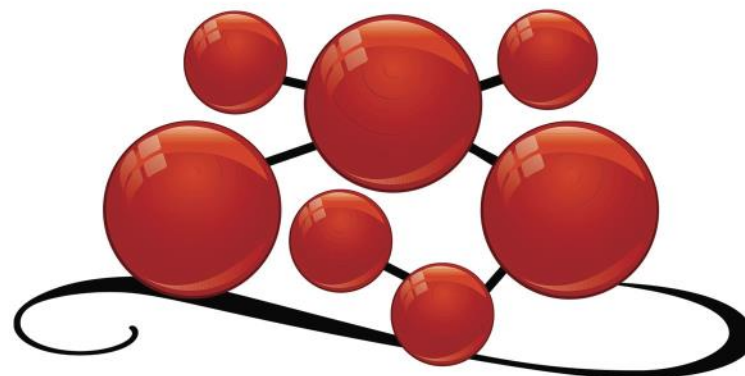




The 17th International Conference on Miniaturized Systems for Chemistry and Life Sciences

μTAS 2013

FREIBURG-BLACK FOREST

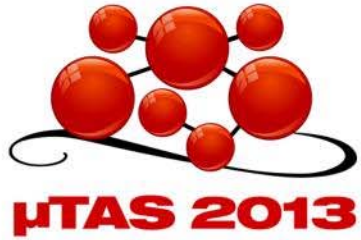
GERMANY

27-31 OCTOBER 2013

WELCOME

Sponsored by:





Warm welcome from the Chairs!



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University of Freiburg

Conference Vice-Chairs



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KIST-Europe



Petra Schwille
MPI Biochemistry



Holger Becker
microfluidic ChipShop

I should have listened to Churchill ...

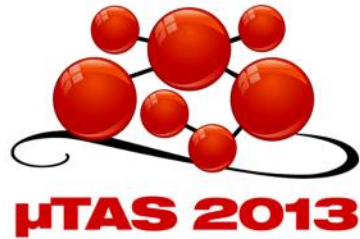


No μTAS for me
this year...

*..But lots of fun
and inspiration
to all of you!*

Yours, Petra





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Alfred Stett, *NMI, Germany*

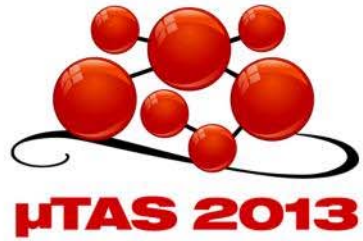
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Tokyo Univeristy



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Curie Institute

Thank you for making MicroTAS successful



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Illmenau, Germany



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UK



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Japan



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Taiwan



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The Netherlands



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University of Twente, The
Netherlands



Jianhua Qin
Dalian Institute of
Chemical Physics,
China

83 reviewers





IN MEMORIAM



謹 弔

서갑양 교수 逝去
삼가 고인의 명복을 빕니다

Prof. Kahp-Yang Suh
1972-2013



Prof. Kahp-Yang Suh (1972-2013)

Doctor of Philosophy (March 1998 ~ 2002)

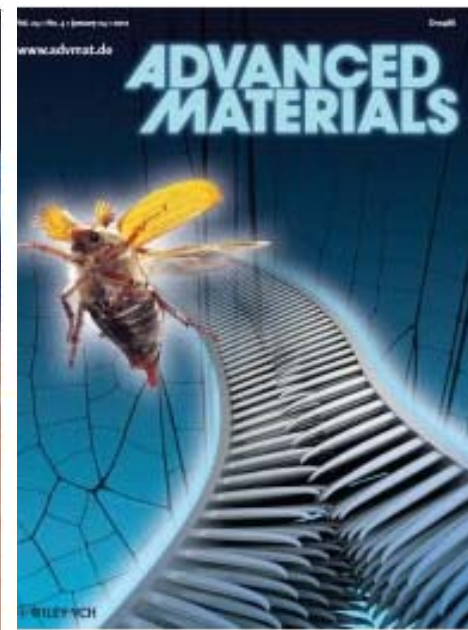
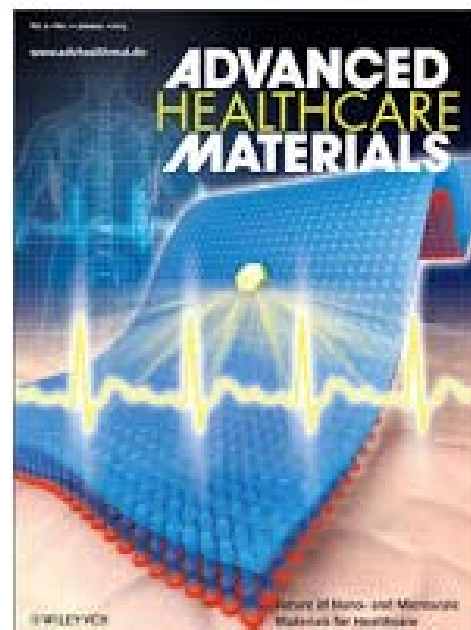
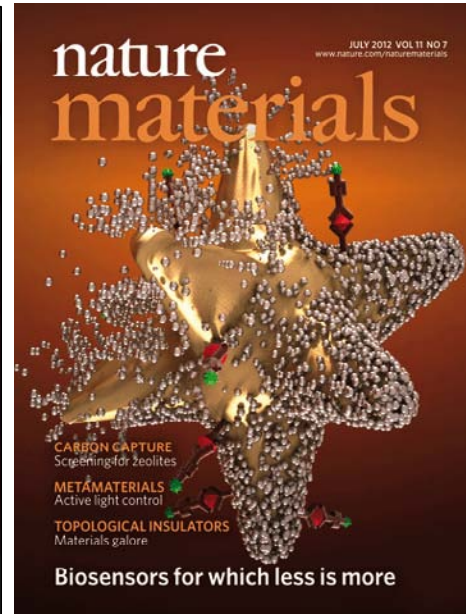
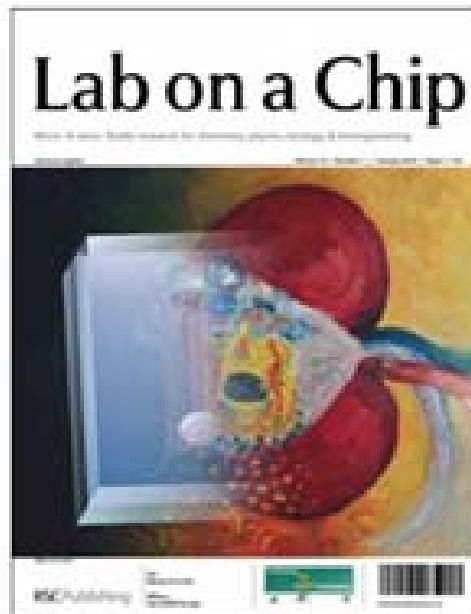
School of Chemical Engineering, Seoul National University

Bachelor of Science (March 1992 ~ February 1996)

School of Chemical Engineering, Seoul National University

- Mar. 2013 Full Professor, School of Mechanical and Aerospace Engineering, SNU
- Apr. 2008 ~ Feb. 2013 Associate Professor, School of Mechanical and Aerospace Engineering, SNU
- Jan. 2008 ~ Dec. 2009 Editorial Board Member, Lab on a Chip
- Feb. 2004 ~ Apr. 2008 Assistant Professor, School of Mechanical and Aerospace Engineering, Seoul National University
- Sep. 2002 ~ Jan. 2004 Post-doctoral associate in Langer Laboratory, Department of Chemical engineering, Massachusetts Institute of Technology

- LOC/BioNEMS/MEMS - Biomimetics



Lab on a Chip

Miniaturisation for Chemistry, Biology & Bioengineering



Hot Articles

Soft lithographic patterning of supported lipid bilayers onto a surface and inside microfluidic channels

Pilnam Kim, Sang Eun Lee, Ho Sup Jung, Hea Yeon Lee, Tomoji Kawai and Kahp Y. Suh, *Lab Chip*, 2006, 6(1), 54

DOI: 10.1039/b512593f

Lab on a Chip

Micro- & nano- fluidic research for chemistry, physics, biology, & bioengineering

www.rsc.org/loc

Volume 11 | Number 1 | 7 January 2011 | Pages 1-188



'04

'05

'06

'07

'08

'09

'10

'11

'12

'13



INNOVATORS UNDER 35

Kahp-Yang Suh, 32

Came up with the first method that allows researchers to cells directly onto glass or plastic surfaces or within microfluidic channels without complicated preparation.

Assistant professor, Seoul National University

The technique is potentially a boon not only for basic research but also for chemical and biological sensors.

Lab on a Chip

Micro- & nano- fluidic research for chemistry, physics, biology, & bioengineering

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Volume 10 | Number 1 | 7 January 2010 | Pages 1-132



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nature materials

JULY 2012 VOL 11 NO 7

www.nature.com/naturematerials



CARBON CAPTURE
Screening for zeolites

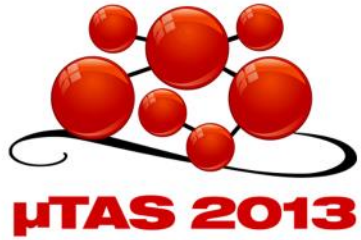
METAMATERIALS
Active light control

TOPOLOGICAL INSULATORS
Materials galore

Biosensors for which less is more

Professor Kahp-Yang Suh passed away on June 29, 2013. Kahp-Yang's passion for his work and life was unrivalled, and he was an inspiration to many. We have lost a great scientist, mentor, and friend, and will miss him deeply. Kahp-Yang: rest in peace





About the abstract selection
process ...

85 abstract categories (1/4)

1. Fundamentals in Microfluidics & Nanofluidics 111

1.1 Wetting, Capillarity, Priming	5
1.2 Electrokinetic Phenomena	8
1.3 Droplets & Plugs, Multiphase Systems	38
1.4 Optofluidics	16
1.5 Magnetofluidics (magnetic particles & related phenomena)	5
1.6 Acoustic Phenomena (BULK & Surface Based)	7
1.7 Nanofluidic Phenomena (nanochannels, -tubes, and -pores)	14
1.8 Modeling/ Numerical Simulation with Experimental Proof	10
1.9 Others	8

2. Micro- and Nanoengineering 127

2.1 Micro- and Nanofabrication/ -patterning/ -integration	57
2.2 Bonding, Sealing & Interfacing Technologies	8
2.3 Novel/ Smart/ Responsive Materials	17
2.4 Surface Modification	16
2.5 Molecular Systems & Nanochemistry	5
2.6 Nanobiotechnology	17
2.7 Nanoassembly	6
2.8 Others	1

3. Sensors & Actuators, Detection Technologies 221

3.1 Micropumps, -valves, -dispensers	31
3.2 Physical Sensors	14
3.3 Biosensors	76
3.4 Chemical & Electrochemical Sensors	38
3.5 Visualization & Imaging Technologies	16
3.6 Optical Detection	33
3.7 Mass Spectrometric Detection	4
3.8 Others	9

85 abstract categories (2/4)

4. Novel Functionalities in Integrated Microfluidic Platforms **134**

4.1 Platforms based on Capillary Forces (Paper based μ fluidics, Lateral Flow Tests)	19
4.2 Microfluidic Large Scale Integration	10
4.3 Digital Microfluidics on Surfaces	8
4.4 Segmented Flow and Droplet Based μ fluidics in Channels	29
4.5 Centrifugal μ fluidics	17
4.6 Electrokinetic μ fluidics	8
4.7 Other & Novel μ fluidic Platforms	43

5. Cells & Liposomes on Chip **222**

5.1 Cell Capture, Counting & Sorting	43
5.2 Circulating Tumor Cells	22
5.3 Patch Clamp	1
5.4 Single Cell Analysis	52
5.5 Liposomes/ Vesicles	7
5.6 Stem Cells	4
5.7 Cell - Surface Interaction	9
5.8 Cell-Culturing & Perfusion (2D & 3D)	44
5.9 Inter- & Intracellular Signaling, Cell Migration	20
5.10 μ fluidics for Cryopreservation	1
5.11 Others	19

6. Organs & Organisms **27**

6.1 Organs on Chip	13
6.2 Organisms on Chip (C. elegans, Zebrafish, Arabidopsis, etc.)	10
6.3 Alternatives to Animal Testing	4
6.4 Others	

85 abstract categories (3/4)

7. Diagnostics & Analytics 103

7.1 Sample Preparation (Whole blood, Saliva, Cells, Tissue, Food, etc.)	27
7.2 Nucleic Acid Analysis (e.g. Digital PCR, Next Generation Sequencing)	33
7.3 Protein Analysis & Characterization (e.g. Proteomics)	16
7.4 Clinical Chemistry	9
7.5 Drug Development	7
7.6 Others	11

8. Medical Research & Applications 77

8.1 Cancer Research	18
8.2 Personalized Medicine	6
8.3 Drug Delivery Systems	11
8.4 Regenerative Medicine & Tissue Engineering	18
8.5 Assisted Reproductive Technologies	1
8.6 Implantable & Surgical Microdevices	3
8.7 Devices for Better Quality-of-Life	9
8.8 Neurobiology/ Neurosciences	6
8.9 Others	5

9. Separation Technologies 57

9.1 Electrophoretic Separations	25
9.2 Chromatographic Separations	8
9.3 Particle Separations	20
9.4 Others	4

10. Microreaction Technology & Synthesis 43

10.1 Microreactors & Micromixers	19
10.2 Filtering & Separation	4
10.3 Chemical Synthesis	8
10.4 Particle Synthesis	8
10.5 Process Analytical Technology	2
10.6 Others	2



11. Applications to Green & Environmental Technologies

18

11.1 Fuel Cells	4
11.2 Low-Carbon Emission Technologies	
11.3 Water/ Air/ Soil Management	8
11.4 Agriculture/ Fishery/ Forestry	
11.5 Building/ Architecture	
11.6 Other Energy/ Power Devices	6

12. MicroTAS for Other Applications

37

12.1 Synthetic Biology	7
12.2 Integrative Biology, Systems Biology	1
12.3 Bioinspired, Biomimetic & Biohybrid Devices	11
12.4 Bioprocess Technology	8
12.5 Food & Nutrition	6
12.6 Forensics	
12.7 Others	4

TOTAL 1178

- 83 reviewers were categorized according their expertise
- 1178 abstracts were categorized according “novelty” & “impact”
- 6 independed reviewers / abstract

Scoring Legend to Reviewers

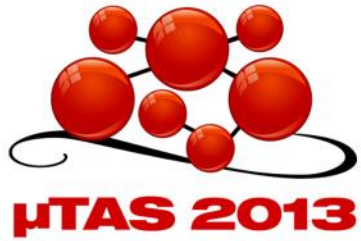
- 6 = Strong recommendation to accept - typically as oral
(top 10%)
- 5 = Strong recommendation to accept as poster or even oral
(top 10% - 25%)

4,5 → oral vs. poster cut-off

- 4 = Abstract should be accepted as poster
(top 25% - 45%)

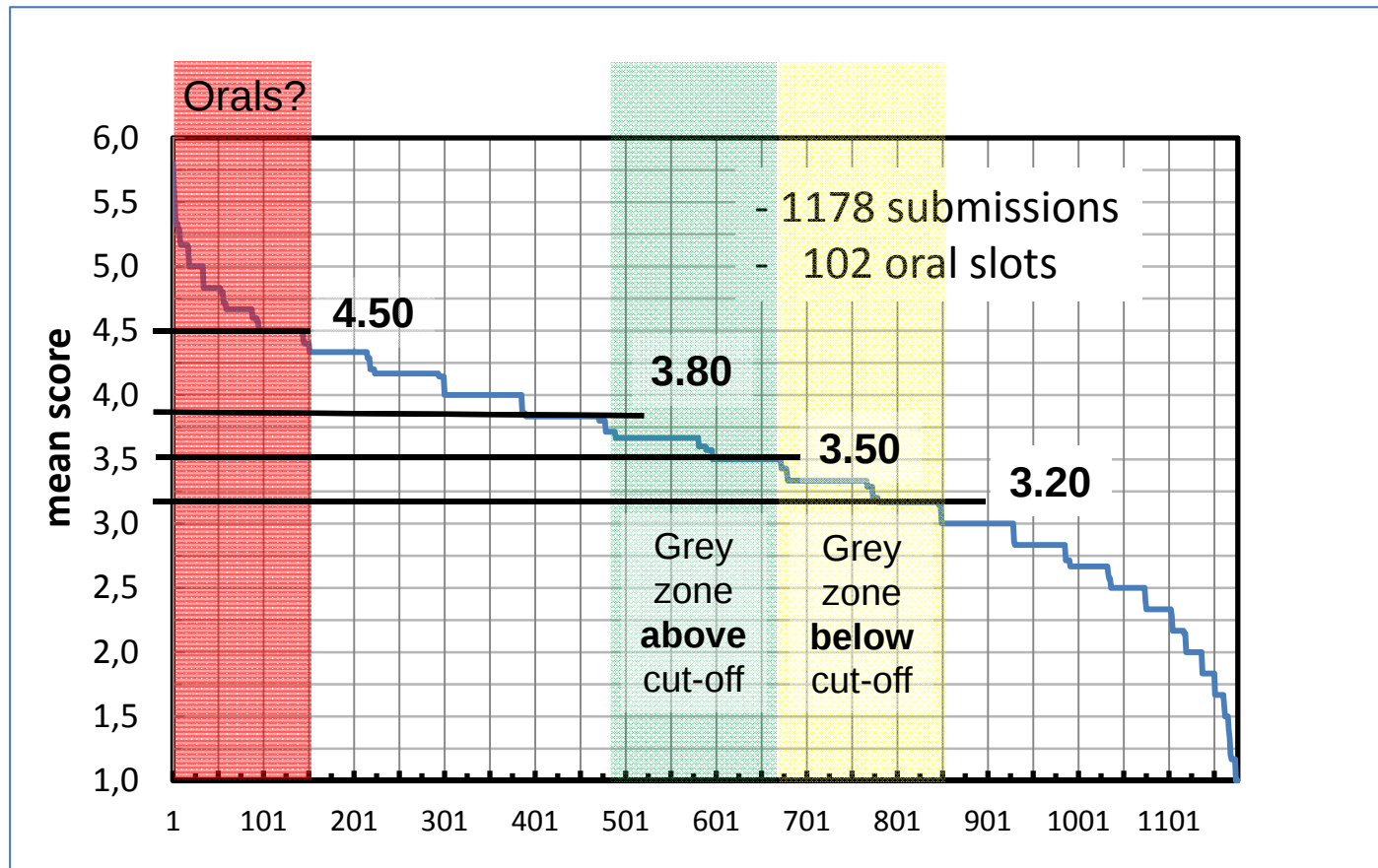
3,5 → acceptance vs. rejection cut-off

- 3 = Abstract probably slightly below the MicroTAS standard
(top 45% - 60%)
- 2 = Abstract significantly below the MicroTAS standard
(bottom 20% - 40%)
- 1 = Definitely reject (bottom 20%)



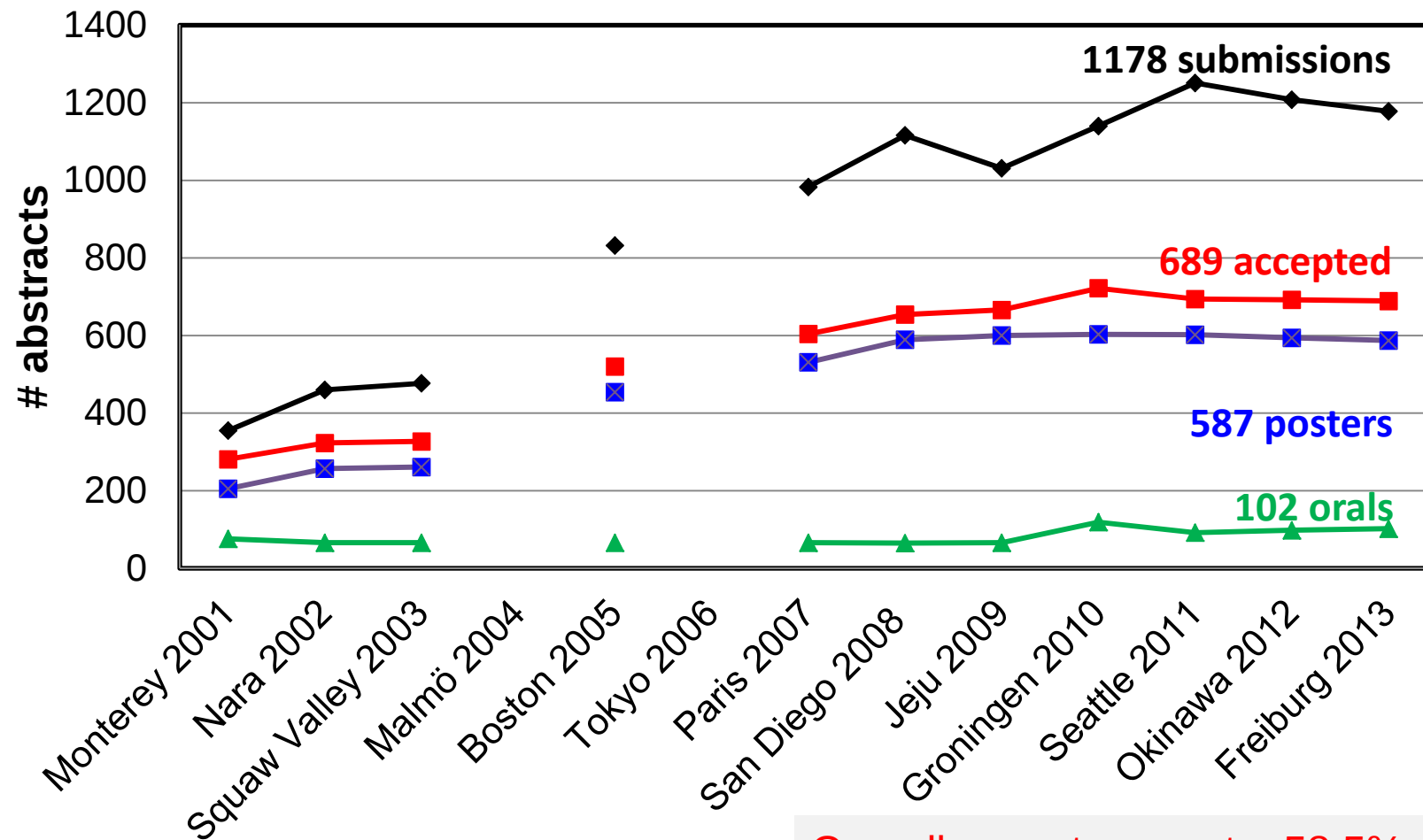
MicroTAS 2013

Score Distribution



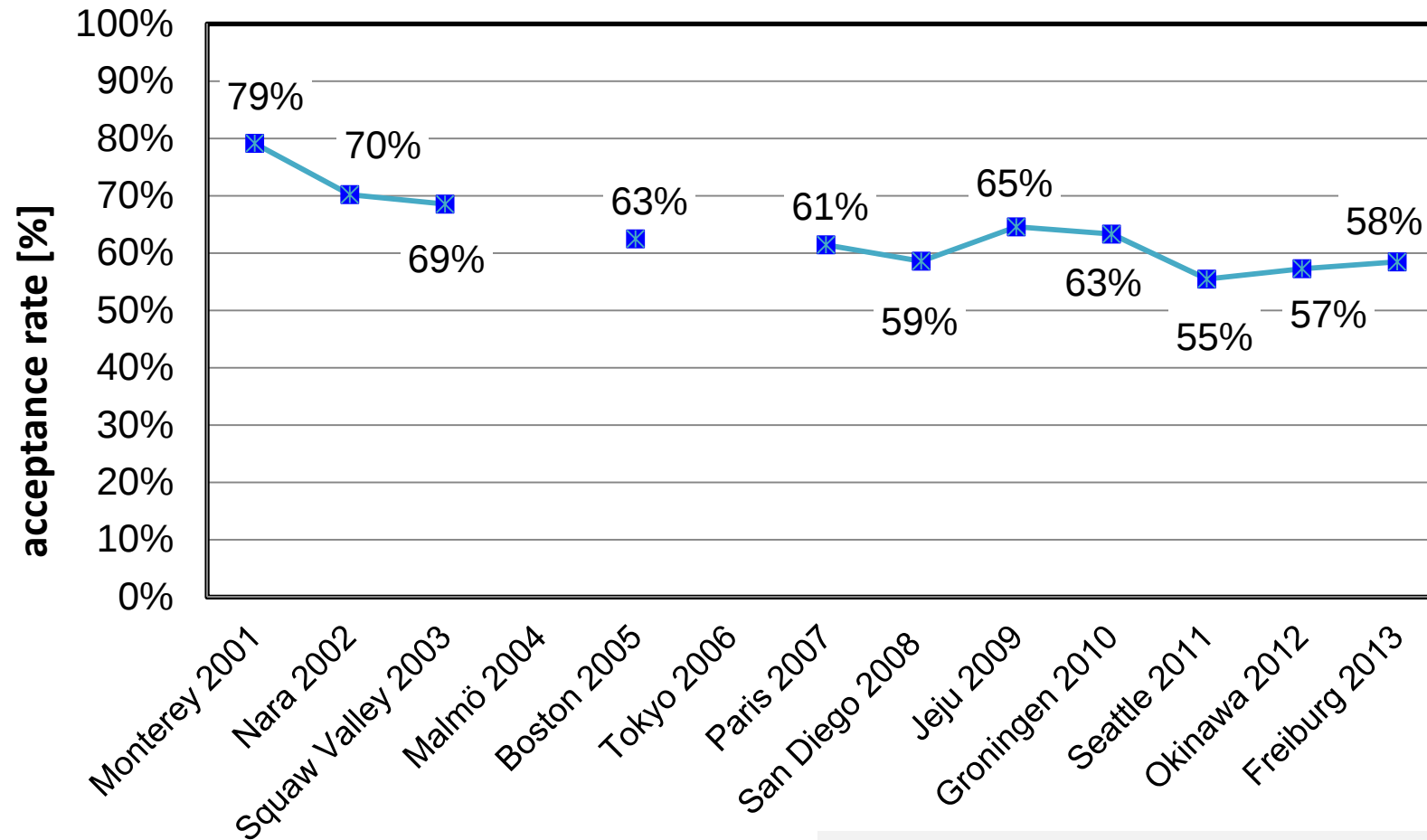
- Every abstract received at least 6 independent reviews
- Grey zone abstracts were discussed & decided individually one by one

Abstracts history

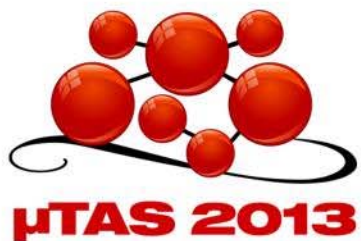


Overall acceptance rate: 58,5%
Oral acceptance rate: 8,7 %

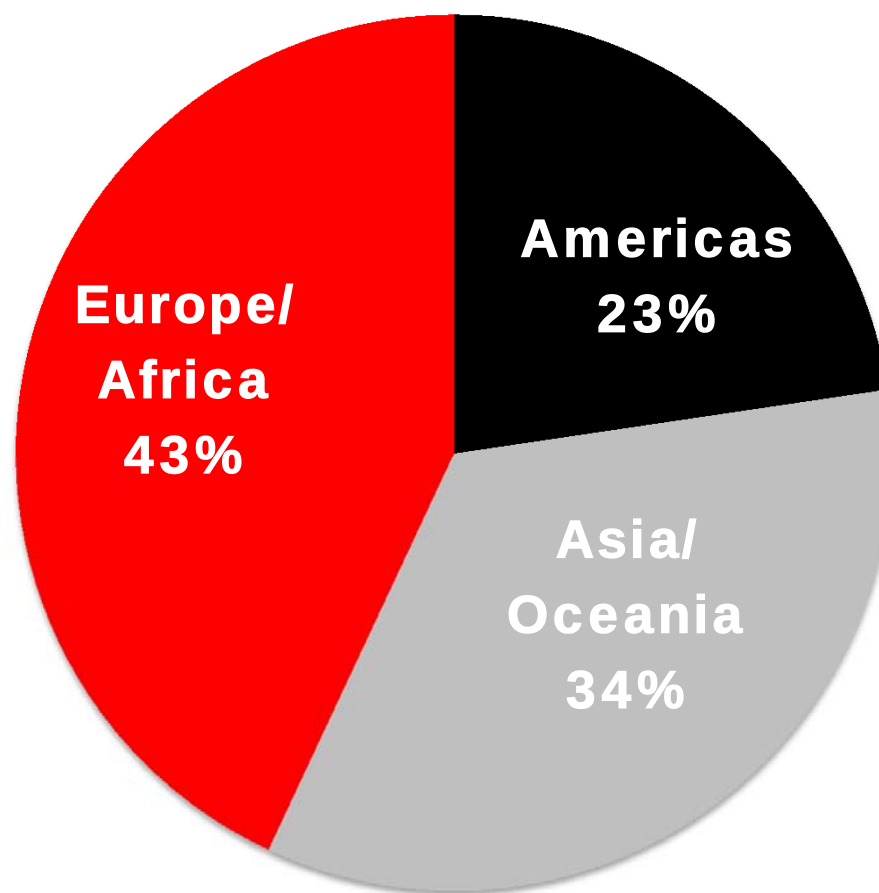
acceptance rate history



Overall acceptance rate: 58,5%
Oral acceptance rate: 8,7 %

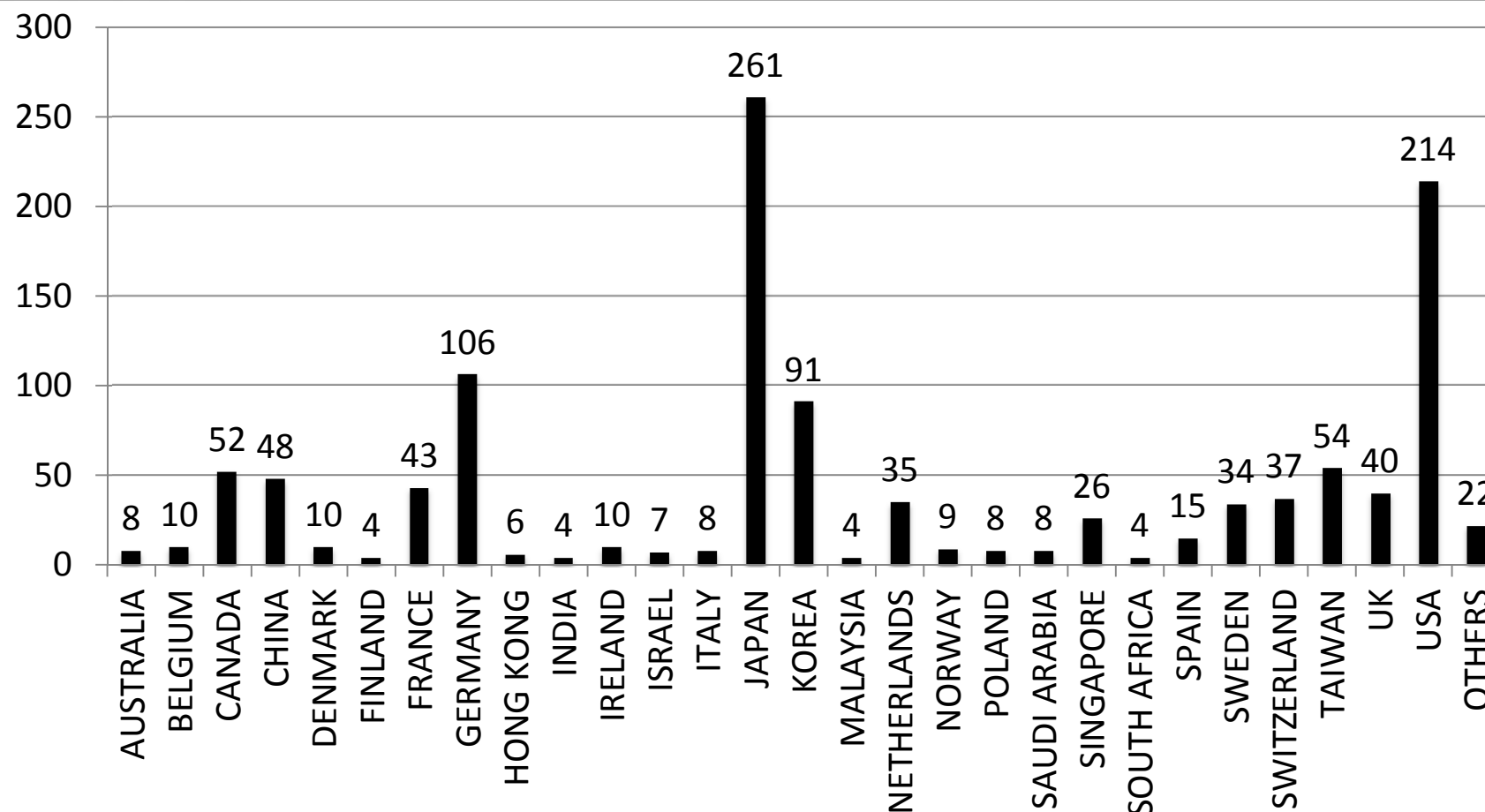


Regional Distribution of Submitted Abstracts





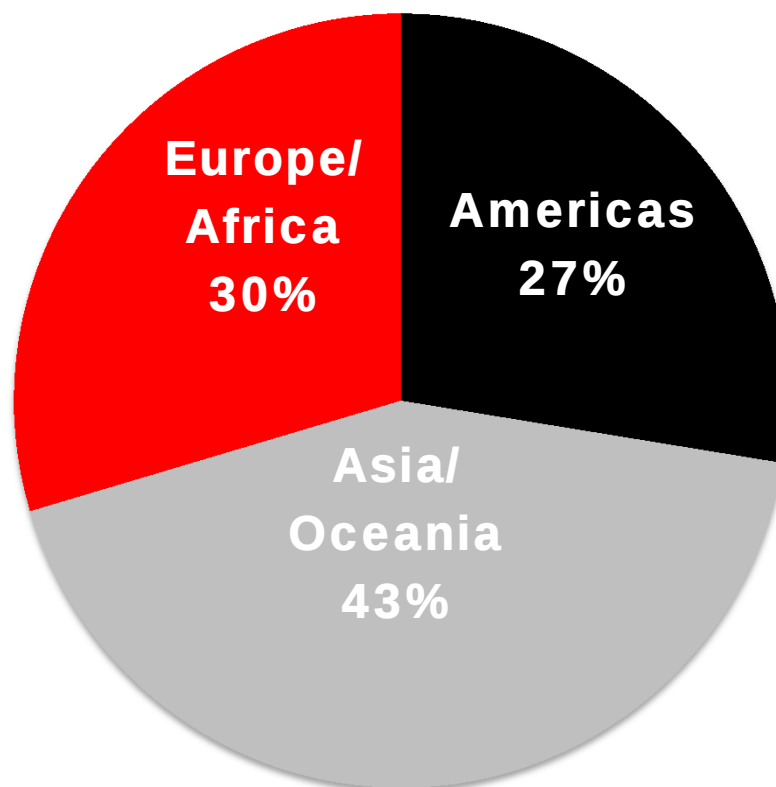
Abstracts Submitted by Country



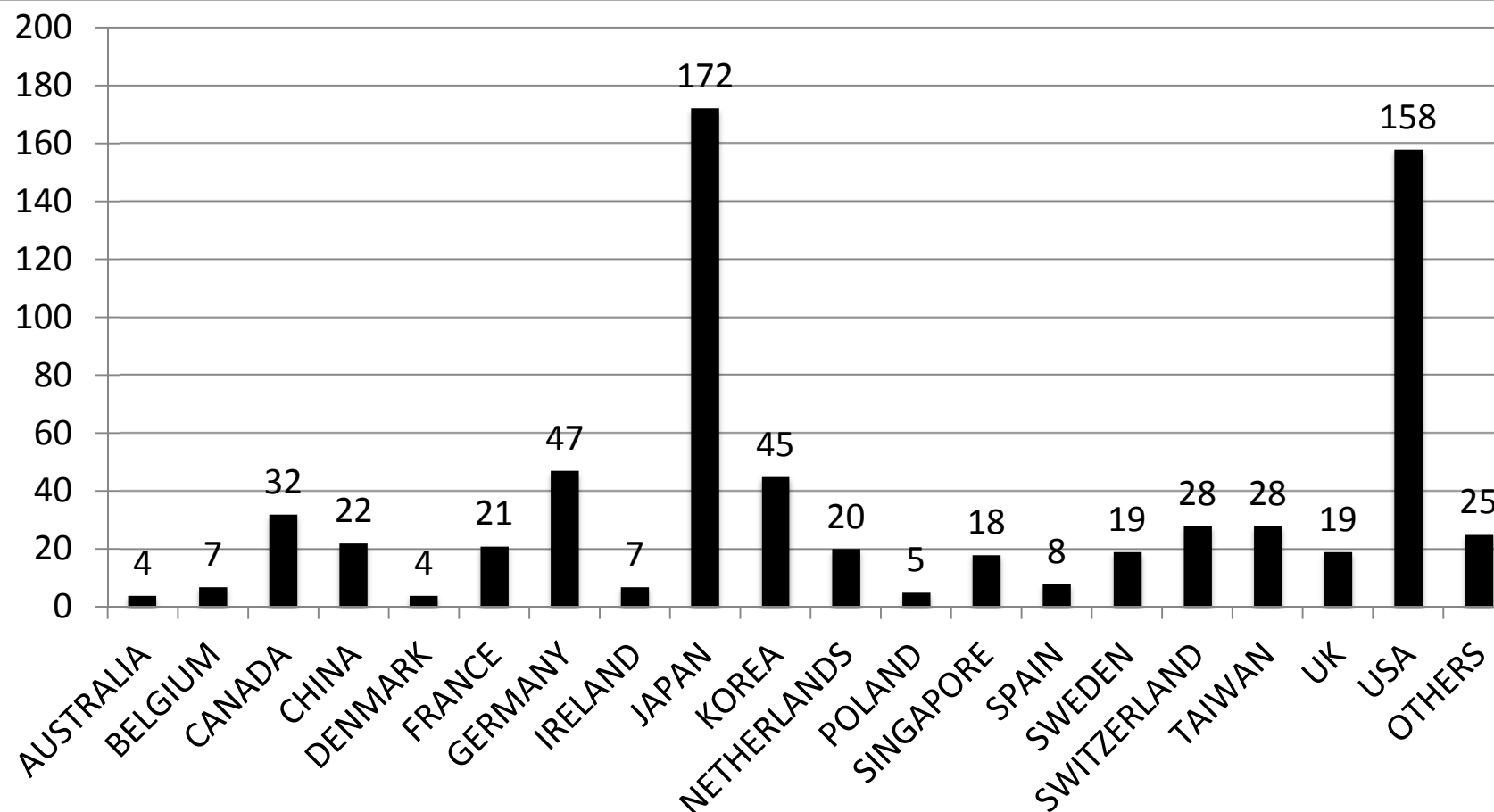
OTHERS: ARGENTINA (1), AUSTRIA (1), CZECH REPUBLIC (3), ETHIOPIA (1), GREECE (2), HUNGARY (2), IRAN (1), LITHUANIA (1), NEW ZEALAND (3), OMAN (1), PORTUGAL (2), THAILAND (2), TURKEY (2)



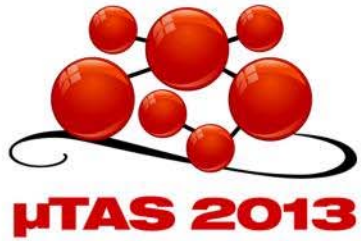
Regional Distribution of Accepted Abstracts



Accepted Abstracts by Country



OTHERS: AUSTRIA (1), CZECH REPUBLIC (1), FINLAND (1), GREECE (1), HONG KONG (3), HUNGARY (1), INDIA (1), ISRAEL (3), ITALY (1), NEW ZEALAND (1), NORWAY (2), PORTUGAL (1), SAUDI ARABIA (2), SOUTH AFRICA (3), THAILAND (1), TURKEY (1)



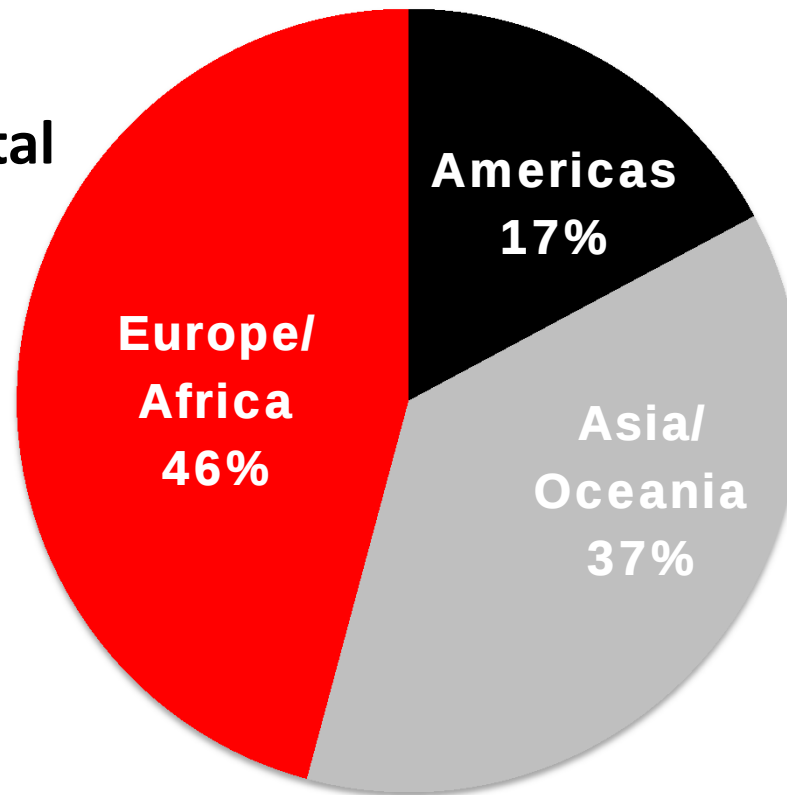
Participants by Region

1060 pre-registered

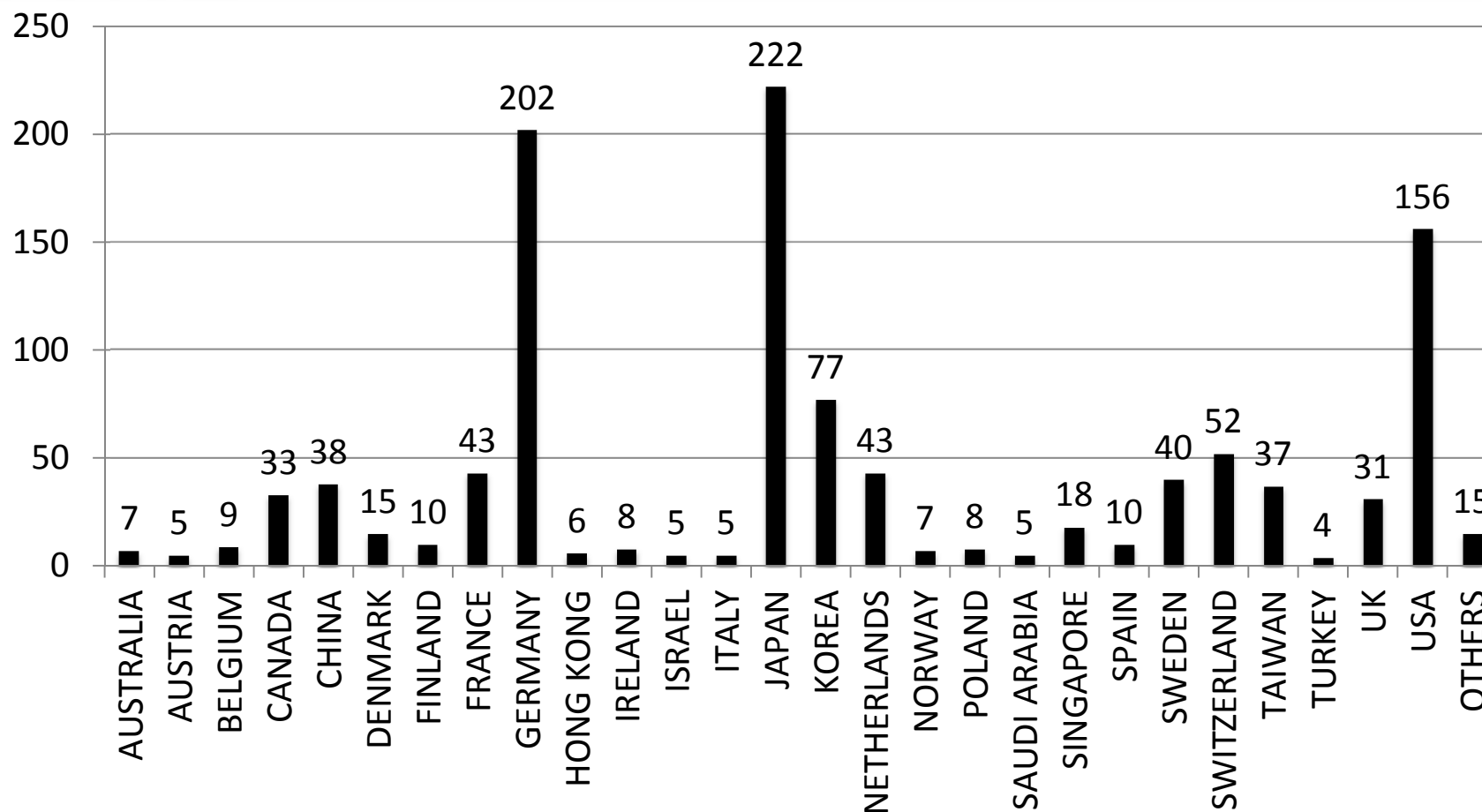
36 on-site

106 exhibitors

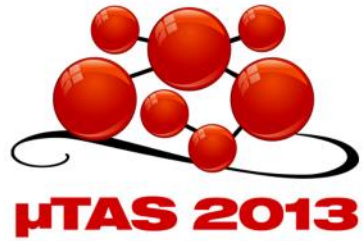
1202 attendees in total



Participants by Country



OTHERS: ARGENTINA (2), CZECH REPUBLIC (1), EGYPT (1), GREECE (1), HUNGARY (1), INIDA (1), NEW ZEALAND (3), PORTUGAL (1), SOUTH AFRICA (2), THAILAND (2)

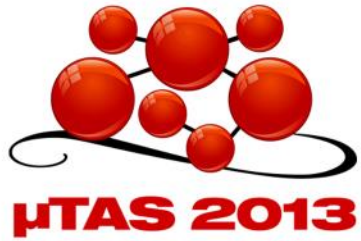


Building the program ...

Program at a Glance

MONDAY 28 October			
08:30 - 08:45	OPENING REMARKS		
08:45 - 09:30	PLENARY PRESENTATION I Antoine M. van Oijen, <i>University of Groningen, THE NETHERLANDS</i>		
	Rothaus Arena / Halle 4	K 6-9	Halle 1
09:45 - 10:45	Session 1A1 Tools for Single Molecule Manipulation	Session 1B1 Chemical & Electrochemical Sensing	Session 1C1 Circulating Tumor Cells
10:45 - 11:15	BREAK & EXHIBIT INSPECTION		
11:15 - 12:15	Session 1A2 Single Molecule Characterization	Session 1B2 Particle Processing	Session 1C2 Screening Platforms
12:15 - 13:15	LUNCH		
13:15 - 14:00	PLENARY PRESENTATION II Stephen C. Jacobson, <i>Indiana University, USA</i>		
14:00 - 16:00	EXHIBITOR LIVE LAB 1 - LabSmith, Inc.		
14:00 - 15:30	EXHIBITOR INDUSTRIAL STAGE		
14:00 - 16:00	POSTER SESSION 1		
16:00 - 16:30	BREAK & EXHIBIT INSPECTION		
16:30 - 17:15	PLENARY PRESENTATION III Michael Reth, <i>University of Freiburg, GERMANY</i>		
17:30 - 18:30	Session 1A3 Fiber & Particle Manufacturing	Session 1B3 Cell Separation & Capture	Session 1C3 Flow Control
TUESDAY 29 October			
08:30 - 08:45	ANNOUNCEMENTS		
08:45 - 09:30	PLENARY PRESENTATION IV Aydogan Ozcan, <i>University of California, Los Angeles, USA</i>		
09:30 - 11:30	EXHIBITOR LIVE LAB 2 - PASCA		
09:45 - 10:45	Session 2A1 Electrokinetic Transport	Session 2B1 Biomolecular Detection 1	Session 2C1 Point-of-Care Immunodiagnostics 1
10:45 - 11:15	BREAK & EXHIBIT INSPECTION		
11:15 - 12:15	Session 2A2 Particle Manufacturing & Encoding	Session 2B2 Biomolecular Detection 2	Session 2C2 Point-of-Care Immunodiagnostics 2
12:15 - 13:15	LUNCH		
13:15 - 13:35	Analytical Chemistry Young Innovator Award		
13:35 - 13:55	Lab on a Chip / Corning Inc. Pioneers in Miniaturization Prize		
14:00 - 16:00	EXHIBITOR LIVE LAB 3 - Cellix Limited		
14:00 - 16:00	POSTER SESSION 2		
16:00 - 16:30	BREAK & EXHIBIT INSPECTION		
16:30 - 17:15	PLENARY PRESENTATION V Lei Jiang, <i>Chinese Academy of Sciences, CHINA</i>		
17:30 - 18:30	Session 2A3 Electrochemical Detection & Imaging	Session 2B3 Immunoassays	

WEDNESDAY 30 October			
08:30 - 08:45	ANNOUNCEMENTS		
08:45 - 09:30	PLENARY PRESENTATION VI Shoji Takeuchi, <i>University of Tokyo, JAPAN</i>		
09:30 - 11:30	EXHIBITOR LIVE LAB 4 - microfluidic ChipShop GmbH		
09:45 - 10:45	Session 3A1 Point-of-Care Nucleic Acid Analysis	Session 3B1 Protein Processing & Analysis 1	Session 3C1 Blood Processing
10:45 - 11:15	BREAK & EXHIBIT INSPECTION		
11:15 - 12:15	Session 3A2 Single Cell Processing & Analysis 1	Session 3B2 Protein Processing & Analysis 2	Session 3C2 Point-of-Care Bacterial Detection
12:15 - 13:15	LUNCH		
13:15 - 14:00	PLENARY PRESENTATION VII Piotr Garstecki, <i>Polish Academy of Sciences, POLAND</i>		
14:00 - 16:00	EXHIBITOR LIVE LAB 5 - cetoni GmbH		
14:00 - 16:00	POSTER SESSION 3		
16:00 - 16:30	BREAK & EXHIBIT INSPECTION		
16:30 - 17:50	Session 3A3 Single Cell Processing & Analysis 2	Session 3B3 Droplets & Plugs	Session 3C3 Tools for Cancer Analysis
19:00 - 23:30	Conference Banquet at the Konzerthaus Freiburg		
THURSDAY 31 October			
08:30 - 08:45	ANNOUNCEMENTS		
08:45 - 09:30	PLENARY PRESENTATION VIII Petra S. Dittrich, <i>ETH Zürich, SWITZERLAND</i>		
09:45 - 10:45	Session 4A1 Micromixers & Gradient Generators	Session 4B1 Molecular Separation	Session 4C1 Neurobiology
10:45 - 11:15	BREAK & EXHIBIT INSPECTION		
11:15 - 12:35	Session 4A2 Nucleic Acid Processing	Session 4B2 Cell Biology	Session 4C2 Tissue Engineering
12:45 - 13:05	MicroTAS 2014 Announcement		
13:05 - 13:20	Lab on a Chip Widmer & CHEMINAS Young Researcher Poster Awards		
13:20 - 13:35	NIST / Lab on a Chip Art in Science Award		
13:35	CONFERENCE ADJOURNS		



Color Track Code

COLOR TRACKS

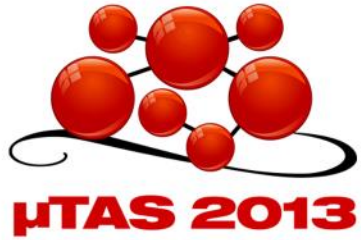
**Orange Track 1:
Micro- & Nanoengineering**

**Blue Track 2:
MicroTAS for Biotechnology**

**Green Track 3:
MicroTAS for Biomedicine &
Clinical Applications**



Inspired by Albert Folch
University of Washington

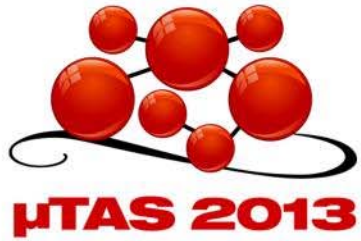


Presenting Presentations

8 – Plenary Presentations

102 – Oral Presentations

566 – Poster Presentations



Plenary Speakers - Monday



Antoine van Oijen

University of Groningen, THE NETHERLANDS

Stephen C. Jacobson
Indiana University, USA

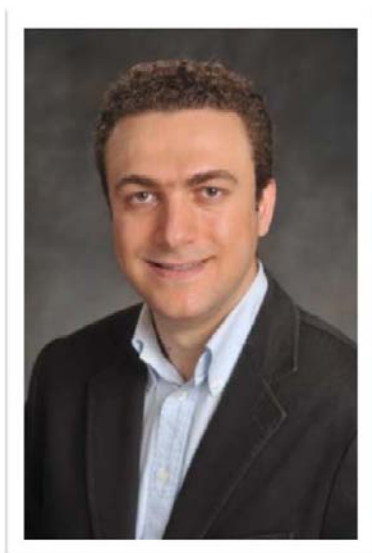


Michael Reth

University of Freiburg, GERMANY



Plenary Speakers - Tuesday



Aydogan Ozcan

University of California, Los Angeles, USA



Lei Jiang

Chinese Academy of Sciences, CHINA

→ was unfortunately not able to attend
and will therefore be replaced



Tuesday Afternoon

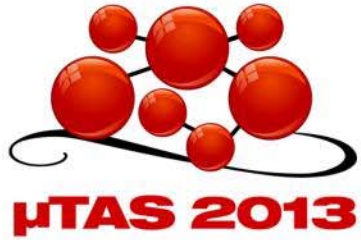
13:15 - 13:55 Young Innovator Award

14:00 - 16:20 Poster Session 2

16:20 - 16:50 Break & Exhibit Inspection

16:50 - 17:15 Pioneers in Miniaturization Prize

17:30 - 18:30 Sessions 2A3 and 2B3

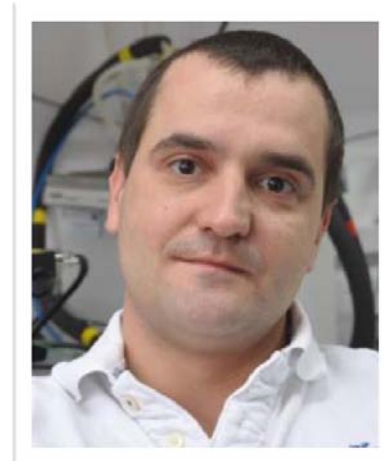


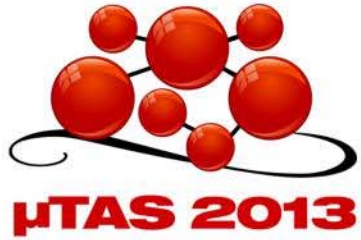
Plenary Speakers - Wednesday



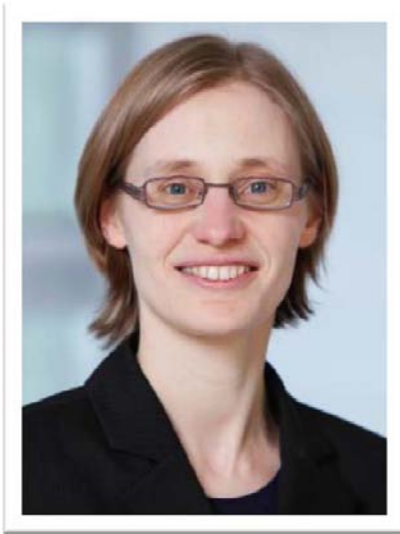
Shoji Takeuchi
University of Tokyo, JAPAN

Piotr Garstecki
Polish Academy of Sciences, POLAND





Plenary Speaker - Thursday

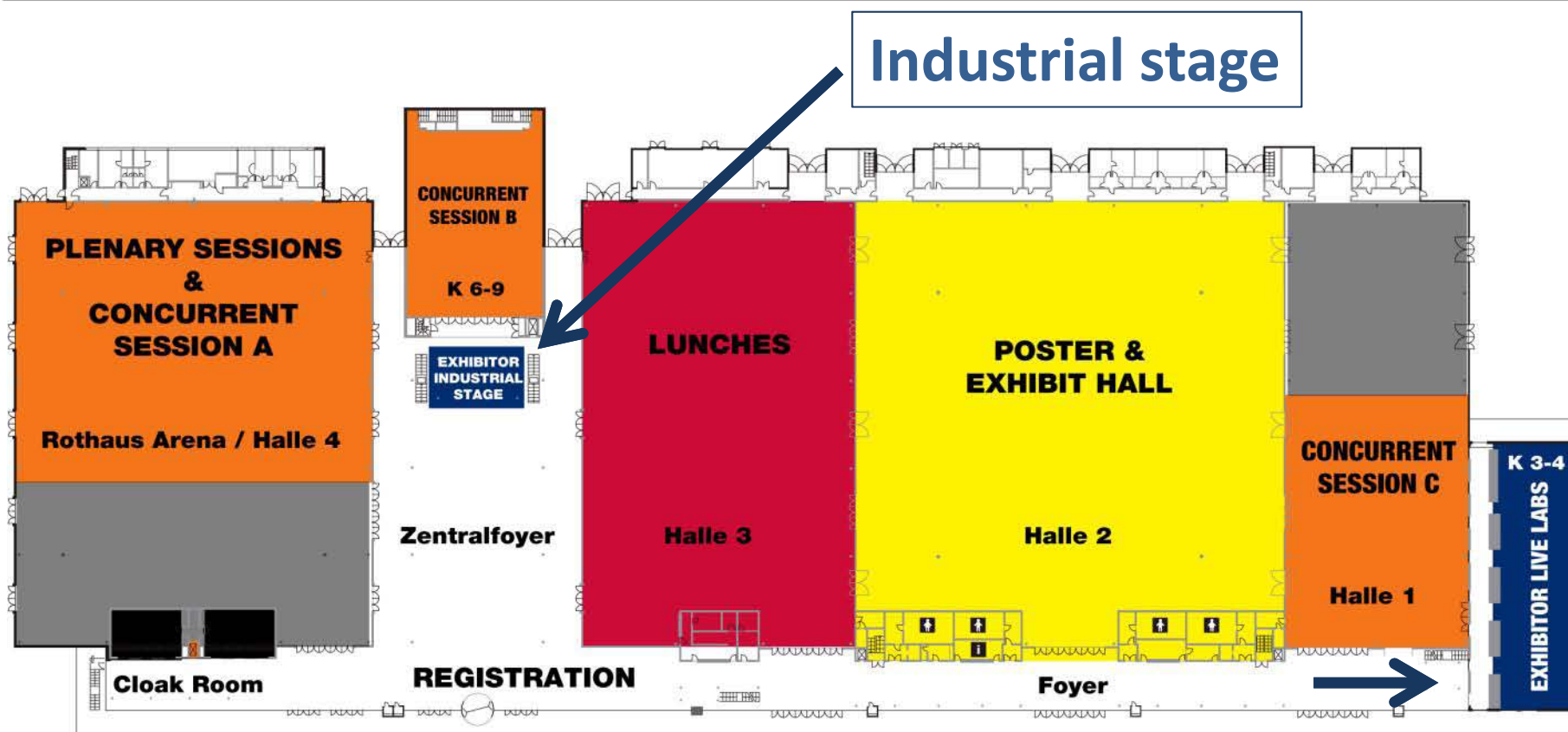


Petra Dittrich
ETH Zürich, SWITZERLAND



How you find your way
& novelties 2013 ...

Conference Floorplan



Industrial stage

Exhibitor Live Labs

Lunch Buffets

Plenary



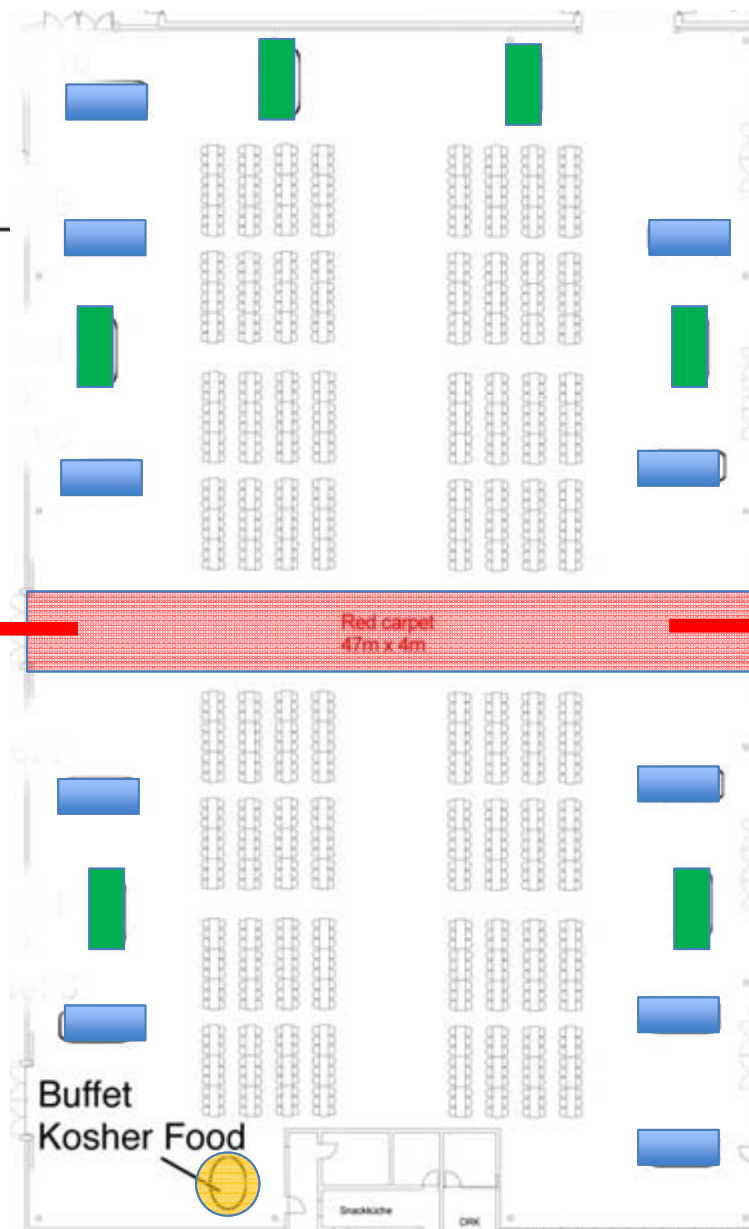
Red carpet
47m x 4m

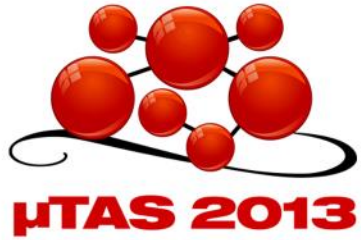


Poster/
Exhibition

All stations
will have the
same items

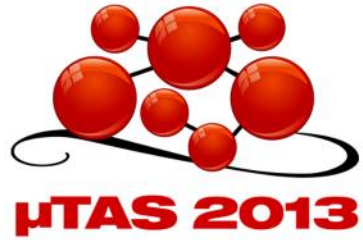
1.400 seats





New for 2013

- **Sunday Short Courses & Workshop**
- **Live Labs** – live demonstrations of microfluidic equipment and hands-on experiments!
- **Industrial Stage** – presentations focusing on issues of broader interest to a large audience such as:
- **Post-Conference Workshop/Tours**



Sunday Pre-Conference Short Courses

Short Course 1

Commercialization of Microfluidic Devices and Systems

Dr. Holger Becker, microfluidic Chipshop, GERMANY

Short Course 2

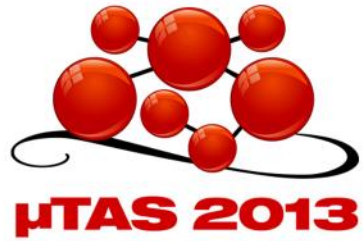
Acoustophoresis

Dr. Henrik Bruus, Technical University of Denmark, DENMARK

Short Course 3

Magnetic Applications in Lab-on-a-Chip

Dr. Nicole Pamme and Dr. Mark Tarn, University of Hull, UK



Sunday Pre-Conference Workshop

Point-of-Care Platforms for Clinical Diagnostics

Roland Zengerle, HSG-IMIT & IMTEK, University of Freiburg, Germany

Prof. Reto Brun, Swiss Tropical and Public Health Institute, Basel, Switzerland

Dr. Klaus Drese, Institut für Mikrotechnik Mainz - IMM, Germany

Prof. Dr. Thomas Otto, Fraunhofer ENAS, Chemnitz, Germany

Prof. Sanjeev Krishna, St' George's University of London, United Kingdom

Dr. Konstantinos Mitsakakis, HSG-IMIT & IMTEK, University of Freiburg, Germany

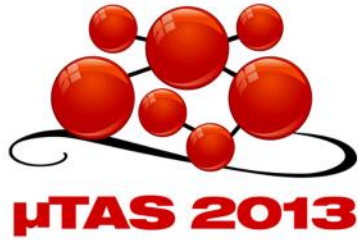
Dr. Ljuban Grgic, University College London, United Kingdom

Dr. Claudia Gärtner, microfluidic ChipShop, Jena, Germany

Dr. Emmanuel Delamarche, IBM Research, Zurich, Switzerland

Dr. Felix von Stetten, HSG-IMIT & IMTEK, University of Freiburg, Germany

Prof. Aydogan Ozcan, UCLA, Electrical Engineering, USA



Live Lab Presentations

Live Lab 1 - *LabSmith, Inc*

Monday, 28 October, 14:00 - 16:00

AUTOMATE YOUR EXPERIMENT WITH THE
LABPACKAGE MICRO/NANOFLUIDIC WORKSTATION

Live Lab 2 – *PASCA*

Tuesday, 29 October, 09:30 - 11:30

THE PASCA SINGLE CELL MANIPULATOR: AUTOMATED PRINTING OF INDIVIDUAL LIVING
CELLS FOR A VARIETY OF DOWNSTREAM ANALYSIS TECHNIQUES

Live Lab 3 - *Cellix Limited*

Tuesday, 29 October, 14:00 - 16:00

MICROFLUIDIC PUMPING SOLUTIONS FOR DROPLET GENERATION,
CELL AND PARTICLE STUDIES, STEM CELL CULTURE

Live Lab 4 - *microfluidic ChipShop GmbH*

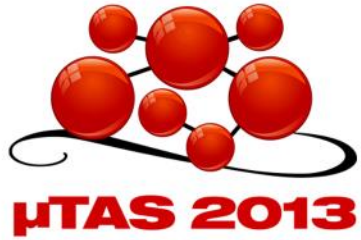
Wednesday, 30 October, 09:30 - 11:30

THE MICROFLUIDIC TOOLBOX - A MODULAR SYSTEM FOR
MICROFLUIDICS R&D AND TRAINING

Live Lab 5 - *cetoni GmbH*

Wednesday, 30 October, 14:00 - 16:00

neMESYS, Qmix, AND BEYOND - PARTICLE SEPARATION & CONTINUOUS FLOW
USING A MODULAR MICROFLUIDIC ACTUATION SYSTEM



Industrial Stage Presentations

Monday, 28 October, 14:00 – 15:45

Industrial Stage 1 - *Elveflow Microfluidic Innovation Center*

INSTANTANEOUS STOP FLOW APPLICATIONS IN MICROFLUIDIC / NANOFUIDIC DEVICE

Industrial Stage 2 - *Fluigent SA*

MULTI-CHANNELS FLOW-RATE CONTROL BASED ON PRESSURE ACTUATION

Industrial Stage 3 - *Sony DADC*

SILICON PRECISION IN POLYMER MOLDING - FROM CD MANUFACTURER TO MARKET LEADER IN THE INDUSTRIALIZATION OF SMART POLYMER PARTS

Industrial Stage 4 - *Micronit Microfluidics B.V.*

NEW TECHNOLOGIES FOR MICROFLUIDICS AND MEMS APPLICATIONS

Industrial Stage 5 - *cetoni GmbH*

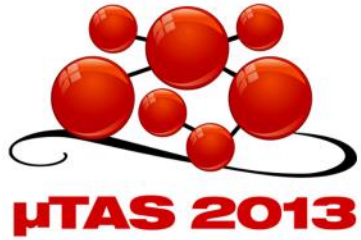
SOLVING MICRO REACTION TEMPERATURE CONTROL: ADVANTAGES OF A MODULAR SYSTEM APPROACH TO HEATING AND COOLING

Industrial Stage 6 - *microfluidic ChipShop GmbH*

THE MICROFLUIDIC TOOLBOX - MODULAR APPROACHES FOR INTEGRATED MICROFLUIDICS

Industrial Stage 7 - *HSG-IMIT*

ASSAY AUTOMATION SERVICES: THE LAB-ON-A-CHIP DESIGN- & FOUNDRY-SERVICE



Post Tours

For those of you who wish to continue the learning experience on Thursday afternoon, a post-Conference Workshop and Tours are available.

Workshop

- Assay Automation Based on Centrifugal Microfluidics; HSG-IMIT

Tours

- Agilent Tour
- HSG-IMIT LabTour



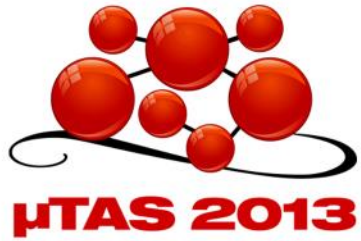
Conference Banquet

Wednesday Evening

19:00 – 23:30

Tickets still available at the Onsite Registration Desk





Contributors

PLATINUM BENEFACTOR



GOLD BENEFACTOR



Norwegian Centres of Expertise

NCE Micro- and
Nanotechnology

SILVER BENEFACTOR



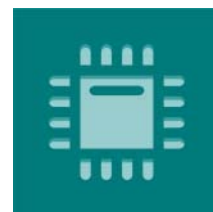


Contributors

BRONZE BENEFACTOR



Agilent Technologies



COPPER BENEFACTOR





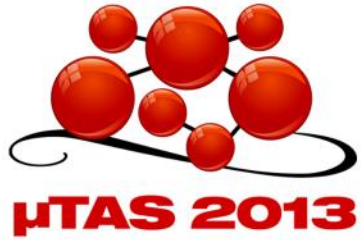
Analytical Chemistry Young Innovator Award Sponsors

**analytical
chemistry**



ACS Publications
High quality. High impact.

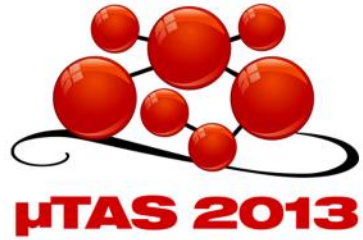




Pioneers of Miniaturization Prize Sponsors

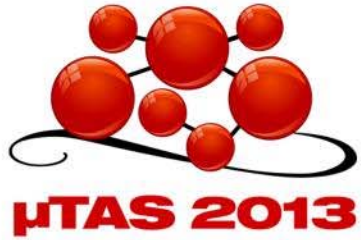
CORNING

Lab on a Chip



Widmer Poster Award Sponsor

Lab on a Chip



Art in Science Award Sponsors

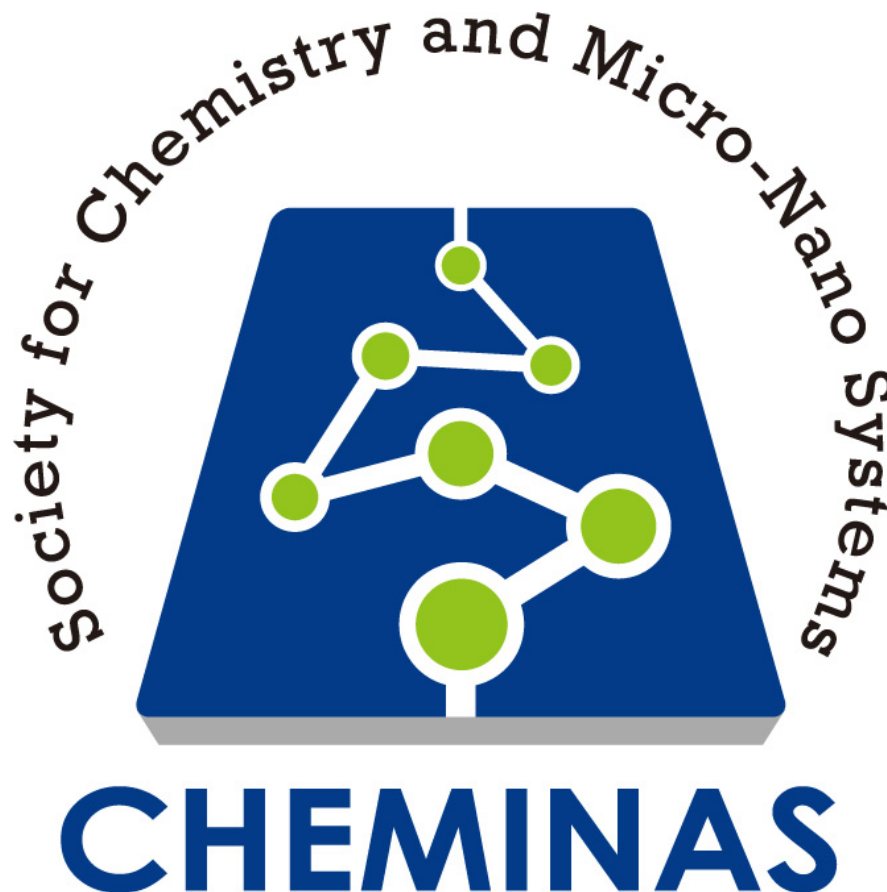


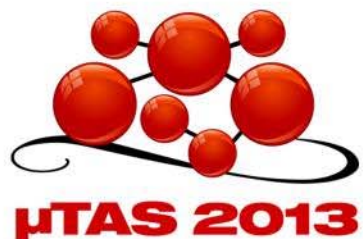
Lab on a Chip

NIST



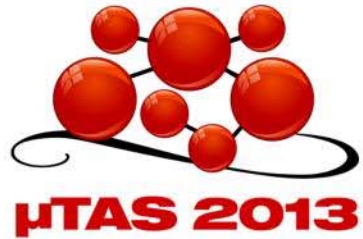
Young Researcher Poster Awards Sponsor





Exhibitors





Exhibitors

HEIDELBERG
INSTRUMENTS

HNP M
HNP Mikrosysteme

HSE Hugo Sachs Elektronik
HARVARD APPARATUS
The Physiology Specialists



IMT
PRECISION ON GLASS

invenios
bonding your future

JENA WIRTSCHAFT
Business Development

Journal of Micromechanics
and Microengineering

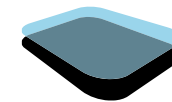
ipht jena
INSTITUTE of
PHOTONIC
TECHNOLOGY



learia

Lab on a Chip

LabSmith
TOOLS FOR SCIENCE

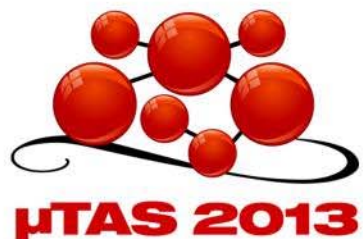


Lyncée tec DHM

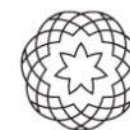
LTF Little Things
FACTORY

**microfluidic
ChipShop**

microTEC
Südwest



Exhibitors



Norwegian Centres of Expertise
NCE Micro- and
Nanotechnology



Sony DADC



thinXXS
• MICROTECHNOLOGY

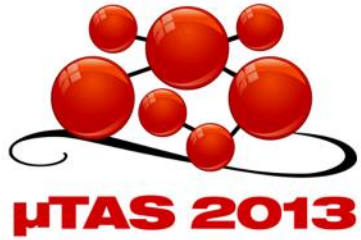
tok



z-microsystems®
LAB ON A CHIP + MICROFLUIDIC



zygoLOT
EUROPE



House Keeping

- Name badges are required at all times.
- Please return to sessions when chimes ring.
- Poster should be set by 13:15 today and stay until Thursday.
- Water stations are at the back of the exhibit hall.
- Freiburg Messe will close 45 minutes after sessions end.

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HSG-IMIT & IMTEK
staff members recommend
their personal favourites in
Freiburg Old Town

Restaurants, Pubs, Bars, Cafés, Places and Walks



Chairman's Choice €€€

Colombi 1

Gourmetrestaurant – Culinary delights for pampered palates; Café, Piano Bar (18.00 – 3.00), Wine Cellar
Rotteckring 16, Fon: +49 (0)761 21060
www.colombi.de

Basho An 2

Japanese Kitchen
Merianstraße 10, Fon: +49 (0)761 2853405
Tue. – Sat. 12.00 – 14.00, 18.00 – 22.00
Sun. & public holiday 18.00 – 22.00
www.bashoan.com

Enoteca 3

Restaurant & Trattoria
Gerberau 21, Fon: +49 (0)761 3899130
Restaurant: 12.00 – 14.00, 19.00 – 24.00
Trattoria: 18.00 – 24.00
Sun. & public holiday closed
www.enoteca-freiburg.de

Greiffenegg Schlössle 4

Schlossberg, Fon: +49 (0) 761 32728
Mon. – Sat. 11.00 – 24.00
Sun. & public holiday 10.00 – 24.00
www.greiffenegg.de

PostDoc's Choice €€

Grace 1

Wine & Dine
Humboldtstraße 2, Fon: +49 (0)761 20889930
Mon. – Sun. 10.00 am – 2.00 am
www.grace-freiburg.de

Lichtblick 2

Café & Restaurant
Konviktstraße 41, Fon: +49 (0)761 29280940
Mon. – Thu. 11.30 – 15.00, 18.00 – 23.00
Fri. & Sat. 11.30 – 23.00, Sun. closed
www.lichtblick-freiburg.de

Osteria 3

„Dolce far niente“ in the centre of Freiburg
Grünwälderstraße 2, Fon: +49 (0)761 32054
Mon. – Sat. 9.00 – 24.00
Sun. & public holiday closed
www.osteria-freiburg.de

Student's Choice €

Feierling 1

Local brewery with Biergarten
Gerberau 46, Fon: +49 (0)761 243480
Daily from 11.00 – 24.00
www.feierling.de

Schlappen 2

Students' favourite pub
Löwenstraße 2, Fon: +49 (0)761 33494
Mon. – Sat. 11.00 – 1.00, Sun. 15.00 – 1.00
www.schlappen.com

Coucou 3

Café, Bar, Restaurant – Art meets pleasure
Rempartstraße 4, Fon: +49 (0)761 2025120
Mon. – Sat. from 9.00 am, Sun. from 10.00 am
www.coucou-freiburg.de

Karma 4

Café, Bar, Club
Bertoldstraße 51-53, Fon: +49 (0)761 2074518
www.karma-freiburg.de

Tacheles 5

Bar, Restaurant, Club, Fotogallery
Grünwälderstraße 17, Fon: +49 (0)761 3196669
Mon. – Thu. 11.30 – 2.00 am,
Fri. & Sat. 11.30 – 5.00 am, Sun. 11.30 – 1.00 am
www.tacheles-freiburg.de

Chang Restaurant 6

Thai Kitchen
Grünwälderstraße 21, Fon: +49 (0)761 1379684
Sun. – Thu. 12.00 – 23.00, Fri. – Sat. 12.00 – 24.00
www.chang-thaikueche.de

Leaf Thaiküche 7

Thai Kitchen
Eisenbahnstraße 43, Fon: +49 (0) 761 1371828
Mon. – Sat. 11.30 – 23.00, Sun. 16.30 – 23.00
www.leafthaikueche.de

Jaipur 8

Indian Kitchen
Gerberau 5 (Dietler Passage), Fon: +49 (0)761 272082
Mon. – Sat. 11.30 – 14.15, 18.00 – 22.30
Sun. 18.00 – 22.30
www.jaipur-ind.de

O'Kellys Irish Pub 9

The taste of Ireland
Milchstraße 1, Fon: +49 (0) 761 2855774
Mon. – Fri. from 17.00, Sat. & Sun. from 14.00
www.okellys.de

Kagan, „Solar Tower“ 10

Café - Bar - Club - Lounge
Bismarckallee 9, Fon: +49 (0) 761 7672766
Wed. – Sat. 20.00/22.00/23.00 – 5.00 am
www.kagan-lounge.de

Students' area with several nice restaurants, 11 12 13
pubs and bars in relaxing environment

Nice Places

Münsterplatz (A)

Münster (Cathedral, visit the tower: nice view of the town)

Augustinerplatz (B)

Rathausplatz (C)

Nice Walks (W)

Schlossberg/Kanonnenplatz

Nice view of the town
Look-out

Greiffenegg Schlössle:

Restaurant with „Biergarten“ – nice view of the town
www.kastaniengarten-freiburg.de

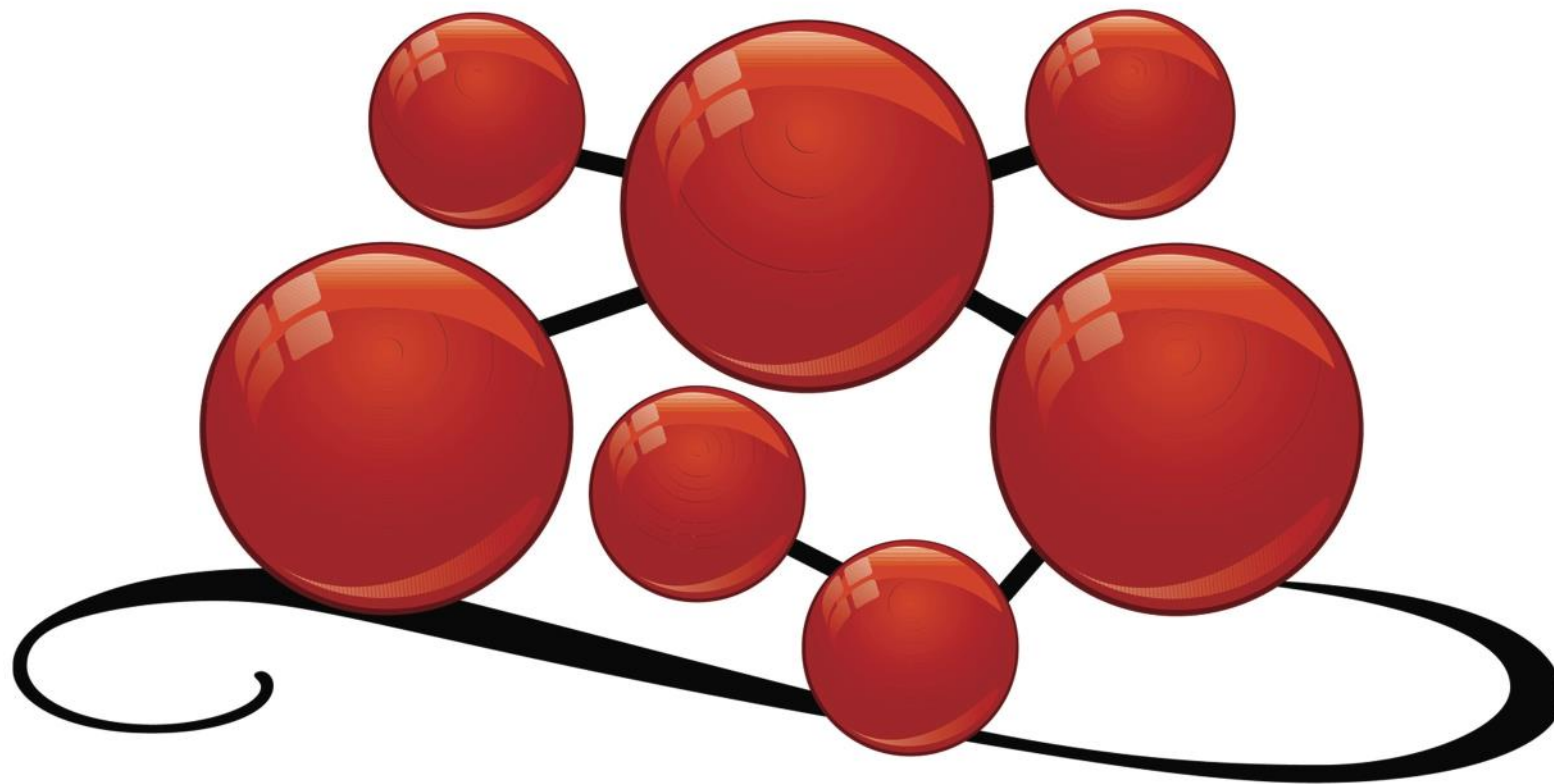
Streets and alleys

Konviktstraße, Oberlinden, Salzstraße, Fischerau,
Gerberau, Grünwälder Straße

Shopping S

Kaiser-Joseph-Straße, Salzstraße, Schusterstraße,
Münzgasse, Konviktstraße

Note: This is only a personal selection!



The 17th International Conference on Miniaturized Systems for Chemistry and Life Sciences

μ TAS 2013



**FREIBURG-BLACK FOREST
GERMANY**

27-31 OCTOBER 2013