

CIRRICULUM VITAE

ALAN KANIA

EDUCATION

04.2020	honours PhD degree in the field of natural sciences, discipline: biological sciences at Jagiellonian University, Kraków, Poland
2014 - 2020	PhD studies in Biology, Institute of Zoology, Department of Biology and Earth Sciences, Jagiellonian University, Kraków, Poland
2013 - 2014	Master's studies in Neuroscience, Institute of Zoology, Department of Biology and Earth Sciences, Jagiellonian University, Kraków, Poland
07.2013	honours Bachelor's degree in Neuroscience at Jagiellonian University
2010 - 2013	Bachelor's studies in Neuroscience, Institute of Zoology, Department of Biology and Earth Sciences, Jagiellonian University, Kraków, Poland

INTERNSHIPS, TRAININGS, SCHOOLS AND WORKSHOPS

05.-11.2019	Internship at the School of Pharmacy, Pharmacology Unit, University of Camerino, Camerino, Italy supervisor: Carlo Cifani: carlo.cifani@unicam.it
06.-09.2017	Internship at the Peptide Neurobiology Laboratory, Neuropeptides Division of The Florey Institute of Neuroscience, Melbourne, Victoria, Australia supervisor: Andrew L. Gundlach: andrew.gundlach@florey.edu.au
09.2015	PolLASA workshop on using animals in research and teaching, Faculty of Biology and Earth Sciences, Jagiellonian University, Kraków, Poland
07. - 09.2013	Internship at Laboratory of Neuroscience Medical University, Wrocław, Poland –involvement in project on modulation of GABA _A currents <i>in vitro</i>
08.2012	Internship at NeuroRepair Department, Mossakowski Medical Research Centre, Polish Academy of Sciences, Warsaw, Poland
07.2012	participant of VLTP IBRO Summerschool in Kraków

GRANTS

- **7th Framework Programme - NEUREN - Neuroscience Research Exchange Network**, System neurobiology of neurological disorders, (Valence, Tetuan, Krakow, Melbourne), (grant holder: dr hab. Anna Błasiak) – **grant executor in 2017**
- **National Science Centre Poland doctoral scholarship, ETIUDA V**, The involvement of the hypothalamic paraventricular nucleus in the neuronal mechanism of relaxin-3 orexigenic action in the rat – **grant holder 2017-2020**
- **National Science Centre Poland Grant, OPUS XII**, Involvement of dopaminergic system in susceptibility to eating disorders induced by maternal separation stress (grant holder: prof. dr hab. Grzegorz Hess) – **grant executor 2017-2018**
- **National Science Centre Poland Grant, HARMONIA VI**, Role of heme oxygenase 1 in cardiomyocyte differentiation from induced pluripotent stem cells (HOx-Card) (grant holder: prof. dr hab. Józef Dulak), – **grant executor 2015-2018**
- **Polish Ministry of Science and Higher Education Grant, Diamentowy grant III**, Role of relaxin-3 in control of feeding and stress-induced eating disorders in female rats – **grant holder 2014-2019**
- **National Science Centre Poland Grant, SONATA III** Neuronal mechanisms of peptidergic regulation of stress-induced feeding (grant holder: dr Anna Błasiak) – **grant executor 2013-2016**

SCHOLARSHIPS AND AWARDS

11.2019	award for the best poster presentation at 39 th National Congress of Italian Society for Pharmacology, Florence, Italy
06.2018	FENS Travel Grant for the 11 th FENS Forum 2018, Berlin, Germany
04.2018	award for the best oral presentation at NEURONUS 2018 IBRO Neuroscience Forum, Krakow Poland

2017 - 2018	Rector's scholarship for the best PhD students for academic year 2016/17
06.2017	Mediterranean Neuroscience Society Travel Grant for the Mediterranean Neuroscience Society Meeting 2017, Malta
2015 - 2016	Rector's scholarship for the best PhD students for academic year 2014/15
07.2015	IBRO Travel Grant for the 9th IBRO World Congress in Neuroscience, Rio de Janeiro, Brazil
12.2014	Minister of Science and Higher Education's scholarship for the best students for academic year 2014/2015
2014 - 2015	Rector's scholarship for the best PhD students for academic year 2014/15
2013 - 2014	Rector's scholarship for the best students for academic year 2012/13
2012 - 2013	Rector's scholarship for the best students for academic year 2011/12
2011 - 2012	Rector's scholarship for the best students for academic year 2010/11

RESEARCH TECHNIQUES USED

- extracellular multielectrode recordings- acute rat brain slices, and related analysis
- whole-cell patch clamp recordings – acute rat brain slices and cell cultures, and related analysis
- rat stereotactic surgery – cannulae implantation and tracer injections
- brain tissue immunohistochemistry – light, fluorescent and confocal microscopy, and related analysis
- behavioural experiments using rat model of binge eating behaviour

PUBLICATIONS

- **Alan Kania**, Agata Szlaga, Patryk Sambak, Anna Gugula, Ewa Blasiak, Maria Vittoria Micioni Di Bonaventura, Mohammad Akhter Hossain, Carlo Cifani, Grzegorz Hess, Andrew L. Gundlach, Anna Blasiak: *RLN3/RXFP3 Signaling in the PVN Inhibits Magnocellular Neurons via M-like Current Activation and Contributes to Binge Eating Behavior*. Journal of Neuroscience 40 (28) 5362-5375; DOI: 10.1523/JNEUROSCI.2895-19.2020
- **Alan Kania**, Patryk Sambak, Anna Gugula, Agata Szlaga, Zbigniew Soltys, Tomasz Blasiak, Grzegorz Hess, Zenon Rajfur, Anna Blasiak: *Electrophysiology and distribution of oxytocin and vasopressin neurons in the hypothalamic paraventricular nucleus: a study in male and female rats*. Brain Structure and Function 12/2019; DOI:10.1007/s00429-019-01989-4
- Azadeh Sabetghadam, Agnieszka Grabowiecka-Nowak, **Alan Kania**, Anna Gugula, Ewa Blasiak, Tomasz Blasiak, Sherie Ma, Andrew L. Gundlach, Anna Blasiak: *Melanin-concentrating hormone and orexin systems in rat nucleus incertus: Dual innervation, bidirectional effects on neuron activity, and differential influences on arousal and feeding*. Neuropharmacology 139:238–256; DOI: 10.1016/j.neuropharm.2018.07.004
- Joanna Kula, Anna Gugula, Anna Blasiak, Bartosz Bobula, Joanna Danielewicz, **Alan Kania**, Grzegorz Tylko, Grzegorz Hess: *Diverse action of repeated corticosterone treatment on synaptic transmission, neuronal plasticity, and morphology in superficial and deep layers of the rat motor cortex*. Pflügers Archiv - European Journal of Physiology 07/2017; 469(11); DOI:10.1007/s00424-017-2036-5
- **Alan Kania**, Anna Czerw, Agnieszka Grabowiecka, Camila de Ávila, Tomasz Blasiak, Zenon Rajfur, Marian H Lewandowski, Grzegorz Hess, Elena Timofeeva, Andrew L Gundlach, Anna Blasiak: *Inhibition of oxytocin and vasopressin neuron activity in rat hypothalamic paraventricular nucleus by relaxin-3/RXFP3 signalling*. The Journal of Physiology 01/2017; DOI:10.1113/JP273787
- Anna Blasiak, Marcin Siwiec, Agnieszka Grabowiecka, Tomasz Blasiak, Anna Czerw, Ewa Blasiak, **Alan Kania**, Zenon Rajfur, Marian H Lewandowski, Andrew L Gundlach: *Excitatory orexinergic innervation of rat nucleus incertus - Implications for ascending arousal, motivation and feeding control*. Neuropharmacology 08/2015; DOI:10.1016/j.neuropharm.2015.08.014
- Marta Magdalena Czyzewska, Lukasz Chrobok, **Alan Kania**, Magdalena Jatczak, Federica Pollastro, Giovanni Appendino, Jerzy Wladyslaw Mozrzymas: *Dietary Acetylenic Oxylipin Falcarinol Differentially Modulates GABA(A) Receptors*. Journal of Natural Products 12/2014; 77(12); DOI:10.1021/np500615j
- **Alan Kania**, Marian H Lewandowski, Anna Blasiak: *Relaksyna-3 i receptory rodziny peptydów relaksynowych – od struktury po funkcje nowo odkrytego układu mózgowia ssaków. [Relaxin-3 and relaxin family peptide receptors--from structure to functions of a newly discovered mammalian brain system]*. Postępy Higieny i Medycyny Doświadczalnej (Advances in Hygiene and Experimental Medicine) 01/2014; 68; DOI:10.5604/17322693.1110163

CONFERENCES

- 07.2020 1st author of a poster: '*Relaxin-3/RXFP3 signalling in the PVN inhibits magnocellular neurosecretory neurons via M-like current activation and contributes to binge eating behaviour*' at FENS Virtual Forum 2020, Glasgow, United Kingdom
- 11.2019 1st author of a poster: '*Relaxin-3 signalling in paraventricular nucleus of hypothalamus– pharmacological evidence for M-like potassium current activation.*' at 39th National Congress of Italian Society for Pharmacology, Florence, Italy
- 09.2019 author of a poster: '*Role of heme oxygenase-1 in maturation and binucleation of cardiomyocytes derived from human induced pluripotent stem cells.*' at Eurobiotech 2019, 7th Central European Congress of Life Science, Krakow, Poland 2019
- 06.2019 author of a poster: '*Modeling of cardiomyopathy in Duchenne muscular dystrophy with a use of isogenic hiPSC-derived cardiomyocytes.*' at the 44th FEBS Congress, Krakow, Poland, 2019
- 06.2019 author of a poster: '*Maturity of human cardiomyocytes derived from induced pluripotent stem cells lacking heme oxygenase-1.*' at the 44th FEBS Congress, Krakow, Poland, 2019
- 02.2019 author of a poster: '*3D cardiac organoids for studying multinucleation of human cardiomyocytes derived from induced pluripotent stem cells lacking heme oxygenase-1.*' at Stem Cells & Organoids in development & Disease, Amsterdam, Netherlands, 2019
- 10.2018 author of a poster: '*Heme oxygenase-1 modulates the properties of human induced pluripotent stem cells-derived cardiomyocytes.*' at Changing the Face of Modern Medicine: Stem Cell and Gene Therapy jointly organized by ESGCT, ISSCR, SFTCG, Lausanne, Switzerland, 2018
- 09.2018 author of a poster: '*CRISPR/Cas9 editing of heme oxygenase-1 affects cardiomyocytes differentiated from human induced pluripotent stem cells.*' at 3rd BIO Congress, Gdansk, Poland
- 07.2018 1st author of a poster: '*Relaxin-3 action in paraventricular nucleus of hypothalamus– searching for ionic mechanism of RXFP3-induced inhibition and source of relaxin-3 in hypothalamus of male and female rats.*' at 11th FENS Forum 2018, Berlin, Germany
- 05.2018 co-author of a lecture: '*Relaxin3 modulation of behavior, from circadian activity to arousal.*' at Workshop on New Tools to Study Cognition and Emotion, Morella, Spain
- 04.2018 author of a poster: '*Lack of heme oxygenase-1 affects electrophysiological properties of cardiomyocytes derived from human induced pluripotent stem cells.*' at Frontiers in CardioVascular Biology 2018, European Society of Cardiology, Wien, Austria
- 04.2018 oral presentation: '*Searching for neuronal mechanism of neuropeptide's orexigenic action - relaxin-3 signalling in paraventricular nucleus of hypothalamus.*' at NEURONUS 2018 IBRO Neuroscience Forum, Kraków, Poland
- 09.2017 author of a poster: '*In search of ionic mechanism of inhibitory effects of RXFP3 activation on PVN magnocellular neurons.*' at Aspects of Neuroscience 2017, Warsaw, Poland
- 09.2017 author of a poster: '*Sex differences and electrophysiology: magnocellular paraventricular nucleus neurons in vitro studies*' at Aspects of Neuroscience 2017, Warsaw, Poland
- 09.2017 co-author of a lecture: '*Role of heme oxygenase 1 in differentiation of human pluripotent stem cells to cardiomyocytes*' at Eurobiotech 2017, 6th Central European Congress of Life Science, Kraków, Poland
- 08.2017 author of a poster: '*Repeated corticosterone treatment increases thin spine density in pyramidal neurons of deep layers of the rat primary motor cortex.*' at 13th International Congress of the Polish Neuroscience Society, Warsaw, Poland
- 06.2017 1st author of a poster: '*Inhibitory effect of RXFP3 activation on magnocellular PVN neurons in vitro - a potential neuronal mechanism of orexigenic relaxin-3 action in male and female rats.*' at Mediterranean Neuroscience Society Meeting 2017, Malta
- 05.2017 author of a poster: '*Differentiation of induced pluripotent stem cells (iPSCs) into inhibitory GABA interneurons.*' at Progress in Developmental Biology, Kraków, Poland
- 05.2017 author of a poster: '*Human induced pluripotent stem cells in disease modeling and regenerative medicine.*' at Progress in Developmental Biology, Kraków, Poland
- 05.2017 author of a poster: '*Neuronalny mechanizm oreksygenicznego (pobudzającego apetyt) działania relaksyny-3. [Neuronal mechanism of orexigenic action of relaxin-3.]*' at student conference NeuroMania, Torun, Poland
- 05.2017 author of a poster: '*Neuronal mechanism of relaxin-3 orexigenic action*' at 2nd Nencki symposium on the brain 'Neurons in action', Warsaw, Poland

- 05.2017 author of a poster: *'Neuronalny mechanizm oreksygenicznego (pobudzającego apetyt) działania relaksyny-3.'* [*Neuronal mechanism of orexigenic action of relaxin-3.*] at student conference SeMPowisko 2017, Kraków, Poland
- 11.2016 oral presentation: *'Neuronal mechanism of appetite control: How a glass pipette helps to understand food intake'* at NeuronLine: Current advances in experimental neuroscience, Kraków, Poland
- 07.2016 1st author of a poster: *'Relaxin-3 inhibits magnocellular neurons in the hypothalamic paraventricular nucleus (PVN) - electrophysiological and immunohistochemical studies in rat.'* at 10th FENS Forum of Neuroscience, Kopenhaga, Dania
- 06.2016 oral presentation: *'Relaxin-3 inhibits magnocellular neurons in the hypothalamic paraventricular nucleus (PVN) - electrophysiological studies in rat.'* at 10th Conference on Electrophysiological Techniques in Bioelectricity Research: from Ion Channels to Neural Networks, Kraków, Poland
- 04.2016 1st author of a poster: *'Unravelling the mechanisms of appetite control: relaxin-3 signalling in hypothalamic paraventricular nucleus of the rat.'* at the NEURONUS 2016 IBRO & IRUN Neuroscience Forum, Kraków, Poland
- 09.2015 co-author of a lecture: *'Interactions of relaxin-3 and other neuropeptide systems regulating arousal and feeding in rats.'* at 7th International Conference on Relaxin and Related Peptides, Kuching, Malaysia
- 09.2015 1st author of a poster: *'Relaxin-3 in the hypothalamic paraventricular nucleus (PVN) of rat. Electrophysiological approach to understand the sex-dependent relations between stress and feeding.'* at the 12th International Congress of the Polish Neuroscience Society, Gdańsk, Poland
- 08.2015 author of a poster: *'Characterisation of the GABA projection neurons in the nucleus incertus (NI) and their target GABA and non-GABA neurons in forebrain – Insights from co-expressed peptide systems.'* at the 2015 Gordon Research Conference on Inhibition in the CNS, Lewistown, Maine, USA
- 07.2015 1st author of a poster: *'Neural interfaces of stress and feeding: Electrophysiological studies of relaxin-3/RXFP3 signalling in the hypothalamic paraventricular nucleus (PVN) of the rat.'* at the 9th IBRO World Congress in Neuroscience, Rio de Janeiro, Brazil
- 06.2015 oral presentation: *'Electrophysiological studies of relaxin-3/RXFP3 signalling in the hypothalamic paraventricular nucleus.'* at the Progress in biomedicine and neuromedicine, Kraków, Poland
- 06.2015 2nd author of a poster: *'Relaxin-3/RXFP3 networks in food intake and stress responses – neural mechanisms underlying behavioural effects.'* at the 24th Annual Meeting of the International Behavioral Neuroscience Society, Victoria, British Columbia, Canada
- 04.2015 1st author of a poster: *'Relaxin-3/RXFP3 signalling in the paraventricular nucleus of hypothalamus (PVN) of rats – insights into the sexual differences in stress-related food intake.'* at the NEURONUS 2014 IBRO&IRUN Neuroscience Forum, Kraków, Poland
- 08.2014 co-author of a lecture: *'Regulation of nucleus incertus (relaxin-3) neurons by peptide and hormone inputs and impact of relaxin-3 receptor activation on characterized hypothalamic neurons.'* at the The Annual Scientific Meeting of the Endocrine Society of Australia and the Society for Reproductive Biology, Melbourne, Australia
- 07.2014 1st author of a poster: *'Activation of relaxin-3 receptors (RXFP3) on hypothalamic paraventricular nucleus (PVN) neurons in the rat in vitro.'* at the 9th FENS Forum of Neuroscience, Milan, Italy.
- 04.2014 1st author of a poster: *'Direct action of relaxin-3 receptor (RXFP3) agonist on hypothalamic paraventricular nucleus (PVN) neurons in the rat - in vitro patch clamp study.'* at the NEURONUS 2012 IBRO&IRUN Neuroscience Forum, Kraków, Poland.
- 04.2014 author of a poster: *'Falcarinol influences GABAergic currents mediated by different types of receptors.'* at the NEURONUS 2012 IBRO&IRUN Neuroscience Forum, Kraków, Poland.
- 11.2013 oral presentation: *'Who eats whom. The relationship between stress and eating behaviour.'* at the 3rd International Student's Conference 'Aspects of Neuroscience', Warsaw, Poland
- 09.2013 1st author of a poster: *'Relaxin-3/RXFP3 Signalling in Rat Paraventricular Nucleus - Novel Element in Neural Control of Feeding.'* at the 11th International Congress of the Polish Neuroscience Society, Poznan, Poland
- 05.2013 1st author of a poster: *'Role of Relaxin-3/RXFP3 Signalling in Neural Control of Feeding – in vitro patch clamp study.'* at the NEURONUS 2012 IBRO&IRUN Neuroscience Forum, Kraków, Poland.

OTHER ACTIVITIES

- 2019 - student member of Italian Society of Pharmacology
- 2013 - student member of Polish Neuroscience Society and Federation of European Neuroscience Societies
- 2010 – 2015 member of Neuronus Students Society, Institute of Zoology, Department of Biology and Earth Sciences, Jagiellonian University, president of the society in the academic year 2013/2014