Karel ŘÍHA, PhD
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Group Leader
Deputy Director for Research

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Education

1990 - 1995	M.Sc. in Molecular Biology and Genetics, Masaryk University, Brno, Czech Republic
1995 - 1998	Ph.D. in Genetics, Masaryk University, Brno, Czech Republic

Research Experience and Employments

Since 2015	Deputy Director for Research, Central European Institute of Technology, Masaryk University, Brno, Czech Republic
Since 2014	Group Leader, Central European Institute of Technology, Masaryk University, Brno, Czech Republic
2008-2011	Deputy Director for Research, Gregor Mendel Institute
2006-2014	Group Leader, Gregor Mendel Institute of Molecular Plant Biology, Austrian Academy of Sciences, Vienna, Austria
2003-2005	Senior postdoc at the Gregor Mendel Institute of Molecular Plant Biology, Austrian Academy of Sciences, Vienna, Austria
1999-2002	Postdoc at the Department of Biochemistry & Biophysics, Texas A&M University, College Station, USA
1995-1998	Research Assistant, Institute of Biophysics, Czech Academy of Sciences, Brno, Czech Republic

Academic Honors and Awards:

2008	START Award from the Austrian Science Fund
2008	Novartis Prize
2003	Junior Investigator Award at the Vienna Biocenter Recess
2000	NSF-NATO Postdoctoral Fellowship in Science and Engineering
1999	Award of the Minister of Education of the Czech Republic
1998	Award of the Institute of Biophysics, Czech Academy of Sciences
1998	CNRS studentship for a short term study stay

Other Professional Activities

Member of the Supervisory Board of the national infrastructure Czech-BioImaging (since 2017)
Member of the Expert Panel for Biological Sciences by the Research, Development and Innovation Council of the Czech Republic (RVVI) (2016)
Member of the ERC evaluation panel LS1 for Structural and Molecular Biology (2015, 2017 and 2019 – deputy chair of the panel)
Member of the advisory board of Bioskop (since 2014)
Member of the editorial board: Biochimica et Biophysica Acta: Gene Regulatory Mechanisms

Ad hoc reviewer for a number of journals including EMBO J., Genes & Dev., Nature Communications, Nature Plants, Plant Cell, Plant J., PLoS Biology, PLoS Genetics, PNAS, Science

Ad hoc grant reviews for ANR (France), BBSRC (UK), DFG (Germany), ERC (EU), FWO (Belgium), GACR (Czech Republic), NCN (Poland).

Co-organizer of the 2nd Meeting on Plant DNA Repair and Recombination 2010, March 2-5, Asilomar, California, USA

Co-organizer of the FEBS workshop on the "Adaptation potential in plants". March 19-21, 2009, Vienna, Austria

Co-organizer of the 4th Tri-National Arabidopsis Meeting. September 12-15th, 2007, Vienna, Austria.

Member of the Curriculum Committee of the Vienna International PhD Program (2011-2013)

Teaching

Since 2019 Lecturer in the course "Synthetic Biology" at Masaryk University

Since 2010 Co-lecturer in the course "Seminars in Developmental Biology and Genetics" at University of Vienna

2004-2009 Co-lecturer in the course "Transmission Genetics" at the University of Vienna.
Lectures in the courses "Developmental Biology" and "Concepts in DNA dynamics" and "Plant Ringvorlesung" at the University of Vienna.
Lectures for the VBC PhD program

Since 2007 Member of the PhD committee for Biology at the Faculty of Science, Masaryk University, Brno, Czech Republic

Supervision of 10 completed PhD theses at University of Vienna (8), Masaryk University (1) and Comenius University (1), and of 3 MSc theses at University of Vienna and "Fachhochschule Wien."

Research output

49 per reviewed publications in international journals; >2000 citations on WoS, h-index 26; 2 patent applications

10 most significant research papers:

1. Valuchova S, Mikulkova P, Pecinkova J, Klimova J, Krumnikl M, Bainar P, Heckmann S, Tomancak P, **Riha K.** (2020) Imaging plant germline differentiation within Arabidopsis flowers by light sheet microscopy. *Elife.* 11;9. pii: e52546. doi: 10.7554/eLife.52546.
2. Valuchova S, Fulnecek J, Prokop Z, Stolt-Bergner P, Janouskova E, Hofr C, **Riha K.** (2017) Protection of Arabidopsis blunt-ended telomeres is mediated by a physical association with the Ku heterodimer. *Plant Cell* 29:1533-1545. doi: 10.1105/tpc.17.00064.
3. Watson JM, Platzer A, Kazda A, Akimcheva S, Valuchova S, Nizhynska V, Nordborg M, **Riha K.** (2016) Germline replications and somatic mutation accumulation are independent of vegetative life span in Arabidopsis. *PNAS* 113: 12226-12231
4. Gloggnitzer J., Akimcheva S., Srinivasan A., Kusenda B., Riehs N., Stampfl H., Bautor J., Dektout B., Jonak C., Jimenez-Gomez J. M., Parker J. E., **Riha K.** (2014) Nonsense-mediated mRNA decay modulates immune receptor levels to regulate plant antibacterial defense. *Cell Host & Microbe*, 16(3):376-90 [highlighted in Wachter & Hartmann, Cell Host & Microbe 16:273-275; recommended by F1000]
5. Bulankova P., Akimcheva S., Fellner N., **Riha K.** (2013) Identification of Arabidopsis meiotic cyclins reveals functional diversification of plant cyclin genes. *PLoS Genetics*, 9, e1003508 [recommended by F1000]
6. Kazda A., Zellinger B., Rössler M., Derboven E., Kusenda B, **Riha K**. (2012) Chromosome end protection by blunt-ended telomeres. *Genes & Development* 26, 1703-1713 [highlighted in

Nelson & Shippen, Genes & Dev. 26:1648; Editor's choice in Science 337: 778, recommended by F1000]

7. Zellinger B., Akimcheva S., Puizina J., Schirato M., **Riha K.** (2007) Ku suppresses formation of telomeric circles and alternative telomere lengthening in Arabidopsis. *Molecular Cell* 27, 163-169 [recommended by Faculty1000]
8. Puizina J., Siroky J., Mokros P., Schweizer D., **Riha K.** (2004) Mre11 deficiency in Arabidopsis is associated with chromosomal instability in somatic cells and Spo11-dependent genome fragmentation during meiosis. *Plant Cell* 16, 1968-1978 [recommended by Faculty1000]
9. **Riha K.,** Parkey J., Watson J.M., Shippen D.E. (2002) Telomere lengthening and enhanced sensitivity to genotoxic stress in Arabidopsis mutants deficient in Ku70. *EMBO Journal* 21, 2819 - 2826
10. **Riha K.**, McKnight T.D., Griffing L.R., Shippen D.E. (2001) Living with genome instability: Plant responses to telomere dysfunction. *Science* 291, 1797 – 1800, [highlighted in Casci, Nat. Rev. Genet. 2: 243]