

CURRICULUM VITAE

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SUMMARY

Molecular biologist and biochemist with over 10 years of research experience in the field of oncology, microbiology/virology, fertility and genetics. Fast learner proficient in scientific writing and communication seeking an opportunity to contribute by my expertise in solving new projects.

RESEARCH AND EDUCATION

- 2019 – ongoing **Postdoctoral Research Fellow**
Institute of Molecular and Translational Medicine, Palacky University Olomouc
- 2012 - 2019 **Doctoral degree in Pediatrics** (Oncology focus) at the Faculty of Medicine and Dentistry
Palacky University Olomouc, Czech Republic (defended on 26.6.2019)
Thesis: “Human Papillomavirus and its importance in diagnostic and treatment”
- 2010 – 2012 **Master degree in Biochemistry** at the Faculty of Natural Sciences
Palacky University Olomouc, Czech Republic
Thesis: “HPV infection and significance of epigenetic modulators in the cervical cancer development”
- 2011 **Internship** at the University of Birmingham, School of Cancer Sciences
Birmingham, United Kingdom
- 2007 - 2010 **Bachelor degree in Biochemistry** at the Faculty of Natural Sciences
Palacky University, Olomouc, Czech Republic
Thesis: “Polysomy of chromosome 17 in breast cancer patients and its impact for tailored therapy”

QUALIFICATION

- 2020 Introduction to Next-Generation Sequencing Course and Next-Generation Sequencing data analysis – Workshop for beginners; Generi Biotech, Hradec Králové, Czech Republic
- 2019 **Internal auditor course**, Systémy jakosti s.r.o. Prague, Czech Republic
- 2016 **Certificate for the performance of the medical profession without supervision**
Ministry of Health of the Czech Republic, Prague, Czech Republic
- 2016 **Clinical Geneticist**; Ministry of Health certificate, Institute for Postgraduate Medical Education, Prague, Czech Republic
- 2014 Accredited Qualification Course Professional Medical Laboratory Methods

Professional competence: **Expert in laboratory methods and preparation of medicinal products**, Institute for Postgraduate Medical Education, Prague, Czech Republic

WORK EXPERIENCE

- 06/2018 – ongoing Institute of Health Information and Statistics of Czech Republic (research staff)
- 04/2018 – 02/2020 Institute of Organic Chemistry and Biochemistry of CAS (research staff)
- 09/2012 – ongoing Institute of Molecular and Translational Medicine
Faculty of Medicine and Dentistry, Palacky University Olomouc
(Ph.D. student, research staff, professional staff in DNA laboratory-accredited laboratory)
- 12/2014 – ongoing University Hospital Olomouc (research staff)

SKILLS AND TECHNIQUES

Languages: English - Upper-intermediate/Advanced (B2/C1), French – Elementary (A1)

Computer: Utilization of various sequence databases (eg. GeneBank); primer and probe designing; various software for real-time PCR evaluation; image analyses software, daily user of standard applications such as MS Office, Reference Manager, various browsers and web tools related to lab work

Techniques:

Cell biology techniques

- Culturing and maintenance of mammalian cell lines; propagation, counting, banking, cytospin preparation

Molecular biology techniques

- Preparation of DNA and RNA from different type of samples (eg. cell lines, swabs, semen samples, FFPE, fresh frozen tissue), purification, quantification
- User of Freedom EVO® MultiChannel Arm™ 96 (Tecan), MagNA Pure 96 (Roche), cobas e411 Analyzer (Roche)
- Bisulfite DNA conversion and methylation-specific PCR
- PCR, qPCR (singleplex, multiplex, methylation-specific), RT-PCR, HRM analysis
- Gel electrophoresis and its alternatives (QIAxcel, QIAGEN; Bionalyzer, Agilent), blotting, spectrometric methods
- DNA sequencing (NGS – Illumina NovaSEQ); library preparation, data analysis (CLC Genomics Workbench)
- ELISA
- Fluorescent and chromogenic *in situ* hybridization; immunohistochemistry; light and fluorescent microscopy

Microbiology techniques

- Culturing and aseptic techniques
- Bacterial transformation, plasmid isolation and purification
- Cultivation of virus (BSL3 laboratory)

Clinical diagnostics

- HPV detection-cobas HPV test (Roche), PapilloCheck (Greiner Bio-One), LMNX Genotyping Kit GP HR (Diassay), QIAscreen HPV PCR Test (QIAGEN), hc2 High-Risk HPV DNA Test (QIAGEN)
- QIAure Methylation Test (QIAGEN)
- C.trachomatis/Ureapl./M.hominis/M.genitalium Real-TM (Sacace Biotechnologies)
- Detection of SARS-CoV-2
- DNA sequencing (NGS) – SARS-CoV-2, targeted DNA and gene fusion cancer panels (QIAGEN)

LIST OF PEER-REVIEWED PUBLICATIONS

Bouska O, **Jaworek H**, Koudelakova V, Kubanova K, Dzubak P, Slavkovsky R, Siska B, Pavlis P, Vrbkova J, Hajduch M. Evaluation of Non-Invasive Gargle Lavage Sampling for the Detection of SARS-CoV-2 Using rRT-PCR or Antigen Assay. *Viruses*. 2022 Dec 19;14(12):2829.

Jaworek H, Koudelakova V, Oborna I, Zborilova B, Brezinova J, Ruzickova D, Vrbkova J, Kourilova P, Hajduch M. Impact of human papillomavirus infection on semen parameters and reproductive outcomes. *Reprod Biol Endocrinol*. 2021 Oct 9;19(1):156.

Jaworek H, Koudelakova V, Oborna I, Zborilova B, Brezinova J, Ruzickova D, Vrbkova J, Kourilova P, Hajduch M. Prevalence and genotype distribution of human papillomavirus in Czech non-vaccinated heterosexual couples. *Virol J* 2021 Apr 15;18(1):80.

Jaworek H, Zborilova B, Koudelakova V, Brezinova J, Vrbkova J, Oborna I, Hajduch M. Prevalence of Human Papillomavirus Infection in Oocyte Donors and Women Treated for Infertility: An Observational Laboratory-Based Study. *European Journal of Obstetrics & Gynecology and Reproductive Biology: X*. 2019 Oct; 4.

Jaworek H, Kubanova K, Koudelakova V, Slavkovsky R, Drabek J, Hajduch M. Pitfalls of commercially available HPV tests in HPV68a detection. *PLoS One*. 2019 Aug 5; 14(8):e0220373.

Jaworek H, Koudelakova V, Slavkovsky R, Drabek J, Hajduch M. The absence of high-risk human papillomavirus in Czech non-small cell lung cancer cases. *Biomed Pap Med Fac Univ Palacky Olomouc Czech Repub*. 2019.

Jaworek H, Koudelakova V, Drabek J, Vrbkova J, Zborilova B, Oborna I, et al. A Head-to-Head Analytical Comparison of Cobas 4800 HPV, PapilloCheck HPV Screening, and LMNX Genotyping Kit HPV GP for Detection of Human Papillomavirus DNA in Cervical and Cervicovaginal Swabs. *J Mol Diagn*. 2018; 20(6):849-58.

Ondryasova H, Koudelakova V, Drabek J, Vanek P, Slavkovsky R, Hajduch M. Utilization of self-sampling kits for HPV testing in cervical cancer screening - pilot study. *Ceska Gynekol*. 2015 Dec; 80(6):436-43.

Ondryasova H, Koudelakova V, Hajduch M. Cervical cancer--possibilities of detection of human papillomavirus. *Ceska Gynekol*. 2013 Jun; 78(3):289-94.

PATENTS

SURFACE MODIFIED PARTICLES (Cígler)

Patent: CZ 309422; Granted: 28.12.2022; Ownership: Institute of Organic Chemistry and Biochemistry CAS, Palacky University Olomouc; Inventors: Hajdúch Marián, **Jaworek Hana**, Ondra Martin, Kubíčková Agáta

Published Application PCT/CZ2021/050103 under WO 2022/068982 (7.4.2022)

SURFACE MODIFIED PARTICLES (Cígler)

Utility Model: CZ 34808; Granted: 10.2.2021; Ownership: Institute of Organic Chemistry and Biochemistry CAS, Palacky University Olomouc; Inventors: Hajdúch Marián, **Jaworek Hana**, Ondra Martin, Kubíčková Agáta

RNA ISOLATION KIT (Džubák)

Utility Model: CZ 35067. Granted: 18.5.2021. Ownership: Palacky University, Olomouc. Inventors: Džubák Petr, Hajdúch Marián, Gurská Soňa, Koudeláková Vladimíra, **Jaworek Hana**.

1,2-DITHIOLANE COMPOUND FOR METAL SURFACE MODIFICATION (Cígler)

Utility Model: CZ 34573; Granted: 24.11.2020; Ownership: Institute of Organic Chemistry and Biochemistry CAS, Palacky University Olomouc; Hajdúch Marián, **Jaworek Hana**, Ondra Martin, Kubíčková Agáta

MEDIUM FOR TRANSPORTING AND STORING VIRUSES (Hajdúch)

Utility Model: CZ 35138. Granted: 8.6.2021. Ownership: Palacky University, Olomouc. Inventors: HAJDÚCH Marián, DŽUBÁK Petr, **JAWOREK Hana**, BOUŠKA Ondřej, KUBÁŇOVÁ Kateřina, VRONKA Juraj. Utility Model: CZ 34573; Granted: 24.11.2020; Ownership: Institute of Organic Chemistry and Biochemistry CAS, Palacky University Olomouc; Inventors: Hajduch Marian, Jaworek Hana, Ondra Martin, Kubickova Agata

REFERENCES

1. **Vladimira Koudelakova, MSc., PhD.** (Bachelor's , Master's and Ph.D. mentor)
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4. **Juan Bautista De Sanctis, MD., Ph.D.** (professor - IMTM)
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