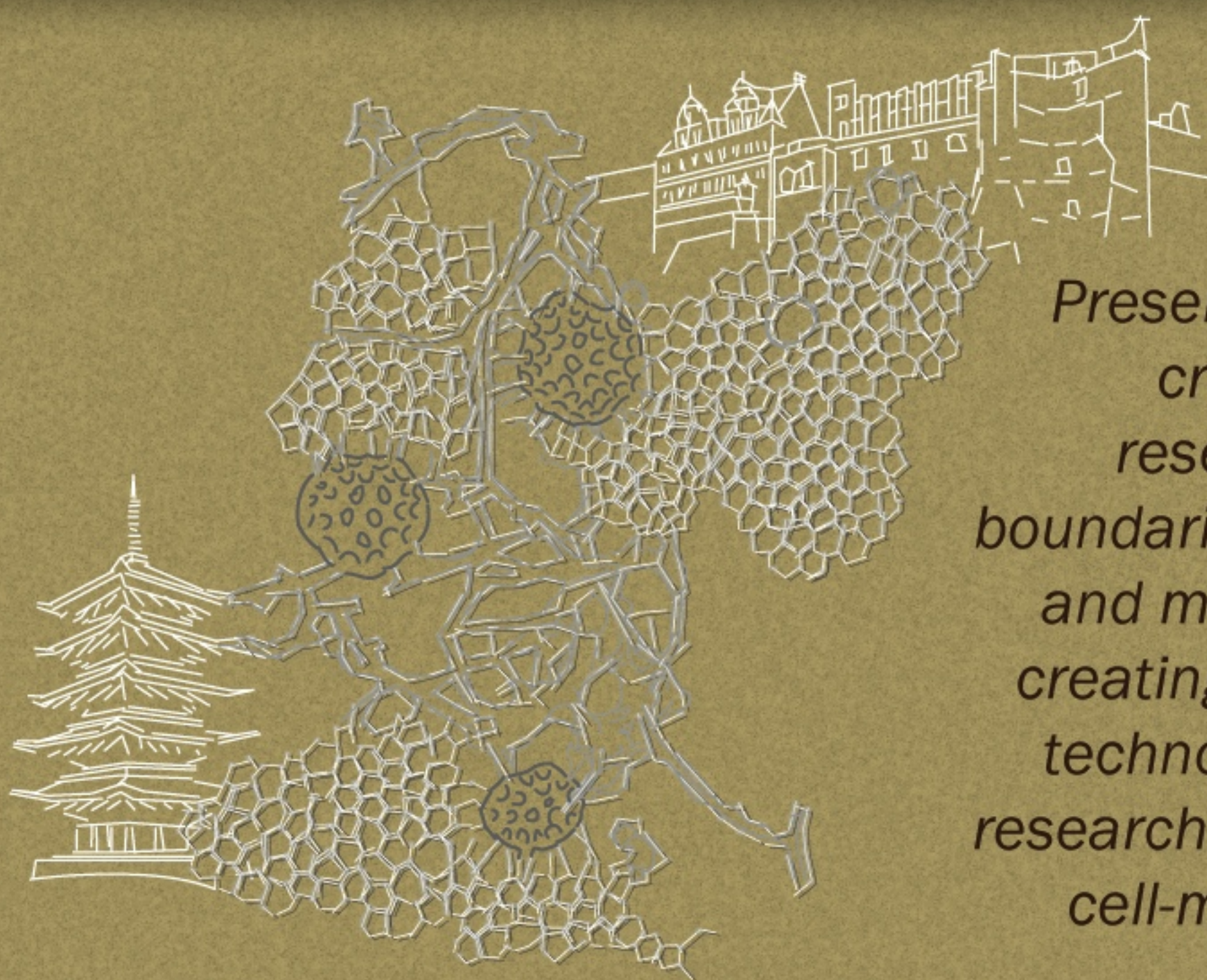


# Heidelberg-Kyoto Joint Symposium

## Crossing Boundaries: Stem Cells, Materials, and Mesoscopic Sciences



*Presenting ambitious  
cross-disciplinary  
research, breaking  
boundaries between life  
and material science,  
creating new stem cell  
technology with basic  
research and integrated  
cell-material science*

21–23 July 2011 • DKFZ Lecture Hall

[www.sfb873.de/hdku-symp11](http://www.sfb873.de/hdku-symp11)

Contact: [sfb.873@med.uni-heidelberg.de](mailto:sfb.873@med.uni-heidelberg.de)



日独交流150周年  
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Program

Thursday, July 21, 2011

DKFZ, Lecture Hall/Foyer

|       |                                                                                                                                                                                                                                                 |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 15:00 | Poster set-up                                                                                                                                                                                                                                   |
| 16:30 | <b>Opening Ceremony</b><br>Welcome and Greetings<br><i>Otmar D. Wiestler</i><br><i>Anthony D. Ho</i><br><i>Eckart Würzner</i><br><i>Thomas Rausch</i><br><i>Kiyoshi Yoshikawa</i>                                                               |
| 17:00 | <b>Keynote Lectures</b><br>Ground rules for pluripotent stem cells<br><i>Austin Smith</i><br><br>Crossing boundaries from mesoscopic physics to biological functions:<br>Wetting transitions of living drops<br><i>Françoise Brochard-Wyart</i> |
| 18:30 | Poster session & welcome reception                                                                                                                                                                                                              |

Friday, July 22, 2011

DKFZ, Lecture Hall

|                                     |                                                                                                      |
|-------------------------------------|------------------------------------------------------------------------------------------------------|
| <b>Session I:</b><br><b>Chairs:</b> | <b>Evolution of Stem Cell Systems</b><br><i>Kiyokazu Agata, Thomas Holstein</i>                      |
| 08:00 - 08:30                       | Registration                                                                                         |
| 08:30 - 08:55                       | Hormonal control of a stem cell niche: lessons from plants<br><i>Jan Lohmann</i>                     |
| 08:55 - 09:20                       | Hydra stem cell system<br><i>Thomas Holstein</i>                                                     |
| 09:20 - 09:45                       | Purification and characterization of planarian adult pluripotent stem cells<br><i>Kiyokazu Agata</i> |
| 09:45 - 10:15                       | Coffee break & poster session                                                                        |

|                                       |                                                                                                                              |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| 10:15 - 10:40                         | Stem cell niche in Drosophila<br><i>Bruce Edgar</i>                                                                          |
| 10:40 - 11:05                         | Gene networks and stem cell system<br><i>Jochen Wittbrodt</i>                                                                |
| 11:05 - 11:15                         | Short break                                                                                                                  |
| <b>Session II:</b><br><b>Chairs:</b>  | <b>Pluripotency and Reprogramming</b><br><i>Norio Nakatsuji, Jochen Wittbrodt</i>                                            |
| 11:15 - 11:40                         | Induction of pluripotency in stem cells<br><i>Hans Schöler</i>                                                               |
| 11:40 - 12:05                         | Generation of iPS cells for therapeutic treatment<br><i>Keisuke Okita</i>                                                    |
| 12:05 - 12:30                         | Germ cell specification in mice: signaling, transcription regulation, and epigenetic reprogramming<br><i>Mitunori Saitou</i> |
| 12:30 - 12:55                         | Reprogramming of immortalized and tumor cells<br><i>Jochen Utikal</i>                                                        |
| 12:55 - 13:45                         | Lunch break & poster session                                                                                                 |
| <b>Session III:</b><br><b>Chairs:</b> | <b>Niche and Polarity</b><br><i>Petra Boukamp, Takashi Hiiragi</i>                                                           |
| 13:45 - 14:10                         | Stochastic processes in the development of pluripotency in vivo<br><i>Takashi Hiiragi</i>                                    |
| 14:10 - 14:35                         | Regulation of quiescent hematopoietic stem cells<br><i>Toshio Suda</i>                                                       |
| 14:35 - 15:00                         | Vascular regulation of stem cell function<br><i>Hellmut Augustin</i>                                                         |
| 15:00 - 15:20                         | Coffee break                                                                                                                 |
| 15:20 - 15:45                         | Stress induced activation of HSCs<br><i>Andreas Trumpp</i>                                                                   |
| 15:45 - 16:10                         | Leukemia stem cells and the marrow niche, clinical significance<br><i>Anthony D. Ho</i>                                      |
| 16:10 - 16:20                         | Short break                                                                                                                  |

**Session IV: Cell-Material Integration**  
**Chairs:** *Susumu Kitagawa, Motomu Tanaka*

|               |                                                                                        |
|---------------|----------------------------------------------------------------------------------------|
| 16:20 - 16:45 | Porous coordination materials for biohybrid system<br><i>Shuhei Furukawa</i>           |
| 16:45 - 17:10 | Porous materials and bioactive gas delivery<br><i>Russell Morris</i>                   |
| 17:10 - 17:35 | Phospholipid nanodisc engineering for drug delivery systems<br><i>Tatsuya Murakami</i> |
| 17:35 - 17:45 | Short break                                                                            |
| 17:45 - 18:10 | Physics-cell biology fusion<br><i>Motomu Tanaka</i>                                    |
| 18:10 - 18:35 | Designer biomaterials and surface engineering<br><i>Jörg Lahann</i>                    |
| 18:35 - 20:00 | Poster discussion with beer & bretzels                                                 |

Saturday, July 23, 2011

DKFZ, Lecture Hall

|                                     |                                                                                                                               |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Session V:</b><br><b>Chairs:</b> | <b>Meso-Bio Single Molecule Imaging</b><br><i>Yoshie Harada, Hellmut Augustin</i>                                             |
| 08:30 - 08:55                       | Diamond particle probe for cell function analysis<br><i>Yoshie Harada</i>                                                     |
| 08:55 - 09:20                       | High throughput single molecule approaches and synthetic genetic networks<br><i>Michael Boutros</i>                           |
| 09:20 - 09:45                       | Single molecule imaging studies of meso-scale raft domains: how do they exist and transform to work?<br><i>Kenichi Suzuki</i> |
| 09:45 - 10:00                       | Coffee break                                                                                                                  |

|                                      |                                                                                                                                    |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| 10:00 - 10:25                        | Using modern electron microscopy to elucidate cellular architectures that are built on mesoscopic principles<br><i>John Heuser</i> |
| 10:25 - 10:50                        | Single molecule imaging to understand BRAIN function<br><i>Daniel Choquet</i>                                                      |
| 10:50 - 11:00                        | Short break                                                                                                                        |
| <b>Session VI:</b><br><b>Chairs:</b> | <b>Chemical Biology and Nano-/Meso-/Micro-Engineering</b><br><i>Motonari Uesugi, Michael Boutros</i>                               |
| 11:00 - 11:25                        | Small molecule tools for cell biology and cell therapy<br><i>Motonari Uesugi</i>                                                   |
| 11:25 - 11:50                        | Synthetic transcription factors for stem cell control<br><i>Hiroshi Sugiyama</i>                                                   |
| 11:50 - 12:15                        | Chemical biology and model cell production using pluripotent stem cells<br><i>Norio Nakatsuji</i>                                  |
| 12:15 - 12:40                        | Nano-engineered substrates in conjunction with microfluidic devices for controlling cell behaviors<br><i>Yong Chen</i>             |
| 12:40 - 13:05                        | Electrophysiological tools to analyse stem cell function and integration<br><i>Elke Günther</i>                                    |
| 13:15                                | <b>Poster Prize Award Ceremony</b><br><i>Petra Boukamp</i>                                                                         |

Welcome Addresses

Prof. Dr. Otmar D. Wiestler, *Chairman and Scientific Director, German Cancer Research Center (DKFZ)*  
Prof. Dr. Anthony D. Ho, *Speaker SFB 873, Medical Director, Department of Medicine V, University of Heidelberg*  
Dr. Eckart Würzner, *Lord Mayor, City of Heidelberg*  
Prof. Dr. Thomas Rausch, *Vice Rector for Research and Structure, University of Heidelberg*  
Prof. Dr. Eng. Kiyoshi Yoshikawa, *Executive Vice President Research, Kyoto University*

Scientific Lectures

Kiyokazu Agata, *Kyoto*  
Hellmut Augustin, *Heidelberg*  
Petra Boukamp, *Heidelberg*  
Michael Boutros, *Heidelberg*  
Françoise Brochard-Wyart, *Paris*  
Yong Chen, *Kyoto and Paris*  
Daniel Choquet, *Bordeaux*  
Bruce Edgar, *Heidelberg*  
Shuhei Furukawa, *Kyoto*  
Elke Günther, *Tübingen*  
Yoshie Harada, *Kyoto*  
John Heuser, *Kyoto and St. Louis*  
Takashi Hiiragi, *Kyoto and Heidelberg*  
Anthony D. Ho, *Heidelberg*  
Thomas Holstein, *Heidelberg*  
Susumu Kitagawa, *Kyoto*  
Jörg Lahann, *Karlsruhe and Ann Arbor*  
Jan Lohmann, *Heidelberg*  
Russel Morris, *St. Andrews*  
Tatsuya Murakami, *Kyoto*  
Norio Nakatsuji, *Kyoto*  
Keisuke Okita, *Kyoto*  
Mitinori Saitou, *Kyoto*  
Hans Schöler, *Münster*  
Austin Smith, *Cambridge*  
Toshio Suda, *Tokyo*  
Hiroshi Sugiyama, *Kyoto*  
Kenichi Suzuki, *Kyoto*  
Motomu Tanaka, *Heidelberg*  
Andreas Trumpp, *Heidelberg*  
Motonari Uesugi, *Kyoto*  
Jochen Utikal, *Mannheim*  
Jochen Wittbrodt, *Heidelberg*

Organizers

|                                                                                                                        |                                                                                                                          |
|------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| <b>Kyoto University:</b><br>Takashi Hiiragi<br>Susumu Kitagawa<br>Akihiro Kusumi<br>Norio Nakatsuji<br>Motonari Uesugi | <b>Heidelberg University:</b><br>Petra Boukamp<br>Anthony D. Ho<br>Thomas Holstein<br>Andreas Trumpp<br>Jochen Wittbrodt |
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Venue

German Cancer Research Center (DKFZ)  
Communication Center / Lecture Hall  
Im Neuenheimer Feld 280, 69120 Heidelberg, GERMANY

Registration, Abstract Submission and Information

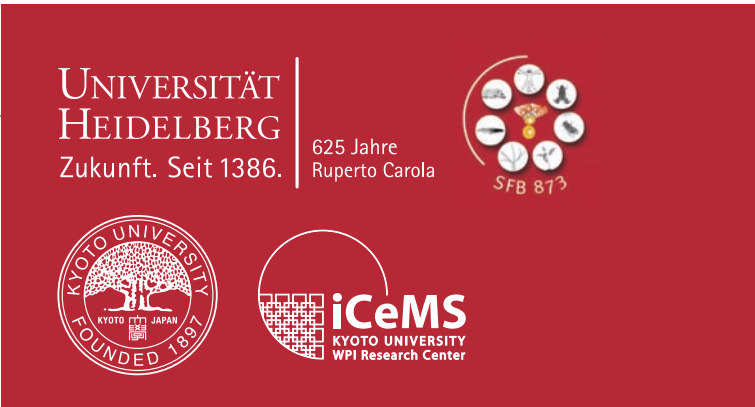
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Contact

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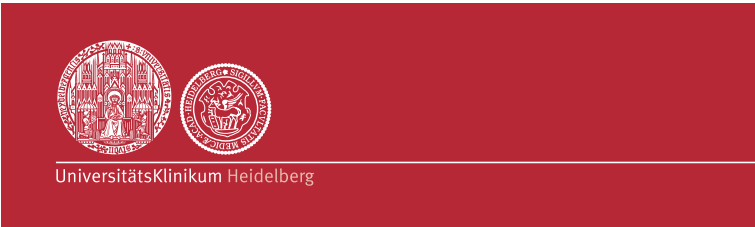


Heidelberg-Kyoto Joint Symposium

Crossing Boundaries:  
Stem Cells, Materials,  
and Mesoscopic Sciences



21–23 July 2011  
DKFZ Lecture Hall



Dear Colleagues and Friends,

May we extend a cordial invitation to the symposium **Crossing Boundaries: Stem Cells, Materials, and Mesoscopic Sciences**, to be held July 21-23, 2011 in Heidelberg, Germany. The Institute for Integrated Cell-Material Sciences (iCeMS) of Kyoto University, Japan, and the Collaborative Research Center SFB 873 of the University of Heidelberg, Germany, have jointly organized this conference on cross-disciplinary research, aiming to break through boundaries between the life and material sciences. The emphasis will be on innovations in the creation of novel approaches for stem cell technologies.

This scientific symposium is part of the activities within the Collaborative Agreement between the University of Kyoto and the University of Heidelberg. The conference will also constitute a part of the events associated with the anniversary year “150 Jahre Freundschaft Deutschland - Japan”, and the 625th anniversary of the University of Heidelberg, founded in 1386.

We greatly look forward to welcoming you to Heidelberg.

With kindest regards,

Norio Nakatsuji

Director and Professor  
Institute for Integrated Cell-Material Sciences (iCeMS)  
Kyoto University

Anthony D. Ho

Speaker for the Collaborative Research Center SFB873  
Chair and Professor  
Department of Medicine V  
University of Heidelberg