Heidelberg)

*All about Cells - Visualization techniques for measured or simulated data in various biological applications*

17:10 - 17:50

**Guido Kanschat** (Universität Heidelberg)

*Efficient and Accurate Solution of Radiative Transfer Problems by Discontinuous Galerkin Methods*

18:00 - 21:00

**Banquet** at Camphora Restaurant (in Yoshida Campus, Kyoto University)

## Wednesday, September 2<sup>nd</sup>, 2015

### [ Session 6: Statistical & Discrete Methods ]

9:40 - 10:20

**Ken Umeno** (Kyoto University)

*Superefficient Chaotic Monte Carlo Computation and Chaos-CDMA*

Break

10:40 - 11:20

**Gerd Reinelt** (Universität Heidelberg)

*Branch-and-Cut for Combinatorial Optimization*

11:20 - 12:00

**Artur Andrzejak** (Universität Heidelberg)

*Improving the Efficiency of Software Development and Maintenance by Data Analysis*

12:00 - 12:10

**Closing by Daichi Kohmoto**