COPM 2025 conference program - May 21st, 2025

Plenary session (1A)

Chairwoman: prof. dr hab. inż. Joanna Polańska

14:00 – 14:15 **Opening session**

14:15 – 15:00 **Dr Theresa Whiteside (University of Pittsburgh Medical Center, USA)**
Transcriptional activation of cellular stress response genes by melanoma-derived exosomes leads to intrinsic apoptosis of activated T cells

Parallel session (2A)

Chairman: dr hab. inż. Michał Marczyk

15:00 **Zamojski D**, Pudełko A, Marczyk M: Text pre-processing methods to enhance the performance of natural language processing models for supporting infertility treatment planning in Poland

15:10 **Moyo N**, Żyla J: Workplace mental health: a predictive modelling approach to help-seeking behaviour

15:20 **Cojg U,** Suwalska A: Clustering of data from mass cytometry with the use of deep learning techniques

15:30 **Pini S,** Suwalska A, Mika J, Tobiasz J, Cox SN, Varvara A, Albano N, La Vella G, Ruggiero L, Fosso B, Pagani A, D'Angelo MG, Gissi C, Pesole G, Polańska J, Tupler R: Deciphering clinical variability in FSHD: a post-Mendelian comprehensive genotype-phenotype correlation framework

15:40 **Sobczyk A**: Deep learning-based analysis of EEG signals for schizophrenia detection

15:50 **Wojciuszkiewicz N**, Mika J: Application of a logistic model for the analysis of T cell receptor diversity profiles using simulation data.

16:00 **Kuliś K**, Wolfsberger W, Shchubelka K, Oleksyk T, Polańska J: Genome-wide association studies (GWAS) as a tool for revealing risk genes in Type 1 diabetes

16:10 **Strzoda T**, Cruz-Garcia L, Badie C, Polańska J: Sequencing data characteristics following ionizing radiation: a comparative ONT study

16:20 **Widzisz K**, Żyła J, Polański A: Comprehensive RNA-Seq analysis for biomarker identification in non-small cell lung cancer using bioinformatics approaches

16:30 **Jarosz L**, Dai J, Ochocki M, Merta J, Pusztai L, Marczyk M: Exome capture kit-driven stratification in multi-cohort germline WXS data

Parallel session (2B)

Chairwoman: dr inż. Joanna Tobiasz

15:00 **Hanak D**, Dobosz K, Początek G, Dobosz M: Multimodal mobile applications in the treatment of visual and spatial perceptual impairments

15:10 **Bhushan B**, Saberi R, Del Mundo K, Eshtiaghi A, Lindsey B, Ghavami S: Optimizing ATRA-induced muscle differentiation in zebrafish: implications for ARMS therapy

15:20 **Naghibzadeh K**, Alizadeh J, da Silva Rosa SC, Barzegar BA, Ravandi A, Vitorino R, Ahmed N, Kidane B, Ghavami S: Loss of BCL2L13 and ceramide dysregulation may define lymphatic spread and survival in lung cancer

15:30 **Shojaei S**, Barzegar BA, Naghibzadeh K, Vitorino R, Srivastava A, Dhingra S, Ghavami S: From lipid remodeling to therapeutic failure: the role of cholesterol and autophagy in glioblastoma resistance

15:40 **Saberi R**, Bhushan B, Ghavami S: Juvenile zebrafish as a model to study the impact of autophagy on enhancing cell proliferation

15:50 **Kavoosi M**, Łos MJ, Ghavami S: ATG5 loss drives a contractile phenotype and enhances TGF-β1-induced migration in mouse embryonic fibroblasts

16:00 **Dudzisz K**, Milewska M, Wandzik I: Advances in aptamer-based transferrin receptor targeting – review

16:05 **Nikiel B**, Konefał A: Modeling of protective shield for intraocular brachytherapy

16:10 Golda A, **Bosowska Z**, Śmieja J, Zębik T, Student S: The effect of non-classical factors on the incidence of acute myocardial infarction

16:15 Dorczak J, **Drygała B**, Seget S, Jarosz-Chobot P, Polańska J: Can an AI controlled pump outrun diabetes?

16:40	**Toscan RB**, Lesiński W, Stomma P, Subramanian B, Łabaj PP, Rudnicki WR: Antimicrobial resistance in diverse urban microbiomes: uncovering patterns and predictive markers	16:20	Prażmowska J, **Kapek Ł**, Woźnica A, Kijonka M, Wendykier J, Niewiadomska B, Woźniak B, Bekman A, Orlef A, Sokół M: Verification of the planned dose in trigeminal neuralgia radiotherapy using the CyberKnife
		16:25	**Kwiecień K**, Sokołowska W, Ślęzak-Prochazka I, Gutmajster E: The effect of miRNA-146a silencing on melanoma ME45 cells
		16:30	**Kavoosi M**, Ghavami S, Łos MJ: Baseline characterization of Hs27 and Hs68 fibroblasts reveals endogenous TGF-β1 activity and autophagy status
		16:35	**Peteja J**, Sokołowska W, Gutmajster E, Ślęzak-Prochazka I: Influence of ionizing irradiation on Burkitt lymphoma cells

Plenary session (3A)

Chairwoman: prof. dr hab. inż. Joanna Polańska

17:00 – 17:45 **Dr Serghei Mangul (University of Southern California, USA)**
Computational strategies for T-cell receptor repertoire analysis in cancer RNA sequencing

Parallel session (4A)		Parallel session (4B)	
	Chairman: dr hab. inż. Michał Marczyk		**Chairwoman: dr inż. Justyna Mika**
17:45	**Merta J**, Marczyk M, Pietrus M: Reducing technical differences between datasets after application of different foundation models in histopathology	17:45	**Olszanecki K**, Psota K, Osumek D: Inducted pelvic asymmetry in response to single-leg landing: a case series with 60-minute observation
17:55	**Nuredini A**, Socha M, Suwalska A, Marczyk M, Piórecki Ł, Markiel M, Pini S, Corrias R, Topf A, Verdú-Díaz J, Garzo A, Albano N, Mendelsohn D, Laporte J, Diaz-Manera J, Obach M, Scipioni MP, Savarese M, Santorelli FM, Straub V, Schoser B, Polańska J, Tupler R: New computational models for stratification of neuromuscular disorders patients	17:55	**Kolasa J**, Taratuta A, Basiaga M: Tantalum (V) Oxide ALD layer as an innovative approach to enhance physicochemical properties of NiTi alloy for cardiovascular applications
18:05	**Piórecki Ł,** Socha M, Verdú-Díaz J, Diaz-Manera J, Straub V, Tupler R, Polańska J: Radiomics based stratification of neuromuscular disorders based on the lower leg MRI	18:05	**Biesiada I**, Majewska J, Łos MJ: Synthesis and characterization of Hydroxyapatite-modified biomorphic carbon materials for potential bone implant applications
18:15	**Kijonka M,** Woźnica A, Kapek Ł, Prażmowska J, Wajda A, Ciszek W, Niewiadomska B, Bekman A, Woźniak B, Orlef A, Wendykier J, Matkowski M, Sokół M: Comparison of the kerma area product displayed and measured in radiographic systems	18:15	**Dul M**: Patient-specific orthosis for the thumb CMC joint: design and manufacturing workflow
18:20	**Gorczewska I**, Kijonka M, Borys D, Jurkiewicz E, Sokół M: Comparative analysis of brain structure segmentation accuracy using two anatomical atlases	18:25	**Kapek Ł,** Matkowski M, Ciszek W, Kijonka M, Woźnica A, Niewiadomska B, Prażmowska J, Woźniak B, Bekman A, Sokół M: 3D printing in the work of a medical physicist
18:25	**Krawiec N**: Impact of clothing color and pattern on the quality of 3D body reconstruction using multi-view photogrammetry for medical applications	18:30	**Rębisz S**: 3D-printed patient-specific bone model of osteochondral exostoses

18:30	**Krutak Z**, Kijonka M, Hebda A, Wawrzyniak P, Mazgaj P, Kapek Ł, Prażmowska J, Bobek-Billewicz B, Sokół M, Orlef A, Cholewka A: Sexual dimorphism in volumetric analysis of the central nervous system	18:35	**Praszczyk M**, Kocikowska O, Rynkus B, Byczek-Wyrostek A, Student S, de Carrillo DG: Smoothing of the PLA 3D-printed microfluidic matrices
18:35	**Bambynek M**, Staśczak A, Laber V, Kaszuba M, Student S, Jarząb M, Borys D**:** Radiomics-based comparative analysis of breast tumor MRI images using FCM and X-Means clustering	18:40	**Czyż M**, Ochman M, Staśczak A, Student S: Ensuring proper flow control in a syringe pump system for microfluidic applications
18:40	**Bargieła A**, Krutak Z, Kijonka M, Nowak J, Piątek K, Klytta P, Filipek Ł, Nikiel B, Cholewka A, Gorczewska I, Hebda A, Mazgaj P, Wawrzyniak P, Prażmowska J, Kapek Ł, Bobek-Billewicz B, Orlef A, Borys D, Sokół M: Comparative analysis of the accuracy of segmentation of brain structures using different image de-noising methods	18:45	**Rynkus B**, Sowa M, Orłowska A, Szewczenko J, Simka W: Effect of PEO treatment on surface morphology and hydrogen evolution of magnesium alloys for biomedical applications

Plenary session (5A)

Chairman: dr hab. inż. Michał Marczyk

18:50 – 19:00 **Conference summary and closing**