

# Program of WBMA'09

## December 14, Monday

16:00~ Registration (Senri Hankyu Hotel)

**Get together (17:00~19:00)**  
**(Senri Hankyu Hotel)**

## December 15, Tuesday

8:30~ Registration (Senri Lifescience Center, 5F)

### **Opening Remarks (9:15~9:30)**

9:15~9:30 Toshio Ando (Kanazawa Univ.)  
Osamu Ichimaru (JST)

### **Oral Session 1 (9:30~10:40) chaired by Toshio Ando**

O1-1 "Single molecule nano-imaging: Fluctuation and function of molecular machine"

9:30~9:55 Toshio Yanagida (Invited)  
(Graduate School of Frontier Biosciences, Osaka Univ., Japan)

O1-2 "Myosin VI: Unusual Design Features of a Reverse-Direction Myosin"

9:55~10:20 H. Lee Sweeney (Invited)  
(Dept. of Physiology, Univ. of Pennsylvania School of Medicine, USA)

O1-3 "Walking Mechanism of Myosin V Dissected by High-resolution Dynamic Imaging"

10:20~10:40 Noriyuki Kodera (Invited)  
(Dept. of Physics, Kanazawa Univ., Japan)

10:40~11:00 Coffee Break

## Oral Session 2 (11:00~12:50) chaired by Taekjip Ha

<b>O2-1</b>	<b>“Chaperone-induced changes in a protein folding pathway”</b>
<b>11:00~11:25</b>	<b>Sander Tans (Invited)</b> (FOM-Institute for Atomic and Molecular Physics, Netherlands)
<b>O2-2</b>	<b>“Single-molecule Imaging of Chaperonin Reaction Cycle Using Evanescent Field Fluorescence Microscopy”</b>
<b>11:25~11:50</b>	<b>Takashi Funatsu (Invited)</b> (Graduate School of Pharmaceutical Sciences, Univ. of Tokyo, Japan)
<b>O2-3</b>	<b>“High-resolution Dynamic Imaging of Chaperonin GroEL-GroES Reaction”</b>
<b>11:50~12:10</b>	<b>Daisuke Yamamoto (Invited)</b> (Dept. of Physics, Kanazawa Univ., Japan)
<b>O2-4</b>	<b>“Completion of the chemomechanical coupling scheme of F<sub>1</sub>-ATPase: Pi-release and torque generation”</b>
<b>12:10~12:35</b>	<b>Hiroyuki Noji (Invited)</b> (The Institute of Scientific and Industrial Research, Osaka Univ., Japan)
<b>O2-5</b>	<b>“Direct observation of steps in c-ring rotation of <i>Escherichia coli</i> F<sub>0</sub>F<sub>1</sub>-ATP synthase”</b>
<b>12:35~12:50</b>	<b>Ryota Iino</b> (The Institute of Scientific and Industrial Research, Osaka Univ., Japan)

**12:50~14:00 Lunch**

## Oral Session 3 (14:00~15:25) chaired by H. Lee Sweeney

<b>O3-1</b>	<b>“Structure and force generating mechanism of axonemal dyneins”</b>
<b>14:00~14:25</b>	<b>Kazuhiro Oiwa (Invited)</b> (Kobe Advanced ICT Research Center, National Institute of Information and Communications Technology, Japan)
<b>O3-2</b>	<b>“Single Molecule Observation of Structural Changes of Kinesin Motor Protein”</b>
<b>14:25~14:50</b>	<b>Michio Tomishige (Invited)</b> (Dept. of Applied Physics, Univ. of Tokyo, Japan)
<b>O3-3</b>	<b>“A Role of G- and F-actin Homeostasis in Actin Polymer Restoration”</b>
<b>14:50~15:10</b>	<b>Naoki Watanabe</b> Dept. of Pharmacology, Kyoto Univ. Faculty of Medicine, Japan

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<b>O3-4</b>	<b>“Atomic force microscopic imaging of the inner ear motor protein prestin using quantum dots”</b>
<b>15:10~15:25</b>	<b>Michio Murakoshi</b> (Dept. of Bioengineering and Robotics, Tohoku Univ., Japan)

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**15:25~15:45 Coffee Break**

#### **Oral Session 4 (15:45~17:15) chaired by Takayuki Uchihashi**

<b>O4-1</b>	<b>“Dynamic Heterogeneity of Single <math>\beta</math>-Galactosidase Molecules”</b>
<b>15:45~16:00</b>	<b>Douglas B Craig</b> (Dept. of Chemistry, Univ. of Winnipeg, Canada)
<b>O4-2</b>	<b>“Single molecule observations of processive glycosidases on crystalline substrates”</b>
<b>16:00~16:20</b>	<b>Kiyohiko Igarashi</b> (Dept. of Biomaterials Sciences, Graduate School of Agricultural and Life Sciences, Univ. of Tokyo, Japan)
<b>O4-3</b>	<b>“Real time Imaging of Lithostathine Fibrils growth using High-Speed AFM”</b>
<b>16:20~16:35</b>	<b>Pierre-Emmanuel Milhiet</b> (Centre de Biochimie Structurale, Univ. Montpellier, France)
<b>O4-4</b>	<b>“Nanomechanical Ultrasound Bioprobe for Non-Invasive Molecular Imaging of Intracellular Structures”</b>
<b>16:35~17:00</b>	<b>Gajendra Shekhawat (Invited)</b> (Dept. of Material Science and Engineering and NUANCE Center, Northwestern Univ., USA)
<b>O4-5</b>	<b>“Functional analysis of photosynthetic membrane protein by conductive AFM”</b>
<b>17:00~17:15</b>	<b>Mamoru Nango</b> (Dept. of Applied Chemistry, Nagoya Institute of Technology, Japan)

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#### **Poster Session (17:15~19:00) (Science Hall)**

## **December 16, Wednesday**

**8:30~ Registration (Senri Lifescience Center, 5F)**

### **Oral Session 5 (9:00~11:00) chaired by Christian Le Grimellec**

<b>O5-1</b> <b>9:00~9:25</b>	<b>“Single-Molecule Imaging-Induced Paradigm Shift of the Plasma Membrane Dynamics, Structure, and Signal Transduction”</b>
	<b>Akihiro Kusumi (Invited)</b> (Institute for Frontier Medical Sciences, Kyoto Univ., Japan)
<b>O5-2</b> <b>9:25~9:50</b>	<b>“What can we learn from single-molecule diffusion in the plasma membrane?”</b>
	<b>Stefan Wieser (Invited)</b> (Biophysics Institute, Johannes Kepler Univ. Linz, Austria)
<b>O5-3</b> <b>9:50~10:05</b>	<b>“Dynamics of protein transport and unfolding through protein channels at the single molecule level”</b>
	<b>Juan Pelta</b> (Dept. of Physics, Evry Univ., France)
<b>O5-4</b> <b>10:05~10:25</b>	<b>“Atomic force microscopy (AFM) studies on membrane proteins”</b>
	<b>Simon Scheuring (Invited)</b> (Institut Curie, France)
<b>O5-5</b> <b>10:25~10:45</b>	<b>“Direct Watching of Bacteriorhodopsin Structural Response to Photo-activation”</b>
	<b>Mikihiro Shibata (Invited)</b> (Dept. of Physics, Kanazawa Univ., Japan)
<b>O5-6</b> <b>10:45~11:00</b>	<b>“AFM Observation of Photosynthetic Membrane Protein Assembly in Planar Lipid Bilayer”</b>
	<b>Takehisa Dewa</b> (Dept. of Life and Materials Engineering, Nagoya Institute of Technology, Japan)

**11:00~11:20 Coffee Break**

### **Oral Session 6 (11:20~12:30) chaired by Pierre-Emmanuel Milhiet**

<b>O6-1</b> <b>11:20~11:40</b>	<b>“Time lapse AFM to study dynamics of DNA and protein-DNA complexes”</b>
	<b>Yuri Lyubchenko (Invited)</b> (Dept. of Pharmaceutical Sciences, Univ. of Nebraska Medical Center, USA)

<b>O6-2</b>	<b>“DNA-cytostatic drugs interaction observed by AFM”</b>
<b>11:40~11:55</b>	<b>Sandor Kasas</b> (Institut de Physique des Systèmes Biologiques, Ecole Polytechnique Fédérale de Lausanne, Switzerland)
<b>O6-3</b>	<b>“Interactions between proteo-nucleic structures studied by high speed atomic microscopy”</b>
<b>11:55~12:15</b>	<b>Eric Lesniewska (Invited)</b> (Dept. of Nanosciences, Univ. of Bourgogne, France)
<b>O6-4</b>	<b>“Design and Construction of DNA Nanostructures For Integration of Molecules”</b>
<b>12:15~12:30</b>	<b>Hiroshi Sugiyama</b> (Dept. of Chemistry, Kyoto Univ., Japan)

**12:30~13:40 Lunch**

#### **Oral Session 7 (13:40~14:55) chaired by Takeharu Nagai**

<b>O7-1</b>	<b>“Single-Molecule Tracking on Live Neurons with Different Imaging Modalities”</b>
<b>13:40~14:05</b>	<b>Laurent Cognet (Invited)</b> (CPMOH, Univ. of Bordeaux, France)
<b>O7-2</b>	<b>“Visualizing signal transduction in single synapses”</b>
<b>14:05~14:30</b>	<b>Ryohei Yasuda (Invited)</b> (Dept. of Neurobiology, Duke Univ. Medical Center, USA)
<b>O7-3</b>	<b>“Far-Field Optical Imaging and Molecular Dynamics on the Nnaoscale”</b>
<b>14:30~14:55</b>	<b>Andreas Schönle (Invited)</b> (Dept. of NanoBiophotonics, Max Planck Institute for Biophysical Chemistry, Germany)

**14:55~15:15 Coffee Break**

#### **Oral Session 8 (15:15~16:30) chaired by Laurent Cognet**

<b>O8-1</b>	<b>“A “Visible” NIR Nanoprobe: Single-Particle Analysis and Biological Applications of Upconverting Nanoparticles”</b>
<b>15:15~15:40</b>	<b>Kang Taek Lee (Invited)</b> (NanoBio Fusion Research Center, Korea Research Institute of Chemical Technology, Korea)

<b>O8-2</b>	<b>“Toward Elucidation of Biological Enigma by Genetically-encoded Molecular Spies”</b>
<b>15:40~16:05</b>	<b>Takeharu Nagai (Invited)</b> (Research Institute for Electronic Science, Hokkaido Univ., Japan)
<b>O8-3</b>	<b>“Green fluorescent proteins as light-induced electron donors: natural functions and practical consequences”</b>
<b>16:05~16:30</b>	<b>Dmitriy M. Chudakov (Invited)</b> (Shemiakin-Ovchinnikov Institute of Bioorganic Chemistry, Russia)
<b>16:30~16:50</b>	<b>Coffee Break</b>

### **Oral Session 9 (16:50~18:30) chaired by Kosuke Morikawa**

<b>O9-1</b>	<b>“Real-Time Single Molecule Imaging of Natural and Engineered Nucleic Acid-Protein Nanomachines”</b>
<b>16:50~17:15</b>	<b>Nils G. Walter (Invited)</b> (Dept. of Chemistry, Single Molecule Analysis Group, Univ. of Michigan, USA)
<b>O9-2</b>	<b>“Fluorescence-Force Spectroscopy of DNA-Protein Interactions”</b>
<b>17:15~17:40</b>	<b>Taekjip Ha (Invited)</b> (Dept. of Physics, Univ. of Illinois at Urbana-Champaign, USA)
<b>O9-3</b>	<b>“A Single Molecule View of Spermiogenesis”</b>
<b>17:40~18:05</b>	<b>Laurence R. Brewer (Invited)</b> (The Voiland School of Chemical Engineering and Bioengineering, Washington State Univ., USA)
<b>O9-4</b>	<b>“Single-molecule observation of DNA twist”</b>
<b>18:05~18:30</b>	<b>Sungchul Hohng (Invited)</b> (Dept. of Physics and Astronomy, Seoul National Univ., Korea)

**Banquet (19:00~21:00)**  
**(Senri Hankyu Hotel)**

## **December 17, Thursday**

**8:30~ Registration (Senri Lifescience Center, 5F)**

### **Oral Session 10 (9:00~10:40) chaired by Simon Scheuring**

<b>O10-1</b> <b>9:00~9:25</b>	<b>“Local mechanics of cytoskeletal networks probed by AFM”</b> <b>Atsushi Ikai (Invited)</b> (Laboratory of Biodynamics, Tokyo Institute of Technology, Japan)
<b>O10-2</b> <b>9:25~9:50</b>	<b>“Controlling biological motors in living cells”</b> <b>Berenike Maier (Invited)</b> (Dept. of Biology, Westfälische Wilhelms Univ. Münster, Germany)
<b>O10-3</b> <b>9:50~10:15</b>	<b>“Probing the Mechanical Behavior of Cell Surface Proteins using Single-Molecule AFM”</b> <b>Vincent Dupres (Invited)</b> (Unité de Chimie des Interfaces, Univ. catholique de Louvain, Belgium)
<b>O10-4</b> <b>10:15~10:40</b>	<b>“Can catch bonds provide a mechanism for mechanosensing?”</b> <b>Cheng Zhu (Invited)</b> (Coulter Dept. of Biomedical Engineering and Woodruff School of Mechanical Engineering, Georgia Institute of Technology, USA)

**10:40~11:00 Coffee Break**

### **Oral Session 11 (11:00~12:35) chaired by Eric Lesniewska**

<b>O11-1</b> <b>11:00~11:25</b>	<b>“Microfluidic formation of lipid bilayer membranes”</b> <b>Shoji Takeuchi (Invited)</b> (Institute of Industrial Science, Univ. of Tokyo, Japan)
<b>O11-2</b> <b>11:25~11:40</b>	<b>“Protein Synthesis from Single DNA Molecules Trapped in Microchambers”</b> <b>Soo Hyeon Kim</b> (Institute of Industrial Science, Univ. of Tokyo, JAPAN)
<b>O11-3</b> <b>11:40~12:05</b>	<b>“Global single-molecule protein and mRNA expression profiling in single live cells”</b> <b>Yuichi Taniguchi (Invited)</b> (Dept. of Chemistry and Chemical Biology, Harvard Univ., USA)

<b>O11-4</b>	<b>“Influence of bacterial surface appendage on the nanomechanical and electrokinetic properties of contracted and swollen <i>Escherichia coli</i> mutant cells”</b>
<b>12:05~12:20</b>	<b>Grégory Francius</b> (Laboratory of Physical Chemistry and Microbiology for the Environment, Nancy Univ., France)
<b>O11-5</b>	<b>“Spatio-temporal regulation of transcriptional pulses during self-organization in <i>Dictyostelium</i>”</b>
<b>12:20~12:35</b>	<b>Noritaka Masaki</b> (JST-ERATO Complex Systems Biology, Japan)

**12:35~13:45 Lunch**

#### **Oral Session 12 (13:45~15:25) chaired by Kosuke Morikawa**

<b>O12-1</b>	<b>“The T4 replisome: a single molecule study using magnetic tweezers”</b>
<b>13:45~14:10</b>	<b>Vincent Croquette (Invited)</b> (Laboratoire de Physique Statistique, Ecole Normale Supérieure, France)
<b>O12-2</b>	<b>“Single-molecule Observation of DNA-helicase Interaction”</b>
<b>14:10~14:35</b>	<b>Yoshie Harada (Invited)</b> (Institute for Integrated Cell-Material Science, Kyoto Univ., Japan)
<b>O12-3</b>	<b>“Single-molecule Pharmacology: What Does Cisplatin Do to DNA?”</b>
<b>14:35~15:00</b>	<b>Seok-Cheol Hong (Invited)</b> (Dept. of Physics, Korea Univ., Korea)
<b>O12-4</b>	<b>“Physics inside the Genome”</b>
<b>15:00~15:25</b>	<b>Gijs Wuite (Invited)</b> (Physics of complex systems, Dept. of Exact Sciences, VU Univ., The Netherlands)

**15:25~15:45 Coffee Break**

#### **Oral Session 13 (15:45~17:20) chaired by Yasuhiro Sugawara**

<b>O13-1</b>	<b>“Fast Scanning Atomic Force Microscopy Study of Antibody-Antigen Binding Dynamics on Biological Membranes”</b>
<b>15:45~16:05</b>	<b>Johannes Preiner (Invited)</b> (Biophysics Institute, Johannes Kepler Univ. Linz, Austria)



<b>O13-2</b>	<b>“Single Molecule Force Spectroscopy between Erythrocyte Glycoproteins and Sugar Specific Lectins”</b>
<b>16:05~16:20</b>	<b>Rehana Afrin</b> (Laboratory of Biodynamics, Tokyo Institute of Technology, Japan)
<b>O13-3</b>	<b>“Soft-Contact Imaging of Biomolecules in Liquid with Frequency-Modulation Torsion Resonance Mode Atomic Force Microscopy”</b>
<b>16:20~16:35</b>	<b>Chih-Wen Yang</b> (Institute of Physics, Academia Sinica, Taiwan)
<b>O13-4</b>	<b>“Development of the Direct Observation of Protein Motion in Aqueous Solution Using Phase Contrast Environmental TEM”</b>
<b>16:35~16:50</b>	<b>Hiroki Minoda</b> (Dept. of Applied Physics, Tokyo Univ. of Agriculture and Technology, Japan)
<b>O13-5</b>	<b>“High-speed AFM analysis of protein domain architecture”</b>
<b>16:50~17:05</b>	<b>Atsushi Miyagi</b> (Institute for Protein Research, Osaka Univ., Japan)
<b>O13-6</b>	<b>“Recent progress in Atomic Force Microscopy / Inverted Optical Microscopy Combination – Applications to Cancer Research and Neurophysiology”</b>
<b>17:05~17:20</b>	<b>Alexandre Berquand</b> (Veeco Instruments, Germany)

**Closing Remarks (17:20~17:30)**

## Poster Session

<b>P-01</b>	<b>“Statistic analysis of lateral diffusion and lifetimes of single molecules on membranes”</b> <b>Satomi Matsuoka</b> (Graduate School of Frontier Biosciences, Osaka Univ., Japan)
<b>P-02</b>	<b>“The visualization of rotational actin assembly by mDia1 during processive elongation using single molecule polarized fluorescence”</b> <b>Hiroaki Mizuno</b> (Dept. of Pharmacology, Kyoto Univ. Faculty of Medicine, Japan)
<b>P-03</b>	<b>“High-pressure microscopy for modulating the intermolecular interaction between protein and water molecules”</b> <b>Masayoshi Nishiyama</b> (Dept. of Chemistry, Graduate School of Science, Kyoto Univ., Japan)
<b>P-04</b>	<b>“Effect of pressure on the torque of the bacterial flagellar motor”</b> <b>Manabu Hasumi</b> (Dept. of Chemistry, Graduate School of Science, Kyoto Univ., Japan)
<b>P-05</b>	<b>“Single-molecule imaging of immobilized quantum dot-ribosomal complexes”</b> <b>Dominique Fourmy</b> (Laboratoire de Chimie et Biologie Structurales ICSN-CNRS, France)
<b>P-06</b>	<b>“Long-time observation of a single molecule trapped in a capillary cell: application for protein folding”</b> <b>Kiyoto Kamagata</b> (Institute of Multidisciplinary Research for Advanced Materials, Tohoku Univ., Japan)
<b>P-07</b>	<b>“Single molecule observation of chaperonin GroEL-GroES interaction”</b> <b>Masayuki Imai</b> (Dept. of Physics, Kanazawa Univ., Japan)
<b>P-08</b>	<b>“Reduction of translation error rate lowers single molecule catalytic heterogeneity of the <i>E. coli</i> <math>\beta</math>-galactosidase”</b> <b>Ellert R. Nichols</b> (Dept. of Biochemistry, Univ. of Toronto, Canada)
<b>P-09</b>	<b>“Computational dissection of human proteins into ordered/disordered regions”</b> <b>Ken Nishikawa</b> (Dept. of Bioinformatics, Maebashi Institute of Technology, Japan)
<b>P-10</b>	<b>“Regulation of kinesin-1 motility by tail domain as studied by single molecule observation”</b> <b>Takahiro Aoki</b> (Dept. of Bioengineering, Univ. of Tokyo, Japan)

<b>P-11</b>	<b>“Role of the neck linker in controlling the ATP hydrolysis reaction of kinesin”</b> <b>Xiao Ling</b> (Dept. of Applied Physics, Univ. of Tokyo, Japan)
<b>P-12</b>	<b>“Role of the neck linker on the preferential forward stepping of kinesin”</b> <b>Hiroshi Isojima</b> (Dept. of Applied Physics, Univ. of Tokyo, Japan)
<b>P-13</b>	<b>“Development of a force-clamping system to study the torque generation mechanism of F<sub>1</sub>-ATPase”</b> <b>Huijuan You</b> (Institute of Scientific and Industrial Research, Osaka Univ., Japan)
<b>P-14</b>	<b>“Fluctuation theorem applied to F1-ATPase”</b> <b>Kumiko Hayashi</b> (Institute of Scientific and Industrial Research, Osaka Univ., Japan)
<b>P-15</b>	<b>“Myosin V motor activity depending on the number of calmodulin”</b> <b>Yuri Koyama</b> (Dept. of Physics, Kanazawa University, Japan)
<b>P-16</b>	<b>“Brownian search-and-catch mechanism for myosin-VI steps”</b> <b>Mitsuhiro Iwaki</b> (Graduate School of Medicine, Osaka Univ., Japan)
<b>P-17</b>	<b>“Heterotrimeric G protein dynamics in early signaling events of chemotactic responses revealed by single-molecule imaging analysis”</b> <b>Yukihiro Miyanaga</b> (Laboratories for Nanobiology, Graduate School of Frontier Biosciences, Osaka Univ., Japan)
<b>P-18</b>	<b>“Real-time measurement of DNA digestion with hind III by silicon nano tweezers”</b> <b>Momoko Kumemura</b> (LIMMS-CNRS/IIS, UMI2820, Univ. of Tokyo, Japan)
<b>P-19</b>	<b>“Development of new water soluble fluorescent probe for cysteine specific cellular imaging”</b> <b>Hong Yan Song</b> (Institute of Materials Research and Engineering, Singapore)
<b>P-20</b>	<b>“Nano-dissection of <i>chlamydomonas</i> dynein-c by high-speed AFM”</b> <b>Hitoshi Sakakibara</b> (Kobe Advanced ICT Research Center, National Institute of Information and Communications Technology, Japan)

<b>P-21</b>	<b>“Single-molecule analysis of dynamics of bacterial cytoskeletal protein FtsZ by high-speed AFM”</b> <b>Shinya Sugimoto</b> (Dept. of Molecular Cell Biology, Institute of Molecular Embryology and Genetics, Kumamoto Univ., Japan)
<b>P-22</b>	<b>“Solution dynamics analysis of budding yeast cohesin complex by fast scanning AFM”</b> <b>Tatsuya Nishino</b> (National Institute of Genetics, Osaka Univ., Japan)
<b>P-23</b>	<b>“Prediction of fragile points and heptad breaks in coiled-coil myosin”</b> <b>Mieko Taniguchi</b> (Nagoya University, Japan)
<b>P-24</b>	<b>“Direct observation of GroEL-substrate complexes by high-speed atomic force microscopy”</b> <b>Masaaki Taniguchi</b> (Dept. of Physics, Kanazawa University, Japan)
<b>P-25</b>	<b>“Dynamic observation of DNA and Bal31 nuclease interaction using high speed atomic force microscopy”</b> <b>Norito Kotani</b> (Research Institute of Biomolecule Metrology Co. Ltd. Japan)
<b>P-26</b>	<b>“Imaging of restriction enzymes in action with high speed AFM”</b> <b>Jamie Lynn Gilmore</b> (Dept. of Pharmaceutical Sciences, Univ. of Nebraska Medical Center, USA)
<b>P-27</b>	<b>“Dynamics of the supramolecular organization of biological membranes”</b> <b>Ignacio Casuso</b> (Institut Curie, France)
<b>P-28</b>	<b>“Direct observation of membrane protein dynamics by high speed AFM”</b> <b>Hayato Yamashita</b> (Dept. of Physics, Kanazawa Univ., Japan)
<b>P-29</b>	<b>“Molecular resolution investigation of tetragonal lysozyme(110) face in liquid by frequency-modulation AFM”</b> <b>Ken Nagashima</b> (Graduate School of Engineering, Osaka Univ., Japan)

<b>P-30</b>	<b>“High-Resolution Imaging in Liquid with Frequency-Modulation Torsion Resonance Mode Atomic Force Microscopy”</b> <b>Ing-Shouh Hwang</b> (Institute of Physics, Academia Sinica, Nankang, Taipei, Taiwan)
<b>P-31</b>	<b>“OpenFovea, an open source AFM post processing software”</b> <b>Roduit Charles</b> (Laboratory of Physic of Living Matters, EPFL, Switzerland)
<b>P-32</b>	<b>“Application of cantilever overtones for high speed intermittent contact mode AFM”</b> <b>Janos Kokavecz</b> (Centre of Structural Biochemistry CNRS, Univ. Montpellier I, France)
<b>P-33</b>	<b>“Development of stand-alone- type high-speed AFM for cell imaging”</b> <b>Yasutaka Okazaki</b> (Dept. of Physics, Kanazawa Univ., Japan)
<b>P-34</b>	<b>“Visualization of subsurface structures by high-speed ultrasonic force microscopy”</b> <b>Hiroki Watanabe</b> (Dept. of Physics, Kanazawa Univ., Japan)
<b>P-35</b>	<b>“Tapping-force reduction based on parametric excitation for high-speed AFM”</b> <b>Tetsuro Yamamoto</b> (Dept. of Physics, Kanazawa Univ., Japan)
<b>P-36</b>	<b>“Force enhancement of phase modulation atomic force microscopy using Q-control technique for high-resolution imaging in liquid”</b> <b>Naritaka Kobayashi</b> (Dept. of Applied Physics, Osaka Univ., Japan)
<b>P-37</b>	<b>“Development of multifrequency high-speed phase-modulation atomic force microscopy in liquids”</b> <b>Yan Jun Li</b> (Dept. of Applied Physics, Osaka Univ., Japan)
<b>P-38</b>	<b>“High speed material property mapping and easy-to-use high speed AFM”</b> <b>Johannes Kindt</b> (Veeco GmbH, Germany)
<b>P-39</b>	<b>“Wide-band viscoelasticity analysis of single polymer chain dynamics”</b> <b>Masami Kageshima</b> (Dept. of Applied Physics, Osaka Univ., Japan)

<b>P-40</b>	<b>“Biotin-avidin interactions detected by multifrequency high-speed atomic force microscopy”</b> <b>Kouhei Takahashi</b> (Dept. of Applied Physics, Osaka Univ., Japan)
<b>P-41</b>	<b>“In situ-atomic force microscopy (AFM) and imaging in liquids”</b> <b>Demet Catcat</b> (Dept. of NanoTechnology and NanoMedicine, Hacettepe Univ., Turkey)
<b>P-42</b>	<b>“Observation of nanostructured surface by high speed atomic microscopy”</b> <b>Maxime Ewald</b> (Dept. of Nanosciences, Univ. of Bourgogne, France)
<b>P-43</b>	<b>“Three-dimensional imaging of <i>vibrio</i> flagellar hook-basal body by using zernike phase-contrast cryo-electron tomography”</b> <b>Naoki Hosogi</b> (Dept. of Strategic Methodology, Okazaki Institute for Integrative Bioscience, Japan)
<b>P-44</b>	<b>“Single molecule viscoelasticity measurement of stretching process of dextran”</b> <b>Yukinori Taniguchi</b> (School of Materials Science, Japan Advanced Institute of Science and Technology, Japan)
<b>P-45</b>	<b>“Unbinding force of metal-crown complexes: force spectroscopy under quasi-thermodynamic equilibrium”</b> <b>Wei-Hsiang Tseng</b> (Dept. of Chemistry, National Tsing Hua Univ., Taiwan)
<b>P-46</b>	<b>“Direct detection of tension recovery after stretching a single cell”</b> <b>Takahiro Watanabe-Nakayama</b> (Tokyo Institute of Technology, Japan)
<b>P-47</b>	<b>“Direct manipulation of intracellular structure using fabricated AFM cantilever”</b> <b>Shinichi Machida</b> (Graduate School of Bioscience & Biotechnology, Tokyo Institute of Technology, Japan)