

2007 2nd IEEE International Conference on Nano/Micro Engineered and Molecular Systems

**Bangkok, Thailand
16-19 January 2007**

Volume 1 of 3



IEEE Catalog Number:
ISBN:

07EX1515
1-4244-0609-9

Table of Contents

The Simulation for Pressure Loss of Microchannel Heat Sinks Inlet	1
<i>Wenzhong Lou, Xiuli Yu, Bin Qi</i>	
Sol-gel Combustion Hybrid Method for Nano-oxide Synthesis	7
<i>Chi-Hwan Han, Sang-Do Han, Jihye Gwak</i>	
Fabrication and Characterization of Nanostructured Ta-Si-N Films	10
<i>C.K. Chung, T.S. Chen, C.C. Peng, B.H Wu</i>	
Fluorescence Visualization of Carbon Nanotubes Using Quenching Effect for Nanomanipulation	14
<i>Fumihito Arai, Moeto Nagai, Akio Shimizu, Akihiko Ishijima, Toshio Fukuda</i>	
Microstructural Control of LSM/YSZ Composite Cathode for Lower Temperature Operation of SOFC.....	18
<i>Jintawat Chaichanawong, Kazuyoshi Sato, Hiroya Abe, Kenji Murata, Takehisa Fukui</i>	
I-V Characteristic of the Au Nanorod According to the Contact Materials.....	22
<i>Kyu-Jin Kim, Byoung-Ho Kang, Do-Eok Kim, Won-Seok Kang, Jae-Ho Kim, Dae-Hyuk Kwon, Jung-Hee Lee, Shin-Won Kang</i>	
Development Of pCO₂ Analytic System Using Soft-Lithography Method	26
<i>Kyung-Chan Kim, Byoung-Ho Kang, Do-Eok Kim, Dae-Hyuk Kwon, Jong-Hee Lee, Shin-Won Kang</i>	
Three-dimensional Electrochemical Micromachining on Metal and Semiconductor by Confined Etchant Layer Technique (CELT).....	30
<i>Jing Tang, Li Zhang, Li M. Jiang, Lei Xie, Yan B. Zu, Zhao W. Tian</i>	
Micro Assembly by Micro Resistance Welding with Electro-Thermal Actuators	35
<i>Cheng-Chi Yeh, Junwei Chung, Chun-Wei Chang, Wensyang Hsu</i>	
The Effects of Mechanical Thin-film Properties on the Pyroelectric Signals.....	39
<i>Chung-Sheng Wei, Chun-Ching Hsiao, Yuh-Chung Hu</i>	
Chitosan Clad Manganese Doped Zinc Sulphide Nanoparticles as Biological Labels.....	44
<i>Hemant C. Warad, Chanchana Thanachayanont, Gamolwan Tumcharern, Joydeep Dutta</i>	
Growth Process of Novel Thin Films by Directed Self Organization of Nanoparticles	49
<i>S. Promnimit, S. Pratontep, C. Thanachayanont, J. K. Park, J. Dutta</i>	
Layer by Layer Self-Assembly of Immunoglobulins for Piezoelectric Biosensors	55
<i>Laura Pastorino, Federico Caneva Soumetz, Carmelina Ruggiero</i>	
Design and Evaluation of the Nanorod Arrangement Pattern using Electro-magnetic Field Effect.....	59
<i>Heng Yuan, Hyurk-Choon Kwon, Kyu-Jin Kim, Woo-Jin Cho, Jong-Hee Lee, Jae-Ho Kim, Eung-Soo Kim, Shin-Won Kang</i>	
Meniscus Pinned Variable-focus Liquid Lens Based on Electrowetting-on-dielectric	63
<i>Ming Kang, Ruifeng Yue, Jiangan Wu, Fan Ouyang, Litian Liu</i>	
New Nanostructured Electrode Material for Electrochemical Supercapacitors.....	67
<i>Oleg A. Shlyakhtin, Min Seob Song, Young-Jei Oh</i>	
Transparent Silica Aerogels through Ternary Azeotropic Mixture.....	71
<i>A.V. Shlyakhtina, Young-Jei Oh</i>	
Deposition and Characterization of Layer-by-Layer Nano Self-Assembled Carbon Nanotube Multilayer Thin Films	77
<i>Wei Xue, Tianhong Cui</i>	
Characteristics of the PPy Material as pH Sensitive Membrane.....	83
<i>Zumin Wang, Zhengxin Ren, Jinghong Han, Chao Bian, Shan hong Xia</i>	
Nano Self-Assembled Nanoparticle Ion-Sensitive Field-Effect Transistors for Acetylcholine Biosensing	88
<i>Yi Liu, Arthur G. Erdman, Tianhong Cui</i>	
In-situ doped and laser annealing of PECVD SiC thin film.....	92
<i>Haixia Zhang, Hui Guo, Rui Luo, Guobing Zhang</i>	

Table of Contents

Micro Fluidic System by Integrating Pressure Sensor Arrays with a Micro-Channel.....	96
<i>H. S. Ko, C. W. Liu, C. G. Liu, C. Gau</i>	
Design and Microfabrication of Innovated FBAW Filters Based on an OOK Receiver Using 0.18um CMOS Technology.....	100
<i>Chi-Ming Fang, Pei-Yen Chen, Yung-Chung Chin, Yu-Tso Lin, Xuan-Yu Wang, Shey-Shi Lu, Pei-Zen Chang</i>	
Developing Intelligent Robotic Biomanipulation System using Haptic Interface.....	106
<i>G. Hwang, C. Preeda, H. Hashimoto</i>	
Enzymatic Biosensors towards a Multiplexed Electronic Detection System for Early Cancer Diagnostics.....	112
<i>Dorothee Grieshaber, Erik Reimhult, Janos Voros</i>	
Nanopatterning with Extreme Ultraviolet Interference Lithography for Nanoelectronics and Biotechnology.....	116
<i>Brigitte Stadler, Harun Solak, Susanne Frerker, Michelle Grandin, Janos Voros</i>	
Forensic Fingerprint Enhancement using Bioadhesive Chitosan and Gold Nanoparticles.....	121
<i>Naveed Ul Islam, Kazi F. Ahmed, Abhilash Sugunan, Joydeep Dutta</i>	
Thermal Bimetallic Microactuators by	
Ni and Ni-diamond Nanocomposite	126
<i>Chia-Sheng Huang, Junwei Chung, Yu-Ting Cheng, Wensyang Hsu</i>	
Heterogeneous Vesicle Arrays for Biosensing Applications.....	130
<i>Marta Bally, Brigitte Stadler, Dorothee Grieshaber, Janos Voros</i>	
Mechanical Properties and Deformation Behavior of ZnO Thin Films under Illumination	135
<i>Péter Horváth, George Kiriakidis, Péter M. Nagy, Savas Christoulakis</i>	
Effect of Amorphous Si Thickness on the Formation of SiC Nanoparticles during High Vacuum Annealing	140
<i>C.K. Chung, B.H Wu, T.S. Chen, C.C. Peng, T. R. Shih</i>	
The Study of Microfluidic Chip with Micro Cylindrical Post Array for Separating Particles.....	144
<i>Ching-Hua Wei, Jong-Zen Huang, Chin-Tu Lu, Wen-Hsiang Han, You-Ming Hsu, Jian-Tang Lu</i>	
Application of Micro Sensors on Diagnosis of Micro Fuel Cells.....	148
<i>Chi-Yuan Lee, Shuo-Jen Lee, Chi-Lieh Hsieh</i>	
A Novel Rotary Drum Filtering Photoreactor for Wastewater Treatment Using Titanium Dioxide Nanoparticles	152
<i>Wiwut Tanthapanichakoon, Tawatchai Charinpanitkul, Takuji Yamamoto, Noriaki Sano, Napawon Thongprachan</i>	
A Novel Fabrication Method of Microlens Array by Surface Tension and Injection Process.....	157
<i>Yu-Hsin Lin, Wensyang Hsu</i>	
Fabrication of Three Dimensional X-ray Mask using MEMS Technology	161
<i>Harutaka Mekarū, Takayuki Takano, Koichi Awazu, Masaharu Takahashi, Ryutaro Maeda</i>	
The Study of Flexible Plate Wave Device for Micro Pumping System	166
<i>Min-Chien Tsai, Tzong-Shyng Leu</i>	
A Single PDMS Based Chip for E.Coli Bacteria Lysis, DNA Extraction and Amplification.....	172
<i>Yuji Wang, Qinghui Jin, Jianlong Zhao</i>	
Local Synthesis of Single-walled Carbon Nanotubes on Zeolite-covered Silicon Substrate by Laser-heating Chemical Vapor Depositon	176
<i>Yusuke Jin, Keigo Kasuya, Keisuke Nagato, Hiroshi Morii, Takeshi Ooi, Masayuki Nakao</i>	
The Effect of the TiOx Line Width on the Tunneling Phenomenon.....	181
<i>Qinggang Liu, Botao Hu, Chaoyan Zhang, Sen Qi, Xiaotang Hu</i>	

Table of Contents

An RC-Model for Dielectrophoresis of Ellipsoidal Cells: A Method for Determination of Dielectric Properties	186
<i>Sorawuth Bunthawin, Pikul Wanichapichart</i>	
pH-Sensitive PP/Clay Nanocomposites for Beverage Smart Packaging	192
<i>Sakkarin Tassanawat, Atinuch Phandee, Rathanawan Magaraphan, Manit Nithitanakul, Hathaikarn Manuspiya</i>	
Effect of pH on the Formation of Porous Clay Heterostructures (PCHs) and Hybrid PCHs (HPCHs)	197
<i>Kasinee Prakobna, Sarinya Luangsukrerker, Rathanawan Magaraphan, Hathaikarn Manuspiya</i>	
Fabrication of Micro-tips by Lift off Process with Contact Shadow Masking	202
<i>Honam Kwon, Akio Higo, Hiroshi Toshiyoshi</i>	
A Theoretical Model for Laser Assisted Direct Imprinting (LADI).....	207
<i>Yung-Chun Lee, Ming-Hung Chung, Jun-Yi Ruan, Fei-Bin Hsiao</i>	
Synthesis of Polybenzoxazine and Nano-Barium Titanate for a Novel Composite.....	211
<i>Gasidit Panomsuwan, Siripetch Kaewwata, Hathaikarn Manuspiya, Hatsuo Ishida</i>	
The Nusselt Number in Single-Phase Liquid Flow Forced Convection in Microchannels.....	216
<i>Man Lee, Yi-Kuen Lee, Yitshak Zohar</i>	
Rapid Fabrication of CNT Sensors Using Electro-chemical Deposition of Functionalized CNTs	221
<i>Winnie W. Y. Chow, Man Keung Wong, Wen J. Li, Ka Wai Wong</i>	
Optimal FOM Designed Piezoelectric Microgenerator with Energy Harvesting in a Wide Vibration Bandwidth	225
<i>Guo-Hua Feng, Jin-Chao Hung</i>	
New Design of a Compact Parallel Micro-Nano Two-Fingered Manipulator Hand	229
<i>Ahmed A. Ramadan, Kenji Inoue, Tatsuo Arai, Tomohito Takubo, Tamio Tanikawa</i>	
Human Blood Cell Sensing with Platinum Black Electroplated Impedance Sensor.....	234
<i>Siyang Zheng, Mandheerej S. Nandra, Yu-Chong Tai</i>	
An Inductance-based Sensor for DNA Hybridization Detection	238
<i>Sayed M. Azimi, Mohammad R. Bahmanyar, Massoud Zolgharni, Wamadeva Balachandran</i>	
The Simulation for Pressure Loss of Microchannel Heat Sinks	
Inlet	242
<i>Yujun Zhang, Fengfu Li, Lei Li, Lijun Dai</i>	
A Dielectrophoretic Single-Cell Trapping Chip with Multiple Electrodes and Arrayed 3D Microstructures.....	246
<i>Kai-Hsuan Wang, Fu-Ting Chang, Yung-Chun Lee</i>	
A Dual-Mode Radio Frequency DNA Sensor	250
<i>J. H. Chien, C. H. Chang, Y. F. Hsieh, D. S. Lee, L. S. Kuo, C. H. Yang, C. R. Yang, W. P. Chou, P. H. Chen</i>	
Design of Readout Circuits Used for Micro-machined Capacitive Accelerometer	255
<i>Xiaowei LIU, Haifeng ZHANG, Guangming LI, Weiping CHEN, Xilian WANG</i>	
A Calibration Method for MEMS Inertial Sensors Based on Optical Tracking.....	260
<i>Zhuxin Dong, Guanglie Zhang, Yilun Luo, Chi Chiu Tsang, Guangyi Shi, Sze Yin Kwol, Wen J. Li, Philip H. W. Leong, Ming Yiu Wong</i>	
Nanoscale Cutting, Bending and Welding in a Nanoassembly	266
<i>Toshio Fukuda, Pou Liu, Kalle Kantola</i>	
Manipulation of Phospholiposome in Microfluidic Channel Using Lorentz Force.....	270
<i>Oh-Taek Son, Jong-Ho Park, Chang-Geun Lee, Changhoon Lee, Hyo-il Jung</i>	
Numerical Simulation and Optimal Design on a new Dielectrophoretic-based Cytosorter	274
<i>Tzong-Shyng Leu, Yao-Jen Kuo</i>	
A Novel Fabrication for Pressure Sensor with Polymer Material and Its Characteristic Testing	279
<i>H. S. Ko, C. W. Liu, C. Gau</i>	

Table of Contents

Growth of III-V Nanowires and Nanowire Heterostructures by Metalorganic Chemical Vapor Deposition	285
<i>Hannah J. Joyce, Yong Kim, Qiang Gao, Hark Hoe Tan, Chennupati Jagadish</i>	
3D High Aspect Ratio Micro Structures Fabricated by One Step UV Lithography.....	289
<i>W. Yang, T. Wang, H. Huang, C. Fu</i>	
3-D Simulation of Bosch Process with Voxel-Based Method	293
<i>Guangyi Sun, Xin Zhao, Haixia Zhang, Lei Wang, Guizhang Lu</i>	
Fabrication of High Current Emitting Cold	
Cathodes Based on Carbon Nanofiber Films Synthesized Using Electroplated Nickel Catalyst.....	298
<i>Kyo Won Chae, Ken ha Koh, Soonil Lee</i>	
CMOS MEMS Lorentz Force Dual-axis Scanning-Stage	303
<i>Chih-Ming Sun, Chuan-Wei Wang, Weileun Fang</i>	
Electrohydrodynamic (EHD) Micro-Boat	307
<i>Jun-Min Wang, Tzu-Yuan Lin, Lung-Jieh Yang</i>	
Fabrication of 3-D submicron glass structures by FIB.....	311
<i>C. H. Chao, C. T. Pan, J. R. Wu</i>	
Micro Mass Spectrometer Using Triode Electron Emitters with a Planar Carbon-Nanoparticle Cathode as Ion Source.....	316
<i>Jung Bin Cho, Hyeun Jung Yoon, Kwang Woo Jung, Sang Sik Yang, Ken Ha Koh, Soonil Lee</i>	
Multi-Wavelength Fluorescence Detection for a High-Throughput CE System under a Spectrum Equipped Diascopic Microscope Configuration.....	321
<i>Shi-Wei Lin, Guan-Liang Chang, Che-Hsin Lin</i>	
The Effect of Substrate Temperature on Structure and Optical Properties of Copper (II) Phthalocyanine (CuPc) Thin Films Prepared by Organic Evaporation	327
<i>Surachart Kamoldilok, Benchapol Tunhoo, Sarun Sumriddetchkajorn, Jiti Nukeaw</i>	
Micro Sorters with 3D Focusing and Continuous Sorting	331
<i>Tzong-Shyng Leu, Hung-Ying Chen, Fei-Bin Hsiao</i>	
Design and system-level simulation of a capacitive dual axis accelerometer.....	337
<i>Weiping CHEN, Jinling DING, Xiaowei LIU, Chao WANG</i>	
Magnetic and Magnetotransport Properties of	
Annealed Amorphous Ge_{1-x}Mnx Semiconductor Thin Films.....	341
<i>Sang Soo Yu, Tran Thi Lan anh, Young Eon Ihm, Dojin Kim, Hyojin Kim, Soon Ku Hong, Chang Soo Kim, Hyun Ryu</i>	
Universal Concept for Fabricating Arbitrary Shaped IPMC Transducers	
and Its Application on Developing Accurately Controlled Surgical Devices.....	345
<i>Guo-Hua Feng, Ri-Hong Chen</i>	
Stem Cell Differentiation Base on Acoustic Wave Sensor.....	349
<i>Ching-Jui Shih, Nai-Hao Kau, Bor-Chen Tsai</i>	
Crystalline Structure and Morphology of ZnSe/CuPc Hybrid Thin Film prepared by Electron Beam Evaporator	353
<i>Thutiyaporn Thiawong, Benchapol Tunhoo, Jiti Nukeaw</i>	
Fabrication of 3D Photoresist Microstructures for the Polymer Vertical Comb Drive.....	357
<i>Junwei Chung, Wensyang Hsu</i>	
Fabrication of Microneedles	362
<i>Chin-Chun Hsu, Yu-Tang Chen, Chieh-Hsiu Tsai, Shung-Wen Kang</i>	
Blue Emission Mechanism of NPB/ZnSe Hybrid Structure.....	366
<i>Navaphun Kayunkid, Anusit Keawprajak, Anuchit Jarwanawat, Jiti Nukeaw</i>	

Table of Contents

ITO Thin Films prepared by Gas-Timing RF Magnetron Sputtering for Transparent Flexible Antenna	370
<i>Pakorn Prajuabwan, Supanit Porntheeraphat, Annop Klamchuen, Jiti Nukeaw</i>	
Preparation of a New Ionic Polymer-metal Composite	374
<i>Lijun Dai, Yujun Zhang, Haoran Zhou, Lei Li, Hongwei Duan</i>	
Modulation Spectroscopy Study of Inorganic-Organic Hybrid Quantum Well-like Nanostructures	379
<i>J. Nukeaw, S. Rahong</i>	
Fabrication of a Complicated Heat Transfer Microchannel System for CPU Cooling Study	382
<i>H. T. Chen, C. W. Liu, S. G. Liu, C. S. Yang, C. Gau</i>	
On-chip Temperature Sensing and Control for Cell Immobilization	387
<i>Yu-Ching Lin, Yoko Yamanishi, Fumihito Arai</i>	
Design and Simulation of a Rhombic Micromixer for Rapid Mixing	392
<i>C. K. Chung, T. R. Shih, T. C. Tseng, T. C. Chen, B. H. Wu</i>	
InP Ring-like Nanostructures on In_{0.49}Ga_{0.51}P Grown by Droplet Epitaxy	396
<i>Wipakorn JEWASUWAN, Somsak PANYAKEOW, Somchai RATANATHAMMAPHAN</i>	
High Performance Ethanol Sensor for Control Drunken Driving Based on Flame-made ZnO Nanoparticles	400
<i>Chaikarn Liewhiran, Adrian Camenzind, Alexandra Teleki, Sotiris E. Pratsinis, Sukon Phanichphant</i>	
Microwave Performance Dependence of BST Thin Film Planar Interdigitated Varactors on Different substrates	406
<i>Jinwen Zhang, Hualiang Zhang, Kevin Jing Chen, Sheng Guo Lu, Zhankui Xu</i>	
Measurement of Linewidth for Nano-scale Lines Prepared by Multilayer Thin Films	411
<i>Guo Q. Han, Zhuang D. Jiang, Wei X. Jing, Ming Z. Zhu, Yu L. Zhao</i>	
Development of a Capillary Electrophoresis Microchip Format Electrochemical Detector for the Sensing of Endocrine Disruptors	415
<i>Kon Ha, In-Je Yi, Grace Nisola, Wook-Jin Chung, Jaewan Kim, Y. J. Choi, C. J. Kang, Yong-Sang Kim</i>	
Flip-Chip Micro-Thermal Stress Simulation in Underfill Process	419
<i>Wenzhong Lou, Xiuli Yu</i>	
ITO-coated glass/polydimethylsiloxane continuous-flow PCR chip	425
<i>Seung-Ryong Joung, Jaewan Kim, Y. J. Choi, C. J. Kang, Yong-Sang Kim</i>	
Visible Photoluminescence from InGaPN/Gap Lattice-Matched Single Quantum Well Structures Grown by MOVPE	429
<i>D. Kaewket, S. Tungasmita, S. Sanorpim, R. Katayama, K. Onabe</i>	
Characterization of MOVPE Grown GaAs_{1-x}N_x/GaAs Multiple Quantum Wells Emitting Around 1.3-μm-Wavelength Region	435
<i>P. Klangtakai, S. Sanorpim, K. Yoodee, W. Ono, F. Nakajima, R. Katayama, K. Onabe</i>	
Study of Noninvasive Sampling of Subcutaneous Glucose by Reverse Iontophoresis	441
<i>Jian Liu, Chunxiu Liu, Hongmin Liu, Liying Jiang, Qingde Yang, Xinxia Cai</i>	
A Microfluidic Device for Capture of Single Cells and Impedance Measurement	445
<i>Min-Haw Wang, Min-Feng Kao, Haw-Juin Liu, Wai-Hong Kan, Yi-Chu Hsu, Ling-Sheng Jang</i>	
Fabrication of SixNy Nanomechanical Structures Using Traditional Lithography and Gas Isotropic Etching	449
<i>Bing Liu, Zewen Liu, Fan Zhao, Litian Liu, Zhijian Li</i>	
Compact Vision System Design and Application on a PDMS Chip	453
<i>Huseyin UVET, Tatsuo Arai, Kenji Inoue, Tomohito Takubo, Sadaaki Kunitatsu</i>	
A Novel Electrolysis-Bubble-Actuated Micropump via Roughness Gradient Design of the Hydrophobic Lateral Breather	459
<i>Chih-Ming Cheng, Sheng-Hung Chiu, Cheng-Hsien Liu</i>	

Table of Contents

Labelling of Biological Cells with Magnetic Particles in a Chaotic Microfluidic Mixer	465
<i>Massoud Zolgharni, Sayyed M. Azimi, Helen Ayers, Wamadeva Balachandran</i>	
Laser Assisted Roller Imprinting	469
<i>Yung-Chun Lee, Cheng-Yu Chiu, Fei-Bin Hsiao</i>	
Selective Growth of CNT on Ni/Cu Substrate.....	473
<i>Toempong Phetchakul, Nimit Chomnawang, Somsak Cheirsirikul, Ratthapong Nakachai, Eakkarach Ratanaudomphisut, Prayoon Songsiriritthigul</i>	
Energy Dissipation in Folded-Beam MEMS Resonators Made from Single Crystal and Polycrystalline 3C-SiC Films	478
<i>Wen-Teng Chang, Mehran Mehregany, Christian A. Zorman</i>	
Development of an Innovative Micro Capacitive	
Humidity Sensor With Double Polyimide Films and Interlacing Out-of-plane Electrodes Structure	483
<i>I-Yu Huang, Yao-Yu Lee, Chang-Yu Lin</i>	
Design and Fabrication of a Column-type Microthermoelectric Cooler with Bismuth Telluride and Antimony Telluride Pillars by Using Electroplating and MEMS Technology	487
<i>I-Yu Huang, Ming-Jhan Li, Kuan-Ming Chen, Guo-Yuan Zeng, Kun-Dian She</i>	
Design and fabrication of a 3-D nanogap electrode grid array biosensor.....	491
<i>Yonghong Liu, Zhan Zhao</i>	
Analysis of Line width with Nano Fountain Pen Using Active Membrane Pumping	497
<i>Kyoil Hwang, Van-Duc Dinh, Suk-Han Lee, Youn-Jea Kim, Hun-Mo Kim</i>	
Etching Behavior of Silicon Using CO₂ Laser	502
<i>C.K. Chung, M.Y. Wu, E.J. Hsiao, Y.C. Sung</i>	
Optical Properties and Structure of Copper (II) Phthalocyanine(CuPc) Organic Thin Film Grown by Electron - Beam Evaporation Technique.....	506
<i>Benchapol Tunhoo, Jiti Nukeaw</i>	
The Simulation Study of Bio-particle Trapping with Electrodeless Dielectrophoresis	510
<i>Fei-Bin Hsiao, Hui-Ju Hsu, Hung-Ying Chen, Hsiu -Lan Hsu</i>	
Synthesis of High Quality ZnO Nanorods by Low Temperature Wet Chemical Process	517
<i>Kyung Moon Lee, Kyung Ho Park, Ken Ha Koh, Soonil Lee</i>	
Fabrication of Nano Channels Using IBE for Nanofluidics Study	521
<i>Mingfu Shi, Jiwei Jiao, Changmeng Gong, Xiaoqing Bao, Heng Yang, Tie Li, Yuelin Wang</i>	
A Drug Delivery System Based on Polymer Nanotubes	527
<i>Kittisak Koombua, Ramana M. Pidaparti, Gary C. Tepper</i>	
Fabrication of Titania Nanopoles by Nanoporous Alumina Template	530
<i>Hyun-Jung Her, Jung-Min Kim, Jaewan Kim, Y. J. Choi, C. J. Kang, Yong-Sang Kim</i>	
A Contact Nano-Imprinting for Direct Metal Transfer Based on Infrared Pulsed Laser Heating.....	534
<i>Chun-Hung Chen, Yung-Chun Lee, Fei-Bin Hsiao</i>	
Cell Migration Driven by a Mechanical Stiffness Gradient	539
<i>Juhee Hong, Jinseok Kim, Jeongeun Baek, Misun Cha, Junghoon Lee, Sukho Park</i>	
Microfilter Fabricated with PDMS and PES Membrane Applicable for Implantable Artificial Kidney	543
<i>Ye Gu, Norihisa Miki</i>	
A Novel Architecture of High Optical Non Linearity in Carbon Nanotube Based Nano Fiber Optic for Future Quantum Communication.....	548
<i>L. G. Lee, R. Zhang, B. J. Yang</i>	
Development of Optical Fibre Sensors for Online pH Monitoring in Microbioreactors.....	552
<i>Min-Hsien Wu, Junbo Wang, Jr-Lung Lin, Zhanfeng Cui, Zheng Cui</i>	

Table of Contents

A Micromachined Platform for Three Dimensional Dielectrophoretic Assembly of Gold Nanoparticles for Nanodevices	556
<i>Selvapraba Selvarasah, Nishant Khanduja, Xugang Xiong, Shih-Hsien Chao, Prashanth Makaram, Chia-Ling Chen, Ahmed Busnaina, Mehmet R. Dokmeci</i>	
Experimental Study on Resonant Response of Piezoresistive Double-clamped (111)-Si Nano-beam	560
<i>Quanbin Zhao, Jiwei Jiao, Heng Yang, Fei Duan, Zixin Lin, Tie Li, Ying Zhang, Yuelin Wang</i>	
Design of a Novel MEMS IDT Dual Axes Surface Acoustic Wave Gyroscope	564
<i>Qing-hui Liu, Xue-zhong Wu</i>	
Multilayer Electrodes DEP Chip for Single-cell Level Impedance Measurement	568
<i>Cheng-Hsin Chuang, Ching-Hua Wei, You-Ming Hsu, Jian-Tang Lu</i>	
An Electrohydrodynamic Micropump for On-Chip Fluid Pumping on a Flexible Parylene Substrate	573
<i>Chia-Ling Chen, Selvapraba Selvarasah, Shih-Hsien Chao, Azadeh Khanicheh, Constantinos Mavroidis, Mehmet R. Dokmeci</i>	
Hopping and Drift - Diffusion Currents in Organic Devices	577
<i>Kanchana Sivalertporn, Tanakorn Osotchan</i>	
Planar Variable-Focus Liquid Lens Based on Electrowetting on Dielectric	581
<i>Fan Ouyang, Jiangang Wu, Ming Kang, Ruifeng Yue, Litian Liu</i>	
Effect of Ion Depth in Low Energy Ion Scattering Spectroscopy for Evaluating Nanostructures	585
<i>Surachai Pengmanayol, Tanakorn Osotchan</i>	
A Novel Piezo-driven Nanopositioning Mechanism for Precise Manipulating	589
<i>Li Ma, Weibin Rong, Lining Sun</i>	
Development of Bio-chemical Sensor System Integrated with Blood Extraction Device	594
<i>Sommawan Khumpuang, Kazuya Fujioka, Susumu Sugiyama</i>	
Electrode Preparation and Electro-deformation of Ionic Polymer-metal Composite (IPMC)	598
<i>Yujun Zhang, Chunxiu Ma, Lijun Dai</i>	
Photocatalytic Oxidation and Alkylation Processes in Microreactors	602
<i>Yoshihisa Matsushita, Mayuko Iwasawa, Nobuko Ohba, Shinji Kumada, Tadashi Suzuki, Teijro Ichimura</i>	
Nonlinear Optical Properties of SWCNTs Incorporated Silica Composites	606
<i>Jong Hyuk Yim, Jong Taek Kim, Soonil Lee, F. Rotermund, Ken Ha Koh</i>	
Correct DC Operation in RTD-based Ternary Inverters	611
<i>Juan Núñez, José M. Quintana, María J. Avedillo</i>	
Chip-Scale Localized Synthesis of Carbon Nanotubes on Copper Microstructures via Inductive Heating	617
<i>Brian D. Sosnowchik, Liwei Lin</i>	
Characterization of Parylene as a Water Barrier via Buried-in Pentacene Moisture Sensors for Soaking Tests	623
<i>Hsi-wen Lo, Yu-Chong Tai</i>	
Electronic Detection of Micro RNA Mir206 with Molecularly-Differentiated Nanoelectrodes	627
<i>Jianchun Dong, Amy Asawachaicharn, Stephen J. Tapscott, Babak A. Parviz</i>	
Electrospun Ordered Nanofibers on Si and SiO₂ Substrate	631
<i>Daoheng Sun, Liwei Lin, Dezhi Wua, Yinhong Daia</i>	
Anchor Loss Reduction in Resonant MEMS using MESA Structures.#	636
<i>M. Pandey, R.B. Reichenbach, A.T. Zehnder, Amit Lal, H.G. Craighead</i>	
Nanomechanical Chemical Sensor Platform	642
<i>Si-Hyung Lim, Justyn Jaworski, Srinath Satyanarayana, Frank Wang, Digvijay Raorane, Seung-Wuk Lee, Arunava Majumdar</i>	

Table of Contents

Reversibly bonded nanocapillaries by electrostatic forces	646
<i>Pilnam Kim, Seunghyun Baik, Kahp Y. Suh</i>	
Carbon Nanotube-based Nanoprobe Electrode	651
<i>Takeshi Kawano, Chung Yeung Cho, Liwei Lin</i>	
Selective Functionalization of Silicon Micro/Nanowire Sensors via Localized Joule Heating	655
<i>Inkyu Park, Zhiyong Li, Albert P. Pisano</i>	
The Effects of Different Flow Channels on Silicon-based Micro Direct Methanol Fuel Cells	661
<i>Xiaowei Liu, Bo Zhang, Yufeng Zhang, Xuebin Lu, Xilian Wang, Peng Zhang</i>	
Nanofabrication of Mesoporous Pt Electrode on Micro Pillars for CMOS Integrated micro-LOC Applications	665
<i>Hye-Kyoung Seo, Jae-Yeong Park</i>	
Electrolysis-based Parylene Balloon Actuators for Movable Neural Probes	669
<i>Changlin Pang, Yu-Chong Tai, Joel W. Burdick, Richard A. Andersen</i>	
Study on Space Morphology of Molecular Structure of Tungsten Trioxide Compound Film Surface by AFM	673
<i>Ding Zhong, Hui Yang, Xueheng Yang, Yan Xu, Xianwu Han, Xiaoping Su, Anping Liu, Taiguo Tang, Changshui Chen</i>	
A Study on Theoretical Nano Forces in AFM Based Nanomanipulation (60575050 and 60635040)	
Contact author: xjtian@sia.cn	677
<i>Xiaojun Tian, Yuechao Wang, Ning Xi, Zaili Dong</i>	
Formation of Au Colloidal Crystals for Optical Sensing by DEP-Based Nano-Assembly	682
<i>Gong Wai Leung, Fong Ting Lau, Siu Ling Leung, Wen J. Li</i>	
Self-Assembled Heterogeneous Integrated Fluorescence Detection System	687
<i>Samuel S. Kim, Ehsan Saeedi, Deirdre R. Meldrum, Babak A. Parviz</i>	
On-Chip Continuous Blood Cell Subtype Separation by Deterministic Lateral Displacement	692
<i>Nan Li, Daniel T. Kamei, Chih-Ming Ho</i>	
Atomistic Simulation of Non-Degeneracy and Optical Polarization Anisotropy in Pyramidal Quantum Dots	697
<i>Shaikh Ahmed, Muhammad Usman, Neerav Kharche, Andrei Schliwa, Gerhard Klimeck</i>	
Molecular Combing For Stretching Single-Stranded Phage Genomes on Conductive Graphite Surfaces	703
<i>Ranjana Mehta, John A. Lund, Babak A. Parviz</i>	
Electrical Conductivity of Hexagonal Ba(Ti_{0.90}Mn_{0.10})O₃ Ceramics	707
<i>Neungreuthai Phoosit, Derek C Sinclair, Sukon Phanichphant</i>	
Enhanced Droplet Mixer by LDEP on Spiral Microelectrodes	711
<i>Cheng-Pu Chiu, Wen-Jung Chen, Shih-Kang Fan</i>	
Integrated Bioinformatics analysis of structural differences in metabolic pathways. An application to Mycobacterium Leprae.	715
<i>Patrizio Arrigo, Pasquale P. Cardo, Carmelina Ruggiero</i>	
Nanoparticle SnO₂ Gas Sensor with Circuit and Micro Heater on Chip Fabricated Using CMOS-MEMS Technique	719
<i>Ching-Liang Dai, Mao-Chen Liu</i>	
Non-Equilibrium Molecular Dynamics Approach for Nano-Fluidics and Its Applications	724
<i>Changsung Sean Kim</i>	
A Wet Etching Post-process for CMOS-MEMS RF Switches	728
<i>Ching-Liang Dai, Mao-Chen Liu</i>	

Table of Contents

Single-Molecule Detection in Temperature-Controlled Microchannels	732
<i>Bin Wang, Jingyi Fei, Ruben L. Gonzalez, Qiao Lin</i>	
The Preparation of Self-formed PDMS Nanostructures by RIE Etching.....	737
<i>Ming-Hung Chen, Tsung-Hsing Hsu, Yun-Ju Chuang, Po-Hung Chen, Fan-Gang Tseng</i>	
Realizing Temperature-Controlled Digital Microfluidic Chips with Versatile Microelectrodes.....	741
<i>Jen-Hung Wei, Wen-Syang Hsu, Shih-Kang Fan</i>	
Fabrication of Position-controllable GaN Nanostructures.....	745
<i>Zhenchuan Yang, Baoshun Zhang, Kei May Lau, Kevin J. Chen</i>	
Nanoscale Dot Patterning by Anodic Oxidation with Atomic Force Microscope	749
<i>I. Sramala, T. Jafferri, A. Trithong, A. Klamcheun, S. Pratontep</i>	
A Monolithically Fabricated Combinatorial Mixer for Microchip-Based High-Throughput Cell Culturing Assays.....	753
<i>Mike C. Liu, Dean Ho, Yu-Chong Tai</i>	
Programmed Affinity Extraction of Molecules on a Microfluidic Platform.....	757
<i>ThaiHuu Nguyen, Renjun Pei, Milan Stojanovic, Qiao Lin</i>	
Microstructure Fabrication with Conductive Paste Dispensing.....	763
<i>Toshihiro Itoh, Tadatomo Suga, Kenichi Kataoka, Toshio Sano</i>	
Preparation of Novel Core-shell Nanoparticles as Non-viral Gene Delivery Vectors: Surface Charge, Particle size, and Morphology	767
<i>Nuttaporn Pimpha, Uracha Ruktanonchai, Suvimol Surassmo, Praneet Opanasopit, Panya Sunintaboon</i>	
Antibacterial Effect of apatite coated Titanium Dioxide for Textiles and Coating Applications	772
<i>Suvimol Surassmo, Vichuta Lauruengtana, Wiyong Kangwansupamongkol, Uracha Ruktanonchai</i>	
Improved anti-dust mite properties of textiles by eugenol loaded chitosan nanoparticles.....	776
<i>Sanitra Jarupaiboon, Kanin Rungsardthong, Issara Sramala, Wiyong Kangwansupamonkon, Satit Puttipipatkachorn, Uracha Ruktanonchai</i>	
Production and Characterization of Rice bran extract encapsulated in Solid Lipid Nanoparticles for Dermal Delivery	780
<i>Usawadee Sakulkhu, Sanitra Jarupaiboon, Alongkot Trithong, Sirapat Prathontep, Varaporn Janyaprasert, Satit Puttipipatkachorn, Uracha Ruktanonchai</i>	
Non-Crosshybridizing Oligonucleotide Building Blocks for Accurate, Scalable Nanofabrication.....	784
<i>Jin-Woo Kim, Ju Seok Lee, Russell Deaton</i>	
An Aligned Carbon Nanotube Biosensor for DNA Detection	788
<i>Jason Clendenin, Jin-Woo Kim, Steve Tung</i>	
Polymer-Enabled Carbon Nanotube Deposition for Cellular Interrogation Applications.....	794
<i>Benjamin Chu, Erik Pierstorff, Dean Ho</i>	
Attenuation of Cellular Inflammation Using Glucocorticoid-Functionalized Copolymers	799
<i>Edward K. Chow, Erik Pierstorff, Genhong Cheng, Yu-Chong Tai, Dean Ho</i>	
DNA-Directed Self-Assembly of Microscopic 1-D Carbon Nanotube Wire	804
<i>Jin-Woo Kim, Nalinikanth Kotagiri, Russell Deaton, Steve Tung</i>	
Smart Steel Plate Structures	808
<i>A Saha Chaudhuri</i>	
Numerical Analysis and Optimization of Insulator-based Dielectrophoresis Devices for Cell Sorter Applications.....	814
<i>Jinpeng Wang, Huan Hu, Zheyao Wang, Litian Liu</i>	
High Performance Piezoresistive Micro Strain Sensors.....	818
<i>Hung-I Kuo, Jun Guo, Wen H. Ko</i>	

Table of Contents

The Infinite Dimensional Control of Flexible Cantilevers in AFM Based Nanomanipulation	822
<i>Lina Hao, Jiangbo Zhang, Ning Xi</i>	
Mechanobiological Signal Transduction in Differentiating Chondrocyte and New Configuration for Mechanical Stress Culture	827
<i>Ichiro Takahashi, Taisuke Masuda, Fumihito Arai, Takahisa Anada, Toshio Fukuda, Osamu Suzuki, Teruko Takano-Yamamoto</i>	
Preparation of Ultrafine Poly(ethylene oxide)/Poly(ethylene glycol) Fibers Containing Silver Nanoparticles as Antibacterial Coating.....	831
<i>Pim-on Rujitanaroj, Nuttaporn Pimpha, Pitt Supaphol</i>	
A Contact Angle Measurement Method for the Droplets in EWOD-based Chips.....	837
<i>Lei LI, Wei KANG, Datian YE</i>	
An Axisymmetric Model for Diffusion of Nano-Particles	842
<i>Omid Abouali, Goodarz Ahmadi</i>	
Novel Carbon Nanotube Deposition System for Fabricating Nano Devices	847
<i>King W. C. Lai, Ning Xi</i>	
New Screen-printed Thermal Microactuator.....	851
<i>Patrick Ginet, Claude Lucat, Marc Budinger, Francis M�enil</i>	
Microfabrication of High-Density Microelectrode Arrays for Peripheral Intranural Applications	856
<i>Jian Wu, William C. Tnag</i>	
Synthesis of Poly(vinyl pyrrolidone)-Stabilized Silver Nanoparticles	
Technology Development Agency of Thailand.	
*Corresponding author. Tel: +66 2 5647100 ext 6550;	
Fax: +66 2 5646981; E-mail: wiyong@nanotec.or.th.....	860
<i>Doungporn Yiamsawas, Vichuta Lauruengtana, Uracha Ruktanonchai, Wiyong Kangwansupamongkon</i>	
Immunogold Nanoparticle Combing Surface-Enhanced Raman Scattering Method for Protein A Detection	864
<i>Chi-Chang Lin, Jr-Tzai Chen, Yan-Fu Chen, Tsung-Chain Chang, Hsien-Chang Chang</i>	
Characteristics of Cholesteryl Cetyl Carbonate Liquid Crystals as Drug Delivery Systems.....	869
<i>Rabkwan Chuealee, Pornanong Aramwit, Teerapol Srichana</i>	
Factors Influencing the Properties of Rifampicin Liposome and Applications for Dry Powder Inhaler	875
<i>Narumon Changsan, Teerapol Srichana</i>	
Effects of the Second Step Annealing Time and Temperature in Two Steps Annealing on Low Temperature Poly-Silicon Film Fabrication.....	881
<i>Hsiao-Yeh Chu, Ming-Hang Weng, Chen Lin, Kuan-I Hu</i>	
Electrorotation: Diagnostic Tool for Abnormality of Marine Phytoplankton Cells	886
<i>Pikul Wanichapichart, Tanawat Wongluksanapan, Leang Khooburat</i>	
Minimally Invasive Electrical Impedance Measurements of Ovum Exemplified Using Microelectrodes	892
<i>Ran Liu, Jing Liu, Xia Di, Guangzhi Wang, Datian Ye</i>	
Study on the Cell Mechanics of MDCK Cells by Elastic Micro-pillars Arrays.....	896
<i>Chien-Wen Wang, Wei-Ren Chen, Ching-Chou Wu, Hsien-Chang Chang</i>	
Study on the Gelsolin Effects in Oral Epithelia Carcinoma (OEC) Cells by Atomic Force Microscopy and Micro-pillars Arrays.....	900
<i>Wei-Ren Chen, Pei-Yu Huang, Chien-Wen Wang, Yi-Dong Lin, Chi-Chang Lin, Hsien-Chang Chang</i>	
Recognition of Membrane Receptor by Atomic Force Microscopy	904
<i>Guangyong Li, Ning Xi, Donna H. Wang</i>	

Table of Contents

Effect of the electric field on the linear polarization property of binary quantum dots.....	908
<i>Nan Thidar Chit Swe, Suwaree Suraprapapich, Chanin Wissawinthonon, Somsak Panyakeow</i>	
The Effects of Substrate Mounds and Pits on the Periodicity of Cross-Hatch Surface and Subsequent Formation of Quantum Dots.....	912
<i>Cho Cho Thet, Songphol Kanjanachuchai, Somsak Panyakeow</i>	
High Efficiency Quantum Dot Molecule Solar Cells for High Concentration Sunlight Application	916
<i>Somsak Panyakeow</i>	
Application of Conductometric Capillary Electrophoresis Microchip in Detect Organic and Inorganic Ions	920
<i>Yung-Ming Chu, Ming-Tai Lu, Hsien-Chang Chang</i>	
Guided Magnetic Actuator for Active Capsule Endoscope.....	924
<i>Xiaona Wang, Max Q.-H. Meng</i>	
Design and Fabrication of An Ultrasonic Microdevice for Microparticles Separation	930
<i>Hui Yang, Hongming Sun, Yi Zhang, Ying Zhang, Hang Guo</i>	
Effects of Adhesive on Silicon Microgyroscopes	934
<i>Qin Shi, Anping Qiu, Yan Su, Xinhua Zhu</i>	
Acoustic Analysis of Single-Walled Carbon Nanotube-based Vacuum Sensor	938
<i>Yi Zhang, Hang Guo</i>	
Sample Clean-up of Red Fluorescent Protein for Analysis Using Electric Field in Microfluidic Device.....	942
<i>Yun Suk Huha, Jong Kyun Youa, Kwangsuk Yanga, Eun Zoo Leea, Yeon Ki Hongb, Won Hi Honga, Do Hyun Kima</i>	
1D and 3D Shaped Ionic Liquid/Aluminum Hydroxide Nanohybrids for Electrochemical Device	946
<i>Ho Seok Park, Jong Kyun You, Bong Gill Choi, Won Hi Hong, Ki-Pung Yoo</i>	
Manipulation of Bioparticles on Electrodeless Dielectrophoretic Chip Based on AC Electrokinetic Control.....	950
<i>Hsien-Chang Chang, Chao-Hung Chen, I-Fang Cheng, Chi-Chang Lin</i>	
Fabrication of Nanowire Arrays Using Diblock Copolymer.....	954
<i>Sudha Rani V, Kim C.O, Parvatheeswara Rao B, Yoon S.S, CheolGi Kim</i>	
Etching Effect on Exchange Anisotropy in NiFe/Cu/NiFe/IrMn Spin-valve Structure for an Array of PHR Sensor Element.....	958
<i>Sun J Oh, Tuan Tu Le, Ananda Kumar S, Kim G.W, Parvatheeswara Rao B, CheolGi Kim</i>	
Doped Cobalt Ferrites for Stress Sensor Applications	961
<i>Rao G.S.N, Ananda Kumar S, Rao K.H, Parvatheeswara Rao B, Gupta A, Caltun O, Dumitru I, CheolGi Kim</i>	
Solving the "Pull-in" Instability Problem of Electrostatic Microactuators using Nonlinear Control Techniques.....	965
<i>Kwadwo O. Owusu, Frank L. Lewis</i>	
Design and Fabrication of Micro Multi-Probe Electrode Arrays.....	971
<i>Da-Jeng Yao, Chang-Hsiao Chen, Sin-Hua Tseng, Shih-Rung Yeh</i>	
A 3D-3C Micro-PIV Method	976
<i>Matthew S. Pommer, Andrew R. Kiehl, Gaurav Soni, Nora S. Dakessian, Carl D. Meinhart</i>	
Effect of prepared conditions on soft magnetic properties and microstructure of CoFeHfO thin film	982
<i>L.V. Tho, K.E. Lee, C.G. Kim, C.O.Kim</i>	
Three Novel Nano Particles Cytotoxicity Activity Evaluation.....	986
<i>Chi-Yea Yang, Yu-Jin Peng, Yi-Zhen Liauo, Ching-Yi Lee, Shang-Yu Tai</i>	
Preparation of Ni/PPy Nanowires Modified Electrode and Its Electrocatalytic Activity to Nitrate	989
<i>Xiuling Zhang, Jixiao Wang, Zhi Wang, Shichang Wang</i>	
SU-8 Buckled-type Microvalves Switched by Surface Tension Forces	993
<i>Lung-Jieh Yang, Kuan-Chun Liu</i>	

Table of Contents

Design and Modeling of a CNT-CMOS Low-Power Sensor Chip	997
<i>Chun Tak Chow, Mandy L.Y. Sin, Philip H.W. Leong, Wen J. Li, K.P. Pun</i>	
Natural Frequencies of Single-Walled Carbon Nanotubes	1003
<i>Usik Lee, Hyukjin Oh, Sungjun You</i>	
TiO₂ Based Nanocrystalline Thin Film Gas Sensors Prepared by Ion-assisted Electron beam Evaporation	1007
<i>A. Wisitsoraat, E.Comini, G. Sberveglieri, W. Wlodarski, A. Tuantranont</i>	
EVOH/Montmorillonite Intercalation Nano-composites	1011
<i>Lijun Dai, Lei Li, Yujun Zhang</i>	
Study of Excimer Laser Electrochemical Etching Silicon	1015
<i>Yuhong Long, Liangcai Xiong, Tielin Shi, Zirong Tang</i>	
Virtual Operation of MEMS Devices Based on FEM Simulation	1020
<i>Xin Zhao, Lei Wang, Kai Wang, Guizhang Lu</i>	
Nanoparticle-Amplified Optical Interferometer Biosensor toward Single Molecular Detection	1025
<i>B. Y. Shew, S. L. Wei, Y. H. Tsai, Y. C. Cheng, C. C. Fu</i>	
A Molecular Dynamics on the Thermally Developing Flow of Alanine in Nano-Channel	1029
<i>David T.W. Lin</i>	
Numerical Simulation of Roughness Effect on Gaseous Flow and Heat Transfer in Microchannels	1034
<i>Tian-tian Zhang, Li Jia</i>	
Elastic Field of a Nano Disk Shape Defect in an fcc Thin Film	1040
<i>Hosein M. Shodja, Ladan Pahlevani, Elham Hamed</i>	
Generation Behavior at Normal Pressures and Reactions of Highly Concentrated O	1045
<i>O. Kotani, Y.Torimoto, Q.-X.Li, M. Sadakata</i>	
Investigation of Intrinsic Stress Effects in Cantilever Structures	1049
<i>Ch. Hollauer, H. Ceric, G. van Barel, A. Witvrouw, S. Selberherr</i>	
Surface Activated Prebonding in Local Laser Bonding of Silicon and Glass	1053
<i>Tielin Shi, Lei Nie, Zirong Tang</i>	
Nitrogen Doped ZnO Nanomaterials for UV-LED Applications	1057
<i>Senthil Kumar Obuliraj, Kazuki Yamauchi, Yukiko Hanada, Mitsunori Miyamoto, Takuya Ohba, Shigekasu Morito, Yasuhisa Fujita</i>	
Hyperthermia Cancer Therapy Utilizing Superparamagnetic Nanoparticles	1061
<i>Hao-Yu Tseng, Chen-Yi Lee, Ying-Hsia Shih, Xi-Zhang Lin, Gwo-Bin Lee</i>	
An Active Flow Focusing Microfluidic Chip Utilizing Controllable Moving Walls for the Formation of Microdroplets in Liquids	1065
<i>Chun-Hong Lee, Suz-Kai Hsiung, Gwo-Bin Lee</i>	
The application of Iron Oxide magnetic nanoparticles to improve the binding efficiency of the IgG and Thiol SAMs	1070
<i>Da-Jen Yao, Chun-Yi Lin, Fangang Tseng</i>	
Prediction of secondary and tertiary structures of hemoglobin Constant Spring	1074
<i>Viroj Wiwanitkit</i>	
NEMS Devices for Accelerometers Compatible with Thin SOI Technology	1078
<i>E. Ollier, L. Duraffourg, MT. Delaye, H. Grange, S. Deneuille, J. Bernos, R. Dianoux, F. Marchi, D. Renaud, T. Baron, P. Andreucci, P. Robert</i>	
Tracking Control Method of Piezoelectric Actuator for Compensating Hysteresis and Creep	1084
<i>Changhai Ru, Liguo Chen, Lining Sun</i>	
Insulator Film Thickness to Fix the Spacing between Electrodes to Molecular Length Scale	1089
<i>Pawan Tyagi, Dongfeng Li, Stephen M. Holmes, Bruce J. Hinds</i>	

Table of Contents

A Novel Bonding Architecture Based on AAO	1093
<i>Wenlong Lv, Daoheng Sun, Dezhi Wu, Lingyun Wang</i>	
Studies on MEMS Vacuum Sensor Based on Field Emission of Silicon Tips Array.....	1097
<i>Weiren Wen, Lingyun Wang, Junchuan Gao, Daoheng Sun</i>	
Enhancement in Electrical Conductivity of Transparent Single-Walled Carbon Nanotube Films.....	1101
<i>Byung-Seon Kong, Hee-Tae Jung, Soung Hee Park, Moon-Ki Park</i>	
Ethanol Sensor Based on Au-doped ZnO Nanostructures	1105
<i>Auttasit Tubtintae, Supab Choopun, Atcharawon Gardchareon, Pongsri Mangkorntong, Nikorn Mangkorntong</i>	
A wearable humidity sensor with hydrophilic membrane by Soft-MEMS techniques	1109
<i>Yoko MIYOSHI, Toshifumi TKEUCHI, Takao SAITO, Hirokazu SAITO, Hiroyukii KUDO, Kimio OTSUKA, Kohji MITSUBAYASHI</i>	
Morphology of Silicon Nanowires Grown on Si(100) Substrate	1113
<i>Sabar D. Hutagalung, Khatijah A. Yaacob, Ruo Y. Tan</i>	
Surface Profile and Optical Properties of Sb-doped SnO₂ Thin Films.....	1117
<i>Sabar D. Hutagalung, Boon Y. Lee</i>	
Completely Parylene-Coated Neuroprobe for Chronic Recording	1121
<i>Pen-Li Lu, Chu-Lin Fan, Lung-Jieh Yang, Chii-Wann Lin, Yao-Joe Yang, Fu-Shan Jaw</i>	
Single crystalline metal oxide nano-wires/tubes: controlled growth for sensitive gas sensor devices	1125
<i>Giorgio Sberveglieri, Camilla Baratto, Elisabetta Comini, Guido Faglia, Matteo Ferroni, Alberto Vomiero</i>	
Design and Manufacture of Novel MEMS-based Dielectrophoretic Biochip	1128
<i>Cheng-Chi Wang, Ming-Jyi Jang, Yen-Lian Yeh, Wen-Rui Wang</i>	
A Bulk Micromachined Si-on-glass Tunneling Accelerometer with Out-of-plane Sensing Capability.....	1133
<i>Min Miao, Qifang Hu, Yilong Hao, Haifeng Dong, Ling Wang, Yunbo Shi, Sanmin Shen</i>	
Analysis of the Packaging Stresses in Monolithic Multi-Sensor	1139
<i>Jingbo Xu, Yulong Zhao, Zhuangde Jiang</i>	
Non-woven Membranes of ODPA-ODA Polyimide Prepared by Electrospinning	1143
<i>Yujun Zhang, Yan Wang, Hongwei Duan, Hailin Cao, Mingyan Zhang</i>	
A Novel Half-Adder Using Single Electron Tunneling Technology	1147
<i>Sameh Ebrahim Rehan</i>	
Nanostructured Silicon Carbide Molds for Glass Press Molding.....	1152
<i>Jihyun Shin, Shuji Tanaka, Masayoshi Esashi</i>	
Assembly and Characterization of Nanodevice using Carbon Nanotubes and Nanowires	1156
<i>Jong-Hong Lee, Hee Won Seo, Jin-Won Song, Eung-Sug Lee, Chang-Soo Han, Mooncheol Won</i>	
Nonlinear Transmembrane Current Response of Micro Electroporation for Human Cancer Cells	1160
<i>Huiqi He, Donald C. Chang, Yi-Kuen Lee</i>	
A Micro CE Chip for In-column Urea/Urease Reaction and Electrochemical Detection Utilizing Integrated Gold	
Nanoelectrode Ensemble (GNEE)	1165
<i>Chun-Mao Chen, Kuo-Tang Liao, Hsuan-Jung Huang, Guan-Liang Chang, Che-Hsin Lin</i>	
Development of AFM Based on Nano Positioning Stage	1171
<i>Niandong Jiao, Yuechao Wang, Ning Xi, Zaili Dong</i>	
Data Analysis Method for MEMS Dynamic Characterization Based on Stroboscopic Interferometer System	1176
<i>Haishan Wang, Shiyuan Liu, Tielin Shi, Yongjun Xie</i>	
Two Dimensions Angular Sensor for Micro/Nano Measurement.....	1181
<i>Qinggang Liu, Yiping Li, Wenyong Zhao, Xiaotang Hu</i>	

Table of Contents

Extracting the Young's Modulus and Stress Gradient of Thin Films from the Pull-in Voltage of a Micro Curled Cantilever Beam.....	1185
<i>Yuh-Chung Hu, Chung-Sheng Wei, Chun-Ching Hsiao, David T. W. Lin</i>	
Resonance characterization of multi-wall carbon nanotubes	1189
<i>Jin-Won Song, Jong-Hong Lee, Hee Won Seo, Eung-Sug Lee, Chang-Soo Han</i>	
Peeling and Cutting a Multi-Walled Carbon Nanotube inside a Scanning Electron Microscope	1193
<i>Pou Liu, Kalle Kantola, Toshio Fukuda, Masahiro Nakajima, Fumihito Arai</i>	
Fabrication and Characterization of carbon nanotube tip modified by focused ion beam.....	1197
<i>Young-Hyun Shin, Yu-Hwan Yoon</i>	
Design and Fabrication of In-Vitro Electroporation Chip for Gene Transfection	1201
<i>Yen-Liang Yeh, Ming-Jyi Jang, Cheng-Chi Wang, Wen-tai Wei</i>	
IntelliSuite® EMagAnalysis: an S-parameter Extraction Tool for Real Deformed Structures.....	1206
<i>Fan Xu, Shan-Liang Zhang, Lei Zhou, Bo Xu</i>	
Qualitative Analysis of Surface Energy Using Atomic Force Microscopy Approach.....	1210
<i>Yen-Liang Yeh, Ming-Jyi Jang, Cheng Chi Wang, Kuang Sheng Chen, Yen-Pin Lin</i>	