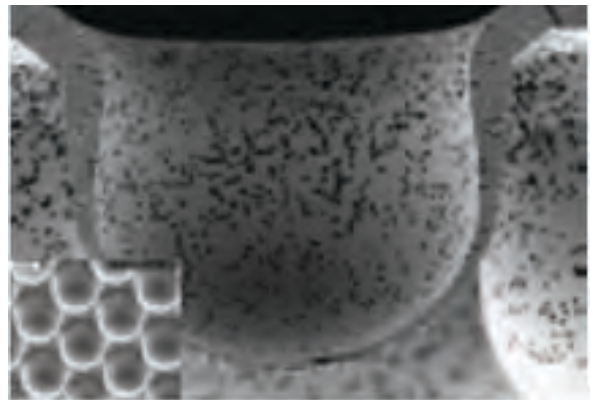
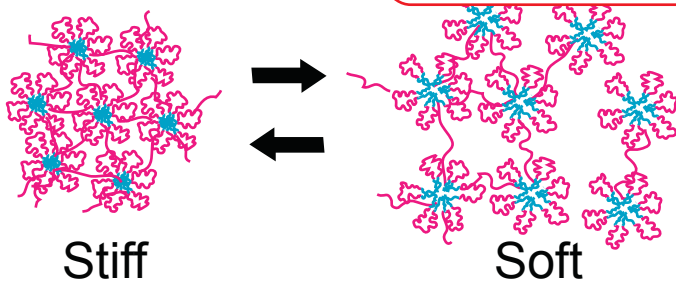
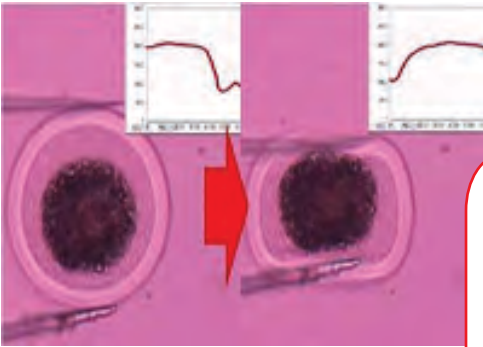


“Principles of Hydra Immortality”

Kick-Off Symposium, SPIRITS Program, Kyoto University
March 26, 2014, Shiran Kaikan, Kyoto



*Hydra Meets Physics,
Smart Materials, Micro-
Devices, and Robotics*



Organizer:

Motomu Tanaka (Heidelberg / Kyoto)

Speakers:

T. Holstein (Heidelberg), N. Warren (Sheffield), T. Arai (Osaka),
M. Ichikawa (Kyoto), T. Fujisawa (Mishima), T. Ohta (Tokyo)
C. David (Munich), H. Shimizu (Mishima)

International SPIRITS Symposium
**“Principles of Hydra's Immortality Using Smart Materials and
Microdevices”**

March 26, Yamauchi Hall, Shiran-Kaikan, Kyoto, Japan

March 26

9:00 Welcome, General Introduction / Motomu Tanaka

Current Activities of Consortium Members

9:15 – 9:45 Motomu Tanaka (Heidelberg / Kyoto)
“Understanding Break of Symmetry in Multicellular Systems:
On-Going Challenges, Perspective of the Consortium”

9:45 – 10:30 Thomas Holstein (Heidelberg)
“Molecular Mechanisms of Pattern Formation and
Regeneration in *Hydra*”

Break

10:45 – 11:15 Nicholas Warren (Sheffield)
“Bespoke Block Copolymer Nano-objects for Biological
Applications”

11:15 – 12:00 Tatsuo Arai (Osaka)
“Micro Robotics and Its Application in Bio Science”

12:00 - 12:30 Masatoshi Ichikawa (Kyoto)
“Manipulation of Biomatter with Optical Tweezers”

Lunch

Invited Talk (1)
13:30 – 14:10 Takao Ohta (Tokyo)
“Collective Dynamics of Self-Propelled Soft Particles”

Invited Talk (2)
14:10 – 14:50 Toshitaka Fujisawa (Mishima / Okazaki)
“Peptides in *Hydra*: Systematic Identification, Expression and
Functions”

Break

Invited Talk (3)

15:10 - 15:30

Charles David (Munich)

“Neuronal Connectivity and the Control of Behavior in Hydra”

Invited Talk (4)

15:30 - 15:50

Hiroshi Shimizu (Mishima)

“Search for the Evolutionary Origin of the Brain”

Presentations by Junior Scientists

15:50 - 16:10

Mariam Veschgini (Heidelberg)

“Spatio-Temporal Evolution of Hydra Mesoglea”

16:10 - 16:30

Alexander Körner (Heidelberg)

“In Vitro Cell Development in Pluripotent Tissues”

16:30 - 16:50

Marcel Hörning (Kyoto)

“Physics of Multicellular Cardiac Tissues”

16:50

Closure / Thomas Holstein

17:00 –

Internal Discussion about Next Steps