Final Program

All times are US Eastern Daylight Time (EDT) - UTC/GMT - 4 hours
Wednesday, 26 August

08:00 - 08:05 Opening Remarks
Thomas Franke, University of Glasgow, UK
Henrik Bruus, Technical University of Denmark, DENMARK

Session 1 - Acoustic Devices

08:05 - 08:10 Session Introduction by Session Chairs
Richard Fu, Northumbria University, UK
Jürg Dual, ETH Zürich, SWITZERLAND

Invited Speaker

08:10 - 08:40 ACOUSTOFLUIDICS: MANIPULATING OBJECTS ACROSS 7 ORDERS OF MAGNITUDE
Tony Jun Huang
Duke University, USA

Contributed Talks

08:40 - 08:50 MICROSWIMMERS AS LIVING PROBES TO MEASURE THE ACOUSTIC ENERGY DENSITY IN ACOUSTOFLUIDIC DEVICES
Minji Kim¹, Rune Barnkob², and J. Mark Meacham¹
¹Washington University, St. Louis, USA and
²Technical University of Munich, GERMANY

08:50 - 09:00 A MULTINODAL ACOUSTIC TRAPPING UNIT WITH INCREASED CAPACITY AND THROUGHPUT FOR CAPTURE OF EXTRACELLULAR VESICLES
Axel Broman, Andreas Lenshof, Mikael Evander, Anson Ku, Yvonne Ceder, Johan Malmström, and Thomas Laurell
Lund University, SWEDEN

09:00 - 09:10 MODELING AND EXPERIMENTAL EVALUATION OF A POLYMER-BASED ACOUSTOPHORESIS CHIP
Fabian Lickert¹, Mathias Ohlin², Henrik Bruus¹, and Pelle Ohlsson²
¹Technical University of Denmark, DENMARK and
²AcouSort AB, SWEDEN

09:10 - 09:20 CAPILLARY BRIDGE ACOUSTOFLUIDICS
Jeremy J. Hawkes¹, Sadaf Maramizonouz¹, Changfeng Jia², Mohammad Rahmati¹, Tengfei Zheng², Martin B. McDonnell³, and Yong Qing Fu¹
¹Northumbria University, UK, ²Xian Jiaotong University, CHINA, and
³Dstl Porton Down, UK
09:20 - 09:30  DROPLET GENERATION FROM STANDING SURFACE ACOUSTIC WAVE (SSAW) STABILIZED FLUIDIC MICROPATTERN
Mehrzad Roudini¹, Dennis Niedermeier², Frank Stratmann², and Andreas Winkler¹
¹SAWLab Saxony, GERMANY and ²Leibniz Institute for Tropospheric Research, GERMANY

09:30 - 09:40  MICROFLUIDICS PLATFORM FOR PROTOCOL DEVELOPMENT VIA CAPACITIVE FLUID LEVEL MONITORING AND ACOUSTIC MIXING
Yaqi Zhang¹, Muhsincan Sesen¹,², Alex de Marco¹, and Adrian Neild¹
Monash University, AUSTRALIA and ²Heriot-Watt University, UK

**Flash Talks**

09:40 - 09:44  FABRICATION OF SURFACE ACOUSTIC WAVE (SAW) DEVICES USING DETACHABLE ELECTRODES BASED ON A FLEXIBLE PRINTED CIRCUIT BOARD (PCB)
Roman Mikhaylov, Zhihua Xie, Aled Clayton, and Xin Yang
Cardiff University, UK

09:44 - 09:48  GALLIUM NITRIDE THIN FILM FOR ACOUSTIC TWEEZER
Chao Sun¹, Huaixing Cang¹, and Xin Yang²
¹Northwestern Polytechnical University, CHINA and ²Cardiff University, UK

09:48 - 09:52  ACOUSTICALLY DRIVEN MENISCUS MODES IN INKJET PRINTING
Martin van den Broek¹, Maaike Rump¹, Roger Jeurissen², Hans Reinten³, Detlef Lohse¹, Michel Versluis¹, Guillaume Lajoine¹, and Tim Segers¹
¹University of Twente, NETHERLANDS, ²Eindhoven University of Technology, NETHERLANDS, and ³Canon Production Printing Netherlands B.V., NETHERLANDS

09:52 - 09:56  DROPLET DEMULSIFICATION AT PARALLEL FLOW INTERFACE USING SOUND WAVES
E. Hemachandran and Ashis Kumar Sen
Indian Institute of Technology, Madras, INDIA

09:56 -10:00  DROPLET IMPACT CONTROL BY SURFACE ACOUSTIC WAVES
Mehdi H. Biroun¹, Mohammad Rahmati¹, Glen McHale¹, Mehdi Jangi², Hamdi Torun¹, and Richard YongQing Fu¹
¹Northumbria University, UK and ²University of Birmingham, UK

10:00 -10:04  DROPLET MERGING IN A PDMS MICRO-WELL DRIVEN BY SURFACE ACOUSTIC WAVES
Sudeepthi Aremanda¹, Lelie Yeo², and Ashis Kumar Sen¹
¹Indian Institute of Technology, Madras, INDIA and ²RMIT University, AUSTRALIA
10:04 -10:08 HIGH-THROUGHPUT TRIGGERED MERGING OF DROPLETS USING TRAVELLING SURFACE ACOUSTIC WAVES
Vincent Bussiere\textsuperscript{1}, Aurélie Vigne\textsuperscript{1,2}, Andreas Link\textsuperscript{1}, John McGrath\textsuperscript{1}, Aparna Srivastav\textsuperscript{1}, Esther Richter\textsuperscript{1}, Ziyun Wang\textsuperscript{1}, Mustafa Zaimagaoglu\textsuperscript{1}, Jean-Christophe Bare\textsuperscript{2}, and Thomas Franke\textsuperscript{1}.
\textsuperscript{1}University of Glasgow, UK and \textsuperscript{2}Université de Bordeaux, FRANCE

10:08 – 10:25 Break (offline)

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<td>Thomas Franke, University of Glasgow, UK</td>
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**Invited Speaker**

10:30 -11:00 SIMPLICITY OR COMPLEXITY: TRANSDUCERS AND INSTRUMENTATION STRATEGIES FOR ACOUSTOFLUIDIC MANIPULATION OF CELLS AND BIOFUNCTIONALIZED BEADS

Martin Wiklund, Karl Olofsson, and Björn Hammarström

Royal Institute of Technology, SWEDEN

**Contributed Talks**

11:00 -11:10 CELL ADHESION, MORPHOLOGY, AND METABOLISM VARIATION VIA ACOUSTIC EXPOSURE WITHIN MICROFLUIDIC CELL HANDLING SYSTEMS

Citsabehsan Devendran, James Carthew, Jessica E. Frith, and Adrian Neild

Monash University, AUSTRALIA

11:10 -11:20 TWO-DIMENSIONAL PATTERNING OF SWIMMING CELLS USING HYBRID ACOUSTIC WAVE DEVICES

Mingyang Cui\textsuperscript{1}, Philip V. Bayly\textsuperscript{1}, Susan K. Dutcher\textsuperscript{2}, and J. Mark Meacham\textsuperscript{1}

\textsuperscript{1}Washington University, St. Louis, USA and \textsuperscript{2}Washington University School of Medicine, St. Louis, USA

11:20 -11:30 ACOUSTIC SEPARATION OF VIABLE AND DEAD CELLS USING HIGH-DENSITY MEDIUM

Karl Olofsson, Björn Hammarström, and Martin Wiklund

KTH Royal Institute of Technology, SWEDEN

11:30 -11:40 MOTILITY-BASED SPERM SELECTION USING SURFACE ACOUSTIC WAVES

Junyang Gai, Reza Nosrati, and Adrian Neild

Monash University, AUSTRALIA
11:40 -11:50 ADVANCED CELL MANIPULATION WITH VORTEX-BASED ACOUSTICAL TWEEZERS
Michael Baudoin1,2, Jean-Louis Thomas3, Roudy Al Sahely1, Jean-Claude Gerbedoen1, Zhixiong Gong1, Aude Sivery1, Olivier Bou Matar1, Nikolay Smagin1, and Alexis Vlandas1
1Université de Lille, FRANCE, 2Institut Universitaire de Franc, FRANCE, and 3Sorbonne Université, FRANCE

11:50 -12:00 A MICROFLUIDIC PLATFORM FOR ACOUSTIC PARTICLE FOCUSING IN HYDROGEL DROPLETS
Maria Tenje, Hannah Pohlit, and Anna Fornell
Uppsala University, SWEDEN

Flash Talks

12:00 -12:04 GENERATING ORDERED CARDIAC TISSUE MODELS USING ACOUSTIC CELL PATTERNING
Ekaterina Pchelintseva1, Ilona Sunyovzsky1, James P.K. Armstrong1, Alice Agliano1, Bruce W. Drinkwater2, Cesare Terracciano1, and Molly M. Stevens1
1Imperial College London, UK and 2University of Bristol, UK

12:04 -12:08 A PORTABLE ACOUSTOFLUIDIC BASED CHEMILUMINESCENCE BIOSENSOR
Xian Chen, Bohua Liu, Wei Pang, and Xuexin Duan
Tianjin University, CHINA

12:08 -12:12 HIGHLY EFFICIENT ACOUSTOPHORETIC SINGLE CELL-SUPERNATANT SEPARATION INSIDE NANOLITER DROPLETS
Michael Gerlt1, Dominik Haidas2, Alexandre Ratschat1, Philipp Suter1, Petra Dittrich2, and Jürg Dual1
1ETH Zürich, SWITZERLAND and 2ETH Zürich, Basel, SWITZERLAND

12:12 -12:16 CHARTING CELL PROPERTIES THROUGH THEIR ACOUSTOPHORETIC MIGRATION IN A GRADIENT OF DENSITY AND COMPRESSIBILITY
Mahdi Rezayati Charan and Per Augustsson
Lund University, SWEDEN

12:16 -12:20 REFRACtion OF ACOUSTIC VORTEX BEAMS IN AN INHOMOGENEOUS MEDIUM
Xudong Fan and Likun Zhang
University of Mississippi, USA

12:20 -12:24 STREAMING IN A KUNDT'S TUBE OF AN ARBITRARY DIAMETER
Alen Pavlic and Jürg Dual
ETH Zürich, SWITZERLAND
REVERSAL OF INTERPARTICLE RADIATION FORCES ACTING ON MICRO PARTICLES INDUCED BY BULK ACOUSTIC STANDING WAVES IN A MICROCHANNEL
Sazid Zamal Hogue and Ashis Kumar Sen
Indian Institute of Technology, Madras, INDIA

Adjourn for the Day
Thursday, 27 August

08:00 - 08:05  Opening Remarks
Thomas Franke, University of Glasgow, UK
Henrik Bruus, Technical University of Denmark, DENMARK

Session 3 - Physical Acoustics

08:05 - 08:10  Session Introduction by Session Chairs
Per Augustsson, Lund University, SWEDEN
Henrik Bruus, Technical University of Denmark, DENMARK

Invited Speaker

08:10 - 08:40  ACOUSTIC RADIATION FORCE AND TORQUE ON NONSPHERICAL SMALL PARTICLES
Glauber T. Silva
Universidade Federal de Alagoas, BRAZIL

Contributed Talks

08:40 - 08:50  REPELLENDER ATTRACTOR VORTICES GENERATED IN SESSILE DROPLETS BY SWIRLING SURFACE ACOUSTIC WAVES
Shuren Song, Jia Zhou, and Antoine Riaud
Fudan University, CHINA

08:50 - 09:00  FLEXIBLE/BENDABLE ACOUSTOFLUIDICS BASED ON ZnO/Al SHEET SURFACE ACOUSTIC WAVES
Yong Wang1,2, Ran Tao2,3, Qian Zhang1, Jin Xie1, and Yong Qing Fu2
1Zhejiang University, CHINA, 2Northumbria University, UK, and 3Shenzhen University, CHINA

09:00 - 09:10  THERMAL-GRADIENT-INDUCED FAST CONVECTION IN ACOUSTOFLUIDIC DEVICES
Wei Qiu1, Jonas H. Jørgensen2, Enrico Corato1, Henrik Bruus2, and Per Augustsson1
1Lund University, SWEDEN and 2Technical University of Denmark, DENMARK

09:10 - 09:20  THEORY OF TEMPERATURE-DEPENDENT EFFECTS IN ACOUSTOFLUIDICS INCLUDING THERMOVISCOUS BOUNDARY LAYERS
Jonas Helboe Jørgensen and Henrik Bruus
Technical University of Denmark, DENMARK
09:20 - 09:30  THEORY OF ACOUSTIC STREAMING AND ACOUSTIC RADIATION FORCE OF A SOLID PARTICLE IN A VISCOELASTIC FLUID
Jonas Fankhauser, Alexander A. Doinikov, and Jürg Dual
ETH Zürich, SWITZERLAND

09:30 - 09:40  MICROSTREAMING INDUCED BY AN ACOUSTICALLY EXCITED GAS BUBBLE - EXPERIMENTS AND COMPARISON TO THEORY
Sarah Cleve, Gabriel Regnault, Alexander A. Doinikov, Cyril Mauger, Philippe Blanc-Benon, and Claude Inserra
University of Lyon, FRANCE

Flash Talks

09:40 - 09:44  POLY(N-ISOPROPYLACRYLAMIDE) MICROGELS AS SOLUBLE MARKERS FOR VISUALIZATION OF ACOUSTIC ENERGY ABSORPTION IN AQUEOUS SOLUTIONS
Amin Rahimzadeh and Regine von Klitzing
Technische Universität Darmstadt, GERMANY

09:44 - 09:48  ACOUSTIC CHARACTERIZATION OF POLYDIMETHYLSILOXANE (PDMS) FOR MICROSCALE ACOUSTOFLOWDICS
Guangyao Xu and Xiasheng Guo
Nanjing University, CHINA

09:48 - 09:52  A NUMERICAL STUDY OF THE COUPLING LAYER BETWEEN A PIEZOELECTRIC BULK TRANSDUCER AND A GLASS DEVICE
William N. Bodé and Henrik Bruus
Technical University of Denmark, DENMARK

09:52 - 09:56  ALGEBRAIC RADIATION FORCE EXPANSIONS BEYOND KING, YOSIOKA AND KAWASIMA, AND GOR’KOV, AND RELATED INVESTIGATIONS OF SHAPE DYNAMICS
Philip L. Marston
Washington State University, USA

09:56 -10:00  ANALYTICAL PREDICTION OF ACOUSTIC RADIATION FORCES IN SOFT-WALLED MICROCHANNELS DRIVEN BY STANDING SURFACE ACOUSTIC WAVES
Nitesh Nama\(^1\) and Rune Barnkob\(^2\)
\(^1\)University of Michigan, USA and
\(^2\)Technical University of Munich, GERMANY

10:00 -10:04  AN ANGULAR SPECTRUM BASED FORMULA OF THE 3D ACOUSTIC RADIATION TORQUE APPLIED ON A PARTICLE OF ARBITRARY SIZE AND SHAPE BY AN ARBITRARY ACOUSTIC FIELD
Zhixiong Gong\(^1\) and Michael Baudoin\(^1,2\)
\(^1\)University of Lille, FRANCE and
\(^2\)Institut Universitaire de France, FRANCE
10:04 - 10:08 CLUSTER STRUCTURATION OF PARTICLE MIXTURE IN MULTINOODE ACOUSTIC LEVITATION WITH OPTICAL EXCLUSION
Nathan Jeger-Madiot, Mauricio Hoyos, and Jean-Luc Aider
ESPCI, FRANCE

10:08 – 10:25 Break (offline)

Session 4 - Acoustic Manipulation

10:25 – 10:30 Session Introduction by Session Chairs
Citsabehsan “Saab” Devendran, Monash University, AUSTRALIA
Rune Barnkob, Technical University München, GERMANY

Invited Speaker

10:30 -11:00 THE ACOUSTIC HOLOGRAM AND ITS APPLICATION FACILITATED BY THE SPATIAL MODULATION OF ULTRASOUND
Peer Fischer¹,², Zhichao Ma¹, Kai Melde¹,
Athanasiós G. Athanassiadis¹, and Tian Qiu¹,²
¹Max Planck Institute for Intelligent Systems, GERMANY and
²University of Stuttgart, GERMANY

Contributed Talks

11:00 -11:10 LONG-DISTANCE MICROPARTICLE STEERING USING GIGAHERTZ ACOUSTIC STREAMING
Xinyi Guo¹,²,³, Zhichao Ma³, Rahul Goyal³, Moonkwang Jeong¹,
Wei Pang², Peer Fischer³, Xuexin Duan², and Tian Qiu¹
¹University of Stuttgart, GERMANY, ²Tianjin University, CHINA, and
³Max Planck Institute for Intelligent Systems, GERMANY

11:10 -11:20 NUMERICAL SIMULATION OF ACOUSTIC STREAMING GENERATED BY GHz AIN-THIN-FILM TRANSDUCERS ON AIN-SIO₂-BRAGG-REFLECTOR SUBSTRATES
André G. Steckel and Henrik Bruus
Technical University of Denmark, DENMARK

11:20 -11:30 EFFECTS OF PARTICLE SHAPE ON ACOUSTOPHORETIC MANIPULATION OF NON-SPHERICAL MICROPARTICLES IN ULTRASONIC STANDING WAVES
Amir Tahmasebipour, Matthew R. Begley, and Carl D. Meinhart
University of California, Santa Barbara, USA
11:30 -11:40 ACOUSTIC CELL PATTERNING FOR MUSCULOSKELETAL TISSUE ENGINEERING
James P.K. Armstrong¹, Sirli Treumuth¹, Bruce W. Drinkwater², and Molly M. Stevens¹
¹Imperial College London, UK and ²University of Bristol, UK

11:40 -11:50 THREE-DIMENSIONAL MANIPULATION OF PARTICLE BY ACOUSTIC TWISTED FOCUSING BEAM
Xiangxiang Xia, Feiyan Cai, and Hairong Zheng
Chinese Academy of Sciences, CHINA

11:50 -12:00 SIMULATED AND EXPERIMENTAL DEMONSTRATIONS OF ACOUSTIC HOLOGRAM ENHANCED PHASED ARRAYS FOR MANIPULATION
Luke Cox¹, Kai Melde², Anthony Croxford¹, Peer Fischer²,³, and Bruce Drinkwater¹
¹University of Bristol, UK, ²Max Plank Institute for Intelligent Systems, GERMANY, and ³University of Stuttgart, GERMANY

Flash Talks

12:00 -12:04 ACOUSTOFLUIDIC BIDIRECTIONAL MICROPUMP
Yuan Gao, Mengren Wu, Yang Lin, Weiqi Zhao, and Jie Xu
University of Illinois, Chicago, USA

12:04 -12:08 CONTROLLED MANIPULATION AND ACTIVE SORTING OF PARTICLES INSIDE MICROFLUIDIC CHIPS USING BULK ACOUSTIC WAVES
Kyriacos Yiannacou and Veikko Sariola
Tampere University, FINLAND

12:08 -12:12 ACOUSTIC TRAPPING AROUND OBSTACLES AND CORNERS
Asier Marzo¹, Marco A.B. Andrade², María A. Cuellar¹, Jaime Goñi¹, Ryuji Hirayama³, and Diego Martínez³
¹Universidad Pública de Navarra, SPAIN, ²Universidade de São Paulo, BRAZIL, and ³University College London, UK

12:12 -12:16 ACOUSTIC PARTICLE TRAPPING IN A SPHERICAL MICROCHAMBER
Bettina Sailer, Rune Barnkob, and Oliver Hayden
Technical University of Munich, GERMANY

12:16 -12:20 ACOUSTIC EXTRACTION AND TRAPPING OF A DROPLET FROM A LIQUID-LIQUID INTERFACE
Robert Lirette, Joel Mobley, and Likun Zhang
University of Mississippi, USA
12:20 -12:24 MICROPARTICLE PATTERNING ON BENDABLE AND FLEXIBLE SAW DEVICES
Sadaf Marami-Zonzouz, Mohammad Rahmati, and Richard Yongqing Fu
Northumbria University, UK

12:24 -12:28 SONOLITHOGRAPHY AS A TOOL FOR IN-AIR PARTICLE MANIPULATION AND SURFACE PATTERNING USING BULK ULTRASONIC STANDING WAVES
Jenna M. Shapiro1, Bruce W. Drinkwater1, Adam W. Perriman1, and Mike Fraser2
1University of Bristol, UK and 2University of Bath, UK

Closing Remarks and Announcement of Acoustofluidics 2021

12:28 -12:40 Thomas Franke, University of Glasgow, UK
Henrik Bruus, Technical University of Denmark, DENMARK

12:40 Conference Adjourns

Abstract-Only Presentations

Acoustic Devices

ACOUSTO-MECHANICALLY ENHANCED OSTEMER-GLASS POLYMER HYBRID: TOWARDS CHEAPER ACOUSTOFLUIDIC DEVICES
Karl Olofsson, Elin Forss, Björn Hammarström, and Martin Wiklund
KTH Royal Institute of Technology, SWEDEN

MICROFLUIDIC FUNCTIONALITIES AND WIRELESS SENSING USING SURFACE ACOUSTIC WAVE ACTUATOR AND METAMATERIAL-BASED RESONATOR ON A SINGLE PLATFORM
Shahrzad Zahertar1, Ran Tao1,2, Hamdi Torun1, Pep Canyelles-Pericas3, and Richard Y.Q. Fu1
1Northumbria University, UK, 2Shenzhen University, CHINA, and 3University of Twente, NETHERLANDS

REDUCTION OF TAYLOR-ARIS DISPERSION BY LATERAL ACOUSTIC STREAMING
Pierre Gelin, Dominique Maes, and Wim De Malsche
Vrije Universiteit Brussel, BELGIUM

TWO-DIMENSIONAL MXENES EXFOLIATED AND SPIN-COATED USING SURFACE ACOUSTIC WAVE FOR GAS SENSING
Zerong Chen, Ran Tao, and JingTing Luo
Shenzhen University, CHINA
Bio-Acoustic Systems

A BEAD-BASED ACOUSTOFLUIDIC PLATFORM FOR TIME-CONTROLLED ENZYME REACTIONS IN DROPLETS
Zhenhua Liu, Anna Fornell, and Maria Tenje
Uppsala University, SWEDEN

ACOUSTIC LEVITATION OF LEISHMANIA PARASITES
Abelino Vargas\textsuperscript{1,2}, Diana C. Ochoa\textsuperscript{1}, Marcela Camacho\textsuperscript{1,2}, and Itziar González\textsuperscript{3}
\textsuperscript{1}National University of Colombia, Bogotá, COLOMBIA, 
\textsuperscript{2}International Physics Center (CIF), COLOMBIA, and 
\textsuperscript{3}CSIC Spanish National Research Council, SPAIN

ANALYSIS OF A MICROPILLAR BASED QUARTZ CRYSTAL MICROBALANCE SENSOR
Siqi Ji and Hongwei Sun
University of Massachusetts, Lowell, USA

SORTING OF SAME-SIZED CELLS IN TWO-STAGE MICROCHANNEL VIA ACOUSTOFLUIDICS: A NUMERICAL ANALYSIS
Arash Mahboubidoust, Abas Ramiar, Kurosh Sedighi, and Donya Shahani
Babol Noshirvani University of Technology, IRAN

Physical Acoustics

ANALYZING PHYSICAL FIELDS AND PARTICLE MOTIONS INFLUENCED BY DIFFERENT DESCRIPTIONS OF PDMS IN THE MODEL OF SAW-PDMS ACOUSTOFLUIDICS
Zhengyang Ni and Xiasheng Guo
Nanjing University, CHINA

DEFECTS IN A NEW PERIODIC STRUCTURE FORMED BY TWO DIFFERENT SIDE BRANCHES
Mohamed El Malki
Mohammed First University, MOROCCO

DYNAMIC COATING OF ONE LIQUID BY ANOTHER BY EMPLOYING THE ACOUSTOWETTING PHENOMENON
Avital Reizman and Ofer Manor
Technion - Israel Institute of Technology, ISRAEL

MODELING OF ACOUSTIC ENHANCED ELECTROCHEMICAL POLISHING PROCESSES
Johannes Landskron, Sabrina Tietze, Conrad Wolf, and Klaus Stefan Drese
Coburg University of Applied Sciences and Arts, GERMANY
Acoustic Manipulation

A MULTI-CHANNEL PROGRAMMABLE AMPLIFIER FOR HIGH VOLTAGE HIGH FREQUENCY TRANSDUCER EXCITATION
Hiep X. Cao\textsuperscript{1,2}, Han-sol Lee\textsuperscript{1,2}, Dae W. Jung\textsuperscript{2}, Byungjeon Kang\textsuperscript{2}, Jong-Oh Park\textsuperscript{1,2}, and Chang-Sei Kim\textsuperscript{1,2}
\textsuperscript{1}Chonnam National University, KOREA and\textsuperscript{2}Korea Institute of Medical Microrobotics, KOREA

ACOUSTOPHORETIC MANIPULATION OF PARTICLES IN IMPEDANCE MISMATCHED SYSTEMS
Amal Nath and Ashis K. Sen
Indian Institute of Technology, Madras, INDIA

CONTROL OF A BULK ACOUSTIC WAVE MICRO-CHANNEL THROUGH FREQUENCY SHIFTING AND ITS APPLICATION TO CELL RECONCENTRATION
Ludovic Bellebon\textsuperscript{1,2}, Déborah François\textsuperscript{2}, Mauricio Hoyos\textsuperscript{1}, and Jean-Luc Aider\textsuperscript{1}
\textsuperscript{1}ESPCI Paris, FRANCE and \textsuperscript{2}Aenitis Technologies, FRANCE

DISPENSING AND MANIPULATION OF FEMTOLITRE DROPLETS BY INKJET NOZZLE
Dege Li\textsuperscript{1}, Bingfang Huang\textsuperscript{1}, Yi Cao\textsuperscript{1}, Chao Zheng\textsuperscript{1}, Yonghong Liu\textsuperscript{1}, and Yanzhen Zhang\textsuperscript{1,2}
\textsuperscript{1}China University of Petroleum, CHINA and \textsuperscript{2}Swinburne University of Technology, AUSTRALIA

ROBOTIC MICROFINGERS: ACOUSTIC ASSEMBLY AND MAGNETIC MANIPULATION
Xiaolong Lu\textsuperscript{1,2}, Hui Shen\textsuperscript{1}, and Ying Wei\textsuperscript{1}
\textsuperscript{1}Nanjing University of Aeronautics and Astronautics, CHINA and \textsuperscript{2}Max-Planck Institute for Intelligent Systems, GERMANY

WASHING ELECTROPORATED CELLS USING SURFACE ACOUSTIC WAVE (SAW)
Fangda Wu\textsuperscript{1}, Mao Mao\textsuperscript{2}, Fan Yuan\textsuperscript{2}, Ming Hong Shen\textsuperscript{1}, and Xin Yang\textsuperscript{1}
\textsuperscript{1}Cardiff University, UK and \textsuperscript{2}Duke University, USA