

17:00 - 19:00 Registration (Main hall of B-8 building)

08:00 - 14:00 Registration (Main hall of B-8 building)

09:00 - 09:30 Conference Opening (Room A1+A2)

09:30 - 10:15 Plenary lecture: Metal Forming Process Modeling for Aircraft Engine Development and Manufacturing, Jean Philippe Thomas, Pratt & Wittney, USA, Chair: Livan Fratini

10:15 - 10:30 Industrial presentation: Transvalor S.A., France, Laetitia Pegie, Zdzislaw Cyganek

10:30 - 11:00 Coffee break

11:00 - 13:00 Room A1	Materials and properties 1		11:00 - 13:00 Room A2	Composites		11:00 - 13:00 Room B	Novel processes 1	
11:00 - 11:20	Effect of simulated thermo-mechanical processing parameters on microstructure and mechanical properties of high strength low alloyed steel	Elena Pereloma , Gholam Baqeri, Navjeet Singh, Andrii Kostryzhev, David Wexler, Chris Killmore	11:00 - 11:20	Development of joining technology between FeCrAl alloys and fusion reactor piping materials	Byui Kanai , Naoko Oono, Takuya Nagasaka, Kazuyuki Hokamoto	11:00 - 11:20	Sheet-bulk metal forming process for the production of helical geared lightweight components	Manuel Reck , Marion Merklein
11:20 - 11:40	α' -Martensite Grading Techniques in Reverse Flow Forming of AISI 304L	Bahman Arian , Werner Homberg, Lukas Kersting, Ansgar Trächtler, Julian Rozo Vasquez, Frank Walther	11:20 - 11:40	New Evaluation Method for Cold-Forged Solid Phase Bonding of Dissimilar Metals	Haruki Okamoto , Eiji Abe, Hiroshi Harada, Nobuki Yukawa	11:20 - 11:40	Effect of Feed Pitch on Formability in Tube Expansion Using Ball Spin Forming	Soma Oguri , Shohei Kajikawa, Takashi Kuboki
11:40 - 12:00	The role of thermomechanical processing in controlling the microstructure inhomogeneity as a way to create special properties of (FeMnNiCo)1-xMox high entropy alloy - a practical approach	Kamil Cichocki , Sebastian Henschel, Lutz Krüger, Robert Chulist, Piotr Bata, Krzysztof Muszka	11:40 - 12:00	Rolling process of multi-layer, high-strength light and super-light materials with reactive layers and functional and sheet metals explosively clad with reactive metals	Andrzej Stefanik , Sebastian Mroz, Piotr Szota, Tomasz Garstka	11:40 - 12:00	Effect of process parameters on large deformations of constrained backward flowforming process	Chenyang Han , Andrea Ghiotti, Enrico Simonetto, Stefania Bruschi
12:00 - 12:20	Microstructure, strain rate, and temperature effects on the compressive loading behavior of (FeMnNiCo)1-xMox high entropy alloy	Lutz Krüger , Kamil Cichocki, Sebastian Henschel, Robert Chulist, Piotr Bata, Krzysztof Muszka	12:00 - 12:20	Influence of particle characteristics on mechanical properties of particle reinforced tungsten alloys	Fangnao Xiao, Gang Cheng, Thierry Barriere	12:00 - 12:20	The continuous rotary extrusion (CRE) process of the AZ31 magnesium alloy with various deformation zone geometry	Monika Mitka , Wojciech Z. Misiolek, Kamila Limanówka, Wojciech Szymański
12:20 - 12:40	Crystallographic aspects of adiabatic shear bands formation in pure titanium	Henryk Paul , Mahmood Fatemi, Sandra Puchterska, Pawel Petrzak, Magdalena M. Miszczyk	12:20 - 12:40	A new composite forming process of multi directional die forging and split flow reduction load for large size Q-shaped rib-web components of aluminum alloy	Qiwei Wang , Yingying Zong, Bin Shao	12:20 - 12:40	Material flow analysis in friction stir consolidation during recycling aluminum alloy chips	Abdul Latif, Riccardo Puleo , Giuseppe Ingarao, Fabrizio Micari, Livan Fratini
12:40 - 13:00	Grain-size dependent of anisotropic deformation behavior of commercial purity titanium with a sharp texture	Chihiro Watanabe , Tomotsugu Simokawa, Masakazu Kobayashi, Hiromi Miura	12:40 - 13:00	Analysis of the influence of spinning temperature on the coordinated deformation of magnesium-aluminum composite pipe	Jiabin Zheng , Xuedao Shu, Zixuan Li, Haijie Xu	12:40 - 13:00	Effect of Ductile Cast Iron Tool with Grooved Polishing and Die Coatings on Friction Behaviour in Flat Strip Drawing of A7075-T6 Alloy sheet with Quick Heating	Sohdai Harada , Tomoyoshi Maeno, Atsuya Nomura, Shoichi Hirotsawa, Yuji Yabuki, Yasushi Suzuki

13:00 - 14:15 Lunch

14:15 - 15:00 Plenary lecture: Multiscale Modelling of Fatigue of Metals, Siegfried Schmauder, University of Stuttgart, Chair: Jianguo Lin

15:00 - 15:15 Industrial presentation: Servotest Systems LTD, UK, Art Kharlamov, Darren Burke

15:15 - 15:30 Coffee break

15:30 - 16:50 Room A1	Materials and properties 2		15:30 - 16:50 Room A2	Modelling and simulation 1		15:30 - 16:50 Room B	Novel processes 2	
15:30 - 15:50	Identification of dynamic softening behavior of titanium matrix composite from elemental powders mixture	Krystian Zyguta , Marek Wojtaszek, Grzegorz Korpała, Ulrich Prahlt	15:30 - 15:50	Neural surrogate-driven modelling, optimisation, and generation of engineering designs: A concise review	Siyi Chen , Jiangfeng Ding, Zhutao Shao, Zhusheng Shi, Jianguo Lin	15:30 - 15:50	Innovations in twin-roll casting technologies for magnesium strips and wires	Madlen Ullmann , Ulrich Prahlt
15:50 - 16:10	Hemming for Improvement of Joint Strength in Aluminium Alloy and Carbon Fibre-Reinforced Thermoplastic Sheets	Yohei Abe , Kensuke Kimura, Takuki Itani	15:50 - 16:10	Machine learning for steel surface defect classification	Karol Frydrych , Maciej Tomczak, Stefanos Papanikolaou	15:50 - 16:10	A Review on Embedding Optical Fibers Inside Metallic alloys by Using an Innovative Method of Friction Stir Forming	Hamed Mofidi Tabatabaei , Takahiro Ohashi, Tadashi Nishihara
16:10 - 16:30	Strengthening Mechanisms of AZ80Mg Alloy Rod by Deformation-Restricted Forging Followed by Extrusion	Hiromi Miura , Yojiro Oba, Masakazu Kobayashi, Chihiro Watanabe	16:10 - 16:30	Numerical investigation of buckling behaviour of grid stiffened panel with opening during forming	Qingheng Zhou, Xuelian Xiao, Xia Huang, Yong Li, Dongsheng Li, Wenbin Zhou	16:10 - 16:30	A potential microforming approach to manufacture miniaturize in-situ magnesium matrix composite components	Sushanta Kumar Sahoo , Behera Venkatesh, Sushanta Kumar Panigrahi
16:30 - 16:50	Development and Industrial Implementation of a Biodegradable Surgical Wire Production Technology from ZnMg0.004 Alloy: In Vitro Assessment of Degradation Rate and Mechanical Property Changes	Andriji Milenin , Piotr Kustrza, Marek Packo, Joanna Sulej-Chojnacka, Joanna Pótrolniczak, Roman Barwiński, Marcin Kopala	16:30 - 16:50	Evaluation of the uncertainty of the identification of the stochastic internal variable model due to the uncertainty of the evaluation of the shear modulus	Lukasz Rauch , Jakub Forys, Natalia Jazdzewska, Jan Kusiak, Rafał Nadolski, Piotr Oprocha, Maciej Pietrzyk, Paweł Potorski, Danuta Szeliga	16:30 - 16:50	Micro-Extrusion of Light weight Magnesium alloys	Behera Venkatesh , Sushanta Kumar Panigrahi

16:50 - 17:10 Coffee break

17:10 - 18:30	Materials and properties 3		17:10 - 18:30 Room A2	Modelling and simulation 2		17:10 - 18:30 Room B	Bending	
17:10 - 17:30	Influence of Twin-Roll Casting Conditions on the Microstructure and Texture evolution of a Mg-6.8Y-2.5Zn-0.4Zr Alloy (WZ73)	Franziska Ueberschar , Madlen Ullmann, Ulrich Prahlt	17:10 - 17:30	A review of Deep Neuron Network application in hot extrusion die design	Jiangfeng Ding , Siyi Chen, Zhutao Shao, Zhusheng Shi, Jianguo Lin	17:10 - 17:30	Effect of Surface Characteristics on Strain Distribution in Air-Bending	Antti Kallalainen , Aki-Petteri Pokka, Matias Jaskari, Juha Huuki, Jukka Kömi
17:30 - 17:50	Study of the influence of single point incremental forming process parameters on the formability of Al1000 alloys	Paulina Lisiecka-Graca , Łukasz Lisiecki, Marek Paćko, Krzysztof Muszka, Łukasz Madej	17:30 - 17:50	Electroshock plastic constitutive modelling of 7075 aluminum alloy based on GA-BP neural network	Yanli Song , Haiman Xu, Long Chen, Jue Lu, Lin Hua	17:30 - 17:50	Influencing the forming zone with segmented blank holder during incremental bending	Daniel Panick, Peter Frohn-Sörensen , Bernd Engel
17:50 - 18:10	Research on Material Deformation in Double-sided Shearing with Preventing Enlargement of Sheet Material on the Die Using Digital Image Correlation	Kouki Ueda , Masahiro Sasada, Tatsuya Tanaka	17:50 - 18:10	Modelling of Chain Structured Processes Using Machine Learning Methods	Lukasz Sztangret , Krzysztof Regulski	17:50 - 18:10	Study on Influencing Factors of Drawing-bending Springback Prediction of DP980 Dual-phase Steel	Xuebin Zheng , Longshuai Han, Xuetao Li, Xiangdong Wu, Min Wan
18:10 - 18:30	Microstructure evolution of semi-solid billet fabricated by semi-solid isothermal heat treatment of wrought AISI7Mg aluminum alloy	Jufu Jiang , Tao Song, Ying Wang, Ying Zhang, Liang Zhu, Jian Dong	18:10 - 18:30	Optimizing Deep Drawing Parameters for Power Battery Shells through the Integration of Feature-Weighted SVM and Genetic Algorithms	Ruoda Wang , Yu Sun, Kai Wu, Yu Wang	18:10 - 18:30	Wrinkling behavior of the ultra-thin components with variable cross-sectional perimeter during bending process with local support	Cong Han, Yongpeng Zhuang

19:00 Get Together Party at Club Studio - 4 Budryka St, BGH Brewery

Tuesday, 17 September 2024

08:00 - 14:00 Registration (Main hall of B-8 Building)

08:40 - 09:25 Plenary lecture: Making Over the Traditional Forging Industry With 21st Century Digital Technologies: A Digital-Twin Platform For the Future of Forging, Bradley Wynne, AFRC, The University of Strathclyde, UK, Chair: Tomoyoshi Maeno

09:25 - 09:40 Industrial presentation: MICAS Simulations LTD, UK, Nikolay Biba

09:40 - 10:00 Coffee break

10:00 - 11:20 Room A1	Materials and properties 4		10:00 - 11:20 Room A2	Modelling and simulation 3		10:00 - 11:20 Room B	Deformation/Formability 1	
10:00 - 10:20	Twin roll casting of ZAX210 magnesium wire: Processing, microstructure, texture and mechanical properties	Kristina Kittner, Madlen Ullmann, Ulrich Prah	10:00 - 10:20	Semisolid deposition of metallic material by extrusion-base analytical and simulative methodologies	Carlo Bruni	10:00 - 10:20	Hole Expansion Performance of a Medium Manganese Advanced High-Strength Steel After Hot Rolling and Intercritical Annealing	Pekka Plosila, Pekka Kantanen, Jaakko Hannula, Vahid Javaheri, Jukka Kömi, Antti Kajjalainen
10:20 - 10:40	Example of the methodology for producing heterostructural systems using plastic deformation	Bartłomiej Pabich, Janusz Majta, Marcin Kwiecień, Kamil Cichocki, Remigiusz Btoniarz	10:20 - 10:40	Knowledge-Guided Particle Swarm Optimization of Multi-Link Systems for Cold and Warm Presses	Han Zheng, Yu Sun, Jun Ni, WuXue Ding	10:20 - 10:40	Experimental Determination of Forming Limits in Adhesive-Inserted Damping Aluminum Sheets	Hyeonil Park, Jong-Hwa Hong, Daeyong Kim
10:40 - 11:00	Introducing topological heterogeneous grain structure via local recrystallization around the grain boundaries for high-performance Al-Cu-Mn alloys	Xiaoyu Bai, Linxiang Liu, Mengyan Fei, Xiaoguang Fan, Zhijun Wang	10:40 - 11:00	Calculation of the tension in synchronized forming of shape and inner hole of hollow axle and its influence on billet size	Ye Caoqi, Shu Xuedao, Wang Jitai, Xia Yingxiang, Li Zixuan, Xu Haijie	10:40 - 11:00	Forming of magnesium alloy cup using friction heated punch	Yasunori Harada, Taiki Takahara
11:00 - 11:20	Investigation of the O phase in the Ti-22Al-25Nb alloy during deformation at elevated temperatures: Plastic deformation mechanism and effect on B2 grain boundary embrittlement	Bin Shao, Wei Tang, Yingying Zong	11:00 - 11:20	Leakage Mechanism of Metallic Sealing Rings with Different Structural Parameters	Yuyang Wang, Zebang Zheng	11:00 - 11:20	Improved formability of hot-stamped silicon-containing recycled wrought aluminium after rapid heating	Yohei Kawana, Shoichi Hirotsawa, Mitsuhiro Ootaki, Tomoyoshi Maeno, Yasushi Suzuki, Yuuji Yabuki

11:20 - 11:40 Coffee break

11:40-13:00 Room A1	Materials and properties 5		11:40-13:00 Room A2	Modelling and simulation 4		11:40-13:00 Room B	Deformation/Formability 2	
11:40 - 12:00	Microstructure and Hot Deformation Behavior of Twin Roll Cast ZAX210 Magnesium Wire	Christoph Kaden, Madlen Ullmann, Ulrich Prah	11:40 - 12:00	Residual stress and part distortion prediction in L-PBF of Ti-6Al-4V using layer-by-layer FEM simulation	Gaetano Pollara, Dina Palmeri, Giantuca Buffa, Livan Fratini	11:40 - 12:00	Effects of forming conditions on limit of drawing ratio during cold drawing and ironing process of Ti-6Al-4V alloy sheets	Yusuke Okude, Taku Iwaoka, Isao Nakamura, Tsuyoshi Muraoka, Takashi Katagiri
12:00 - 12:20	Development of advanced Zn-Al-Mg coatings using thermodynamic calculations and physical simulation	Roman Kuziak, Krzysztof Radwański, Krzysztof Oleś, Krzysztof Kwapisz	12:00 - 12:20	Study of die punching process for hot stamped high strength steel and its performance evaluation	Jiateng Chen, Jinchun Wei, Xianhong Han, Shaofei Qu, Yutong Shi	12:00 - 12:20	Effect of counter punch on formability in two-step compression forming for producing extremely deep cup	Shohei Kajikawa, Yutaro Umehara, Takashi Katagiri
12:20 - 12:40	Microstructure evolution and deformation mechanism of network-structured TiB/(TA15-Si) composites during hot deformation in β phase region	Liting Li, Kehuan Wang, Dongjun Wang, Gang Liu	12:20 - 12:40	FEM study of process parameters in a novel superplastic forming of titanium alloy Ti-6Al-4V	Jun Liu, Evgenia Yakushina, Nicola Zuellli, David Miltiken, Nick Humphreys, Les Gill, Chris Greenough	12:20 - 12:40	Effect of Ribs on Torque in Bending of Rebars	Satoshi Higaki, Haruto Naito, Tomoki Go, Masahiro Sasada, Tatsuya Tanaka
12:40 - 13:00	Solid State Recycling Operations for AA7075	Chenyang Han, Enrico Simonetto, Andrea Ghiotti, Stefania Bruschi, Abdul Latif, Giuseppe Ingarao, Fabrizio Micari, Livan Fratini	12:40 - 13:00	Plastic flow modelling under abrupt strain-path change and parameter identification method	Jianyin Zhang, Xianhong Han	12:40 - 13:00	Research on circumferential tension-axial shear loading of thin-walled aluminum alloy tubes	Shuning Zhang, Xiaosong Wang, Wellong Hu, Gang Liu

13:00 - 14:15 Lunch

14:15 - 15:00 Plenary lecture: Integrating Numerical and Experimental Analyses for the Realization of Pre-Detection of Delayed Fractures on Punched Surfaces of Ultra-High-Strength Steel Sheets, Takashi Matsuno, Tottori University, Japan, Chair: Yohei Abe

15:00 - 15:15 Industrial presentation: Danieli & C. Officine Meccaniche S.p.A., Italy

15:15 - 15:30 Coffee break

15:30 - 17:10 Room A1	Bulk forming		15:30 - 17:10 Room A2	Modelling and simulation 5		15:30 - 17:10 Room B	Deformation/Formability 3	
15:30 - 15:50	Analysis of shrink fitting in die elements for hot hammer forging and its impact on die wear reduction	Lukasz Lisiecki, Paulina Lisiecka-Graca, Krystian Zygot, Marcin Kwiecień, Damian Aksamit	15:30 - 15:50	Computational fluid dynamics study of metal flow in ladle furnace with electromagnetic stirring	Monika Zielinska, Hongliang Yang, Lukasz Madej, Lukasz Malinowski	15:30 - 15:50	Advanced elastic-plastic constitutive models for medium-thickness high-strength steel plates: Microstructure-based parameter identification and verification	Xiao Hu, Yu Zhou, Chenxin Gao, Liya Shi, Yong Liao, Haiming Zhang, Feilong Wang, Liangyun Wang
15:50 - 16:10	Roll Pass Design for Round and Square Sections Using an Informed Artificial Neural Network	Christian Overhagen	15:50 - 16:10	Eccentricity-resistant process design and finite element analysis of deep hole cylindrical parts	Shuo Li, Yuewen Zhai, Xiaomao He, Sixiao Qin, Hong Jin	15:50 - 16:10	Deformation Behavior of TiAl/Nb alloy at elevated temperatures	Yu Sun, Haoyang Wang, Fei Gao, Meiyi Ba, Lianxi Hu
16:10 - 16:30	Integration of automated roll pass design and simulation for the development of shape rolling technology	Nikolay Biba, Pavel Maltsev, Sergey Stebunov, Vitaly Belugin, Igor Alimov	16:10 - 16:30	Hot deformation behavior and unified material modelling for diffusion bonded TC4	Zhongman Cai, Yong Li, Can Li, Jiarui Chen, Xiaoxing Li	16:10 - 16:30	Correlation evolution and performance response of 2A97 aluminum alloy in high temperature multiple stretching	Chenxi Gao, Bin Shao, Yingying Zong
16:30 - 16:50	A Customized Design Tool Incorporating Web and Client Functions for New Mechanical Presses	Jun Ni, Yu Sun, Yu Wang, Kai Wu	16:30 - 16:50	Numerical analysis of the possibility of asymmetric rolling of TRB strips using a groove roller	Bartosz Sutek, Janusz Krawczyk	16:30 - 16:50	Investigation into the Strength and ductility of Magnesium Alloy Fabricated by Torsion-Extrusion Forming Process	Lingyun Qian, Xinyu Liu, Chaoyang Sun, Chunhui Wang, Kezhou Wu
16:50 - 17:10	Slider Movement Planning Based on Improved S-curve Acceleration Algorithms for Servo Presses	Jun Wang, Kai Wu, Wuxue Ding	16:50 - 17:10	Multi-scale numerical modeling of the rolling texture evolution by using Crystal Plasticity and Finite Element Method	Dorota Byrska-Wójcik, Krzysztof Wierzbowski, Mirosław Wróbel, Remigiusz Btoniarz	16:50 - 17:10	Study influence of forming process on microstructure and properties of deep hole thick wall pipe blank	Lei Bingwang, Liu Haijiang, Tu Mingjin, Wang Jiaoqi, Wang Xing, Qin Ruijing, Kou Yanyan, Liu Pengfei

17:30 Bus departure to Gala Dinner in Przerzecz Castle

Wednesday, 18 September 2024

09:30 - 10:15 Plenary lecture: Challenges and Advantages of Cyber-Physical Production Systems in Metal Forming Industry, Lukasz Rauch, AGH University of Krakow, Poland, Chair: Janusz Majta
 10:15 - 10:30 Coffee break

10:30 - 13:00 Room A1	Materials and properties 6		10:30 - 12:40 Room A2	Modelling and simulation 6		10:30 - 13:00 Room B	Sheet forming	
10:30 - 10:50	Microstructure and Texture Evolution for Mg-Zn-Al-Ca (ZAX210) during groove rolling	Max Stirl, Madlen Ullmann, Ulrich Prah	10:30 - 10:50	Stochastic model of hot rolling and accelerated cooling of the eutectoid steel rails	Jakub Forys, Jan Kusiak, Roman Kuziak, Andriy Milenin, Valeriy Pidvysootskyy, Maciej Pietrzyk, Lukasz Rauch, Danuta Szeliga, Wladyslaw Zalecki	10:30 - 10:50	Evaluation of the friction and wear behavior of a-C:H coatings for lubricant-reduced sheet metal forming	Jonas Reblitz, Bastian Zettl, Armin Seynstaht, Christian Orgeldinger, Stephan Tremmel, Marion Merklein
10:50 - 11:20	Quantitative investigation of microstructure evolution mechanism under the effect of electric pulses	Zhiyu Xiang, Hongwei Li, Xin Zhang	10:50 - 11:20	Impact of the surface topography of steel sheets during the deep drawing by Swift method	Marek Burdek	10:50 - 11:20	Environmental Impact Assessment and Comparative Analysis of Hot Form Quenching and Cold Forming Processes: A Cradle-to-Gate Lifecycle Assessment Study	Marco Bucconi, Ainelas Karkasinas, Jun Liu, Elangovan Parameswaran
11:20 - 11:40	The study of twins and static recrystallization behavior based on torsion deformed <001>-oriented aluminum single crystals	Yunqiang Chen, Y.J. Fu, D.D. Lu, Y.F. Song	11:20 - 11:40	Modelling of a forging process with a user-defined subroutine for scale growth and scale layer failure	Tim Bergelt, Marcel Graf, Hendrik Wester, Bernd-Arno Behrens, Thomas Lampke	11:20 - 11:40	Suppression of non-uniform deformation using die shape in cylindrical deep drawing	Isuyoshi Muraoka, Yusuke Okude, Isao Nakamura, Takashi Katagiri
11:40 - 12:00	Microstructure characteristics and constitutive model of near- α TA32 titanium alloy during superplastic deformation	Chaoyang Sun, Yang Liu, Chunhui Wang, Lingyun Qian	11:40 - 12:00	Simulation of texture-related micro-indentation behavior of typical HCP alloy plates	Xiangyu Zhou, Kecheng Zhou, Peidong Wu, Zhutian Xu, Linfa Peng, Shuhui Li, Huamiao Wang	11:40 - 12:00	Experimental formability evaluation for aluminium alloy sheets under hot stamping conditions	Ruiqiang Zhang, Jiaqi Li, Zhusheng Shi, Jianguo Lin
12:00 - 12:20	Achievement of fully martensite microstructure in titanium alloy thin-walled components via non-equilibrium hot stamping	Shupeng Chang, Kehuan Wang, Zhe Li, Gang Liu	12:00 - 12:20	Investigation of twin-dislocation interactions in HCP metals using a novel discrete dislocation plasticity framework	Hai Xin, Yudong Lei, Mei Zhan, Zebang Zheng	12:00 - 12:20	Hot local compression and die quench Ausforming of quenchable steel sheet	Tomoyoshi Maeno, Yuto Ikeda, Akihiro Hanada, Ken-ichiro Mori
12:20 - 12:40	Research of MF Series Glass Protective Lubricant for Titanium Alloy Precision Forging Process	Chi Feng, Su-jie Duan	12:20 - 12:40	Investigation of mesoscale deformation and damage behaviour in high-carbon bearing steel via multiscale simulations and experiments	Huiling Wang, Dongsheng Qian, Feng Wang, Lin Hua	12:20 - 12:40	Stamping ability of hot rolled DP600 steel and its implication for cracking during wheel disc stamping process	Tomasz Kazmierski, Janusz Krawczyk, Lukasz Frocisz
12:40 - 13:00	Research on the deformation behavior and microstructure evolution of TC4 alloy in ultrasonic vibration assisted compression	Meng Gao, Dongxu Wen, Jianjun Li, Liang Huang				12:40 - 13:00	The effect of web tension on wrinkles and corrugations of lithium-ion battery electrodes during calendaring	Zejun Fu, Zhutian Xu, Linfa Peng

13:00 - 14:15 Lunch

14:30 Kraków walking tour