



Microsymposium IPC PAS 16-18 January 2018

Oral presentations – 16th of January 2018 – Auditorium of IPC

Session I

Chair Z. Kaszukur

Time	Speaker	Title presentation
9:30	K. Sozański	<i>Quantative fluorescence correlation spectroscopy in three-dimensional systems stimulated emission depletion conditions</i>
9:55	P. Lisowski	<i>Dual Functionality of TiO₂/Biochar Hybrid Materials: Photocatalytic Phenol Degradation in the Liquid Phase and Selective Oxidation of Methanol in the Gas Phase</i>
10:20	M. Kundys	<i>Generation-Collection Electrochemistry Inside a Rotating Droplet</i>
10:45	Coffe break	

Session II

Chair J. Górecki

11:15	M. Cieplak	<i>Molecularly Imprinted Polymer Chemosensor for Selective Determination of an N-Nitroso-L-proline Food Toxin;</i>
11:40	N. Pacocha	<i>Optimized droplet digital CFU assay (ddCFU) provides precise quantification of bacteria over a dynamic range of 6 logs and beyond</i>
12.05	S. Kosiorek	<i>Pillar[4]pyridinium: a square-shaped molecular box</i>



12:30	Lunch break
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Session III

Chair

K. Matuła

13:30	J. Milkiewicz	<i>Influence of the excitation light intensity on the rate of fluorescence quenching reactions: pulsed experiments</i>
13:55	A. Kowalska	<i>SERS-based Immunoassay in a Microfluidic System for the Multiplexed Recognition of Interleukins from Blood Plasma: Towards Picogram Detection</i>
14:20	K. Giżyński	<i>Cancer classification with a network of chemical oscillators</i>
14:45	M. Sasaki	<i>Mechanosynthesis of pure phase mixed-cation MAxFA1-xPbI3 hybrid perovskite: Characterization and the corresponding photovoltaic performance</i>



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Poster Session: 17 of January 9:00 – 12:00 – Main Lobby of IPC

No	Group Number	List of Authors	Title
1.	1	M.A. Kuzovnikov, M.Tkacz, H. Meng	High pressure synthesis of tantalum dihydride
2.	1	M.A. Kuzovnikov, M.I.Eremets, A.P. Drozdov, S. Besedin, M.Tkacz	Metallization of erbium and yttrium trihydrides under high pressure
3.	2	V. Malyshev, R. Chitta, F. D`Souza, K. Noworyta	Development of an electrochemical chemosensor for asymmetric dimethylarginine detection with molecularly imprinted recognition layer.
4.	2	A. Szymańska, K. Gołębiewska, F. D`Souza, K. Noworyta	Formation of the protein-imprinted polymers by using Langmuir-Blodgett films of bis(bithienyl)methane derivatives.
5.	2	P. Lach, M. Cieplak, P. S. Sharma, M. Sosnowska, F. D`Souza, W. Kutner	Self-reporting molecularly imprinted polymer for label-free selective electrochemical sensing of p-synephrine.
6.	2	J. Yadav, R. Rybakiewicz, W. Kutner	Synthesis and characterization of carbazole derivatives as new functional monomers for molecularly imprinted polymers
7.	3	D. Borycki, M. Nowakowski, M. Hamkało, M. Wojtkowski	Spatio-temporal optical coherence manipulation.
8.	3	P. Stremplewski, M. Hamkało, M. Wojtkowski	Full field coherence imaging with speckleless and axial sectioning optical setup.
9.	3	M. Rapolu, H. Doleżyczek, M. Malinowska, P.	Enhanced image processing and analysis of global ischemia in



		Niedźwiedziuk, S. Tamborski, M. Szkulmowski, G. Wilczyński, M. Wojtkowski	mouse brain.
10.	3	P. Stremplewski, G. Palczewska, M. Hamkało, K. Palczewski, M. Wojtkowski	Noninvasive two-photon imaging of murine retina in vivo
11.	4	M. Janczuk-Richter, M. Dominik, E. Roźniecka, M. Koba, P. Mikulic, W. J. Bock, M. Łoś, M. Śmietana, J. Niedziółka-Jönsson	Long-period fiber grating biosensor for detection of bacteriophages
12.	4	K. Szot-Karpińska, D. Kwaśniewski, A. Leśniewski, Frank Marken, J. Niedziółka-Jönsson	Bacteriophages-Carbon Nanofibres Modified Electrodes for Biosensing Applications
13.	4	I. Olszowska, A. Leśniewski, J. Niedziółka-Jönsson	Functionalized silica nanoparticles for fingerprint detection
14.	4	J. Matyjewicz, A. Leśniewski, A. Łaszcz, A. Czerwiński, J. Niedziółka-Jönsson	Silver nanocubes-based sensor for mercury detection in water samples
15.	5	A. Brzozowska, J. Gregorowicz, P. Bernatowicz, Z. Fraś, P. Parzuchowski, G. Rokicki	Aggregation of modified dendritic hyperbranched polyester
16.	7	M. Szewczyk, G. Sobczak, Volodymyr Sashuk	Photoswitchable catalysis on the surface of colloidal particles
17.	8	G. Angulo, B. Lang, A. Rosspeintner, E. Vauthey	Recombination of photo-produced charged products: your kinetics are wrong!
18.	8	J. Piechowska, G. Angulo	Analogues of hydroxybenzofluorenone –synthesis and proton



			transfer processes.
19.	8	Ł. Piątkowski, Christina Schanbacher, A. Jamrozik, F. Wackenhut, A. Meixner, J. Waluk	Imaging and controlling chemical reactions at a single molecule level.
20.	9	M. Sasaki, D. Prochowicz, P. Yadav, M. Saliba, S. M. Zakeeruddin, M. Grätzel, J. Lewinski	Mechanochemical approach to hybrid perovskites for photovoltaics
21.	9	E. Chwojnowska, M. Wolska-Pietkiewicz, J. Lewiński	An organometallic route to colloidal ZnO nanocrystals
22.	9	A. M. Cieślak, E.-R. Ječek, K. Sokołowski, T. Ratajczyk, M. K. Leszczyński, O. A. Scherman, J. Lewiński	Dynamic self-assembly of ZnO nanoparticulate interfaces into supramolecular organic-inorganic materials
23.	9	M. K. Leszczyński, K. Zelga, I. Justyniak, J. Lewiński	Transformations of alkylzinc guanidates into unprecedented molecular clusters.
24.	10	K. Sozański, E. Sisamakis, X. Zhang, R. Hołyst	Quantitative Fluorescence Correlation Spectroscopy in 3D Systems under Stimulated Emission Depletion Conditions
25.	10	K. Kryszczuk, T. Kalwarczyk, K. Sozański, A. Wiśniewska, R. Hołyst	Non-uniform diffusion in E.coli as a function of a position in a cell
26.	10	K. Szczepański, K. Kwapiszewska, R. Hołyst	Cell cycle-dependent fluctuations of protein mobility in cytoplasm of HeLa cells
27.	10	X. Zhang, E. Sisamakis, K. Sozański, R. Hołyst	Nanoscopic Approach to Quantification of Equilibrium and Rate Constants of Complex Formation at Single-Molecule Level
28.	10	K. Kwapiszewska, T. Kalwarczyk, B.	In situ quantitative analysis of protein oligomerization in living cell



		Michalska, K. Szczepański, J. Szymański, J. Duszyński, R. Hołyst	
29.	10	T. Kalwarczyk, M. V. de Ruiten, R. Molenaar, C. Blum, J. J.L.M. Cornelissen, M. M. A. E. Claessens	Formation of the α -synuclein–capsid proteins complexes
30.	10	S. G. Stuij, M. Labbe-Laurent, T. E. Kodger, A. Maciolek, P. Schall	Critical Casimir interactions between colloids around the critical point of binary solvents
31.	11	O. Scheler, M. Debski, M. Horka, A. Ruszczak, J. Pacocha, P. Garstecki	Analysis of antibiotic susceptibility at different bacteria inoculum densities
32.	11	A. Opalski, K. Makuch, Y. K. Lai, P. Garstecki	High-throughput production of monodisperse droplets in grooved step-emulsifiers
33.	11	R. Buda, M. Costantini, M. Ćwiklińska, J. Guzowski	New Applications Of Droplet Microfluidics: From Biomimetics To Tissue Engineering
34.	11	P. Jankowski, T. Szyborski, D. Ogończyk, P. Garstecki	FEP microreactors dedicated for photochemical reactions
35.	11	M. Horka, K. Makuch, M. Sahebdivani, P. Garstecki	Speed of flow of non-wetting droplet in capillary with circular cross-section
36.	11	K. Makuch , R. Hołyst , T. Kalwarczyk , P. Garstecki, J. F. Brady	Stokes' law in complex liquids
37.	11	M. Żmuda-Baranowska, A. Ruszczak, N. Pacocha, O. Scheler, P. Garstecki	Design and optimization of qPCR assay for chemerin antibacterial susceptibility testing in microbial skin communities



38.	11	A. Samborski, T. Szymborski, P. Garstecki	Diffusion from Concentric Double Droplets
39.	11	P. Michalak, J. Ziolkowski, P. Knap, B. Bakon, K. Kupidura-Pawlik, P. Witkowski, P. Debski, T. Kaminski, M. Horka, A. Ruszczak, L. Kozon, A. Opalski, W. Postek, M. Czekalska, O. Scheler, L. Derzsi, P. Garstecki	BacterOMIC - Development of systems for comprehensive information on antibiotic susceptibility of bacteria
40.	11	N. Pacocha, O. Scheler, P. Garstecki	Direct Droplet Digital PCR for bacteria counting in the polymicrobial environment
41.	11	Ł. Kozoń, T. Kamiński, P. Garstecki	SpotVac Chip: vacuum-driven microfluidic device for multiplex screening of antibiotic toxicity
42.	13	J. Pękalski, A. Ciach	Self-assembly of nanoparticles on a surface of a microdroplet
43.	13	H. Serna, W. Gózdź, E. González Noya	Effects of confinement in continuous-space three-dimensional SALR systems
44.	13	K. Breitsprecher, C. Holm, S. Kondrat	Accelerating charge/discharge in subnanometer pores
45.	13	J. Pękalski, A. Ciach	Self-assembly of nanoparticles on a surface of a microdroplet
46.	14	E. Witkowska Nery, M. Kundys, E. Baczynska, J. Włodarczyk, M. Jönsson-Niedziolka	Electrodes, microchannels and more – novel applications of electrochemistry for neurobiological studies on the example of glutamate and dopamine sensing
47.	14	R. S. Vishwanath, W. Adamak, M. Jönsson-Niedziolka	Ion transfer across the liquid interface in microfluidics
48.	14	E. Witkowska Nery, P. S. Jeleń, M. Jönsson-	Capturing the flow: pencil lead as a material for microfluidic 3D-



		Niedziółka	electrode assemblies
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49.	14	P. S. Jeleń, M. Kundys, M. S. Filipiak, M. Jönsson-Niedziółka	Enzyme inhibition in continuous flow measurements in microfluidic device
50.	15	M. Bonarowska, M. Zieliński, J. Sá, G. Słowik, D. Giziński	Highly efficient, selective and low-temperature catalytic hydrodechlorination of tetrachloromethane with silica-supported Ir and Ir-M (M=Pt, Pd, Au) catalysts
51.	15	M. Zienkiewicz-Machnik, I. Goszewska, A. Śrębowata, A. Kubas, D. Giziński, G. Słowik, K. Matus, Dmytro. Lisovytskiy, M. Pisarek, Jacinto Sá	Development of Ni and Ni-Sn catalysts for continuous flow chemoselective hydrogenation of 6-methyl-5-hepten-2-one
52.	15	W. Błachucki, MD Ziaul Hoque,, A. Kubas, Jakub Szlachetko, Anna Śrębowata, Jacinto Sá	Experimental setup for femtosecond optical spectroscopy and X-ray spectroscopy
53.	15	D. Giziński, I. Goszewska, M. Zienkiewicz-Machnik, M. Zieliński, D. Lisovytskiy, K. Nikiforov, J. Masternak, A. Śrębowata, J. Sá	Flow catalysis for chemoselective hydrogenation over transition metal nanoparticles grafted on resin
54.	15	A. Kubas	Electronic couplings for molecular charge transfer: the case of antiferromagnetically coupled systems
55.	15	E. Kowalewski, M. Zienkiewicz-Machnik, D. Lisovytskiy, K. Nikiforov, K. Matus, J. Sá, A.	Catalytic purification of water from TCE in two different modes:



		Śrębowata	Batch and Flow
56.	15	I. Goszewska, Małgorzata Zienkiewicz-Machnik, Kostiantyn Nikiforov, K. Matus, Anna Śrębowata, Jacinto Sá	Flow hydrogenation of α,β -unsaturated ketone on Ni-Pd catalysts
57.	16	M.Zieliński, W.Juszczak, Z.Kaszur	Atomistic picture of catalytic reactions on gold. How and why ?
58.	17	P. Wach, G. Spólnik, K.J. Rudziński, W. Danikiewicz, K. Skotak, R. Szmigielski	Probing the chemical composition of the fine ambient aerosol, rainwater and hailstone with UHPLC-MS technique. Is there anything in common?
59.	17	G. Spolnik, P. Wach, K. Rudzinski, K. Nestorowicz, K. Skotak, W. Danikiewicz, R. Szmigielski	Improving LC-MS methods for a detailed SOA characterization
60.	17	P. Połosa, A.Kołodziejczyk, M. Asztemborska, D. Staszek, K.J. Rudziński, R. Szmigielski	Analiza lotnych związków organicznych zawartych w olejku eterycznym sosny zwyczajnej (<i>Pinus sylvestris</i> L.)
61.	17	K. Nestorowicz, M. Jaoui, K. J. Rudziński, G. Spólnik, M. Lewandowski, R. Szmigielski	Smog chamber experiments with secondary organic aerosols
62.	17	A. Kołodziejczyk, K. Błaziak, R.Szmigielski	Badanie ścieżek oraz energii rozpadu kwasu MBTCA – ważnego markera starzenia się aerozolu atmosferycznego
63.	18	Baczynska E., Witkowska Nery E., Jonsson-Niedziółka M., Włodarczyk J	Electrochemistry in neuronal plasticity studies -- a glutamate biosensor
64.	21	T. Jaroch, R. Nowakowski, A. Maranda-Niedbała, K. Kotwica, M. Zagórska, A. Proń	Supramolecular and electrochemical properties of solution-processable electroactive flavanthrone derivatives



65.	21	M. Majewska, D. Mrdenovic, R. Nowakowski, P. Pieta	Nanomechanical characterization of biomimetic membrane after antimicrobial peptide adsorption studied with PeakForce QNM atomic force microscopy mode
66.	21	R. González-Gil, C. Herrera, M. Á. Larrubia, I. S. Pieta, L. J. Alemany	New insights into DME-Steam Reforming mechanism by in situ analysis overVNi/Al ₂ O ₃ supported catalysts
67.	21	I. S. Pieta, A. Rathi, P. Pieta, R. Nowakowski, M. Pisarek, M. Holdynski, A. Kaminska, M. B. Gawande, R. Zboril	Electrocatalytic methanol oxidation over graphitic nitride supported ultrasmall bimetallic Cu and Ni nanoparticles
68.	21	I. S. Pieta, L. J. Alemany, R. Nowakowski, W. S. Epling	S/Cl poisoning effect on multicomponent g-Al ₂ O ₃ catalytic systems
69.	22	O. Danylyuk, A. W. Coleman, K. Suwinska	The pillared organic clay
70.	22	A. Siklitskaya	Carbon Dioxide adsorption by Carbon Spiroids
71.	23	M. Michalak, W. Nogala, M. Jönsson-Niedziółka	Micropatterning of Bare Metallic Nanostructures and Their Electrocatalytic Study in Alkaline Media
72.	23	K. Winkler, J. Jędraszko, K. Wybrańska, M. Opałło	SECM detection of H ₂ O ₂ generated at liquid liquid interface with immobilised Au nanoparticles
73.	23	M. Hołdyński, J. Dolinska, M. Opałło	Collisions of suspended Prussian Blue nanoparticles with a
74.	23	N. Rostkowska, H.-F. Wang, M. Hołdynski, W. Marynowski, C. C. Hu, M. Opallo	Nitrogen-doped high-quality graphenes for electrochemical determination of dihydroxybenzene isomers
75.	23	A. Szymańska, M. Michalak, K. Matuła, J. Jędraszko, M. Siek, J. Paczesny, J. Niedziółka-	Voltammetric and scanning ion conductance microscopy studies of E. coli. Interaction with silver nanoparticles and bacteria wall



		Jönsson, M. Opałło, W. Nogala	charge mapping
76.	23	J. Jedraszko, W. A. iak, W. Nogala, H. H. Girault, M. Opałło	SECM study of hydrogen photogeneration in a 1,2-dichloroethane water biphasic system with decamethylruthenocene electron donor regeneration
77.	23	I. Smirnov, Z. Kaszkur, K. Juchniewicz, A. Borodziński, P. Kędzierzawski	Novel XRD camera for in situ studies of catalyst transformations in
78.	24	M. Litniewski	On Simulation of Evaporation of Liquid
79.	24	K. Gizynski, J. Gorecki	Chemical classifiers with BZ droplets
80.	25	T. Custer, M. Gronowski, N. Piètri, I. Couturier-Tamburelli, J. C. Guillemin, U. Szczepaniak, M. Turowski, R. Kołos	Methylcyanoacetylene isomerization in solid argon
81.	28	A. Khan, J. C. Colmenares, R. Glaser	Simultaneous conversion of 5-hydroxymethylfurfural into 2,5-furandicarboxylic acid and hydrogen via photocatalysis
82.	28	J. C. Colmenares, T. Dańko, V. Nair	Selective photooxidation of lignin model compound - benzyl alcohol in a microfluidic reactor
83.	28	P. Lisowski, J. C. Colmenares, O. Mašek, W. Lisowski, D. Lisovytskiy, J. Grzonka, K. Kurzydłowski	Eco-friendly low-temperature ultrasound-induced sonocrystallization of TiO ₂ /lignocellulosic carbon materials and their application in heterogeneous photocatalysis
84.	28	J. C. Colmenares, V. Nair, T. Dańko	Selective oxidation via photocatalysis for lignin valorisation in continuous flow microreactors
85.	29	J. Solarski, V. Chernii, J. Ostapko, A. Gorski	Kinetical description of triplet-triplet annihilation



86.	29	E. Witkowska, D. Korsak, A. Kowalska, A. Jeczek, K. Niciński, A. Kamińska	Strain - level typing and identification of bacteria - novel approach for SERS active plasmonic nanostructures
87.	29	M. Ceborska, K. Dąbrowa, J. Jurczak	Solid state stabilization of water clusters by neutral unclosed cryptands environment
88.	29	A. Jamrozik, J. Buczyńska, B. Leśniewska, K. B. Manjappa, M. Pietraszkiewicz, Ding-Yah Yang, J. Waluk	From basic photophysics to the development of new chromophores: evaluation of photochromism in hydroxycoumarin-based compounds.
89.	29	N. Masiera, I. Gawryszewska, A. Bojarska, K. Kwapiszewska, J. Waluk	Porphycenes in photodynamic therapy of cancer and photodynamic inactivation of bacteria
90.	29	J. Dobkowski, I.V. Sazanovich, M. Kijak, J. Waluk	Unpredictable temperature-dependent evolution of time resolved fluorescence of Coumarin153.
91.	29	M. Pszona, S. Gawinkowski, J. Waluk	The Raman tensor: an access to information about molecular orientation
92.	29	A. Gorski, M. Kijak, V. Knyukshto, E. Zenkevich, A. Starukhin, J. Solariski, P. Kowalska	Electronic states of sterically hindered meso-phenyl-substituted Pd-octaethylporphyrins
93.	30	M. Pietrzak, J. Dobkowski, M. Kijak, M. Vengris	What can we learn from the NMR spectroscopy combined with laser photolysis? Study on molecules containing anthrone and naphthalene subunits
94.	30	A. Mames, T. Ratajczyk	New Iridium-Based N-Heterocyclic Carbene Catalysts for SABRE
95.	31	J. Jędrak, A. Ochab-Marcinek	Stochastic gene expression in cells undergoing division

