

**3D/4D Technologies and Math-Informatics for Aging Societies:
Collaboration between Germany and Japan**
高度高齢社会に向けた 3D・4D テクノロジーと数理情報学
— 日独学術連携の新たな展開 —

**September 17 & 18, Kyoto University Tokyo Office (Shin-Marunouchi Building)
hybrid format**

Day 1 (September 17)

9:45 **Welcome:** Axel Karpenstein (DAAD/DWIH)
 Announcement: Motomu Tanaka (Heidelberg)

Interdisciplinary Challenge (Chair: M. Bastmeyer)

10:15 Motomu Tanaka (Heidelberg): *Phys/math-empowered pathological diagnosis*
10:55 Shogo Nagai (Heidelberg, DAAD student): *Numerical analysis of cancer organoid dynamics*

11:15 Coffee Break

Mechanobiology: Experiments and Modeling (Chair: A. Yamamoto)

11:35 Martin Bastmeyer (Karlsruhe): *3D/4D materials to study cell mechanics*
12:15 Clemens Franz (Kanazawa): *Mechanics of cells and tissues*

Luncheon Session

Funding Programs and Fellowships: Laura Blecken (DWIH), Yuta Kawashima
Japan Science and Technology Agency (JST) and Shuta Watanabe (DAAD)

Special Session: Informatics for Personalized Medicine (*online; Chair: M. Tanaka)

14:20 Ken Yamaguchi (Hiroshima): *Informatics for Personalized Medicine:
Enhancing Cancer Survivorship through ePROs and Lifelog Data*

Mechanobiology: Experiments and Modeling (Chair: A. Yamamoto)

15:00 Ryo Suzuki (Keio): *Probing the mechanisms and control of Hydra tissue regeneration using active deformation analysis*

15:40 Coffee Break

Connecting Academia and Industry, East and West (Chair: M. Tanaka)

16:00 Roman Zantl (ibidi GmbH): Title tbc *online
16:40 Ren Kimura (Kao Corporation): *Development of Biomarkers for Cognitive Function Based on D-Amino Acid Monitoring for Aging Societies*

17:10 Short break

17:20 Debora Olivier (Zeiss): Title tbc *online

18:00 Introduction to the Heidelberg University Office Kyoto (HUOK)
Sabine Schenk

18:10 Open discussion on Japanese-German exchange and collaboration objectives (Moderator: M. Tanaka)

18:30 End of Day 1

Day 2 (September 18)

9:15 Welcome Day 2, Announcement: Motomu Tanaka (Heidelberg)

Eye Care for Maintaining QoL (Chair: R. Suzuki)

9:20 Morio Ueno (KPUM): *Current Status of Corneal Endothelial Restoration: Keeping a High QoL in Our Aging Societies*

10:00 Akihisa Yamamoto (Tokyo Metropolitan): *From Self-Organized Cellular Patterns to Clinical Outcomes in Cornea Restoration*

10:40 Coffee Break

11:00 Eri Ito (Tohoku Univ. and Menicon): *Beyond Contact Lenses: Synchrotron Science and Computational Design of Biomaterials for Healthy Aging*

Materials Inspired by Ocean and Computer (Chair: E. Ito)

11:40 Shigeru Deguchi (JAMSTEC): *Deep-Sea-Inspired Chemistry: Sustainable Processing of Natural Polymers*

12:20 Luncheon-Session

Funding Programs and Fellowships: Simon Essler/Saiki Hase (DFG Office Tokyo), JSPS (tbc)

13:20 Tomohiro Hayashi (Science Tokyo): *Fusion of interfacial analysis and machine learning for biomaterial research*

Research experience in Germany/Japan (Chair: T. Hayashi)

14:00 Taichi Habe (Kao Corporation): *Research in Germany: an industry researcher's experience of academia-industry collaboration*

14:30 Airi Katase (Science Tokyo, MSc student): *Research in Germany as a student*

14:50 Coffee Break

15:10 **Roundtable Discussion** (Moderator: M. Tanaka)

16:10 **Closing Remark:** Martin Bastmeyer (Karlsruhe)

16:15 End of Day 2