Mgr. Radmila (Radka) Hanečková

Born 11. 1. 1987 in Bratislava, Slovakia

1998 – 2005: High school education at Bundesgymnasium/Bundesrealgymnasium Bruck an der Leitha in Austria with a focus on foreign languages
2005 – 2007: Graduated in graphic and communication design at the Höhere Graphische Bundes-Lehr- und Versuchsanstalt (die Graphische), Vienna

2010 – present: Co-founder and active member of the Prague hackerspace „Brmlab" (first Czech hackerspace; http://brmlab.cz/user/chido), involved in several projects with a central focus on DIYbio and high voltage

2012: Invited speaker at the FBI DIYbio outreach workshop in Walnut Creek, California

2012: Organized student workshop on Editing Wikipedia (https://brmlab.cz/event/wikipedie)

2011 – 2014: Bachelor degree in Molecular biology and biochemistry of organisms
at the Charles University in Prague
2011: Awarded scholarship in the first Bachelor study year (mark average of 1,18)
2014: Defended Bachelor thesis on **„Genome editing using programmable endonucleases"** (advised by Doc. Radislav Sedláček, Ph.D.)

2014 – 2016: Masters degree in Molecular Biology and Genetics of Eukaryotes at the Department of Genetics, Molecular Biology and Virology at the Charles University in Prague
2016: Defended Masters thesis topic **„Generation and analysis of double deficient transgenic mice for kallikrein 5 and kallikrein 14"** (advised by Doc. Radislav Sedláček, Ph.D.)

2015: Invited to speak about the Brmlab hackerspace at the Scientific seminar of the Department of genetics and microbiology, presentation of Master thesis at the seminar voted as one of the best talks

2013 – 2017: Employed at the Laboratory of Transgenic Models of Diseases, Institute of Molecular Genetics of the ASCR led by Doc. Radislav Sedláček, Ph.D., which became the Czech Center for Phenogenomics at the newly opened BIOCEV research institute of the ASCR and Charles University Research focus: Introducing programmable nucleases (TALENs and CRISPR/Cas) as a tool for mouse transgenesis, genome editing in cell culture and generation of kallikrein-deficient mouse models for Netherton syndrome

2016: Awarded "Best Presentation" at the 9th IMG PhD Conference for presentation titled "The pAR reporter system for efficient selection of TALEN/CRISPR targeted cells"

2017 – present: PhD student at the Rink Lab, MPI-CBG in Dresden, researching genome editing in planarians.

Publications

Kasparek, P., Krausova, M., **Haneckova, R.**, Kriz, V., Zbodakova, O., Korinek, V. and Sedlacek, R., 2014. Efficient gene targeting of the Rosa26 locus in mouse zygotes using TALE nucleases. FEBS letters, 588(21), pp.3982-3988.

Haneckova, R., Kasparek, P., Jenickova, I., Beck, I. M., Sedlacek, R., 2016. Using programmable nucleases for the generation of a viable mouse model for Netherton syndrome. Abstract in Transgenic Research, 25(2). Presented as poster at the 13th Transgenic Technology Meeting TT2016, Prague, 2016.

Kasparek P, Ileninova Z, **Haneckova R**, Kanchev I, Jenickova I, Sedlacek R., 2016. A viable mouse model for Netherton syndrome based on mosaic inactivation of the Spink5 gene. Biological Chemistry, 397(12). DOI: 10.1515/hsz-2016-0194.

Skillset

Native language: Slovak
Proficient: English, German, Czech

Software: Adobe Photoshop, Illustrator, InDesign; BioEdit; DNASTAR SeqBuilder, SeqMan Pro; GraphPad Prism; PyRAT (laboratory animal facility management software); Linux shell basics

Laboratory techniques:

- PCR, qRT-PCR, primer and vector design
- design and assembly of both TALE nucleases and CRISPR/Cas (ligation-independent cloning, Golden Gate assembly)
- cloning and RFLP analysis
- cell culture transfection, DNA, RNA and protein isolation, western blot, FACS
- *In situ* staining, FISH
- fluorescent microscopy
- competent bacteria preparation and transformation
- generation, breeding and maintenance of transgenic mouse strains
- mouse handling and genotyping, basic phenotyping assays (e.g. induced dermatitis)

Certifications:

- official government certification to handle experimental animals (“osvědčení o odborné způsobilosti k provádění pokusů na pokusných zvířatech, péči o pokusná zvířata a usmrcování pokusných zvířat”) issued by Ministry of Agriculture in 2014

Professional Interests

Genome editing – Improvement and expansion of the CRISPR/Cas toolkit
Applications of genome editing tools in biomedicine (e.g. gene therapy, xenotransplantation)
Exploration of mechanisms governing epigenetic regulation, especially in development
Potential of transgenic technologies in biotechnology

Interests

Go (board game), 7kyu
Author of popular Go webcomics (emptytriangle.com), invited to several European Go congresses (Germany, Sweden, Finland, Czech Republic)
Illustration and graphic design (several years of professional experience - freelance and employed work; author of the 2008 “Dahlia” Slovak postage stamp)
Amateur interest in electronics and high voltage electricity (contributing to the construction of audio-modulated DRSSTC – dual-resonant solid state Tesla coil)