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CURRENT STATUS

June 2018

Senior Scientist Epilepsy
UCB Biopharma SPRL, Braine l'Alleud, Belgium

MARCH 2018 – MAI 2018 Unemployed

AUGUST 2017 - FEBRUARY 2018 Parental leave

WORK EXPERIENCE

SEPTEMBER 2011 - JULY 2017

Postdoctoral fellow, Laboratory of Prof. G. Schratt, Institute of Physiological Chemistry, Medical faculty, University of Marburg, Marburg, Germany

Project: Posttranscriptional regulation in the nervous system underlying neural network stability.

JULY 2008 – SEPTEMBER 2011

Postdoctoral fellow, Molecular Neurobiology Group of Prof. M. Fainzilber, Department of Biological Chemistry, Weizmann Institute of Science, Rehovot, Israel

Project: Regulation of translation during axon outgrowth upon nerve injury.

FEBRUARY 2007 – JUNE 2008

Research assistant, Laboratory of Pharmacological Endocrinology, Prof. D. Ježová, Institute of Experimental Endocrinology, SASci, Bratislava, Slovak Republic

Project: Adult neurogenesis in animal model of anhedonia.

JUNE 2006 - DECEMBER 2006

Project administrator, Slovak Research and Development Agency, Bratislava, Slovak Republic

EDUCATION

SEPTEMBER 2002 – APRIL 2006 PhD student “Animal Physiology”

PhD Thesis: “Physiological mechanisms underlying welfare related problems in meat type chickens”, supervisor: Dr. Ľ. Košťál, Department of Endocrinology and Ethology, Institute of Animal Biochemistry and Genetics SASci, Slovak Republic, April 2007 - PhD (Awarded by Pavol Jozef Safarik University in Kosice, Slovakia)

SEPTEMBER 1997 – MAI 2002, MSc. – Mai 2002

Comenius University, Bratislava, Slovak Republic

Faculty of Science, Major: Biology, Minor: Animal Physiology and Ethology

MSc Thesis: “Behavioural and physiological response of domestic chicken to environmental factors”, supervisor: Dr. Ľ. Košťál, Department of Endocrinology and Ethology, Institute of Animal Biochemistry and Genetics SASci, Slovak Republic

SHORT TERM STAYS:

FEBRUARY-APRIL 2010

EMBO Short Term Fellowship

Prof. Alma Burlingame, Mass Spectrometry Facility, University of California San Francisco, San Francisco, USA (I processed/analyzed protein samples for mass spectrometry analysis).

JULY 2005

IBRO CEERC Summer School:

"Research strategies for the study of complex neural networks: From synaptic transmission to seeing the brain in action" – two week stay, Debrecen, Hungary (Training).

SEPTEMBER 2004

Szent Istvan University in Budapest, Faculty of Veterinary Science, Behaviour Biology Research Group, Department of Ecology – 2 *WEEK TRAVEL GRANT* within the exchange scheme between the Slovak and Hungarian Academies of Sciences; SALVE Symposium Brain, Behaviour and Evolution; visit of Prof. András

Csillaglab at the Department of Anatomy, Semmelweis University, Budapest, Hungary (Training).

JULY 2003

Konrad Lorenz Research Station in Gruenau, Austria – *1 MONTH TRAVEL GRANT* from the Austria Exchange Office (OAD); stress management in Graylag geese; the ASAB Summer meeting; active participation in a workshop on the „Central Concepts of Classical Ethology“ (Training).

INDIVIDUAL FELLOWSHIPS:

Awarded:

Horizon 2020 Framework Programme

Call for proposals: H2020-MSCA-IF-2017

Proposal: 799112 – Neuronetmir

Funding: 187,866.00 EUR

LEADING & TEACHING & MENTORING:

I was leading one laboratory technician at a time (2011-2017; Karlheinz Burk, Eva Becker).

Supervision of a student (Felix Jung) during bachelor thesis (2015).

Leading a practicum in Western Blotting for bachelor students (Human Biologist, Marburg University, Germany) (2017)

LABORATORY & TECHNICAL SKILLS:

Primary rat neuronal cell culture (adult dorsal root ganglion, embryonic hippocampus/cortex), HEK cells; animal model of sciatic nerve injury; different cell transfections methods (single cell or high transfection efficiency); AAV delivery of specific shRNAs or gene overexpression; shRNA design; cloning, mutagenesis; reporter system, immunofluorescence, immunohistochemistry, image analysis (automated), ELISA, Western blot, qPCR/PCR, RNA and protein extraction, reverse transcription; RNA sample preparation for RNAseq; application of quantitative approaches (SILAC) connected to mass spectrometry, in solution/in gel digest; data analysis (application of proper statistical approaches)

OTHERS:

Microsoft Office, Adobe Photoshop, Adobe Illustrator, Sigmaplot, Endnote, ImageJ, Lasergene, Cellprofiler, WIS-NeuroMath, SPSS

LANGUAGE SKILLS: English (fluent), German (intermediate), Slovak (mother tongue)

TALKS AT INTERNATIONAL CONFERENCES:

A microRNA-129-5p/Rbfox crosstalk coordinates homeostatic downscaling of excitatory synapses;

Conference: Non-coding RNAs in Nervous System Development, Plasticity and Disease, June 21-24, 2017, Marburg, Germany

A post-transcriptional program coordinates homeostatic synaptic downscaling; Conference: EMCCS-FENS 7th biannual meeting and 1st EBBS-EMCCS join meeting; A satellite event of the FENS Forum 2016, Copenhagen, Denmark

INVITED TALK:

JULY 2017 A miRNA-129-5p/Rbfox crosstalk coordinates homeostatic downscaling of excitatory synapses (Prof. Henshall, RCSI, Dublin, Ireland)

PEER-REVIEWED PUBLICATIONS

Rozenbaum M*, **Rajman M***, Rishal I, Koppel I, Koley S, Medzihradzsky KF, Oses-Prieto JA, Kawaguchi R, Amieux PS, Burlingame AL, Coppola G, Fainzilber M. Translational Regulation in Neuronal Injury and Axon Regrowth. *eNeuro*. 2018 May 10;5(2). (* equal contribution)

Here I performed injury of a sciatic nerve, prepared primary neural cultures from dorsal root ganglions, collected and processed protein samples for mass spectrometry analysis (pulsed SILAC), and analysed data; I also performed automated analysis of neurite outgrowth. Together with M. Rozenbaum and Prof. Fainzilber we wrote the manuscript.

Marek Rajman and Gerhard Schratt. MicroRNAs in neural development: from master regulators to fine-tuners. *Development*. 2017 Jul 1;144(13):2310-2322.

Together with Prof. Schratt we wrote the manuscript.

Marek Rajman, Franziska Metge, Roberto Fiore, Sharof Khudayberdiev, Ayla Aksoy-Aksel, Silvia Bicker, Cristina Ruedell Reschke, Rana Raof, Gary Brennan, Norman Delanty, Michael Farrell, Donncha O'Brien,

Sebastian Bauer, Braxton Norwood, Morten T. Venø, Marcus Krüger, Thomas Braun, Jørgen Kjems, Felix Rosenow, David Henshall, Christoph Dieterich and Gerhard Schratt. A microRNA-129-5p/ Rbfox crosstalk coordinates homeostatic downscaling of excitatory synapses. *EMBO J.* 2017 Jun 14; 36(12):1770-1787.

Here I performed most of the experiments: biochemical assays (WB, qPCR, reporter assay), molecular approaches, quantitative proteomics (pulsed SILAC/spike-In Standard) connected to mass spectrometry (design the experiments, process samples, analysed data), collected samples for RNAseq and worked closely with bioinformaticians to analyse the data (e.g. estimation of 3'UTR length). Together with Prof. Schratt we wrote the manuscript.

Roberto Fiore, **Marek Rajman**, Chrysovalandis Schwale, Silvia Bicker, Anna Antoniou, Claus Bruehl, Andreas Draguhn & Gerhard Schratt. MiR-134-dependent regulation of Pumilio-2 is necessary for homeostatic synaptic depression. *EMBO J.* 2014 Oct 1;33(19):2231-46.

I contributed to characterisation of differential regulation of AMPA receptors during synaptic downscaling by western blotting.

Sharof A. Khudayberdiev, Federico Zampa, **Marek Rajman** and Gerhard Schratt. A comprehensive characterization of the nuclear microRNA repertoire of post-mitotic neurons. *Front Mol Neurosci.* 2013 Nov 26;6:43.

Using 5-fluorodeoxyuridine I established and characterised neuron enriched cultures (depleted from dividing cells; immunocytochemistry) that were used later for biochemical experiments by my colleagues.

Ida Rishal, Ofra Golani, **Marek Rajman**, Barbara Costa, Keren Ben-Yaakov, Zohar Schoenmann, Avra-ham Yaron, Ronen Basri, Mike Fainzilber, Meirav Galun. WIS-NeuroMath Enables Versatile High Throughput Analyses of Neuronal Processes. *Dev Neurobiol.* 2013 Mar; 73(3):247-56.

I contributed to the development of WIS-NeuroMath by measuring neurite outgrowth in the culture upon sciatic nerve injury.

Bakos J, Hlavacova N, **Rajman M**, Ondicova K, Koros C, Kitraki E, Steinbusch HW, Jezova D. Enriched environment influences hormonal status and hippocampal brain derived neurotrophic factor in a sex dependent manner. *Neuroscience.* Vol. 164, (2009), p. 788-797

Here I contributed to characterisation of selected transcripts by qPCR.

Rajman M, Juráni M, Lamosová D, Mácajová M, Sedlacková M, Kost'ál L, Jezová D, Výboh P. The effects of feed restriction on plasma biochemistry in growing meat type chickens (*Gallus gallus*). *Comp Biochem Physiol A.* Vol. 145, (2006), p. 363-71.

Together with other colleagues I have measured biochemical parameters using different ELISA assays. Together with Dr. Kost'ál and Ing. Výboh we wrote the manuscript.

van Hierden YM, Koolhaas JM, Kost'ál L, Výboh P, Sedlacková M, **Rajman M**, Juráni M, Mechiel Korte S. Chicks from a high and low feather pecking line of laying hens differ in apomorphine sensitivity. *Physiology & Behaviour.* Vol. 84, (2005), p. 471-477

I participated in the characterisation of dopaminergic receptor binding capacities by measuring specific binding of tritiated D1 and D2 receptor ligands.