West Pomeranian University of Technology Szczecin

PAN
POLSKA AKADEMIA NAUK

Faculty of Chemical Technology and Engineering

24th Polish Conference of Chemical and Process Engineering

13-16 June 2023, Szczecin

Conference Programme

FRAMEWORK PROGRAMME

Location and date / Time	Nanotechnology Didactic and Research Centre Piastów ave. 45, 71-899 Szczecin **13.06.2023** (Tuesday)	HOTEL		
		14.06.2023 (Wednesday)	**15.06.2023** (Thursday)	**16.06.2023** (Friday)
7.30 – 8.00		CONFERENCE REGISTRATION		
8.00 – 9.00	CONFERENCE REGISTRATION	**PLENARY SECTIONS_3**	**PLENARY SECTIONS_5**	**PLENARY SECTIONS_6**
9.00 – 10.00		Coffee break 9.30 – 10.10	Coffee break 10.00 – 10.40	
10.00 – 11.00		**PLENARY SECTIONS_4**	**SECTIONAL LECTURES_7** / **SECTIONAL LECTURES_8** / **SECTIONAL LECTURES_9**	Coffee break 11.00 – 11.40
11.00 – 12.00				**SECTIONAL LECTURES_13** / **SECTIONAL LECTURES_14** / **SECTIONAL LECTURES_15**
12.00 – 13.00		Lunch 12.40 – 14.00	Coffee break 12.20 – 13.00	**CLOSING CEREMONY**
13.00 – 14.00			**SECTIONAL LECTURES_10** / **SECTIONAL LECTURES_11** / **SECTIONAL LECTURES_12**	Lunch 13.20 – 16.00
14.00 – 15.00	**OPENING CEREMONY**	**SECTIONAL LECTURES_1** / **SECTIONAL LECTURES_2** / **SECTIONAL LECTURES_3**	Lunch 14.40 – 16.00	
15.00 – 16.00	**PLENARY SECTIONS_1**	Coffee break 15.20 – 16.00		
16.00 – 17.00	Coffee break 16.20 – 17.00	**SECTIONAL LECTURES_4** / **SECTIONAL LECTURES_5** / **SECTIONAL LECTURES_6**	Poster session 16.00 – 18.00	
17.00 – 18.00	**PLENARY SECTIONS_2**	Dinner 17.20 – 19.00	**Meeting of the CPE Committee 16.00 – 17.30**	
18.00 – 19.00	Performance of the Chamber Choir of WPUT, Szczecin			
19.00	Dinner	Event 1	**Banquet**	

24th Polish Conference of Chemical and Process Engineering.
Szczecin, 13-16 June 2023, Poland

Detailed Conference Programme

Sectional lectures

Section S1 – Intensification of transport processes

Section S2 – Environmental chemical engineering

Section S3 – Engineering of chemical reactions

Section S4 – Modern trends in chemical engineering and technology

Section S5 – Forum for young researchers

Section S6 – Bioprocess and medical engineering

Section S7 – Green and sustainable chemical engineering

Tuesday, 13.06.2023

Nanotechnology Didactic and Research Centre, Piastów ave. 45, 71-899 Szczecin

8.00-14.00	CONFERENCE REGISTRATION
14.00-14.30	**OPENING CEREMONY**
PLENARY SECTIONS 1 Chair 1: prof. dr hab. inż. Rafał Rakoczy, West Pomeranian University of Technology in Szczecin Chair 2: prof. dr hab. inż. Stanisław Ledakowicz, Lodz University of Technology	
14.30-15.10	EUGENIUSZ MOLGA "MODERN TRENDS IN CHEMICAL AND PROCESS ENGINEERING" Warsaw University of Technology
15.10-15.50	TEOFIL JESIONOWSKI "FABRICATION AND PRACTICAL UTILITY OF HYBRID MATERIALS" Poznan University of Technology
15.50-16.20	BERND V. SCHUETZ "POLIMERY POLICE PROJECT" ECD Executive Commercial Director, GA Polyolefins S.A.
16.20-17.00	COFFEE BREAK
PLENARY SECTIONS 2 Chair 1: prof. dr hab. inż. Rafał Rakoczy, West Pomeranian University of Technology in Szczecin Chair 2: prof. dr hab. inż. Stanisław Ledakowicz, Lodz University of Technology	
17.00-17.40	ANNA ZIELIŃSKA-JUREK "PHOTOCATALYTIC FUNCTIONAL MATERIALS FOR SOLAR-DRIVEN ENVIRONMENTAL REMEDIATION" Gdansk University of Technology
17.40-18.00	Break, performance preparation
18.00-19.00	Performance of the Chamber Choir of WPUT, Szczecin
19.00-20.00	DINNER

Wednesday, 14.06.2023

Hotel Radisson Blu in Szczecin, Rodla Square 10, 70-419 Szczecin

7.30-8.00	CONFERENCE REGISTRATION		
PLENARY SECTIONS 3 Chair 1: prof. dr hab. inż. Anna Trusek, Wroclaw University of Science and Technology Chair 2: prof. dr hab. inż. Zofia Lendzion-Bieluń, West Pomeranian University of Technology in Szczecin			
8.00-8.50	STANISŁAW LEDAKOWICZ AND ALEKSANDRA ZIEMIŃSKA-STOLARSKA „THE ROLE OF LIFE CYCLE ASSESSMENT IN THE IMPLEMENTATION OF CIRCULAR ECONOMY IN SUSTAINABLE FUTURE Lodz University of Technology		
8.50-9.30	ANDREAS GÖLDEL "INDUSTRY CHALLANGE – CIRCULARITY AND SUSTAINABILITY" Commercial Technology Director, GA Polyolefins S.A. MAREK KNOR "HOW TO AVOID CLIMATE DISASTER – POLYMER INDUSTRY PERSPECTIVE" Circular Economy Manager, GA Polyolefins S.A.		
9.30-10.10	COFFEE BREAK		
PLENARY SECTIONS 4 Chair 1: prof. dr hab. inż. Anna Trusek, Wroclaw University of Science and Technology Chair 2: prof. dr hab. inż. Eugeniusz Molga, Warsaw University of Technology			
10.10-10.50	ANDRZEJ I. STANKIEWICZ **"**HOW TO GREEN THE BIG BAD WOLF? NOVEL CHEMICAL ENGINEERING APPROACHES TO DECARBONIZATION" Delft University of Technology; Warsaw University of Technology		
10.50-11.30	KAMIL CZELEJ**,** LEON GRADOŃ "DESIGN OF ADVANCED NANOMATERIALS FOR CHEMICAL ENGINEERING PROCESSES" Warsaw University of Technology		
11.30-12.10	EWA MIJOWSKA, XIAODONG XU, XIN WEN, XUECHENG CHEN "FROM WASTES TO SUPERCAPACITORS" West Pomeranian University of Technology in Szczecin		
12.10-12.40	SPONSOR PRESENTATION – Perlan Technologies Poland Sp. z o.o.		
12.40-14.00	LUNCH		
SECTIONAL LECTURES 1-3 – parallel sessions			
	Sectional lectures 1 Chairs: dr hab. inż. Szymon Woziwodzki, Poznan University of Technology, dr inż. Tomasz Aleksandrzak, West Pomeranian University of Technology in Szczecin	Sectional lectures 2 Chairs: dr hab. Daniel Janecki, prof. UO, University of Opole, dr hab. inż. Elwira Wróblewska, prof. ZUT, West Pomeranian University of Technology in Szczecin	Sectional lectures 3 Chairs: prof. dr hab. inż. Tomasz Sosnowski, Warsaw University of Technology, dr. inż. Adrian Augustyniak, West Pomeranian University of Technology in Szczecin
14.00-14.20	**S1 Christof Lanzerstorfer** SPECIATION OF ZINC IN ELECTRIC ARC FURNACE DUST BY PARTICLE SIZE University of Applied Sciences Upper Austria	**S3 Hanna Kierzkowska-Pawlak**, Jacek Tyczkowski COLD PLASMA AS A VERSATILE TOOL FOR THE PREPARATION OF NANOSTRUCTURED THIN FILMS FOR CATALYTIC APPLICATIONS Lodz University of Technology	**S5 Kamil Wierzchowski**, Łukasz Makowski, Maciej Pilarek PROLIFERATION OF NON-ADHERENT HL-60 CELLS IN WAVE 25 BIOREACTOR: INFLUENCE OF CFD-DETERMINED VALUES OF SHEAR STRESS ON BIOMASS Warsaw University of Technology
14.20-14.40	**S1 Paweł Sobieszuk**, Karol Ulatowski CHEMICAL ENGINEERING TOOLS IN THE DEVELOPMENT OF GAS NANOBUBBLE GENERATION AND STABILITY Warsaw University of Technology	**S3 Marzena Iwaniszyn**, Joanna Maszybrocka, Przemysław J. Jodłowski 3D PRINTED TRIPLY PERIODIC MINIMAL SURFACES AS INTERNALS IN CATALYTIC REACTORS Polish Academy of Sciences; University of Silesia; Cracow University of Technology	**S5 Krystian Jędrzejczak,** Łukasz Makowski, Wojciech Orciuch, Krzysztof Wojtas INFLUENCE OF BLOOD RHEOLOGY AND CHANGES IN THE DEGREE OF ATHEROSCLEROTIC STENOSIS IN ASSESSING THE RISK OF HEMOLYSIS Warsaw University of Technology

14.40-15.00	**S1 Michał Blatkiewicz,** Maciej Jaskulski, Marcin Piątkowski, Justyna Wojtasik-Malinowska, Dawid Zawadzki, Małgorzata Majdzik, Andrzej Górak ROTATING PACKED BED TECHNOLOGY – AN INNOVATIVE APPARATUS IN PROCESS INTENSIFICATION Lodz University of Technology	**S3 Łukasz Werner**, Karol Ćwieka, Kamil Czelej, Zuzanna Bojarska, Katarzyna Jabłczyńska, Leon Gradoń OPTIMIZATION OF NANOPARTICLES DEPOSITION PROCESS ONTO POLYMERIC NON-WOVEN FRAMEWORK Warsaw University of Technology	**S5 Arkadiusz Antonowicz**, Krzysztof Wojtas, Łukasz Makowski, Wojciech Orciuch, Michał Kozłowski PARTICLE IMAGE VELOCIMETRY OF 3D-PRINTED ANATOMICAL BLOOD VASCULAR MODELS AFFECTED BY ATHEROSCLEROSIS Eurotek International Sp. z o.o.; Warsaw University of Technology; Medical University of Silesia
15.00-15.20	**S1 Anna Pawlaczyk-Kurek**, Aleksandra Janusz-Cygan EXPERIMENTAL INVESTIGATIONS OF THE INFLUENCE OF RADIAL GAS MIXING IN AN INERT BED IN THE PROCESS OF THERMAL COMBUSTION OF LEAN METHANE-AIR MIXTURES Institute of Chemical Engineering Polish Academy of Sciences	**S3 Michał Wojasiński**, Joanna Latocha, Jolanta Czerska-Duszak, Rafał Podgórski, Kornel Prystupiuk, Stanisław Gierlotka, Tomasz Ciach, Paweł Sobieszuk CONTROLLED PRODUCTION OF HYDROXYAPATITE NANOPARTICLES IN A SPHERE, PLATE, OR ROD SHAPE - THEIR MODIFICATION AND APPLICATIONS Warsaw University of Technology; Polish Academy of Sciences	**S5 Katarzyna Czyżewska**, Anna Trusek ENZYME CO-IMMOBILIZATION WITH POST-IMMOBILIZATION TREATMENTS Wroclaw University of Science and Technology
15.20-16.00	COFFEE BREAK		
SECTIONAL LECTURES 4-6 – parallel sessions			
	Sectional lectures 4 Chairs: dr hab. inż. Jacek Różański, prof. PP, Poznan University of Technology, dr hab. inż. Konrad Witkiewicz, prof. ZUT, West Pomeranian University of Technology in Szczecin	Sectional lectures 5 Chairs: dr hab. inż. Maciej Pilarek, prof. PW, Warsaw University of Technology, dr inż. Karolina Kiełbasa, West Pomeranian University of Technology in Szczecin	Sectional lectures 6 Chairs: dr hab. inż. Paweł Wawrzyniak, prof. PŁ, Lodz University of Technology, dr hab. inż. Grzegorz Dzido, Silesian University of Technology
16.00-16.20	**S5 Mariusz Tyrański**, Jakub Michał Bujalski, Wojciech Orciuch, Łukasz Makowski INFLUENCE OF PROCESS PARAMETERS AND THE GEOMETRY OF CATALYST WIRES ON THE AMMONIA OXIDATION PROCESS AND DEGRADATION OF THE CATALYST GAUZE – CFD ANALYSIS Warsaw University of Technology	**S3 Izabela Wysocka**, Andrzej Rogala CATALYSTS FOR SYNGAS GENERATION OF H_2/CO RATIO CLOSE TO UNITY Gdańsk University of Technology	**S5 Julia Matysik**, Olga Długosz, Marcin Banach OXIDE NANOMATERIALS CONTAINING MNO AND CUO IN AN ENZYMATIC CASCADE REACTION Cracow University of Technology
16.20-16.40	**S5 Sara Sumbal,** Justyna Luczak, Marek Lieder FACILE FABRICATION OF $NI(OH)_2$ OVER NI FOAM AND THEIR CATALYTIC PERFORMANCE FOR AMMONIA ELECTROOXIDATION REACTION Gdansk University of Technology	**S3 Andrzej Rogala**, Izabela Wysocka DME PRODUCTION TECHNOLOGIES FOR SMALL HYDROCARBON DEPOSITS, PROGRESS AND PERSPECTIVES Gdańsk University of Technology	**S5 Marcin Gunia**, Julia Ciećko, Katarzyna Bizon ASSESSMENT OF THE THERMAL WAVES IMPACT ON CARBON DIOXIDE CAPTURE EFFICIENCY IN A HYBRID FIXED-BED REACTOR Cracow University of Technology
16.40-17.00	**S5 Kamila Splinter**, Zofia Lendzion-Bieluń A STUDY OF THE INFLUENCE OF SYNTHESIS PARAMETERS ON THE PHYSICOCHEMICAL PROPERTIES OF IRON PIGMENTS PRODUCED FROM WASTE IRON SULFATE West Pomeranian University of Technology in Szczecin	**S7 Karol Ćwieka**, Kamil Czelej, Zuzanna Bojarska, Łukasz Werner, Krzysztof Wojtas, Dariusz Łomot, Juan Carlos Colmenares, Leon Gradoń GREEN HYDROGEN PRODUCTION BY PHOTOREFORMING OF METHANOL IN FLOW SYSTEM Warsaw University of Technology; Polish Academy of Sciences; Universidad Cooperativa de Colombia	**S5 Piotr Cendrowski**, Marta Mazurkiewicz-Pawlicka, Zuzanna Bojarska, Monika Jałowiecka, Jan Krzysztoforski PREPARATION OF REDUCED GRAPHENE OXIDE USING SUPERCRITICAL CARBON DIOXIDE FOR APPLICATION IN OXYGEN REDUCTION REACTION CATALYSTS Warsaw University of Technology

17.00-17.20		**S7 Piotr Rybarczyk**, Bartosz Szulczyński, Dominik Dobrzyniewski, Karolina Kucharska, Jacek Gębicki REMOVAL OF CYCLOHEXANE VAPORS FROM AIR IN BIOTRICKLING FILTERS: EFFECTS OF GAS MIXTURE COMPOSITION AND CIRCULAR ECONOMY APPROACH Gdańsk University of Technology; EkoTech Center	**S5 Wiktoria Matyjasik**, Olga Długosz, Jolanta Pulit-Prociak, Marcin Banach CARBON QUANTUM DOTS AS FREE RADICAL SCAVENGER Cracow University of Technology
17.20-19.00	DINNER		
19.00	EVENT 1		

Thursday, 15.06.2023

Hotel Radisson Blu in Szczecin, Rodla Square 10, 70-419 Szczecin

PLENARY SECTIONS 5 Chair 1: prof. dr hab. inż. Marek Henczka, Warsaw University of Technology Chair 2: prof. dr hab. inż. Dorota Antos, Rzeszów University of Technology			
8.00-8.40	EWA KOWALSKA, ZHISHUN WEI, MAYA ENDO-KIMURA, ZUZANNA BIELA, KUNLEI WANG, TAMER M. KHEDR, MARCIN JANCZAREK, AGATA MARKOWSKA-SZCZUPAK "ENVIRONMENTAL APPLICATIONS OF HETEROGENEOUS PHOTOCATALYSIS"		
8.40-9.20	MATEJ BALÁŽ **"**MECHANOCHEMISTRY: A SUSTAINABLE AND DISRUPTIVE FORCE FOR FUNCTIONAL NANOMATERIALS PRODUCTION" Slovak Academy of Sciences		
9.20-10.00	ANTONI W. MORAWSKI "GREEN AMMONIA" AS A HYDROGEN STORAGE – TECHNOLOGICAL CHALLENGES AND APPLICATIONS" West Pomeranian University of Technology in Szczecin		
10.00-10.40	COFFEE BREAK		
SECTIONAL LECTURES 7-9 – parallel sessions			
	Sectional lectures 7 Chairs: dr hab. inż. Jolanta Pulit-Prociak, prof. PK, Cracow University of Technology, prof. dr hab. inż. Hanna Kierzkowska-Pawlak, Lodz University of Technology	Sectional lectures 8 Chairs: dr hab. inż. Anna Zielińska-Jurek, prof. PG, Poznan University of Technology, dr hab. inż. Agata Markowska-Szczupak, prof. ZUT, West Pomeranian University of Technology in Szczecin	Sectional lectures 9 Chairs: dr inż. Ewa Kowalska, prof. UJ, Jagiellonian University, dr inż. Maciej Konopacki, West Pomeranian University of Technology in Szczecin
10.40-11.00	**S4 Karol Ulatowski**, Andrzej Cecuga, Paweł Sobieszuk CARBON DIOXIDE NANOBUBBLES IN AQUEOUS DISPERSIONS OF BIOCOMPATIBLE SURFACTANTS – STABILITY STUDIES Warsaw University of Technology	**S6 Anna Trusek**, Omoyemi Ajayi, Maciej Grabowski, Edward Kijak DRUG CARRIERS: POLYLACTIDE LAYER COVERED ALGINATE STRUCTURES IN CONTROLLING DRUGS RELEASE Wroclaw University of Science and Technology	**S5 Przemysław Luty**, Mateusz Prończuk, Katarzyna Bizon EVALUATION OF THE INFLUENCE OF EXPERIMENTAL SETTING AND DATA PROCESSING METHODOLOGIES ON THE GAS BUBBLE HYDRODYNAMIC PROPERTIES Cracow University of Technology

11.00-11.20	**S4 Patrycja Makoś-Chełstowska**, Karolina Kucharska, Edyta Słupek, Jacek Gębicki EXTRACTIVE DETOXIFICATION OF HYDROLYSATES WITH SIMULTANEOUS FORMATION OF DEEP EUTECTIC SOLVENTS Gdansk University of Technology	**S6 Tomasz R. Sosnowski**, Emil Florkiewicz INTENSIFICATION OF MASS TRANSFER OF THERAPEUTIC AEROSOLS AND VACCINES IN THE NASAL CAVITY Warsaw University of Technology;[2]Specialized Diagnostic and Consultation Team for Allergy Problems	**S5 Bernard Michałek**, Katarzyna Bizon, Tomasz Wilk INFLUENCE OF DRYING AND GRANULATION PROCESS CONDITIONS THE CHARACTERISTICS OF MICRONUTRIENT CHELATES GRANULES Adam Mickiewicz University; Cracow University of Technology
11.20-11.40	**S4 Sebastian J. Balicki** OPTIMIZATION METHODS IN THE MANUFACTURE OF PROFESSIONAL PRODUCTS Wrocław University of Science and Technology	**S6 Anna Rył**, Piotr Owczarz NEW INSTRUMENTAL CRITERION FOR EVALUATING THE POTENTIAL OF INJECTABLE SCAFFOLDS FOR BIOMEDICAL ENGINEERING APPLICATIONS Lodz University of Technology	**S5 Monika Jałowiecka**, Zuzanna Bojarska, Artur Małolepszy, Łukasz Makowski MASS TRANSFER INTENSIFICATION BY DEVELOPING NEW FLOW FIELD DESIGNS IN A DIRECT FORMIC ACID FUEL CELL Warsaw University of Technology
11.40-12.00	**S4 Katarzyna Jabłczyńska**, Alexander Gogos, Christian Kubsch, Sotiris E. Pratsinis CONTROLLING THE DISTRIBUTION OF Pd DOPANT IN SnO_2 SYNTHESIZED BY FLAME SPRAY METHOD ETH Zurich; Warsaw University of Technology; Swiss Federal Laboratories for Materials Science and Technology	**S6 Magdalena Lech** LACTOBACILLUS RHAMNOSUS FERMENTATION PROFILE IN THE PRESENCE OF UBIQUITOUS LIGNOCELLULOSIC HYDROLYSIS BY-PRODUCTS Wroclaw University of Science and Technology	**S5 Dawid Zawadzki**, Jerzy Pela, Michał Pawłowski, Andrzej Górak PURIFICATION OF VISCOUS AND THERMAL SENSITIVE PRODUCT IN ROTATING PACKED BED EQUIPMENT Prospin sp. z o.o.
12.00-12.20	**S4 Halina Murasiewicz**, Khrystyna Illienko FORMULATION AND STABILISATION OF TWO-PHASE EMULSION BY TWEEN 40 AND 80 SURFACTANTS West Pomeranian University of Technology in Szczecin	**S6 Karolina Labus**, Halina Maniak, Katarzyna Kołodzińska, Łukasz Radosiński BIOBASED HYDROGELS AS FUNCTIONAL PLATFORMS FOR CATALYSIS, NUTRITION AND MEDICAL APPLICATION Wrocław University of Science and Technology	**S5 Piotr Rychtowski,** Piotr Miądlicki, Bartłomiej Prowans, Beata Tryba DESIGN OF THE FLUIDIZED BED PHOTOREACTOR FOR ETHYLENE REMOVAL UNDER UV LIGHT West Pomeranian University of Technology in Szczecin
12.20-13.00	COFFEE BREAK		
SECTIONAL LECTURES 10-12 – parallel sessions			
	Sectional lectures 10 Chairs: prof. dr hab. inż. Ireneusz Zbiciński, Lodz University of Technology, dr hab. inż. Jacek Gębicki, prof. PG, Gdańsk University of Technology	Sectional lectures 11 Chairs: dr hab. inż. Paweł Sobieszuk, prof. PW, Warsaw University of Technology, dr inż. Paula Ossowicz-Rupniewska, West Pomeranian University of Technology in Szczecin	Sectional lectures 12 Chairs: dr hab. inż. Donata Konopacka_Łyskawa, prof. PG, Gdańsk University of Technology, dr inż. Halina Murasiewicz, West Pomeranian University of Technology in Szczecin
13.00-13.20	**S4 Stanisław Anweiler** TOWARDS AUTOMATION OF TWO-PHASE PROCESS CONTROL USING VIDEOGRAMMETRY Opole University of Technology	**S6 Małgorzata Miastkowska,** Anna Łętocha, Alicja Michalczyk STATISTICAL METHODS OF DATA ANALYSIS IN OBTAINING THYME OIL-LOADED NANOEMULSIONS AS SKIN DISINFECTANTS Cracow University of Technology; Lukasiewicz - Research Network-Institute of Industrial Organic Chemistry	**S5 Mohd Yusoff Nurul Husna**, Chien Hwa Chong, Kean How Cheah, Yoke Kin Wan, Voon-Loong Wong ENHANCING THE MECHANICAL AND MOISTURE ABSORPTION PROPERTIES OF SILANE FUNCTIONALIZED 3D – PRINTED PEGDA WITH NOVEL PHOTOCURABLE POLYMERIC MATERIAL FORMULATIONS FOR WATER APPLICATION University of Nottingham Malaysia; University of Nottingham Ningbo China; Heriot-Watt University Malaysia

13.20-13.40	**S4 Krzysztof Wojtas**, Krzysztof Truchel, Michał Kozłowski, Łukasz Makowski, Wojciech Orciuch APPLICATION OF COMPUTATIONAL FLUID DYNAMICS FOR PREDICTING HEMOLYSIS IN MITRAL PARAVALVULAR CHANNELS Warsaw University of Technology; Medical University of Silesia	**S6 Katarzyna Bialik-Wąs,** Paulina Sapuła *IN VITRO* RELEASE STUDIES OF POORLY WATER-SOLUBLE COMPOUNDS USING THE FLOW-THROUGH CELL USP4 APPARATUS Cracow University of Technology	**S5 B. Filip**, R. Bochenek, D. Antos DETERMINATION OF FLUID PHASE BEHAVIOUR IN LIQUID CHROMATOGRAPHY BY THE CFD METHOD Rzeszow University of Technology
13.40-14.00	**S2 Sebastian Pater** INCREASING OF SELF-CONSUMPTION OF ENERGY IN HYBRID RES INSTALLATIONS WITH PV PANELS Cracow University of Technology	**S6 Grzegorz Pasternak**, Aleksander de Rosset, Bartosz Widera, Natalia Tyszkiewicz A NOVEL PROCESS OF BIOELECTROCHEMICAL SYNTHESIS AND MONITORING OF BIOSURFACTANTS Wroclaw University of Science and Technology	**S5 Mateusz Krzemiński**, Wojciech Ludwig CFD SIMULATION OF A JET PUMP MIXER HYDRODYNAMICS Wroclaw University of Science and Technology
14.00-14.20	**S2 Radosław Ślęzak**, Marlena Domińska, Justyna Świątkiewicz, Katarzyna Paździor, Stanisław Ledakowicz INFLUENCE OF INOCULUM THERMAL PRETREATMENT ON THE HYDROGEN PRODUCTION IN DARK FERMENTATION PROCESS Lodz University of Technology	**S4 Zbigniew Czech**, Agnieszka Kowalczyk, BULK POLYMERIZATION USING AN EXTRUDER FOR THIS PURPOSE West Pomeranian University of Technology in Szczecin	
14.20-14.40	**S2 Jan F. Maćkowiak**, Reiner Chromik, Jerzy Maćkowiak RIGOROUS MODELING AND OPERATION OF NITROUS GAS ABSORPTION FOR INDUSTRIAL APPLICATIONS ENVIMAC Engineering GmbH		
14.40-16.00	LUNCH		
16.00-18.00	POSTER SESSION		
16.00-17.30	MEEING OF THE CPE COMMITTEE		
19.00	**BANQUET**		

Friday, 16.06.2023

Hotel Radisson Blu in Szczecin, Rodla Square 10, 70-419 Szczecin

PLENARY SECTIONS 6 Chair 1: prof. dr hab. inż. Julita Mrowiec-Białoń, Institute of Chemical Engineering, Polish Academy of Scienses Chair 2: prof. dr hab. inż. Leon Gradoń, Warsaw University of Technology	
9.00-9.40	EMILIA NOWAK, DEREK KAWITI "CHALLENGES TOWARDS A SUSTAINABLE FUTURE" Massey University, Victoria University of Wellington
9.40-10.20	KATARZYNA BIZON "THE JOURNEY FROM MECHANISTIC TO DATA-DRIVEN MODELS IN PROCESS ENGINEERING: DIMENSIONALITY REDUCTION, SURROGATE AND HYBRID APPROACHES, AND DIGITAL TWINS" Cracow University and Technology
10.20-11.00	JERZY MAĆKOWIAK "NEW CHALLENGES OF THERMAL SEPARATION PROCESSES IN THE CHEMICAL ENGINEERING" ENVIMAC Engineering GmbH
11.00-11.40	COFFEE BREAK

SECTIONAL LECTURES 13-15 – parallel sessions			
	Sectional lectures 13 Chairs: dr hab. inż. Katarzyna Bizon, prof. PK, Cracow University of Technology, dr inż. Anna Story, West Pomeranian University of Technology in Szczecin	Sectional lectures 14 Chairs: dr hab. inż. Marek Tańczyk, prof. PW, Institute of Chemical Engineering, Polish Academy of Scienses, dr hab. inż. Ireneusz Grubecki, PB, Bydgoszcz University of Science and Technology	Sectional lectures 15 Chairs: dr hab. inż. Anna Gancarczyk, Institute of Chemical Engineering, Polish Academy of Scienses, dr inż. Kacper Szymański, West Pomeranian University of Technology in Szczecin,
11.40-12.00	S7 **Grzegorz Poplewski**, Melvin Ting, Dominic C.Y. Foo, Raymond R. Tan, Yin Ling Tan CARBON EMISSION PINCH ANALYSIS (CEPA) FOR POLISH ENERGY GENERATION SECTOR Rzeszow University of Technology; University of Nottingham Malaysia; De La Salle University; Curtin University of Technology	S5 **Aleksander Albrecht**, Marcin Sadłowski, Kasturi Narasimha Sasidhar IS IT STILL NANO? STUDIES OF FINE POWDER IRON NITRIDING West Pomeranian University of Technology in Szczecin; Max-Planck-Institut für Eisenforschung GmbH; University of Wisconsin-Madison	S5 **Zuzanna Bojarska**, Marta Mazurkiewicz-Pawlicka, Łukasz Makowski PRODUCTION, CHARACTERIZATION AND APPLICATIONS OF HYBRID NANOSTRUCTURES BASED ON MOLYBDENUM DISULFIDE AND CARBON NANOMATERIALS Warsaw University of Technology
12.00-12.20	S7 **Marcin Bartman**, Sebastian Balicki, Kazimiera A. Wilk, Lucyna Hołysz BENEFITS OF USING SACCHARIDE AND AMINO-ACID TYPE SURFACTANTS IN THE OPTIMIZED FABRICATION OD NANODETERGENS AS STUBBORN GRAFFITI PAINT REMOVERS Wrocław University of Science and Technology; Maria Curie-Skłodowska University	S5 **Konrad S. Sobczuk**, Iwona Pełech, Piotr Staciwa, Urszula Narkiewicz STRUCTURAL DIFFERENCES BETWEEN TITANIUM DIOXIDE OBTAINED VIA VARIOUS METHODS OF SYNTHESIS West Pomeranian University of Technology in Szczecin	S5 **Radosław Krzosa**, Łukasz Makowski, Wojciech Orciuch, Radosław Adamek, Michał Wojasiński CHARACTERISATION OF COMMERCIAL TiO_2 POWDERS – INDUSTRIAL APPLICATION OF STRUCTURE ANALYSIS Warsaw University of Technology; ICHEMAD – Profarb sp. z o. o.
12.20-12.40	S7 Aleksandra Ziemińska-Stolarska, Monika Pietrzak, **Ireneusz Zbicinski** DETERMINATION OF THE ENVIRONMENTAL IMPACT OF HCPV WITH PLANAR OPTICAL MICRO-TRACKING SYSTEM Lodz University of Technology	S5 **Martyna Jurkiewicz**, Marlena Musik, Robert Pełech ADSORPTION OF A FOUR-COMPONENT GASEOUS MIXTURE OF VOCS ON ACTIVATED CARBON West Pomeranian University of Technology in Szczecin	S5 **Szymon Dudziak** and Anna Zielińska-Jurek EFFECT OF ELECTRONIC AND MAGNETIC INTERACTIONS BETWEEN BARIUM HEXAFERRITE AND FACETED TITANIUM DIOXIDE PARTICLES ON PHOTOCATALYTIC WATER TREATMENT Gdansk University of Technology
12.40-13.20	CLOSING CEREMONY		
13.20	LUNCH		

Poster session

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1	**Anna Adach-Maciejewska**, Klaudia Kopka, Małgorzata Turula, Michał Stępnik	THE INVESTIGATIONS OF MASS TRANSFER IN SIMULATED BIOMEDICAL SYSTEMS
2	**Tomasz Aleksandrzak**, Kamila Zabielska, Elżbieta Gabruś	MODELING OF CARBON DIOXIDE SEPARATION FROM WET GAS MIXTURE ON ZEOLITE FIXED BED BY CYCLIC PRESSURE SWING ADSORPTION
3	**Adrian Augustyniak**, Kamila Dubrowska, Joanna Jabłońska, Natalia Gurgacz, Krzysztof Cendrowski, Beata Tokarz-Deptuła, Rafał Rakoczy	A DYNAMIC APPROACH IN EVALUATING PHYSIOLOGICAL EFFECTS OF NANOMATERIALS ON BACTERIA
4	**Marcin Banach**, Olga Długosz, Jolanta Pulit-Prociak	SYSTEMIC APPROACH TO THE IMPLEMENTATION OF INDUSTRIAL ECOLOGY IN THE PRODUCTION OF SILVER NANOPARTICLES
5	**Paulina Bednarczyk**, Karolina Mozelewska, Joanna Klebeko, Joanna Rokicka, Małgorzata Nowak, Paula Ossowicz-Rupniewska	PHOTOREACTIVE URETHANE (METH)ACRYLATE OLIGOMERS WITH BUILT-IN DIELS-ALDER REACTION ADDUCT – SYNTHESIS AND THERMALLY REVERSIBLE MECHANISM
6	**Mariola M. Błaszczyk**, Jerzy P. Sęk, Aleksandra Budzyń	EFFECT OF PARTITION WETTABILITY ON NANOPARTICLES DIFFUSION THROUGH MODEL STRUCTURES IMITATING HUMAN SKIN
7	**Mariola M. Błaszczyk**, Jerzy P. Sęk, Aleksandra Budzyń	NUMERICAL SIMULATIONS OF ADSORPTION OF NANODROPLETS DURING THEIR TRANSPORT IN THE NARROW CHANNELS
8	**Dominika Boroń,** Katarzyna Bizon	STUDY OF ISOTHERM EQUATIONS FOR MIXTURE OF STRONGLY ADSORBING SPECIES
9	**Agnieszka Ciemięga**, Katarzyna Maresz, Julita Mrowiec-Białoń	MONOLITHIC SILICA MICROREACTORS FOR SEQUENTIAL HYDROLYSIS-CONDENSATION REACTIONS
10	**Magdalena Cudak**	HYDRODYNAMICS OF TWO- AND THREE-PHASE SYSTEMS IN AN AGITATED VESSEL WITH TWO IMPELLERS
11	**Katarzyna Dąbkowska-Susfał**, Jolanta Mierzejewska	INTEGRATED PRODUCTION OF ETHANOL AND XYLITOL FROM CORN STRAW HYDROLYSATES – THE IMPACT OF SELECTED PROCESS PARAMETERS
12	**Małgorzata Djas**, Anna Matuszewska, Beata Borowa, Krystian Kowiorski, Piotr Wieczorek, Adrian Chlanda	GRAPHENE AS AN INNOVATIVE ADDITIVE TO GREASE WITH IMPROVED TRIBOLOGICAL PROPERTIES
13	**Agnieszka Dołhańczuk-Śródka**, Daniel Janecki, Zbigniew Ziembik	ANALYSIS OF RADON-222 PENETRATION INTO ROOMS IN BUILDINGS
14	**Agata Dorosz**, Arkadiusz Moskal, Tomasz R. Sosnowski	DYNAMICS OF AEROSOL GENERATION AND FLOW DURING INHALATION FOR IMPROVED IN VITRO-IN VIVO CORRELATION (IVIVC) OF PULMONARY MEDICINES
15	**Dorota Downarowicz**, Elżbieta Gabruś	ADSORPTION BEHAVIOR OF POLAR SOLVENT AND WATER VAPORS ON SORBONORIT B4 ACTIVATED CARBON
16	**Grzegorz Dzido**, Muhammad Omer Farooq, Aleksandra Smolska	SIMPLIFIED MODEL FOR THE FABRICATION OF SILVER NANOWIRES IN A CONTINUOUS FLOW PROCESS AND ITS EXPERIMENTAL VERIFICATION
17	**Anna Gancarczyk**, Joanna Profic-Paczkowska, Maciej Sitarz	METAL FOAMS AS CATALYST SUPPORT IN THE METHANE AFTERBURNING PROCES
18	**Ireneusz Grubecki**, Wirginia Tomczak	A SIMPLIFIED METHOD FOR DETERMINATION OF THE OPTIMAL FEED TEMPERATURE FOR HYDROGEN PEROXIDE DECOMPOSITION PROCESS OCCURRING IN IMMOBILIZED ENZYME FIXED-BED REACTOR
19	**Marek Gryta**, Piotr Woźniak	IMPACT OF THE UF PROCESS PARAMETERS ON THE POLYETHERSULFONE MEMBRANES PERFORMANCE
20	Kornelia Hyjek, Grzegorz Kurowski, Klaudia Dymek, Anna Boguszewska-Czubara, Barbara Budzyńska, Olga Wronikowska-Denysiuk, Aleksandra Gajda, Witold Piskorz, Paweł Śliwa, Piotr Jeleń, Maciej Sitarz, **Przemysław J. Jodłowski**	ZIRCONIUM-BASED METAL-ORGANIC FRAMEWORKS FOR MEPHEDRONE DETOXIFICATION OR SUPERVISED WITHDRAWAL
21	Maciej Jabłoński, Krzysztof Lubkowski, **Elwira K. Wróblewska**	INFLUENCE OF DIFFUSION ON THE REACTION OF SULFURIC ACID WITH ILMENITES
22	**Marcin Janczarek**, Waldemar Szaferski, Olga Scheffs, Brygida Szymańska	HEALTH SAFETY-ORIENTED INHIBITION OF TiO_2 PHOTOCATALYTIC ACTIVITY MAINTAINING ITS UV-SHIELDING PROPERTIES IN COSMETICS
23	**Dawid Jankowski**, Witold Żukowski, Gabriela Berkowicz-Płatek, Jan Wrona	POLLUTANT EMISSION CHARACTERISTICS OF POLYMERS AND BIOMASS IN A BUBBLING FLUIDIZED BED REACTOR

24	**Jolanta Jaschik**, Marek Tańczyk, Aleksandra Janusz-Cygan, Daniel Janecki, Jan Mrozowski	CFD MODELLING OF THREE-PHASE FLUID FLOW IN A BUBBLE REACTOR WITH A SLOT GAS DISPERSER
25	**Magdalena Jasińska**, Grzegorz Tyl, Jan Krzysztoforski, Otton Roubinek	DEVELOPMENT OF THE BETA-PDF CLOSURE METHOD FOR THE COMPLEX REACTIONS IN A TURBULENT MIXING REGIME
26	**Karolina Kiełbasa**	MICROPOROUS CARBONS FOR CO_2 ADSORPTION DERIVED FROM CITRUS PEELS
27	**Anna Kiełbus-Rąpała**	CONDITIONS OF AERATED LIGHT SUSPENSION PRODUCTION IN THE STIRRED TANK OF DIFFERENT SCALE
28	**Ewelina Klem-Marciniak**, Marcin Biegun, Krystyna Hoffmann, Józef Hoffmann	DEGREES OF COMPLEXATION OF MICROELEMENT IONS BY IDHA BIODEGRADABLE CHELATOR IN FERTILIZATION ENVIRONMENT
29	**Donata Konopacka-Łyskawa**, Temesgen Abeto Amibo, Dominik Dobrzyniewski, Marcin Łapiński	IMPROVING CARBON DIOXIDE CAPTURE IN AQUEOUS AMMONIA SOLUTIONS BY FINE SIO_2 PARTICLES
30	**Maciej Konopacki** , Dawid Sołoducha, Tomasz Borowski, Marian Kordas, Dominik Figas, Rafał Rakoczy	STUDY OF MIXING PROCESS IN A NOVEL CONSTRUCTION OF A STATIC MIXER AIDED BY THE CFD SIMULATIONS
31	**Marian Kordas**, Tomasz Borowski, Anna Story, Grzegorz Story, Mateusz Łukasiewicz, Rafał Rakoczy	NUMERICAL AND EXPERIMENTAL STUDY ON HYDRODYNAMICS OF A STATIC MIXER WITH A NEW MIXING INSERT
32	**Mateusz Korpyś,** Anna Gancarczyk, Mikołaj Suwak, Maciej Sitarz, Joanna Profic-Paczkowska	TRANSPORT PROPERTIES OF FRACTAL STRUCTURES IN CATALYTIC DECOMPOSITION OF HYDROGEN SULFIDE
33	**Michał Krempski-Smejda**, Marcin Piątkowski, Susana Simal, Paweł Wawrzyniak	COMPARISON OF METHODS FOR DETERMINING THE PARTICLE SIZE DISTRIBUTION OF SPRAY DRIED MALTODEXTRINE
34	Andżelika Krupińska, **Sylwia Włodarczak**, Magdalena Matuszak, Marek Ochowiak, Kamil Makowski	THE CONCEPT OF A MULTIPLE PARALLEL STREAM SEPARATOR (MPSS): DESIGN, CONSTRUCTION AND PRELIMINARY TESTS
35	Radosław Krzosa, **Łukasz Makowski**, Wojciech Orciuch, Radosław Adamek	ANALYSIS OF BALL MILL EFFECTIVENESS – EXPERIMENTAL STUDY AND CFD SIMULATIONS
36	**Jan Krzysztoforski**, Radosław Płotkowiak, Marek Henczka	PRODUCTION LINE FOR MULTI-INGREDIENT VEGETABLE AND FRUIT FROZEN FOOD PRODUCTS – PROCESS CONTROL, MATHEMATICAL MODELING AND OPTIMIZATION
37	**Karolina Kucharska**, Patrycja Makoś-Chełstowska, Edyta Słupek, Jacek Gębicki	PRE-TREATMENT OF BIO FRACTION WASTE PRIOR TO DARK FERMENTATION
38	Michał Lewak, Robert Cherbański, Andrzej Stankiewicz, **Eugeniusz Molga**	SULFUR REMOVAL FROM METHANOL FOR FUEL CELL APPLICATIONS WARSAW UNIVERSITY OF TECHNOLOGY
39	**Michał Lewak**, Leszek Rudniak	CFD MODELLING EFFECT OF CATALYST ARRANGEMENT IN THE PROCESS OF DRY METHANE REFORMING
40	**Wojciech Ludwig**, Viraj Pawar	CFD INVESTIGATION ON SOLID CIRCULATION RATE IN A MODIFIED WURSTER APPARATUS FOR DRY COATING
41	**Igor Łabaj**, Marcin Piotrowski, Izabela Czekaj, Natalia Sobuś	CONVERSION OF GALACTOSE BASED ON LIGNOCELLULOSIC BIOMASS WITH THE PARTICIPATION OF A CATALYST BASED ON NATURAL ZEOLITE
42	**Julia Maciejewska-Prończuk**, Paulina Żeliszewska, Katarzyna Matras-Postołek, Monika Wasilewska, Marta Gajewska, Patrycja Gnacek, Ditta Ungor, Edit Csapó, Magdalena Oćwieja	KINETICS OF FLUORESCENT GOLD NANOCLUSTER DEPOSITION AT SOLID/LIQUID INTERFACES
43	**Marta Major-Godlewska**	PRODUCTION OF MULTIPLE EMULSION IN A VESSEL WITH A STIRRER
44	**Magdalena Anna Malinowska**, Manon Ferrier, Marin Pierre Gemin, Nathalie Guivarc'h, Arnaud Lanoue	THE APPLICATION OF METABOLOMICS FOR THE INTERPRETATION OF ANTIOXIDANT ACTIVITY RESULTS FROM FUNGUS-RESISTANT GRAPE VARIETIES CULTIVATED IN POLAND
45	**Agata Markowska-Szczupak**, Paszkiewicz Oliwia, Wesolowska Aneta, Sołoducha Dawid, Borowski Tomasz, Kordas Marian, Rakoczy Rafał	THE APPLICATION OF ROTATING MAGNETIC FIELD TO ENHANCED THE ANTIMICROBIAL ACTIVITY OF THYME AND ROSEMARY ESSENTIAL OIL
46	**Joanna Marszałek**, Izabela Gortat, Paweł Wawrzyniak	ENERGY ANALYSIS OF A LABORATORY WATER DESALINATION PROCESS BY MEANS OF PERVAPORATION AND REVERSE OSMOSIS METHODS

47	**Marta Mazurkiewicz-Pawlicka**, Monika Jałowiecka, Joanna Kobek, Szymon Jaworowski, Piotr Cendrowski, Jan Krzysztoforski	SUPERCRITICAL CO_2 TREATMENT OF CARBON SUPPORTS FOR OXYGEN REDUCTION REACTION CATALYSTS USED IN A DIRECT FORMIC ACID FUEL CELL
48	Dominik Mierzwa, **Justyna Szadzińska**, Elżbieta Radziejewska Kubzdela, Róża Biegańska-Marecik	EVALUATION OF ULTRASOUND ACTION ON THE VACUUM IMPREGNATION EFFECT IN APPLE
49	**Justyna Miłek**	THE DEACTIVATION ENERGIES OF INULIN HYDROLYSIS BY INULINSASES
50	Halina Murasiewicz, **Barbara Zakrzewska**	MONOAMMONIUM PHOSPHATE FERTILIZER PRODUCTION. PART I: NUMERICAL SIMULATION OF TWO-PHASE FLOW IN TUBULAR REACTOR
51	Stanisław Murgrabia, Tomasz Kotkowski, Eugeniusz Molga, Andrzej Stankiewicz, **Robert Cherbański**	MICROWAVE-ASSISTED DRY REFORMING OF METHANE: HEATING EFFICIENCY OF CATALYTIC FLUIDISED BED AT 915 MHZ
52	**Krzysztof Neupauer**, Aleksander Pabiś	HEAT EXCHANGE IN MINIATURE TRIANGULAR CHANNEL HEAT EXCHANGER
53	**Dominik Nieweś**, Kinga Marecka, Magdalena Braun-Giwerska, Marta Huculak-Mączka	APPLICATION OF MODIFIED METHODS FOR EXTRACTION OF HUMIC ACIDS FROM PEAT AS EFFICIENT PROCESSES IN THE PRODUCTION OF FORMULATIONS FOR AGRICULTURAL PURPOSES
54	**Marek Ochowiak**, Zdzisław Bielecki, Andżelika Krupińska, Sylwia Włodarczak, Magdalena Matuszak	THE CONCEPT OF A NEW AERODYNAMIC MULTIPHASE REACTOR FOR CATALYST INJECTION FOR A PULVERISED COAL BOILER
55	**Marcin Odziomek**, Katarzyna Dobrowolska, Tomasz R. Sosnowski	PROCESS ENGINEERING-DRIVEN CONCEPTS FOR INCREASING THE THERAPEUTIC EFFICACY OF DRUG DELIVERY USING NEBULIZERS
56	**Maksymilian Olbrycht**, Justyna Gumieniak, Patrycja Mruc, Wojciech Piątkowski, Dorota Antos	MODELING OF SEPARATION OF NON-RACEMIC MIXTURES OF ENANTIOMERS BY ACHIRAL CHROMATOGRAPHY
57	**Paula Ossowicz-Rupniewska**, Anna Nowak, Maciej Konopacki, Marian Kordas, Łukasz Kucharski, Rafał Rakoczy	EXPOSURE TO A ROTATING MAGNETIC FIELD S A METHOD OF ENHANCING THE PERMEABILITY OF ACTIVE PHARMACEUTICAL INGREDIENTS THROUGH THE SKIN
58	**Piotr Owczarz**, Anna Rył, Marta Masica	EFFECT OF THE CONFECTIONING PROCESS ON THE STRUCTURAL PROPERTIES OF COSMETIC EMULSIONS
59	**Mateusz Prończuk**, Aleksander Pabiś	HEAT TRANSFER IN COMPACT CROSS-FLOW MINI HEAT EXCHANGER
60	**Jolanta Pulit-Prociak**, Olga Długosz, Anita Staroń, Paweł Staroń, Jarosław Chwastowski, Dominik Domagała, Krzysztof Pociecha, Marcin Banach	GLUTATHIONE AS A MODIFIER OF ZINC OXIDE NANOPARTICLES TO IMPROVE THE TRANSPORT EFFICIENCY OF ACTIVE SUBSTANCES
61	**Rafał Rakoczy**, Piotr Jaworski	MATHEMATICAL MODELLING OF THE HEAT EXCHANGER USED IN THE PRODUCTION PROCESS
62	**Jacek Różański**, Sylwia Różańska, Patrycja Wagner, Ewelina Warmbier	STRUCTURAL CHANGES OF VISCOELASTIC SOLUTIONS OF ZWITTERIONIC AND ANIONIC SURFACTANT MIXTURES UNDER THE INFLUENCE OF SIMPLE SALT
63	**Tetiana Starodub,** Weronika Miśkiewicz	THE STRUCTURE AND ANALITICAL STUDY OF CONDUCTING ANION RADICAL SALT [N-CH_3-2-NH_2-5-CL-*PY*](TCNQ)$_2$·CH_3CN
64	**Jacek Stelmach**	MIXING POWER AND HYDRODYNAMICS FOR DIFFERENT CLEARANCES OF THE FLAT BLADE TURBINE IMPELLER
65	**Anna Story**, Grzegorz Story	EFFECT OF STIRRED TANK GEOMETRY ON CAVERN FORMATION IN MICROGEL FLOW
66	**Grzegorz Story**, Anna Story, Marian Kordas, Rafał Rakoczy	COMPARATIVE STUDY OF SOLID DISSOLUTION PROCESS IN STIRRED TANK AND MAGNETICALLY ASSISTED MIXER
67	Justyna Szadzińska, **Dominik Mierzwa**, Elżbieta Radziejewska-Kubzdela, Róża Biegańska-Marecik	ULTRASOUND-ASSISTED VACUUM IMPREGNATION OF LOW POROUS FOOD PRODUCTS: OPTIMIZATION AND QUALITY ISSUES
68	**Waldemar Szaferski**, Piotr Tomasz Mitkowski, Marcin Janczarek, Weronika Ignaszak	PRODUCTION OF COSMETIC EMULSIONS BASED ON PLANT BIOCOMPONENTS
69	**Jolanta Szoplik**, Paulina Muchel	USING AN ARTIFICIAL NEURAL NETWORK MODEL FOR NATURAL GAS HEAT COMBUSTION FORECASTING
70	**Kacper Szymański**, Sylwia Mozia	LONG TERM PERFORMANCE OF A SUBMERGED PHOTOCATALYTIC MEMBRANE REACTOR EQUIPPED WITH ULTRAFILTRATION MEMBRANE: TREATMENT EFFICIENCY AND FOULING STUDY
71	Piotr Tabero, **Elżbieta Gabruś**	A STUDY OF THE THERMAL REGENERATION OF LOADED HYDROPHOBIC AND HYDROPHILIC ZEOLITES AFTER ADSORPTION IN THE LIQUID PHASE

72	Agata Tarnowska, Magdalena Białomazur, **Izabella Jasińska**, Barbara Grzmil, Mirosław Karbowniczek, Aleksandra Kostka, Agnieszka Kocoń, Anna Lubkowska, Kornelia Malarczyk-Matusiak, Magdalena Morawiec-Witczak, Weronika Suszka, Jakub Tchórzewski, Edyta Zielińska, Monika Zienkiewicz, Olga Żurek	DEVELOPMENT OF TECHNOLOGY FOR PRODUCING A NEW TYPE OF LIQUID FERTILIZER CONTAINING PHOSPHORUS COMPOUNDS
73	Mikołaj Teper, **Robert Grzywacz**	EXPERIMENTAL VALIDATION OF A CFD MODEL OF A GROUND HEAT EXCHANGER WITH SLINKY COILS
74	**Wirginia Tomczak**, Ireneusz Grubecki	THE APPLICATION OF HERMIA'S MODEL FOR IDENTIFICATION AND ANALYSIS OF THE FOULING MECHANISMS DURING PRESSURE-DRIVEN MEMBRANE PROCESSES
75	Kamil Wierzchowski, Bartosz Nowak, Mateusz Kawka, Katarzyna Sykłowska-Baranek, **Maciej Pilarek**	INFLUENCE OF FUNCTIONALIZED XEROGELS ON NAPHTHOQUINONES PRODUCTION AND BIOMASS PROLIFERATION IN BATCH CULTURES OF *RINDERA GRAECA* TRANSGENIC ROOTS
76	**Konrad Witkiewicz**	MICROWAVE REGENERATION OF CARBONACEOUS ADSORBENT IN CYLINDRICAL COLUMN WITH AXIAL EMITTER OF WAVES:EXPERIMENTAL STUDY AND SIMULATION
77	Sylwia Włodarczak, **Daniel Janecki**, Bartosz Czajkowski, Adam Szmyt, Andżelika Krupińska, Magdalena Matuszak, Marek Ochowiak	TESTING THE EFFECT OF NEW CONSTRUCTIONS OF SWIRL INSERTS ON THE PARAMETERS OF SPRAY
78	**Szymon Woziwodzki**	AXIAL THRUST IN AN VESSEL WITH UNSTEADY ROTATING AXIAL IMPELLER
79	Monika Zienkiewicz, Magdalena Białomazur, Krzysztof Czachór, Dariusz Dojss, Beata Furmańczyk, **Izabella Jasińska**, Piotr Jaworski, Anna Kaleta, Jadwiga Kaniecka, Kornelia Malarczyk-Matusiak, Piotr Masztalerz, Krzysztof Sokołowski, Aleksandra Wasilewska, Edyta Zielińska	A NEW TYPE OF LIQUID FERTILIZER CONTAINING FUNCTIONAL ADDITIVES

Poster session
PhD candidates

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80	**Adam Andrzejewski**, Mateusz Szczygiełda, Krystyna Prochaska	MODELING AND OPTIMISATION OF THE PROCESS OF CONCENTRATING AN AQUEOUS SOULUTION OF PECTIN BY FORWARD OSMOSIS (FO)
81	**Tomasz Borowski**, Dawid Sołoducha, Marian Kordas, Rafał Rakoczy	EXPERIMENTAL AND NUMERICAL ANALYSIS OF HYDRODYNAMICS IN MODIFIED INTERNAL LOOP AIRLIFT COLUMN
82	**Elvana Cako,** Anna Zielinska-Jurek	DEGRADATION OF CARBAMAZEPINE (CBZ) BY MAGNETICALLY MODIFIED TERNARY HETEROCOMPOSITE COMBINED WITH SR-(AOP)
83	**Kamila Dubrowska**, Joanna Jablońska, Adrian Augustyniak, Rafał Rakoczy	*PSEUDOMONAS AERUGINOSA* CONTACTED WITH GRAPHENE OXIDE OR MAGNETITE
84	**Anna Dziki**, Magdalena Malinowska, Elżbieta Sikora	STUDY ON AJUGA REPTANS EXTRACTS AS POTENTIAL COSMETIC RAW MATERIALS
85	**Sylwia Gajewska**, Agnieszka Wróblewska	PRELIMINARY STUDIES ON THE OXIDATION OF GERANIOL ON VERMICULITE
86	**Anna Grzegórska,** Anna Zielińska-Jurek	THE SYNERGISTIC PROCESS OF PHOTOCATALYSIS COUPLED WITH PMS ACTIVATION USING NOVEL TIO_2/MXENE/$MNFE_2O_4$ MAGNETIC COMPOSITE TOWARDS EFFECTIVE REMOVAL OF PHARMACEUTICALS
87	**Jadwiga Grzeszczak**, Agnieszka Wróblewska	OXIDATION OF ALPHA-PINENE OVER NATURAL MINERALS – COMPARSION OF ACTIVITY
88	**Joanna Jabłońska**, Kamila Dubrowska, Adrian Augustyniak, Marian Kordas, Rafał Rakoczy	THE MODULATION OF PSEUDOMONAS AERUGINOSA PHYSIOLOGY USING DIFFERENT TYPES OF ELECTROMAGNETIC FIELD
89	Maciej Jabłoński, **Alicja Dzienisz**, Elwira Wróblewska, Krzysztof Lubkowski	STUDIES OF ADSORPTION ISOTHERMS BY STATIC AND DYNAMIC METHODS
90	**Joanna Klebeko**, Paula Ossowicz-Rupniewska, Ewa Janus, Maya Guncheva	BINDING BEHAVIOR OF CONVERTED DRUGS INTO AMINO ACID-BASED IONIC LIQUIDS WITH BOVINE SERUM ALBUMIN
91	**Magdalena Korol**, Elżbieta Sikora	THE ANTIMICROBIAL ACTIVITY OF PLANT EXTRACTS
92	**Marta Kowalkińska**, Anna Zielińska-Jurek	ENHANCED PHOTOCATALYTIC NAPROXEN DEGRADATION UNDER VISIBLE LIGHT BY CU_2O ANCHORED ON MULTIFACETED MONOCLINIC $BIVO_4$ PHOTOCATALYST
93	**Agata Kraśkiewicz**, Agnieszka Kowalczyk	STUDIES ON THE KINETICS OF THE PHOTOTELOMERIZATION REACTION OF ACRYLATE-STYRENE SYSTEMS INITIATED WITH TETRABROMOMETHANE AND RADICAL PHOTOINITIATORS
94	**Marcin Kujbida**, Grzegorz Lewandowski, Agnieszka Wróblewska	EPOXIDATION OF 1,5,9-CYCLODODECATRIENE WITH HYDROGEN PEROXIDE ON TI-SBA-15 CATALYST MODIFIED WITH ACTIVATED CARBON WG-12
95	**Kamil Kwiatkowski**, Mateusz Piz, Elżbieta Filipek	UNKNOWN PROPERTIES AND POTENTIAL APPLICATION OF Sm_5VO_{10}
96	**Damian Lisowski,** Elżbieta Sikora	AUTOMATIC DISHWASHER DETERGENTS FOR CONSUMER USE
97	**Anna Łętocha**, Alicja Michalczyk, Małgorzata Miastkowska, Elżbieta Sikora	FORMULATION AND STATISTICAL OPTIMIZATION OF ALGINATE MICROSPHERES FOR PROBIOTIC ENCAPSULATION
98	Markowska-Radomska Agnieszka, **Skowroński Patryk**, Dłuska Ewa	MULTIPLE EMULSIONS AS CARRIERS FOR THE TOPICAL DELIVERY OF ANTI-INFLAMMATORY DRUGS
99	**Patrycja Mruc**, Maksymilian Olbrycht, Dorota Antos	INFLUENCE OF MOBILE PHASE ON SEPARATION OF ENANTIOMERS OF METHYL P-TOLYL SULFOXIDE
100	**Małgorzata Nowak**, Karolina Mozelewska, Paulina Bednarczyk	CATIONIC AND RADICAL PHOTOCURING OF EPOXY ACRYLATE OLIGOMERS
101	**Bibianna Nowak**, Elżbieta Sikora	PVOH FILM AS AN ALTERNATIVE TO PLASTICS MADE OF PE AND HDPE IN THE PROCESS OF ECODESIGNING SUSTAINABLE DETERGENT PRODUCT.
102	**Oliwia Paszkiewicz**, Marian Kordas, Rafał Rakoczy, Ewa Kowalska, Agata Markowska-Szczupak	EFFECTIVENESS OF PHOTOCATALYTIC DISINFECTION PROCESS CONDUCTED IN A NEW HYBRID PHOTOREACTOR
103	**Anna Piasek**, Jolanta Pulit-Prociak, Marcin Banach	FLUORESCENT CARBON DOTS OBTAINED FROM GLUCOSE AT DIFFERENT PH SOLUTIONS
104	**Aleksandra Piątkowska**, Sylwia Mozia	SOLAR LIGHT ACTIVE C,N,S-MODIFIED TiO_2-BASED PHOTOCATALYSTS FOR REMOVAL OF KETOPROFEN FROM WATER
105	**Maciej Pilch**, Dawid Kiesiewicz, Paweł Jamróz, Małgorzata Noworyta, Joanna Ortyl, Roman Popielarz	CHEMICAL ENGINEERING ISSUES IN THE DESIGN OF PRESSURE SENSITIVE PAINTS FOR SPECIAL APPLICATIONS

106	**Aleksandra M. Pisarek**, Bartosz Nowak, Nina H. Borzęcka, Jakub M. Gac	EFFECT OF SYNTHESIS PARAMETERS AND STRUCTURE MORPHOLOGY ON AMBIENT PRESSURE DRIED MTMS-BASED GEL POROSITY
107	**Kornel Prystupiuk**, Joanna Latocha, Artur Małolepszy, Michał Wojasiński, Paweł Sobieszuk	REMODELLING OF CALCIUM PHOSPHATE TO HYDROXYAPATITE IN A BATCH REACTOR
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