

Legend **IL:** Invited Lecture (25') **Y** is for Young and participating
O: Oral Communication (20') to the poster awards
S: Student Communication (15') **V** is for Virtual, not present
P-xx: Poster author

BBMEC 12

The 12th Workshop on Biosensors & BioAnalytical Microtechniques
in Environmental, Food & Clinical Analysis.

Program

Monday September 25, 2:00 p.m.

Registration

Welcome

1st Session, Chair Lisa Hall (A.Stroia, supporting)

IL01 - Novel nanomaterials for the detection of pathogens in microanalytical systems
A.J. Baeumner

O01 - Electrospun functional nanofibers for electrochemical microfluidic biosensors
N.Wongkaew, M.Simsek, L. von Kruechten, M.Buchner, A.Duerkop, A.J. Baeumner

S01 - Rapid and simple surface functionalization strategy for lipid-based membranes
C.Figalist, T.Hirsch, A.J. Baeumner

Tuesday September 26, 8:30 a.m.

1st Morning Session, Chair Antje J. Baeumner (E.Sepe, supporting)

IL02 - Engineering silk-like proteins for biosensors
EA.H.(Lisa) Hall, Z.Zhao, J.Chun

O02 - Monitoring of sewage biomarkers with community sewage sensors for public health
Z.Yang, M.Tanyeri, B.Kasprzyk-Hordern, C.G. Frost, J.Cooper, P.Estrela

S02 - Microfluidic spheroid-generation glass platform for integration in a screening system for endocrine disruptors
K.Gier, P.P.M.F.A. Mulder, J.P.S.H. Mulder, U.Sauer, E.M.J. Verpoorte

2nd Morning Session, Chair Karl-Heinz Feller (B. Demirbakan, supporting)

IL03 - Nanoparticles and UV-C induced DNA damage
J.Labuda, J.Blaškovičová, A.Koutsogiannis, J.Sochr

O03 - High-sensitivity screening of soluble ERBB2 in different cell lines using a combined label-free and fluorescence biosensing platform
A.Sinibaldi, M.Allegretti, E.Sepe, N.Danz, P.Munzert, A.Occhicone, E.Tremante, P.Giacomini, F.Michelotti

S03 - Bloch surface wave biosensors for real-time study of fibronectin-phosphorylcholine coatings for biomedical applications
A.Sinibaldi, V.Montañó-Machado, E.Sepe, N.Danz, P.Munzert, F.Sonntag, D.Mantovani, F.Michelotti

Lunch

1st Poster Session (P01-P11, P37)

1st Afternoon Session, Chair Karsten Haupt (B.Ozcan, supporting)

IL04 - Targeted surfaces for cell imaging and sensing applications
S.Timur

O04 - Driving self-assembly in a microfluidic system for surface enhanced Raman analysis
M.Banchelli, M.de Angelis, C.D'Andrea, M.Cottat, R.Pini, P.Matteini

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S04 - Flow injection electrochemical quartz crystal nano-balance based immunosensing platform for detection of 17 β -estradiol in water

A.C.Singh, S.Bhand

2nd Afternoon session, Chair Suna Timur (A.C. Singh, supporting)

IL05 - Whole cell biosensors for cytotoxicity and chemosensitivity assays

K.H.Feller, B.Büttner, M.Dubiak-Szepietowska, M.Büttner

O05 - Micro and nanofabricated molecularly imprinted polymers as recognition elements for chemical sensors

K.Haupt

S05 - Fluorinated surfaces for matrix-free laser desorption ionization

C.Piotto, G.Guella, P.Bettotti

Wednesday September 27, 8:30 a.m

1st Morning Session, Chair María-Pilar Marco (S.Şanlı, supporting)

IL06 - Fully integrated ready-to-use paper-based electrochemical (bio)sensors

D.Moscone, S.Cinti, F.Arduini

O06 - Nanofunctionalized interfaces for Surface Plasmon Resonance based immunosensors

S.Kumbhat

S06 - New quinoline-based chiral ligands and their Europium(III) complexes

C.De Rosa, M.Bettinelli, F.Piccinelli

2nd Morning Session, Chair Jenny Emneus (T.Lavecchia supporting)

IL07 - Point-of-care paper based analytical device detecting highly conserved DNA sequence of Dengue virus using ZnO multipods

C.Singhal, Y.K. Mishra, A.Mathur, C.S. Pundir, J.Narang, R.Adelung, D.K. Avasthi

O07 - Molecularly imprinted polymers as bio-mimic sorbents for highly selective solid phase micro-extraction of triazine herbicides in crops

B.Ebrahimi

S07 - Multiple electrochemiluminescence detection for biosensing

M.Mayer, M.Neumeier, S.Takegami, A.Georgescu, A.Duerkop, T.Hirsch, A.J.von Wangelin, A.J. Baeumner

Lunch

2nd Poster Session (P12-P22, P38)

1st Afternoon Session, Chair Danila Moscone (N.Colozza, supporting)

IL08 - 2D and 3D Lab-on-a-Chip systems for environmental and life science applications

A.I.Bunea, J.Kajtez, A.Heiskanen, S.S.Keller, M.Alm, P.Thomsen, A.Aspegren, A.Martinez-Serrano, M.Dufva, A.Wolff, J.Emnéus

O08 - A multiplexed and multimodal biobarcode, simultaneously tailored detection of small molecules and proteins

M.Broto, R.McCabe, R.Galve, M.P.Marco

S08 - Enhanced biocide power of Cu/Zn/Co mixed oxides towards E.coli

M.Carbone, E.M.Bauer, A.Talone, V.Orlando, S.Biagioni, R.Briancesco, M.Semproni, L.Bonadonna

2nd Afternoon Session, Chair Ligia Maria Moretto (C.Figalini, supporting)

IL09 - Challenging the threats of multiplexation through nanobiotechnological approaches

M.P. Marco

O09 - Multiplexed analytical platforms based on the use of antibodies for monitoring pollutants in marine environment

J.P.Salvador, A.Sanchis, K.Kooper, A.Miti, M.P.Marco

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S09 - Biotransformation of dinitrotoluene by *Escherichia coli* and its implications for the detection of trace explosives

B.Shemer, C.Hazan and S.Belkin

Thursday September 28, 8:30 a.m. leaving to Porano, Villa Paolina

Networking Session (during transfer)

Scientific Session @ Porano, Chair Subbiah Alwarappan (C.De Rosa, supporting)

IL10 - Nanoelectrodes ensemble: a versatile platform for biosensing

L.M.Moretto, P.Ugo

O10 - Electrospun nanofibers as advanced recognition materials in test stripes for optical quantitation of biogenic amines in food

A.Dürkop, N.Iurova, A.Danchuk, A.J.Bäumner

S10 - Electrochemical bismuth-modified printed sensors as sustainable tools to study the remediation capability of novel carbon-nanotube sponges towards Pb²⁺ and Cd²⁺ polluted waters

N.Colozza, D.Florio, F.Arduini, M.Scarselli, D.Moscone

Lunch @ Villa Paolina

Votation for the best poster award

Afternoon at Orvieto

Tasting and gala dinner at MUVIS

Friday September 29th, 8:30 a.m.

POSTER session (P23-P36)

Morning Session, Chair Sunil Bhand (F.Malvano, supporting)

IL11 - Electrochemical biosensors based on 2-dimensional nanomaterials

S.Alwarappan, R.Pilloton

O11 - Tricks of the trade: molecular enhancements of microbial bioreporters' performance

S.Belkin

O12 - Molecularly imprinted polymer decorated nanoparticles for selective determination of tetracycline in milk

S.Bhand, A.Sharma

S11 - Mechanistic modeling as an effective approach for the understanding and optimization of biosensor performance

D.Semenova, A.Zubov, Y.Silina, L.Micheli, A.C.Fernandes, K.V.Gernaey

Best Poster Awards

Roland Frei Award

Springer Award

POSTERS (P01-P38, Y means candidate for awards, V means not present author)

P01-Y - Enzymatic quantification of glyphosate herbicide using a colorimetric PD-CMOS platform

A.Stroia, D.Dheeman, B.C.Cheah, D.R.S. Cumming, M.P.Barrett

P02-Y - Nanofiber architectures for electrochemical biosensing of glucose

I.Yezer, B.Demir, D.O. Demirkol, S.Timur

P03-Y - Detection of bacterial toxins via surface plasmon resonance with fluorescence spectroscopy based biosensor

S. Seherler, A.Bozdogan, T.Arzu, O.Ildeniz, I.Anac, F.Nese Kok

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P04-Y - Polypeptide with electroactive endgroups as sensing platform for the abused drug 'methamphetamine' by bioelectrochemical method

B.Demir, T.Y.Sengel, E.Guler, Z.P.Gumus, H.Akbulut, E.Aldemir, H.Coskunol, D.G.Colak, I.Cianga, S.Yamada, S.Timur, T.Endo, Y.Yagci

P05-Y - Development of easy assemble immobilization matrix with magnetic nanofiber layers

S.Şanlı, E.Güler, Z.P.Gümüş, D.O.Demirkol, S.Timur

P06-Y - Detection of Escherichia coli O157:H7 in food products by impedimetric immunosensors

F.Malvano, D.Albanese, M.Di Matteo, R.Pilloton

P07-Y - The azoR gene promoter: a new sensing element for detection of trace explosives

Y.Henshke, B.Shemer, S.Belkin

P08-Y - Detection of contaminants' residues on surfaces by microbial bioreporters

Y.Bykov, D.Shakibai, T.Elad, S.Belkin

P09-Y - Molecularly imprinted polymers as synthetic receptors for cell targeting and imaging

P.X.Medina-Rangel, M.Panagiotopoulou, B.Tse Sum Bui, K.Haupt

P10-Y - Immunosensing based on silver nanoparticles as a model

T.Lavecchia, S.Felici, M.Angjellari, L.Micheli, M.L.Terranova, G.Palleschi

P11-Y - Tracking effects of environmental organic micro-pollutants in the subsurface by coupling HPTLC with genotoxicity test as a tool for effect directed analysis

D.Shakibai, L.Moscovici, C.Riegraf, S.Buchinger, G.Reifferscheid, S.Belkin

P11-V - Paper genosensor based on smart nanocomposites for point-of-care diagnosis of chikungunya virus

C.Singhal, A.Mathur, C.S.Pundir, J.Narang

P12-Y - A novel electrochemical biosensor based on screen printed gold electrode modified with organo-silane for the tumor necrosis factor receptor-associated protein 1 detection

B.Demirbakan, M.K.Sezginturk

P13-Y - Determination of C1 inhibitor human by using screen printed gold electrode modified with silane: highly sensitive and disposable biosensor

B.Özcan, M.K.Sezginturk

P14 - A label-free low cost sensor based on surface-plasmon resonance on plastic optical fiber coupled with a biomimetic receptor for furfural detection in water

M.Pesavento, N.Cennamo, L.Zeni, D.Merli, S.Marchetti

P15-V - Detection of bacteriophages by biosensor based on the microwave resonator

O.I. Guliy, B.D.Zaitsev, A.V.Smironov, O.A. Karavaeva, I.A.Borodina

P16 - Development of novel biosensor system for fish stress monitoring using self-assembled monolayer

H. Wu, Y. Fujii, H. Ohnuki, M. Murata, H. Endo

P17-Y - New design of label-free human immunoglobulin G impedance biosensor with micro-gap parallel plate electrodes

Y.Kusaka, H.Ohnuki, H.Wu, H.Endo, D.Tsuya

P18-Y - Determination of total antioxidant capacity in plant extracts using electrochemical sensors

A.Serban, M.David, D.Lazurca, C.Radulescu, C.Stihi, M.Florescu

P19-Y - An optical sensor for studying hemocompatibility of biomaterials in a flow system

J.Hutterer, G.Gauglitz

P20-Y - An innovative carbon black modified sensor to detect free chlorine

M.R.Tomei, D.Neagu, F.Arduini, D.Moscone

P21-Y - Potassium sensing with ion selective field-effect transistor

S.Bhandari, U.Singh and S.Joshi

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- P22-Y** - Folate receptor targeted multimodal engineered vesicles for imaging and therapy: a magic of theranostics
B.Demir, F.B. Barlas, Z.P.Gumus, S.Timur
- P23** - Sandwich NP-based biobarcode assay for C-reactive protein quantification in plasma samples
M.Broto, R.Galve, M.P.Marco
- P24** - High throughput immunoassay for the therapeutic drug monitoring of tegafur
M.Broto, R.McCabe, R.Galve, M.P.Marco
- P25** - Development of LED-color-switching type biosensor for the visualization of fish stress response
H.Endo, H.Wu, R.Shinoda, M.Murata, H.Ohnuki
- P26** - Recombinant cell biosensors for the detection of Endocrine-Disrupting Compounds
L.Moscovici, D.Shkibai, S.Buchinger, G.Reifferscheid, S.Belkin
- P27** - Electrochemical sensor based on ultrathin nanostructural coating for analysis in biological and environmental samples
L.M.Moretto, N.Karimian, A.M.Stortini, P.Ugo
- P28** - Multiplexed analytical platforms based on the use of antibodies for monitoring pollutants in marine environment
J.P.Salvador, A.Sanchis, A.Miti, M.P.Marco
- P29** - Carbon nanotube modified screen printed electrodes: pyranose oxidase immobilization platform for amperometric enzyme sensors
D.O.Demirkol, C.Ozdemir, R.Pilloton, S.Timur
- P30** - Amithiophenol modified montmorillonite as an immobilization matrix for enzymes in biosensor preparation
Y.Y.Yilmaz, E.E.Yalcinkaya, D.O.Demirkol, S.Timur
- P31** - Study for developing an electrochemical tongue to differentiate three types of natural waters, using very simple sensors and principal component analysis
M.Tomassetti, M.Castrucci, G.Visco, R.Àngeloni, L.Campanella
- P32** - Electrochemical detection of hydrogen peroxide by free standing nickel oxide-plastic electrode
S.Susmel, L.Micheli, M.Carbone
- P33** - Rapid detection of Escherichia coli in marine water samples by remote optical biosensor system
K.Buonasera, A.Gabrielli, G.Pezzotti Escobar, R.Briancesco, S.Paduano, M.Semproni, L.Bonadonna
- P34** - Fluorescent microfluidic device based immunoassay for therapeutic drug monitoring: acenocoumarol case
J.P.Salvador, T.Brettschneider, C.Dorrer, M.P.Marco
- P35** - Yeast-based amperometric bioprobe for simazine detection in agricultural water and raw cow's milk samples
G.Grasso, L.Caracciolo, G.Cocco, C.Frazzoli, R.Dragone
- P36** - Design of a bioprobe for total estrogenicity levels determination in environmental and food matrices: a biotechnological approach
G.Cocco, R.D'Ovidio, C.Frazzoli, G.Grasso, T.Giardina, R.Dragone
- P37** - Technological integrated bioelectronic system and relevant control charting for early intervention on food chain and the environment: the BEST Platform
C.Frazzoli, R.Dragone, A.Mantovani, G.Grasso
- P38** - Agreement between Official control and self-monitoring: data report in an Italian dairy chain
F.Martelli, C.Giacomozzi, A.Fadda, R.Dragone, G.Grasso, C.Frazzoli