

MicroTAS2012 PRELIMINARY PROGRAM
(Title and author information as provided in Abstracts)

ORAL PRESENTATIONS

Monday October 29

Plenary 1 08:15-09:00

ETHOLOGY AND RHEOLOGY OF AN AMOEBOID CELL

Toshiyuki Nakagaki

Hakodate Future University

Session 1A1 Tissue Engineering 09:15-10:15

1.A1-1 1315

INDUCTION OF ANGIOGENESIS IN MICROFLUIDIC DEVICES USING PROLYL HYDROXYLASE INHIBITORS AND SPHINGOSINE-1 PHOSPHATE

Sei Hien Lim, Amir R. Aref, Choong Kim, Michael Raghunath, Roger D. Kamm,
National University of Singapore, Massachusetts Institute of Technology

1.A1-2 1368

CONTRACTILE SKELETAL MUSCLE MICROTISSUES IN MICROCHANNELS

Kazunori Shimizu, Hiroyuki Araki, Wataru Tonomura, Mitsuru Hashida, Satoshi Konishi,
Kyoto University, Ritsumeikan University

1.A1-3 1671

IN VITRO GENERATION OF PANCREATIC PSEUDO-ISLETS USING FREE-STANDING MESH PATTERNED CELLULAR HYDROGEL

Chae Yun Bae, Mun-Kyeong Min, Hail Kim, Je-Kyun Park
KAIST

Session 1B1 Single Cell Analysis 09:15-10:15

1.B1-1 1081

IMPEDANCE BASED LABEL-FREE, HIGH-THROUGHPUT CELL IN DROPLET DETECTION

Evelien W. M. Kemna, Loes I. Segerink, Mathieu Odijk, Floor Wolbers, Istvan Vermes, Albert Van Den Berg
Mesa+ institute for nanotechnology, University of Twente

1.B1-2 1276

FUSION OF VACCINIA VIRUS PARTICLES WITH SINGLE CELLS - A KINETIC STUDY FACILITATED BY MICROFLUIDIC TECHNOLOGY

Phillip Kuhn, Florian I. Schmidt, Jason Mercer, Petra S. Dittrich
ETH Zurich, Institute of Biochemistry, ETH Zurich

1.B1-3 1322

IN-CELL WESTERNTM ON DIGITAL MICROFLUIDICS FOR ANALYSIS OF SIGNALING PATHWAYS IN SINGLE CELLS

Alphonsus H.C. Ng, M. Dean Chamberlain, Kihwan Choi, Ryan Fobel, Aaron R. Wheeler,
University of Toronto

Session 1C1 Nanochannel 09:15-10:15

1.C1-1 1666

COLOCALIZATION OF Q-DOTS CARRIED BY MOTOR PROTEINS ON MICROTUBULE ARRAY IN NANOTRACKS

Kazuya Fujimoto, Masuto Kitamura, Masatoshi Yokokawa, Hidetoshi Kotera, Ryuji Yokokawa,
Kyoto University, JST-PRESTO, University of Tsukuba

1.C1-2 2019

LABEL-FREE DETECTION OF REAL-TIME DNA AMPLIFICATION USING NANOWALL ARRAY STRUCTURES

Kensuke Ogawa, Takao Yasui, Noritada Kaji, Yukihiro Okamoto, Manabu Tokeshi, Yasuhiro Horiike, Mats Nilsson, Yoshinobu Baba

Nagoya University, Hokkaido University, National Institute for Materials Science, Uppsala University,

1.C1-3 1427

MEASURING PICOLITER-PER-MINUTE FLOWS IN NANOCHANNELS BY ELECTROCHEMICAL CROSS-CORRELATION SPECTROSCOPY

Klaus Mathwig, Dileep Mampallil, Shuo Kang, Serge G. Lemay

MESA+ Institute for Nanotechnology

Session 1A2 Tissue Analysis 10:45-11:45

1.A2-1 1075

TISSUE MICROPROCESSING

Govind V. Kaigala, Robert D. Lovchik, Emmanuel Delamarche

IBM Research GmbH

1.A2-2 1786

IN VITRO WOUND-HEALING ANALYTICAL SYSTEM COMPOSED OF A MICRO AUTOMATED SCRATCHER AND OXYGEN GRADIENT CHAMBER

Hiroki Ota, Nobuyuki Tanaka, Kazuhiro Fukumori, Nobuhito Goda, Masayuki Yamato, Teruo Okano

Tokyo Women's Medical University, Waseda University

1.A2-3 1881

A PLATFORM FOR COMBINATORIAL MECHANOBIOLOGICAL STIMULATION OF ENGINEERED MICROTISSUES

Bogdan M. Beca, Christopher Moraes, Jason Nichol, Ali Khademhosseini, Yu Sun, Craig A. Simmons

University of Toronto, Massachusetts Institute of Technology

Session 1B2 Diagnostics 10:45-11:45

1.B2-1 1507

10 MINUTE WESTERN BLOTTING WITH 54-PLEX THROUGHPUT FOR CLINICAL CONFIRMATORY HIV DIAGNOSIS IN HUMAN SERUM

Alex J. Hughes, Amy E. Herr

University of California, Berkeley, CA 94720

1.B2-2 1004

DROPLET-BASED LIQUID-LIQUID EXTRACTION AND ON-CHIP IR-WAVEGUIDE-SPECTROSCOPY DETECTION OF COCAINE IN HUMAN SALIVA

Philip Waegli, Yu-Chi Chang, Peter D. Van Der Wal, Lubos Hvozدارa Lubos, Alexandra Homsy, Hans Peter Herzig, Nico F. De Rooij

EPFL, STI IMT-NE, SAMLAB, EPFL, STI IMT-NE, OPT

1.B2-3 1491

LABEL-FREE DNA QUANTIFICATION VIA A 'PIPET, AGGREGATE AND BLOT' (PAB) APPROACH ON FILTER PAPER

Jingyi Li, Qian Liu, James P. Landers

University of Virginia

Session 1C2 Optics 10:45-11:45

1.C2-1 1861

A MICROFLUIDIC-BASED OIL-IMMERSION LENS ARRAY FOR HIGH RESOLUTION MICROSCOPY

Mayurachat Ning Gulari, Anurag Tripathi, Nikos Chronis

University of Michigan

1.C2-2 1325

REAL-TIME 3D SHAPE MEASUREMENT OF MICRO DROPLET USING DIGITAL HOLOGRAPHIC MICROSCOPY

Tsukasa Matsuo, Haruyuki Kinoshita, Teruo Fujii, Atsushi Moto
USHIO INC., Institute of Industrial Science, The University of Tokyo

1.C2-3 1851

INTEGRATED ANGLE RESOLVED SPECTROSCOPY WITH NOVEL OPTICS 'CALDERA MIRROR'

Yuto Kazama, Akihide Hibara

Institute of Industrial Science, The University of Tokyo, School of Engineering, The University of Tokyo

Plenary 2 13:00-13:45

INTERROGATING NEURODEGENERATIVE DISEASE STATES USING PLURIPOTENT STEM CELLS

F. Paolo Di Giorgio

Novartis Institutes for BioMedical Research

Session 1A3 Microfluidic Components 16:00-17:20

1.A3-1 1574

MICROFLUIDIC BEAD-BASED DIODES WITH ULTRA-HIGH DIODICITY AT ULTRA-LOW REYNOLDS NUMBER VIA CIRCULAR MICROCHANNELS FOR MICROBEAD DOCKING

Ryan D. Sochol, Jonathan Lei, Albert Lu, Erica L. Hicks, Shan Gao, Vivek Menon, Luke P. Lee, Liwei Lin
University of California, Berkeley

1.A3-2 2217

MEMS-BASED PILLARED SURFACE FOR HIGH-SPEED DROPLET MANIPULATION: FAILURE OF CASSIE-BAXTER MODEL

Kenichi Morimoto, Kenichi Fukumoto, Yuji Suzuki
The University of Tokyo

1.A3-3 1625

ENGINEERING FLOW CROSS-SECTION VIA PROGRAMMED PILLARS

Hamed Amini, Mahdokht Masaeli, Elodie Sollier, Yu Xie, Baskar Ganapathysubramanian, Howard A. Stone, Dino Di Carlo

University of California, Los Angeles, Iowa State University, Princeton University

1.A3-4 1171

MICROFLUIDIC SERIAL DAC FOR ANALOG PRESSURE GENERATION

Feiqiao Yu, Vladimir Kibardin, Mark Horowitz, Stephen R. Quake
Stanford University

Session 1B3 Droplet Operation 16:00-17:20

1.B3-1 1040

DROPLET IMMOBILIZATION, SPLITTING, METERING AND ALIQUOTING WITH SURFACE ENERGY TRAPS CREATED USING SU8 SHADOW MASK

Yi Zhang, Tza-Huei Wang

Johns Hopkins School of Medicine, Johns Hopkins University

1.B3-2 1970

PASSIVE, LABEL-FREE DROPLET SORTING BY CHEMICAL COMPOSITION USING TENSIOPHORESIS

G.K. Kurup, Amar S. Basu

Wayne State University

1.B3-3 2188

CONTINUOUS-FLOW MICRODROPLET LYSIS SYSTEM

Kosuke Iwai, Ryan D. Sochol, Liwei Lin

University of California at Berkeley

1.B3-4 1080

REPLACING FLOWS WITH GRADIENTS OF CONFINEMENT IN DROPLET MICROFLUIDICS

RéMi Dangla, Serif C. Kayi, Charles N. Baroud

LadHyx, Ecole Polytechnique

Session 1C3 Lipid Bilayers 16:00-17:20

1.C3-1 2033

GIANT VESICLE FORMATION THROUGH THE ASSEMBLY OF 2D SUPPORTED LIPID BILAYERS

Nobuo Misawa, Hiroki Oyama, Ryugo Tero, Kazuaki Sawada

Toyohashi University of Technology

1.C3-2 2091

MICROFLUIDIC PASSIVE PERMEABILITY ASSAY USING ARRAYED DROPLET INTERFACE

MEMBRANES

Takasi Nisisako, Shiva A. Portonovo, Jacob J. Schmidt

University of California, Los Angeles

1.C3-3 1399

GENERATION OF MULTIPLE DROPLETS WITH DENSELY PACKED SEGMENTS FOR STUDYING CHEMICAL SIGNALLING IN DROPLET NETWORKS

Jan Guzowski, Piotr M. Korczyk, Piotr Garstecki

Institute of Physical Chemistry, Polish Academy of Sciences

1.C3-4 2028

UNIFORM SIZE LIPOSOMES ON A CHIP: OBSERVATION OF TRANSPORT KINETICS THROUGH NANOPORE MEMBRANE PROTEIN

Toshihisa Osaki, Koki Kamiya, Ryuji Kawano, Shoji Takeuchi

Kanagawa Academy of Science and Technology, Institute of Industrial Science, The University of Tokyo

Tuesday October 30

Plenary 3 08:15-09:00

DETECTION OF WATER BORNE MICROBES USING AN AUTONOMOUS UNDERWATER SENSOR, THE ENVIRONMENTAL SAMPLE PROCESSOR (ESP)

James M. Birch

Monterey Bay Aquarium Research Institute

Session 2A1 Cell Handling 1 09:15-10:15

2.A1-1 1953

ON-PLATE AND ON-DEMAND REMOVAL OF ADHERENT CELLS USING PHOTO-ACID-GENERATING SUBSTRATE AND MICRO-PROJECTION SYSTEM

Kimio Sumaru, Kyoko Kikuchi, Toshiyuki Takagi, Manae Yamaguchi, Taku Satoh, Kana Morishita,

Toshiyuki Kanamori

National Institute of Advanced Industrial Science and Technology

2.A1-2 1333

AN ANGLE-TUNABLE MICROFLAP TOWARD THE OBSERVATION OF PARASITE INVASION INTO HOST ADHERENT CELLS

Tetsuhiko Teshima, Hiroaki Onoe, Hiroka Aonuma, Kaori Kuribayashi-Shigetomi, Hirotaka Kanuka, Shoji

Takeuchi

Institute of Industrial Science, The University of Tokyo, Jikei University School of Medicine

2.A1-3 1241

SINGLE CELL SUSPENSION CULTURE USING POLYHEMA COATING FOR ANOIKIS ASSAY AND SPHERE FORMATION

Yu-Chih Chen, Patrick Ingram, Xia Lou, Euisik Yoon

University of Michigan

Session 2B1 Polymer Materials 09:15-10:15

2.B1-1 2191

ENCODING OF LIQUID CAPPED MICROCAPSULE AND HETEROGENEOUS ASSEMBLY FOR MULTIPLEXED ASSAY

Younghoon Song, Taehong Kwon, Daewon Lee, Junhoi Kim, Dongyoon Oh, Taejoon Park, Sunghoon Kwon
Seoul National University, Inter-University Semiconductor Research Center

2.B1-2 1495

DIGITAL MICROFLUIDICS FOR ON-DEMAND 3D MICROGEL FORMATION AND FUNCTIONAL MYOCARDIAL TISSUE ASSAYS

Irwin A. Eydelnant, Bingyu 'Betty' Li, Aaron R. Wheeler
University of Toronto

2.B1-3 1821

MOSAIC HYDROGELS: ONE-STEP FORMATION OF MULTIDIMENSIONAL, MULTISCALE SOFT MATERIALS

Lian Leng, Arianna Mcallister, Boyang Zhang, Milica Radisic, Axel Günther,
University of Toronto

Session 2C1 DNA Based Systems 09:15-10:15

2.C1-1 1983

AN ELECTROPHORETICALLY CONTROLLED MICROCHIP FOR ISOLATION OF PROTEIN-BINDING APTAMERS

Jinho Kim, John P. Hilton, Kyung A. Yang, Renjun Pei, Milan Stojanovic, Qiao Lin
Columbia University

2.C1-2 1266

DNA-BASED MOLECULAR ECOSYSTEM ON A CHIP

Adrien Padirac, Andre Estevez-Torres, Teruo Fujii, Yannick Rondelez
LIMMS/CNRS-IIS, Institute of Industrial Science, The University of Tokyo, Laboratoire de Photonique et de Nanostructures, CNRS

2.C1-3 1646

ARTIFICIAL DARWINIAN SELECTION TECHNOLOGY ON MICROARRAY CHIPS TOWARDS DIRECTED EVOLUTION USING SINGLE MOLECULAR PROCESSING

Shusuke Sato, Manish Biyani, Takanori Akagi, Takanori Ichiki
The University of Tokyo

Session 2A2 Cell Handling 2 10:45-11:45

2.A2-1 1485

ON-CHIP SEQUENTIAL MOLECULE DELIVERY INTO ISOLATED CELLS USING VORTEX ASSISTED ELECTROPORATION

Hoyoung Yun, Soojung Claire Hur
The Rowland Institute at Harvard University

2.A2-2 1294

BEAD-ASSISTED ACOUSTIC DIFFERENTIAL EXTRACTION OF SPERM CELLS IN DILUTE SAMPLES FOR POTENTIAL FORENSIC ANALYSES

Kerui Xu, Brian L. Poe, Jenny A. Lounsbery, James P. Landers
University of Virginia

2.A2-3 1307

MANIPULATING SINGLE PARTICLES, CELLS, AND ORGANISMS USING STANDING SURFACE ACOUSTIC WAVES

Xiaoyun Ding, Sz-Chin Steven Lin, Sixing Li, Tony Jun Huang
The Pennsylvania State University

Session 2B2 Blood Analysis 10:45-11:45

2.B2-1 1622

AUTOMATED HIGH-THROUGHPUT CHARACTERIZATION OF CELLS USING MULTIMODAL ELECTRICAL AND OPTICAL CYTOMETRY (MULTIMEOC)

Hao-Wei Su, Javier L. Prieto, Joel Voldman
Massachusetts Institute of Technology

2.B2-2 1878

HARNESSING ENZYMATICALLY MACHINED NANO- AND MICRO-SCALE SURFACE TOPOGRAPHIES FOR HIGH-THROUGHPUT SEPARATIONS

Jen-Huang Huang, Aashish Priye, Arul Jayaraman, Victor M. Ugaz
Texas A & M University

2.B2-3 1888

SINGLE-STEP UNTRAHIGH ENRICHMENT OF LEUKOCYTES FROM WHOLE BLOOD ENABLED BY CELL ROLLING ON BIOMIMETIC ADHESIVE SURFACES

Suman Bose, Rishi Singh, Mikhail Hanewich Hollatz, Chia-Hua Lee, Jeffrey Karp, Rohit Karnik
Massachusetts Institute of Technology, Harvard Medical School

Session 2C2 Nano Materials 10:45-11:45

2.C2-1 1850

SHAPE-CONTROLLABLE SYNTHESIS OF NANOCOMPOSITES BY THREE-DIMENSIONAL (3D) HYDRODYNAMIC FOCUSING

Mengqian Lu, Qingzhen Hao, Ahmad Ahsan Nawaz, Tony Jun Huang
The Pennsylvania State University

2.C2-2 1738

HIERARCHICAL TiO₂ BRUSH TYPE NANOSTRUCTURES FOR EFFICIENT PHOTOELECTROCHEMICAL WATER SPLITTING

Yuriy Pihosh, Kazuma Mawatari, Thu H.H. Le, Yasuhito Kajita, Hiroyuki Chinen, Takehiko Kitamori
The University of Tokyo

2.C2-3 1866

DROPLET-BASED 3D GRAPHENE STRUCTURE SYNTHESIS

Dong Ju Han, Fei Liu, Jae Hwan Jung, Hyun Dong Ha, Tae Seok Seo,
Korea Advanced Institute of Science and Technology

Session 2A3 Separation 16:00-17:20

2.A3-1 1565

PROTEIN DIGEST SEPARATIONS IN SILICON PILLAR ARRAYS CONFORMALLY COATED WITH POROUS SILICA

Wim De Malsche, Selm De Bruyne, Jeff Op De Beeck, Sebastiaan Eeltink, Han Gardeniers, Gert Desmet
Vrije Universiteit Brussel, Mesa+ Institute for Nanotechnology

2.A3-2 1147

RAPID ON-CHIP SOUTHERN BLOT-TYPE ASSAY USING BIDIRECTIONAL ISOTACHOPHORESIS

Crystal M. Han, Supreet S. Bahga, Juan G. Santiago
Stanford University

2.A3-3 1145

FREE-STANDING HYDROGEL MICROARRAYS: OPEN-CHANNEL MICROFLUIDICS FOR MASSIVELY PARALLEL PROTEIN ELECTROPHORESIS

Todd A. Duncombe, Tuan M. Tran, Fernando Benito-Lopez, Dermot Diamond, Amy E. Herr,
UC Berkeley / UC San Francisco Joint Graduate Group in Bioengineering, USA, Dublin City University

2.A3-4 1482

ONE-STEP ISOLATION OF TRANSITORY PROTEIN COMPLEXES WITH IFAST

Scott M. Berry, Lindsay N. Strotman, Emily N. Chin, Shawn S. Jackson, Nancy E. Thompson, Shigeki Miyamoto, Caroline M. Alexander, Richard R. Burgess, David J. Beebe,
University of Wisconsin-Madison

Session 2B3 Droplet Reactors 16:00-17:20

2.B3-1 1936

WHY IS THE MINIMUM UNIT OF LIFE A CELL? : BUILDING AN "RNA WORLD" MODEL PROTOCELL USING DROPLET-BASED MICROFLUIDICS

Shigeyoshi Matsumura, Faith M. Coldren, Annick Marin, Ali Fallah-Araghi, Andrew D. Griffiths, Michaël Ryckelynck
ISIS, Université de Strasbourg

2.B3-2 1636

QUANTITATIVE DETECTION OF CIRCULATING TUMOR DNA IN PLASMA SAMPLES BY DROPLET DIGITAL PCR.

Deniz Pekin, Steve Kotsopoulos, Li Xinyu, Hi Gang, Delphine Le Corre, Leonor Benhaim, J. Brian Hutchison, Darren R. Link, Pierre Laurent-Puig, Valerie Taly
Université Paris Descartes, INSERM UMR-S775, Université de Strasbourg, CNRS UMR 7006, RainDance Technologies, Lexington, Massachusetts

2.B3-3 1749

MULTIPLEX ANALYSIS OF ENZYME KINETICS AND INHIBITION FOR DIABETES PHARMACEUTICALS BY DROPLET MICROFLUIDICS USING PICOINJECTORS

Staffan L. Sjöström, Haakan N. Joensuu, Helene Andersson Svahn
Royal Institute of Technology (KTH)

2.B3-4 1761

A LOW COST AND HIGH THROUGHPUT MAGNETIC BEAD-BASED IMMUNO-AGGLUTINATION ASSAY IN CONFINED DROPLETS

Bruno Teste, Anaïs Ali-Cherif, Stéphanie Descroix, Laurent Malaquin
Institut Curie, UMR 168

Special Session: Microfluidics for Ocean Application 16:00-17:20

CORAL-REEF ECOLOGY & MEASUREMENT

Yoshimi Suzuki
Shizuoka University

MARINE MICROFLUIDICS

Tatsuhiko Fukuba
JAMSTEC

DEEP-SEA LIBS

Thornton Blair
University of Tokyo

CHIKYU DRILLING & BORE HOLE MEASUREMENTS

Nori Kyo
JAMSTEC

Wednesday October 31

Plenary 4 08:15-09:00

MICROFLUIDIC TOOLS TO MODEL AND ANALYZE THE BODY

Shuichi Takayama
University of Michigan

Session 3A1 Biomedical Applications 09:15-10:15

3.A1-1 1710

SINGLE CELL SURGERY WITH MONODISPERSED MICRO-BUBBLES GENERATED BY A PULSE DISCHARGE OF MICROELECTRIC KNIFE

Kuriki Hiroki, Shinya Sakuma, Yoko Yamanishi, Fumihito Arai
Nagoya University

3.A1-2 1253

FAST WHOLE BLOOD TESTING FOR DETECTING BIOMARKERS BY SIZE-EXCLUSION SPR SENSING

Shin-Ichi Hiramatsu, Kyohei Terao, Kazunori Shimizu, Nobumitsu Miyanishi, Takaaki Suzuki, Hidekuni Takao, Fusao Shimokawa, Fumikazu Oohira
Kagawa University, Toyo University

3.A1-3 1567

IMPLANTABLE MICROFLUIDIC INTERFACE DEVICES WITH DRUG PERFUSION FUNCTION THROUGH HYDROGEL MEMBRANE

Hiroaki Takehara, Akira Nagaoka, Jun Noguchi, Takanori Akagi, Haruo Kasai, Takanori Ichiki
The University of Tokyo, Center for Disease Biology and Integrative Medicine, The University of Tokyo

Session 3B1 Thermal & Energy 09:15-10:15

3.B1-1 1704

MICROFLUIDIC THERMAL DIGESTION OF AQUEOUS SAMPLE AT TEMPERATURE HIGHER THAN 100 °C

Fei Xie, Baojun Wang, Tian Dong, Wei Wang, Jianhua Tong, Shanhong Xia, Wengang Wu, Zhihong Li
Inst. of Microelectronics, Pek Univ., National Key Laboratory of Micro/ Nano Fabrication Technology, Institute of Electronics, Chinese Academy of Sciences

3.B1-2 1487

A MEMS ISOTHERMAL TITRATION BIOCALORIMETER

Bin Wang, Yuan Jia, Qiao Lin
Columbia University

3.B1-3 1612

HIGH EFFICIENCY ENERGY CONVERSION FROM LIQUID JET FLOW

Yanbo Xie, Lennart De Vreede, Trieu Nguyen, Albert Van Den Berg, Jan C.T. Eijkel,
MESA+ Institution of Nanotechnology, University of Twente

Session 3C1 Nucleic Acid Analysis 09:15-10:15

3.C1-1 1299

A LOW-COST, LABEL-FREE DNA DETECTION METHOD BASED ON DIRECT ELECTRONIC READ IN LAB-ON-CHIP FORMAT, WITH APPLICATION TO LONG-RANGE PCR.

Mohamed Youba Diakite, Jérôme Champ, Stephanie Descroix, Laurent Malaquin, François Amblard, Jean-Louis Viovy

UMR 168 Institut Curie, Centre National de la Recherche Scientifique et Université Pierre et Marie

3.C1-2 1398

SINGLE-MOLECULE TUNNELI-CURRENT BASED IDENTIFICATION OF DNA/RNA TOWARDS SEQUENCIGN BY USING NANO-MCBI

Takahito Ohshiro, Makusu Tsutsui, Masayuki Furuhashi, Masateru Taniguchi, Tomoji Kawai,
Osaka University

3.C1-3 1728

RAPID AND ACCURATE PROFILING OF TRACE AMOUNTS OF MICRORNA WITH NO AMPLIFICATION

Giancarlo Garcia-Schwarz, Juan G. Santiago

Stanford University

Session 3A2 Blood Vessels 10:45-11:45

3.A2-1 1778

NEURAL STEM CELL DIFFERENTIATION IN VASCULAR MICROENVIRONMENT

Sewoon Han, Yoojin Shin, Hyo Eun Jeong, Kisuk Yang, Roger D. Kamm, Seung-Woo Cho, Seok Chung

Korea University, Yonsei University, Massachusetts Institute of Technology

3.A2-2 1633

A MICROFLUIDIC PLATFORM FOR PROBING MULTI-VESSELS: THREE-VESSEL ON A CHIP

Byeong-Ui Moon, Steffen Sebastian-Bolz, Axel Guenther

University of Toronto

3.A2-3 1064

MICROFLUIDIC KIT-ON-A-LID: A VERSATILE PLATFORM FOR NEUTROPHIL CHEMOTAXIS ASSAYS AND ASTHMA DIAGNOSTICS

Eric K. Sackmann, Erwin Berthier, Edmond W.K. Young, Miriam A. Shelef, Paul Fichtinger, Elizabeth Schwantes, Mike Evans, Sameer Mathur, Anna Huttenlocher, David J. Beebe

University of Wisconsin - Madison

Session 3B2 Patterning 10:45-11:45

3.B2-1 1005

DYNAMICALLY PROGRAMMABLE PARYLENE-C BONDING LAYER FLUORESCENCE FOR RE-WRITABLE DATA STORAGE ON A MICROFLUIDIC CHIP

Ata Tuna Ciftlik, Martin A.M. Gijs

Ecole Polytechnique Federale de Lausanne (EPFL)

3.B2-2 1404

OPTICAL NEAR-FIELD INDUCED CHEMICAL PARTIAL HYDROPHOBIC/ HYDROPHILIC MODIFICATION WITH SUB-DIFFRACTION LIMIT RESOLUTION

Kazuma Mawatari, Naosuke Hasumoto, Yuriy Pihosh, Kokoro Kitamura, Takashi Yatsui, Tadashi Kawazoe, Makoto Naruse, Motoichi Ohtsu, Takehiko Kitamori,

University of Tokyo, University of Tokyo

3.B2-3 1896

HIGH-RESOLUTION MICROPATTERNING OF OFF-STOCHIOMETRIC THIOL-ENES (OSTE) VIA A NOVEL LITHOGRAPHY MECHANISM

J Mikael Karlsson, Carl Fredrik Carlborg, Farizah Saharil, Fredrik Forsberg, Wouter Van Der Wijngaart, Tommy Haraldsson

KTH Royal Institute of Technology

Session 3C2 Nano Components 10:45-11:45

3.C2-1 2158

SINGLE DNA MANIPULATION IN SUBLITHOGRAPHIC NANOWIRE ARRAY CHIPS

Takao Yasui, Sakon Rahong, Takeshi Yanagida, Noritada Kaji, Masaki Kanai, Kentaro Doi, Manabu Tokeshi, Satoyuki Kawano, Tomoji Kawai, Yoshinobu Baba

Nagoya University, Osaka University, Hokkaido University

3.C2-2 1300

ZIF-COUPLED MICRORESONATOR FOR HIGHLY SENSITIVE AND SELECTIVE GAS DETECTION

Yongha Hwang, Anh Phan, Kos Galatsis, Omar M. Yaghi, Rob N. Candler,

University of California, Los Angeles

3.C2-3 1818

THE IMPLEMENTATION OF POLYSILICON NANOWIRE BASED BIOMOLECULAR SENSOR SYSTEM-ON-CHIP

Che-Wei Huang, Pei-Wen Yen, Chih-Ting Lin
National Taiwan University

Plenary 5 13:00-13:45

SMART MICROPARTICLES, PARTIPETTING AND LIQUID MICROARRAYS: FROM BASIC TECHNOLOGIES TO APPLICATIONS

Sunghoon Kwon
Seoul National University

Thursday November 1

Plenary 6 08:30-09:15

MICROFLUIDIC APPS ON STANDARD LAB-INSTRUMENTS

Roland Zengerle
University of Freiburg

Session 4A1 Cell Deformability 09:30-10:30

4.A1-1 1222

DEFORMATION ANALYSIS OF INDIVIDUAL RED BLOOD CELLS IN LARGE POPULATIONS USING A SINGLE CELL MICROCHAMBER ARRAY (SICMA) CHIP

Il Doh, Won C. Lee, Young-Ho Cho, Albert P. Pisano, Frans A. Kuypers,
UC BERKELEY, CHORI, KAIST

4.A1-2 1498

LEUKOCYTE MECHANOPHENOTYPING BY DEFORMABILITY CYTOMETRY

Daniel R. Gossett, Henry T.K. Tse, Keisuke Goda, Oladunni Adeyiga, Travis A. Woods, Steve W. Graves,
Otto O. Yang, Dino Di Carlo
University of California, Los Angeles, University of New Mexico

4.A1-3 1114

SIZE AND DEFORMABILITY SELF-SORTING OF PARTICLES USING ASYNCHRONOUS LOGIC CIRCUITS

Marco A. Cartas-Ayala, Laura Gilson
Massachusetts Institute of Technology

Session 4B1 High-Throughput Analysis 09:30-10:30

4.B1-1 1591

A NOVEL INTERFACE COUPLING DROPLET MICROFLUIDICS WITH MALDI-MASS SPECTROMETRY

Simon K. Küster, Stephan R. Fagerer, Pascal E. Verboket, Klaus Eyer, Konstantins Jefimovs, Renato Zenobi, Petra S. Dittrich
ETH Zurich, EMPA

4.B1-2 1643

SUSPENDED MICROFLUIDICS: AN OPEN AND USER-FRIENDLY TECHNOLOGY PLATFORM FOR HIGH-THROUGHPUT METABOLOMIC STUDIES

Erwin Berthier, Ashleigh Theberge, Ben Casavant, Chunjun Guo, Clay Wang, David Beebe, Nancy Keller
University of Wisconsin-Madison

4.B1-3 2146

A HIGH-THROUGHPUT PLATFORM FOR PATTERNED DIFFERENTIATION OF EMBRYOID BODIES USING AIR BUBBLES

Xiaoming He, Hiroshi Kimura, Jiro Kawada, Teruo Fujii
University of Tokyo

Session 4C1 Detection 09:30-10:30

4.C1-1 1967

HIGH-RESOLUTION NMR SPECTROSCOPY ON A CHIP BY STRUCTURAL COMPENSATION OF MAGNETIC SUSCEPTIBILITY MISMATCH

Herbert Ryan, Marcel Utz
University of Virginia

4.C1-2 2239

MONOTONIC TUNING OF PLASMON RESONANCE USING DEFORMABLE NANOPLASMONIC MEMBRANE FOR SURFACE-ENHANCED RAMAN SCATTERING

Minhee Kang, Jae-Jun Kim, Young-Jae Oh, Ki-Hun Jeong
Korea Advanced Institute of Science and Technology (KAIST)

4.C1-3 2041

1,200 FOLD DETECTION LIMIT ENHANCEMENT (60PG/ML TO 50FG/ML) AND 6 FOLD INCUBATION TIME REDUCTION OF FLUORESCENT IMMUNOASSAY USING NOVEL 3D PLASMONIC CAVITY ANTENNA ARRAY INTEGRATED IN MICROFLUIDIC DEVICE

Ruoming Peng, Chao Wang, Liangcheng Zhou, Qi Zhang, Weihua Zhang,
Princeton University

Session 4A2 Centrifugal Microfluidics 11:00-12:00

4.A2-1 2183

PORTABLE LAB-ON-A-DISC SYSTEM INTEGRATING PHOTO-SWITCHABLE MICRO-VALVES FOR IN-SITU AQUATIC ENVIRONMENTAL MONITORING

Monika Czugala, Damian Maher, Robert Burger, Kevin J. Fraser, Jens Ducree, Dermot Diamond, Fernando Benito-Lopez
CLARITY/NCSR Dublin City University, School of Physics/NCSR Dublin City University

4.A2-2 2203

DNA FIBER PREPARATION TECHNIQUE ON A CHIP FOR CLINICAL DIAGNOSIS

Takaaki Suzuki, Kyohei Terao, Hiroyuki Suzuki, Yuki Nitta, Hidekuni Takao, Fusao Shimokawa, Fumikazu Oohira, Daisuke Hiramaru, Hidetoshi Kotera,
Kagawa University, Kyoto University

4.A2-3 2029

SPERM QUALITY ASSESSMENT VIA SEPARATION AND SEDIMENTATION IN A MICROFLUIDIC DEVICE

Tsun-Chao Chiang, Chang-Yu Chen, Shu-Sheng Lin, Cheng-Ming Lin, De-Shien Jong, Vincent F.-S. Tsai, Ju-Ton Hsieh, Andrew M. Wo
National Taiwan University, National Taiwan University Hospital

Session 4B2 Cell Assay 11:00-12:00

4.B2-1 1218

RECORDING SIGNAL TRANSDUCTION DYNAMICS WITH UNPRECEDENTED TEMPORAL RESOLUTION

Ya-Yu Chiang, Joanna Stewart, Carsten Gizewski, Peter Ehrhard, Jonathan West,
Leibniz-Institut für Analytische Wissenschaften - ISAS - e.V., Leibniz Research Center for Working Environment and Human Factors - IfADo, Technische Universität Dortmund

4.B2-2 2009

C.L.I.P – CONTINUOUS LIVE IMAGING PLATFORM FOR C. ELEGANS AT PHYSIOLOGICAL CONDITIONS

Jan Krajniak, Hang Lu
Georgia Institute of Technology

4.B2-3 1457

CYTOTOXICITY ANALYSIS ON A CHIP WITH SINGLE EXPERIMENTS

Morgan Hamon, Ali Khademhosseini, Jong Wook Hong
Auburn University, Harvard Medical School

POSTER PRESENTATIONS

Monday October 29

Poster Session 1 13:45-16:00

M.1.1 (1037)

PRE-PROGRAMMED, SELF-POWERED CIRCUITS BUILT FROM MICROFLUIDIC CAPILLARY ELEMENTS

Roozbeh Safavieh, David Juncker

McGill University

M.1.2 (1053)

THREE-DIMENSIONAL HYDRODYNAMIC FOCUSING ACHIEVED BY A SINGLE CHANNEL LAYER, SINGLE SHEATH-FLOW INLET MICROFLUIDIC DEVICE

Shiang-Chi Lin, Pei-Wen Yen, Yi-Chung Tung

National Taiwan University, Academia Sinica

M.1.3 (1068)

TWO-STAGE LIQUID DRIVING USING VACUUM TRANSFORMERS WITH BATTERY-POWERED MINI-HOTPLATES FOR SIMPLE-TO-USE MICROFLUIDIC BIOCHIPS

Cheng-Han Tsai, Chien-Chong Hong, Wen Chung

National Tsing Hua University

M.1.4 (1579)

WALL-LESS MICROFLUIDIC CHANNELS USING 3-DIMENSIONAL RING ARRAYS

Won Chul Lee, Yun Jung Heo, Shoji Takeuchi

The University of Tokyo

M.1.5 (1747)

ON-CHIP LIQUID CONTROL USING STRIPED SURFACE TOPOGRAPHY FABRICATED BY POLYMER INJECTION MOLDING

Karen Skotte Sørensen, Peter Friis Østergaard, Rafael J. Taboryski, Mikkel Fougt Hansen

Technical University of Denmark, Center for integrated Point of Care (CiPoC) technologies, DELTA

M.1.6 (1916)

ON-CHIP AEROSOL GENERATION FOR ORGANS-ON-CHIPS

Karel Domansky, Michael Karpelson, Robert J. Wood, Donald E. Ingber

Wyss Institute for Biologically Inspired Engineering at Harvard University

M.1.7 (1923)

A POWERLESS VALVING SYSTEM FOR FLUID FLOW IN PAPER NETWORKS

Bhushan J Toley, Elain Fu, Paul Yager

University of Washington

M.1.8 (1935)

A MULTIPORT METERING VALVE TECHNOLOGY FOR ON-CHIP VALVING

Holger Becker, Richard Klemm, Rene Sewart, Claudia G 崖 tner

microfluidic ChipShop

M.1.9 (2148)

SURFACE TOPOGRAPHY-DRIVEN FAST DROPLET TRANSPORTATION ON THE MAGNETIC ELASTOMER WITH A SUPERHYDROPHOBIC SURFACE

Kwangseok Seo, Jiyeon Oh, Rinbok Wi, Jieun Kim, Do Hyun Kim

Korea Advanced Institute of Science and Technology

M.1.10 (2180)

INVESTIGATION OF ENZYME REACTION IN EXTENDED-NANO SPACE MIMICKING CELLULAR ENVIRONMENTS

Takashi Saruko, Kazuma Mawatari, Takehiko Kitamori

University of Tokyo

M.1.11 (2270)

BUBBLE-GATE FOR IN-PLANE FLOW CONTROL IN MICROFLUIDIC CHANNELS

Ali Oskooei, Axel Guenther

University of Toronto

M.1.12 (1188)

CHAOTIC FLUID MIXING BY ALTERNATING MICRO-PARTICLE TOPOLOGIES TO ENHANCE BIOCHEMICAL REACTIONS

Yang Gao, Alexander Van Reenen, Martien A. Hulsen, Arthur M. De Jong, Menno W. J. Prins, Jaap M. J. Den Toonder

Eindhoven University of Technology

M.1.13 (1509)

NANOBUBBLES AND GAS DYNAMICS DURING CAPILLARY FILLING OF NANOCHANNELS

Fabien Chauvet, Sandrine Geoffroy, Abdelkrim Hamoumi, Marc Prat, Pierre Joseph

CNRS, LAAS; Univ de Toulouse, ICA ; INSA; Univ de Toulouse, CNRS, IMFT; Univ de Toulouse

M.1.14 (1849)

CONTROL OF INTERPARTICLE SPACING USING STRUCTURED MICROFLUIDIC CHANNELS

Dianne Pulido, Aram Chung, Mahdokht Masaeli, Hamed Amini, Dino Di Carlo

University of California Los Angeles

M.1.15 (1117)

NONSPHERICAL MICROFLUIDIC DROPLETS WITH CONTROLLED MORPHOLOGY TO INDUCE RAPID PROTEIN PHASE TRANSITION.

Giuseppina Simone, Paolo A. Netti

University of Napoli

M.1.16 (1288)

DROPLET BASED MICROFLUIDIC APPROACHES FOR HIGH THROUGHPUT SCREENING OF PHOTOSENSITISER AGAINST MICROBIAL ORGANISMS

Soongwon Cho, Dong-Ku Kang, Steven Sim, Florian Geier, Jin-Young Kim, Soo-Ik Chang, Joshua Edel, Robert Wootton, Andrew Demello

Imperial College London, University of California, Irvine, Chungbuk National University, ETH Zurich, Zurich,

M.1.17 (1308)

DETERMINISTIC SPLITTING OF ELECTROWETTING MICROCHANNELS

Ananda Banerjee, Yuguang Liu, Jason Heikenfeld, Ian Papautsky

University of Cincinnati

M.1.18 (1662)

DIGITAL READOUT PLATFORM FOR WATER-IN-OIL DROPLET IMMUNOASSAYS RUNNING ON A CELL-PHONE FOR POINT OF CARE VIRAL LOAD SENSING

Patrick A. Sandoz, Ahmet F. Coskun, Aram J. Chung, Westbrook M. Weaver, Oladunni Adeyiga, Delaram Khodadadi, Aydogan Ozcan, Dino Di Carlo

University of California, Los Angeles

M.1.19 (1675)

ON-CHIP BLADE FOR ACCURATE SPLITTING OF DROPLETS IN LIGHT-ACTUATED DIGITAL MICROFLUIDICS

Shao Ning Pei, Ming C. Wu

University of California, Berkeley

M.1.20 (1950)

WIRELESS EWOD (ELECTROWETTING-ON-DIELECTRIC) DEVICES USING PLANAR COILS

Sang Hyun Byun, Myung-Gon Yun, Sung Kwon Cho

University of Pittsburgh, Gangneung-Wonju National University

M.1.21 (2035)

ON-CHIP PROCEDURES FOR MAGNETIC PARTICLE-BASED ASSAY IN DROPLETS

Hun Lee, Linfeng Xu, Kwang W. Oh

SUNY at Buffalo

M.1.22 (2045)

DROPLET-TRAIN SPR MICROCHIP FOR LABEL-FREE DETECTION OF BIO-INTERACTION USING NANOLITERS OF DRUG SAMPLE

Tridib Ghosh, Yan Xie, Carlos H Mastrangelo

University of Utah

M.1.23 (1345)

A RAPID SCREENING FOR HEMOGLOBIN-SPECIFIC APTAMERS BY USING CONTINUOUS MICROFLUIDIC SYSTEMS

Ching-Chu Wu, Hsin-I Lin, Chen-Hsun Weng, Shu-Chu Shiesh, Gwo-Bin Lee

National Tsing Hua University, National Cheng Kung University

M.1.24 (1742)

AUTOMATED INJECTION FROM DIGITAL MICROFLUIDIC CHIP INTO HIGH-PERFORMANCE LIQUID CHROMATOGRAPHY (HPLC) PURIFICATION SYSTEM

Gaurav J. Shah, Jack Lei, Supin Chen, Chang-Jin "Cj" Kim, Pei-Yuin Keng, R. Michael Van Dam

University of California Los Angeles

M.1.25 (1838)

ELECTROCHEMICAL ANALYSIS OF MICRODROPLET FORMATION

Mao Fukuyama, Yumi Yoshida, Jan C.T. Eijkel, Albert Van Den Berg, Akihide Hibara

Institute of Industrial Science, The University of Tokyo, Kyoto Institute of Technology, MESA+ Institute for Nanotechnology, University of Twente

M.1.26 (1940)

ION CONCENTRATION POLARIZATION IN A SINGLE MICROCHANNEL USING SURFACE-PATTERNED NAFION: EXPERIMENTAL AND THEORETICAL STUDY

Minseok Kim, Mingjie Jia, Taesung Kim

Ulsan National Institute of Science and Technology (UNIST)

M.1.27 (1083)

ADDRESSABLE LIGHT-INDUCED HEAT KNOCKDOWN (ALINK) FOR CAENORHABDITIS (C.) ELEGANS IMMOBILIZATION

Han-Sheng Chuang, Wen-Tai Chiu, Chang-Shi Chen

National Cheng Kung University

M.1.28 (1354)

MEASUREMENT OF THE IMAGINARY PART OF THE CLAUSIUS-MOSSOTTI FACTOR

Yun Yi Lin, U Lei

National Taiwan University

M.1.29 (1561)

NANO/MICRO JETS IN THIN FILMS FOR BIOMATERIAL MANIPULATION AND CHARACTERIZATION

Sha Xiong, Keita AndoTandiono, Claus-Dieter Ohl, Ai-Qun Liu

Nanyang Technological University, Institute of High Performance Computing, A*STAR

M.1.30 (1568)

DROPLET-BASED MICROFLUIDIC DEVICE TO ENRICH AND TO SEPARATE HYDROPHOBICALLY FUNCTIONALIZED OLIGONUCLEOTIDE IN FREE-FLOW MICRODROPLETS

Wei-Feng Fang, Ching-Wen Hsu, Jing-Tang Yang

National Taiwan University

M.2.31 (1480)

ENCODED GEL PARTICLE ARRAY FOR RAPID, MULTIPLEXED PROTEIN DETECTION IN COMPLEX MEDIA

Rathi L. Srinivas, David Shasha, Qing Han, Stephen C. Chapin, Bruce D. Walker, J. Christopher Love, Patrick S. Doyle

Massachusetts Institute of Technology, The Ragon Institute of MIT, MGH, and Harvard

M.2.32 (1215)

QCM DETECTION OF MEMBRANE PROTEIN-LIGAND INTERACTIONS USING CELL-DERIVED LIPOSOMES

Makoto Yamanaka, Takashi Yasuda

Kyushu Institute of Technology

M.2.33 (1250)

EXERCISE- AND DRUG DOSE-DEPENDENT METABOLIC ASSAY DEVICE USING THE HYDROGEL-SUPPORTED SKELETAL MUSCLE CELLS

Kuniaki Nagamine, Hirokazu Kaji, Makoto Kanzaki, Matsuhiko Nishizawa

Tohoku University

M.2.34 (1405)

MICRO CONTAINERS WITH SOLID POLYMER DRUG MATRIX FOR ORAL DRUG DELIVERY

Johan Nagstrup, Stephan Sylvest Keller, Anette Mülertz, Anja Boisen

Technical University of Denmark, DTU Nanotech, University of Copenhagen, Department of Pharmacy

M.2.35 (1785)

HIGH THROUGHPUT AND PICOLITER-SCALE DRUG SCREENING WITH AUTOMATED DROPLET MICTROARRAY SYSTEM

Ying Zhu, Yun X. Zhang, Long F. Cai, Qun Fang

Zhejiang University

M.2.36 (2050)

3D TUMOR SPHEROID CHIP BALANCED DROPLET DISPENSING FOR PHARMACOKINETIC DRUG ELIMINATION MODEL

Taeyoon Kim, Il Doh, Hye-Jin Jin, Young-Ho Cho

KAIST

M.2.37 (2256)

CONTINUOUS EXCHANGE OF BUFFERS OVER A LIPID BILAYER MEMBRANE FORMED IN A GLASS MICROFLUIDIC DEVICE

Yoshihiko Watanabe, Shoji Takeuchi

Life BEANS Center, BEANS Project, IIS, The University of Tokyo

M.2.39 (1097)

HIGH-THROUGHPUT BIOPHYSICAL MEASUREMENT OF HUMAN RED BLOOD CELLS

Yi Zheng, Ehsan Shojaei-Baghini, Azar Azad, Chen Wang, Yu Sun

University of Toronto, Mount Sinai Hospital

M.2.40 (1320)

STUDY OF AXON-GUIDANCE INTERACTIONS IN CONTROLLED MICROFLUIDIC ENVIRONMENTS

Samira Moorjani, Sung-Eun Huh, Nirveek Bhattacharjee, Albert Folch

University of Washington, Seattle

M.2.41 (1438)

FLEXIBLE PHOSPHORESCENT OXYGEN MICROSENSOR ARRAY DEVICES FOR NONINVASIVE MONITORING OF CELLULAR OXYGEN METABOLISM DURING CULTIVATION

Mari Kojima, Hiroaki Takehara, Takanori Akagi, Hirofumi Shiono, Takanori Ichiki

University of Tokyo, Research Fellow of the Japan Society for the Promotion Science, Nikon Co.

M.2.42 (1445)

MULTIWELL PLATE READER-COMPATIBLE MICROFLUIDIC SYSTEM FOR LONG-TERM MULTICELLULAR SPHEROID CULTURE AND MONITORING

Karina Ziłkowska, Martyna Rybka, Katarzyna Stępień, Radosław Kwapiszewski, Kamil Żukowski, Michał Chudy, Artur Dybko, Zbigniew Brzózka

Warsaw University of Technology

M.2.43 (1490)

COMBINED MICROFLUIDIC SINGLE-CELL ELECTROPORATION AND IMPEDANCE SPECTROSCOPY ANALYSIS

Sebastian C. Bürgel, Carlos Escobedo, Simon Kemmerling, Nora Sauter, Niels Haandbæk, Olivier Frey, Andreas Hierlemann

ETH Zurich, Universität Basel

M.2.44 (1499)

REAL TIME DETECTION OF BACTERIAL BIOFILM GROWTH USING SURFACE PLASMON RESONANCE IMAGING

Pegah N. Abadian, Nil Tandogan, Thaddaeus A. Webster, Edgar D. Goluch

Northeastern University

M.2.45 (1515)

AN INTEGRATED MICROFLUIDIC PROBE FOR MULTIPLEXED SINGLE CELL KINASE ACTIVITY MEASUREMENT

Aniruddh Sarkar, Sarah Kolitz, Douglas Lauffenburger, Jongyoon Han
Massachusetts Institute of Technology

M.2.46 (1595)

CELLJET: LABEL-FREE CELL PRINTING VIA REAL-TIME IMPEDANCE FLOW CYTOMETRY FOR SINGLE CELL ANALYSIS

Jonas Schoendube, Daniel Wright, Azmi Yusof, Roland Zengerle, Peter Koltay
University of Freiburg, Zurich Instruments, HSG-IMIT, BioFluidiX

M.2.47 (1678)

STUDY OF LUNG ADENOCARCINOMA CELL ELECTROTAXIS USING A MULTIPLE-ELECTRIC-FIELD MICROFLUIDIC CHIP WITH UNIFORM FLOW FIELD

Hsieh-Fu Tsai, Ji-Yen Cheng

Academia Sinica Taiwan, National Taiwan Ocean University, National Yang Ming University

M.2.48 (1793)

HIGH YIELD CELL FUSION CHIP VIA HYDRODYNAMIC APPROACH AND 3D LIQUID METAL ELECTRODES

Hung Po Chen, Shih Mo Yang, Kuo Wei Chang, Jen Pin Chen, Chiu Wen Lin, Yen Ta Lu, Cheng Hsien Liu
National Tsing Hua University, National Chiao Tung University, Mackay Memorial Hospital

M.2.49 (1795)

SINGLE CELL MICRORNA QUANTIFICATION WITH TWO-STEP RT-QPCR BASED ON FLEXIBLE NANOLITER-SCALE DROPLET ARRAY SYSTEM

Yun X. Zhang, Ying Zhu, Qun Fang, Bo Yao
Zhejiang University

M.2.51 (1824)

CELL ROLLING CYTOMETER FOR CHARACTERIZATING DYNAMIC ADHESION OF MESENCHYMAL STEM CELLS

Sung Young Choi, Oren Levy, Jeffrey M. Karp, Rohit Karnik
Massachusetts Institute of Technology, Harvard Medical School

M.2.52 (1991)

FAST TARGET-SELECTIVE CHEMICAL & OPTICAL STIMULATION BASED ON HIGH-THROUGHPUT MULTI-CHANNEL IMAGING DEVICE

Hyewon Lee, Shin Ae Kim, Hang Lu
Georgia Institute of Technology

M.2.53 (2042)

MICROFLUIDIC INTEGRATED OPTOELECTRONIC TWEEZERS FOR SINGLE-CELL SAMPLE PREPARATION AND ANALYSIS

Kuo-Wei Huang, Yi-Chien Wu, Sabbir Sattar, Ji-Ann Lee, Pei-Yu Chiou
University of California, Los Angeles

M.2.54 (2068)

LARGE SCALE ANALYSIS OF MAMMALIAN AXON GUIDANCE AND NEURON POLARIZATION USING ARRAYS OF MICROFLUIDIC GRADIENT GENERATORS

Nirveek Bhattacharjee, Albert Folch
University of Washington

M.2.55 (1155)

PROBING THE ROLE OF MESENCHYMAL STEM CELLS IN EPITHELIAL CANCER ON A BIOMIMETIC MICRODEVICE

Huipeng Ma, Jianhua Qin
Dalian Institute of Chemical Physics,

M.2.56 (1529)

HYDRODYNAMIC EFFECTS ON DEVELOPMENT OF MAT-LIKE BACTERIAL BIOFILM IN A MICROFLUIDIC ENVIRONMENT

Junghyun Kim, Sewoon Han, Han-Shin Kim, Seok Chung, Hee-Deung Park

Korea University, School of Civil, Environmental and Architectural Engineering, Korea University

M.2.57 (1765)

UNRAVELING MECHANO-STRESS RESPONSIVE SIGNALING NETWORKS IN BUDDING YEAST VIA MICROFLUIDIC DEVICES

Sojung Oh, Sung Sik Lee, Matthias Peter, Noo Li Jeon

Seoul National University, Institute of Biochemistry, ETH Zurich

M.2.58 (1038)

A CONTROLLED-RELEASE CAPSULE DEVICE FOR TRANSSCLERAL DRUG DELIVERY TO THE RETINA

Hirokazu Kaji, Nobuhiro Nagai, Takuya Yamada, Matsuhiko Nishizawa, Toshiaki Abe

Tohoku University

M.2.59 (1377)

ELASTOMERIC PILLAR ARRAYS FOR INTEGRATED MEASUREMENT OF *C. ELEGANS* LOCOMOTION FORCES

Shazlina Johari, Volker Nock, Maan M. Alkai, Wenhui Wang

University of Canterbury

M.2.61 (1670)

SIZE BASED NANOPARTICLE SEPARATION USING DIELECTROPHORETIC FOCUSING FOR FEMTOSECOND NANOCRYSTALLOGRAPHY OF MEMBRANE PROTEINS

Bahige G. Abdallah, Tzu-Chiao Chao, Petra Fromme, Alexandra Ros

Arizona State University

M.2.62 (2155)

SMALL VOLUME HYPERMETHYLATED DNA ENRICHMENT FOR EPIGENETICS

Arpita De, Wouter Sparreboom, Lennart De Vreede, Edwin T. Carlen, Albert Van Den Berg

University of Twente, University of Twente, University of Twente, University of Twente,

M.2.63 (2178)

PLASMA SEPARATION FROM HUMAN BLOOD USING SPIRAL MICROCHANNELS FOR DRY EYE TREATMENT

Jumpei Morikawa, Takao Yasui, Noritada Kaji, Yukihiko Okamoto, Manabu Tokeshi, Kazuo Tsubota, Yoshinobu Baba

Nagoya University, Hokkaido University, Keio University

M.3.64 (1042)

SURFACE ENERGY TRAP ASSISTED RAPID SERIAL DILUTION ON DROPLET PLATFORM FOR BACTERIA ANTIBIOTICS SUSCEPTIBILITY TEST

Yi Zhang, Tza-Huei Wang

Johns Hopkins School of Medicine, Johns Hopkins University

M.3.65 (1066)

REVERSIBLY-ASSEMBLED PERFUSION CULTURE CHIP WITH MICROWELL ARRAY FOR CONTROLLABLE SPHEROID CULTURE AND POST-CULTURE ANALYSIS

Shinji Sugiura, Koji Hattori, Yusuke Sakai, Kohji Nakazawa, Toshiyuki Kanamori

National Institute of Advanced Industrial Science and Technology (AIST), The University of Kitakyushu

M.3.66 (1381)

MICRO IN-FOCAL CELL STRETCHING PLATFORM WITH PARALLEL PROGRAMMABLE CONTROL

Yuli Huang, Nam-Trung Nguyen

Nanyang Technological University

M.3.67 (1473)

COMBINATION OF HYDROSTATIC PRESSURE AND SHEAR STRESSES CONTRIBUTE TO ENDOTHELIAL CELL GROWTH IN A MICROFLUIDIC DEVICE

Man-Chi Liu, Hsiu-Chen Shih, Te-Wei Weng, Chueh-Yu Wu, Yi-Chung Tung

Academia Sinica, National Taiwan University

M.3.68 (1524)

A PERFUSION 3D CELL CULTURE BIOCHIP WITH ON-CHIP VERTICAL ELECTRODES FOR DETECTING CELL NUMBER BY ELECTRICAL IMPEDANCE MEASUREMENT

Che-Wei Hsu, Kin Fong Lei, Heng-Yang Lin, Min-Hsien Wu
Chang Gung University

M.3.69 (1676)

MICROFLUIDIC SUSPENSION CELL CULTURE PLATFORM FOR STUDYING POPULATION HETEROGENEITY AND NF-KB SIGNALING BY DNA DAMAGE IN HEMATOLOGIC CANCERS

Edmond W.K. Young, Chorom Pak, Byoungsoon Hwang, Shigeki Miyamoto, David J. Beebe
University of Wisconsin-Madison

M.3.70 (1817)

FABRICATION OF A CIRCULAR PDMS MICROCHANNEL TO CONSTRUCT AN ARTIFICIAL BLOOD MICROSYSTEM

Jong Seob Choi, Yunxian Piao, Tae Seok Seo

Korea Advanced Institute of Science and Technology, Korea Advanced Institute of Science and Technology,
Korea Advanced Institute of Science and Technology

M.3.71 (1832)

RAPID CONSTRUCTION OF MULTILAYERED TISSUES ON CURVED SUBSTRATE BY WATER TRANSFER PRINTING

Taisuke Masuda, Natsuki Takei, Hirofumi Owaki, Michiya Matsusaki, Mitsuru Akashi, Fumihito Arai
Nagoya University, Osaka University

M.3.72 (2106)

A PARALLEL ARRAY MICROFLUIDIC BLOOD-BRAIN BARRIER MODEL FOR HIGH-THROUGHPUT QUANTITATION OF SHEAR STRESS EFFECTS

Ross H Booth, Hanseup Kim
University of Utah

M.3.73 (2246)

BIO-INSPIRED MICROSCALE TOPOGRAPHIES ON DRIE DEFINED TITANIUM SURFACE FOR SOFT TISSUE REGENERATION IN IMPLANT DENTISTRY

Feifei Mao, Nannan Li, Shuhui Chen, Yifei Zhang, Shu He, Jing Chen, Shicheng Wei
Peking University School of Stomatology, Institute of Microelectronics , Peking University

M.3.74 (1280)

ANALYSIS OF TRAPPING AND STREAMING IN AN ULTRASOUND-ACTUATED MULTI-WELL MICROPLATE FOR SINGLE-CELL STUDIES

Mathias Ohlin, Athanasia E. Christakou, Thomas Frisk, Björn Önfelt, Martin Wiklund
Royal Institute of Technology

M.3.75 (1423)

UNIFORM AND HIGH THROUGHPUT AGAROSE GEL MICRO DROPLET GENERATION DEVICE FOR SINGLE CELL ANALYSIS

Tomotada Hirose, Yuri Hoshino, Donghyon Yoon, Asahi Nakahara, Tetsushi Mori, Tetsushi Sekiguchi, Haruko Takeyama, Shuichi Shoji
Waseda University

M.3.76 (1933)

MICRODEVICE FOR STUDYING INTERCELLULAR MECHANICAL INTERACTION

Qian Wang, Yi Zhao
Ohio State University

M.3.77 (2024)

HIGH-THROUGHPUT MUTAGENIZED CELL SCREENING SYSTEM CAPABLE OF SELECTIVE SINGLE CELL EXTRACTION

Hyun Soo Kim, Taylor L. Weiss, Timothy P. Devarenne, Arum Han
Texas A & M University

M.3.78 (2138)

PHOTO-ASSISTED MICRO-GLUING FOR ASSEMBLING THREE DIMENSIONAL MICROSTRUCTURES WITH LIVING CELLS

Shotaro Yoshida, Koji Sato, Kaori Kuribayashi-Shigetomi, Tetsuhiko Teshima, Shoji Takeuchi
Institute of Industrial Science, The University of Tokyo, ERATO Takeuchi Biohybrid Innovation Project

M.3.79 (2161)

HUNDRED-FOLD VOLUME CONCENTRATION OF CELLS AND PARTICLES USING CONTINUOUS FLOW MULTISTAGE ACOUSTOPHORESIS

Maria Nordin, Thomas Laurell
Lund University

M.3.80 (1219)

ACOUSTIC TRAPPING EFFICIENCY FOR NANOPARTICLES AND BACTERIA

Mikael Evander, Björn Hammarström, Pelle Ohlsson, Thomas Laurell, Johan Nilsson
Lund University

M.3.81 (1252)

HIGH RESOLUTION SIZE BASED MICRO PARTICLE/CELL SEPARATOR WITH TRAPEZOID CROSS SECTION SPIRAL MICROCHANNELS

Guofeng Guan, Ali Asgar Bhagat, Lidan Wu, Zirui Li, Chong Jin Ong, Peter C. Y. Chen, Jongyoon Han
National University of Singapore, Singapore-MIT Alliance for Research and Technology (SMART),
Massachusetts Institute of Technology

M.3.82 (1340)

A MASS-PRODUCIBLE FILTRATION CHIP FOR ISOLATION OF CIRCULATING TUMOR CELLS FROM HUMAN BLOOD

Cheng-Ming Lin, Pe-Chen Chuang, Chang-Yu Chen, Chen-Lin Chen, Guan-Syuan Huang, Andrew M. Wo
National Taiwan University

M.3.83 (1397)

LABEL-FREE ISOLATION OF CIRCULATING TUMOR CELLS (CTCS) FROM BREAST CANCER PATIENTS USING PARALLEL MULTI-ORIFICE FLOW FRACTIONATION (P-MOFF)

Kyung-A Hyun, Jung-Hyun Lee, Seung-II Kim, Hyo-II Jung
Yonsei University

M.3.84 (1492)

DEVELOPMENT OF A MULTI-COMPARTMENT MICROFILTRATION DEVICE FOR PARTICLE FRACTIONATION

Meng-Chen Lo, Jeffrey D. Zahn
Rutgers, The State University of New Jersey

M.3.85 (1638)

A SIMPLE AND SENSITIVE DETERMINISTIC LATERAL DISPLACEMENT DEVICE FOR RAPID FIELD-DIAGNOSIS OF HUMAN AFRICAN TRYPANOSOMIASIS

Stefan H. Holm, Jason P. Beech, Michael Barrett, Jonas O. Tegenfeldt
Lund University, University of Glasgow, University of Gothenburg

M.3.86 (1685)

CONTINUOUS RARE CELL EXTRACTION USING SELF-RELEASING VORTEX IN AN INERTIAL MICROFLUIDIC DEVICE

Xiao Wang, Jian Zhou, Ian Papautsky
University of Cincinnati

M.3.87 (1890)

QUANTITATIVE ANALYSIS OF DEFORMABILITY-BASED CELL SEPARATION USING DETERMINISTIC LATERAL DISPLACEMENT AND OPTICAL STRETCHING

David Holmes, Graeme Whyte, Thomas Duke
University College London, University of Cambridge

M.3.88 (1899)

HIGH-EFFECIENCY CONTINUOUS PARTICLE SEPARATION USING TILTED INTERDIGITAL TRANSDUCERS

Xiaoyun Ding, Sixing Li, Chung Yu Keith Chan, Tony Jun Huang
The Pennsylvania State University

M.3.89 (1910)

3D PULSED LASER TRIGGERED HIGH SPEED MICROFLUIDIC FLUORESCENCE ACTIVATED CELL SORTER

Yue Chen, Ting-Hsiang Wu, Yu-Chun Kung, Pei-Yu Chiou
University of California, Los Angeles

M.3.90 (2104)

SIZE BASED PARTICLE SEPARATION USING ACOUSTIC MICROSTREAMING AND ALCAT PUMPS

Maulik V. Patel, Arlene Doria, Armando R. Tovar, Abraham P. Lee
University of California at Irvine, Irvine, CA

M.3.91 (2121)

APPLYING MICRODROPLETS AS SENSORS

Tobias W. Hofmann, Sebastian Rausch, Siegfried Hänselmann, Jan-Willi Janiesch, Chi Nguyen, Heike Böhm, Christian H.J. Böhm
Max Planck Institute for Intelligent Systems

M.3.92 (2232)

MULTISTEP BRANCHED-MICROCHANNEL NETWORK FOR PURITY-CONTROLLED BLOOD PLASMA SKIMMING

Kenichi Morimoto, Tatsuhiko Ito, Satoshi Konishi
The University of Tokyo, Ritsumeikan University

M.3.93 (1067)

DYNAMIC THREE-DIMENSIONAL MICROPATTERNED COCULTURE USING PHOTO-CURABLE AND CHEMICALLY-DERADABLE HYDROGELS FOR STEM CELL DIFFERENTIATION

Shinji Sugiura, Jae Min Cha, Fumiki Yanagawa, Pinar Zorlutuna, Hojae Bae, Ali Khademhosseini
Brigham and Women's Hospital, Harvard Medical School, Massachusetts Institute of Technology, National Institute of Advanced Industrial Science and Technology (AIST), Wyss Institute for Biologically Inspired Engineering at Harvard University,

M.3.94 (1200)

MICROFLUIDICS-BASED FORMATION OF HETEROGENEOUS HYDROGEL SHEETS FOR HIGH-DENSITY COCULTURE OF MULTIPLE CELL TYPES

Aoi Kobayashi, Masumi Yamada, Minoru Seki
Chiba University

M.3.95 (1310)

DIGITAL MICROFLUIDIC PLATFORM FOR THE CREATION, MAINTENANCE AND ASSAY OF LIVER-LIKE ORAGANOIDS

Sam H. Au, Shruthi Mahesh, Aaron R. Wheeler
University of Toronto

M.3.96 (1504)

BONE MARROW-ON-A-CHIP

Yu-Suke Torisawa, Catherine S. Spina, James J. Collins, Donald E. Ingber
Wyss Institute for Biologically Inspired Engineering, Harvard University, Boston University School of Medicine

M.3.97 (1626)

ENCAPSULATION OF CELLS TO FEIGN VASCULAR NETWORK FOR LIVER TISSUE ENGINEERING

Shilpa Sivashankar, Srinivasu Valagerahally Puttaswamy, Ciou-Wen Lin, Chien-Yu Fu, Hawn-You Chang, Cheng-Hsien Liu
National Tsing Hua University

M.3.98 (1689)

CELL-LADEN MICROGEL ASSEMBLY BY DIELECTROPHORESIS

Meng-R. Yang, Min-Y. Chiang, Shih-K. Fan

National Chiao Tung University

M.3.99 (2081)

CONSTRUCTION OF VASCULAR TISSUES VIA MULTILAYER CELL DEPOSITION INSIDE HYDROGEL MICROCHANNELS

Masaki Iwase, Masumi Yamada, Minoru Seki

Chiba University

M.3.100 (2251)

GENERATION AND ASSEMBLY OF CELL-LADEN HYDROGELS ON A DIGITAL MICROFLUIDIC PLATFORM

Min-Yu Chiang, Shih-Kang Fan

National Chiao Tung University

M.3.101 (1657)

TUNABLE CELL LYSING OF DENSE BLOOD CELL SAMPLES WITH AIR-LIQUID CAVITY ACOUSTIC TRANSDUCERS

Arlene Doria, Nicholas E. Martin, Abraham P. Lee

University of California, Irvine

M.3.102 (2250)

QUANTITATIVE ANALYSIS OF GENE EXPRESSION LEVEL OF INDIVIDUAL IPS CELLS BY USING ELECTROACTIVE MICROWELL ARRAY

Soo Hyeon Kim Soo Hyeon Kim

University of Tokyo

M.4.104 (1258)

DRY REAGENT PAPER-COUPLED ELECTROPHORESIS MICROCHIP TOWARDS MULTI ASSAY OF BIOLOGICAL COMPONENTS

Yuta Miyahara, Naoki Funouchi, Tatsuro Endo, Hideaki Hisamoto

Osaka Prefecture University

M.4.105 (1328)

FAST ANALYSIS OF BIOLOGICAL COMPOUNDS BY GRADIENT LIQUID CHROMATOGRAPHY USING PILLAR ARRAY COLUMN

Yanting Song, Masao Noguchi, Katsuya Takatsuki, Tetsushi Sekiguchi, Jun Mizuno, Takashi Funatsu, Shuichi Shoji, Makoto Tsunoda

University of Tokyo, Waseda University

M.4.106 (1702)

EFFECT OF BLOOD CELL SEDIMENTATION ON IMMUNMAGNETIC ISOLATION OF CIRCULATING TUMOR CELLS IN MICROFLUIDIC CHANNELS

Peng Chen, Kazunori Hoshino, Yu-Yen Huang, John Xiaoqing Zhang

The University of Texas at Austin

M.4.108 (1842)

RNA FROM BLOOD: ADDRESSING A MAJOR CHALLENGE IN MICROFLUIDIC SAMPLE PREPARATION

Anita Rogacs, Juan G. Santiago

Stanford University

M.4.109 (1859)

FLOW FIELD EFFECT TRANSISTOR WITH POLARISABLE INTERFACE FOR ENHANCED SAMPLE SORTING IN MICRO-TAS

Sébastien Méance, Adrien Plecis, Syrine Chebil, Sonia Korchane, Issam Charhrouchni, Antoine Pallandre, Anne-Marie Haghiri-Gosnet

Laboratoire de Photonique et de Nanostructures, CNRS – UPR 20, Elvysys, Pépinière Paris Santé Cochin, Univ Paris Sud, Faculté de Pharmacie, CNRS – UMR 8612

M.4.110 (2015)

SUB-MILLISECOND SEPARATION OF DNA AND MICRO-RNA BY NANOPILLER ARRAY CHIPS

Qiong Wu, Takao Yasui, Sakon Rahong, Takeshi Yanagida, Masaki Kanai, Yukihiro Okamoto, Noritada Kaji, Manabu Tokeshi, Tomoji Kawai, Yoshinobu Baba

Nagoya University, Osaka University, Hokkaido Univeristy, National Institute of Advanced Industrial Science and Technology (AIST),

M.4.111 (2051)

CREATION OF A CELL-BASED SEPARATION MICRODEVICE USING HUMAN RENAL PROXIMAL TUBULE EPITHELIAL CELLS

Xiaofang Gao, Kazuma Mawatari, Yutaka Kazoe, Yo Tanaka, Takehiko Kitamori

The University of Tokyo, Quantitative Biology Center, RIKEN

M.4.112 (2072)

VIRUS DETECTION BY ON-CHIP HYDROXYAPATITE CHROMATOGRAPHY

Miyako Niimi, Taisuke Masuda, Kunihiro Kaihatsu, Nobuo Kato, Fumihito Arai

Nagoya University, Osaka University

M.4.113 (1100)

A CHEMICAL OSCILLATOR IN A NANO-LITER SCALE MICROFLUIDIC OPEN REACTOR

Jean-Christophe Galas, Andre Estevez-Torres

CNRS Lab. de Photonique et de Nanostructures

M.4.114 (1416)

AN INTEGRATED MICROSYSTEM FOR ALLELE-SPECIFIC PCR AMPLIFICATION OF GENOMIC DNA FROM HUMAN BLOOD

Benjamin Jones, Hiroyuki Tanaka, Sara Peeters, Paolo Fiorini, Bivragh Majeed, Ichiro Yamashita, Maaikje Op De Beeck, Chris Van Hoof

IMEC v.z.w., Panasonic Corporation

M.4.115 (1615)

A MICROFLUIDIC-BASED THERMAL DIGESTION CHIP FOR DISSOLVED ORGANIC NITROGEN DETECTION

Jianhua Tong, Tian Dong, Chao Bian, Jizhou Sun, Shanhong Xia

Institute of Electronics, Chinese Academy of Sciences, Graduate University of Chinese Academy of Sciences

M.4.116 (2224)

MULTI-STEP ORGANIC SYNTHESSES OF DIVERSE MOLECULAR PROBES IN DIGITAL MICROFLUIDIC DEVICES

Hee-Kwon Kim, Supin Chen, Muhammad Rashed Javed, Jack Lei, Chang-Jin Kim, Pei Yui Keng, R. Michael Van Dam

Crump Institute for Molecular Imaging, University of California Los Angeles, University of California Los Angeles

M.4.117 (2244)

ELECTROKINETICALLY ACTUATED, HEATED MICROREACTOR FOR METABOLOMICS

Tiina M. Sikanen, Maria-Elisa Moilanen, Susanna Aura, Tapio Kotiaho, Sami Franssila, Risto Kostianen

University of Helsinki, Aalto University

M.4.118 (1269)

STRAIGHTFORWARD MODULATION OF TWO DIMENSIONALLY FEATURED MICROFIBERS USING OPTOFLUIDIC SYSTEM FOR MULTIPLEX IMMUNOASSAYS

Soojeong Cho, Tae Soup Shim, Seung-Man Yang

KAIST

M.4.119 (1798)

DROPLET MICROFLUIDICS WITH INTEGRATED GAS-PERMEABLE MEMBRANES FOR NANOMATERIALS SYNTHESIS WITH REACTIVE GASES

Prasanna Ganesan Krishnamurthy, Md. Taifur Rahman, Pravien Parthiban, Abhinav Jain, Chan P. Park, Dong-Pyo Kim, Saif A. Khan

National University of Singapore, The Queen's University of Belfast, Chungnam National University, Pohang University of Science and Technology,

M.4.120 (2111)

SOLID PHASE [18F] FLUORINATION ON A FLOW-THROUGH GLASS MICROFLUIDIC CHIP

Rehana Ismail, Ariella Machness, R. Michael Van Dam, Pei Yuin Keng

University of California, Los Angeles CA

M.4.121 (1238)

A CONTINUOUS FLOW "RAIL-AND-TRAP" SYSTEM FOR AUTONOMOUS BEAD-BASED MICROFLUIDIC MIXING AND VISUALIZATION

Ryan D. Sochol, William E.R. Krieger, Mengqian Liu, Sarah Hesse, Jonathan Lei, Luke P. Lee, Liwei Lin

University of California, Berkeley

M.4.122 (1875)

PORTABLE AUTOMATED OSMOLALITY AND PH ADJUSTING APPARATUS FOR PRETREATMENT OF ENVIRONMENTAL WATER SAMPLES DELIVERED INTO A CELL-BASED BIOSENSOR

Sara Talaei, Yusaku Fujii, Frederic Truffer, Peter D. Van Der Wal, Nico F. De Rooij

Ecole Polytechnique Federale de Lausanne, University of Tokyo, University of Applied Sciences

M.4.123 (1941)

MEMS VISCOSITY SENSOR USING DUAL SPIRAL SHAPED VIBRATING STRUCTURE

Yasuyuki Yamamoto, Sohei Matsumoto, Hiroshi Yabuno, Masaharu Kuroda, Kenichi Fujii, Tomoko Yamamoto

Advanced Industrial Science and Technology(Aist), Keio University

M.4.124 (2084)

FLOW-THROUGH MICROFLUIDIC DIGITAL IMPEDANCE DETECTION

Vincent Liang, Suh Woo, Curtis Wu, Saman Sadeghi, Michael R Van Dam

UCLA

M.5.125 (1074)

FABRICATION OF STRUCTURAL COLORED MONO-DISPERSED SPHERICAL ASSEMBLIES AND STRUCTURAL COLOR BY USING MICROFLOW DEVICE.

Midori Teshima, Yukikazu Takeoka, Takahiro Seki, Ryuji Kawano, Shinya Yoshioka, Shoji Takeuchi

Nagoya University, Kanagawa Academy of Science and Technology, Osaka University, Institute of Industrial Science, the University of Tokyo,

M.5.126 (1089)

3D MICROCOIL FABRICATED ON THE CAPILLARY SURFACE BY CYLINDRICAL PROJECTION LITHOGRAPHY FOR NMR APPLICATION

Zhuoqing Yang, Shogo Uchiyama, Yi Zhang, Masaori Hayasei, Toshihiro Itoh, Ryutaro Maeda

National Institute of Advanced Industrial Science and Technology (AIST), Shanghai Jiao Tong University, Tokyo University of Science

M.5.127 (1402)

DEVELOPMENT OF GATING NANOPORE TOWARDS SINGLE-BIOMOLECULE ELECTRICAL IDENTIFICATION

Yuta Sasaki, Takahito Ohshiro, Satoyuki Kawano, Masateru Taniguchi, Tomoji Kawai

Osaka University, ISIR, Osaka University, School of Engineering Science

M.5.128 (1647)

SIMPLE AND LOW-COST FABRICATION PROTOCOL FOR PRODUCING 100S OF PNEUMATIC MICROVALVES IN ALL-PDMS SUBSTRATES FOR MICROFLUIDICS RESEARCH

Raheel Samuel, Colin Thacker, Andres Villu Maricq, Bruce Kent Gale

University of Utah

M.5.129 (1759)

ONE-STEP MULTI-DEPTH POLYSTYRENE MOLDS FOR PDMS SOFT-LITHOGRAPHY THROUGH LASER-INDUCED BUMPING

Huawei Li, Yiqiang Fan, Ian G. Foulds

King Abdullah University of Science and Technology

M.5.130 (1870)

A DOUBLE-SIDED MICROMOLDING PROCESS FOR REPRODUCIBLE MANUFACTURING OF THIN LAYERS WITH 3D MICROCHANNELS IN PDMS

J Mikael Karlsson, Tommy Haraldsson, Carl Fredrik Carlborg, Wouter Van Der Wijngaart
KTH Royal Institute of Technology

M.5.131 (1954)

A HIGHLY EFFICIENT 3D MICROMIXER FABRICATED BY STANDARD SOFT-LITHOGRAPHY EQUIPMENT

Toyohiro Naito, Rerngchai Arayanarakool, Noritada Kaji, S 棧 erine Le Gac, Manabu Tokeshi, Albert Van Den Berg, Yoshinobu Baba
Nagoya University, University of Twente, Hokkaido University

M.5.132 (2021)

FAST AND VERSATILE FABRICATION OF PDMS NANOWRINKLING STRUCTURES

Kang Wei, Yi Zhao
Ohio State University

M.5.134 (2193)

THIN FILM PATTERNING USING A WATER-SOLUBLE ETCH MASK

Samantha M. Grist, Lukas Chrostowski, Karen C. Cheung
The University of British Columbia

M.5.135 (1072)

A PHOTODEGRADABLE HYDROGEL SHEET FOR MICROSCALE OPTICAL CONTROL OF CELL ADHESION AND DETACHMENT

Shinji Sugiura, Toshiyuki Takagi, Manae Yamaguchi, Kimio Sumaru, Toshiyuki Kanamori
National Institute of Advanced Industrial Science and Technology (AIST)

M.5.136 (1192)

COMPLEX MODULUS OF PDMS AND ITS APPLICATION IN CELLULAR FORCE MEASUREMENTS

Ping Du, Chen Cheng, Hongbing Lu, Xin Zhang
Boston University, University of Texas at Dallas

M.5.137 (1780)

RAPID PERMANENT HYDROPHILIC AND HYDROPHOBIC PATTERNING OF POLYMER SURFACES VIA OFF-STOICHIOMETRY THIOL-ENE (OSTE) PHOTOGRAFTING

Carl Fredrik Carlborg, Francisca Moraga, Farizah Saharil, Wouter Van Der Wijngaart, Tommy Haraldsson
KTH Royal Institute of Technology

M.5.138 (2060)

TWO-STEP FABRICATION OF MICROCHANNEL USING PHOTO-ACID-GENERATOR-FUNCTIONALIZED GEL

Taku Satoh, Kimio Sumaru, Toshiyuki Takagi, Toshiyuki Kanamori
National Institute of Advanced Industrial Science and Technology

M.5.139 (1118)

RAPID PERFUSION SYSTEM FOR INHIBITION INVESTIGATION OF MEMBRANE PROTEINS IN PLANAR LIPID BILAYER

Yutaro Tsuji, Ryuji Kawano, Toshihisa Osaki, Koki Kamiya, Norihisa Miki, Shoji Takeuchi
Kanagawa Academy of Science and Technology, The University of Tokyo, Keio University

M.5.140 (1220)

MICROFLUIDIC POLYIMIDE CHIPS FABRICATED BY LAMINATION PROCESSES FOR X-RAY ANALYSIS APPLICATIONS

Gerardo Perozziello, Rossella Catalano, Giuseppina Simone, Patrizio Candeloro, Natalia Malara, Francesco De Angelis, Stefania Santoriello, Rosanna La Rocca, Christian Riekel, Enzo Di Fabrizio
University of Catanzaro, Univerity of Naples (Federico II), Italian Institute of Technology, European Synchrotron Radiation Facility,

M.5.142 (1580)

THERMAL BONDING OF POLYMER MICRODEVICES USING A PRESSURE-ASSISTED BOILING POINT CONTROL SYSTEM

Taehyun Park, In-Hyounk Song, Daniel Sangwon Park, Byoung Hee You, Michael C. Murphy
Louisiana State University, Texas State University

M.5.143 (1712)

CELLULAR MECHANICAL IMEPEDANCE MEASUREMENT BY ROBOT INTEGRATED MICROFLUIDIC CHIP WITH WIDTH TUNABLE MICROCHANNEL

Shinya Sakuma, Makoto Kaneko, Fumihito Arai
Nagoya University, Osaka University

M.5.144 (2248)

DEFORMABLE-CHANNEL CLOSED-LOOP MICROFLUIDIC PLATFORM FOR CONTINUOUS AND CONSTANT-PRESSURE FLUID CIRCULATION

Hyun-Tae Kim, Jiyounng Son, Hanseup Kim
University of Utah

M.5.145 (1098)

MICROFLUIDIC GLUCOSE DETECTION WITH AN LASER-INDUCED FLUORESCENCE DETECTION DEVICES

Toshihiro Kamei, Sachiko Ito, Masayo Ogiso, Ryo Takigawa, Takeshi Kobayashi, Ryutaro Maeda
National Institute of Advanced Industrial Science and Technology (AIST)

M.6.146 (1414)

DEVELOPMENT OF DIELECTRIC CONSTANT MEASUREMENT METHOD FOR UNIQUE REACTION IN EXTENDED-NANO SPACE

Kyojiro Morikawa, Yutaka Kazoe, Kazuma Mawatari, Takehiko Tsukahara, Takehiko Kitamori
The University of Tokyo, Tokyo Institute of Technology

M.6.147 (1751)

SELF-REGENERATING PHOTOCATALYTIC SENSOR BASED ON DIELECTROPHORETICALLY ASSEMBLED TIO₂ NANOWIRES FOR VAPOR POLLUANT SENSING

Shengqin Wang, Zi-Xiang Lin, Chien Lin Kuo, Kuo Chu Hwang, Chien-Chong Hong
National Tsing Hua University, National Tsing Hua University

M.6.148 (2236)

INTRANEURONAL TRANSPORT IN VITRO: DEVELOPMENT OF A HIGLY SENSITIVE MICROTUBULE BASED ASSAY

Mehmet C Tarhan, Yslam Orazov, Ryuji Yokokawa, Stanislav L. Karsten, Hiroyuki Fujita
The University of Tokyo, Kyoto University, NeuroInDx, Inc.

M.6.149 (1021)

SINGLE CELL-LIPOSOME FUSION FOR DELIVERY OF MOLECULES INTO THE CYTOSOL

Phillip Kuhn, Klaus Eyer, Petra S. Dittrich
ETH Zurich

M.6.150 (1346)

PATTERNING OF BIOMOLECULES IN EXTENDED NANOCHANNEL USING LOW-TEMPERATURE BONDING

Kentaro Shirai, Kazuma Mawatari, Takehiko Kitamori
The University of Tokyo

M.6.151 (1707)

COLORIMETRIC SCREENING OF OLIGONUCLEOTIDE BASED ON THE HYBRIDIZATION-MEDIATED GROWTH SIZE OF GOLD NANOPARTICLE PROBES

Wei-Feng Fang, Jing-Tang Yang
National Taiwan University

M.6.152 (1797)

ELECTRODE NANOGAP ENHANCED AND DIELECTROPHORESIS-ENABLED RAMAN SPECTROSCOPY OF SINGLE BIOMOLECULES WITH SIMULTANEOUS REAL-TIME ELECTRONIC MONITORING

Leonardo Lesser-Rojas, Andreas Erbe, Petra Ebbinghaus, Ming-Lee Chu, Chia-Fu Chou
Nanoscience and Technology Program (TIGP), Academia Sinica, National Tsing Hua University, Max-Planck Institute for Iron Research, Institute of Physics, Academia Sinica, Research Center for Applied Sciences, Academia Sinica

M.6.153 (1968)

DEVELOPMENT OF METHOD FOR SIMULTANEOUS MEASUREMENT OF VISCOSITY AND SURFACE TENSION FORCE IN BIO-MIMETIC EXTENDED-NANO SPACE

Lixiao Li, Yutaka Kazoe, Kazuma Mawatari, Yasuhiko Sugii, Takehiko Kitamori
The University of Tokyo

M.6.154 (2226)

WASHING-FREE ALL-IN-ONE IMMUNOSTAINING REACTION OF MULTI-STEP QUANTUM DOT LABELING REAGENTS

Seyong Kwon, Chang Hyun Cho, Je-Kyun Park
KAIST

M.6.155 (1729)

MICROFLUIDIC SYNTHESIS OF MULTI-LAYER NANOPARTICLES FOR DRUG & GENE DELIVERY

Peggy P.Y. Chan, Aisha Qi, Anushi Rajapaksa, James Friend, Leslie Yeo
RMIT University, Monash University

M.7.156 (1150)

INTRAOCULAR PRESSURE SENSORS: NEW APPROACHES FOR REAL-TIME INTRAOCULAR PRESSURE MEASUREMENT USING A PURELY MICROFLUIDIC CHIP

Keng-Min Lin, Himanshu J. Sant, Balamurali K. Ambati, Bruce K. Gale
University of Utah

M.7.158 (1687)

DEVELOPMENT OF OPTO-CHEMICAL MICROSCOPE SYSTEM FOR SPATIO-TEMPORAL ANALYSIS OF SIGNALS IN SELF-ORGANIZED NEURONS

Takashi Sakurai, Hidenori Taki, Junpei Nishimoto, Kazuhiro Takahashi, Makoto Ishida, Koichi Okumura, Kazuaki Sawada
Toyohashi University of Technology

M.7.159 (1952)

EPETRI PLATFORM FOR CONTINUOUS ON-CHIP MONITORING OF MICROORGANISMS

Seung Ah Lee, Seung Ah Lee, Guoan Zheng, Nandini Mukherjee, Changhuei Yang
California Institute of Technology

M.7.160 (1960)

VACUUM FLOW FOCUSING MICROFLUIDICS TO STUDY BLOOD CELL DYNAMICS UNDER SHEAR GRADIENT AGGREGATION MECHANISM

Francisco J Tovar, Mahyar Nasabi, Khashahyar Khoshmanesh, Gary Rosengarten, Shaun P Jackson, Warwick S Nesbitt, Arnan Mitchell
RMIT University, The Australian Centre for Blood Diseases, Monash University

M.7.161 (1989)

DESIGN OF OPTO-MECHANICAL MICRO TRANSDUCER FOR CELL CULTURE AND IN PLANE FORCE MEASUREMENT

Xiaoyu Zheng, Xin Zhang
Boston University

M.7.162 (1236)

LABEL-FREE THROMBIN DETECTION IN A MICROCHANNEL USING APTAMER MODIFIED GRAPHENE OXIDE SURFACE

Yuko Ueno, Kazuaki Furukawa, Suzuyo Inoue, Katsuyoshi Hayashi, Hiroki Hibino, Emi Tamechika
NTT Microsystem Integration Laboratories, NTT Basic Research Laboratories

M.7.163 (1516)

BACTERIAL SENSING USING PHAGE-FUNCTIONALIZED WHISPERING GALLERY MICROCAVITIES

Hala Ghali, Pablo Bianucci, Hicham Chibli, Jay L. Nadeau, Yves-Alain Peter

Ecole Polytechnique de Montr ́al, McGill University

M.7.164 (1577)

HIGH-THROUGHPUT ANALYSIS OF PROTEIN-PROTEIN INTERACTIONS IN DROPLET-BASED MICROFLUIDICS USING FLUORESCENCE POLARIZATION

Jae-Won Choi, Hyun Park, Dong-Ku Kang, Andrew J. Demello, Soo-Ik Chang

Chungbuk National University, University of California, Irvine, ETH Z ́urich

M.7.165 (1631)

DUAL FORCE AGGREGATION OF MAGNETIC PARTICLES FOR LABEL-FREE DETECTION AND QUANTIFICATION OF DNA THROUGH IMAGE ANALYSIS

Daniel A. Nelson, Briony C. Strachan, Hillary S. Sloane, Jingyi Li, James P. Landers

University of Virginia

M.7.166 (2243)

GLASS NANOPILLAR ARRAY BASED NANOPLASMONIC LAB-ON-A-CHIP FOR HIGHLY SENSITIVE SURFACE ENHANCED RAMAN SPECTROSCOPY

Young-Jae Oh, Jae-Jun Kim, Ki-Hun Jeong

KAIST

M.7.167 (1802)

A NEW SOLUTION-PHASE ELECTROCHEMICAL DNA DETECTION PLATFORM WITH TARGET RECYCLING-BASED SIGNAL AMPLIFICATION

Feng Xuan, Xiaoteng Luo, I-Ming Hsing

The Hong Kong University of Science and Technology

M.7.168 (1909)

COPPER-BASED SENSOR FOR POINT-OF-CARE MEASUREMENT OF ZINC IN SERUM

Xing Pei, Wenjing Kang, Wei Yue, Adam Bange, Hector R. Wong, William R. Heineman, Ian Papautsky

University of Cincinnati, University of Cincinnati, Xavier University, Cincinnati Children's Hospital,

M.7.169 (2090)

DETECTION OF METALLIC ELEMENTS IN A SINGLE CANCER CELL USING MICROFLUIDIC DEVICES COUPLED WITH ICP-MS

Yoshiyuki Miyazaki, Takao Yasui, Kazumi Inagaki, Yukihiro Okamoto, Noritada Kaji, Tomonari Umemura, Manabu Tokeshi, Yoshinobu Baba

Nagoya University, National Institute of Advanced Industrial Science and Technology (AIST), Hokkaido University

M.7.170 (1372)

REAL-TIME FISH USING OPTICALLY-DRIVEN MICROSPHERES FUNCTIONALIZED BY THE HOMOLOGOUS RECOMBINATION PROTEIN, RECA

Hidehiro Oana, Tatsuya Shino, Kaori Nishikawa, Masao Washizu

University of Tokyo

M.7.171 (1505)

GOLD NANOPARTICLE-BASED HYDROGEL CONTRAST AGENT PARTICLES WITH TUNABLE ELASTICITY FOR X-RAY COMPUTED TOMOGRAPHY IMAGING

Congshun Wang, Xiaoning Wang, Stephan Anderson, Xin Zhang

Boston University, Boston Medical Center

M.8.172 (1166)

SUB-ATTOMOLE DETECTION OF MICRORNA IN TWENTY MINUTES USING POWER-FREE MICROFLUIDIC CHIP: TOWARDS POINT-OF-CARE TESTING

Hideyuki Arata, Hiroshi Komatsu, Kazuo Hosokawa, Mizuo Maeda

RIKEN (Institute for Physical and Chemical Research)

M.8.173 (1225)

DNA BASED SAMPLE-TO-ANSWER DETECTION OF BACTERIAL PATHOGENS ON A CENTRIFUGAL MICROFLUIDIC FOIL CARTRIDGE

Oliver Strohmeier, Buelent Kanat, Dominik Baer, Pranav Patel, Josef Drexler, Thomas Van Oordt, Guenter Roth, Daniel Mark, Roland Zengerle, Felix Von Stetten
HSG-IMIT Institut für Mikro- und Informationstechnik, IMTEK, University of Freiburg, Robert Koch Institut, Centre for Biological Security, QIAGEN Lake Constance,

M.8.174 (1419)

SAMPLE-TO-ANSWER LABDISK FOR POINT-OF-CARE ANALYSIS OF TOTAL CHOLESTEROL FROM WHOLE BLOOD

Markus Rombach, Daniel Mark, Guenter Roth, Roland Zengerle, Felix Von Stetten
HSG-IMIT - Institut fuer Mikro- und Informationstechnik, University of Freiburg - Laboratory for MEMS applications

M.8.175 (1502)

A MULTI-STEP IMMUNOASSAY USING DRY, PATTERNED REAGENTS IN A TWO-DIMENSIONAL PAPER NETWORK FORMAT

Gina E Fridley, Huy Le, Elain Fu, Paul Yager
University of Washington

M.8.176 (1684)

DISSOLVABLE FLUIDIC TIME DELAYS FOR AUTOMATED PAPER DIAGNOSTICS

Barry R. Lutz, Tinny Liang, Elain S. Fu, Peter Kauffman, Paul Yager
University of Washington

M.8.178 (1917)

STATIONARY FLUIDICS: MOVING TARGET MOLECULES ON BEADS THROUGH NON-MOVING LIQUIDS FOR MOLECULAR DIAGNOSTIC ASSAYS

Holger Becker, Cornelia Carstens, Dirk Kuhlmeier, Christian Zilch, Claudia Gärtner
microfluidic ChipShop, Fraunhofer Institut for Cell Therapy and Immunology, Magna Diagnostics

M.8.179 (2210)

INTEGRATED BLOOD PRETREATMENT MODULE OF DUAL FUNCTION USING ANTI-BLOOD SERUM AND ALBUMIN-ADSORPTION BEADS

Yo Han Choi, Kwang Hyo Chung, Jung Hoon Shin, Gun Yong Sung
Electronics and Telecommunications Research Institute, Korea Advanced Institute of Science and Technology

M.8.180 (2252)

DNA MELTING CURVE ANALYSIS ON SEMI-TRANSPARENT THIN FILM MICROHEATER ON FLEXIBLE LAB-ON-FOIL SUBSTRATE

Anna Ohlander, Tobias Hammerle, Gerhard Klink, Caterina Zilio, Marcella Chiari, F Damin, Aman Russom, Karlheinz Bock
Fraunhofer Research Institution for Modular Solid State Technologies EMFT, Royal Institute of Technology, TU Berlin, Center for Technologies of Microperipherics, Istituti di Chimica di Riconoscimento Molecolare-CNR,

M.8.181 (1036)

PINWHEEL ASSAY FOR COST EFFECTIVE AND LABEL-FREE ENUMERATION OF CD4+ T LYMPHOCYTES

Qian Liu, Jingyi Li, Doris Haverstick, James P. Landers

University of Virginia

M.8.182 (1141)

MICROFLUIDIC SAMPLE PREPARATION OF PLEURAL EFFUSIONS FOR CYTODIAGNOSTICS

Albert J. Mach, Derek E. Go, James Che, Ish Talati, Yong Ying, Raj Kulkarni, Jianyu Rao, Dino Di Carlo
University of California, Los Angeles

M.8.183 (1172)

DESIGN AND SYNTHESIS OF FLUORESCENT ENZYME SUBSTRATE MONOMER AND ITS APPLICATION TO THE DEVELOPMENT OF HYDROGEL-BASED SINGLE STEP IMMUNOASSAY MICRODEVICE

Hideki Wakayama, Seiji Odaka, Shunichi Funano, Terence G. Henares, Tatsuro Endo, Hideaki Hisamoto
Osaka Prefecture University

M.8.184 (1858)

FABRICATION OF CAPILLARY-DRIVEN TONER-BASED MICROFLUIDIC DEVICES FOR DIAGNOSTICS WITH COLORIMETRIC DETECTION

Fabricio Ribeiro De Souza, Guilherme Liberato Alves, Karoliny Almeida Oliveira, Paula Beatriz Medrado E Silva, Wendell K. T. Coltro

Institute of Chemistry, Federal University of Goias

M.8.185 (2010)

RAPID URINE-BASED CLINICAL DIAGNOSIS OF DIABETIC NEPHROPATHY WITH FEMTO-MOLAR SENSITIVITY BY IMMUNOPILLAR DEVICES

Miaomiao Sun, Toshihiro Kasama, Yukio Yuzawa, Shin-Ichi Akiyama, Seiichi Matsuo, Noritada Kaji, Manabu Tokeshi, Yoshinobu Baba

Nagoya University, Fujita Health University, Hokkaido University

M.8.186 (2181)

A MICROFLUIDIC DEVICE TO MULTIPLEX TUMOR BIOPSY TISSUE FOR PERSONALIZED CHEMOTHERAPY

Tim Chang, Raymond J. Monnat, Albert Folch

University of Washington

M.8.187 (2240)

RAPID ANTIBIOTIC SUSCEPTIBILITY TEST BASED ON THE MICROFLUIDIC AGAROSE CHANNEL WITH SINGLE CELL IMAGING PROCESS

Jungil Choi, Yong-Gyun Jung, Hunjong Na, Jeewoo Kim, Sungbum Kim, Ushin Jung, Sunghoon Kwon

Seoul National University, QuantaMatrix Inc

M.8.188 (1087)

INTEGRATION OF NEURAMINIDASE INHIBITOR ASSAY INTO SINGLE STEP OPERATION USING COMBINABLE PDMS CAPILLARY (CPC) SENSOR

Tadashi Ishimoto, Kaede Jigawa, Terence G. Henares, Tatsuro Endo, Hideaki Hisamoto

Osaka Prefecture University

M.8.189 (1594)

MICROFLUIDIC BIOMIMETIC ARTERIOLAR NETWORKS TO STUDY DRUG ELUTION FROM EMBOLISATION BEADS

Dario Carugo, Bibhas Roy, Lorenzo Capretto, Martyn Hill, Tapas K. Maiti, Suman Chakraborty, Xunli Zhang

University of Southampton, Indian Institute of Technology Kharagpur

M.8.190 (1618)

DEVELOPMENT OF PROGRAMMABLE BIOSENSOR USING SOLID PHASE PEPTIDE SYNTHESIS ON MICROCHIP

Rahul Bhardwaj, Yoshiaki Ukita, Yuzuru Takamura

JAPAN ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY

M.8.191 (1692)

ACCELERATED SEPSIS DIAGNOSIS BY SEAMLESS INTEGRATION OF DNA PURIFICATION AND QPCR

Bang-Ning Hsu, Andrew C. Madison, Richard B. Fair

Duke University

M.8.192 (2141)

A HIGH-SPEED HIGH-PERFORMANCE FULLY INTEGRATED RT-PCR MICROCHIP

Nari Han, Ki-Ho Han

Inje University

M.8.193 (2272)

INTEGRATED MICROFLUIDIC HUB FOR AUTOMATED PREPARATION OF DNA LIBRARIES FOR PERSONALIZED SEQUENCING SYSTEMS

Mais J. Jebrail, Hanyoung Kim, Numrin Thaitrong, Michael S. Bartsch, Ronald F. Renzi, Kamlesh D. Patel

Sandia National Laboratories

M.9.194 (2013)
HUMAN BODY HEAT ENERGY HARVESTING USING FLEXIBLE THERMOELECTRIC GENERATOR FOR AUTONOMOUS MICROSYSTEMS
Sung-Eun Jo, Myoung-Soo Kim, Min-Ki Kim, Yong-Jun Kim
Yonsei University

M.9.195 (1019)
ANALYSIS OF POLYCHLORINATED BIPHENYLS IN OIL USING MICROFLUIDIC BASED PRETREATMENT METHOD AND IMMUNOASSAY
Arata Aota, Yasumoto Date, Shingo Terakado, Naoya Ohmura
Central Research Institute of Electric Power Industry

M.9.196 (1330)
PORTABLE MEMBRANE PROTEIN CHIP: DEVELOPMENT OF MEMBRANE PROTEIN SENSORS FOR ENVIRONMENT ANALYSIS
Ryuji Kawano, Yutaro Tsuji, Toshihisa Osaki, Koki Kamiya, Norihisa Miki, Yoke Tanaka, Shoji Takeuchi
Kanagawa Academy of Science and Technology (KAST), University of Tokyo, Keio University, Tecella,

M.9.197 (2025)
ION-SELECTIVE MEMBRANE FORMED IN A MICROFLUIDIC CHIP UTILIZING SURFACE TENSION FORCE FOR HIGH SENSITIVE AMMONIA ION SENSING
Ting-Yi Chiang, Che-Hsin Lin
University of Sun Yat-sen, University of Sun Yat-sen

M.9.198 (1401)
MULTIPLE PATHOGEN DETECTIONS FOR POULTRY BY USING AN INTEGRATED MICROFLUIDIC SYSTEM
Yi-Chih Su, Chih-Hung Wang, Wen-Hsin Chang, Long-Huw Lee, Gwo-Bin Lee
National Tsing Hua University, National Chung Hsing University

M.9.199 (1304)
IMPLANTABLE DEVICE FOR PREVENTION OF LATE-PHASE HEMORRHAGIC SHOCK USING A NOVEL NON-ENZYMATIC FUEL CELL
Vlad Oncescu, Seoho Lee, David Erickson
Cornell University

M.9.200 (1611)
EVALUATION OF ETHANOL TOXICITY TO OIL PRODUCING ALGAE USING A MICROFLUIDIC DEVICE
Katsuo Mogi, Teruo Fujii
The University of Tokyo

M.9.201 (1663)
PATTERNED MICROCLEANSING AND PARTICLE RECOVERY WITH OPEN ACOUSTIC MICROFLUIDICS
Arlene Doria, Nicholas E. Martin, Abraham P. Lee
University of California, Irvine

Tuesday, October 30

Poster Session 2 13:45-16:00

T.1.1 (1006)
WATER DROPLET MANIPULATION BY TUNABLE WETTING ON SMART POLYMER AT ULTRA-LOW VOLTAGES
Yao-Tsan Tsai, Chng-Hwan Choi, Eui-Hyeok Yang
Stevens Institute of Technology

T.1.2 (1230)
DEVELOPING OF A DISPOSABLE MICROFLUIDIC PLATFORM FOR SERIAL DILUTION IN POINT-OF-CARE TESTING
Yiwen Ouyang, Jingyi Li, Christopher Phaneuf, Shibo Wang, Paul S. Riehl, James P. Landers
University of Virginia, Georgia Institute of Technology

T.1.3 (1291)

MICROFLUIDIC CENTRIFUGO-PNEUMATIC SIPHON ENABLES FAST BLOOD PLASMA EXTRACTION WITH HIGH YIELD AND PURITY

Steffen Zehle, Markus Rombach, Felix Von Stetten, Roland Zengerle, Nils Paust
HSG-IMIT - Institut fuer Mikro- und Informationstechnik

T.1.4 (1406)

ICE DROPLET COLLIDER: ULTIMATE ACCELERATION OF DROPLET USING MICROSCALE PHASE TRANSITION FOR CHEMICAL REACTION BY KINETIC ENERGY

Takumi Matsuno, Yutaka Kazoe, Kazuma Mawatari, Takehiko Kitamori
The University of Tokyo

T.1.5 (1918)

FABRICATION OF DISPOSABLE ELECTROPHORESIS MICROCHIPS BASED ON USING OF COLORED TONER

Ellen F. Moreira Gabriel, Emanuel Carrilho, Claudimir Lucio Do Lago, Wendell Karlos T. Coltro
Institute of Chemistry, Federal University of Goias, Institute of Chemistry at Sao Carlos, University of Sao Paulo, Institute of Chemistry, University of Sao Paulo

T.1.6 (1948)

INSTANTANEOUS SOLIDIFICATION OF A CENTRIFUGE-DRIVEN CAPILLARY JET WITH CONTROLLED HYDRODYNAMIC INSTABILITY IN A CENTRIFUGE-BASED DROPLET SHOOTING DEVICE THROUGH OBSERVATIONAL ANALYSIS

Kazuki Maeda, Hiroaki Onoe, Masahiro Takinoue, Shoji Takeuchi
Institute of Industrial Science, The University of Tokyo, Tokyo Institute of Technology

T.1.7 (1987)

INDIRECT MANIPULATION OF PARTICLES USING A SCANNING OPTOFLUIDIC TWEEZER

G.K. Kurup, Amar S. Basu
Wayne State University

T.1.8 (2036)

A MULTIFUNCTIONAL VENT VALVE SYSTEM IN A CENTRIFUGAL MICROFLUIDIC PLATFORM

Shu-Sheng Lin, Wei-Hao Lian, Chen-Lin Chen, Cheng-Wei Yang, Andrew M. Wo
National Taiwan University

T.1.9 (2074)

NOVEL NON-EQUILIBRIUM ELECTROKINETIC MICROMIXER WITH NANOPOROUS MEMBRANE FABRICATED BY LASER POLYMERIZATION TECHNIQUE

Sangbeom Hwang, Simon Song
Hanyang University

T.1.10 (2211)

JANUS HYDROGEL BEADS FOR ELECTRONIC PAPER USING SHRINKAGE-GELATION TECHNIQUE

Kyouhei Aketagawa, Hirotada Hiramata, Hiroyuki Moriguchi, Toru Torii
The University of Tokyo, RIKEN

T.1.11 (2234)

CENTRIFUGAL MULTIPLEX FIXED-VOLUME DISPENSER (C-MUFID) ON A DISPOSABLE PLASTIC LAB-ON-A-DISK FOR BIOCHEMICAL ASSAY

Moonwoo La, Kyoung Duck Seo, Dong Sung Kim
Pohang University of Science and Technology

T.1.12 (1530)

MECHANISTIC CHARACTERIZATION OF ALTERNATING CURRENT CLOUD POINT EXTRACTION IN A MICROCHANNEL: EXTRACTION UNDER PHYSIOLOGICAL TEMPERATURE

Naoki Sasaki, Azusa Takemura, Kae Sato
Japan Women's University

T.1.13 (1572)

NOVEL SIMULATION TOOL COUPLING NON-LINEAR ELECTROPHORESIS AND REACTION KINETICS

Ofer Dagan, Moran Bercovici
Technion Israel Institute of Technology

T.1.14 (1806)

A MICROFLUIDIC CULTURE SYSTEM FOR ANALYSIS OF NEUROTOXICITY OF OLIGOMERIC ASSEMBLIES OF AMYLOID BETA PROTEINS

Yoon Jung Choi

Korea University

T.1.15 (1360)

PERFORMANCES OF HIGH-K DIELECTRIC MATERIALS (AL₂O₃, HFO₂, ZRO₂) FOR LIQUID DIELECTROPHORESIS (LDEP) MICROFLUIDIC DEVICES

Raphael Renaudot, Vincent Agache, Laurent Jalabert, Momoko Kumemura, Dominique Collard, Hiroyuki Fujita
CEA-LETI, LIMMS-CNRS/IIS (UMI 2820), The University of Tokyo, CIRMM-IIS, Institute of Industrial Science,
The University of Tokyo

T.1.16 (1519)

A NOVEL MICROFLUIDIC CONCENTRATION GRADIENT DROPLET ARRAY GENERATOR FOR PREPARING OPTICAL ENCODING NANOPARTICLES

Chun-Guang Yang, Zhang-Run Xu, Abraham P. Lee, Jian-Hua Wang

Northeastern University, University of California, Irvine

T.1.17 (1553)

ON-CHIP PROCESSING AND DNA EXTRACTION FROM LARGE VOLUME URINE SAMPLES FOR THE DETECTION OF HERPES SIMPLEX VIRUS 2

Cordula Kemp, Janina Wojciechowska, Mohammadmehdi N. Esfahani, Guisepppe Benazzi, Kirsty J. Shaw, Stephen J. Haswell, Nicole Pamme

University of Hull

T.1.18 (1562)

HIGH-THROUGHPUT PRODUCTION OF SINGLE AND COMPOUND EMULSIONS VIA ON-CHIP MICROFLUIDIC PARALLELIZATION COUPLED WITH COAXIAL MULTIPLE ANNULAR WORLD-TO-CHIP INTERFACES

Takasi Nisisako, Takuya Ando, Takeshi Hatsuzawa

Tokyo Institute of Technology

T.1.19 (1694)

FIELD-FREE PARTICLE SEGREGATION AND EXTRACTION FOR BEAD-BASED ASSAYS IN PLUGS

G.K. Kurup, Amar S. Basu

Wayne State University

T.1.20 (2135)

ROBUST FUSION OF TWO TRAINS OF FREQUENCY-MISMATCHED DROPLETS BY USING A RAILROAD-LIKE CHANNEL AND GUIDING TRACKS

Linfeng Xu, Hun Lee, Kwang W. Oh

SUNY at Buffalo

T.1.21 (2159)

AUTOMATED SYSTEM FOR RAPID GENERATION AND TRANSPORT OF LIBRARIES OF NANOLITER DROPLETS.

Tomasz S. Kamisnki, Slawomir Jakiela, Magdalena Czekalska, Piotr Garstecki

Institute of Physical Chemistry of Polish Academy of Sciences

T.1.22 (1263)

ACCELERATED TARGET CAPTURE BY DYNAMIC MAGNETIC PARTICLE ACTUATION

Alexander Van Reenen, Yang Gao, Arthur M. De Jong, Martien A. Hulsen, Jaap M. J. Den Toonder, Menno W. J. Prins

University of Technology Eindhoven

T.1.23 (1803)

DOUBLE BILAYER LIPID MEMBRANE (DBLM) CHIPS FOR STUDIES OF BIOMEMBRANE INTERACTION AND FUSION

Chenren Shao, Eric Kendall, Don L. Devoe

University of Maryland

T.1.24 (1816)

AN INTEGRATED ALLELE-SPECIFIC POLYMERASE CHAIN REACTION-MICROARRAY CHIP FOR MULTIPLEX SNP TYPING

Jong Young Choi, Yong Tae Kim, Soyi Chung, Ju-Young Byun, Jinwoo Ahn, Dae-Gab Gweon, Min-Gon Kim, Tae Seok Seo

Korea Advanced Institute of Science and Technology, Chungnam National University, Gwangju Institute of Science and Technology (GIST)

T.1.25 (2073)

A SIMPLE YET EFFECTIVE MICROFLUIDIC SYSTEM FOR TRAPPING AND RELEASING SINGLE MICROBEADS

Hojin Kim, Joonwon Kim

Pohang University of Science and Technology (POSTECH)

T.1.27 (1441)

INTEGRATED PASSIVE BUBBLE TRAP FOR LONG-TERM CELL CULTURE MICROFLUIDIC SYSTEMS

Karina Ziółkowska, Iga Hofman, Artur Dybko, Zbigniew BrzóZka

Warsaw University of Technology

T.1.28 (1614)

NANOFLUIDIC BIOSENSOR BASED ON NANOPARTICLE CRYSTAL AND ITS SIGNAL ENHANCEMENT

Jianming Sang, Wei Wang, Haixia Alice Zhang, Wengang Wu, Zhihong Li

Peking University

T.1.30 (2097)

MICROFLUIDIC SYNTHESIS OF MICROMETER-SIZE COLLAGEN HYDROGEL PARTICLES FOR CELL MANIPURATION APPLICATIONS

Sari Sugaya, Masumi Yamada, Minoru Seki

Chiba University

T.2.31 (2197)

CELL-FREE PROTEIN SYNTHESIS IN FEMTOLITER MICROCHAMBERS FOR ARRAYING ULTRA-HIGH DENSITY PROTEIN SPOTS

Soo Hyeon Kim, Satoko Yoshizawa, Shoji Takeuchi, Teruo Fujii, Dominique Fourmy

University of Tokyo, CREST, JST, CNRS

T.2.32 (1277)

DEVELOPMENT OF LABEL-FREE BIOSENSOR FOR THE DETECTION OF ADENOSINE DIPHOSPHATE AS A UNIVERSAL KINASE/ATPASE ASSAY USING NANOIMPRINTED FLEXIBLE TWO-DIMENSIONAL PHOTONIC CRYSTAL

Tatsuro Endo, Bernadette M. Henares, Hideaki Hisamoto

Osaka Prefecture University

T.2.33 (1599)

A MEMBRANE MICRO-EXTRACTOR AS A TOOL FOR SAMPLE PRE-TREATMENT OF PHARMACEUTICAL COMPOUNDS

Jonas Hereijgers, Manly Callewaert, Heidi Ottevaere, Tom Breugelmans, Deirdre Cabooter, Wim De Malsche

Vrije Universiteit Brussel, Artesis University College of Antwerp, KU Leuven

T.2.34 (1726)

RAPID AND ACCURATE IC50 DETERMINATION USING LOGARITHMIC CONCENTRATION GENERATOR

Yuta Abe, Hirotaka Sasaki, Toshihisa Osaki, Koki Kamiya, Ryuji Kawano, Norihisa Miki, Shoji Takeuchi

Kanagawa Academy of Science and Technology, Institute of Industrial Science, The University of Tokyo, Keio University

T.2.35 (1779)

A DROPLET BASED MULTI-DRUG SCREENING SYSTEM CONTROLLED WITH ELECTROSTATIC MICROVALVES

Ender Yildirim, Ebru Ozgur, Haluk Kulah

Cankaya University, Mechanical Engineering Dept., Middle East Technical University, MEMS Research and Application Center

T.2.36 (1809)

ELECTRICALLY MEDIATED GENE DELIVERY AND THEIR DIFFUSION MECHANISM ON LOCALIZED SINGLE CELL USING ITO MICROELECTRODE BASED TRANSPARENT CHIP

Tuhin S Santra, Sheng-C Chen, Chia-J Chang, Tsung-J Chen, Pen-C Wan, Fang-G Tseng
National Tsing Hua University (NTHU), Academia Sinica

T.2.37 (1856)

CELL-BASED SCHEDULE DEPENDENT DRUG COMBINATION SCREENING WITH A DROPLET-BASED MICROFLUIDIC SYSTEM

Guansheng Du, Qun Fang, Jaap M.J. Den Toonder
Zhejiang University, Eindhoven University of Technology, Philips Research Laboratories

T.2.38 (1032)

LYMPHATIC CAPILLARY INVASION ASSAY BY SINGLE CELL MIGRATION CHIP

Yu-Chih Chen, Steven Allen, Zhi-Fen Wu, Sofia D. Merajver, Euisik Yoon
University of Michigan

T.2.39 (1131)

AMPLIFICATION AND TEMPORAL FILTERING DURING GRADIENT SENSING BY NERVE GROWTH CONES REVEALED WITH A SHEAR FREE MICROFLUIDIC DEVICES

Mathieu Morel, Vasyi Shynkar, Jean-Christophe Galas, Isabelle Dupin-Vallois, Vincent Studer, Maxime Dahan
CNRS UMR 8552, Ecole normale sup 屍 ieure, Paris, Interdisciplinary Institute for Neuroscience, CNRS UMR 5297

T.2.40 (1144)

A HIGH-THROUGHPUT LABEL-FREE BIOMARKER OF PLURIPOTENCY

Mahdokht Masaeli, Henry T.K. Tse, Daniel R. Gossett, Amander T. Clark, Dino Di Carlo
University of California, Los Angeles

T.2.41 (1257)

PARALLEL DISCRETE CHEMICAL STIMULATIONS OF MATRIX-ARRAYED NEUROSPHERES USING A MICROHOLE ARRAY DEVICE

Takashi Yasuda, Go Takase, Kwang Y. Jung, Makoto Yamanaka, Tomoko Tamura, Kanji Yahiro
Kyushu Institute of Technology, STEM Biomethod Corporation

T.2.42 (1292)

A MICROFLUIDIC DEVICE FOR REAL-TIME MONITORING OF FLAGELLAR LENGTH IN SINGLE LIVING CHLAMYDOMONAS

Xiaoni Ai, Qionglin Liang, Junmin Pan, Guoan Luo
Tsinghua University

T.2.43 (1298)

SINGLE CELL ELISA

Klaus Eyer, Simone Stratz, Phillip Kuhn, Simon K. Kuester, Petra S. Dittrich
Swiss Federal Institute of Technology (ETH) Zurich

T.2.44 (1503)

MICROFLUIDIC STRATEGY FOR SPATIOTEMPORALLY RESOLVED MOLECULAR SAMPLING FROM LIVE OVARY SLICES

David S. Dandy, Meghan Mensack, John Wydallis, Charles S. Henry, Chad Eitel, Stuart Tobet
Colorado State University

T.2.45 (1521)

AN INTEGRATED MICROFLUIDIC PLATFORM FOR IN-SITU CELLULAR CYTOKINE SECRETION IMMUNOPHENOTYPING

Nien-Tsu Huang, Weiqiang Chen, Boram Oh, Jianping Fu, Katsuo Kurabayashi
University of Michigan

T.2.46 (1701)

MICROFLUIDIC DEVICE WITH HYDROGEL-FREE AND PUMP-LESS FOR BACTERIAL CHEMOTAXIS UNDER CHEMICAL GRADIENT

Heon-Ho Jeong, Si-Hyung Jin, Sung-Chan Jang, Sang-Ho Lee, Chang-Soo Lee
Chungnam National University, Korea Institute of Industrial Technology (KITECH)

T.2.47 (1735)

ELECTRICAL-IMPEDANCE-SPECTROSCOPY CHARACTERIZATION OF INDIVIDUALLY IMMOBILIZED SINGLE PARTICLES AND YEAST CELLS

Zhen Zhu, Olivier Frey, Niels Haandbaek, Diana S. Ottoz, Fabian Rudolf, Andreas Hierlemann
ETH Zurich

T.2.48 (1744)

SAMPLE PREPARATION FOR SINGLE-CELL WHOLE CHROMOSOME ANALYSIS

Jason P. Beech, Karl Adolfsson, Stefan H. Holm, Farnaz Yadegari, Camilla Freitag, Joachim Fritzsche, Kalim U. Mir, Jonas O. Tegenfeldt
Lund University, Gothenburg University, University of Oxford

T.2.49 (1808)

MICROFLUIDIC DEVICE FOR MEASURING THE DEFORMABILITY OF RED BLOOD CELLS PARASITIZED BY PLASMODIUM FALCIPARUM

Quan Guo, Marie-Eve Myrand-Lapierre, Hongshen Ma
University of British Columbia

T.2.50 (1886)

THE ROLE OF MEMBRANE LIPID RAFTS IN OSTEOBLASTIC SENSING AND PROPAGATION OF MECHANICAL FORCES: A MICROFLUIDIC-BASED SINGLE CELL ANALYSIS STUDY

Bibhas Roy, Dario Carugo, Xunli Zhang, Tapas K. Maiti, Suman Chakraborty
Indian Institute of Technology Kharagpur, University of Southampton

T.2.51 (1946)

MICROFLUIDIC DEVICES FOR INTEGRATED SYNCHRONIZATION AND ANALYSIS OF BACTERIA

Seth M. Madren, Michelle D. Hoffman, Pamela J. B. Brown, David T. Kysela, Yves V. Brun, Stephen C. Jacobson
Indiana University

T.2.52 (1964)

ENHANCED CELL STIFFNESS EVALUATION BY TWO-PHASE DECOMPOSITION

Chia-Hung D. Tsai, Makoto Kaneko, Shinya Sakuma, Fumihito Arai
Osaka University, Nagoya University

T.2.53 (1974)

LIVE-CELL MONITORING OF INFRAMASOME ACTIVATION IN HUMAN MONOCYTE THROUGH IMAGING OF INFRAMMATORY CYTOKINE SECRETION

Yoshitaka Shirasaki, Asahi Nakahara, Nanako Shimura, Kazushi Izawa, Nobutake Suzuki, Mai Yamagishi, Jun Mizuno, Ryota Nishikomori, Shuichi Shoji, Osamu Ohara
RIKEN RCAI, WASEDA University, Kyoto University

T.2.54 (2030)

STABLE GENERATION OF MULTIPLE CHEMICAL GRADIENTS USING IN-SITU FORMED NANOPOROUS MEMBRANES

Eunpyo Choi, Hyung-Kwan Chang, Chae Young Lim, Taesung Kim, Jungyul Park
Sogang University, Ulsan National Institute of Science and Technology

T.2.55 (2107)

3D CIRCULATORY PERFUSION-CULTURE SYSTEM BY USING HIGH EFFICIENCY PROPORTIONAL CELL CONTACT

Yu-Shih Chen
National Tsing Hua University

T.2.56 (2149)

A BRONCHIAL EPITHELIUM-MIMETIC MICROFLUIDIC CHIP SYSTEM FOR INVESTIGATING THE MICROENVIRONMENTAL CHANGE-INDUCED INFLAMMATORY PROCESS

Tushar H. Punde, Wen-Hao Wu, Pei-Chun Lien, Margaret Dah-Tsyr Chang, Kang-Yun Lee, Han-Pin Kuo, Po-Chen Shih, Cheng-Hsien Liu
Institute of NanoEngineering and Microsystems, Department of Power Mechanical Engineering, Institute of Molecular and Cellular Biology, Department of Medical Science, Pulmonary Research Center, Chang Gung Memorial Hospital, Chang Gung University College of Medicine,

T.2.57 (2017)

A NEUROSPHEROID CULTURED ON THE TIP OF A FLEXIBLE MICROELECTRODE FOR CORTICAL MICROSTIMULATION

Keisuke Okita, Midori Kato-Negishi, Koji Sato, Hiroaki Onoe, Shoji Takeuchi
University of Tokyo

T.2.58 (1356)

PLANT-ON-A-CHIP MICROFLUIDIC-SYSTEM FOR QUANTITATIVE ANALYSIS OF POLLEN TUBE GUIDANCE BY SIGNALING MOLECULE: TOWARDS CELL-TO-CELL COMMUNICATION STUDY

Mitsuhiro Horade, Yoko Mizuta, Noritada Kaji, Hideyuki Arata, Tetsuya Higashiyama
JST-ERATO/Nagoya University, Nagoya University

T.2.59 (1497)

MICROFLUIDICS FOR ALZHEIMER'S DISEASE: SCREENING AND DIFFUSION TO STUDY AMYLOID- β AGGREGATION

Vincent Picot, Bruno Alies, Christelle Hureau, Peter Faller, Pierre Joseph
CNRS, LAAS; Univ de Toulouse, CNRS, LCC; Univ de Toulouse

T.2.60 (1588)

MULTICHANNEL INCUBATION TYPE PLANAR PATCH CLAMP BIOSENSOR USING PLASTIC (PMMA) SUSTRATES AND CHARACTERIZATION BY LASER-GATED ION-CHANNEL PROTEIN

Zhi-Hong Wang, Noriko Takada, Obuliraju-Senthil Kumar, Toru Ishizuka, Hiromu Yawo, Tsuneo Urisu
Nagoya University, Institute for Molecular Science, Tohoku University

T.2.61 (1598)

FABRICATION OF MICROPARTICLES WITH LARGE MULTIPLEX CAPACITY FOR HIGH-THROUGHPUT BIOASSAY

Yul Koh, Homan Kang, Sinyoung Jeong, Seung Hyun Lee, Young-Tai Seo, Yoon-Sik Lee, Daehong Jeong, Yong-Kweon Kim
Seoul National University

T.2.62 (1627)

INVESTIGATING THE EFFECTS OF MEMBRANE TENSION AND SHEAR STRESS ON LIPID DOMAINS IN MODEL MEMBRANES

Tom Robinson, David Hess, Phillip Kuhn, Petra S. Dittrich
ETH Zurich

T.2.63 (1837)

FERROMAGNETIC PARTICLES FOR AN IMPROVED HETEROGENEOUS BIOASSAY PERFORMANCE ON A DIGITAL LAB-ON-A-CHIP

Steven Vermeir, Daan Witters, Nicolas Vergauwe, Karel Knez, Martinus Gijs, Robert Puers, Jeroen Lammertyn
KU Leuven-University of Leuven, Ecole Polytechnique Federale de Lausanne

T.3.64 (1052)

A MICROFLUIDIC ARRAY PLATFORM FOR SIMULTANEOUS CELL CULTURE UNDER VARIOUS OXYGEN TENSIONS

Chien-Chung Peng, Wei-Hao Liao, Chueh-Yu Wu, Yi-Chung Tung
Academia Sinica

T.3.65 (1088)

TEMPERATURE-FLEXIBLE CELL MICROCONTAINERS FABRICATED WITH A PHOSPHORYLCHOLINE POLYMER HYDROGEL ON CHIP

Yan Xu, Kazuma Mawatari, Konno Tomohiro, Kazuhiko Ishihara, Takehiko Kitamori
Osaka Prefecture University, The University of Tokyo

T.3.66 (1135)

ANALYSIS FOR EFFECT OF CELL SHAPE ON HIPPO SIGNALING PATHWAY USING MICRO-FABRICATED CELL CULTURE PLATFORM

Ken-Ichi Wada, Kazuyoshi Itoga, Teruo Okano, Shigenobu Yonemura, Hiroshi Sasaki
RIKEN Advanced Science Institute, Tokyo Women's Medical University, Kumamoto University

T.3.67 (1251)

SEQUENTIAL ASSEMBLY OF THE FUNCTIONAL MATERIAL MICROPATTERNS ON THE HYDROGEL SHEET FOR CONSTRUCTING SKELETAL MUSCLE CELL-BASED ASSAY SYSTEM

Kuniaki Nagamine, Shingo Otani, Syuntaro Ito, Hirokazu Kaji, Makoto Kanzaki, Matsuhiko Nishizawa
Tohoku University

T.3.68 (1430)

HANGING DROP CULTURE DEVICE FOR EMBRYONIC STEM CELL

Yoshinori Yamaguchi, Mohammad Hossain, Tomohiko Ikeuchi, Aya Hashimoto, Sathuluri Rao, Masato Saito, Eiichi Tamiya
Osaka University

T.3.69 (1525)

MICROFLUIDIC CULTURE PLATFORM FOR STUDYING NEURONAL RESPONSE TO AXONAL STRETCH INJURY

Yiing C. Yap, Tracey C. Dickson, Anna E. King, Michael C. Breadmore, Rosanne M. Guijt
University of Tasmania

T.3.70 (1552)

PHENOTYPIC MODULATION OF PLURIPOTENT STEM CELLS (PSCS) INDUCED BY MICROFABRICATION MATERIALS

Ken-Ichiro Kamei Ken-Ichiro Kamei, Yoshikazu Hirai, Yoshihide Makino, Momoko Yoshioka, Li Liu, Minako Nakajima, Quinghua Yuan, Yong Chen, Osamu Tabata
Kyoto University

T.3.71 (1790)

DISTINCT AUTO-REGULATION OF EMBRYONIC STEM CELL BEHAVIOR BY CELL-SECRETED SOLUBLE FACTORS IN A MEMBRANE-BASED TWO-CHAMBERED MICROBIOREACTOR

Mohammad Mahfuz Chowdhury, Hiroshi Kimura, Teruo Fujii, Yasuyuki Sakai
Institute of Industrial Science, The University of Tokyo

T.3.72 (1939)

TUBULOGENESIS OF ENDOTHELIAL CELLS IN CORE-SHELL HYDROGEL MICROFIBERS

Hiroaki Onoe, Shoji Takeuchi
The University of Tokyo

T.3.73 (1955)

A STUDY OF AXONAL PROTEIN TRAFFICKING IN NEURONS USING MICROFLUIDIC CHIP

Yi Fu, Ai Qun Liu
Nanyang Technological University

T.3.74 (1119)

MICROFLUIDIC SYSTEM FOR PULSED STIMULATION AND TIME COURSE ANALYSIS OF MAMMALIAN CELLS: IDENTIFICATION OF THE MINIMAL TNF-ALPHA PULSE DURATION FOR NF-KAPPAB ACTIVATION IN HELA CELLS

Mohammad A, Qasaimeh, Robin E. Lee, Suzanne Gaudet, David Juncker
McGill University, Dana Farber Cancer Institute and Harvard Medical School

T.3.75 (1324)

GENOME-LEVEL MAMMALIAN CELL RESPONSES TO DIGITAL MICROFLUIDIC ACTUATION

Sam H. Au, Aaron R. Wheeler
University of Toronto

T.3.76 (1713)

SMOOTH-TIP DIELECTROPHORESIS-BASED TWEEZERS FOR SINGLE LIPOSOME HANDLING

Taiga Kodama Taiga Kodama, Toshihisa Osaki, Ryuji Kawano, Koki Kamiya, Norihisa Miki, Shoji Takeuchi
Kanagawa Academy of Science and technology, Keio University, Institute of Industrial Science, The University of Tokyo

T.3.77 (1792)

CONCENTRATION/SEPARATION OF CRYPTOSPORIDIUM OOCYSTS BY ON-CHIP HYBRID AC-ELECTROKINETICS FOR DIGITAL MICROFLUIDICS

Romuald Lejard, Jérôme Follet, Alexis Vlandas, Anne Follet, Vincent Thomy, Vincent Senez
Institut d'Electronique, de Microélectronique et de Nanotechnologie (CNRS/IEMN), Institut Supérieur d'Agriculture (ISA), Faculté Libre des Sciences et Technologies (FLST)

T.3.78 (1956)

MICROFABRICATED PARTICLE ASSEMBLIES FOR VERSATILE CELL PATTERNING

Xu Zhang, Yi Zhao
Ohio State University

T.3.79 (2213)

IN SITU MICROFLUIDIC BIOFUNCTIONALISATION TO FORM MULTIVALENT INTERACTIONS AND INVESTIGATE CELL ROLLING AND PHENOTYPE MODIFICATION

Gerardo Perozziello, Giuseppina Simone, Rosanna La Rocca, Francesca Pardeo, Patrizio Candeloro, Carlo Liberale, Francesco De Angelis, Ennio Carbone, Enzo Di Fabrizio
Lab. BioNEM, University of Catanzaro, CRIB, University of Naples (Federico II), Italian Institute of Technology, Italy, Karolinska Institute, SWEDEN,

T.3.80 (1013)

AN OPTICALLY-INDUCED DIELECTROPHORETIC (ODEP) MICROFLUIDIC PLATFORM FOR ISOLATION OF CIRCULATING TUMOR CELLS (CTCS) AFTER CONVENTIONAL CTC ISOLATION PROCESS

Song-Bin Huang, Min-Hsien Wu, Chia-Hsun Hsieh, Chih-Liang Yang, Yen-Heng Lin, Hung-Chih Lin, Ching-Ping Tseng, Gwo-Bin Lee
Chang Gung University, National Tsing Hua University

T.3.81 (1084)

RAPID AND SIMPLE DISCRIMINATION OF CELLS WITH SPECIFIC SURFACE ANTIGEN WITH DIELECTROPHORESIS

Tomoyuki Yasukawa, Hironobu Hatanaka, Fumio Mizutani
University of Hyogo

T.3.82 (1183)

CONTINUOUS NEUTROPHIL ISOLATION FROM BLOOD USING SPIRAL CHANNEL WITH TRAPEZOID CROSS-SECTION

Lidan Wu, Guofeng Guan, Hanwei Hou, Ali Asgar. S. Bhagat, Jongyoon Han
Massachusetts Institute of Technology, Singapore-MIT Alliance for Research and Technology (SMART)

T.3.83 (1375)

MULTI-COMPONENT SEPARATION CHIP UTILIZING MICROPILLAR ARRAYS AND STEPS IN SPLITLEVEL SPIRAL CHANNEL

Yanrui Ju, Zhaoxin Geng, Qifeng Wang, Zhihong Li
Institute of Microelectronics, Peking University, Institute of Microelectronics, Peking University, College of Engineering, Peking University

T.3.84 (1520)

DYNAMICALLY CELL SEPARATING THERMO-RESPONSIVE BIOINTERFACES HAVING DENSE POLYMER BRUSHES

Kenichi Nagase, Ayaka Kimura, Tatsuya Shimizu, Katsuhisa Matsuura, Naoya Takeda, Teruo Okano
Tokyo Women's Medical University, Waseda University

T.3.85 (1536)

MICROFLUIDIC RARE CELL COLLECTION WITH SURFACE MODIFIED EUGLA BY PHOTO IRRADIATION

Yukihiko Okamoto, Yukinori Nakakita, Takahiro Sano, Noritada Kaji, Manabu Tokeshi, Yoshinobu Baba
Nagoya University, Hokkaido University

T.3.86 (1559)

MICROCHIP FILTER USING 3-DIMENSIONAL FLOW FOR RARE CELL SEPARATION

June-Young Lee, Hui-Sung Moon, Tae Seok Sim, Minseok S. Kim, Hyoyoung Jeong, Yeon Jeong Kim, Jeong-Gun Lee, Sanghyun Baek, Jin-Mi Oh, Hun Joo Lee
Samsung Advanced Institute of Technology (SAIT)

T.3.87 (1715)

METHOD ON ISOLATING CIRCULATING TUMOR CELLS WITH HIGH RECOVERY AND PURITY BY CELL SIZE AMPLIFICATION AND AN MICRO-SLIT FILTER HAVING EXTREMELY HIGH ASPECT RATIO

Tae Seok Sim, Minseok S. Kim, Hui-Sung Moon, Jeong-Gun Lee, June-Young Lee, Jeong-Gun Lee, Hyoyoung Jeong, Yeon Jeong Kim, Hun Joo Lee, Sanghyun Baek
Samsung Advanced Institute of Technology (SAIT)

T.3.88 (1794)

PATTERNED NANO-MAGNETS ON-CHIP FOR SCREENING CIRCULATING TUMOR CELLS IN BLOOD

Yu-Yen Huang, Peng Chen, Kazunori Hoshino, Konstantin Sokolov, Nancy Lane, Michael Huebschman, Eugene Frenkel, Jonathan Uhr, Xiajing Zhang
University of Texas at Austin, the University of Texas at Southwestern Medical Center

T.3.89 (1868)

MICROFLUIDIC CELL SORTER AIDED LIVE CELL SCREENING FOR IMPROVED FLUORESCENT PROTEIN

Yongxin Zhao, Hiofan Hoi, Robert E. Campbell, D. Jed Harrison
University of Alberta

T.3.90 (2023)

MICROFLUIDIC SEPARATION AND DETECTION OF CIRCULATING TUMOR CELLS (CTC) UTILIZING CTC SPECIFIC PROPERTIES

Kouhei Ootsuka, Yukihiro Okamoto, Tetsunari Hase, Manabu Tokeshi, Takao Yasui, Noritada Kaji, Yoshinori Hasegawa, Yoshinobu Baba
Nagoya University, Hokkaido University

T.3.91 (2209)

IMMUNOMAGNETIC PURIFICATION OF CANCER CELLS FROM WHOLE BLOOD ON A CENTRIFUGAL-MICROFLUIDIC PLATFORM

Daniel M. Kirby, Gregor Kijanka, Jonathan Siegrist, Robert Burger, Jens Ducreé
Biomedical Diagnostics Institute, Dublin City University

T.3.92 (2258)

TRAPPING SINGLE CELLS IN MICROFLUIDIC DEAD ZONE BY USING PEG-BASED OPTOELECTRONIC TWEEZERS FOR IMMUNE ACTIVITY

Ling-Yi Ke
National Tsing Hua University

T.3.93 (1014)

AN APPLICATION OF INTERDIGITATED ARRAY OF PT ELECTRODES FOR ELECTRICAL STIMULATION OF ENGINEERED MUSCLE TISSUE

Samad Ahadian, Javier Ramón-Azcón, Serge Ostrovidov, Hirokazu Kaji, Hitoshi Shiku, Ali Khademhosseini, Tomokazu Matsue
WPI-Advanced Institute for Materials Research (WPI-AIMR), Tohoku University, Tohoku University, Harvard Medical School and Massachusetts Institute of Technology (MIT)

T.3.94 (1028)

SKELETAL MUSCLE TISSUE IMPROVEMENT BY CO-CULTURE SYSTEM IN GELATIN METHACRYLATED HYDROGEL

Serge Ostrovidov, Samad Ahadian, Hirokazu Kaji, Murugan Ramalingam, Ali Khademhosseini
WPI-AIMR, Tohoku University, Tohoku University, University of Strasbourg, Harvard Medical School and MIT, Cambridge,

T.3.95 (1801)

THREE-DIMENSIONAL NEURON CULTURE METHOD CONTROLLING THE DIRECTION OF NEURITE ELONGATION AND THE POSITION OF SOMA

Aoi Odawara, Ikuro Suzuki, Amani Alhebshi, Masao Gotoh
Tokyo University of Technology

T.3.96 (1834)

THREE-DIMENSIONAL MECHANICAL COMPRESSION OF BIOMATERIALS IN A MICROFABRICATED BIOREACTOR WITH ON-CHIP STRAIN SENSORS

Luke Macqueen, Oleg Chebotarev, Michelle Chen, Jenna Usprech, Yu Sun, Craig Simmons
University of Toronto

T.3.97 (1999)

SINGLE NEURON OBSERVATION IN A 3D NEURONAL TISSUE BLOOM

Midori Kato-Negishi, Hiroaki Onoe, Shoji Takeuchi
The University of Tokyo

T.3.98 (2062)

SELF-VASCULARIZING TISSUE BY RECOMBINANT PHAGES

Junghyo Yoob, Nuriye Korkmaz, Sewoon Han, Chang Hoon Nam, Seok Chung
Korea University, Korea Institute of Science and Technology in Europe

T.3.99 (2153)

DIFFERENTIATION OF MULTIPOTENT DFAT CELLS INTO SMOOTH MUSCLE-LIKE CELLS IN 3D TUBULAR MICROENVIRONMENT FOR TISSUE REGENERATION APPLICATIONS

Amy Y. Hsiao, Teru Okitsu, Hiroaki Onoe, Tomohiko Kazama, Taro Matsumoto, Shoji Takeuchi
University of Tokyo, Nihon University School of Medicine

T.3.100 (2205)

FABRICATION AND SELF-ASSEMBLY OF MOVABLE MICROSTRUCTURE EMBEDDING CELLS INSIDE MICROFLUIDIC DEVICES

Tao Yue, Masahiro Nakajima, Chengzhi Hu, Yajing Shen, Masaru Kojima, Toshio Fukuda
Nagoya University, Osaka University

T.3.101 (1688)

BIO-HYBRID CAPILLARY PULSATION DRIVEN BY A HEART MUSCLE OF LARVA EXPELLED FROM AGRICULTURAL FIELDS

Kei Okinawa Funakoshi, Yoshitake Akiyama, Takayuki Hoshino, Kikuo Iwabuchi, Keisuke Morishima
Osaka University, Tokyo University of Agriculture and Technology

T.3.102 (1844)

PHOTODYNAMIC THERAPY PROCEDURES ON LUNG CARCINOMA AND NORMAL CELLS COCULTURE IN THE MICROFLUIDIC SYSTEM

Elzbieta Jedrych, Ilona Grabowska-Jadach, Michal Chudy, Artur Dybko, Zbigniew Brzozka
Institute of Biotechnology, Warsaw University of Technology

T.4.103 (1261)

ATTOLITER LIQUID CHROMATOGRAPHY USING EXTENDED-NANO CHANNELS FOR SEPARATION OF PROTEINS IN A SINGLE CELL

Ryo Ishibashi, Hisashi Shimizu, Kazuma Mawatari, Takehiko Kitamori
The University of Tokyo

T.4.105 (1369)

MICROFLUIDIC DEVICES FOR FRACTIONATION OF DNA FRAGMENTS

Kai Sun, Zheyu Li, Kosei Ueno, Nanqi Ren, Hiroaki Misawa
Harbin Institute of Technology, Research Institute for Electronic Science, Hokkaido University

T.4.106 (1514)

ON-CHIP NANOFILTERS FOR BIOLOGICAL SAMPLE PRE-TREATMENT FOR ELECTROPHORETIC ANALYSIS OF SMALL MOLECULES IN WHOLE BLOOD

Aliaa I. Shallan, Adam J. Gaudry, Rosanne M. Guijt, Michael C. Breadmore
University of Tasmania

T.4.107 (1756)

DEVELOPMENT OF HIGHLY-RELIABLE METAL MICROCHANNEL PLATE APPLICABLE TO SEPARATION COLUMN OF GAS CHROMATOGRAPHY

Masaki Kanai, Masanori Nishino, Satoshi Matsuoka, Takahiro Nishimoto, Masahito Ueda
Shimadzu Corporation

T.4.108 (1853)

ROTARY MICROFLUIDIC SYSTEM FOR INFLUENZA RNA SAMPLE PRETREATMENT

Byung Hyun Park, Jae Hwan Jung, Tae Seok Seo

Korea Advanced Institute of Science and Technology (KAIST)

T.4.109 (1912)

THE EFFECT OF MATRIX ORDER IN DNA CAPILLARY ZONE ELECTROPHORESIS

Wenmin Ye, D. Jed Harrison

University of Alberta

T.4.110 (2110)

MAGNETICALLY-ACTUATED BLOOD FILTER UNIT ATTACHABLE TO BIOCHIPS

Kwang Hyo Chung, Yo Han Choi

Electronics and Telecommunications Research Institute

T.4.111 (2177)

PORTABLE LIQUID CHROMATOGRAPHY SYSTEM BASED ON BATTERY-POWERED ELECTROOSMOTIC PUMP AND MICROCHIP WITH PACKED COLUMN AND ELECTROCHEMICAL DETECTOR

Akihiko Ishida, Takehiro Fujimoto, Satoshi Yokogawa, Hirofumi Tani, Manabu Tokeshi, Ichiro Yanagisawa

Hokkaido University, Science Solutions International Laboratory

T.4.112 (2238)

NANOPILLAR PARALLEL-ARRAY STRUCTURE WITH DNA TRAPPING AND TORQUE-ASSISTED ESCAPE MODE FOR DNA SEPARATION

Takao Yasui, Koki Motoyama, Noritada Kaji, Yukihiro Okamoto, Manabu Tokeshi, Yasuhiro Horiike, Yoshinobu Baba

Nagoya University, Hokkaido University, National Institute for Materials Science

T.4.113 (1120)

YIELD IMPROVEMENT BY AN EFFECTIVE MICROREACTOR FOR PHOTOREACTIONS USING A BLACK ALUMINUM OXIDE CHANNEL SUBSTRATE

Yukako Asano, Shigenori Togashi, Yoshishige Endo

Hitachi, Ltd., Hitachi Plant Technologies, Ltd.

T.4.114 (1336)

AUTOMATIC ELISA ANALYTICAL SYSTEM FOR A TRACE AMOUNT OF ENVIRONMENTAL CHEMICALS USING A 3-DIMENSIONAL MICROREACTOR WITH A NOVEL ANTIGEN-BOUND MICROFILTER

Masahiro Takeo, Isao Kawaji, Akihiro Nakasuji, Takaaki Tone, Yoshiaki Ukita, Dai-Ichiro Kato, Seiji Negoro, Shinichi Yusa, Makoto Katayama, Yuichi Utsumi

University of Hyogo, Japan Advanced Institute of Science and Technology, Innovation Core SEI, Inc., Lab. of Advanced Science and Technology for Industry, University of Hyogo,

T.4.115 (1493)

DISRUPTION OF BACTERIAL SPORES BY SUPERHEATING - FAST DNA EXTRACTION FROM DIFFICULT SAMPLES -

Matthias O. Altmeyer, Adam Pšibylka, Ana V. Almeida, Pavel Neužil, Jan Petr, Juraj ŠEVČÍK, Andreas Manz

KIST Europe, University Olomouc

T.4.116 (1709)

INTEGRATED HEATING AND COOLING MULTI-ZONE SILICON MICROREACTOR (MZSM) FOR INCREASED MONODISPERSITY IN TiO₂ NANOPARTICLE SYNTHESIS

E. Yegan Erdem, Jim C. Cheng, Fiona M. Doyle, Albert P. Pisano

University of California at Berkeley

T.4.117 (2264)

CHEMICAL SCREENING FOR SINGLE BACTERIAL ACTIVITY USING BACTERIA IMMOBILIZATION INTO MICROPOROUS

Tomonori Kano, Tomomi Inaba, Kazuhiko Higashi, Norihisa Miki

Keio University

T.4.118 (1162)

INTEGRATED MICROFLUIDIC SYSTEM PROVIDING SELF-SEPARATION, ROBUST THROUGHPUT AND HIGH YIELD FOR HAZARDOUS REACTIONS

Ram Awatar Maurya, Kyoung-Ik Min, Dong-Pyo Kim
Pohang University of Science and Technology

T.4.119 (1606)

MICRO-FLOW REACTION SYSTEMS FOR PHOTOCATALYTIC CARBON DIOXIDE RECYCLING AND HYDROGEN GENERATION

Yoshihisa Matsushita, Haitham Mohamed Ahmed Mohamed, Shinichi Ookawara
Egypt-Japan University of Science and Technology, Tokyo Institute of Technology

T.4.120 (1608)

DROPLET-BASED MICROFLUIDIC SYNTHESIS OF GIANT UNI-LAMELLAR LIPID VESICLES CONTAINING QUANTUM DOTS

Youn-Hee Park, Do-Hyun Lee, Eujin Um, Je-Kyun Park
KAIST

T.4.121 (1265)

MICROFLUIDIC APPROACH TOWARDS ULTRA-FAST SYNTHESIS OF METAL ORGANIC FRAMEWORKS CRYSTALS INTO CONFINED MICRODROPLETS

Marco Faustini, Jun Kim, Wha-Seung Ahn, Dong-Pyo Kim
Pohang University of Technology, Inha University

T.4.122 (1763)

PHARMACEUTICAL CRYSTAL ENGINEERING IN MICROFLUIDIC EMULSIONS

Arpad I. Toldy, Abu Zayed M. Badruddoza, Lu Zheng, T. Alan Hatton, Rudiyanto Gunawan, Raj Rajagopalan, Saif A. Khan
Singapore-MIT Alliance, National University of Singapore, Massachusetts Institute of Technology, ETH Zurich,

T.4.123 (2049)

AN APPROACH FOR SINGLE CRYSTALLIZATION OF PROTEIN BY USING DROPLET BASED MICROFLUIDICS

Masatoshi Maeki, Yuki Teshima, Saori Yoshizuka, Hiroshi Yamaguchi, Kenichi Yamashita, Hideaki Maeda, Masaya Miyazaki
Kyushu University, Tokai University, National Institute of Advanced Industrial Science and Technology, CREST-JST,

T.5.124 (1076)

COMPUTER AIDED MICROFLUIDICS (CAMF) – HIGH-RESOLUTION PROJECTION LITHOGRAPHY FOR THE RAPID CREATION OF LARGE-SCALE MICROFLUIDIC STRUCTURES

Ansgar Waldbaur, Paul Hettich, Bastian E. Rapp
Karlsruhe Institute of Technology (KIT)

T.5.125 (1169)

A ROOM-TEMPERATURE BONDING OF GLASS NANOFLUIDIC CHIPS UTILIZING A SURFACE ACTIVATION WITH A FLUORINE-CONTAINING PLASMA TREATMENT

Yan Xu, Chenxi Wang, Kihoon Jang, Lixiao Li, Matsumoto Nobuhiro, Yiyang Dong, Kazuma Mawatari, Tadatomo Suga, Takehiko Kitamori
Osaka Prefecture University, The University of Tokyo

T.5.126 (1724)

FLEXIBLE AND FREE-STANDING POLYMERIC MEMBRANES WITH MULTI-DIMENSIONAL PORES FOR A MICROFLUIDIC APPLICATION

Hyesung Cho, Hyeoncheol Park, Deuk Y. Lee, Jun S. Kim, Hosup Jung, Kahp-Y. Suh
Seoul National University

T.5.127 (1914)

SURFACE TREATMENTS OF SOFT MOLDS FOR HIGH ASPECT RATIO MOLDING OF POLY-PEGDA

David Castro, David Conchouso, Yiqiang Fan, Ian G. Foulds
King Abdullah University of Science and Technology

T.5.128 (2022)

FABRICATION OF PMMA MICROPILLARS BY REACTIVE ION ETCHING TOWARDS SEPARATION OF WHITE AND RED BLOOD CELLS

Satoru Ito, Takao Yasui, Yukihiko Okamoto, Noritada Kaji, Manabu Tokeshi, Yoshinobu Baba
Nagoya University, Hokkaido University

T.5.129 (2061)

DEVELOPMENT OF FLUORINE INDUCED PLASMA ACTIVATING ROOM-TEMPERATURE BONDING STRATAGE FOR HIGH-PRESSURE MICRO-NANO FLUIDIC DEVICES

Kihoon Jang, Chenxi Wang, Yan Xu, Takehiko Kitamori
The University of Tokyo, Nanoscience and Nanotechnology Research Center, Research Organization for the 21st Century

T.5.130 (2092)

DEVELOPMENT OF A CARBON MICROCHANNEL INTEGRATED WITH A HORIZONTAL CARBON SANDWICH ELECTRODE PAIR FOR ULTRA SENSITIVE ELECTROCHEMICAL/BIO SENSORS

Jeong-II Heo, Yeongjin Lim, Marc Madou, Heungjoo Shin
UNIST (Ulsan National Institute of Science and Technology), University of California, Irvine

T.5.131 (2103)

LOW COST INTEGRATION OF 3D-ELECTRODES VIA REPLICA MOLDING

Benjamin Mustin, Boris Stoeber
The University of British Columbia

T.5.132 (2182)

FABRICATION OF TUNABLE WRINKLE-PATTERNED MICROPARTICLE VIA SILICA-COATING

Hyung Jong Bae, Arang Lee, Sangkwon Han, Lily Nari Kim, Sunghoon Kwon
Inter-university Semiconductor Research Center, Seoul National University

T.5.133 (2218)

FLEXIBLE MICRONEEDLE ELECTRODE ARRAY BASED-ON PARYLENE SUBSTRATE

Renxin Wang, Zewen Wei, Wei Wang, Zhihong Li
Peking University

T.5.134 (1259)

PHOTO-IMMOBILIZATION OF CELLS FOR IN SITU DNA ANALYSIS

Naoki Sasaki, Anri Isu, Reina Ishii, Kae Sato
Japan Women's University

T.5.135 (1545)

HYDROPHILIC POLYMERIC COATINGS FOR ENHANCED, SERIAL-SIPHON BASED FLOW CONTROL ON CENTRIFUGAL LAB-ON-DISC PLATFORMS

Maria Kitsara, Charles Nwankire, Adrian O' Reilly, Jonathan Siegrist, Jens Ducreé
Dublin City University, Biomedical Diagnostics Institute, National Centre for Sensor Research

T.5.136 (1573)

RAPID PHOTOCHEMICAL SURFACE PATTERNING OF PROTEINS IN THIOL-ENE BASED MICROFLUIDIC DEVICES

Josiane P. Lafleur, Radoslaw Kwapiszewski, Thomas G. Jensen, Jörg P. Kutter
Technical University of Denmark, Warsaw University of Technology

T.5.138 (1766)

FABRICATION OF PAPER-BASED MICROFLUIDIC DEVICES BY OCTADECYLTRICHLOROSILANE SELF-ASSEMBLING AND UV-PATTERNING

Cuicui Ma, Zeqing Bai, Qiaohong He, Hengwu Chen
Zhejiang University

T.5.139 (1551)

ACTIVE MICROMIXER USING A METALIZED MICROTURBINE DRIVEN BY AN ULTRA-LOW POWER LASER

Takashi Ikegami, Shoji Maruo, Ryota Ozawa, Michael P. Stocker, John T. Fourkas
Yokohama National University, University of Maryland

T.5.140 (1571)

SOLUTE DIFFUSION THROUGH THE FIBROTIC TISSUEFORMED AROUND A PROTECTIVE CAGE SYSTEM FOR IMPLANTABLE SENSORS

Hikaru Ito, Gunawan S. Prihandana, Kohei Tanimura, Yuki Hori, Orhan Soykan, Ryo Sudo, Norihisa Miki
Keio University, Medtronic, Inc., Medtronic, Inc,

T.5.141 (1582)

ON-CHIP CONTINUOUS ENUCLEATION BY HYDRAULIC FORCECONTROL USING MAGNETICALLY ACTUATED MICROROBOT

Lin Feng, Masaya Hagiwara, Akihiko Ichikawa, Fumihito Arai
Nagoya University, University of California, Los Angeles

T.5.142 (1764)

ALL GLASS-BASED ACTUATOR FOR VALVES AND PUMPS USING ULTRA THIN GLASS MEMBRANE AND PIEZO ACTUATORS

Yo Tanaka
RIKEN

T.5.143 (2223)

AN ELECTRONIC PIPETTE COMPATIBLE MICROFLUDIC CHIP FOR CONTINEUOUS PROCESSING OF SIZE-DEPENDENT CELL DEPLETION AND IMMUNOHISTOCHEMISTRY

Shohei Kaneda, Ayako Araki, Teruo Fujii
Institute of Industrial Science, University of Tokyo

T.5.144 (1777)

LIVER SPECIFIC FUNCTION ENHANCEMENT BY MICROVASCULAR SYSTEM INTEGRATED WITHIN A LAB-ON-CHIP DEVICE

Kuo-Wei Chang, Chia-Tung Lee, Shilpa Sivashankar, Chiu-Wen Lin, Pei-Yu Chang, Cheng-Hsien Liu
National Tsing Hua University

T.5.145 (2065)

ON-DEMAND DRUG RELEASE DEVICE: AN ELECTROPHORETIC APPROACH

Yen-Tsai Yi, Ying-Chih Liao, Yen-Wen Lu
National Taiwan University

T.6.146 (2257)

MULTI-STEP MIXING IN EXTENDED NANOSPACE BY CONTINUOUS FLOW CHEMICAL PROCESSING WITH EFFECT OF ION HYDRATION ON LIQUID PROPERTY

Kentaro Kasai, Yutaka Kazoe, Kyojiro Morikawa, Kazuma Mawatari, Takehiko Kitamori
The University of Tokyo

T.6.147 (1879)

ENHANCED ELECTROPHORETIC TRANSPORT VIA NOISE-SYNCHRONIZED NANOSCALE ENTROPIC TRAPPING

Nan Shi, Victor M. Ugaz
Texas A & M University

T.6.148 (1009)

IMMOBILIZATION AND ISOLATION OF EXOSOMES USING POLYETHYLENE GLYCOL-LIPID-MODIFIED SURFACE IN A MICROCHANNEL AND EVALUATION BY ATOMIC FORCE MICROSCOPY

Takanori Akagi, Mio Sasaki, Takanori Ichiki
University of Tokyo

T.6.149 (1113)

SINGLE-MOLECULE IMAGING DEVICE USING LOCALIZED EVANESCENT ILLUMINATION IN POLYMERIC NANOHOLES

Takao Ono, Ryo Iizuka, Takanori Akagi, Takashi Funatsu, Takanori Ichiki
The University of Tokyo

T.6.150 (1329)

HIGH-THROUGHPUT PROTEIN MICROARRAYS:FEATURE SIZE EFFECTS ON PRINTING ARRAYS WITH IN SITU PROTEIN SYNTHESIS

Yoko Tanaka, Manish Biyani, Takanori Akagi, Takanori Ichiki

University of Tokyo, Core Research of Evolutional Science and Technology

T.6.151 (1334)

SPOT-SELECTIVE DNA RECOVERY FROM DNA MICROARRAY CHIPS FOR ON-CHIP DIRECTED EVOLUTION

Shingo Ueno, Aiko Ono, Ryo Kobayashi, Yoko Tanaka, Shusuke Sato, Manish Biyani, Naoto Nemoto, Takanori Ichiki

The University of Tokyo, Saitama University

T.6.152 (1607)

MANIPULATION OF HUMAN MESENCHYMAL STEM CELLS BY MULTIFUNCTIONAL GRAPHENE-PEDOT MICROELECTRODE ARRAYS

Yu-Sheng Hsiao, Chiungwen Kuo, Chih-Wei Chu, Peilin Chen

Academia Sinica

T.6.154 (1994)

VISUALIZING THE GROWTH AND DYNAMICS OF LIQUID ORDERED DOMAINS DURING LIPID BILAYER FOLDING IN A MICROFLUIDIC CHIP

Eric L Kendall, Chenren Shao, Don L Devoe

University of Maryland

T.6.155 (1855)

ALIGNING NANOWIRES USING STANDING SURFACE ACOUSTIC WAVES

Yuchao Chen, Xiaoyun Ding, Tony J. Huang

The Pennsylvania State University

T.7.156 (1213)

DETECTION OF THE UNDERWATER MUCUS BY USING LASER RAMAN SPECTROSCOPY

Koji Sato, Shoji Takeuchi

Institute of Industrial Science, The University of Tokyo

T.7.157 (1214)

A NOVEL DETECTION PLATFORM FOR MONITORING PARALLEL DNA HYBRIDIZATION WITH HIGH SENSITIVITY AND SPECIFICITY

Yi Sun, Ivan Perch Nielsen, Zhenyu Wang, Dang Duong Bang, Anders Wolff

Technical University of Denmark, Delta, Peking University

T.7.158 (1420)

BLOOD COAGULATION TESTING METHOD BASED ON FLOW VELOCITY MEASUREMENT USING A SURFACE PLASMON RESONANCE (SPR)-BASED MICROFLUIDIC DEVICE

Katsuyoshi Hayashi, Suzuyo Inoue, Yuzuru Iwasaki, Michiko Seyama, Tsutomu Horiuchi, Emi Tamechika

NTT Microsystem Integration Laboratories

T.7.159 (1658)

RAPID QUANTITATION OF C-REACTIVE PROTEIN AGGLUTINATION WITH ACOUSTIC-ENABLED MICROVORTICES

Arlene Doria, Nicholas E. Martin, Abraham P. Lee

University of California, Irvine

T.7.160 (2185)

"PEAK-TRACKING CHIP" (PTC) FOR BULK REFRACTIVE INDEX SENSING AND BIOARRAY SENSING

Kristelle Bougot-Robin, Shunbo Li, Yinghua Zhang, Rimantas Kodzius, I-Ming Hsing, Henri Benisty, Robert H. Austin, Weijia Wen

Hong-Kong University of Science and Technology, King Abdulla University of Science and Technology, Institut Optique Graduate School, Palaiseau, Princeton University, New Jersey,

T.7.161 (#REF!)

ANALOG IMAGE SENSOR FOR HIGHLY-SENSITIVE SPECTROSCOPIC IMAGING

Yusaku Fujii, Akihide Hibara

Institute of Industrial Science, The University of Tokyo

T.7.162 (1619)

OPTOFLUIDIC DEVICE FOR HIGH RESOLUTION VOLUME REFRACTIVE INDEX MEASUREMENT OF SINGLE CELL

Antoine Leblanc-Hotte, Raphael St-Gelais, Yves-Alain Peter

Ecole Polytechnique of Montreal

T.7.163 (1649)

OPTO-THERMAL MICROFLUIDICS TOWARDS SOLAR-POWERED DIAGNOSTICS

Li Jiang, Matthew Mancuso, David Erickson

Cornell University

T.7.164 (1680)

NANO-OPTOFLUIDIC WAVEGUIDES WITH SUPER-RESOLUTION LIQUID GAP COUPLING FOR BIOMOLECULAR APPLICATIONS

Lip Ket Chin, Yi Yang, Ai-Qun Liu

Nanyang Technological University

T.7.165 (2126)

MONOLITHIC WAVEGUIDE ARRAY PLATFORM FOR PHOTONIC CHARACTERISATION OF BIOLOGICAL SAMPLE

Angie Ma, Guy Matmon, David Holmes, Gabriel Aeppli

London Centre for Nanotechnology, University College London

T.7.166 (1209)

ELECTROCHEMILUMINESCENCE CHIP FOR SINGLE METHYL-CYTOSINE DETERMINATION IN DNA

Ryoji Kurita, Osamu Niwa

National Institute of Advanced Industrial Science and Technology

T.7.167 (1323)

LOCAL REDOX CYCLING-BASED ELECTROCHEMICAL CHIP DEVICE FOR HIGH-THROUGHPUT ASSAY TOWARD EVALUATING EMBRYOID BODIES

Kosuke Ino, Taku Nishijo, Yusuke Kanno, Hitoshi Shiku, Tomokazu Matsue

Tohoku University

T.7.168 (2116)

MULTICHANNEL IMPEDIMETRIC BIOSENSOR PLATFORM FOR LABEL-FREE AFFINITY ASSAYS USING ELECTRICALLY CONDUCTIVE FUNCTIONAL POLYMERS

Leonardo Pires, Andreas Heckel, Kai Sachsenheimer, Bastian E. Rapp

Karlsruhe Institute of Technology

T.7.169 (2220)

STUDY ON ON-CHIP MASS SPECTROMETRY IN A LOW VACUUM OPERATION

Kiyotaka Sugiyama, Hiroki Harako, Yoshiaki Ukita, Yuzuru Takamura

Japan Advanced Institute of Science and Technology

T.7.170 (1508)

ENHANCEMENT OF NMR SENSITIVITY IN NANOLITER SAMPLES BY DYNAMIC NUCLEAR POLARIZATION AND MICRO COILS FABRICATED ON CAPILLARIES BY SHADOW MASK LITHOGRAPHY

Piotr Kurek, Gijs Van Der Heijden, Jan Van Bentum, Han Gardeniers, Arno Kentgens

University of Twente, Radboud University Nijmegen

T.8.171 (1128)

ELECTRONIC MICROFLUIDIC BIOCHIPS WITH IMMUNE-LIKE BIOSENSORS FOR RAPID DETECTION OF C-REACTIVE PROTEIN IN HUMAN SERUM

Chien-Chong Hong, Chie-Pein Chen, Jia-Cherng Horng, Szu-Ying Chen, Cheng-Han Tsai, Wen Chung, Yong-Xiang Chen

National Tsing Hua University, Mackay Memorial Hospital

T.8.173 (1311)

LAB-ON-A-SYRINGE DIAGNOSIS OF KAPOSI'S SARCOMA IN THE DEVELOPING WORLD

Matthew Mancuso, Li Jiang, Ethel Cesarman, David Erickson
Cornell University, Weill Medical College of Cornell University

T.8.175 (1468)

CONCENTRATION OF WHITE BLOOD CELLS FROM WHOLE BLOOD BYCENTRIFUGO-PNEUMATIC SIPHONING AND DENSITY GRADIENT MEDIUM

David J Kinahan, Macdara T Glynn, Jens Ducreé
Dublin City University

T.8.177 (1656)

RAPID TWO-STEP BLOOD SAMPLE PREPARATION WITH ACOUSTIC MICROFLUIDIC CHIPS

Arlene Doria, Nicholas E. Martin, Abraham P. Lee
University of California, Irvine

T.8.178 (1750)

HYBRID PAPER-POLYMER LAB-ON-A-DISC FOR BIOASSAY INTEGRATION

Neus Godino, Elizaveta Vereshchagina, Robert Gorkin, Jens Ducreé
Dublin City University

T.8.179 (2133)

RAPID ASSAY SYSTEM FOR INSULIN AND GLUCOSE IN WHOLE BLOOD BY USING A FULL AUTOMATED POSTAGE-STAMP-SIZE CHIP: POSSIBLE APPLICATION FOR A REALTIME FITNESS INDEX IN PEOPLE WITH METABOLIC SYNDROME

Suguru Shiohara, Yoshiaki Ukita, Hiromi Ushijima, Yasukazu Fukumura, Toshinari Takamura, Yuzuru Takamura
Japan Advanced Institute of Science and Technology, Bio-device Technology Ltd.,, Komatsu Electronics co., Ltd., Kanazawa University,

T.8.180 (2237)

MICROFLUIDIC FILTRATION SYSTEM TO ISOLATE MICROVESICLES FROM BLOOD

Ryan T Davies, Junho Kim, Yongsong Gho, Jaesung Park
Pohang University of Science and Technology

T.8.181 (1069)

HANDHELD ELECTRONIC ANALYZER WITH DISPOSABLE LAB-ON-CHIPS FOR RAPID DETECTION OF ANESTHETIC PROPOFOL IN HUMAN SERUM

Chien-Chong Hong, Chih-Chung Lin, Chian-Lang Hong, Zi-Xiang Lin, Meng-Hua Chung, Pei-Wen Hsieh
National Tsing Hua University, Chang Gung Memorial Hospital, Linkou

T.8.182 (1096)

LABDISK INTEGRATED DNA EXTRACTION FROM WHOLE BLOOD USING MAGNETIC PARTICLES

Simon Wadle, Oliver Strohmeier, Markus Rombach, Daniel Mark, Roland Zengerle, Felix Von Stetten
University of Freiburg - IMTEK, HSG-IMIT, Institut für Mikro- und Informationstechnik

T.8.183 (1237)

CAPILLARY SENSOR ARRAY CHIP AS A "SAMPLE-TO-ANSWER" DEVICE FOR SIMPLE, RAPID, AND MULTIPLE COMPONENT ANALYSIS OF SERUM SAMPLE

Yusuke Kimura, Terence G. Henares, Shun-Ichi Funano, Tatsuro Endo, Hideaki Hisamoto
Osaka Prefecture University

T.8.184 (1296)

A DIGITAL MICROFLUIDIC APPROACH TO OIL-FREE MAGNETIC PARTICLE-BASED IMMUNOASSAYS

Alphonsus H.C. Ng, Kihwan Choi, Robert P. Luoma, John M. Robinson, Aaron R. Wheeler
University of Toronto, Abbott Diagnostics

T.8.185 (1781)

CHARACTERIZATION OF PASSIVE ULTRASONIC IRRIGATION IN ROOT CANAL USING MICROFLUIDIC DEVICE

Wen-I Wu Wen-I Wu, Gillian Layton, Anil Kishen, P. Ravi Selvaganapathy
McMaster University, University of Toronto

T.8.186 (1871)

VERIFAST: AN INTEGRATED SYSTEM FOR FLEXIBLE CTC ISOLATION AND ANALYSIS

Benjamin P Casavant, Scott M Berry, Joshua Lang, David J Guckenberger, David J Beebe
University of Wisconsin - Madison

T.8.187 (1229)

COMBINED DNA PURIFICATION AND INTEGRATION USING FTA μ PAPER AND PCR REAGENT ENCAPSULATION

Kirsty J. Shaw, Rafaela Vasiliadou, Joseph Parton, Stephen J. Haswell
University of Hull

T.8.188 (1151)

HIGHLY FAST REAL-TIME PCR SYSTEM BASED ON RAPID THERMAL CYCLER AND 2-COLOR SCANNING OPTIC MODULE

Wonseok Chung, Kak Namkoong, Chinsung Park, Wonjong Jung, Sunok Jung, Kyung-Ho Kim, Joon S. Shim, Kyu-Youn Hwang, Heekyun Lim, Joon-Ho Kim
Samsung Advanced Institute of Technology (SAIT)

T.8.189 (1407)

AN INTEGRATED SELEX-BASED MICROFLUIDIC SYSTEM FOR RAPID SCREENING OF INFLUENZA VIRUS-SPECIFIC APTAMERS

Hsien-Chih Lai, Chih-Hung Wang, Chen-Hsun Weng, Tong-Miin Liou, Gwo-Bin Lee
National Tsing Hua University

T.8.190 (1634)

KINETICS OF INSULIN ADSORPTION FROM REAL TIME EOF MEASUREMENTS IN A MICROFLUIDIC CHIP

Syrine Chebil, Stéphanie Mance, Isabelle Le Potier, Antoine Pallandre, Anne-Marie Haghiri-Gosnet
Laboratoire de Photonique et de Nanostructures, CNRS UPR 20, Univ Paris Sud, Faculte de Pharmacie, CNRS UMR 8612

T.8.191 (1771)

INTEGRATED MICROFLUIDIC FLUIDIZED BED FOR SAMPLE PRECONCENTRATION AND IMMUNOEXTRACTION

Sanae Tabnaoui, Laurent Malaquin, Stéphanie Descroix, Jean-Louis Viovy
Institut Curie

T.8.192 (1921)

MICRO-CAPILLARY SYSTEMS INTEGRATING PHOTO-CONTROLLED MOLECULAR CRANES FOR METAL ION ACCUMULATION, SENSING AND RELEASE IN CONTINUOUS FLOW

Larisa Florea, Dermot Diamond, Fernando Benito-Lopez
Dublin City University

T.8.193 (1947)

SELF-INTEGRATION OF ION TRANSPORT TUNABLE NANOPOROUS MICROPLUGS IN A MICROFLUIDIC CHIP FOR ELECTROKINETIC BIO-SAMPLE CONCENTRATION

Minseok Kim, Taesung Kim
Ulsan National Institute of Science and Technology (UNIST)

T.9.194 (2071)

NANO DESALINATOR BY ELECTROSTATIC ION SIEVING FOR LOW-POWER WATER PURIFICATION

Yu-Sheng Huang, Chia-Jung Chang, Wen-Chih Chang, Yu-Lun Chueh, Fan-Gang Tseng
National Tsing Hua University, Industrial Technology Research Institute

T.9.195 (1528)

MICROFLUIDIC GAS/LIQUID TOXICITY SENSING THROUGH THE CHEMOTAXIS OF EUGLENA CELLS CONFINED IN A MICRO-AQUARIUM

Kazunari Ozasa, Jeessoo Lee, Simon Song, Masahiko Hara, Mizuo Maeda
RIKEN, Hanyang University

T.9.196 (1613)

GOLD-NANOPARTICLE BASED FLUORESCENT SENSOR FOR THE ANALYSIS OF DITHIOCARBAMATE PESTICIDES IN WATER

Silja Senkbeil, Josiane P. Lafleur, Thomas G. Jensen, Joerg P. Kutter
Technical University of Denmark

T.9.197 (1880)

MICROFLUIDICALLY ENABLED HIGH-THROUGHPUT MONITORING OF ENVIRONMENTAL NANOPARTICLES

Fanxu Meng, Maria D. King, Yassin A. Hassan, Victor M. Ugaz
Texas A & M University

T.9.198 (2190)

DRUG AUTHENTICATION USING HIGH CAPACITY AND ERROR-CORRECTABLE ENCODED MICROTAGGANTS

Sangkwon Han, Hyung J. Bae, Junhoi Kim, Sunghwan Shin, Sunghoon Kwon, Wook Park
Seoul National University, Kyung Hee University

T.9.199 (1153)

ENZYME-BASED BIOFUEL CELL DESIGNED FOR DIRECT POWER GENERATION FROM BIOFLUIDS IN LIVING ORGANISMS

Takeo Miyake, Shuhei Yoshino, Takuya Ofuji, Hirokazu Kaji, Matsuhiko Nishizawa
Tohoku University

T.9.200 (1583)

MICROFLUIDIC MICROBIAL FUEL CELLS FOR RAPID SCREENING OF ELECTROACTIVE MICROORGANISMS

Yan-Yu Chen, Jian-Yu Su, Hsiang-Yu Wang, Chih-Yung Huang
National Cheng Kung University, National Tsing Hua University

T.9.201 (2014)

DESIGN OPTIMIZATION, FABRICATION, AND FLOW EXPERIMENT OF 2.5D ROCK-BASED ARTIFICIAL POROUS MEDIA MICROMODEL

Daniel S. Park
Louisiana State University

Wednesday, October 31

Poster Session 3 13:45-16:00

W.1.1 (1016)

AN INTEGRATED MICROFLUIDIC DEVICE FOR HIGH-THROUGHPUT ELECTROPHYSIOLOGICAL ANALYSIS OF C.ELEGANS

Chunxiao Hu, Vincent O'Connor, Lindy Holden-Dye, Hywel Morgan
University of Southampton

W.1.2 (1070)

HYDRODYNAMIC LEVITATION OF A MICROFLUIDIC PROBE FOR SAMPLE-HEAD DISTANCE CONTROL

Robert D. Lovchik, Govind V. Kaigala, Emmanuel Delamarche
IBM Research - Zurich

W.1.3 (1254)

NANO LAPLACE VALVE FOR FEMTOLITTER LIQUID GENERATION AND HANDLING REALIZED BY NANOPILLAR-IN-NANOCHANNEL FABRICATION AND SURFACE MODIFICATION

Kazuma Mawatari, Shogo Kubota, Takehiko Kitamori
The University of Tokyo

W.1.4 (1278)

SAXS-LABDISK: A CENTRIFUGAL MICROFLUIDIC SCREENING PLATFORM FOR PROTEIN STRUCTURE ANALYSIS

Frank Schwemmer, Steffen Zehnle, Nils Paust, Clement Blanchet, Manfred R 售 sle, Felix Von Stetten, Roland Zengerle, Daniel Mark
IMTEK, University of Freiburg, HSG-IMIT - Institut für Mikro- und Informationstechnik, EMBL Hamburg, BIOSS - Centre for Biological Signalling Studies, University of Freiburg,

- W.1.5 (1290)
MICROFLUIDIC PUMP BASED ON ARRAYS OF ROTATING MAGNETIC MICROSPHERES
Wesley T.E. Van Den Beld, Eddy L. De Weerd, Leon Abelmann, Johan G. Bomer, Albert Van Den Berg, Jan C.T. Eijkel
MESA+ Institute for Nanotechnology, Twente University
- W.1.6 (1357)
GENERATION OF A MICROLIQUID CONCENTRATION SERIES USING WETTABILITY GRADIENT AND ELECTROWETTING
Takashi Yasuda, Jin Nakamura, Kenichi Nakayama, Makoto Yamanaka
Kyushu Institute of Technology
- W.1.7 (1725)
FREE ACCESSIBLE MICROCHANNEL USING AIR-LIQUID INTERFACE WITH PATTERNED NANO-GEOMETRIC SURFACE BY HYBRID MASK LITHOGRAPHY
Masakuni Sugita, Shinya Sakuma, Fumihito Arai
Nagoya University
- W.1.8 (2070)
FORMATION OF PARALLEL AQU/ORG TWO PHASE FLOW IN EXTENDED NANOCHANNEL BY PARTIAL MODIFICATION WITH MOLECULAR ABLATION USING EVANESCENT WAVE
Hiroto Akaike, Yutaka Kazoe, Kentaro Kasai, Kazuma Mawatari, Takehiko Kitamori
The University of Tokyo
- W.1.9 (2083)
INTERNALLY TRIGGERD MULTISTEP FLOW SEQUENCERS USING CLEPSYDRA
Yoshiaki Ukita, Masaki Ishizawa, Yuzuru Takamura, Yuishi Utsumi
Japan Advanced Institute of Science and Technology, University of Hyogo
- W.1.10 (2102)
'ALL-INTO-ONE' CONCENTRATION: CASCADE ELECTROKINETIC PARTICLE FOCUSING FOR RARE SAMPLE DETECTION
Masahiro Motosuke, Keichi Yamasaki, Hikaru Toki, Shinji Honami
Tokyo University of Science
- W.1.11 (1142)
MECHANICS OF PARTICLE TRAPPING AND MAINTENANCE IN MICRO-SCALE FLUID VORTICES
Albert J. Mach, Xu Yi, Elodie Sollier, Hamed Amini, Derek E. Go, Dino Di Carlo
University of California, Los Angeles
- W.1.12 (1534)
VISCOUS EFFECTS ON DYNAMIC RUPTURE OF FLUIDS IN MICROFLUIDICS
Zhen Guo Li, Keita Ando, Jing Bo Zhang, Ai-Qun Liu, Claus Dieter Ohl
Nanyang Technological University, Keio University, Data Storage Institute, A*STAR, Nanyang Technological University,
- W.1.13 (2087)
SWITCHING OF SECONDARY FLOW BEHAVIOR ON CENTRIFUGAL MICROFLUIDICS
Yoshiaki Ukita, Yuzuru Takamura
Japan Advanced Institute of Science and Technology
- W.1.14 (2136)
MEASURING THE 3D MOTION OF PARTICLES IN MICROCHANNEL ACOUSTOPHORESIS USING ASTIGMATISM PARTICLE TRACKING VELOCIMETRY
Rune Barnkob, Per Augustsson, Henrik Bruus, Christian J. Kähler, Thomas Laurell, Álvaro G. Marín, Peter B. Müller, Massimiliano Rossi
Technical University of Denmark, Lund University, Universität der Bundeswehr München, Neubiberg
- W.1.15 (1159)
ELECTRIC-FIELD INDUCED TIP STREAMING FOR SUB-FEMTOLITER DROPLET FORMATION
Hsin-Hsien Tsai, Jhih-Jhe Wang, Yu-Chuan Su
National Tsing Hua University

W.1.16 (1174)

ELECTRIC CONTROL IN DIGITAL MICROFLUIDICS

Say Hwa Tan, Benoit Semin, Jean-Christophe Baret

Max Planck Institute for Dynamics and Self-Organization (MPIDS)

W.1.17 (1191)

THREE-DIMENSIONAL MANIPULATIONS OF NANOLITER WATER-DROPS ON OPEN PLATFORMS USING MAGNETICALLY CONTROLLED HYDROPHOBIC FERRO-DROPS

Kai Zhang, Qionglin Liang, Guoan Luo

Tsinghua University

W.1.18 (1393)

SINGLE-MOLECULE ENZYMATIC ANALYSIS IN A DROPLET-BASED MICROFLUIDIC SYSTEM

Rerngchai Arayanarakool, Lingling Shui, Serve W.M. Kengen, Albert Van Den Berg, Jan C.T. Eijkel

University of Twente, South China Normal University, University of Wageningen

W.1.19 (1846)

HIGH-THROUGHPUT PATTERNING OF SINGLE MAGNETIC BEADS USING DIGITAL MICROFLUIDIC TECHNOLOGY

Daan Witters, Karel Knez, Kris Janssen, Bert Verbruggen, Robert Puers, Jeroen Lammertyn

BIOSYST-MeBioS, KU Leuven - University of Leuven, MICAS-ESAT, KU Leuven - University of Leuven

W.1.20 (2012)

LIQUID-IN-GAS DROPLET MICROFLUIDICS

Kunqiang Jiang, Srinivasa R. Raghavan, Don L. Devoe

University of Maryland, University of Maryland, University of Maryland

W.1.21 (2167)

PRODUCTION OF AQUEOUS-CORE/MULTILAMELLAR-SHELL HYBRID LIPOSOMES UTILIZING NON-EQUILIBRIUM MICROFLUIDIC DROPLETS

Masahiro Mizuno, Miki Konishi, Masumi Yamada, Taro Toyota, Minoru Seki

Chiba University, University of Tokyo

W.1.22 (1073)

HIGH-THROUGHPUT MULTIPLEXED PROTEASE ACTIVITY MEASUREMENT USING A DROPLET BASED MICROFLUIDIC PLATFORM WITH PICOINJECTOR

Chia-Hung Chen, Miles A. Miller, Aniruddh Sarkar, Michael T. Baste, Douglas A. Lauffenburger, Linda G. Griffith, Jongyoon Han

National University of Singapore, Massachusetts Institute of Technology

W.1.23 (1593)

RIGHT TRIANGULAR PRISM-SHAPED POLY(DIMETHYLSILOXANE) (PDMS) MICRODEVICE FOR MULTIPLEX PCR EMPLOYING A SINGLE HEATER

Wenming Wu, Kieu The Loan Trinh, Nae Yoon Lee

Gachon Bionano Research Institute, Gachon University, Gachon University

W.1.24 (1922)

ELECTROCHEMICAL DETECTION OF CANCER CELLS ON A CENTRIFUGAL PLATFORM

Charles E. Nwankire, Anita Venkatanarayanan, Robert J. Forster, Jens Duer 殺

Dublin City University

W.1.25 (1931)

ACOUSTOFLUIDIC OPTICAL SWITCH

Po-Hsun Huang, Michael I. Lapsley, Daniel Ahmed, Tony J. Huang

The Pennsylvania State University

W.1.26 (1358)

A MICROFLUIDIC DEVICE FOR TEMPERATURE-TRIGGERED DNA AMPLIFICATION IN AGAROSE MICROBEADS

Linda Desbois, Adrien Padirac, Yannick Rondelez, Teruo Fujii

LIMMS/IIS University of Tokyo

W.1.28 (1835)

SINGLE ISOLATED VESICLES IN MICROFLUIDIC TRAPS TO STUDY MEMBRANE PROTEIN KINETICS

Tom Robinson, Phillip Kuhn, Klaus Eyer, Petra S. Dittrich

ETH Zurich

W.1.29 (1915)

MICROFLUIDIC DROPLET GENERATION VIA ELECTROGENERATION

Siawash Shinwary, P. Ravi Selvaganapathy

McMaster University

W.1.30 (1945)

PEN MICROFLUIDICS: FROM DESIGN TO BONDED THERMOPLASTIC CHIPS IN UNDER 30 MINUTES

Omid Rahmanian, Don L. Devoe

University of Maryland-College Park

W.2.31 (1189)

FABRICATING DNA MICROARRAYS BY COPYING A NEXT GENERATION SEQUENCING CHIP

Jochen Hoffmann, Sebastian Hin, Felix Von Stetten, Roland Zengerle, Günter Roth

University of Freiburg

W.2.32 (1104)

INTEGRATION OF TRANSCRIPTOMIC, PROTEOMIC AND METABOLOMIC PROFILES IN MICROFLUIDIC BIOARTIFICIAL LIVER APPLIED TO MECHANISTIC INTERPRETATION OF ACETAMINOPHEN INJURY

Jean Mathieu Prot, Andrei Bunescu, Bénédicte Elena-Herrmann, Caroline Aninat, Laurent Griscom, Cécile Legallais, Anne Corlu, Marc Emmanuel Dumas, Eric Leclerc

Université de Technologie de Compiègne, ENS de Lyon, Université de Rennes, ENS de Cachan

W.2.33 (1374)

CONTROLLED DRUG RELEASE ANALYSIS OF MONOSIZED DRUG-LOADED PLGA MICROPARTICLES BY LIGAND-SENSITIZED FLUORESCENCE

Hwan-Gon Kim, Jin-Ho Choi, Kyung Min Kim, Young Ho Kim Kim, Sang Hak Lee, Gyu Man Kim

Kyungpook National University

W.2.34 (1605)

YEAST-BASED LIGAND ASSAY SYSTEM FOR DETECTING G PROTEIN-COUPLED RECEPTOR ACTIVATION IN WATER-IN-OIL DROPLETS

Takashi Sakurai, Ryo Iizuka, Yasuyuki Tanigaki, Rui Sekine, Dong Hyun Yoon, Tetsushi Sekiguchi, Jun Ishii, Akihiko Kondo, Naoto Nemoto, Shuichi Shoji

The University of Tokyo, Saitama University, Waseda University, Nanotechnology Research Center, Waseda University, Kobe University

W.2.35 (1893)

TOWARDS A "BODY ON A CHIP" USING SPHERICAL MICROTISSUES IN A MICROFLUIDIC NETWORK

Olivier Frey, Soumyarangan Mohanty, Wolfgang Moritz, Andreas Hierlemann

ETH Zurich, InSphero AG

W.2.36 (1985)

DEVELOPMENT OF A MICRO DIALYSIS SYSTEM FOR EVALUATION OF RENAL CLEARANCE

Yu Sakuta, Kin-Ichi Tsunoda, Kiichi Sato

Gunma University

W.2.37 (2008)

HIGH THROUGHPUT PURIFICATION DEVICE FOR GENE DELIVERY MULTIFUNCTIONAL ENVELOPE-TYPE NANODEVICE

Daisuke Shigenaka, Masami Ukawa, Noritada Kaji, Yukihiro Okamoto, Manabu Tokeshi, Hidetaka Akita, Hideyoshi Harashima, Yoshinobu Baba

Nagoya University, Hokkaido University

W.2.38 (1105)

MICROFLUIDIC INVESTIGATION OF CELLULAR MECHANICAL DYSFUNCTION IN CAMPOMELIC DYSPLASIA

Irwin A. Eydelnant, Meng Wen Liao, Aaron R. Wheeler

University of Toronto

W.2.39 (1112)

DIELECTROPHORETIC (DEP) CYTOMETER: LABEL-FREE ELECTRONIC SENSING OF PHYSIOLOGICAL CHANGES IN CELLS

Marija Nikolic-Jaric, Elham Salimi, Tim Cabel, Katrin Braasch, Michael Butler, Greg E. Bridges, Douglas J. Thomson

University of Manitoba

W.2.40 (1217)

CHARACTERIZATION OF NATURAL KILLER CELLS' CYTOTOXIC HETEROGENEITY USING AN ARRAY OF SONO-CAGES

Athanasia E. Christakou, Mathias Ohlin, Nadir Kadri, Thomas Frisk, Bjorn Onfelt, Martin Wiklund

Royal Institute of Technology, Stockholm, Karolinska Institute, Stockholm

W.2.41 (1496)

A NOVEL MICROFLUIDIC DESIGN UTILIZING HYDRODYNAMIC RESISTANCES TO GENERATE MULTIPLEX GRADIENTS OF BIOMOLECULES DEMONSTRATED THROUGH VISUALIZED BIOMOLECULE PATTERNING AND DIRECTED CELL ADHESION

Tohid Fatanat Didar, Maryam Tabrizian

McGill University

W.2.42 (1546)

THE SIGNIFICANCE OF NUCLEAR DEFORMATION AND CHROMATIN REMODELING FOR CANCER CELL TRANSMIGRATION

Yi Fu, Ai Qun Liu

Nanyang Technological University

W.2.43 (1690)

FOUR-STAGE MECHANISTIC MODEL OF DYNAMIC PLATELET AGGREGATION IN A MICROFLUIDIC CHIP

Miguel E. Combariza, Francisco J. Tovar-Lopez, Warwick S. Nesbitt, Arnan Mitchell

RMIT University, The Australian Centre for Blood Diseases, Monash University

W.2.44 (1706)

CONTINUOUS LOCAL EXPOSURE TO CHEMICAL SUBSTANCES OF SINGLE CELL

Kyohei Terao, Murat Gel, Ariko Fuke, Atsuhito Okonogi, Teru Okitsu, Takashi Tada, Takaaki Suzuki, Masao Washizu, Hidetoshi Kotera

Kagawa University, University of Tokyo, Kyoto University

W.2.45 (1732)

MEASUREMENT OF PHOTOSYNTHESIS USING SINGLE SYNECOCYSTIS SP. PCC 6803 ON A MICRO CHAMBER WITH GASS BARRIER WALL

Hisataka Maruyama, Yu Matsuda, Nobuyuki Uozumi, Kei Nanatani, Fumihito Arai

Nagoya University, Tohoku University

W.2.46 (1784)

DEVELOPMENT OF A MICROFLUIDIC CONCENTRATION GRADIENT GENERATOR ON A MICROWELL SLIDE FOR HIGH-THROUGHPUT CELL ANALYSIS

Emilie Weibull, Shunsuke Matsui, Helene Andersson-Svahn, Toshiro Ohashi

Royal Institute of Technology, Hokkaido University

W.2.47 (1820)

QUANTITATIVE PHYSIOLOGY WITH ISOLATED SINGLE CELLS AND MICROPOPULATIONS IN CONTROLLED MICROENVIRONMENTS EMPLOYING A PICOLITER BIOREACTOR

Christian Dusny, Frederik Sven Ole Fritsch, Katrin Rosenthal, Oliver Frick, Andreas Schmid

TU Dortmund University

W.2.48 (1872)

MICROFLUIDIC PLATELET ANALYSIS PLATFORM BASED ON IMPEDANCE SPECTROSCOPY

Mikael Evander, Antonio J. Ricco, John Morser, Gregory T. A. Kovacs, Lawrence L. K. Leung, Laurent Giovangrandi

Stanford University

W.2.49 (1889)

HIGH-RESOLUTION LIVE CELL IMAGING OF THE YEAST LIFE CYCLE

Olivier Frey, Fabian Rudolf, Andreas Hierlemann
ETH Zurich

W.2.51 (1984)

SPATIALLY PATTERNED NEURAL AND CARDIAC DIFFERENTIATION OF EMBRYOID BODY (EB) IN A MICROFLUIDIC DEVICE

Xiaoming He, Hiroshi Kimura, Shohei Kaneda, Jiro Kawada, Yasuyuki Sakai, Hidenori Akutsu, Teruo Fujii
University of Tokyo, National Research Institute for Child Health and Development

W.2.52 (2100)

CONTROL OF SELF-FOLDING CELL-LADEN MICROPLATES BY CYTOSKELETON ALIGNMENT TO FIBRONECTIN PATTERNS

Daniela Serien, Kaori Kuribayashi-Shigetomi, Shotaro Yoshida, Shoji Takeuchi
CIRMM-IIS, The University of Tokyo

W.2.53 (2194)

LARGE-SCALE SCREENING OF OLFACTORY SENSORY NEURONS WITH A MICROPLATE-INTEGRATED MICROFLUIDIC PLATFORM

Anthony K. Au, Lisa F. Horowitz, Daniel R. Storm, Albert Folch
University of Washington, Department of Bioengineering, University of Washington, Department of Pharmacology

W.2.54 (1093)

HIGH-THROUGHPUT LINEAGE TREE INVESTIGATIONS OF BACTERIA MICROCOLONIES USING ARRAYS OF MONOLAYER GROWTH CHAMBERS

Alexander Gruenberger, Stefan Helfrich, Christopher Probst, Katharina Noeh, Wolfgang Wiechert, Dietrich Kohlheyer
Forschungszentrum Juelich GmbH (Research Center Juelich)

W.2.55 (1695)

FORMATION OF CELL-SIZED VESICLES WITH ASYMMETRIC LIPID BILAYER USING PULSED JET FLOW

Koki Kamiya, Ryuji Kawano, Toshihisa Osaki, Shoji Takeuchi
Kanagawa Academy of Science and Technology, The University of Tokyo

W.2.56 (2231)

LIPID BILAYER CHAMBER ARRAY FOR FLUORESCENT AND ELECTROCHEMICAL MEASUREMENT OF MEMBRANE PROTEINS

Taishi Tonooka, Ryuji Kawano, Koji Sato, Toshihisa Osaki, Shoji Takeuchi
Institute of Industrial Science, The University of Tokyo, Kanagawa Academy of Science and Technology

W.2.57 (2134)

A TRANSDERMAL CONTINUOUS GLUCOSE MONITORING SYSTEM WITH AN IMPLANTABLE FLUORESCENT HYDROGEL FIBER AND A WEARABLE PHOTO-DETECTOR

Masayuki Takahashi, Yun Jung Heo, Tetsuro Kawanishi, Teru Okitsu, Shoji Takeuchi
Life BEANS Center, BEANS Project, IIS, The University of Tokyo, TERUMO Co. R&D Headquarters

W.2.58 (1303)

CONTINUOUS FLOW INFRARED POLYMERASE CHAIN REACTION (CFIR-PCR) USING AN INFRARED-MEDIATED HEATING SYSTEM

Kyudam Oh, Jenny A. Lounsbury, Brian L. Poe, Zorik Keshishian, James P. Landers
University of Virginia

W.2.59 (1630)

CO-RELATION OF CELLULAR AND BEHAVIORAL RESPONSES OF CAENORHABDITIS ELEGANS TO PULSE DC ELECTRIC FIELDS

Pouya Rezai, Shu-Chi (Allison) Yeh, Sangeena Salam, Qiyin Fang, Bhagwati P Gupta, Ponnambalam R Selvaganapathy
McMaster University, School of Biomedical Engineering, McMaster University, Biology Department, McMaster University

W.2.60 (1826)

MULTIPLEXED DRUG SCREENING USING PARTICIPATING

Su Eun Chung, Jiyun Kim, Dongyoon Oh, Younghoon Song, Sunghoon Kwon
Seoul National University

W.2.61 (1949)

SILICON NANO TWEEZERS FOR REAL TIME BIOMECHANICAL ASSAY ON DNA DAMAGE BY THERAPEUTIC RADIATION BEAMS

Dominique Collard, Thomas Lacornerie, Momoko Kumemura, Nicolas Lafitte, Herve Guillou, Laurent Jalabert, Eric Lartigau, Teruo Fujii, Fabrizio Cleri, Hiroyuki Fujita
LIMMS/CNRS-IIS, UMI2820/The University of Tokyo, Centre Oscar Lambret, University of Lille 2, IEMN, UMR8520, CNRS, University of Lille 1, Institute of Industrial Science, The University of Tokyo,

W.2.62 (1986)

ON-CHIP BIOLUMINESCENCE ASSAY OF ATP AND KINASES USING IMMOBILIZED FIREFLY LUCIFERASE IN THREE-DIMENSIONAL MICROFLUIDIC CHIP

Hirofumi Tani, Atsuki Morisaki, Akihiko Ishida, Manabu Tokeshi
Hokkaido University

W.3.63 (1181)

BIOPHOTONIC LAB ON A CHIP WITH INTEGRATED SIZE-EXCLUSION MICROFILTERS FOR CELL PROLIFERATION MONITORING

Xavier Munoz-Berbel, Rosalia Rodriguez-Rodriguez, Stefanie Demming, Ala'Aldeen Al-Halhouli, Stephanus Büttgenbach, Elisabeth Verpoorte, Pedro Ortiz, Andreu Llobera
Institut de Microelectronica de Barcelona, IMB-CNM, CSIC, Universidad de Sevilla, Technische Universit 閣 Braunschweig, University of Groningen,

W.3.64 (1313)

INDUCING BACTERIAL BIOFILM FORMATION BY FLUID FORCES USING A MICROFLUIDIC SHEAR ARRAY

Westbrook M. Weaver, Vladana Milisavljevic, Jeffery F. Miller, Dino Di Carlo
University of California Los Angeles

W.3.65 (1391)

MICRODEVICE FOR CELL MIGRATION ASSAYS USING REVERSE-TRANSFECTION

Junko Enomoto, Rika Takagi, Reiko Nagasaki, Hiroaki Suzuki, Satoshi Fujita, Junji Fukuda
University of Tsukuba, National Institute of Advanced Industrial Science and Technology

W.3.66 (1471)

A MICROFLUIDIC WOUND-HEALING ASSAY TO STUDY ENDOTHELIAL CELL PROLIFERATION AND MIGRATION UNDER OXYGEN GRADIENTS

Hsiu-Chen Shih, Man-Chi Liu, Te-Wei Weng, Ying-Hua Chen, Wei-Hao Liao, Yi-Chung Tung
Academia Sinica, National Taiwan University

W.3.67 (1532)

ASSESSMENT OF CARBON NANO WALLS' PERFORMANCE AS CELL SCAFFOLDS FOR STEM CELLS

Yukihiro Okamoto, Hitoshi Watanabe, Kazutoshi Kubo, Hiroki Kondo, Noritada Kaji, Manabu Tokeshi, Masaru Hori, Yoshinobu Baba
Nagoya University, Hokkaido University

W.3.68 (1708)

GENERATION OF DYNAMIC MICROENVIRONMENT IN A HYDROGEL-BASED MICROFLUIDIC DEVICE FOR CELL CULTURE STUDY

Aswan Al-Abboodi, Ricky Tjeung, Pauline M. Doran, Leslie Yeo, James Friend, Peggy P.Y. Chan
Monash University, Swinburne University of Technology, RMIT University

W.3.70 (1920)

GENERATING CELL CO-CULTURES BY RAPID CELL ADHESION ON OPPOSITE SIDES OF POLYESTER MEMBRANES

Conni Hanke, Petra S. Dittrich, Darwin R. Reyes
National Institute of Standards and Technology, ETH Zurich

W.3.71 (1980)

MICROSCALE CULTURE AND ENRICHMENT OF CANCER STEM CELLS FOR DRUG DEVELOPMENT

Ching-Te Kuo, Chi-Ling Chiang, Chen-Tse Wu, Guan-Syuan Huang, Ruby Yun-Ju Huang, Hsinyu Lee, Andrew M. Wo

National Taiwan University, National University of Singapore

W.3.72 (2069)

BIOHYBRID MUSCLE FIBERS INTEGRATED IN A THREE-DIMENSIONAL CELLULAR CONSTRUCT

Yuya Morimoto, Kaori Kuribayashi-Shigetomi, Shoji Takeuchi

University of Tokyo

W.3.73 (2262)

ENGINEERING STABLE MICRO-CAPILLARY STRUCTURES BY CONTROLLED 3D-COLLAGEN MICROCHANNELS

Yukiko T. Matsunaga, Nathalie Brandenberg

The University of Tokyo, PRESTO, JST

W.3.74 (1158)

A TECHNIQUE FOR MEASUREMENT OF DIELECTRIC PROPERTIES OF CELLS BY SIMULTANEOUS USE OF ELECTROROTATION AND NEGATIVE DIELECTROPHORESIS

Song-I Han, Young-Don Joo, Ki-Ho Han

Inje University

W.3.75 (1232)

AN OPTO-THERMOCAPILLARY CELL MANIPULATOR

Wenqi Hu, Qihui Fan, Kelly S. Ishii, Aaron T. Ohta

University of Hawaii at Manoa

W.3.76 (1343)

AN OPTICAL-INDUCED PLATFORM FOR GENE TRANSFECTION

Hsin-Tzu Kuo, You-Hsun Lee, Chih-Hung Wang, Chen-Min Chang, Gwo-Bin Lee

National Tsing Hua University, National Cheng Kung University

W.3.77 (1418)

DIRECTED CELL MIGRATION IN CONTACT WITH ANISOTROPIC MICROSTRUCTURES.

Maël Le Berre, Yanjun Liu, Hu Jie, Raphael Voituriez, Yong Chen, Matthieu Piel

Institut Curie, Ecole Normale Supérieure, Université Pierre et Marie Curie

W.3.78 (1576)

MULTIPLEXED CELLS MICROPATTERNING USING CAPILLARY ASSEMBLY

François-D. Delapierre, Velan Taniga, Guillaume Mottet, Laurent Malaquin

Institut Curie, UMR 168

W.3.79 (2245)

LASER-BASED MANIPULATION AND FLUORESCENT DETECTION OF INDIVIDUAL, CENTRIFUGALLY ARRAYED BIOPARTICLES

Robert Burger, Dirk Kurzbuch, Robert Gorkin, Orla Sheils, John O'Leary, Macdara Glynn, Gregor Kijanka, Jens Ducleé

Biomedical Diagnostics Institute, Dublin City University, Trinity College Dublin

W.3.80 (1146)

SIMPLE CIRCULATING TUMOR CELL SEPARATION

Jason G Kralj, Chanda Arya, Thomas Forbes, Matthew S Munson, Alessandro Tona, Lynn Sorbara, Sudhir Srivastava, Samuel P Forry

National Institute of Standards and Technology, University of Maryland, National Institutes of Health

W.3.81 (1175)

SEPARATION OF HYDROGEL PARTICLES IN DETERMINISTIC LATERAL DISPLACEMENT DEVICES

Masoomah Ghasemi, Stefan H. Holm, Jason P. Beech, Mattias Björnmalm, Jonas O. Tegenfeldt, Jonas O. Tegenfeldt

Lund University, Gothenburg University

W.3.82 (1227)

EFFICIENT ISOLATION OF TUMOR CELLS IN WHOLE BLOOD USING APTAMERS IMMOBILIZED IN A DEVICE

Hugh Fan, Weian Sheng, Tao Chen, Weihong Tan
University of Florida

W.3.83 (1287)

ISOLATION OF CIRCULATING TUMOR CELLS FROM WHOLE BLOOD USING IMMUNOMAGNETIC NANOBeadS AND LATERAL MAGNETOPHORESIS

Seonyoung Kim, Min-Jae Park, Young-Don Joo, In-Hak Choi, Ki-Ho Han
Inje University

W.3.84 (1395)

A MICROMIXER FOR CONTINUOUS LABELING OF CIRCULATING TUMOR CELLS WITH MICRO-BEADS AS A HIGHLY SELECTIVE ISOLATION

Mingxian Lin, Kyung-A Hyun, Hui-Sung Moon, Tae Seok Sim, Jeong-Gun Lee, Jae Chan Park, Hyo-Il Jung
Yonsei University, Samsung Advanced Institute of Technology

W.3.85 (1597)

FULLY AUTOMATED IMMUNOMAGNETIC LAB-ON-CHIP FOR RARE CANCER CELLS SORTING, ENUMERATION AND IN-SITU ANALYSIS.

Julien Autebert, Benoit Coudert, François-Clément Bidard, Jean-Yves Pierga, Stéphanie Descroix, Laurent Malaquin, Jean-Louis Viovy
Institut Curie, CNRS, Université Pierre et Marie Curie, UMR 168, Institut Curie, Département d'Oncologie M 仕
icale

W.3.87 (1637)

SORTING OF BLOOD IN SPIRAL MICROCHANNELS

Nivedita Nivedita, Ian Papautsky
University of Cincinnati

W.3.88 (1717)

SORTING SINGLE CELLS BASED ON DYNAMIC ASSESSMENT OF SIGNALING

Swee Jin Tan, Michelle Z.L Kee, Ajay Sriram Mathuru, Stephen R. Quake, Suresh J. Jesuthasan, William F. Burkholder
Institute of Materials Research and Engineering, A*STAR, Duke-NUS Graduate Medical School, A*STAR-Duke-NUS Graduate Medical School Neuroscience Research Partnership, NRP, Stanford University and Howard Hughes Medical Institute,

W.3.89 (1897)

TUNABLE STANDING SURFACE ACOUSTIC WAVES ACTIVATED CELLS SORTING

Xiaoyun Ding, Chung Yu Keith Chan, Michael Ian Lapsley, Tony Jun Huang
The Pennsylvania State University

W.3.90 (2085)

ACOUSTOPHORESIS PRE-ALIGNMENT OF CELLS ENABLES LABEL-FREE ENRICHMENT OF PROSTATE CANCER CELLS IN BLOOD

Per Augustsson, Cecilia Magnusson, Maria Nordin, Hans Lilja, Thomas Laurell
Lund University, Memorial Sloan-Kettering Cancer Center, New York, NY

W.3.91 (2089)

A SIZE-DEPENDENT CELL CAPTURE AND RELEASE CHIP USING MULTIPLE VARIABLE MEMBRANE BARRIERS

Yoonji Kim, Young-Ho Cho
Korea Advanced Institute of Science and Technology (KAIST)

W.3.92 (2222)

A SIMPLE METHOD FOR CELL ISOLATION BY UTILIZING BOTH CELL SIZE AND AFFNITY TO SURFACES

Ayako Araki, Shohei Kaneda, Teruo Fujii
Institute of Industrial Science University of Tokyo

W.3.93 (1055)

DUAL RELEASE OF GROWTH FACTORS FROM THREE DIMENSIONAL FIBROUS SCAFFOLDS COMBINED WITH HYDROGEL MICROPATTERNS

Hyun Jong Lee, Sangphil Park, Eunji Jang, Tae Geuk Lim, Sang Won Han, Hyeu Won Lee, Ui Seok Chung, Won-Gun Koh

Yonsei University

W.3.94 (1056)

SMOOTH MUSCLE CELL CULTURE IN MICROCHANNEL TOWARD CONSTRUCTION OF MULTILAYERED VASCULAR TISSUE IN MICRO-SCALE

Tadahiro Yamashita, Kazuma Mawatari, Yo Tanaka, Takehiko Kitamori

University of Tokyo, RIKEN

W.3.95 (1206)

FABRICATION OF MICROCHANNEL NETWORK IN LIVER TISSUE SPHEROIDS

Nobuhiko Kojima, Shoji Takeuchi, Yasuyuki Sakai

University of Tokyo, BEANS Project

W.3.96 (1488)

MICROMECHANICAL ELASTOMERIC DEVICES FOR INVESTIGATIONS OF MECHANOBIOLOGY IN HUMAN EMBRYONIC STEM CELLS

Yubing Sun, Luis G Villa-Diaz, Raymond Hw Lam, Weiqiang Chen, Paul H Krebsbach, Jianping Fu

University of Michigan

W.3.97 (1811)

THE EFFECT OF EXTRACELLULAR MATRIX ON ACTIVATION OF ASTROCYTE IN 3D CO-CULTURE CHIP FOR NERVE INJURY MODEL

Young Hun Kim

Korea Institute of Science and Technology

W.3.98 (1874)

LINEAR FIBROBLAST ALIGNMENT ON SINUSOIDAL WAVE MICROPATTERNS

Jessica R. Gamboa, Phat L. Tran, Marvin J. Slepian, Jeong-Yeol Yoon

The University of Arizona

W.3.99 (2125)

BIOFABRICATION OF LIVING VESSEL STRUCTURES INTEGRATED WITH FLUID PERFUSION

Shintaroh Iwanaga, Hiroaki Onoe, Shoji Takeuchi

The University of Tokyo

W.3.100 (2212)

MICROFLUIDICS SPINNING OF FLAT FIBER WITH MICRO GROOVES FOR CELL-ALIGNING SCAFFOLDS

Edward Kang, Yoon Young Choi, Sang-Hoon Lee

Korea University, Korea University, Korea University

W.3.101 (1285)

ON CHIP SPATIOTEMPORAL ELECTRIC FIELD SHAPING TO LOCALLY ELECTROPORATE CELL MARKERS INTO MOUSE EMBRYONIC TISSUES

Elsa Mazari, Xuan Zhao, J. Collignon, Aitana Perea-Gomez, Charlie Gosse

Laboratoire de Photonique et de Nanostructures, Institut Jacques Monod

W.3.102 (1462)

DROPLET ELECTROPORATION IN MICROFLUIDICS FOR EFFICIENT CELL TRANSFORMATION WITH OR WITHOUT CELL WALL REMOVAL

Baiyan Qu, Young-Jae Eu, Wong-Joong Jeong, Dong-Pyo Kim

Chungnam National University, Korea Research Institute of Bioscience and Biotechnology, Pohang University of Science and Technology

W.4.103 (1099)

"ELISA-CIEF" USING CAPILLARY-BASED MICRODEVICE: HIGHLY-SENSITIVE ELISA BASED ON CAPILLARY-ISOELECTRIC FOCUSING OF ENZYME REACTION PRODUCT

Yuta Uenoyama, Ken Ikegami, Daniel Citterio, Koji Suzuki, Shun-Ichi Funano, Terence G. Henares, Tatsuro Endo, Hideaki Hisamoto

Osaka Prefecture University, Keio University

W.4.104 (1185)

A COMPACT SILICON MICROPILLAR ARRAY CHIP FOR DNA CHROMATOGRAPHY: DETERMINATION OF DNA LENGTH AND CONCENTRATION

Lei Zhang, Paolo Fiorini, Bivragh Majeed, Maaik Op De Beeck, Chris Van Hoof, Wim De Malsche

Katholieke Universiteit Leuven, IMEC, Vrije Universiteit Brussel

W.4.105 (1548)

DEVELOPMENT OF MICROFLUIDIC BLOTTING DEVICES USING ALGINATE HYDROGEL

Masahiro Ikawa, Yudai Fukushima, Kenji Sueyoshi, Fumihiko Kitagawa, Koji Otsuka

Kyoto University, Hirosaki University

W.4.106 (1652)

A NOVEL DEVICE FOR HIGHLY EFFICIENT EXTRACTION OF NUCLEIC ACIDS FROM 100 MICROLITER WHOLE BLOOD SAMPLES

Lewis A. Marshall, Juan G. Santiago

Stanford University

W.4.107 (1661)

ACOUSTIC MICROCENTRIFUGE ARRAYS FOR RAPID PARTICLE SEPARATION FROM MICROVOLUME BLOOD SAMPLES

Arlene Doria, Maulik Patel, Nicholas E. Martin, Abraham P. Lee

University of California, Irvine

W.4.108 (1731)

NEW NANOFUIDIC DEVICE TO ACHIEVE A LENGTH DEPENDENT MOBILITY OF LONG DNA MOLECULES AND A SEPARATION

Beomjoon Kim, Kyungduck Park

CIRMM, IIS, The University of Tokyo

W.4.109 (1757)

INVESTIGATION OF THE CHANNEL HEIGHT FOR THE NANOPARTICLE SEPARATION EFFICIENCY OF THE ELECTRICAL FIELD FLOW FRACTIONATION SYSTEM

Tonguc O. Tasci, Christopher J. Lambert, Himanshu J. Sant, Eliana Malignon, Diego P. Fernandez, William P. Johnson, Bruce K. Gale

University of Utah

W.4.110 (1857)

TWO-DIMENSIONAL PROTEIN SEPARATION ENABLED BY MICROVALVE ARRAYS

Hugh Fan, Ke Liu, Imran Shaik

University of Florida

W.4.111 (1973)

CONTINUOUS PARTICLE SEPARATION USING REPULSIVE FORCE OF ION CONCENTRATION POLARIZATION

Hyungkook Jeon, Sung Hee Ko, Kwan Hyung Kang

Pohang University of Science and Technology

W.4.112 (1029)

WATER-IN-OIL DROPLET-BASED MICROFLUIDIC SYSTEM FOR ENZYMATIC STUDIES, COUPLED TO OFF-CHIP ELECTROSPRAY IONIZATION MASS SPECTROMETRY

Takayuki Obara, Stefan Schlautmann, Han J. G. E. Gardeniers

Hitachi High-Technologies Corporation, University of Twente

W.4.113 (1289)

PREPARATION OF FREEZE-DRIED POROUS MEDIA IN A MICROCHANNEL: A NEW PLATFORM FOR ENZYMATIC REACTIONS

Kyuya Nakagawa, Akihiro Tamura, Yuki Goto, Masahiro Takeo, Yuichi Utsumi
University of Hyogo

W.4.114 (1570)

RAPID BACTERIOPHAGE DETECTION VIA HOST CELL AMPLIFICATION IN A DROPLET-BASED OPTOFLUIDIC SYSTEM

Jiaqing Yu, Wei Huang, Lip Ket Chin, Ai Qun Ai Qun
Nanyang Technological University

W.4.115 (1867)

PLANAR ALUMINA PURIFICATION OF 18F-LABELED RADIOTRACER SYNTHESIS ON EWOD MICRODEVICE FOR POSITRON EMISSION TOMOGRAPHY (PET)

Supin Chen Supin Chen, Jack Lei, R. Michael Van Dam, Pei-Yuin Keng, Chang-Jin "C.-J." Kim
University of California, Los Angeles

W.4.116 (1895)

COMBINATORIAL SYNTHESIS OF PEPTIDOMIMETICS USING DIGITAL MICROFLUIDICS

Mais J. Jebrail, Naila Assem, Jared M. Mudrik, Michael D. M. Dryden, Kaixiang Lin², Andrei K. Yudin, Aaron R. Wheeler
Sandia National Laboratories, University of Toronto

W.4.117 (1102)

SYNTHESIS OF MONODISPERSE SILICA MICROPARTICLES WITH TUNABLE SHAPE AT FLUID INTERFACES

Aiping Fang, Cédric Gaillard
Institut National de la Recherche Agronomique

W.4.118 (1483)

"GREEN" OXIDATION REACTIONS USING A PORPHYRIN-IMMOBILISED MICROFLUIDIC DEVICE

Emily K. Lumley, Charlotte E. Dyer, Nicole Pamme, Ross W. Boyle
University of Hull

W.4.119 (1672)

A LIQUID/LIQUID OPTICAL WAVEGUIDE WITH MISCIBLE SOLVENTS TO OBSERVE COMPLEXATION REACTION

Hiroyasu Murata, Junya Kamiyama, Sohto Asanuma, Kiichi Sato, Kin-Ichi Tsunoda, Hiroki Hotta, Yasuhiko Sugii
Gunma University, Nara University of Education, University of Tokyo

W.4.120 (1745)

MICROFLUIDIC FABRICATION OF POLYMERIZED IONIC LIQUID MICROGELS

Zahra Barikbin, Md. Taifur Rahman, Dominik Jarde, Patrick S. Doyle, Saif A. Khan, Saif A. Khan
Singapore-MIT Alliance, Chemical and Pharmaceutical Engineering Programme, National University of Singapore, The Queen's University of Belfast, Technische Universität München, Massachusetts Institute of Technology

W.4.121 (1740)

INTEGRATION OF ULTRA-SENSITIVE ON-CHIP ELECTRIC CIRCUIT FOR NON-FARADAIC ELECTRIC CURRENT BASED FLOW SENSING

Yuya Matsuoka, Takatoki Yamamoto
Tokyo Institute of Technology

W.4.122 (1963)

READY STEADY (BUBBLE) FLOW! PREDICTIVE CONTROL OF MIXING, MASS TRANSFER AND RESIDENCE TIMES IN SEGMENTED FLOW

Milad Abolhasani, Eugenia Kumacheva, Axel Günther
University of Toronto

W.4.123 (1484)

ON-CHIP PURIFICATION OF [¹⁸F]FDG IN POSITRON EMISSION TOMOGRAPHY RADIOTRACER SYNTHESIS

Mark D. Tarn, Giancarlo Pascali, Francesco De Leonardis, Piero A. Salvadori, Nicole Pamme
University of Hull, CNR Institute of Clinical Physiology

W.5.124 (1123)

PRESSURE TOLERANT MULTILAYERED POLYMER FILM MICROFLUIDICS BY ONE-STEP BONDING PROCESS FOR HIGH THROUGHPUT EMULSION GENERATION

Kyoung-Ik Min, Dong-Pyo Kim
Pohang University of Science and Technology

W.5.125 (1268)

VIRTUALLY MONOLITHIC DEVICE FOR DIFFUSIVE MASS TRANSFER ENABLING HIGH VOLUME FLOW

Tina Rieper, Claas Mueller, Bettina Wehrstein, Andreas N. Maurer, Holger Reinecke
IMTEK, University of Freiburg, Novalung GmbH

W.5.126 (1295)

FABRICATION OF A LABEL-FREE MICROMECHANICAL CAPACITIVE BIOSENSOR AND INTEGRATION WITH μ PCR TOWARDS A LOC FOR DISEASE DIAGNOSIS

Stavros Chatzandroulis Stavros Chatzandroulis, Despoina Moschou, Nikolaos Vourdas, Georgios Kokoris, Georgios Tsekenis, Vassiliki Tsouti, Ioanna Zergioti, Aggeliki Tserepi
Institute of Microelectronics, NCSR, Foundation of Biomedical Research, Academy of Athens, NTUA

W.5.127 (1679)

FABRICATION OF NANO-FLUIDICS USING NANO-SCALE REACTIVE-ION DRY ETCHING WITH ELECTRON-BEAM-BAKED RESISTS

Takahito Ohshiro, Kazuki Matsubara, Masateru Taniguchi, Tomoji Kawai
Osaka University, ISIR, Nigata University

W.5.128 (1721)

A MULTISCALE TRANSFER PRINTING WITH POLYMERIC HIERARCHICAL STAMPS FOR SIMPLE GENERATION OF METALLIC NANOPATTERNS

Hyeoncheol Park, Hyesung Cho, Deuk Yeon Lee, Jun Soo Kim, Kahp Yang Suh
Seoul National University

W.5.129 (1823)

FAST PROTOTYPING OF \dagger TAS BY DIRECT LASER WRITING

Victor J. Cadarso, Karl Pfeiffer, Ute Ostrzinski, Anja Voigt, Gabi Gruetzner, Jürgen Brugger
Ecole Polytechnique Fédérale de Lausanne (EPFL), Micro resist technology GmbH

W.5.130 (1836)

GRAPHENE NANOSIEVE USING BLOCK COPOLYMER LITHOGRAPHY AND ITS APPLICATION TO SEPARATION OF HEMOGLOBIN PROTEIN AND IMMUNOGLOBULIN G

Dae-Sik Lee
ETRI

W.5.131 (2109)

A FABRICATION TECHNIQUE OF THREE-DIMENSIONAL NANOCHANNEL BRIDGES WITHOUT NANOLITHOGRAPHY

Yun Jung Heo, Koji Sato, Shoji Takeuchi
The University of Tokyo

W.5.133 (2168)

LARGE AREA 3D MICROFABRICATION TECHNIQUE BY MULTIDIRECTIONAL PHOTOLITHOGRAPHY FOR A CHROMOSOME EXTENSION CHIP

Yuki Nitta, Hiroyuki Suzuki, Kyohei Terao, Hidekuni Takao, Fusao Shimokawa, Fumikazu Oohira, Takaaki Suzuki
Kagawa University

W.5.134 (1065)

A LOW-COST VALVE AND PUMP WITH POLYPROPYLENE (PP) MEMBRANE FABRICATED BY UV/OZONE-ASSISTED THERMAL FUSION BONDING

Joon S. Shim, Wonjong Jung, Chinsung Park, Kyung-Ho Kim, Wonseok Chung, Kak Namkoong, Joon-Ho Kim, Nam Huh

Samsung Electronics Co., Ltd.

W.5.135 (1125)

PHOTO-DYNAMIC CONVERSION OF SOLID SURFACE FROM PROTEIN-PHOBIC TO -PHILIC BY FEMTOSECOND LASER FOR IN SITU MICROFABRICATION

Kazunori Okano, Yoichiro Hosokawa, Hiroshi Tsubokawa, Hiroshi Masuhara, Fu-Jen Kao

Tohoku Fukushi University, Nara Institute of Science and Technology, National Chiao Tung University, National Yang-Ming University,

W.5.136 (1312)

SUPERIOR DRY BONDING OF OFF-STOICHIOMETRY THIOL-ENE-EPOXY (OSTE(+)) POLYMERS FOR HETEROGENEOUS MATERIAL LABS-ON-CHIP

Farizah Saharil, Lamia El Fissi, Yitong Liu, Fredrik Carlborg, Laurent Francis, Denis Vandormael, Tommy Haraldsson, Wouter Van Der Wijngaart

KTH - Royal Institute of Technology, UCL - Université catholique de Louvain, SIRRIS - Liege Sciences Park

W.5.137 (1590)

PDMS MICROCHIP ELECTROPHORESIS WITH HIGH SEPARATION EFFICIENCY BY SIMPLE AND QUICK MODIFICATION OF PHOSPHOLIPID POLYMER

Kyosuke Nii, Kenji Sueyoshi, Koji Otsuka, Madoka Takai

The University of Tokyo, Kyoto University

W.5.138 (1665)

INK-JET PRINTED FET FOR BIOSENSING APPLICATIONS

Mariana Medina-Sanchez, Eloi Ramon, Ana Alcalde-Aragones, Sandrine Miserere, Carme Martinez-Domingo, Jordi Carabina, Arben Merkoci

Catalan Institute of Nanotechnology, CIN2 (ICN-CSIC), Autonomous University of Barcelona, Autonomous University of Barcelona

W.5.139 (1059)

PIEZOELECTRIC MICROMIXER USING A SWIRLING MOTION

Tomoaki Mashimo, Ryota Shibuya, Kazuhiko Terashima

Toyohashi University of Technology

W.5.140 (1306)

MICROFLUIDIC MAGNETIC RESONANCE CHIP WITH INTEGRATED SOLENOIDAL MICROCOIL FOR DISPOSABLE USE IN A MODULAR PROBE

Robert Ch. Meier, Vlad Badilita, Elmar Fischer, Markus Meissner, Dominik Von Elverfeldt, Jürgen Hennig, Ulrike Wallrabe, Jan G. Korvink

University of Freiburg University Medical Center Freiburg

W.5.141 (1376)

SHAPE-MEMORY POLYMER MICROVALVES

Hiroaki Takehara, Koichiro Uto, Mitsuhiro Ebara, Takao Aoyagi, Takanori Ichiki

The University of Tokyo, National Institute for Materials Science (NIMS)

W.5.142 (1474)

SURFACE MICROMACHINING OF POLYDIMETHYLSILOXANE (PDMS) FOR MICROFLUIDIC BIOMEDICAL APPLICATIONS

Weiqiang Chen, Nien-Tsu Huang, Katsuo Kurabayashi, Jianping Fu

University of Michigan

W.5.143 (1961)

ON-CHIP ELECTRIC POWER GENERATION SYSTEM FROM SOUND OF PORTABLE MUSIC PLAYERS AND SMARTPHONES TOWARD PORTABLE μ TAS

Toyohiro Naito, Noritada Kaji, Séverine Le Gac, Manabu Tokeshi, Albert Van Den Berg, Yoshinobu Baba

Nagoya University, University of Twente, Hokkaido University

W.5.144 (1944)

MEMBRANE-INTEGRATED MICROFLUIDIC PLATFORM FOR CELLULAR ANALYSIS

Elizaveta Vereshchagina, Declan Mc Glade, Macdara Glynn, Jens Ducreé
Dublin City University

W.5.145 (2242)

CODE-CHANGEABLE ENCODED MICROPARTICLES FOR MULTI-STEP BEAD-BASED ASSAY

Taehong Kwon, Younghoon Song, Daewon Lee, Mira Kim, Tae-Joon Park, Sunghoon Kwon
Seoul National University, Nano Systems Institute, Seoul National University

W.6.146 (1847)

EXOSOME LIKE LIPOSOME GENERATION BY CELL EXTRUSION THROUGH A MICRO CHANNEL

Namwoo Yi, Junho Kim, Dayoung Jeong, Minseok Lee, Su Chul Jang, Ji Hyun Kim, Yong Song Gho, Jaesung Park
POSTECH

W.6.147 (2124)

UTILIZING PDMS STAMPING FOR MASS PRODUCTION OF MICROTUBULE FUNCTIONALIZED
DETECTION DEVICES

Oya Koc, Mehmet C. Tarhan, Yslam Orazov, Hiroyuki Fujita, Beomjoon Kim
Institute of Industrial Science, The University of Tokyo

W.6.148 (1205)

ORDERED MOLECULAR ASSEMBLY INSIDE CARBON NANOTUBE FOREST FILMS FOR
HIGH-EFFICIENCY ENZYMATIC BIOFUEL CELL

Syuhei Yoshino, Takeo Miyake, Hirokazu Kaji, Takeo Yamada, Kenji Hata, Matsuhiko Nishizawa
Tohoku university, The National Institute of Advanced Industrial Science and Technology (AIST)

W.6.149 (1283)

PHARMACY - ON - A - CHIP: MICROFLUIDIC LIPOSOME FORMATION

Renee R. Hood, Abhay Andar, Donna M. Omiatsek, Wyatt N. Vreeland, Peter W. Swaan, Don L. Devoe
University of Maryland, College Park, University of Maryland, Baltimore, National Institute of Standards and
Technology

W.6.152 (1674)

OPTICAL MAPPING OF TRANSCRIPTIONAL FACTOR BINDING SITES ON SINGLE DNA MOLECULES
USING NANOFLUIDIC DEVICES

Sriram K.K., Jia-Wei Yeh, Yii-Lih Lin, Yi-Ren Chang, Chia-Fu Chou
Institute of Physics, Academia Sinica

W.6.153 (2129)

LIPID-BASED PASSIVATION IN NANOFLUIDICS

Fredrik Persson, Joachim Fritzsche, Kalim U. Mir, Mauro Modesti, Fredrik Westerlund, Jonas O. Tegenfeldt
Uppsala University, University of Gothenburg, University of Oxford, Université Aix-Marseille, Chalmers
University of Technology

W.6.154 (1216)

FORMATION OF A SINGLE METALLIZED DNA NANOWIRE IN A NANOCHANNEL

Takahiro Himuro, Hideyuki Ikedo, Shinobu Sato, Shigeori Takenaka, Takashi Yasuda
Kyushu Institute of Technology

W.6.155 (1282)

MECHANICAL EFFECT OF CALIX[N]ARENE CAPPED SILVER NANOPARTICLES ON DNA MEASURED
WITH SILICON NANO TWEEZERS

Yannick Tauran, Momoko Kumera, Nicolas Lafitte, Ryohei Ueno, Laurent Jalabert, Yuki Takayama, Dominique
Collard, Hiroyuki Fujita, Anthony W. Coleman, Beomjoon Kim
LIMMS-CNRS/IIS, UMI2820, University of Tokyo, LMI, UMR5615, University of Lyon, France, The University
of Tokyo

W.7.156 (1109)

RAPID AIRBORNE VIRUS DETECTION USING MIST-LABELING BASED ON MICRO REACTION PROCESS

Kei Takenaka, Shigenori Togashi, Ryo Miyake
Hitachi,Ltd, Hiroshima University

W.7.158 (1260)

ION-QUENCHED FLUORESCENCE IMAGING (IQFI): A NEW, NON-INVASIVE, VISUALIZATION METHOD WHICH SIMULTANEOUSLY IMAGES SCALAR FIELDS AND QUANTIFIES LOCAL ION CONCENTRATION

Viktor Shkolnikov, Juan G. Santiago
Stanford University

W.7.159 (1426)

TIME AND POSITION DEPENDENT SURFACE FLOW VELOCITY MEASUREMENT IN MICROFLUIDIC DEVICES

Yuzuru Iwasaki, Tsutomu Horiuchi, Takanobu Miwa, Shingo Nakamura, Michiko Seyama, Toru Miura, Suzuyo Inoue, Katsuyoshi Hayashi, Emi Tamechika, Shuji Hashimoto
NTT Microsystem Integration Laboratories, Waseda University, Japan

W.7.160 (1436)

DROPLET IMAGE VELOCIMETRY (DIV): AUTOMATED, HIGH-THROUGHPUT MEASUREMENT OF DROPLET POPULATIONS USING IMAGE PROCESSING

Amar S. Basu
Wayne State University

W.7.161 (2101)

CONTINUOUS REAL-TIME MONITORING OF MOLECULAR DETECTION BY SILICON NANOTWEEZERS-INTEGRATED MICROFLUIDIC DEVICE

Mehmet C Tarhan, Dominique Collard, Laurent Jalabert, Momoko Kumemura, Nicolas Lafitte, Quentin Delouee, Stanislav L Karsten, Hiroyuki Fujita
The University of Tokyo, LIMMS/CNRS-IIS, The University of Tokyo, NeuroInDx, Inc.

W.7.162 (1184)

THIOL-ENE WAVEGUIDES AS PROMISING COMPONENTS OF OPTOFLUIDIC MICROSYSTEMS

Radoslaw Kwapiszewski, Thomas G. Jensen, Klaus B. Mogensen, Zbigniew Brzozka, Jörg P. Kutter
Warsaw University of Technology, Technical University of Denmark

W.7.163 (1755)

SINGLE MOLECULE SORTING IN NANO-OPTOFLUIDIC CHANNEL USING OPTICAL FORCES

Yi Yang, Ai Qun Liu
Nanyang Technological University, Nanyang Technological University

W.7.164 (1828)

CHARACTERIZING ACOUSTIC OSCILLATIONS OF AN AIR-LIQUID INTERFACE USING AN OPTOFLUIDIC INTERFEROMETER

Michael I. Lapsley, Daniel Ahmed, Chandraprakash Chindam, Feng Guo, Tony J. Huang
The Pennsylvania State University

W.7.165 (2096)

HIGH THROUGHPUT FLUORESCENCE BASED FLOW CYTOMETER USING 3D MICROFLUIDICS FOR PARALLEL SHEATH FLOW FOCUSING AND EMBEDDED HIGH N.A. MICROLENS

Yu-Jui Fan, Yu-Chun Kung, Yi-Chien Wu, Kuo-Wei Huang, Ting-Hsiang Wu, Yue Chen, Horn-Jiunn Sheen, Pei-Yu Chiou
University of California Los Angeles, National Taiwan University

W.7.166 (1011)

SENSITIVE LABELLES IMPEDANCE IMMUNOSENSOR USING GOLD NANOPARTICLES-MODIFIED SCREEN-PRINTED CARBON INK ELECTRODE FOR ACT-PROSTATE SPECIFIC ANTIGEN DETECTION

Lien Thi Ngoc Truong, Tung Thanh Nguyen, Anh Lan Thi Luu, Yoshiaki Ukita, Yuzuru Takamura
Hanoi University of Science and Technology, Japan Advanced Institute of Science and Technology

W.7.167 (1058)

MONITORING BIOFILM GROWTH AND ACTIVITY USING A SCALABLE MULTICHANNEL ELECTROCHEMICAL BIOSENSOR

Kai Sachsenheimer, Leonardo Pires, Tanja Kleintschek, Thomas Schwartz, Bastian E. Rapp
Karlsruhe Institute of Technology

W.7.168 (1170)

ELECTROCHEMICAL DETECTION OF SECRETED ALKALINE PHOSPHATASE (SEAP) FROM TRANSFORMED HELA CELLS USING A LAB-ON-A-CHIP DEVICE BASED ON TARGET CONCENTRATION AND LOCAL REDOX CYCLING

Mustafa Şen, Kosuke Ino, Hitoshi Shiku, Tomokazu Matsue
Tohoku University, WPI-AIMR Tohoku University

W.7.169 (2114)

DROPLET ANALYSIS SYSTEM USING LIQUID CHROMATOGRAPHY AND MASS SPECTROMETRY FOR ENZYME INHIBITION ASSAY

Xiu-Li Wang, Ying Zhu
Institute of Microanalytical Systems, Zhejiang University

W.7.170 (1841)

DOUBLE DROPLET AS A SENSOR FOR MOLECULAR TRANSPORT THROUGH ORGANIC LIQUID MEMBRANE

Akihide Hibara, Mao Fukuyama
Institute of Industrial Science, The University of Tokyo

W.8.171 (1226)

BEAD TRAPS IN CAPILLARY-DRIVEN MICROFLUIDICS FOR FLUORESCENCE IMMUNOASSAYS

Janick Stucki, Martina Hitzbleck, Emmanuel Delamarche
IBM Research GmbH

W.8.172 (1317)

LONG-TERM DRY-STORAGE OF ENZYME-BASED REAGENT SYSTEM FOR ELISA IN POINT-OF-CARE DEVICE

Sujatha Ramachandran, Elain Fu, Barry Lutz, Paul Yager
University of Washington

W.8.173 (1319)

INTEGRATED ASSAY WITH SAMPLE PROCESSING: PAPER-BASED DEVICE FOR IGM DETECTION

Sujatha Ramachandran, Jacqueline Peltier, Jennifer Osborn, Carly Holstein, Barry Lutz, Elain Fu, Paul Yager
University of Washington

W.8.174 (1331)

A NEW ASYMMETRIC CAPILLARY FORCE DRIVEN WHOLE BLOOD/PLASMA SEPARATOR USING A SPRAY LAYER-BY-LAYER NANO ASSEMBLY

Kang Kug Lee, Chong H. Ahn
University of Cincinnati

W.8.176 (1538)

DEVELOPMENT OF SIMPLE AND RAPID SINGLE METHYLATED DNA ANALYSIS WITHOUT PCR

Yukihiro Okamoto, Tatsuki Sano, Noritada Kaji, Manabu Tokeshi, Yoshinobu Baba
Nagoya University, Hokkaido University

W.8.177 (1907)

CENTRIFUGAL MICROFLUIDIC SYSTEM FOR RAPID, LOW-COST HIV DIAGNOSIS: CD4+ T-CELL COUNTING USING AN INTEGRATED DVD PLATFORM

Harisha Ramachandraiah, Mary Amasia, Sahar Ardabili, Simon Pickhaver, Richard Lione, Aman Russom
ROYAL INSTITUTE OF TECHNOLOGY, PLARION LTD

W.8.178 (2002)

INTEGRATED 'LAB - ON-A - TRANSISTOR' WITH DROPLETS-IN - AIR FOR PARALLEL NANOLITER REACTIONS

Eric M Salm, Carlos Duarte, Rashid Bashir
University of Illinois at Urbana-Champaign

W.8.179 (2105)

SINGLE-STEP CAPILLARY ELECTROPHORESIS FOR FIELD-AMPLIFIED SAMPLE STACKING

Koichi Ono, Shohei Kaneda, Teruo Fujii

University of Tokyo

W.8.180 (2163)

A SIMPLE AND RAPID METHOD FOR INFECTIOUS WATERBORNE DISEASES MONITORING USING DISPOSABLE PDMS MICROFLUIDIC CHIP BY DIELECTROPHORESIS

Kuo-Tang Liao, Kuo-Tang Liao, Walter Varhue, Richard L. Gurrant, Nathan S. Swami

Institutes of Physics, Academia Sinica, University of Virginia, University of Virginia

W.8.181 (1090)

OPTICAL MICROSYSTEM FOR FLOW AND STOPPED-FLOW ANALYSES OF ACTIVITY OF ENZYMES DEFICIENT IN RARE GENETIC DISORDERS

Radoslaw Kwapiszewski, Maciej Skolimowski, Jörg P. Kutter, Zbigniew Brzozka

Warsaw University of Technology, Technical University of Denmark

W.8.182 (1380)

GLASS FIBER SHEET ON A CHIP:FOR RAPID, LOW-COST, AND CONTAMINATION-FREE QUANTITATIVE IMMUNOASSAY

Yuriko Oyama, Toshihisa Osaki, Koki Kamiya, Ryuji Kawano, Tsutomu Honjoh, Haruki Shibata, Toru Ide, Shoji Takeuchi

The Graduate School for the Creation of New Photonics Industries, Morinaga Institute of Biological Science, Inc., Kanagawa Academy of Science and Technology

W.8.184 (1506)

MICROFLUIDIC ELECTRIC IMPEDANCE SPECTROSCOPY FOR MALARIA DIAGNOSIS

Sungjae Ha, Monica Diez-Silva, E Du, Sung Jae Kim, Jongyoon Han, Ming Dao, Anantha P. Chandrakasan

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W.8.185 (1682)

SMALL SAMPLE PROTEIN ANALYSIS BY WESTERN BLOTTING UTILIZING COUPON-BASED MICROFLUIDIC DEVICE AND PHOTO-PATTERNED MEMBRANE

Sara Saedinia, Kent Nastiuk, John Krolewski, G.P. Li, Mark Bachman

University of California, Irvine

W.8.186 (1862)

FULLY INTEGRATED ROTARY GENETIC ANALYSIS MICROSYSTEM

Jae Hwan Jung, Byung Hyun Park, Seok Jin Choi, Tae Seok Seo

Korea Advanced Institute of Science and Technology (KAIST)

W.8.187 (1632)

VOLUME-REDUCTION SOLID PHASE EXTRACTION ON A PLASTIC MICROFLUIDIC DEVICE FOR FORENSIC SAMPLE ANALYSIS

Briony C. Strachan, Anne V. Karlsson, James P. Landers

University of Virginia

W.8.188 (1392)

INTEGRATED POLYMERIC LIGHT EMITTER FOR DISPOSABLE PHOTONIC LAB ON CHIP SYSTEMS

Ester Carregal-Romero, Bergoi Ibarlucea, Stefanie Demming, Stephanus Büttgenbach, César Fernández-Sánchez, Andreu Llobera

Instituto de Microelectrónica de Barcelona, Technische Universität Braunschweig

W.8.189 (1476)

AN ACCELERATED, ACTIVELY MIXED, REUSABLE DYNAMIC ARRAY™ FOR FLUIDIGM BIOMARKETM AND EP1™ SYSTEMS

Jing Wang, Tim Woudenberg, Marc Unger, Robert Jones

Fluidigm Corporation

W.8.190 (1589)

SEAMLESS MULTI-FLUORESCENCE LABELING IN A MICROFLUIDIC DISK VIA DETERMINISTIC VENT VALVES

Chen-Lin Chen, Cheng-Wei Yang, Wei-Hao Lian, Andrew M. Wo
Institute of Applied Mechanics, National Taiwan University

W.8.191 (1829)

SLIDABLE AND VALVELESS POLYMERASE CHAIN REACTION-CAPILLARY ELECTROPHORESIS MICRODEVICE FOR PATHOGEN DETECTION

Yong Tae Kim, Jong Young Choi, Yuchao Chen, Tae Seok Seo
Korea Advanced Institute of Science and Technology

W.8.192 (2027)

HIGHLY SPECIFIC ZEPT-MOLE LEVEL DNA DETECTION BY COMBINATION OF THERMAL LENS MICROSCOPE AND ROLLING CIRCLE AMPLIFICATION

Tatsuro Nakao, Kazuma Mawatari, Kae Sato, Takehiko Kitamori
The University of Tokyo, Japan Women's University

W.9.193 (1640)

POLYMER-ENHANCED ENERGY HARVESTING FROM STREAMING POTENTIAL

Trieu Nguyen, Yanbo Xie, Lennart J. De Vreede, Albert Van Den Berg, Jan C.T. Eijkel
University of Twente

W.9.194 (1020)

MICRO KINETIC EXCLUSION ASSAY FOR CADMIUM ANALYSIS

Arata Aota, Yasumoto Date, Shingo Terakado, Kazuhiro Sasaki, Norio Matsumoto, Tomokazu Matsue, Naoya Ohmura
Central Research Institute of Electric Power Industry, Tohoku University

W.9.195 (1396)

MICROFLUIDIC SOLAR REACTOR FOR PHOTOCATALYTIC WATER TREATMENT

Ning Wang, Zhike Liu, Xuming Zhang
Hong Kong Polytechnic University

W.9.196 (1581)

MEMBRANELESS PURIFICATION OF HEAVY METAL CONTAMINATED WATER BY ION CONCENTRATION POLARIZATION

Sung Jae Kim, Bumjoo Kim, Rhokyun Kwak, Katherine Y. Zhu, Geunbae Lim, Jongyoon Han
Seoul National University, Pohang University of Science and Technology, Massachusetts Institute of Technology

W.9.197 (1362)

AN EIGHT-CHAMBER LAB-ON-A-CHIP DEVICE FOR MULTIPLE DETECTION OF CAMPYLOBACTER SPP DIRECTLY FROM FECES

Jonas H γ Gberg, Yi Sun, Anders Wolff, Bang D Dang
DTU-Vet, DTU-Nanotech, DTU-Food

W.9.198 (1876)

PAPER MICROFLUIDICS DETECTION OF SALMONELLA USING A SMART PHONE

Tu San Park, Wenyue Li, Jeong-Yeol Yoon
The University of Arizona

W.9.199 (1431)

DEVELOPMENT OF LIGHT-DRIVEN H₂/O₂ GENERATION CHIP FOR MICRO FUEL CELL DEVICES

Yasuhito Kajita, Yuriy Pihosh, Kazuma Mawatari, Takehiko Kitamori
University of Tokyo

W.9.200 (1887)

INTERDIGITATED EVAPORATION CHIP FOR EFFICIENT SOLVENT EXCHANGE IN MICROCHANNELS

Wei-Yu Tseng, Jennifer S. Cho, Arion Xenofon Chatzioannou, R. Michael Van Dam
Crump Institute for Molecular Imaging and Department of Molecular & Medical Pharmacology