

## **PLENARY LECTURES**

(PL01) MEDICAL AND ENVIRONMENTAL DIAGNOSTICS USING NATURAL AND SYNTHETIC MATERIALS

***Anthony P. F. TURNER***

(PL02) CELLOBIOSE DEHYDROGENASE AN INTERESTING ENZYME FOR ELECTROCHEMICAL AND BIOSENSOR STUDIES

***Lo GORTON***

(PL03) ELECTROCHEMICAL BIOSENSORS: MEMBRANE MODIFIED SYSTEMS FOR *IN VIVO* AND *IN VITRO* APPLICATIONS

***Pankaj VADGAMA***

(PL04) ELECTROCHEMICAL TOOLS FOR PROTEOMICS

***Hubert GIRAULT***

(PL05) MEMS AND MICROSYSTEM TECHNOLOGIES FOR MICROSENSORS AND BIOLOGICAL MICRODEVICES

***Tayfun AKIN***

(PL06) OLIGOSACCHARIDE MICROARRAYS TO DECIPHER THE GLYCO CODE

***Ten FEIZI***

(PL07) SENSOR SYSTEMS FOR TOXICITY TESTING

***Thomas SCHEPER***

(PL08) MICRO-AND NANOSTRUCTURED MOLECULARLY IMPRINTED POLYMERS FOR BIOSENSOR APPLICATIONS

***K. HAUPT***

## **KEY NOTE LECTURES**

(KNL01) SPR BASED BIOSENSORS

***E.PISKIN***

(KNL02) BIOSENSORS DETERMINING PHENOLIC COMPOUNDS AND DEGREE OF INHIBITION IN RED WINES

***L. TOPPARE***

## **ORAL PRESENTATIONS**

- *Enzyme and Whole Cell Based Biosensors*

(OP01) BIOSENSORS FOR DETECTION OF AZO DYES

**F.D. MUNTEANU**

(OP02) A NOVEL ELECTROCHEMICAL VIRAL SENSOR FOR THE DETECTION OF PATHOGENIC AND POLLUTING BACTERIA

**J. RISHPON**

(OP03) NAVIGATING MICREDOX® ALONG THE INNOVATION PIPELINE

**N. PASCO**

(OP04) ELECTRICAL WIRING OF *Pseudomonas putida* AND *Pseudomonas fluorescens* WITH OSMIUM REDOX POLYMERS

**S. TIMUR**

(OP05) GLUTATHIONE S-TRANSFERASE-BASED CAPACITIVE BIOSENSORS FOR THE DETECTION OF HEAVY METALS

**E. SAATCI**

(OP06) DESIGN OF GENERIC BIOSENSORS BASED ON BIFUNCTIONAL HYBRID PROTEINS.

**F. GIANNOTTA**

- *Nucleic Acid Sensors and DNA Chips, Microarrays*
- *Nanotechnology and Microsystems Technologies and Silicon-Based Integrated Microsensors and Transducers*

- (OP07) A NEW DNA-PROBE SYSTEM FOR THE HIGHLY SPECIFIC IDENTIFICATION OF A SINGLE POINT MUTATION CAUSING RIFAMPINE RESISTANCE IN MYCOBACTERIUM TUBERCULOSIS  
**A. FRIEDRICH**
- (OP08) PNA/DNA ARRAYS FOR THE SPECIFIC IDENTIFICATION OF SHORT DYE-LABELLED PNA-FRAGMENTS USED FOR IDENTIFYING LIQUIDS  
**A. NIES**
- (OP09) ANTIBODY MICROARRAYS; PLATFORM FOR DETECTING CARDIOVASCULAR RISK MARKERS  
**O. GUL**
- (OP10) MODELING, DESIGN AND IMPLEMENTATION OF A PARYLENE-BASED MICRO-ELECTROPHORESIS SYSTEM  
**S. SUKAS**
- (OP11) MICROANALYSIS – FROM A MICROSYSTEM CONCEPT TO A COMPREHENSIVE DATA ANALYSIS  
**K.H. FELLER**
- (OP12) TOWARDS SINGLE MICROORGANISM DETECTION USING SURFACE-ENHANCED RAMAN SPECTROSCOPY  
**M. CULHA**
- (OP13) CHEMICAL AND IMMUNOCHEMICAL SENSORS BASED ON NANO MATERIALS  
**K. BRAININA**
- (OP14) BIOSENSORS BASED ON GOLD NANOELECTRODE ENSEMBLES AND SCREEN PRINTED ELECTRODES  
**R. PILLOTON**
- (OP15) LABEL-FREE IMMUNOSENSOR FOR ANTIGEN QUANTIFICATION USING INTERDIGITATED ELECTRODES  
**O. GUL**

- *Immunosensors*
- *Environmental monitoring,*
- *Biomedical Applications*

- (OP16) SURFACE PLASMON RESONANCE IMMUNOSENSOR FOR TNT USING NOVEL MOLECULAR RECOGNITION MEMBRANES  
**D. R. SHANKARAN**
- (OP17) MAGNETIC IMMUNOSENSOR COUPLED TO MAGNETIC IMMUNO SUPPORTED LIQUID MEMBRANE EXTRACTION FOR ULTRA-SENSITIVE ANALYSIS  
**M. TUDORACHE**
- (OP18) IMMUNOAFFINITY-DIRECTED IDENTIFICATION OF SMALL MOLECULES USING SURFACE PLASMON RESONANCE COUPLED TO NANOSPRAY LIQUID CHROMATOGRAPHY / MASS SPECTROMETRY  
**G. R. MARCHESINI**
- (OP19) DETECTION OF PHOTOSYNTHETIC HERBICIDES: COMPARISON OF AN ELECTROCHEMICAL BIOSENSOR WITH ALGAL GROWTH TEST  
**J.MASOJIDEK**
- (OP20) MINIATURISED ENZYMATIC AND IMMUNO-SENSING TECHNIQUES FOR PESTICIDES ANALYSIS  
**S. BHAND**
- (OP21) COMPLEXATION OF GADOLINIUM IONS ON TOP OF MAGNETOLIPOSOMES : TOWARDS A NEW GENERATION OF MRI CONTRAST AGENTS  
**M. DE CUYPER**

## POSTER PRESENTATIONS

### • *Enzyme and Whole Cell Based Biosensors*

- (PP01) ELECTROCHEMICAL BIOSENSOR: MODIFIED HORSE RADISH-PEROXIDASE IMMOBILIZED ON  $Al_2O_3$   
**R.A. HASANOV, E.V. STEPANOVA, T.M. NAGIYEV**
- (PP02) A NEW POTENTIOMETRIC AMMONIUM ELECTRODE FOR BIOSENSOR CONSTRUCTION  
**E. KARAKUS, S. PEKYARDIMCI, E. KILIC**
- (PP03) A BIOSENSOR FOR PHENOLS BASED ON IMMOBILIZED TYROSINASE IN A DIGLYCERILSILANE SOL-GEL MATRIX AND SCREEN PRINTED (GRAPHITE-FERROCENE) ELECTRODES  
**M.R. MONTEREALI, J. MALY, L. NARDI, K. PUNAKIVI, W. VASTARELLA, R. PILLOTON**
- (PP04) OPTICAL AChE BIOSENSOR BASED ON AZLACTONE DERIVATIVE IN PVC MATRIX  
**G. OZTURK, S.ALP, S. TIMUR**
- (PP05) BIOSENSORS BASED ON ELECTROCHEMICALLY PREPARED POLYANILINE AND BIFUNCTIONAL HYBRID PROTEINS  
**N. RUTH, E. HALUSIAK, G. GASPARD, C. JEROME, P. FILÉE, F. GIANNOTTA, J-M FRERE, R. JEROME, M. GALLEN**
- (PP06) LIPOXYGENASE BASED BIOSENSOR FOR CAFFEIC ACID DETERMINATION  
**E. K. KOCAZORBAZ, S. ZENCIR, D. ODACI, S. TIMUR, A. TELEFONCU**
- (PP07) LIPASE BIOSENSORS FOR TRIBUTYRIN AND PESTICIDE DETECTION  
**F. KARTAL, A. KILINC, S. TIMUR**
- (PP08) TWO BIOSENSORS FOR PHENOLIC COMPOUNDS BASED ON MUSHROOM HOMOGENATE: A COMPARISON IN TERMS OF SOME IMPORTANT PARAMETERS OF THE BIOSENSORS  
**M. TEKE, M. K. SEZGINTURK, E. DINCKAYA, A. TELEFONCU**
- (PP09) AN IMPRINTED ASCORBATE OXIDASE BIOSENSOR  
**A. BARAN TEKE, M. K. SEZGINTURK, M. TEKE, E. DINCKAYA, A TELEFONCU**
- (PP10) AMPEROMETRIC PYRUVATE OXIDASE BIOSENSOR PREPARATION AND ITS USAGE FOR PYRUVATE AND PHOSPHATE DETERMINATION  
**E. YORGANCI, B. ERGUN, E. AKYILMAZ**
- (PP11) DEVELOPMENT OF CUCUMBER (*Cucumis sativus* L.) HOMOGENATE-BASED ASCORBATE OXIDASE BIOSENSOR AND ITS ACTIVATION BY  $Cu^{2+}$   
**P. AKBAYIRLI, E. AKYILMAZ**

- (PP12) INVESTIGATION OF METAL ACTIVATION BY USING PARTIALLY PURIFIED POLYPHENOLOXIDASE ENZYME ELECTRODE  
**S. HAMARAT, E. AKYILMAZ, E.DINCKAYA**
- (PP13) SULFHYDRYL OXIDASE BIOSENSOR: OPTIMIZATION AND CHARACTERIZATION  
**D. ODACI, S. TIMUR, F. ZIHNIUGLU, A. TELEFONCU, L. GORTON**
- (PP14) APPLICATION OF SULPHYDRYL OXIDASE BIOSENSOR AS AN ELECTROCHEMICAL DETECTOR FOR THIOLIC COMPOUNDS  
**A. DINCER, D. ODACI, S. TIMUR, F. ZIHNIUGLU, A. TELEFONCU, L. GORTON**
- (PP15) A NEW BIENZYMATIC BIOSENSOR BASED ON CHOLINESTERASE-SULFHYDRYL OXIDASE ENZYMES  
**S. TEKSOY, D. ODACI, S. TIMUR**
- (PP16) PREPARATION OF CARBON NANOTUBE (CNT) BASED XANTHINE BIOSENSOR  
**M.CUBUKCU, D ODACI, S. TIMUR, U.A.KIRGOZ**
- (PP17) FUNGAL PYRANOSE OXIDASE (P2O): APPLICATION IN BIOSENSING SYSTEMS  
**A. AKKAYA, D. ODACI, N. PAZARLIOGLU, S. TIMUR, A. TELEFONCU**
- (PP18) A NOVEL BIOSENSOR BASED ON LIGNINOLYTIC PEROXIDASES FROM *Trametes versicolor*  
**A. AKKAYA, C. ALTUG, N. PAZARLIOGLU, E. DINCKAYA**
- (PP19) DEVELOPMENT OF A NEW BIOSENSOR BASED ON *CIRCINELLA* SP. MODIFIED CARBON PASTE ELECTRODE FOR DETERMINATION OF COPPER  
**S. ALPAT, S. K. ALPAT, B. H. CADIRCI, I YASA, A. TELEFONCU**
- (PP20) EXTREMOPHILES AS BIOSENSING ELEMENTS  
**A. KOCYIGIT, S. TIMUR, I. KARABOZ, A. TELEFONCU**
- (PP21) DEVELOPMENT OF A POTENTIOMETRIC BIOSENSOR FOR FORMAMIDE BY USING WILD-TYPE AMIDASE FROM *Pseudomonas aeruginosa*  
**N. SILVA, A. KARMALI, M.J. MATOS**

- *Nucleic Acid Sensors and DNA Chips, Microarrays*
- *Nanotechnology and Microsystems Technologies and Silicon-Based Integrated Microsensors and Transducers*

- (PP22) FLUORESCENCE DYES WITH HIGH AGGREGATION TENDENCY PROVIDE A BASIS FOR THE DEVELOPMENT OF SELF-QUENCHING DNA-PROBES  
**G. HABL, A. FRIEDRICH, D. DENAPAITÉ, R. HAKENBECK, N. MARMÉ, J. KNEMEYER**
- (PP23) A NEW HIGHLY SENSITIVE ASSAY SYSTEM FOR DIPEPTIDYL-PEPTIDASE IV BASED ON SELF-QUENCHING PEPTIDES PROBES  
**S. KRAFT, K. SCHMOE, J.P KNEMEYER, N. MARMÉ**
- (PP24) CROSSLINKING 4-ARM STAR PEG COATED SURFACES FOR SUPPRESSING NONSPECIFIC ADSORPTION OF PROTEINES – EVEN ON THE SINGLE-MOLECULAR LEVEL  
**J.P KNEMEYER, N. MARMÉ, H. LEE, T. A. BAKER, D. J. NESBITT**
- (P25) SELF-QUENCHING PEPTIDE SUBSTRATES FOR ULTRA SENSITIVE HIV-PROTEASE ASSAYS – POTENTIAL PROBES FOR MICROARRAYS  
**T. M. STAUDT, J. P. KNEMEYER, N. MARME**
- (PP26) SPR-IMAGING: LABEL-FREE DETECTION OF MICROARRAYS  
**A. AKKOYUN**
- (PP27) IMPEDANCE BASED SILICON DNA SENSOR  
**V.I. OGURTSOV, M. MANNING, R. DUANE, B. DARCY, F. KOELLNER**
- (PP28) DEVELOPMENT OF AN INTEGRATED SYSTEM ON SILICON FOR COMPLEX BIOCHEMICAL ANALYSIS  
**M. MIU, A. ANGELESCU, I. KLEPS, F. CRACIUNOIU, M. SIMION**
- (PP29) ENGINEERING A CONTINUOUS FLOW ELECTROCHEMICAL  $\mu$  –CELL FOR BIOSENSOR APPLICATIONS  
**M. ILIE, B. LANZA, A. MASCI, L.NARDI, E. CIANCI, A.COPPA, V. FOGLIETTI AND R. PILLTON**
- (PP30) THE STUDY OF ELECTROCHEMICAL ADSORPTION AND DESORPTION PROCESSES OF THIOALKANE LAYERS USING ELECTROCHEMICAL SURFACE PLASMON RESONANCE – TOWARDS DEVELOPMENT OF NOVEL SITE SELECTIVE IMMOBILIZATION  
**J. MALY, R. PILLTON, M.ILIE, M. STOFIK, V. FOGLIETTI, E. CIANCI**
- (PP31) A NUCLEIC ACID-SENSOR BASED ON SURFACE PLASMON RESONANCE FOR THE DETECTION OF *MYCOBACTERIUM TUBERCULOSIS* USING PCR PRODUCT  
**M. DUMAN, M. O. CAGLAYAN, E. PISKIN**
- (PP32) AFM BASED BIOSENSORS FOR HIgG DETECTION  
**M.O. CINAR, I.C. KOCUM, H. AYHAN, E. PISKIN**
- (PP33) STREPTAVIDIN IMMOBILIZED MAGNETIC NANOPARTICLES FOR ELECTROCHEMICAL NUCLEIC ACID SENSORS  
**F. SAYAR, G.GUVEN, A. ERDEM, H. KARADENIZ, M. OZSOZ, E. PISKIN**

- *Immunosensors*
- *Environmental Monitoring, Clinical Analysis*
- *Natural and Synthetic Receptor for Biosensors and MIP based Biosensors*
- *Biomedical Applications*
- *Others*

- (PP34) DEVELOPMENT OF MONOCLONAL ANTIBODY-BASED PIEZOELECTRIC IMMUNOSENSORS FOR PESTICIDE ANALYSIS  
**C. MARCH, J. J. MANCLÚS, A. ARNAU, Y. JIMENEZ, T. SOGORB, A. MONTOYA**
- (PP35) DEVELOPMENT OF A DIPSTICK IMMUNOASSAY FOR THE DETECTION OF ALGAE TOXINS  
**S. BEUTEL, S. KROLL, N. TIPPKOTTER, H. STUCKMANN, U. NOACK, T. SCHEPER, R. ULBER**
- (PP36) DEVELOPMENT OF DIFFRACTION-BASED IMMUNOSENSOR DETECTING CARP VITELLOGENIN  
**I-S. PARK, D-K. KIM, W-Y. KIM, N. KIM**
- (PP37) PESTICIDES DETERMINATION IN ITALIAN STRAWBERRIES  
**V. ROSA, W. VASTARELLA, M.R. MONTEREALI, K. PUNAKIVI, R. PILLOTON**
- (PP38) A BIOSENSOR TOXICITY ANALYSER FOR DETECTION OF PHOTOSYNTHETIC HERBICIDES  
**P. SOUCEK, J. KREJCI, J. FROLIK, J. MALY, J. MASOJIDEK**
- (PP39) BIOMIMETIC SYSTEM BASED ON CARBON NANOTUBES AND CHITOSAN NANOCOMPOSITE FILM FOR ORGANOPHOSPHOROUS PESTICIDES DETECTION  
**M. DIACONU, M. MIHALACHE, G.L. RADU, S. LITESCU**
- (PP40) GENES INDUCED BY CADMIUM EXPOSURE TO *Chlamydomonas reinhardtii*  
**D. SIMON, P. DESCOMBES, K.J. WILKINSON**
- (PP41) FLUORESCENCE MEASUREMENTS OF HOST GUEST INTERACTIONS OF SYNTHETIC RECEPTORS – INTERACTION OF FLUORESCENCE LABELLED CALIX[6]ARENE AND ATROPINE  
**K. SCHONEFELD, K.-H. FELLER**
- (PP42) QUARTZ CRYSTAL MICROBALANCE FOR THE DETERMINATION OF BINDING AFFINITY OF PEPTIDE AND PEPTIDE/AZOBENZENE HYBRIDS  
**S. DINCER, E. PISKIN**

- (PP43) SELECTION OF CATALYTIC SYSTEMS FOR BIOMIMETIC SENSORS  
**A. KOZITSINA, S. DEDENEVA, Kh. BRAININA, V. CHARUSHIN, O. CHUPAKHIN, G. RUSINOV**
- (PP44) A VOLTAMMETRIC STUDY FOR THE EFFECT OF ANTACID TABLETS ON THE OXIDATION OF DOPAMINE  
**S. ALPAT, S. KILINC ALPAT, A. TELEFONCU**
- (PP45) ACTIVATION OF GLASSY CARBON ELECTRODES BY PHOTOCATALYTIC DEGRADATION  
**O. DUMANLI, E. TURKOZ, A. N. ONAR**
- (PP46) ANALYSIS OF BIOMOLECULAR INTERACTION WITH OPTICAL BIOSENSOR BASED ON CAP-SHAPED GOLD NANOPARTICLES AND USING CELL LYSATE  
**M. HAKARI, T. MIYAMOTO, S. TOGASHI**