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²*Beijing Institute of Aeronautical Systems Engineering, CHINA*

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	Rokon Uddin, Robert Burger, Marco Donolato, Jeppe Fock, Michael Creagh, Mikkel Fougth Hansen, and Anja Boisen <i>Technical University of Denmark, DENMARK</i>	
W.516g	FIRST-GENERATION NARCDISC™: COST-EFFECTIVE PRINTED MICRODEVICES FOR SCREENING OF NARCOTICS AT THE POINT OF INTERDICTION WITH CELL PHONE DETECTION	1810
	Shannon T Krauss, Shelby Lipes, and James P. Landers <i>University of Virginia, USA</i>	
M.517g	EXCITATION-FLUORESCENT 3D SPECTRAL FLOW CYTOMETER FOR SINGLE-CELL ANALYSIS	1813
	Kei Takenaka and Shigenori Togashi <i>Hitachi, Ltd., JAPAN</i>	
T.518g	FLUORESCENCE POLARIZATION IMAGING FOR MULTISAMPLE IMMUNOASSAY	1816
	Osamu Wakao ¹ , Masatoshi Maeki ¹ , Akihiko Ishida ¹ , Hirofumi Tani ¹ , Akihide Hibara ² , and Manabu Tokeshi ¹ ¹ <i>Hokkaido University, JAPAN and</i> ² <i>Tokyo Institute of Technology, JAPAN</i>	
W.519g	GOLD NANOPARTICLE-LADEN MICROGELS WITH SELECTIVE PERMEABILITY FOR SERS APPLICATIONS	1819
	Dong Jae Kim ¹ , Tae Yoon Jeon ¹ , Youn-Kyoung Baek ² , Sung-Gyu Park ² , Dong-Ho Kim ² , and Shin-Hyun Kim ¹ ¹ <i>KAIST, KOREA and</i> ² <i>Korea Institute of Materials Science (KIMS), KOREA</i>	
M.520g	HIGH PERFORMANCE LABEL-FREE BIOSENSING USING MAGNETIC RESONANCE OF DIELECTRIC METASURFACE	1822
	Sang-Gil Park, Myeong-Su Ahn, Seyoung Kwon, Je-Kyun Park, and Ki-Hun Joeng <i>KAIST, KOREA</i>	
T.521g	DEPTH POSITIONING FOR FAST MOVING CELLS IN MICROFLOW CYTOMETRY UTILIZING CHROMATIC ABERRATION UNDER A DIASCOPIIC ILLUMINATION SCHEME	1825
	Shin-Yu Su and Che-Hsin Lin <i>National Sun Yat-Sen University, TAIWAN</i>	
W.522g	OPTOFLUIDIC HIGH-THROUGHPUT DETECTION OF MULTI-COLOR FLUORESCENT DROPS	1828
	Minkyu Kim ¹ , Ming Pan ¹ , Ya Gai ¹ , Shuo Pang ² , Chao Han ³ , Changhuei Yang ³ , and Sindy K.Y. Tang ¹ ¹ <i>Stanford University, USA,</i> ² <i>University of Central Florida, USA, and</i> ³ <i>Californica Institute of Technology, USA</i>	
M.523g	DETECTION OF BACTERIAL METABOLITES THROUGH DYNAMIC ACQUISITION FROM SURFACE ENHANCED RAMAN SPECTROSCOPY SUBSTRATES INTEGRATED IN A CENTRIFUGAL MICROFLUIDIC PLATFORM	1831
	Onur Durucan, Lidia Morelli, Robert Burger, Tomas Rindzevicius, and Anja Boisen <i>Technical University of Denmark, DENMARK</i>	
T.524g	INJECTION MOULDED MICRO-OPTICS ARRAY FOR QUANTIFICATION OF SURFACE BOUND FLUORESCENT MOLECULES IN AIR AND AQUEOUS MEDIA	1834
	Tran Quang Hung, Yi Sun, Carl Esben Poulsen, Wei Hoe Chin, Anders Wolff, and Dang Duong Bang <i>Technical University of Denmark, DENMARK</i>	

W.525g	BACKGROUND-FREE OPTICAL DETECTION WITH ALTERNATIVE COMB ELECTRODE	1837
	Kotohiro Furukawa ¹ , Mao Fukuyama ^{1,2} , and Akihide Hibara ¹	
	¹ <i>Tokyo Institute of Technology, JAPAN and</i>	
	² <i>Kyoto Institute of Technology, JAPAN</i>	
M.526g	INTEGRATION OF SMARTPHONE-BASED ILLUMINATION SENSOR WITH IMMUNOBLOTTING TECHNIQUE FOR URINARY TYPE II COLLAGEN (UCTX-II) BIOSENSOR	1840
	Yoo Min Park, Ka Ram Kim, Yong Duk Han, Cunqiang Zhang, and Hyun C. Yoon	
	<i>Ajou University, KOREA</i>	
T.527g	FAST DETECTION OF SINGLE NANOPARTICLES IN A MICROFLUIDIC CHANNEL BY A MICROLENS ARRAY IN COMBINATION WITH CONVENTIONAL OPTICAL MICROSCOPE	1843
	Hui Yang, Matteo Cornaglia, and Martin A. M. Gijs	
	<i>École Polytechnique Fédérale de Lausanne, SWITZERLAND</i>	
Others		
W.528g	ELECTROLYTE/SINGLE CRYSTAL -GA2O3 JUNCTION DIODE SENSOR - ITS ELECTRICAL CHARACTERIZATION AND APPLICATION IN PICOMOLAR LEVEL MIRNA DETECTION	1846
	Tanzilur Rahman, Takekazu Masui, and Takanori Ichiki	
	¹ <i>The University of Tokyo, JAPAN and</i>	
	² <i>Koha Co., Ltd., JAPAN</i>	
M.529g	ON-CHIP DETECTION OF RADIOACTIVITY VIA SILICON-BASED SENSORS FOR THE QUALITY CONTROL TESTING OF RADIOPHARMACEUTICALS	1849
	Matthew P. Taggart ¹ , Mark D. Tarn ² , Mohammad M. N. Esfahani ² , Stephen J. Archibald ² , Tom Deakin ^{1,3} , Nicole Pamme ² , and Lee F. Thompson ¹	
	¹ <i>University of Sheffield, UK,</i>	
	² <i>University of Hull, UK, and</i>	
	³ <i>LabLogic Systems Ltd., UK</i>	
T.530g	ELECTROOSMOTIC PUMP BASED ON SEPARATION MEDIA FOR MINIATURIZED LC DEVICE	1852
	Toyohiro Naito ¹ , Akihiro Kunisawa ¹ , Shunta Futagami ² , Takuya Kubo ¹ , and Koji Otsuka ¹	
	¹ <i>Kyoto University, JAPAN and</i>	
	² <i>Vrije Universiteit Brussel, BELGIUM</i>	
Physical Sensors		
W.531g	DIRECTED MAGNETIC MICRO-BALLOONS FOR IN-FLOW SENSING	1855
	Niladri Banerjee, Shashank Shekhar Pandey, and Carlos H Mastrangelo	
	<i>University of Utah, USA</i>	
M.532g	SCANNING ION CONDUCTANCE MICROSCOPY WITH SIMULTANEOUS FORCE RECORDING	1858
	Livie Dorwling-Carter, Dario Ossola, János Vörös, and Tomaso Zambelli	
	<i>ETH Zurich, SWITZERLAND</i>	
T.533g	A MICROCALORIMETRIC PLATFORM FOR STUDYING THE HEAT PRODUCED BY CHEMICAL REACTIONS IN MICROLITRE VOLUMES	1861
	Rima Padovani, Thomas Lehnert, and Martinus Gijs	
	<i>École Polytechnique Fédérale de Lausanne, SWITZERLAND</i>	

W.534g	ELECTROFLUIDIC PRESSURE SENSOR-EMBEDDED MICROFLUIDIC DEVICE FOR IN-PLANE CELL ELASTICITY MEASUREMENT	1864
	Chien-Han Lin, Yu-An Chen, and Yi-Chung Tung <i>Academia Sinica, TAIWAN</i>	
M.535g	MICROFLUIDIC CALORIMETER FOR ABSOLUTE DOSIMETRY	1867
	Jonghyun Kim and Wonhee Lee <i>KAIST, KOREA</i>	
T.536g	PARALLELIZED SYSTEM FOR BIOPOLYMER DEGRADATION STUDIES THROUGH AUTOMATED MICRORESONATOR MEASUREMENT IN LIQUID FLOW	1870
	Andrea Casci Ceccacci ¹ , Lidia Morelli ¹ , Fillippo Giacomo Bosco ¹ , Robert Burger ¹ , Ching-Hsiu Chen ² , En-Te Hwu, and Anja Boisen ¹ ¹ <i>Technical University of Denmark, DENMARK and</i> ² <i>Academia Sinica, TAIWAN</i>	
W.537g	A NOVEL FLEXIBLE MICROSENSOR FOR REAL-TIME QUANTIFICATION OF BRAIN EDEMA	1873
	Zhizhen Wu ¹ , Chong H. Ahn ¹ , and Chunyan Li ² ¹ <i>University of Cincinnati, USA and</i> ² <i>Feinstein Institute for Medical Research, USA</i>	
M.538g	NORMAL FORCE CHANGE DISTRIBUTIONS ON THE CONTACT AREA DURING THE RESONANT VIBRATIONS OF A SESSILE DROPLET UNDER WHITE NOISE EXCITATION	1876
	Nguyen Thanh-Vinh, Kiyoshi Matsumoto, and Isao Shimoyama <i>The University of Tokyo, JAPAN</i>	
T.539g	ON-CHIP MICRO MANOMETER	1879
	Chia-Hung Dylan Tsai, and Makoto Kaneko <i>Osaka University, JAPAN</i>	
W.540g	SILICON NANO TWEEZERS COMBINED TO A MICROFLUIDIC DEVICE FOR MONITORING THE MECHANICAL EFFECTS OF METAL CATIONS ON DNA	1882
	Yannick Tauran ^{1,2} , Mehmet C. Tarhan ² , Nicolas Lafitte ² , Laurent Jalabert ² , Beomjoon Kim ² , Hiroyuki Fujita ² , Anthony W. Coleman ^{1,2} , and Dominique Collard ² ¹ <i>University of Lyon, FRANCE and</i> ² <i>The University of Tokyo, JAPAN</i>	
M.541g	MASS AND SIZE CHARACTERIZATION OF PARTICLES IN SOLUTION BY MASS CORRELATION SPECTROSCOPY	1885
	Mario M. Modena and Thomas P. Burg <i>Max Planck Institute for Biophysical Chemistry, GERMANY</i>	

Visualization & Imaging Technologies

T.542g	HOW TO GET YOUR 3D MICROPARTICLE POSITION: A GENERAL AND SIMPLE APPROACH	1888
	Rune Barnkob, Christian J. Kähler, and Massimiliano Rossi <i>Bundeswehr University Munich, GERMANY</i>	
W.543g	MICROFLUIDIC TEMPERATURE IMAGING BASED ON FLUORESCENT ANISOTROPY	1891
	Takuya Aida, Yuki Kameya, and Masahiro Motosuke <i>Tokyo University of Science, JAPAN</i>	

M.544g	SIMULTANEOUS MULTIPOINT MEASUREMENT OF NUCLEATION AND DISSOLUTION	1894
	Aoi Akiyama ¹ , Mao Fukuyama ^{1,2} , and Akihide Hibara ¹	
	¹ <i>Tokyo Institute of Technology, JAPAN and</i>	
	² <i>Kyoto Institute of Technology, JAPAN</i>	
T.545g	DENSITY-CONTROLLED NANOPHOTONIC GRATING - HIGH UNIFORMITY ILLUMINATION FOR ON-CHIP HOLOGRAPHIC IMAGING	1897
	Dries Vercreyusse, Vignesh Mukund, Roelof Jansen, Richard Stahl, Xavier Rottenberg, and Liesbet Lagae	
	<i>IMEC vzw, BELGIUM</i>	
W.546g	PHOTOPOLYMER MICROFLUIDIC DEVICES FOR INFRARED SPECTRAL MICROSCOPY OF LIVE CELLS	1900
	Giovanni Birarda ¹ , Andrea Ravasio ² , Mona Suryana ² , Sivakumar Maniam ² , Hoi-Ying Homan ¹ , and Gianluca Greci ²	
	¹ <i>Lawrence Berkeley National Laboratory, USA and</i>	
	² <i>National University of Singapore, SINGAPORE</i>	

Separations, Reactions, and Other MicroTAS Applications

Chemical & Particle Synthesis

M.547h	CONTROLLED AND LOCALIZED AU-TTF MICRO- AND NANOWIRES FORMATION BY DIFFUSION OF PRECURSORS THROUGH PDMS	1903
	Mario Lenz, Bernhard Sebastian, and Petra Stephanie Dittrich	
	<i>ETH Zurich, SWITZERLAND</i>	
T.548h	SYNTHESIS OF PH-SENSITIVE MICROPARTICLES USING FLOW LITHOGRAPHY FOR MULTI-MODULATED DRUG DELIVERY	1906
	Hyeon Ung Kim ¹ , Min Suk Shim ² , and Ki Wan Bong ¹	
	¹ <i>Korea University, KOREA and</i>	
	² <i>Incheon National University, KOREA</i>	
W.549h	CRYSTALLIZATION OF PROTEINS BY EMULSIFICATION-INDUCED CONCENTRATION IN MICRODROPLETS	1909
	Mao Fukuyama ¹ , Aoi Akiyama ² , Makoto Harada ² , Tetsuo Okada ² , and Akihide Hibara ²	
	¹ <i>Kyoto Institute of Technology, JAPAN and</i>	
	² <i>Tokyo Institute of Technology, JAPAN</i>	
M.550h	SYNTHESIS OF 3-D GRAPHENE MICRO-STRUCTURE BY A MICROFLUIDIC DROPLET CHIP	1912
	Jin Gook Bae, Minsu Park, Dong Ju Han, Sunwoong Bae, Hyun Young Heo, and Tae Seok Seo	
	<i>KAIST, KOREA</i>	
T.551h	MOLECULARLY IMPRINTED POLYMER BEADS FABRICATED BY EMULSION DROPLET METHODS FOR ON-CHIP SOLID PHASE EXTRACTION COLUMNS	1915
	Chung Shih Cheng, You Shih Hong, Hong Chien Chong, and Liou Tong Miin	
	<i>National Tsing Hua University, TAIWAN</i>	
W.552h	GENERATION OF 3D MICROPARTICLES IN MICROCHANNELS WITH NON-RECTANGULAR CROSS-SECTIONS	1918
	Sung Min Nam ¹ , Kibeom Kim ² , Ji Seob Bae ¹ , Wook Park ² , and Wonhee Lee ¹	
	¹ <i>KAIST, KOREA and</i>	
	² <i>Kyung Hee University, KOREA</i>	

- M.553h COLD FIELD EMISSION IN MICROREACTORS TO PERFORM CHEMICAL REACTIONS** 1921
Mattia Morassutto, Stefan Schlautmann, Roald Tiggelaar, and Han Gardeniers
University of Twente, THE NETHERLANDS
- T.554h PRODUCTION OF CARBON NANOTUBE MICROPARTICLES USING MICROFLUIDIC DROPLETS IN A NON-EQUILIBRIUM STATE** 1924
Sakurako Tomii, Masahiro Mizuno, Masumi Yamada, Yasuhiro Yamada, Masahito Kushida, and Minoru Seki
Chiba University, JAPAN
- W.555h PREPARATION OF PLGA POROUS MICROCARRIER BASED ON MICROFLUIDIC DEVICE** 1927
Chul Min Kim, Asad Ullah, and Gyu Man Kim
Kyungpook National University, KOREA
- M.556h MICROFLUIDIC SYNTHESIS OF CO₃O₄@ZIF-9 CORE-SHELL CATALYSTS FOR PRODUCTION OF HYDROCARBONS BY FISCHER-TROPSCH PROCESS** 1930
Ki Won Gyak, Guan-Young Jeong, and Dong-Pyo Kim
POSTECH, KOREA

Chromatographic Separations

- T.557h SHORT PATH FAST FLOW HYDRODYNAMIC CHROMATOGRAPHY FOR SMALL AND LARGE MOLECULES** 1933
Yuzuru Iwasaki¹, Nobuaki Matsuura², Suzuyo Inoue¹, Katsuyoshi Hayashi¹, Michiko Seyama², and Hiroshi Koizumi¹
¹*NTT Device Technology Laboratories, JAPAN and*
²*NTT Device Innovation Center, JAPAN*
- W.558h ON-CHIP INTEGRATION OF SOLID-PHASE-EXTRACTION AND SILICON PILLAR ARRAYS FOR HIGH EFFICIENT LIQUID CHROMATOGRAPHY** 1936
Kanki Nakanishi¹, Kailing Shih¹, Takahiro Kanamori², Dong Hyun Yoon¹, Takashi Funatsu², Makoto Tsunoda², Tetsushi Sekiguchi¹, and Shuichi Shoji¹
¹*Waseda University, JAPAN and*
²*The University of Tokyo, JAPAN*
- M.559h MONOLITHIC COLUMN-ON-A-CHIP FOR ULTRA-FAST GAS CHROMATOGRAPHY** 1939
Joachim Fleury, Didier Thiebaut, and Jerome Vial
ESPCI Paris Tech-CNRS-PSL Research University, FRANCE
- T.560h EVALUATION OF COLUMN PERFORMANCE OF MICROFABRICATED 3D STRUCTURES FOR LC SEPARATIONS** 1942
Makoto Nakamura, Toyohiro Naito, Takuya Kubo, and Koji Otsuka
Kyoto University, JAPAN
- W.561h ELECTROCHROMATOGRAPHIC SEPARATION OF PROTEINS IN POLYMER COATED SILICA NANOPARTICLEPACKED MICROCHANNELS** 1945
Narges Shaabani¹, Abebaw Jemere², and Jed Harrison^{1,2}
¹*University of Alberta, CANADA and*
²*National Institute for Nanotechnology-National Research Council, CANADA*

M.562h	DEVELOPMENT OF GRADIENT LIQUID CHROMATOGRAPHY SYSTEM USING EXTENDED-NANO CHANNEL	1948
	Hisashi Shimizu ^{1,2} , Kento Sakoya ¹ , Adelina Smirnova ^{1,2} , Kazuma Mawatari ^{1,2} , and Takehiko Kitamori ^{1,2} <i>¹The University of Tokyo, JAPAN and ²JST-CREST, JAPAN</i>	
T.563h	HIGH EFFICIENT FEMTOLITER REVERSED PHASE CHROMATOGRAPHY IN A 10 MM EXTENDED-NANOCHANNEL FOR AMINO ACIDS ANALYSIS	1951
	Adelina Smirnova, Hisashi Shimizu, Kazuma Mawatari, and Takehiko Kitamori <i>The University of Tokyo, JAPAN</i>	
<u>Electrophoretic Separations</u>		
W.564h	ONLINE CONNECTION OF FREE-FLOW ISOTACHOPHORESIS CHIP TO AN ELECTROSPRAY IONIZATION MASS-SPECTROMETER	1954
	Jukyung Park ¹ , Andreas Manz ^{1,2} , and Rosanne Guijt ¹ <i>¹KIST Europe GmbH, GERMANY and ²University of Tasmania, AUSTRALIA</i>	
M.565h	A DEVICE FOR SEPARATING DNA AND RNA IN 250 CELLS IN PREPARATION FOR NEXT GENERATION SEQUENCING	1957
	Gordon D. Hoople ^{1,2} , Andrew Richards ² , Kun Zhang ² , and Albert P. Pisano ² <i>¹University of California, Berkeley, USA and ²University of California, San Diego, USA</i>	
T.566h	MICROFLUIDIC ISOTACHOPHORETIC FLUORESCENCE IN SITU HYBRIDISATION OF BACTERIA CELLS	1960
	Sui Ching Phung ¹ , Yi Heng Nai ² , Mirek Macka ¹ , Rosanne Guijt ¹ , Shane M. Powell ¹ , and Michael C. Breadmore ¹ <i>¹University of Tasmania, AUSTRALIA and ²Deakin University, AUSTRALIA</i>	
W.567h	NANOFLUIDIC TRAP FOR DNA EXTRACTION FROM BIOLOGICAL SAMPLES	1963
	Aliaa Shallan, Rosanne Guijt, and Michael Breadmore <i>University of Tasmania, AUSTRALIA</i>	
M.568h	RAPID IDENTIFICATION OF PATHOGENICITY OF AVIAN INFLUENZA VIRUS UTILIZING PORTABLE CGE-SSCP LAB-IN-A-SUITCASE INSTRUMENT	1966
	Wojciech Kubicki ¹ , Rafal Walczak ¹ , Beata Pajak ² , Krzysztof Kucharczyk ² , and Jan Dziuban ¹ <i>¹Wroclaw University of Technology, POLAND and ²BioVectis, POLAND</i>	
T.569h	WALL-LESS STATIONARY PH BOUNDARY FOR STACKING PROTEINS ON A GLASS MICROCHIP	1969
	Hong Heng See ^{1,2} , Rosanne M. Guijt ¹ , and Michael C. Breadmore ¹ <i>¹University of Tasmania, AUSTRALIA and ²University Teknologi Malaysia, MALAYSIA</i>	
W.570h	IMPROVING SEPARATION PERFORMANCE OF MICROCHIP ELECTROCHROMATOGRAPHY USING PLURONIC F-127	1972
	Karolina Petkovic-Duran ¹ , Huaying Chen ¹ , Tony Swallow ¹ , Geoff Stevens, Yonggang Zhu ^{1,3} <i>¹CSIRO Manufacturing Flagship, AUSTRALIA, ²The University of Melbourne, AUSTRALIA, and ³Melbourne Centre for Nanofabrication, AUSTRALIA</i>	

M.571h	DEVELOPMENT OF SEPARATION METHOD USING PRESSURE-DRIVEN FLOW ASSISTED MINIATURIZING FREE-FLOW ELECTROPHORESIS	1975
	Hyungkook Jeon, Youngkyu Kim, and Geunbae Lim <i>POSTECH, KOREA</i>	
T.572h	HIGHLY STABILIZED COLLOIDAL SELF ASSEMBLED NANOPARTICLE BED IN MICRO-CHANNELS FOR HIGH PERFORMANCE SIZE BASED PROTEIN SEPARATION	1978
	Mohammad Alaul Azim ¹ , Abebaw B Jemere ² , and D .Jed Harrison ^{1,2} ¹ <i>University of Alberta, CANADA and</i> ² <i>National Institute for Nanotechnology-NRC, CANADA</i>	
W.573h	BATTERY-POWERED NONAQUEOUS MICROCHIP ELECTROPHORESIS SYSTEM FOR RAPID ANALYSIS OF TAMOXIFEN AND ITS METABOLITES IN HUMAN PLASMA	1981
	Hong Heng See ^{1,2} , Lee Yien Thang ² , and Oliver Woodhouse ³ ¹ <i>University of Tasmania, AUSTRALIA and</i> ² <i>University Teknologi Malaysia, MALAYSIA</i> ³ <i>eDAQ Pty Ltd., AUSTRALIA</i>	
M.574h	IMPROVED QUANTIFICATION FOR POINT-OF-CARE CAPILLARY ELECTROPHORESIS BY ADDING AN INTERNAL STANDARD TO THE BACKGROUND ELECTROLYTE	1984
	Allison C.E. Bidulock, Albert van den Berg, and Jan C.T. Eijkel <i>University of Twente, THE NETHERLANDS</i>	
T.575h	HIGHLY SENSITIVE ENZYME ACTIVITY ASSAY MICRO DEVICE BASED ON ISOELECTRIC FOCUSING USING BIFUNCTIONAL FLUORESCENT SUBSTRATES AND REAGENT-RELEASE HYDROGELS	1987
	Kasumi Sugawara, Kenji Sueyoshi, Tatsuro Endo, and Hideaki Hisamoto <i>Osaka Prefecture University, JAPAN</i>	
<u>Environmental Analysis</u>		
W.576h	A FUNCTIONALIZED POLYDIMETHYL SILOXANE CHIP FOR SOLVENT-FREE, TEMPERATURE ACTUATED SOLID PHASE EXTRACTION	1990
	Sarah Heub ^{1,2} , Xueying Mao ¹ , Laurent Barbe ¹ , Daniel Caminada ¹ , and Petra S. Dittrich ² ¹ <i>Centre Suisse d'Electronique et Microtechnique, SWITZERLAND and</i> ² <i>ETH Zurich, SWITZERLAND</i>	
M.577h	PHASE SEPARATION METHOD FOR AQUEOUS SAMPLES CONTAINING UNKNOWN RATIO OF ORGANIC PHASES	1993
	Akihide Hibara ^{1,2} , Kohei Miyazaki ² , Tatsuhiko Fukuba ² , and Teruo Fujii ² ¹ <i>Tokyo Institute of Technology, JAPAN and</i> ² <i>The University of Tokyo, JAPAN</i>	
T.578h	MICROSCALE CHAOTIC ADVECTION ENABLES ENHANCED SURFACE ELECTROCHEMISTRY IN HYDROTHERMAL PORE ENVIRONMENTS	1996
	Aashish Priye and Victor M Ugaz <i>Texas A&M University, USA</i>	
M.580h	GOLD NANOPARTICLES EMBEDDED POLY(DIMETHYLSILOXANE) HERRINGBONE CHIP FOR ENRICHMENT AND PHOTOTHERMAL KILLING OF AIRBORNE BACTERIA	1999
	Kirok Kwon, Kyung-A Hyun, and Hyo-Il Jung <i>Yonsei University, KOREA</i>	

- T.581h REAL-TIME MOTION ANALYSIS OF EUGLENA CELLS SWIMMING IN A MICROFLUIDIC CHIP FOR ENVIRONMENTAL TOXICITY BIOSENSING** 2002
 Kazunari Ozasa, June Won, Simon Song, and Mizuo Maeda
RIKEN, JAPAN and Hanyang University, KOREA
- W.582h FEASIBILITY OF MICROCHIP ELECTROPHORESIS-ELECTROCHEMICAL DETECTION FOR ENVIRONMENTAL MONITORING** 2005
 Elisa Ollikainen¹, Ines Lenic^{1,2}, and Tiina Sikanen¹
¹*University of Helsinki, FINLAND and*
²*University of Zagreb, CROATIA*
- M.583h AFFORDABLE, RAPID, AND POINT-OF-USE WATER MONITORING VIA ELECTROCHEMICAL NITRATE SENSORS TOWARDS GLOBAL HEALTH** 2008
 Lillian Tatka, Monica De Lazzari, Kristina Howard, and Unyoung Kim
Santa Clara University, USA
- T.584h AN AUTOMATED SOLID PHASE EXTRACTION POLYETHER-ETHER-KETONE MICROFLUIDIC DEVICE: INFLUENCE OF SORBENT PACKING** 2011
 Sarah Heub, Noe Tschamer, Petra S. Dittrich, Stéphane Follonier, and Laurent Barbe
Centre Suisse d'Electronique et Microtechnique, SWITZERLAND and ETH Zurich, SWITZERLAND

Fuel Cells

- W.585h HIGH VOLTAGE GLUCOSE BIOFUEL CELLS USING ARTIFICIAL LIPID BILAYERS** 2014
 Kan Shoji and Keisuke Morishima
Osaka University, JAPAN
- M.586h A LAMINAR FLOW BIOFUEL CELL ARRAY** 2017
 Weiyang Yang, Xuejian Wei, and Seokheun Choi
State University of New York at Binghamton, USA
- T.587h A HIGH EFFICIENT PHOSPHORIC ACID MICRO FUEL CELL WITH NANO/MICRO SYNERGIC COMPOSITE MEMBRANES** 2020
 Cheng-Ping Chang¹, Chia-Lien Lu², and Fan-Gang Tseng^{1,2}
¹*National Tsing Hua University, TAIWAN and*
²*Academia Sinica, TAIWAN*
- W.588h HIGHLY BENDABLE METAL/POLYDIMETHYLSILOXANE(PDMS) COMPOSITE MICRO-ELECTRODES FOR FLEXIBLE PEMFC** 2023
 Wei-Jia Lee, Tung-Yuan Lee, Fan-Gang Tseng, Yu-Chuan Su, and Pen-Cheng Wang
National Tsing Hua University, TAIWAN

Microreactors & Micromixers

- M.589h A PLUG-AND-PLAY MICROREACTOR SYSTEM EMBEDDED WITH MESHEDED MICROSTRUCTURES AS A CATALYST SUPPORTER AND MIXER** 2026
 Jin-Oh Kim, Dong-heon Ha, Dong-Hyeon Ko, Do Jin Im, Soo-Young Park, Dong-Woo Cho, and Dong-Pyo Kim
POSTECH, KOREA

T.590h	MICROPILLAR-BASED AQUEOUS-ORGANIC CONTINUOUS LIQUID-LIQUID EXTRACTION DEVICE	2029
	Ya-Yu Chiang, Nikolay Dimov, Marco P.C. Marques, Frank Baganz, and Nicolas Szita <i>University College London, UK</i>	
W.591h	LIPOSOME-BASED LIQUID HANDLING FOR BIOCHEMICAL REACTIONS	2032
	Taiji Okano ^{1,2} , Hiroaki Suzuki ^{1,2} , and Tetsuya Yomo ^{2,3} ¹ <i>Chuo University, JAPAN,</i> ² <i>ERATO, JST, JAPAN, and</i> ³ <i>Osaka University, JAPAN</i>	
M.592h	DESIGN AND FABRICATION OF A MICRO REACTOR INTEGRATED WITH PH ELECTRODES AND MICRO MIXER FOR NANOPHOSPHER SYNTHESIS	2035
	Ryohei Komiyama ¹ , Hidetoshi Miyashita ¹ , Hiroshi Okura ² , Tadashi Ishigaki ¹ , Tomoaki Kageyama ¹ , Koutoku Ohmi ¹ , and Sang-Seok Lee ¹ ¹ <i>Tottori University, JAPAN and</i> ² <i>Merck Ltd., JAPAN</i>	
T.593h	THREE-DIMENSIONAL HEAT TRANSFER ANALYSIS OF A DISPOSABLE, CONTINUOUS-FLOW POLYMERASE CHAIN REACTION DEVICE	2038
	Victoria Ragsdale ¹ , Huizhong Li ² , Tim Ameal ² , and Bruce Kent Gale ² ¹ <i>Sandia National Laboratories, USA and</i> ² <i>University of Utah, USA</i>	
<u>Other Energy / Power Devices</u>		
W.594h	DEVELOPMENT OF A CORE-SHELL NANOSTRUCTURED PHOTOANODE FOR EFFICIENT WATER SPLITTING FOR A LIGHT DRIVEN M-FUEL GENERATION DEVICE	2041
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¹Yonsei University, KOREA and
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²Georgia Institute of Technology, USA

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