

Petr Svoboda

Curriculum Vitae

- born February 8th, 1974 in Kladno, Czech Republic (Czechoslovakia), married, two children

CONTACTS

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EDUCATION & ACADEMIC DEGREES

INSTITUTION & LOCATION	DEGREE	PERIOD	FIELD
Charles University, Faculty of Science, Prague thesis: <i>Isolation of coding sequences from the critical region of 5q deleted in myeloid malignancies</i> mentor: Jiri Zavadil (currently IARC, Lyon)	M.Sc.	1992-1997	developmental biology
University of Pennsylvania, Philadelphia USA thesis: <i>RNAi in mouse oocytes and early embryos</i> mentor: Richard M. Schultz	Ph.D.	1998-2002	cell & molecular biology
University of Pennsylvania, Philadelphia USA mentor: Richard M. Schultz	postdoc	2003	cell & molecular biology
Friedrich Miescher Institute, Basel, Switzerland mentor: Witold Filipowicz	postdoc	2003-2006	epigenetics
Charles University, Faculty of Science, Prague	Assoc Prof.	2013	habilitation in cell & developmental biology
Charles University, Faculty of Science, Prague	Professor	2017	habilitation in cell & developmental biology

POSITIONS AND EMPLOYMENT

INSTITUTION AND LOCATION	PERIOD	POSITION HELD
Inst. of Animal Physiology & Genetics ASCR, Libechov	1989-1995	visiting student
Institute of Hematology and Blood Transfusion, Prague	1995-1998	research assistant
Dept. of Biology, UPenn, Philadelphia, USA	1998-2002	teaching & research assistant
Dept. of Biology, UPenn, Philadelphia, USA	2003	postdoctoral fellow
Friedrich Miescher Institute, Basel, Switzerland	2003-2006.	postdoctoral fellow
Charles University, Faculty of Science, Prague	2006-2011	assistant (part-time)
Institute of Molecular Genetics ASCR, Prague	2007-	independent group leader

OTHER EXPERIENCE AND PROFESSIONAL MEMBERSHIPS

2008-2017	member, Committee for Collaboration with Universities, ASCR
2008-	member, Subject Area Board for PhD studied in Developmental and Cell Biology
2008-	organizer and instructor, EMBO YIP PhD course
2010-	member, RNA Society
2010-2019	member, Coordination Committee for Doctoral Studies in Biomedicine, Charles University
2011-2013	Associate Principal Investigator, European Stem Cell Group, EuroSyStem Project (FP7)
2013-2017	member, Marie Curie Initial Training Network RNATRAIN
2013-	member, Bioskop Scientific Advisory Board (bioskop.cz), MUNI
2014-	member, Mendel Lectures Scientific Advisory Board http://mendellectures.muni.cz
2015-2021	member, Council of the Institute of Organic Chemistry and Biochemistry, ASCR
2016-	member, Council of the Institute of Molecular Genetics, ASCR (chair since 2022)

AWARDS AND HONORS

1998	W. Fulbright Commission Travel Grant
2002	Dean's Awards for Distinguished Teaching by Graduate Students, U. of Pennsylvania
2002	Keystone Symposia Scholarship
2000,2002	Gordon Conference Chair's Fund fellowship
2003	Bayard T. Storey Award for Excellence in Research, CRRWH, U. of Pennsylvania
2003-2005	EMBO Long Term Fellowship
2007-2011	EMBO Installation Grant (associated with the EMBO Young Investigator Programme)
2007-2011	Purkynje Fellowship of the Czech Academy of Sciences
2014	Neuron Award for Young Scientists, The Neuron Foundation, Czech Republic.
2015	ERC Consolidator Grant, project D-FENS
2016	Annual Prize of the Czech Academy of Sciences
2018	elected EMBO member

SELECTED RESEARCH PUBLICATIONS

1. Zapletal D, Taborska E, Pasulka J, Malik R, Kubicek K, Zanova M, Much C, Sebesta M, Buccheri V, Horvat F, Jenickova I, Prochazkova M, Prochazka J, Pinkas M, Novacek J, Joseph DF, Sedlacek R, Bernecky C, O'Carroll D, Stefl R, **Svoboda P.** (2022) Structural and functional basis of mammalian microRNA biogenesis by Dicer. *Mol Cell*. **82**(21):4064-4079
2. Loubalova Z, Fulka H, Horvat F, Pasulka J, Malik R, Hirose M, Ogura A, Svoboda P. (2021) Formation of spermatogonia and fertile oocytes in golden hamsters requires piRNAs. *Nat Cell Biol*. **23**(9):992-1001
3. Kataruka S, Modrak M, Kinterova V, Malik R, Zeitler DM, Horvat F, Kanka J, Meister G, **Svoboda P.** (2020) MicroRNA dilution during oocyte growth disables the microRNA pathway in mammalian oocytes. *Nucleic Acids Res*. **48**(14):8050-8062
4. Ganesh S, Horvat F, Drutovic D, Efenberkova M, Pinkas D, Jindrova A, Pasulka J, Iyyappan R, Malik R, Susor A, Vlahovicek K, Solc P, **Svoboda P.** (2020) The most abundant maternal lncRNA Sirena1 acts post-transcriptionally and impacts mitochondrial distribution. *Nucleic Acids Res*. **48**(6):3211-3227
5. Taborska E, Pasulka J, Malik R, Horvat F, Jenickova I, Jelić Matošević Z, Svoboda P. (2019) Restricted and non-essential redundancy of RNAi and piRNA pathways in mouse oocytes. *PLoS Genet*. **15**(12):e1008261
6. Demeter T, Vaskovicova M, Malik R, Horvat F, Pasulka J, Svobodova E, Flemr M, **Svoboda P.** (2019) Main constraints for RNAi induced by expressed long dsRNA in mouse cells. *Life Sci Alliance* 2(1). pii: e201800289.
7. Franke V, Ganesh S, Karlic R, Malik R, Pasulka J, Horvat F, Kuzman M, Fulka H, Cernohorska M, Urbanova J, Svobodova E, Ma J, Suzuki Y, Aoki F, Schultz RM, Vlahovicek K, **Svoboda P.** (2017) Long terminal repeats power evolution of genes and gene expression programs in mammalian oocytes and zygotes. *Genome Res*. **27**(8):1384-1394
8. Karlic R, Ganesh S, Franke V, Svobodova E, Urbanova J, Suzuki Y, Aoki F, Vlahovicek K, **Svoboda P.** (2017) Long non-coding RNA exchange during the oocyte-to-embryo transition in mice. *DNA Res*. **24**(2):129-141
9. Abe K, Yamamoto R, Franke V, Cao M, Suzuki Y, Suzuki MG, Vlahovicek K, **Svoboda P**, Schultz RM, Aoki F. (2015) The first murine zygotic transcription is promiscuous and uncoupled from splicing and 3' processing. *EMBO J*. **34**(11):1523-37.
10. Abranches E., Guedes A.M.V., Moravec M., Maamar H., **Svoboda P.**, Raj A., Henrique D. (2014) Stochastic Nanog fluctuations allow mouse embryonic stem cells to explore pluripotency. *Development* **141**(14):2770-2779.
11. Flemr M., Moravec M., Libova V., Sedlacek R., **Svoboda P.** (2014) *Lin28a* Is Dormant, Functional, and Dispensable During Oocyte-to-Embryo Transition. *Biol Reprod* **90**(6):131:1-9.
12. Flemr M., Malik R., Franke V., Nejepinska J., Sedlacek R., Vlahovicek K., **Svoboda P.** (2013) A retrotransposon-driven Dicer isoform directs endogenous siRNA production in mouse oocytes. *Cell* **155**(4):807-16.
13. Ma, J., Flemr, M., Strnad, H., **Svoboda, P.**, Schultz, R.M. (2013) Maternally-Recruited DCP1A and DCP2 Contribute to Messenger RNA Degradation During Oocyte Maturation and Genome Activation in Mouse. *Biol Reprod*. **88**(1) 11, 1-12.
14. Nejepinska, J., Malik, R., Moravec, M., **Svoboda, P.** (2012) Deep sequencing reveals complex spurious transcription from transiently transfected plasmids. *PLoS One*. **7**(8):e43283.
15. Nejepinska, J., Malik, R., Filkowski, J., Flemr, M., Filipowicz, W., and **Svoboda, P.** (2012) dsRNA expression in the mouse elicits RNAi in oocytes and low adenosine deamination in somatic cells. *Nucleic Acids Res* **40**(1): 399-413.
16. Flemr, M., Ma, J., Schultz, R.M., and **Svoboda, P.** (2010) P-body loss is concomitant with formation of a messenger RNA storage domain in mouse oocytes. *Biol Reprod* **82**(5): 1008-17.
17. Ma, J., Flemr, M., Stein, P., Berninger, P., Malik, R., Zavolan, M., **Svoboda, P.**, and Schultz, R.M. (2010) MicroRNA activity is suppressed in mouse oocytes. *Curr Biol* **20**(3): 265-70.
18. Sinkkonen, L., Hugenschmidt, T., Berninger, P., Gaidatzis, D., Mohn, F., Artus-Revel, C.G., Zavolan, M., **Svoboda, P.**, and Filipowicz, W. (2008) MicroRNAs control de novo DNA methylation through regulation of transcriptional repressors in mouse embryonic stem cells. *Nat Struct Mol Biol* **15**(3): 259-67.
19. Bultman, S.J., Gebuhr, T.C., Pan, H., **Svoboda, P.**, Schultz, R.M., and Magnuson, T. (2006) Maternal BRG1 regulates zygotic genome activation in the mouse. *Genes Dev* **20**(13): 1744-54.
20. Schmitter, D., Filkowski, J., Sewer, A., Pillai, R.S., Oakeley, E.J., Zavolan, M., **Svoboda, P.**, and Filipowicz, W. (2006) Effects of Dicer and Argonaute down-regulation on mRNA levels in human HEK293 cells. *Nucleic Acids Res* **34**(17): 4801-15.
21. Fedoriw, A.M., Stein, P., **Svoboda, P.**, Schultz, R.M., and Bartolomei, M.S. (2004) Transgenic RNAi reveals essential function for CTCF in H19 gene imprinting. *Science* **303**(5655): 238-40.
22. **Svoboda, P.**, Stein, P., Anger, M., Bernstein, E., Hannon, G.J., and Schultz, R.M. (2004) RNAi and expression of retrotransposons MuERV-L and IAP in preimplantation mouse embryos. *Dev Biol* **269**(1): 276-85.
23. **Svoboda, P.**, Stein, P., Filipowicz, W., and Schultz, R.M. (2004) Lack of homologous sequence-specific DNA methylation in response to stable dsRNA expression in mouse oocytes. *Nucleic Acids Res* **32**(12): 3601-6.
24. **Svoboda, P.**, Stein, P., Hayashi, H., and Schultz, R.M. (2000) Selective reduction of dormant maternal mRNAs in mouse oocytes by RNA interference. *Development* **127**(19): 4147-56..