

## Scientific Programme

Tuesday, 9 <sup>th</sup> July 2024	
15.00-18.00	<b>Registration</b>
<b>Pre-conference BioToP Session</b> <b>Chair: Dietmar Haltrich</b>	
16.00-16.45	REDOX SUPPORTING FOR CELLULOSE HYDROLYSIS: OXIDATIVE BOOSTING AND C1-CX THEORY <b><u>Kiyohiko Igarashi</u></b> <i>Faculty and Graduate School of Agricultural and Life Sciences, University of Tokyo, Japan</i>
16.45-17.00	DETANGLING BIOCHEMICAL MYSTERIES: UNDERSTANDING PYRANOSE 2- AND GLYCOSIDE 3-OXIDASES – WHAT WE KNOW SO FAR <b><u>Anja Kostelac</u></b> & Dietmar Haltrich
17.00-17.15	EXPANDING THE TOOLBOX OF ENZYMES: ALTERNATIVE FMN-DEPENDENT L-LACTATE OXIDOREDUCTASES FOR BIOSENSOR DEVELOPMENT <b><u>Lidiia Tsvik</u></b> , Shulin Zhang, Danny O'Hare, Leander Sützl & Dietmar Haltrich
17.15-17.45	<b>Coffee Break</b>
17.45-18.00	OXIDOREDUCTIVE ENZYMES IN THE SYNTHESIS OF LACTOBIONIC ACID <b><u>Wiktoria Piątek-Golda</u></b> , Justyna Sulej, Monika Osinowska-Jaroszuk & Marcin Grqz
18.00-18.15	COPROHEME DECARBOXYLASES (CHDCS); THE FINAL STEP OF HEME BIOSYNTHESIS IN GRAM-POSITIVE BACTERIA <b><u>Gaurav Patil</u></b> , Hanna Michlits, Paul G. Furtmüller & Stefan Hofbauer
18.15-18.30	SPIN-MEDIATED MYELOPEROXIDASE INHIBITION AFFECTS SUBSTRATE TURNOVER BUT NOT BINDING <b><u>Urban Leitgeb</u></b> , Jose A. Brito, Paul G. Furtmüller, Christian Obinger & Vera Pfanzagl

Wednesday, 10 <sup>th</sup> July 2024	
8.30-10.00	<b>Registration</b>
9.00-9.20	<b>Opening remarks</b>
9.20-10.10	[FeFe] HYDROGENASE – A DIVERSE ENZYME FAMILY WITH HIGH PHOTO-BIOTECHNOLOGICAL POTENTIAL <b><u>Gustav Berggren</u></b> <i>Department of Chemistry, Uppsala University, Sweden</i>
<b>Session - Oxidative and reductive biocatalysis – part 1</b> <b>Chair: Willem van Berkel &amp; Anna Jarosz-Wilkolazka</b>	
10.10-10.30	COBALT-SUBSTITUTED GLOBINS AS HYDROGEN EVOLUTION ELECTROCATALYSTS <b><u>Gianantonio Battistuzzi</u></b> , Mirco Meglioli, Marco Borsari, Giulia Di Rocco, Antonio Ranieri, Carlo Augusto Bortolotti & Marco Sola
10.30-10.50	DESIGN OF LACCASE COATED FILTRATION MEMBRANES, AS PROMISING REUSABLE BIOCATALYTIC MATERIALS FOR ENVIRONMENTAL APPLICATIONS <b><u>Ian Coupez</u></b> , A. Wolper, Frédéric Debaste, Christine Dupont-Gillain, & Sophie Demoustier-Champagn
10.50-11.20	<b>Coffee Break</b>

<b>Session - Oxidative and reductive biocatalysis – part 2</b> <b>Chair: Ligia O. Martins &amp; Marcin Grąz</b>	
11.20-11.40	LIGNIN BIOMODIFICATION PLATFORM <u>Sebastian Gritsch</u> , Weiß R, Mayr S, Bartolome M, Bischof S & Georg Gübitz
11.40-12.00	PSYCHROTOLERANT <i>CLADOSPORIUM</i> SP. AS A VERSATILE BIOCATALYST FOR MONOTERPENE OXIDATION REACTIONS Mateusz Kutyla, Marek Stankevič, Łukasz Szajnecki, Agnieszka Świca, Edward Kozłowski, & <u>Mariusz Trytek</u>
12.00-12.20	SYNTHETIC APPLICATIONS IN BATCH AND FLOW OF TWO ANTI-PRELOG NAD-DEPENDENT ALCOHOL DEHYDROGENASES <u>Matteo Damian</u> , Patrick Peters, Tanja Knaus & Francesco G. Mutti
12.20-12.40	GENOMIC AND FUNCTIONAL DIVERSITY OF FUNGAL OXIDOREDUCTASES INVOLVED IN SUGAR METABOLISM <u>Ronald P. de Vries</u> , Astrid Muelle, Jiajia Li, Mao Peng & Miia R. Mäkelä
12.40-13.00	EXPLORING THE ROLE OF COPPER RADICAL OXIDASE FROM PATHOGENIC FUNGI <u>Radka Koncítikova</u> , David Ribeaucourt, Bastien Bissaro, Yann Mathieu, Maria Cleveland, Mireille Haon, Sacha Grisel, Victor Guallar, Harry Brumer, Jean-Guy Berrin & Mickael Lafond
13.00-14.30	<b>Lunch</b>
<b>Session - Newly discovered oxidoreductases</b> <b>Chair: Mirjam Kabel &amp; Grzegorz Janusz</b>	
14.30-14.50	NEW BACTERIAL CARBOHYDRATE OXIDASES FOR BIOTECH APPLICATIONS André Tabora, Tomás Frazão Ferran Sancho, Carolina Dias, João Costa, Pedro Jesus, Tiago Lopes, Cristiano Conceição, Rita Ventura, Patricia Borges & <u>Ligia O Martins</u>
14.50-15.10	POLYPHENOL OXIDASE ACTIVITY ON LIGNIN-UNITS <u>Caio de Oliveira Gorgulho Silva</u> , Peicheng Sun, Kristian Barrett, Mark G. Sanders, Willem J.H. van Berkel, Mirjam A. Kabel, Anne S. Meyer & Jane W. Agger
15.10-15.30	MOLECULAR DIVERSITY OF HEME-THIOLATE PEROXIDASE CLADES WITH FUNGAL AND NON-FUNGAL UNSPECIFIC PEROXYGENASES <u>Marcel Zámocký</u> & Bohuš Kubala
15.30-15.50	DISCOVERY OF NEW CAZY AA3 FAMILY OXIDOREDUCTASES FROM TREES <u>Hongbo Zhao</u> , Mengyi Sun, Emma Master, Anna Kärkönen, Tanja Paasela & Maija Tenkanen
15.50-16.15	<b>Coffee Break</b>
16.15-17.00	<b>Sophie Vanhulle Lecture</b> CHANGING THE SUBSTRATE SCOPE OF DIMERIC PYRANOSE OXIDASE FOR A GLYCOSIDE PREFERENCE THROUGH OLIGOMERIC STATE MODIFICATION <u>Anja Kostelac</u> BOKU – University Natural Resources and Life Sciences of, Vienna, Austria
17.00-17.30	LIGHT AND LIVE STRATEGIES OF PHOTOSYNTHESIZING ORGANISMS <b>Lecture of the Vice-Rector of Maria Curie-Skłodowska University</b> <u>Wiesław Gruszecki</u>
17.30-19.00	<b>Welcome Cocktail and Meeting of The Scientific Committee</b>

**Thursday, 11<sup>th</sup> July 2024**

9.00-9.50	OXYGENASES FOR MORE SUSTAINABLE CHEMISTRY – WHERE ARE WE, WHAT NEEDS TO BE DONE? <b><u>Frank Hollmann</u></b>
<b>Session - Structure-function relationships, protein engineering, and biomimetic approaches</b> <b>Chair: Georg Gubitz &amp; Sergio Riva</b>	
9.50-10.10	BIOTIC-ABIOTIC SEMIARTIFICIAL CELLS FOR LIGHT-DRIVEN CHIRAL MOLECULE PRODUCTION <b><u>Omer Yehezkeili</u></b> , Oren Bachar, Yara Zeibaq, Matan Meirovich & Yifat Cohen
10.10-10.30	CATALYTIC AND STRUCTURAL INSIGHTS FOR THE TWO-COMPONENT INDOLE MONOOXYGENASES AND RELATED ENZYMES <b><u>Dirk Tischler</u></b> , Daniel Eggerichs, Thomas Heine, Sarah Hofmann, Philipp Sowa, Julia Kratky, Renato Weiße & Norbert Sträter
10.30-10.50	IN VITRO VERITAS? USING CELL-FREE PROTEIN SYNTHESIS AS AN OPTIMIZATION TOOL FOR THE SOLUBLE EXPRESSION OF AN UNSPECIFIC PEROXYGENASE IN <i>E. COLI</i> <b><u>Ruben Walter</u></b> , Sophie Wardin, Jan Kiebist, & Anne Zemella
10.50-11.20	<b>Coffee break</b>
11.20-11.40	CHARACTERIZATION AND ENGINEERING OF DYE-DECOLORIZING PEROXIDASES FROM <i>KITASATOSPORA AUREOFACIENS</i> Enikö Hermann, Carolina F. Rodrigues, Ligia O. Martins, <b><u>Clemens Peterbauer</u></b> & Chris Oostenbrink
11.40-12.00	ENGINEERING OF AN OXYGEN-SENSITIVE FORMATE DEHYDROGENASE ASSISTED BY A GROWTH-BASED SCREENING STRATEGY <b><u>Feilong Li</u></b> , Silvan Scheller & Michael Lienemann
12.00-12.20	COMPREHENSIVE ANALYSIS OF THE COVALENT FLAVIN IN PYRANOSE 2-OXIDASE AND PRINCIPAL COMPONENT ANALYSIS DISCOVERED THE MUTANT WITH HIGHER DEHYDROGENASE ACTIVITY THAN THE WILD-TYPE <b><u>Yuki Yashima</u></b> , Taku Uchiyama, Kota Takeda, Naoki Sunagawa & Kiyohiko Igarashi
12.20-12.40	NEW PERSPECTIVES ON METAL-PROTEIN INTERACTIONS: BLUE COPPER CENTERS, THE COUPLED DISTORTION MODEL AND THE CASE OF A GREEN CUPREDOXIN <b><u>Giuliano Sciara</u></b> , M. Roger, P. Leone, N.J. Blackburn, S. Horrell, T.M. Chicano, F. Biaso, M-T. Giudici-Orticoni, L.A. Abriata, G. Hura, M. Hough & M. Ilbert
13.00-14.30	<b>Lunch</b>
14.30-15.45	<b>POSTERS SESSION</b> <b>COMPETITION FOR THE BEST POSTER</b>
16.00-18.00	<b>Tour around Lublin - City of Inspiration</b>
20.00	<b>Gala Dinner (Hotel Victoria)</b> <b>THE BEST POSTER AWARD</b>

Friday, 12<sup>th</sup> July 2024

Session - Applications of oxizymes (*fine chemistry, biorefineries, biosensors, or biomaterials*)

Chair: Dirk Tischler & Anna Pawlik

9:00-9.20	LACCASES FOR DECOMPOSITION OF ENVIRONMENTAL TOXINS <b><u>Doris Ribitsch</u></b> , Andreas Loibner, Wolfgang Schweiger, Gerd Schatzmayr & Georg M. Guebitz
9.20-9.40	ENZYMATIC SYNTHESIS OF LIGNANS AND NEO-LIGNANS USING HYPERTHERMOPHILIC ENGINEERED LACCASE <b><u>Vânia Brissos</u></b> , Márcia Reino, Magdalena Lejmel, Ricardo Estevinho, Maria P. Robalo, M. Rita Ventura & Lígia O. Martins
9.40-10.00	DOMAIN MOVEMENT IN CELLOBIOSE DEHYDROGENASE IS THE BASIS OF ELECTRON TRANSFER <b><u>Roland Ludwig</u></b> , Bettina Motycka, Kwankao Karnpakdee & Florian Csarman
10.00-10.20	ARYL-ALCOHOL OXIDASES: FROM IDENTIFICATION TO BIOCATALYTIC APPLICATION <b><u>Katja Koschorreck</u></b> , Nina Jankowski, Saadet Alpdağtaş & Vlada B. Urlacher
10.20-10.40	ENGINEERING NOV1 OXYGENASE FOR HIGH-YIELDS PRODUCTION OF LIGNIN-DERIVED VANILLIN <b><u>Mario De Simone</u></b> , Lur Alonso-Cotchico, Vânia Brissos, Maria Fátima Lucas & Lígia O. Martins
10.40-11.00	DIRECT ELECTRON TRANSFER OF FUNGAL PYRROLOQUINOLINE QUINONE-DEPENDENT PYRANOSE DEHYDROGENASE AND ITS APPLICATION IN A BIOSENSOR <b><u>Kota Takeda</u></b> , Kiyohiko Igarashi & Nobuhumi Nakamura
11.00	<i>Closing remarks and lunch</i>