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ACADEMIC EXPERIENCE

Current

2013.03.01 – ... assistant professor at Laboratory of Neurogenetics, Department of Neurodegenerative Disorders of CNS, Mossakowski Medical Research Centre of Polish Academy of Sciences, Warsaw, Poland, manager of the project SONATA6 entitled “Functional studies of rare genetic variants causally connected with Alzheimer's disease in the Polish population”

2014.10.01 – ... research assistant at Clinic of Alzheimer's Disease at Department of Neurology at Medical University of Warsaw, Warsaw, Poland,

Past

2015.05.15 – **2015.09.18** visiting postdoctoral researcher at Reprogramming and Disease Modeling Laboratory head by Dr. Anna Falk at Department of Neuroscience, Karolinska Institutet, Stockholm, Sweden

2012.09.15 – **2013.02.28** postdoctoral fellowship from the French Embassy in Poland and from the AXA Research Fund grant, at the Laboratory of Development and Plasticity of the Postnatal Brain - Neurobese International Associated Laboratory, Jean-Pierre Aubert Research Center, Inserm U837, University of Lille 2, Lille, France

2012.07.01 – **2012.09.01** - research assistant position at Department of Biochemistry, Laboratory of Biochemistry of Lipids at Nencki Institute of Experimental Biology, Polish Academy of Sciences, Warsaw, Poland

2007.10.01 – **2012.05.31** - junior researcher / PhD student at Department of Biochemistry, Laboratory of Biochemistry of Lipids at Nencki Institute of Experimental Biology, Polish Academy of Sciences, Warsaw, Poland

EDUCATION

2012.06.29 **PhD degree in biochemistry, specialization: neurobiochemistry and molecular biology**, Nencki Institute of Experimental Biology, Polish Academy of Sciences, *supervisor*: prof. dr hab. Sławomir Pikula

PhD thesis: “The role of Plasma Membrane Ca^{2+} -ATPases in the process of catecholamine secretion by tumour chromaffin cells (PC12 cell line).”; *date of defense*: 2012.05.31

2007 – **2012** **PhD studies**, Department of Biochemistry, Laboratory of Biochemistry of Lipids, Nencki Institute of Experimental Biology, Polish Academy of Sciences

2007.05.30 **MSc degree in biology, specialization: animal biology**, Clinic of Immunology, Transplantology and Internal Diseases, Medical University of Warsaw, *supervisor*: prof. dr hab. n. med. Leszek Paczek,

Msc thesis: “Evaluation of pathological process in human liver based on gene expression analysis of collagen IV and TGF- β 1 with quantitative analysis of collagen IV concentration and collagenase activity measurement.” *date of defense*: 2017.05.30

2002 – **2007** **MSc Studies**, Warsaw University of Life Sciences, Warsaw, Poland

SCIENTIFIC PROJECTS –

National Science Centre – **SONATA8** (UMO- G1145-2015/17/D/NZ2/03712 panel NZ2) (2015.02-2018.02) from National Center of Science in Poland, project title: „Searching for novel molecular pathways dysregulated in pathophysiology of amyotrophic lateral sclerosis”, performed at Laboratory of Neurogenetics of Department of Neurodegenerative Disorders in Mossakowski Medical Research Centre of PAS in Warsaw; (funding 630 600 PLN) – **co-investigator – collection of ALS patients fibroblasts and transcriptome analyses**

National Science Centre – **SONATA6** (UMO-2013/09/D/NZ3/01348, panel NZ3) (2014.02-2017.02) from National Center of Science in Poland, project title: „Functional studies of rare genetic variants causally connected with Alzheimer's disease in the Polish population”, performed at Laboratory of Neurogenetics of Department of Neurodegenerative Disorders in Mossakowski Medical Research Centre of PAS in Warsaw; (funding 555 850 PLN) - **principal project investigator and project manager**

The AXA Research Fund (R1600) PostDoc Campaign (2012-2013), project title: “Role of the tanycytic barrier at the blood-hypothalamus interface during metabolic disorder development”, performed at Development and Plasticity of the Postnatal Brain, Jean-Pierre Aubert Research Center, Inserm U837, Uniersytet Lille 2, Lille, France (funding 120 000 EUR) - **project investigator**

“Bourse de Séjour de Recherche” obtenu de L’Ambassade de France à Varsovie (2012-2013), “Rôle de la barrière hémato-encéphalique des tanocytes au cours du développement des maladies métaboliques” (funding 6552 EUR)) - **project investigator**

N N401 533340 (2010-2011) from National Center of Science in Poland, project title: "Participation of Plasma Membrane Ca²⁺-ATPases isoforms in catecholamine secretion from adrenal medulla chromaffin cell" coordinated by prof. Slawomir Pikula, performed in Department of Biochemistry, Laboratory of Biochemistry of Lipids, Nencki Institute of Experimental Biology, Polish Academy of Sciences (funding 50 000 PLN) - **project investigator**

N301 049 31/1592 (2007 – 2009) from Polish Ministry of Science and Higher Education, project title: "Participation of annexin A6 isoforms in Ca²⁺-dependent catecholamine secretion from adrenal medulla chromaffin cell (PC12 cell line)", coordinated by prof. Slawomir Pikula, performed in Department of Biochemistry, Laboratory of Biochemistry of Lipids, Nencki Institute of Experimental Biology, Polish Academy of Sciences (funding 300 000 PLN) - **co-investigator**

ORGANIZED CONFERENCES

Polish-French scientific Conference "Alzheimer's disease and neurodegenerative disorders: what challenges for tomorrow?", November 4, 2016, Mossakowski Medical Research Center PAS, Warsaw – **organizing committee**

SCIENTIFIC TRAININGS (last 5 years)

2016.09.19 - ERC Workshop, International Institute of Molecular and Cell Biology, Warsaw, Poland

2016.04.15 - Jak zdobyć grant ERC, by Polish Academy of science

2015.09.15-2015.09.18 course "**Cellular Reprogramming - from basal mechanisms to medical applications**", Department of Cell biology and genetics, Karolinska Institutet, Stockholm, Sweden

2015.04.23–2015.10.28 laureate of **Skills Coaching mentoring program from Foundation for Polish Science**, coach - prof. dr hab. Krzysztof Wójtowicz, coach subjects - keywords: *leadership, young leader, self-discipline at work, professional networking*

2015.05.15-2015.09.18 training in "**Stem cells reprogramming and neural induction**" at Reprogramming and Disease Modelling Laboratory head by Dr. Anna Falk at Department of Neuroscience, Karolinska Institutet, Stockholm, Sweden

2014.11.04-2014.11.05 **Microarray & Next-Generation Sequencing Data Analysis**, Parc Scientific, Barcelone, Spain

2014.06.24-2014.06.26 **EMBL Advanced Course "Whole Transcriptome Data Analysis"**, EMBL Heidelberg, Germany

2013.09.25 "Danube Symposium - Neurodegenerative disorders", head by László Vécsei and Amos Korczyn, Vienna, Austria

2013.09.22 „Neuro Genetics Workshop", head by Fritz Zimprich and Jean-Marc Burgunder, Vienna, Austria

2013.05.21-2013.05.23 Seminars in Molecular Biology: **Next Generation Sequencing**, Authomatization of RNA, DNA isolation, SureFISH, and Authomatization of RNA, DNA electrophoresis by Bioanalyser 2100, organized by Perlan Technologies at Institute of Biochemistry and Biophysics of Polish Academy of Sciences in Warsaw, Poland

2013.04.22-2013.04.23 Flow Cytometry Workshop: **„Apoptosis and Cell Signaling"** by dr. Katarzyna Piwocka from Laboratory of Flow Cytometry Nencki Institute of Experimental Biology of Polish Academy of Sciences in Warsaw, Poland

2013.03.18-2013.03.20 Workshop **"From gene to phenotype - Advances in Molecular Medicine "** AKP/16/2013, International Institute of Molecular and Cell Biology, Warsaw, Poland

2012.10.1-2012.10.30 training in "**Laboratory work with animals**" (animals perfusion, brain microsections (mice, rats), subcutaneous, intraperitoneal and intracranial intraventricular injections, genotyping, brain slices preparation by cryostat (Leica Biosystems) or a microtome (Leica Vibratome™ Series; VT1000 P) and primary glial cells cultures establishment from different brain structures), Laboratory of Development and Plasticity of the Postnatal Brain - Neurobase International Associated Laboratory, University of Lille 2, Lille, France

EXPERIMENTAL PAPERS (last 5 years)

Weżyk M "DNA damage response in Alzheimer's disease" (2016), Folia Neuropathologica 2016/4, publication of abstract from Polish-French scientific Conference "Alzheimer's disease and neurodegenerative disorders: what challenges for tomorrow?"

Domitrz I[#], **Kosiorek M^{**}**, Zekanowski C, Kaminska A (2015) Genetic studies of Polish migraine patients: screening for causative mutations in four migraine-associated genes. Human Genomics, 2016 Jan 8;10(1):3. doi: 10.1186/s40246-015-0057-8.) **#equal first authors and *corresponding author**

Wezyk M*, Kabza M, Skrzypczak M, Ginalski K, Makałowska I, Barcikowska M, Żekanowski C. "Genetics and transcriptomics of Alzheimer's disease", Acta Neurobiologiae Experimentalis Vol. 75 No. 2 (2015) ***corresponding author**

Wezyk M*, Szybińska A, Wojsiat J, Szczerba M, Pepłońska B, Berdyński M, Fichna J, Kabza M, Styczyńska M, Zboch M, Ilkowski J, Skrzypczak M, Ginalski K Makałowska I, Wojda U, Barcikowska M, Żekanowski C „ Whole transcriptome profiling of familial early-onset Alzheimer's disease patients points to disturbed cell cycle and DNA damage stress response" (in submission) ***corresponding author**

Wezyk M*, Filipek S, Ilkowski J, Wojda U, Barcikowska M, Zekanowski C. Mutations in PSEN1 and PSEN2 genes affecting presenilins interactome in Alzheimer's disease (in submission) ***corresponding author**

Wezyk M*, Berdyński M, Szybinska A, Kabza M, Skrzypczak M, Ginalski K, Makałowska I, Barcikowska M, Żekanowski C "Novel A360T mutation in large cytosolic loop in presenilin 1 disturb GSK-3beta signaling" ***corresponding author**

Kosiorek M*, Podszycalow-Bartnicka P, Zylinska L, Pikula S*. (2014) NFAT1 and NFAT3 Cooperate with HDAC4 during Regulation of Alternative Splicing of PMCA Isoforms in PC12 Cells. PLoS One. 2014 Jun 6;9(6):e99118. ***corresponding author**

Kosiorek M*, Zylinska L, Zablocki K, Pikula S* (2014) Calcineurin/NFAT Signaling Represses Genes Vamp1 and Vamp2 via PMCA-Dependent Mechanism during Dopamine Secretion by Pheochromocytoma Cells. Plos One, 2014 25;9:e92176. ***corresponding author**

Kosiorek M, Podszycalow-Bartnicka P, Zylinska L, Zablocki K, Pikula S (2011) Interaction of plasma membrane Ca²⁺-ATPase isoform 4 with calcineurin A: Implications for catecholamine secretion by PC12 cells, Biochemical and Biophysical Research Com. 411:235-240

Boczek T, Kozaczuk A, Ferenc B, **Kosiorek M**, Pikula S, Zylinska L (2012) Gene expression pattern in PC12 cells with reduced PMCA2 or PMCA3 isoform: selective up-regulation of calmodulin and neuromodulin, Molecular and Cellular Biochemistry, 360:89-102

CONFERENCES (last 5 years)

Szczerba M, Żekanowski C, **Wężyk M***. „The studies on the role of BRCA1 in Alzheimer's disease using patient-derived neurons”. “Federation of European Neuroscience Societies - 8th Conference of Lithuanian Neuroscience Association”, December 9-10, 2016, Vilnius, Lithuania

Wężyk M* “DNA damage response in Alzheimer's disease”, Polish-French scientific Conference "Alzheimer's disease and neurodegenerative disorders: what challenges for tomorrow?", November 4, 2016, Mossakowski Medical Research Center PAS, Warsaw – ***corresponding author** ***organizing committee staff**

Szczerba M, Rönnholm H, Kele M, Falk A, Żekanowski C, **Kosiorek M***. Neural differentiation of neural epithelial stem cells derived from Alzheimer's disease patient pluripotent stem cells. NEURONUS IBRO & IRUN Neuroscience Forum, April 22-24th, 2016, Krakow, Poland

Kosiorek M*, Szybińska A, Berdyński M, Peplowska B, Fichna J, Ilkowski J, Styczyńska M, Zboch M, Filipek A, Skrzypczak M, Ginalski K, Kabza M, Makalowska I, Barcikowska M, Żekanowski C. Whole transcriptome profiling of familial early-onset Alzheimer's disease (EOAD) patients points to cell cycle abnormalities. Welcome Genome Trust Conference on Molecular Neurodegeneration Conference, Cambridge

Kosiorek M*, Kabza M, Skrzypczak M, Ginalski K, Makalowska I, Barcikowska M, Żekanowski C. Genetics and transcriptomics of Alzheimer's disease, 12th International Congress of the Polish Neuroscience Society, 6-8 September 2015 in Gdansk, Poland

Kosiorek M*, International Society for Stem Cell Research Conference, 24-27 June 2015, Stockholm, Sweden

Kosiorek M*, Berdyński M, Zielke K, Barczak A, Narożńska E, Pfeffer A, Mandecka M, Filipek-Gliszczyńska A, Gabryelewicz T, Barciszewska M, Żekanowski C (2013) Mutations of PGRN, MAPT and C9ORF72 genes causing FTD in the Polish population. World Congress of Neurology, September 21-26 2013, Vienna, Austria ***corresponding / presenting author**

LECTURES / SEMINARS (last 5 years)

Kosiorek M, Kabza M, Skrzypczak M, Ginalski K, Makalowska I, Barcikowska M, Żekanowski C (2015) Genetics and transcriptomics of Alzheimer's disease. 12th International Congress of the Polish Neuroscience Society, Gdańsk, 6-8.09.2015.

Kosiorek M, Transcriptome studies on rare mutations in PS-1 in EOAD subjects, 18 August 2015, Department of Neuroscience, Stockholm, Sweden

Kosiorek M, Barcikowska M, Żekanowski C (2014) Genetics of Dementia. 1st International Workshop - Early Biomarkers of Dementia. Faculty of Medicine of Jagiellonian University, Jagiellonian University Community Visiting Professorship Programme, Krakow, Poland

Kosiorek M, Balland E, Prevot V (2013) Role of the tanycytic barrier at the blood-hypothalamus interface during metabolic disorder development, Development and Plasticity of the Postnatal Brain - Neurobase International Associated Laboratory, Team 2, Jean-Pierre Aubert Research Center, Inserm U837/University of Lille 2, Lille, France

MEMBERSHIPS

Since 2015 member of International Society for Stem Cell Research

Since 2015 member of The European Society of Human Genetics

TECHNICAL SKILLS

Bioinformatic data analysis of RNA sequencing data: experience working in LINUX environment with the programs STAR 2.0.1, TopHat v.2.0.11, Bowtie v.1.0.1; Cufflinks v2.2.1, R-Bioconductor packages and libraries (DESeq, EdgeR, Cumberbund, GAGE and Pathview), Partek Genomics Suite software™v.6.6, Partek Pathway™, and Ingenuity Pathway Analysis software. **Molecular biology methods:** immunoprecipitation chromatin, real-time qPCR (ABI PRISM®7900, ABI PRISM®7500, StepOnePlus Applied Biosystems), gene silencing (siRNA, antisense oligonucleotides), plasmid constructs, cloning, sequencing (ABI Genetic Analyzer 3130). **Microscopic imaging methods:** immunocytochemical staining, co-localization, FRET, FRAP, confocal and fluorescence microscopy (Leica, Zeiss), microscopic calcium imaging with Till Photonics. **Biochemical methods:** RP-HPLC, spectrofluorimetric measurements of [Ca²⁺]_i, protein biochemistry techniques (co-immunoprecipitation, Western blotting, methylation, phosphorylation studies). **Flow cytometry:** flow cytometry and sorting (FACSCalibur™, FACSAria III cell sorter Bencton Dickinson). **Electrophysiological whole-cell patch clamp recordings** with Axopatch 200A (Axon Instruments). **Cell culture:** stable cell lines (tumour cell lines), primary cell lines (ependymal glial cells, astrocytes, neurons from mice and rats, and human fibroblasts from Alzheimer's disease patients and healthy donors), induced pluripotent stem cells and neuroepithelial stem cells. **Animals research:** animals perfusion, brain microdissection (mice, rats) with subcutaneous and

intraperitoneal injections, intracranial intraventricular stereotaxie, genotyping of animals, mouse brain sectioning using a cryostat (Leica Biosystems) and microtome (Leica vibratome™ Series; VT1000 P). **Graphic data reprocessing:** CorelDRAW Graphics, ImageJ. **Statistics:** SPSS Statistics, Origin Pro 8.0

LANGUAGES: Polish (native), English (advanced), French (advanced)

I hereby agree for processing the following personal information strictly for recruitment purposes in accordance with the regulation regarding the protection data passed on the following date: 29.08.97r. Dz. U. nr 133 poz. 883.