

PETER BRAZDA

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EDUCATION

University of Debrecen, Debrecen, Hungary Ph.D., Cell Biology and Biophysics	9/2005 – 3/2015
University of Debrecen, Debrecen, Hungary M.Sc., Biotechnology	9/1999 – 7/2005

RESEARCH EXPERIENCE

Princess Máxima Center for Pediatric Oncology (PMC), Utrecht, The Netherlands

Postdoctoral research with Professor Henk Stunnenberg 6/2019 – present

- Project 1: Single cell transcriptomics of Pheochromocytoma
- Project 2: (Single cell) genomics in pediatric AML relapse
- Project 3: (Single cell) genomics of next-generation CAR-T cells

Radboud University, Institute for Molecular Life Sciences (RIMLS), Nijmegen, The Netherlands

Postdoctoral research with Professor Henk Stunnenberg 6/2017 – 6/2019

- Project 1: Transcriptome profiling in Pheochromocytoma at single cell level
- Project 2: Transcriptomic analysis of early innate immune events after pertussis booster vaccination

Delft University of Technology, Department of Bionanoscience, Delft, The Netherlands

Postdoctoral research with Professor Nynke Dekker 4/2015 – 5/2017

- Project 1: Accessory helicase (UvrD) action in *E. coli* replication-transcription conflicts with single molecule microscopy
- Project 2: The dynamics of *E. coli* replication termination (Tus) with super-resolution microscopy and large population genomics

German Cancer Research Center (DKFZ), Biophysics of Macromolecules Division, Heidelberg, Germany

Guest researcher with Professor Jorg Langowski 4/2013 – 12/2014

- Several visits to test and carry out FCS, FCCS (fluorescence (cross-)correlation spectroscopy) and also single-plane illumination microscopy (SPIM-FCS) measurements on the setup designed and built by the group.

University of Debrecen, Department of Biochemistry and Molecular Biology, Debrecen, Hungary

Graduate research with Professor Laszlo Nagy and Dr Gyorgy Vamosi 9/2005 – 3/2015

- Thesis: Determination of dynamic properties of nuclear receptors
- Project 1: The mobility of retinoic acid receptor (RAR) during activation by fluorescence correlation spectroscopy (FCS)
- Project 2: The dynamic properties of retinoic-x receptor (RXR) during activation, chromatin association and coregulator binding as seen by single-plane illumination FCS (SPIM-FCS) and large population genomics (ChIP-seq)
- Project 3: The ligand-dependent dimerization (homo- and heterodimer) of RXR investigated by flow cytometry and single cell imaging

- Thesis: Investigation of a novel retinoid-x receptor antagonist ligand (Best presentation in Natural Sciences at the National Conference of Scientific Students' Association (OTDK))
- Project 1: The study of a novel ligand on the dimerization- and transactivation ability of RXR with transient transfection assay

PUBLICATIONS: <https://scholar.google.com/citations?user=vXZEPpEAAAAJ&hl=hu&oi=ao>

LEADERSHIP EXPERIENCE

- International Genetically Engineered Machines (iGEM), tutor for the Debrecen team 2010-Boston, 2011-Amsterdam
- Researchers' Night, organizer at the University of Debrecen, 2008, 2009, 2011, 2012
- South-East European (SEE) Science Festival, organizer of local events, 2013
- Association of Biologist Students of the University of Debrecen, president, 2007

TEACHING ACTIVITIES

- Practical in Biochemistry and Molecular Biology for medical students (Uni. of Debr.)
- Seminar in Molecular Biology for medical students. (Uni. of Debr.)
- Co-tutury support of 2 undergraduate students and support for 7 more students (Uni. of Debr.)
- Co-tutury support of 2 undergraduate students (TU Delft, RIMLS)

RESEARCH-RELATED SKILLS

RNA: isolation, RNA sequencing (bulk, single cell: CELseq2, 10x), scATACseq, RT-qPCR

DNA: isolation, molecular cloning, mutagenesis, chromatin IP

NGS: performing sequencing runs on Illumina (MiniSeq, Novaseq) platforms

cell culturing: tissue disintegration, transfection, cell-line related tasks, mammalian two-hybrid assay, bacterial strain engineering (recombination, transduction), processing of primary tissue samples

analysis: flow cytometry, confocal microscopy (imaging, FCS (fluorescence (cross)correlation spectroscopy, FRAP, FRET), fluorescence microscopy (wide field, super-resolution), single cell RNAseq data analysis, R-language