

Curriculum vitae

Personal information

Name and surname: **Jaroslav Doležal**
Affiliation: Institute of Experimental Botany of the Czech
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Education and academic degrees

1973 – 1978 MSc. (Ing.) in Horticulture, University of Agriculture, Faculty of Agronomy, Brno, CZ
1979 – 1983 PhD. (CSc.) in Genetics, Institute of Experimental Botany CAS, Prague, CZ
2001 DSc. (DrSc.) in Genetics, Academy of Sciences of the Czech Republic, Prague, CZ
2001 Assoc. professor (doc.) in Botany, Faculty of Science, Palacký University in Olomouc, CZ
2013 Full professor (prof.) of Molecular Biology and Genetics, Masaryk University, Brno, CZ

Appointments

2022 – present Senior Research Officer, Centre of Plant Structural and Functional Genomics, Institute of Experimental Botany, Olomouc, CZ
2013 – 2021 Head, Centre of Plant Structural and Functional Genomics, Institute of Experimental Botany, Olomouc, CZ
2013 – present Professor of Molecular Biology and Genetics, Department of Cell Biology and Genetics, Faculty of Science, Palacký University in Olomouc, CZ
2010 – 2021 Scientific Director, Centre of the Region Haná for Agricultural and Biotechnological Research, Olomouc, CZ
1992 – 2013 Lecturer / Associate Professor, Department of Cell Biology and Genetics, Faculty of Science, Palacký University in Olomouc, CZ
1997 – 2021 Head, Olomouc Research Centre, Institute of Experimental Botany, Olomouc, CZ
1994 – 2012 Head, Laboratory of Molecular Cytogenetics and Cytometry, Institute of Experimental Botany, Olomouc, CZ
1986 – 1996 Senior Scientist, Institute of Experimental Botany, Department of Plant Biotechnology, Olomouc, CZ
1985 – 1986 Postdoctoral Fellow, ENEA, C.R.E. Casaccia, Rome, Italy
1983 – 1985 Junior Scientist, Institute of Experimental Botany, Department of Plant Biotechnology, Olomouc, CZ

Management Experience

2014 – present Scientific Council, Faculty of Science, Palacký University in Olomouc, CZ; member
2014 – present Scientific Council, Mendel University in Brno, CZ; member
2013 – 2021 Head, Centre of Plant Structural and Functional Genomics, Institute of Experimental Botany, Olomouc, CZ
2012 – 2021 Council of the Biology Centre of the Academy of Sciences of the Czech Republic, České Budějovice, CZ; member
2010 – 2021 Scientific Director, Centre of the Region Haná for Agricultural and Biotechnological Research, Olomouc, CZ

- 2007 – 2011 Council of the Institute of Experimental Botany, Prague, CZ; deputy chair
- 2007 – 2021 Council of the Institute of Biophysics, Brno, CZ; member
- 2007 – 2021 General Assembly of the Academy of Sciences of the Czech Republic, Prague, CZ; elected member
- 2005 – present Management Committee of the Global Musa Genomics Consortium, Montpellier, France; member
- 2005 – present Coordinating Committee of the International Wheat Genome Sequencing Consortium, USA; member
- 2003 – 2010 Scientific Council, Faculty of Science, Palacký University in Olomouc, CZ; member
- 2003 – 2007 Advisory Board of the Centre of Excellence in Plant Agrobiology and Molecular Genetics (PAGEN), Poznan, Poland; member
- 1998 – 2007 President, Genetics Improvement Working Group, PROMUSA, Global Program for Banana and Plantain Improvement, Montpellier, France; president
- 1997 – 2021 Head, Olomouc Research Centre, Institute of Experimental Botany, Olomouc, CZ
- 1994 – 2012 Head, Laboratory of Molecular Cytogenetics and Cytometry, Institute of Experimental Botany, Olomouc, CZ
- 1987 – 1997 FAO/IAEA expert in the field of plant genetics and biotechnology, Technical cooperation programs with developing countries, Vienna, Austria

Research funding agencies

- 1995 – 1999 Czech Science Foundation (GACR), Prague, CZ; panel member, discipline committee member, discipline committee chair
- 2005 – 2013 Czech Science Foundation (GACR), Prague, CZ; panel member, panel deputy chair, panel chair, discipline committee member, discipline committee chair
- 2016 – present National Agricultural Research Agency (NAZV), Prague, CZ, working group of the Applied Research Program of the Czech Ministry of Agriculture; member
- 2016 – present Ministry of Education, Youth and Sports (MSMT), Prague, CZ, expert advisory body of the Inter-Excellence program, Inter-COST sub-program; member
- 2017 – 2020 ERC, Brussels, Belgium; panel member “Advanced grants”
- 2018 – present Czech Science Foundation (GACR), Prague, CZ, Scientific Advisory Board; chair
- 2020 – present Grant Agency of Gregor Johann Mendel (GAGJM), Mendel University in Brno, CZ; Council member
- 2021 – present ERC, Brussels, Belgium; panel chair “Starting grants”

International Experience

- 2007 International Institute of Tropical Agriculture, Kampala, Uganda
- 2007 International Institute of Tropical Agriculture, Ibadan, Nigeria
- 1999 International Institute of Tropical Agriculture, Ibadan, Nigeria
- 1997 Malaysian Institute for Nuclear Technology Research, Bangi, Malaysia
- 1996 Universidad Nacional Autonoma de Mexico, Mexico
- 1994 ENEA, C.R.E. Casaccia, Rome, Italy
- 1989 National Nuclear Research Institute, Accra, Ghana
- 1993 Tree Improvement Research Centre, Kitwe, Zambia
- 1993 ENEA, C.R.E. Casaccia, Rome, Italy
- 1990 ENEA, C.R.E. Casaccia, Rome, Italy

1988 Tree Improvement Research Centre, Kitwe, Zambia
1987 National Nuclear Research Institute, Accra, Ghana

Teaching and mentoring in Czech Republic

Lecturer: Three semestral courses at the Department of Cellular Biology and Genetics, Faculty of Science, Palacký University in Olomouc, CZ: “Cytogenetics and Cytotaxonomy” (since 1992), “Genome Anatomy” (since 2005), and “Cytometric Techniques” (since 2005)

Bc. Students: 3 graduated

M.Sc. students: 6 graduated

Ph.D. students: 14 graduated; 2 ongoing

Memberships in Committees

2008 – present Committee for the defense of DSc. Theses in Botany and Plant Physiology, Academy of Sciences of the Czech Republic, Prague, CZ; member

2008 – present Committee for the defense of DSc. Theses in Genetics and Genomics, Academy of Sciences of the Czech Republic, Prague, CZ

Member the Committee for Doctoral studies in Genomics and proteomics, MU

Teaching at international training courses (since 2016)

2016 Workshop Plant Cytogenetics, Cytogenomics, Gene Discovery and Crop Improvement, Nanjing Agricultural University, Nanjing, China

2017 Frontiers in Genomics, Center for Genomic Sciences, National Autonomous University of Mexico, Cuernavaca, Mexico

2021 Virtual 22nd INDO-US Flow Cytometry Workshop on Plant Flow Cytometry, Trust for Education and Training in Cytometry, India

2022 Virtual 23rd INDO-US Flow Cytometry Workshop on Plant Flow Cytometry, Trust for Education and Training in Cytometry, India

Main research interests and achievements

- As one of the first in the world developed a method to estimate nuclear genome size in plants using flow cytometry. Contributed significantly to the standardization of the method and promoted its wide use, which includes plant genetics and physiology, systematics, taxonomy, population biology and also plant breeding.
- Developed a new approach for genomics termed “Chromosomal Genomics”, which simplifies the analysis of complex genomes by dissecting them to single chromosomes by flow sorting. Chromosome genomics has been used in projects on sequencing genomes of important crops, to study their organization and to map and isolate important genes.
- Established a successful program to study genetic information of banana (*Musa* spp.), an important staple and export commodity. Participated at Musa genome sequencing projects and established a genotyping center to characterize global genetic diversity of Musa and support its conservation, and also collaborated with banana breeding programs.
- Current research interest focuses on three-dimensional organization of plant genomes and the impact of this arrangement on genome function, regulation of plant growth and development, and response to environmental factors.

Research grants (last 5 years)

National:

- CSF: MITOCHROM: Changes in the three-dimensional structure of nuclear chromatin of plants during the cell cycle. 2018 – 2022 (PI)
- MAG: Increasing the resistance of wheat to drought, frost, powdery mildew and ear fusarium head blight using genomics and proteomics methods. 2017 – 2021 (Co-PI).
- TACR: Biotechnological Center for Plant Genotyping, Provider: TA0 - Technological Agency of the Czech Republic. 2018 – 2022 (Co-PI).
- MEYS: Sustainable development of research in the Center of the region Haná. 2014 – 2018 (Co-PI).

International:

- MEYS: Cooperation with Bioversity International in the analysis and preservation of the global genetic diversity of banana. 2015 – 2017 (PI)
- Horizon 2020, MSCA: Widening gene pool of bread wheat by hybridization with *Aegilops biuncialis* supported by advanced genetic and chromosome genomic approaches. 2017–2019 (Co-PI).

Invited lectures (5 selected in the last 5 years)

- „Chromosome-centric approaches to genome sequencing and gene cloning“. 1st Symposium 'WURomics: Technology-Driven Innovation for Plant Breeding. Wageningen Plant Research, CAT-AgroFood, Wageningen, Netherlands, 15.12.2016.
- „Chromosome-Centric Approaches to Plant Genome Analysis and Gene Cloning“. International Conference of the Genetics Society of Korea, Seoul, Korea, 26. – 27. 10. 2017.
- “Chromosome Genomics Facilitates Cloning Genes and Sequencing Genomes“. 18th International Biotechnology Symposium and Exhibition, Montréal, Canada, 12. – 17. 8. 2018
- “Chromosome genomics in cereals: looking back and forward“. 5th Conference on Cereal Biotechnology and Breeding, Budapest, Hungary, 4. – 7. 11. 2019.
- “Uncovering the secrets of plant chromosomes with the aid of flow cytometry“. Chromopalooza: A festival to celebrate chromosome biology. Vienna, Austria, 27. – 28. 2. 2020.

Membership in scientific societies

1990 – present Czech Society for Histochemistry and Cytochemistry, Brno, CZ; member

1997 – present International Society for Analytical Cytology, Northbrook, USA; member

1999 – present European Cytogeneticists Association, Clermont-Ferrand, France; member

2001 – present Czech Society for Analytical Cytology, Brno, CZ; president (2007-2011), vice-president (2011 – 2015)

2005 – present The Genetics Society of America, Bethesda, USA; member

2006 – present International Society for Horticultural Science, Leuven, Belgium; member

Awards

1999 Annual Award of the Learned Society of the Czech Republic

2004 Elected member of the Learned Society of the Czech Republic

2004 Pro Merito medal, Palacký University, Olomouc, CZ

2012 Praemium Academiae Award, Academy of Sciences of the Czech Republic, Prague, CZ

2013 Leadership Award, International Wheat Genome Sequencing Consortium, Bethesda, USA

- 2014 Award for extraordinary results of research, experimental development and innovation, Minister of Education, Youth and Sports of the Czech Republic, Prague, CZ
- 2018 National prize of the Czech government “Česká hlava” (Czech Mind), the first and most recognized scientific award in the Czech Republic, Prague, CZ
- 2021 Distinguished Service Award, Czech Society for Analytical Cytology, Brno, CZ
- 2022 Doctor honoris causa (dr. h. c.), Mendel University in Brno, CZ

Publication activity summary (as of February 15, 2023)

- Publications in peer-reviewed journals: 383
- Books (editor): 4
- Book chapters: 41
- Number of citations (WoS): total: 23,559, without self-citations: 20,448
- h-index (WoS): 68