Oral Program

Sunday 16 June 2019	
15:00-17:00	**Registration** | *Room: Ballroom B Foyer*

Monday 17 June 2019	
08:00-09:00	**Registration** | *Room: Ballroom B Foyer*
09:00-09:15	**Introduction and Welcome** | *Room: Ballroom A*
09:15-11:00	**Session 1: Novel Biomarkers and Bio-sensing Applications** Session Chair: Richard Luxton | *Room: Ballroom A*
09:15:10:00	**[KN01] From sensors to products – It takes more than a village** T.E. Tong, SilTerra *Malaysia Sdn Bhd, Malaysia*
10:00-10:20	**[O01] Metabolite sensing using periplasmic binding proteins** L. Tolosa*, L. Wong, S. Brown, C. Tiangco, University *of Maryland Baltimore County, USA*
10:20-10:40	**[O02] Fouling-proof label-free multiplex detection of autoantibodies in human serum: Tool for new kinetics-based criteria of diagnostics of autoimmune diseases** A.V. Orlov*[1,2], A.V. Pushkarev[1,2], S.L. Znoyko[1], D.O. Novichikhin[1,3], P.I. Nikitin[1,3], [1]*Prokhorov General Physics Institute of the Russian Academy of Sciences, Russia,* [2]*Moscow Institute of Physics and Technology - State University, Russia,* [3]*National Research Nuclear University MEPhI - Moscow Engineering Physics Institute, Russia*
10:40-11:00	**[O03] Circulating tumor cell (CTC) identification using low-cost biosensor via multi-parametric biophysical properties** P. Ghassemi*, J. Strobl, M. Agah, Virginia *Tech, USA*
11:00-11:40	Refreshment Break | *Room: Ballroom B*
11:40-12:40	**Session 1 Continued: Novel Biomarkers and Bio-sensing Applications** Session Chair: Norman Ratcliffe | *Room: Ballroom A*
11:40-11:50	**[RC01] Multiplex detection of a new combination of cardiac biomarkers (GPBB, CK-MB and Troponin T) for early diagnosis and prognosis of acute myocardial infarction** S.M. Khor*, W.Y. Lim, T.M. Thevarajah, B.T. Goh, University *of Malaya, Malaysia*
11:50-12:00	**[RC02] Autodisplayed anti-NEF scFv for the diagnosis of AIDS with immunosensors** J.H. Bong[1], H.W. Song[1], T.H. Kim[1], J. Jose[2], J.C. Pyun*[1], [1]*Yonsei University, Republic of Korea,* [2]*Muenster University, Germany*
12:00-12:10	**[RC03] Development of an implantable microelectrode impedimetric sensor for amyloid beta biomarker in Alzheimer's disease** Z. Mohd Zain*, N. Zakaria, K.F. Low, K. Ramasamy, S.M. Lim, Universiti *Teknologi Mara Selangor, Malaysia*
12:10-12:20	**[RC04] Impedimetric aptasensor for the detection of phthalates in olive oil** G. Tsekens*[1], M. Trigazi[1], A. Klinakis[1], I. Zergioti[2], [1]*Biomedical Research Foundation of the Academy of Athens, Greece,* [2]*National Technical University of Athens, Greece*
12:20-12:30	**[RC05] A reusable enzyme-free biosensor based on mesoporous Prussian blue nanozyme functionalized PLA patch for rapid uric acid detection in serum** N.S. Li*, Y.T. Chen, Y.P. Hsu, C. Peng, H.W. Yang, *National Sun Yat-sen University, Taiwan*
12:30-12:40	**[RC06] Development of Nanobody and Its Application for Mycotoxin Detection in Agro-food** Q. Zhang, Z.W. Zhang*, W. Zhang, P.W. Li, *Oil Crops Research Institute of CAAS, China*
12:40-14:15	Lunch and Poster Session 1 | *Room: Ballroom B*
14:15-16:00	**Session 2: Sensor Surface** Session Chair: Monica Mir Llorente | *Room: Ballroom A*
14:15-15:00	**[KN02] Integrated approaches toward high-affinity artificial protein binders obtained via computationally simulated epitopes for biosensing** Z. Altintas, Technical *University of Berlin, Germany*
15:00-15:20	**[O04] Nanodiamond-gold composite enhances impedance sensor response to adhesion of drug molecules** B. Rezek*[1], I. Ali Blahova[1], I. Pilarčíková[1], [1]*Czech Technical University in Prague, Czech*

	Republic, [2]Czech Academy of Sciences, Czech Republic
15:20-15:40	**[O05] Atomic layer deposition for biosensing applications** O. Graniel*[1], M. Weber[1], S. Balme[1], P. Miele[1,2], M. Bechelany[1], *[1]Institut Européen des Membranes, France, [2]Institut Universitaire de France, France*
15:40-16:00	**[O06] Designing a high performance, stable spectroscopic biosensor for the binding of large and small molecules** E. Gosselin*, J.J. Vanden Eyden, A. Petit, G. Conti, J. De Coninck, University *of Mons, Belgium*
16:00-16:30	Refreshment Break | *Room: Ballroom A*
16:30-17:40	**Session 2 Continued: Sensor Surface** Session Chair: Cy Tamanaha | *Room: Ballroom A*
16:30-16:40	**[RC07] Functionalised antibiotic surfaces for the detection of ß-lactamases** C. Silver*, L. Miller, A-K. Duhme-Klair, G. Thomas, T.F. Krauss, S. Johnson, University *of York, UK*
16:40-16:50	**[RC08] Bio-nanocapsule-based scaffolding technology for clustering and oriented immobilization of various sensing molecules on biosensor surface** M. Iijima*[1,2], T. Nakayama[1], S. Kuroda[2], *[1]Tokyo University of Agriculture, Japan, [2]Osaka University, Japan*
16:50-17:00	**[RC09] Biochip for detection of bacteria using surface enhanced Raman spectroscopy (SERS)** C.C. Andrei*[1], A-C. Gouget-Laemmel[1], A. Moraillon[1], E. Larquet[1], R. Boukherroub[2], F. Ozanam[1], S. Szunerits[2], *[1]Ecole Polytechnique, France, [2]Université de Lille, France*
17:00 -17:10	**[RC10] Characterisation of diffusion performance for paper-based biosensors** V.A. Mirón-Mérida*, Y.Y. Gong, Y. Guo, M. Holmes, R. Ettelaie, F.M. Goycoolea, *University of Leeds, UK*
17:10-17:20	**[RC11] Quasi-DET type lactate biosensor using oxygen insensitive lactate oxidase mutant** K. Hiraka*[1], W. Tsugawa[1], R. Asano[1], K. Kojima[1], K. Ikebukuro[1], K. Sode[2], *[1]Tokyo University of Agriculture and Technology, Japan, [2]The University of North Carolina at Chapel Hill and North Carolina State University, USA*
17:20-17:30	**[RC12] Human elastin-like polypeptides: A new platform for biosensing** A. Bandiera*, S. Passamonti, University *of Trieste, Italy*
17:30-17:40	**[RC13] Exploring the interaction between DNA and layered materials for FRET-based biosensing systems** C.L. Manzanares-Palenzuela*, M. Pumera, University *of Chemistry and Technology Prague, Czech Republic*
17:40-19:00	Welcome Drinks Reception | *Room: Ballroom B*

Tuesday 18 June 2019	
09:00-11:05	**Session 3: Novel Detection Technologies** Session Chair: Tony Turner | *Room: Ballroom A*
09:00-09:45	**[KN03] Recent trends and advances in rapid detection of foodborne pathogen** F. Binti Ibrahim, University *of Malaya, Malaysia*
09:45-10:05	**[O07] Simultaneous optical and electrochemical label-free biosensing with indium-tin-oxide-coated optical fibres** M. Smietana*[1], M. Koba[1,2], K. Szot-Karpinska[3], P. Sezemsky[4], D. Burnat[1], V. Stranak[4], J. Niedziolka-Jonsson[3], R. Bogdanowicz[5], *[1]Warsaw University of Technology, Poland, [2]National Institute of Telecommunications, Poland, [3]Institute of Physical Chemistry, Poland, [4]University of South Bohemia, Czech Republic, [5]Gdansk University of Technology, Poland*
10:05-10:25	**[O08] Toward an ultrasensitive and rapid blood test for point-of-care diagnosis of preeclampsia** T.T.T. Pham*, D.P. Tran, B. Thierry, University *of South Australia, Australia*
10:25-10:45	**[O09] Impedimetric aptasensor based on specific binding induced surface charge modulation in nanochannels** S. Devarakonda, S. Kim, B. Ganapathysubramaniam, P. Shrotriya*, Iowa *State University,*

	USA
10:45-11:05	**[O10] Interferometric plasmonic microscopy for label free imaging and detection of single biological nanoparticles** Y. Yang, C. Zhai, L. Khan, H. Yu*, Shanghai *Jiao Tong University, China*
11:05-11:40	Refreshment Break | *Room: Ballroom B*
11:40-12:40	**Session 3 Continued: Novel Detection Technologies** Session Chair: David Attwood | *Room: Ballroom A*
11:40- 11:50	**[RC14] Bacteria detection with Mach-Zehnder interferometers array monolithically integrated on silicon chips** M. Angelopoulou*, P. Petrou, K. Misiakos, I. Raptis, S. Kakabakos, NCSR *"Demokritos", Greece*
11:50-12:00	**[RC15] A molecular-imprint electrochemical sensor for sensitive detection of artemisinin in plant extracts and serum samples** A. Waffo[1], C. Yesildag[1], G. Caserta[1], S. Katz[1], I. Zebger[1], M.C. Lensen[1], U. Wollenberger[2], F.W. Scheller[2], Z. Altintas*[1], *[1]Technical University of Berlin, Germany, [2]University of Potsdam, Germany*
12:00-12:10	**[RC16] Recent development of an electrochemical imprinted sensor for the detection of trace-level of unmetabolized aflatoxin B2 in dairy milk** N.E. Elhassani, B. Bouchikhi, N. Elbari*, Moulay *Ismaïl University, Morocco*
12:10-12:20	**[RC17] Innovative biosensor of Cytokines sweat biomarkers based on exalted detection of magnetic immunocomplex** M. Ammar*[1], O. Lefebvre[1], E. Laborie[1], M. Do Vale[1], C. Smadja[2], E. Martincic[1], M. Woytasik[1], E. Dufou-Gergam[1], *[1]Center for Nanosciences and Nanotechnologies University of Paris Saclay, France, [2]Institut Galien Paris Sud University of Paris Saclay, France*
12:20-12:30	**[RC18] Thermal sensor system for the measurement of biofilm formation and bactericidal efficacy by the transient spark disinfection in real-time** T. Wieland*[1], J.K. Kotthaus[1], M. Bergmann[1], L. Ledernez[1], M. Altenburger[2], G.A. Urban[1], *[1]Albert-Ludwigs-University of Freiburg - IMTEK, Germany, [2]Medical Center – University of Freiburg, Germany*
12:30-12:40	**[RC19] Skin VOCs imaging system by spatiotemporal bio-fluorometry for transcutaneous ethanol vapor** K. Iitani*[1], N. Mizukoshi[1], K. Toma[2], T. Arakawa[2], K. Mitsubayashi[1,2], *[1]Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental University, Japan, [2]Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University, Japan*
12:40-14:15	Lunch and Poster Session 2 | *Room: Ballroom B*
14:15-16:00	**Session 4: Integration and Biosensors for IoT** Chair: Janice Kiely | *Room: Ballroom A*
14:15-15:00	**[KN04] From in-vitro to in-vivo: Silicon technology for healthcare** P. Deshpande, IMEC, *Belgium*
15:00-15:20	**[O11] Development of an IoT-based point-of-care: an application to malaria testing** O. Alonso*[1], N. Franch[1], J. Canals[1], E. de la Serna[2], G. Ruiz-Vega[2], E. Baldrich[2], A. Diéguez[1], *[1]University of Barcelona, Spain, [2]Vall d'Hebron Hospital Research Institute, Spain*
15:20-15:40	**[O12] Wireless sensing of biofilms of medically relevant bacteria and fungi** P. Thirabowonkitphithan*[1,2], W. Laiwattanapaisal[1], R. Žalneravicius[2], A. Shafaat[2], J. Neilands[2], D. Jakubauskas[2], T. Ruzgas[2], *[1]Chulalongkorn University, Thailand, [2]Malmö University, Sweden*
15:40-16:00	**[O13] A colorimetric biosensor based on antibody-conjugated Pt@Au nanozyme for simpler, faster, ultrasensitive Zika virus detection using smartphone** Y.P. Hsu*, N.S. Li, H.W. Yang, *National* Sun Yat-sen University, Taiwan
16:00-16:30	Refreshment Break | *Room: Ballroom B*
16:30-17:30	**Session 4 Continued: Integration and Biosensors for IoT** Session Chair: Yildiz Uludag | *Room: Ballroom A*
16:30-16:40	**[RC20] Rapid on-site simultaneous determination for multiple mycotoxins in agro-food** Z.W. Zhang, W. Zhang*, P.W. Li, *Oil Crops Research Institute of CAAS, China*

16:40-16:50	**[RC21] Session TBC**
16:50-17:00	**[RC22] Efficiently pathogen capture and low DNA adsorption by Magnetic Nanoparticle (MNPs) controlled by surface probes of Boronic acid (BA) and polyamidoamine(PAMAM) dendrimers** F. Chen*, T. Lee, Chungnam *National University, Republic of Korea*
17:00-17:10	**[RC23] Gold nanoflowers on screen-printed electrodes for neurotransmitter detection by square wave voltammetry (swv) on smartphone** D. Ji*, Z. Liu, Z. Shi, J. Zhu, Z. Chen, Y. Lu, X. Yu, Q. Liu, *Zhejiang University, China*
17:10-17:20	**[RC24] Human eye detection of proteases using plasmonic nanostructures** G. Goyal*, P. Chen, B. Liedberg, Nanyang *Technological University, Singapore*
17:20-17:30	**[RC25] Smartphone-based portable electrochemical biosensing system with reduced graphene oxide/gold composite-modified electrode for microRNA-21 detection** S.S. Low*, Y. Pan, D. Ji, Q. Liu, Zhejiang *University, China*
17:30-17:40	**[RC26] Imaging and detection of rare cells using CMOS quantum-dot camera enhanced by convolutional neural net algorithms** S. Ding*[1], A. Fu[2], Z. Ding[1], [1]*Anitoa Systems, LLC, USA*, [2]*Nvigen, Inc., USA*
19:00-22:00	Conference Dinner – Ticketed Event *Room: R Studio*

Wednesday 19 June 2019	
09:00-11:05	**Session 5: Impact of Bio-Sensing Technology** Session Chair: Soo Beng Khoh | *Room: Ballroom A*
09:00-09:45	**[KN05] From sensing to bionics: A view of current trends and future prospects** A.F. Turner, Cranfield *University, UK*
09:45-10:05	**[O14] Development of the portable aflatoxin-producing fungi rapid sensor prototype for industrial food and agriculture sectors** C. Karuwan*, J. Kampeera, A. Sappat, W. Kiatpathomchai, A. Tuantranont, National *Science and Technology Development Agency, Thailand*
10:05-10:25	**[O15] Surface plasmon resonance in complex media: Optical fibers for *in situ* cancer diagnosis** M. Loyez*[1], J-C. Larrieu[2], S. Chevineau[1], M. Remmelink[3], D. Leduc[3], B. Bondue[3], P. Lambert[2], J. Devière[3], R. Wattiez[1], C. Caucheteur[1] [1]*University of Mons, Belgium,* [2]*Université Libre de Bruxelles, Belgium,* [3]*Erasmus Hospital, Belgium*
10:25-10:45	**[O16] Development of a minimally invasive, continuous lactate monitoring sensor for clinical and sports applications** R. Fujita[1], S. Sharma*[2], K. Hiraka[1], O. Guy[2], A.E.G. Cass[3], W. Tsugawa[1], R. Asano[1], K. Ikebukuro[1], K. Sode[4], [1]*Tokyo University of Agriculture and Technology, Japan,* [2]*Swansea University, UK,* [3]*Imperial College London, UK,* [4]*University North Carolina at Chapel Hill and North Carolina State University, USA*
10:45-11:05	**[O17] Advances in Surface Plasmon Resonance Biosensors and Their Medical Applications** M. Bockova[1], E. Gedeonova[1], L. Chrastinova[2], T. Springer[1], O. Pastva[2], J. Suttnar[2], J.E. Dyr[2], J. Homola*[1], [1]*Institute of Photonics and Electronics, Czech Academy of Sciences, Czech Republic,* [2]*Institute of Hematology and Blood Transfusion, Czech Republic*
11:05-11:40	Refreshment Break | *Room: Ballroom B*
11:40-12:40	**Session 5 Continued: Impact of Bio-Sensing Technology Continued** Session Chair: Richard Luxton | *Room: Ballroom A*
11: 40-11:50	**[RC27] A microfluidic sensor for pathogenic bacteria detection in water and medical samples** S. Savas*[1], Y. Uludag[1], Z. Altintas[2], [1]*TUBITAK-BILGEM, Turkey,* [2]*Technical University of Berlin, Germany*
11:50-12:00	**[RC28] Monitoring blood urea nitrogen in hemodialysis patients by detecting breath ammonia using donor-acceptor polymer vertical channel diodes** J.C. Hsieh*, C.Y. Cheng, H.Y. Yang, T.Y. Chou, L.C. Sun, C.C. Chen, H.W. Zan, H.F. Meng, C.J. Lu, National *Chiao Tung University, Taiwan*

12:00-12:10	**[RC29] A portable electrochemical DNA-based sensor for monitoring urea concentration at home** B.R. Adhikari*, A. Vallée-Bélisle, University *of Montreal, Canada*
12:10-12:20	**[RC30] Bio-responsive polysilicon nanogap tripartite electrodes with integrated multi-analyte diagnostic as 'prenatal care-on-chip'** S.R. Balakrishnan*[1,2], U. Hashim[1], S.C.B. Gopinath[1], H.R. Ramayya[1], P. Veeradasan[1,4], R. Haarindraprasad[1,5], A.R. Ruslinda[1], C.W. Zanariah[2] *[1]Universiti Malaysia Perlis, Malaysia, [2]Universiti Sains Islam Malaysia, Malaysia, [4]Universiti Teknologi Petronas, Malaysia, [5]AIMST University, Malaysia*
12:20-12:30	**[RC31] Towards a compact lensless superresolution microscope based on nanoarrayed LEDs** A. Dieguez*[1], N. Franch[1], J. Canals[1], V. Moro[1], J.D. Prades[1], A. Vilà[1], J. Gülink[2], H.S. Wasisto[2], A. Waag[1], *[1]University of Barcelona, Spain, [2]Universität Braunschweig, Germany*
12:30-12:40	**[RC32] Evaluation of novel binding reagents and early biosensor development for the detection of Cocoa Swollen Shoot Virus (CSSV) in *Theobroma cacoa* plant tissue** J.M. Barnett*[1], R. Luxton[1], M. Gilmour[3], J-P. Marelli[3], V. Mfegue[4], G. Ameyaw[4], S. Tyler[1], J. Kiely[1], J. Allainguilaume[2], *[1]The University of the West of England, UK, [2]Mars Wrigley Confectionery, UK, [3]World Cocoa Foundation, Ghana, [4]Cocoa Research Institute of Ghana, Ghana*
12:40-13:00	**Awards and Conference Close** | *Room: Ballroom A*