

JAPAN NANO 2007

Poster Presentation

17:50 - 19:50, February 20, 2007

Conference Room 607, 608 on the 6th floor

P-1 Nano-biology and soft materials

P-1-1

The responses of osteoblasts and chondrocytes cultured on an alginate gel modified with nano-patterned cell adhesive peptides

Ryusuke Nakaoka, Toshie Tsuchiya

Division of Medical Devices, National Institute of Health Sciences

P-1-2

Development of DNA-encoded functional indicators for biological analyses

Takeharu Nagai

Research Institute for Electronic Science, Hokkaido University

P-1-3

Development of protein-based indicators to visualize biological function

Kiwamu Takemoto, Takeharu Nagai

Research Institute for Electronic Science, Hokkaido University

P-1-4

ADAMs' MDC domain architecture revealed by crystal structures of snake venom metalloproteinases

Tomoko Igarashi, Satohiko Araki, Hidezo Mori, Soichi Takeda

Department of Cardiac Physiology, National Cardiovascular Center Research Institute

P-1-5

Nano scale level analysis of Uch-L1 mutant proteins associated with familial parkinsonism

Shunsuke Aoki, Kazunori Hirayama, Kaori Nishikawa, Keiji Wada

Department of Degenerative Neurological Diseases, National institute of Neuroscience, NCNP

P-1-6

Development on practical application of new medical materials using nanocomposite hydrogel

Toru Takehisa¹⁾, Yoshiyuki Taenaka²⁾, Kazutoshi Haraguchi¹⁾

¹⁾Kawamura Institute of Chemical Research, ²⁾National Cardiovascular Center Research Institute

P-1-7

Nanorheology of living cells probed by atomic force microscopy

T. Okajima, M. Tanaka, S. Tsukiyama, T. Kadowaki, S. Yamamoto, M. Shimomura, H. Tokumoto

Nanotechnology Research Center, Research Institute for Electronic Science, Hokkaido University

P-1-8

Imaging of EGFR with quantum dots

Masaaki Kawai¹⁾, Hideo Higuchi²⁾, Motohiro Takeda¹⁾, Noriaki Ohuchi¹⁾

¹⁾ Division of Surgical Oncology, Tohoku University Graduate school of Medicine, ²⁾ Biomedical Engineering Research Organization, Tohoku University

P-1-9

Si-based nano-scale pore for molecule detection

Kazuhiko Obana, Tomoyuki Uchida, Kaya Kobayashi, Toshiyuki Mitsui

Department of Physics and Mathematics , Aoyama Gakuin University

P-1-10

Evaluation of electrical stimulus current applied to retinal cells for implantable retinal prosthesis

T. Watanabe¹⁾, K. Komiya¹⁾, H. Kurino¹⁾, T. Fukushima¹⁾, H. Tomita²⁾, E. Sugano²⁾, T. Tanaka¹⁾, M. Tamai²⁾, M. Koyanagi^{1,2)}

¹⁾Department of Bioengineering and Robotics, Graduate School of Engineering, Tohoku University,

²⁾Tohoku University Biomedical Engineering Research Organization,

P-1-11

Micro-machine powered by motor proteins.

Yuichi Hiratsuka

Japan Advanced Institute of Science and Technology, School of Materials Science

P-1-12

Biosensors based on carbon nanotube array modified microelectrodes

Jun Okuno¹⁾, Kenzo Maehashi¹⁾, Kazuhiko Matsumoto¹⁾, Kerman Kagan²⁾, Yuzuru Takamura²⁾, Eiichi Tamiya²⁾

¹⁾ Institute of Scientific and Industrial Research, Osaka University, ²⁾ School of Materials Science, Japan Advanced Institute of Science and Technology

P-1-13

Carbon nanotubes as scaffolds for tissue engineering

Naofumi Aoki, Atsuro Yokoyama, Yoshinobu Nodasaka, Tsukasa Akasaka, Motohiro Uo, Yoshinori Sato, Kazuyuki Tohji, Fumio Watari

Graduate School of Dental Medicine, Hokkaido University

P-1-14

Preparation of dispersible drug-loaded carbon nanohorns for DDS application

Sachiko Matsumura, Masako Yudasaka, Sumio Iijima, Kiyotaka Shiba

JST-SORST, Cancer Institute, Japanese Foundation for Cancer Research

P-1-15

DNA condensation mechanism revealed under fluorescence video-microscope

Yuichi Yamasaki

Graduate School of Engineering, The University of Tokyo

P-1-16

Development of a microfluidic cell-based biosensor toward high-throughput assays

J. Kobayashi^{1,3)}, K. Wada^{2,3)}, A. Taniguchi^{2,3)}, M. Yamato^{1,3)}, T. Okano^{1,3)}

¹⁾ Institute of Advanced Biomedical Engineering, Tokyo Women's Medical University, ²⁾ Cell Engineering Technology Group, Biomaterials Center, National Institute for Materials Science, ³⁾ CREST, Japan Science and Technology Agency

P-1-17

How fast can f1-atpase rotate

Shou Furuike, Kengo Adachi, Megumu Shio, Rieko Shimo-Kon, Hiroyasu Itoh, Masasuke Yoshida, Kazuhiko Kinoshita, Jr.

Department of Physics, Faculty of Science and Engineering, Waseda University

P-1-18

Spray-jet technique: Applications to spectroscopic analysis and molecular observation of non-volatile functional molecules

Toshiki Yamada, Hidenori Shinohara, Hitoshi Suzuki, Toshiya Kamikado, Hideki Miki, Shinro Mashiko, Shiyoshi Yokoyama

Kobe Advanced ICT Research Center, National Institute of Information and Communications Technology

P-1-19

A novel polymer blend composed of 1,2-bis(vinylphenyl)ethane and thermosetting PPE copolymer

Jun Nunoshige, Haruo Akahoshi, Yonggui Liao, Shin Horiuchi, Tomoyuki Koga, Atushi Takahara, Mitsuru Ueda

Japan Chemical Innovation Institute (JCII), Hitachi Ltd., National Institute of Advanced Industrial Science and Technology (AIST), Kyushu University, Tokyo Institute of Technology

P-1-20

Development of novel multifunctional gelators with an electrolyte structure

Masaru Yoshida¹⁾, Nagatoshi Koumura¹⁾, Hajime Matsumoto²⁾, Nobuyuki Tamaoki¹⁾, Said Kazaoui³⁾, Nobutsugu Minami¹⁾

¹⁾ National Institute of Advanced Industrial Science and Technology (AIST), Nanotechnology Research Institute, ²⁾ National Institute of Advanced Industrial Science and Technology (AIST), Research Institute for Ubiquitous Energy Devices, ³⁾ National Institute of Advanced Industrial Science and Technology (AIST), Research Center for Advanced Carbon Materials

P-2 Nano-materials, nano-process and nano implications

P-2-1

Fabrication of nanocrystalline FET using nanoscale electrocrystallization

Hiroyuki Hasegawa

Kobe Advanced ICT Research Center, National Institute of Information and Communications Technology

P-2-2

Fabrication and electric conductance of well defined single molecule/metal interface

Manabu Kiguchi, Shinichi Miura, Kei Murakoshi

School of Science, Hokkaido Univ., JST PRESTO

P-2-3

General application of solid-liquid interface to nano materials processing in vacuum

Yuji Matsumoto

Materials and Structures Laboratory, Tokyo Institute of Technology

P-2-4

Novel liquid nano-carbons: room temperature liquid fullerenes

Takashi Nakanishi

Organic Nanomaterials Center, National Institute for Materials Science

P-2-5

Development of half-metallic $\text{Co}_2\text{FeAl}_x\text{Si}_{1-x}$ full-Heusler alloy films and giant tunnel manceoresistance

N. Tezuka, N. Ikeda, S. Sugimoto, K. Inomata

Tohoku University, National Institute for Materials Science

P-2-6

ZnO Based nanomaterials for light emitting devices and bio-imaging applications

O. Senthil Kumar¹⁾, K. Yamauchi²⁾, Y. Hanada²⁾, M. Miyamoto²⁾, M. Nakamura³⁾, Y. Fujita²⁾

¹⁾ Research Project Promotion Institute, Shimane University, ²⁾ Interdisciplinary Faculty of Science and Engineering, Shimane University, ³⁾ Department of Cooperative Medical Research, Collaboration Center, Shimane University

P-2-7

$\text{Mn}^{\text{III}}_2\text{M}^{\text{II}}$ chains ($\text{M}^{\text{II}} = \text{Ni}^{\text{II}}$ and Fe^{II}) shielded by zeolite-like BPh4- brick walls: multiple tuning of superparamagnetic behavior by changing intra-chain components

Hitoshi Miyasaka, Ayumi Saitoh, Masahiro Yamashita

Tohoku University, CREST-JST

P-2-8

Dense nano-grained ceramics and transparent thin films of BaTi_2O_5 via sol-gel derived nanopowders

Jun Xu¹⁾, Yukikuni Akishige²⁾

¹⁾ Research Project Promotion Institute, Shimane University, ²⁾ Faculty of Education, Shimane

University

P-2-9

Single-walled carbon nanotube synthesis using gold-group catalysts

Daisuke Takagi¹⁾, Yoshikazu Homma^{1,3)}, Yoshihiro Kobayashi^{2,3)}

¹⁾Department of Physics, Tokyo University of Science, ²⁾NTT Basic Research Laboratories, NTT Corporation, ³⁾CREST, Japan Science and Technology Agency

P-2-10

Nano-tube imogolite and nano-ball allophane: nano-clay materials with unique structure and its application for removal of odorous vapors

Zaenal Abidin, Matsue Naoto, Henmi Teruo

Environmental Soil Science laboratory, Faculty of Agriculture Ehime University

P-2-11

Fundamental microstructure and magnetic properties of self-assembled FePt nano-dot film annealed by using magnetic field annealing

J. C. Bea^{1,2)}, M. Murugesan^{1,2)}, C.-K. Yin¹⁾, M. Nishijima²⁾, T. Fukushima¹⁾, M. Miyao⁴⁾, M. Koyanagi¹⁾

¹⁾Dept. of Bioengineering and Robotics, Tohoku University, ²⁾Japan Science and Technology Agency (JST), ³⁾Institute for Materials Research, Tohoku University, ⁴⁾Dept. of Electronics, Kyushu University

P-2-12

High transparent nanocomposite thick films prepared by aerosol deposition method

Jae-Hyuk Park, Akedo Jun

National Institute of Advanced Industrial Science and Technology (AIST)

P-2-13

Degradation mechanism analysis of dielectric properties of HfO₂ due to interaction of oxygen composition and strain

Ken Suzuki, Yuta Ito, Hideo Miura

Fracture and Reliability Research Institute, Graduate School of Engineering, Tohoku University

P-2-14

Electrochemical and catalytic functions of precise macromolecular metal complexes

Takane Imaoka, Kimihisa Yamamoto
Department of Chemistry, Keio University

P-2-15

UV-laser photolysis in supercritical carbon dioxide/aromatic hydrocarbon binary fluid systems

N. Rantonen, K. Ishii, Y. Nakajima, T. Hanajiri, T. Maekawa
Bio-Nano Electronics Research Centre, Toyo University

P-2-16

Synthesis of CdS-capped CdTe nanocrystals in noncoordinating solvents

Jia-Yaw Chang, Shiuan-Ren Wang, Cheng-Hsien Yang, Gan Lin Hwang
Industrial Technology Research Institute

P-2-17

Phosphorescent metallorganic (-Ir^(III)-Ligand-) polymer and nanorods therefrom

Youngmin You, Soo Young Park
School of Materials Science & Engineering, Seoul National University

P-2-18

Fluorescence turn-on and supramolecular gelation induced by the silver-complexation

Jangwon Seo, Jong Won Chung, Soo Young Park
School of Materials Science and Engineering, Seoul National University

P-2-19

Metal-assisted molecular machinery and dynamic nano-capsules

Shuichi Hiraoka, Mitsuhiko Shionoya
Department of Chemistry, Graduate School of Science, The University of Tokyo

P-2-20

Design on new M@ZnO nanocolloids: synthesis and shaping

F. Grasset*, S. Cordier, Y. Molard, C. Perrin, M. Guilloux-Viry
Unite Sciences Chimiques de Rennes, UMR 6226 CNRS-Universite de Rennes 1, FRANCE

P-2-21

Design of high sensitivity no₂ gas sensor with nano interdigitated electrode

Takeshi Hashishin¹⁾, Yudai Uno²⁾, Dao Viet Dzung¹⁾, Susumu Sugiyama³⁾, Jun Tamaki²⁾

¹⁾ Center for Promotion of the COE Program, ²⁾ Department of Applied Chemistry, ³⁾ Department of Micro System Technology, Ritsumeikan University

P-2-22

Revolution in carbon nanotube synthesis - "Super Growth" and its applications as SWNT solid, DWNT forest, super-capacitors, and CNT-FED

Kenji Hata

National Institute of Advanced Industrial Science and Technology (AIST) Research Center for Advanced Carbon Materials Nano-Carbon Materials Team

P-2-23

Fabrication of nanoscale molecular junctions by using dielectrophoresis

Yutaka Noguchi, Rieko Ueda, Tohru Kubota, Shiyoshi Yokoyama

Kobe Advanced ICT Research Center, National Institute of Information and Communications Technology

P-2-24

Nano-fabrication technology with cluster ion beams

Noriaki Toyoda

Laboratory of Advanced Science and Technology for Industry, University of Hyogo

P-2-25

Nano-patterning of epitaxial oxide films by molybdenum lift-off

Naoki Suzuki, Hidekazu Tanaka, Satoshi Yamanaka, BongKuk Lee, HeaYeon Lee, Tomoji Kawai

JST-CREST, The Institute of Scientific and Industrial Research, Osaka University

P-2-26

Development of multi-layered thermal barrier coatings produced by electron beam physical vapor deposition

Kunihiko Wada, Yutaka Ishiwata, Toshiaki Fuse¹⁾, Hideaki Matsubara²⁾

¹⁾ Power and Industrial Systems R&D Center, Toshiba Corporation, ²⁾ Japan Fine Ceramics Center

P-2-27

Technology to produce ultra-high quality single walled carbon nanotubes-direct injection pyrolytic synthesis (DIPS) method-

Takeshi Saito^{1,2)}, Satoshi Ohshima¹⁾, Motoo Yumura¹⁾, Sumio Iijima¹⁾

¹⁾ Research Center for Advanced Carbon Materials, National Institute of Advanced Industrial Science and Technology (AIST), ²⁾ JST PRESTO

P-2-28

Deep-trench etching for chip-to-wafer three dimensional integration technology to fabricate retinal prosthesis chips

Hirokazu Kikuchi, Taiichiro Watanabe, Yusuke Yamada, Takafumi Fukushima, Tetsu Tanaka, Mitsumasa Koyanagi

Department of Bioengineering and Robotics, Graduate School of Engineering, Tohoku University

P-2-29

Layered organic-inorganic nanohybrid thin films of molybdenum trioxide with various organic components for gas sensors

Toshio Itoh, Ichiro Matsubara, Woosuck Shin, Noriya Izu

National Institute of Advanced Industrial Science and Technology (AIST)

P-2-30

High power lithium ion secondary batteries using nano porous materials

Hirotooshi Yamada, Isamu Moriguchi

Faculty of Engineering, Nagasaki University

P-2-31

High rate performances of Li-ion batteries with nano sized active materials.

Naoto Yasuda, Haoshen Zhou, Itaru Honma, Kiyoshi Sato, Ryo Nagai

Development and Technology Division, Hitachi Maxell, Ltd.

P-2-32

Nanoscale interfacial modification enhancing high-rate capability of solid-state lithium batteries

Kazunori Takada, Narumi Ohta, Lianqi Zhang, Renzhi Ma, Minoru Osada, Takayoshi Sasaki

Nanoscale Materials Center, National Institute for Materials Science

P-2-33

μ -DMFC with planer structure

T. Momma, T. Osaka

Faculty of Science and Engineering, Waseda University

P-2-34

Problem structuring on social implication of nanotechnologies based on cognitive-map method

Yoshinori Nakagawa, Kotaro Kuroda, Tatsujiro Suzuki, Hideaki Shiroyama, Yoshiko Saito

Department of Civil Engineering, University of Tokyo

P-3 Nano-IT devices and physics and metrology

P-3-1

High-crystalline organic thin film devices by molecular-wetting control of the substrates

Kenji Itaka, Jun Yamaguchi, Masamitsu Haemori, Seiichiro Yaginuma, Yuji Matsumoto, Hideomi Koinuma

Graduate School of Frontier Sciences, The University of Tokyo

P-3-2

Ultrarapid thermal annealing induced by dc arc discharge plasma jet and its application

Seiichiro Higashi, Hirotaka Kaku, Tatsuya Okada, Hideki Murakami and Seiichi Miyazaki

Graduate School of Advanced Sciences of Matter, Hiroshima University

P-3-3

Semiconductor spin-band engineering and device applications

Shinobu Ohya

Department of Electronic Engineering, The University of Tokyo

P-3-4

Variable-body-factor fully-depleted SOI MOSFETs for future high-speed, low-power LSIs.

Tetsu Ohtou, Takuya Saraya, Toshiro Hiramoto

Institute of Industrial Science, University of Tokyo, 21st Century COE Program "Electrical Engineering and Electronics for the Active and Creative World", University of Tokyo

P-3-5

X-ray, gamma-ray imaging device for Nanovision

Toru Aoki, Hidenori Mimura

Research Institute of Electronics, Shizuoka University

P-3-6

Single molecular orientation switching of an endohedral metallofullerene

Yutaka Majima, Yuhsuke Yasutake, Zujin Shi, Toshiya Okazaki, Hisanori Shinohara

Tokyo Institute of Technology, AIST, Nagoya University

P-3-7

Precise fabrication of nanogap electrodes and its application to single molecule junctions

Akinori Umeno, Kazuhiko Hirakawa

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"Electrical Engineering and Electronics for the Active and Creative World", University of Tokyo

P-3-8

Quantum dots and photonic crystals for quantum information electronics ~ GaN-based single photon sources and nanocavities~

Y. Arakawa, S. Iwamoto, M. Arita, S. Kako

Collaborative Institute of Nano Quantum Information Electronics, University of Tokyo

P-3-9

Progresses of photonic-crystal research

T. Asano, S. Noda, M. Fujita, M. Imada

Department of Electronic Science and Engineering, Graduate School of Engineering

P-3-10

High efficiency ultraviolet light emission from diamond semiconductor

Toshiharu Makino, Norio Tokuda, Hiromitsu Kato, Masahiko Ogura, Sunggi Ri, Hideyuki Watanabe,

Satoshi Yamasaki, Hideyo Okushi

National Institute of Advanced Industrial Science and Technology (AIST), Nanotechnology Research Institute

P-3-11

Theory of inter-wall interaction in multi-wall carbon nanotubes

Seiji Uryu, Tsuneya Ando

Department of Physics, Tokyo Institute of Technology

P-3-12

The effect of the motion of surface atoms on the dissociative adsorption of hydrogen molecule

Takashi Tokumasu

Institute of Fluid Science, Tohoku University

P-3-13

Physicochemical properties of liquids confined in extended-nano spaces

Takehiko Tsukahara, Akihide Hibara, Takehiko Kitamori

Department of Applied Chemistry, School of Engineering, the University of Tokyo

P-3-14

Surface nano relief formation of azo-polymers by metal tip enhanced near field

Hidekazu Ishitobi¹⁾, Mamoru Tanabe²⁾, Zouheir Sekkat^{2,3)}, Satoshi Kawata^{1,2)}

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P-3-15

Atomic site-selective sensitivity in near-field spectroscopy

Norihiko Hayazawa, Hiroyuki Watanabe, Yuika Saito, Satoshi Kawata

Nanophotonics Laboratory, RIKEN

P-3-16

Coherent property and its manipulation of strain-compensated InAs quantum dots

Junko Ishi-Hayase¹⁾, Kouichi Akahane¹⁾, Naokatsu Yamamoto¹⁾, Mamiko Kujiraoka^{1,2)}, Kazuhiro Ema²⁾, and Masahide Sasaki¹⁾

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P-3-17

Selective growth of a nano-scale resonant tunnel structure by MBE

Tatsuya Nishiwaki, Masahito Yamaguchi, Nobuhiko Sawaki

Dept. of Electrical Engineering and Computer Science, Nagoya University

P-3-18

Optical response of weakly confined excitons in GaAs nano-thin films

A. Kanno^{1,2)}, T. Isu^{1,2,3)}, O. Kojima^{1,2,4)}, J. Ishi-Hayase^{1,2)}, M. Sasaki¹⁾, and M. Tsuchiya^{1,2)}

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P-3-19

Advanced nanomaterials fabricated by high-power laser field and supercritical fluid

Ken-ichi Saitow

N-BARD, Hiroshima University

P-3-20

A challenge to develop chemically sensitive NC-AFM

S. Suzuki^{1,4)}, M. Nakamura²⁾, K. Kinoshita²⁾, Y. Koike³⁾, K. Fujikawa²⁾, W.-J. Chun^{1,4)}, M. Nomura³⁾, K. Asakura¹⁾

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P-3-21

Development of ion mobility measurement system for structural control of nano-carbon materials

Toshiki Sugai, Hisanori Shinohara

Research Center for Materials Science, Nagoya University

P-3-22

Development of nanometer-level surface fabrication technology for hard x-ray reflective optics

H. Mimura, S. Matsuyama, H. Yumoto, Y. Sano, K. Yamamura, K. Endo, Y. Mori, K. Tamasaku, M. Yabashi, Y. Nishino, T. Ishikawa, K. Yamauchi

Osaka University Graduated School of Engineering, Department of Precision Science and Technology, PRESTO, Japan Science and Technology Agency(JST)

P-3-23

Nano-filler dispersion in rubber composite of tire: ultra-small-angle x-ray scattering analysis

H. Kishimoto, Y. Shinohara, K. Muraoka, T. Mizoguchi, Y. Amemiya

SRI Research and Development Ltd.

P-3-24

Development of nanometer-range lateral standards and calibration technology

Satoshi Gonda, Ichiko Misumi, Kentaro Sugawara, Kazunori Yoshizaki

Dimensional Standard Section, Length and Dimensions Division National Metrology Institute of Japan (NMIJ), National Institute of Advanced Industrial Science and Technology (AIST)

P-3-25

Thermal diffusivity measurement of the coatings and the carbon nanotube

M. Akoshima, M. Ogawa, K. Hata, D. Futaba, K. Mizuno, H. Kato, T. Baba and M. Yumira

National Metrology Institute of Japan (NMIJ), AIST, Japan Fine Ceramics Center (JFCC),
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