**B I O G R A P H I C A L S K E T C H (until 2023)**

**PERSONAL DATA**

RNDr. Jan Kormanec, DrSc. 1959

**EDUCATION AND PROFESSIONAL EXPERIENCE**

1979 - 1984 Comenius University, Bratislava, Czechoslovakia; Undergraduate student of

biochemistry; graduated with honor.

1984 - Institute of Molecular Biology, Slovak Academy of Sciences (SAS), Bratislava,

PhD study (1984-1991); PhD Thesis "Isolation and

characterization of a new gene POP1 in *Saccharomyces cerevisiae*, encoding a protein

with highly repetitive structure" defended in 1991. Research Assistant (1986-1991).

Head of Department of Gene Expression (1991-2015); Head of Department of Genomics and Biotechnology (2016- ).

Director of the Institute of Molecular Biology (2012-2016)

1988 - 1989 Max-Planck Institute of Experimental Medicine, Gottingen, Germany, visiting

 scientist at Department of Biochemistry (15 month) in the group of Prof. Hans

Kuntzel. Main topics - signal transduction in yeast.

1991 - 1994 external teacher at Comenius University, Bratislava

1993 – 2001 external teacher at Slovak Technical University, Bratislava

1995 – 1996 Max-Planck Institute of Molecular Physiology, Dortmund, Germany, visiting

scientist at Department of Epithelial physiology (16 month) in the group of

prof. Ralph K. Kinne. Main topics - study of Na/glucose cotransporter in

rabbit kidney.

 1998 Max-Planck Institute of Molecular Physiology, Dortmund, Germany, visiting

scientist at Department of Epithelial physiology (2 month) in the group of

prof. Ralph K. Kinne. Main topics – Clonning of the *sglt* genes from sea fish.

2002 Defended high doctor (DrSc) thesis: “Heterogeneity of sigma factors of RNA polymerase a differentiation of streptomycetes“. Awarded by a title DrSc in the field of research: „Molecular Biology“ by the Scientific Board of Comenius University in Bratislava.

2003 Invited professor (2-mounth stay) in Université Paris Sud, Orsay cedex, France.

**National and international projects**

**1,** (1991-1993), Grant project GA SAV 2/999135/91: Control of gene expression in streptomycetes by RNA polymerase heterogeneityy.

**2,** (1994-1996) Grant project VEGA 2/1072/94: Differentiation of streptomycetes in relation to heterogeneity of RNA polymerase sigma factors.

**3,** (1997-1999) Grant project VEGA 2/4007/97: RNA polymerase sigma factor cascade and regulation of streptomycete differentiation.

**4,** (2000-2002) Grant project VEGA 2/7001/20: Morphological and physiological regulation

differentiation in streptomycetes and the role of RNA polymerase sigma factors in this process.

**5,** (2003-2005) Grant project VEGA 2/3010/23: The role of key regulatory proteins

gene expression, RNA polymerase sigma factors, in differentiation, response to stress and

pathogenicity of bacteria.

**6,** (2002-2004) Grant project 032/2001 within the framework of American-Slovak cooperation by the agency for the support of science and technology (APVT): Identification of novel Mycobacterium tuberculosis genes under the control of RNA polymerase sigma factor SigF, in collaboration with Prof. Patrick Brennan, Colorado State University, Department of Microbiology, Fort Collins, USA.

**7,** (2001-2003) Grant project The Wellcome Trust as Collaborative Research

Initiative grant 065027/Z/01/Z: Identification of novel *Salmonella typhimurium*

genes under the control of RNA polymerase sigma factor E in collaboration with Prof. Mark

Roberts, University of Glasgow, UK.

**8,** (2005-2007) Grant project APVT-51-012004 awarded by the agency for the support of research and development (APVV): The role of the RpoE regulon in pathogenicity Salmonella typhimurium.

**9,** (2006-2008) Grant project VEGA 2/6010/26: Regulation of bacterial differentiation and

pathogenicity in relation to stress response, the role of sigma factors of RNA polymerase in these

processes.

**10,** (2008-2010) Grant project APVV-0017-07 awarded by the agency for the support of research and development (APVV): Molecular characterization of regulation and biosynthesis of polyketide antibiotic auricin in *Streptomyces aureofaciens* CCM3239.

**11,** (2009-2011) Grant project VEGA 2/0104/09: The role of sigma factors of RNA polymerase in

stress response, pathogenicity and differentition of bacteria.

**12,** (2012-2015) Grant project VEGA 2/0028/12: Complex regulation of the stress response, cell differentiation and pathogenicity in bacteria by sigma factors of RNA polymerase and their regulators.

**13,** (2012-2015) Grant project APVV-0203-11 awarded by the agency for the support of research and development (APVV): Molecular mechanisms of biosynthesis, regulation, and horizontal transfer of genes responsible for production of biologically active compounds in streptomycetes.

**14,** (12/2013-11/2018) Co-investigator of the grant project 7RP no. 613877 within the EU SP1-Cooperation call, KBBE.2013.3.6-02: Synthetic Biology towards applications, awarded by the European Union (Coordinator Prof. Anastassious Economou, Katholieke Universiteit Leuven Belgium): Rewiring the Streptomyces factory for cost-effective production of biomolecules.

**15,** (01/2016-12/2019) Grant project VEGA 2/0002/16: Complex regulation of the stress response and cell differentiation by alternative sigma factors of RNA polymerase in soil Gram-positive bacteria of the genus *Streptomyces*.

**16,** (07/2016-12/2019) Grant project APVV-15-0410 awarded by the agency for the support of research and development (APVV): Synthetic biology for the production of new biologically active compounds in streptomycetes.

**17,** (01/2020-12/2023) Grant project VEGA 2/0026/20: Signal cascades of regulation of sigma factors of RNA polymerase in response to stress, cell and physiological differentiation in soil bacteria of the genus *Streptomyces.*

**18,** (07/2020-06/2024) Grant project APVV-19-0009 awarded by the agency for the support of research and development (APVV): Preparation of new antibiotics and antitumor agents by manipulations of secondary metabolite genes and synthetic biology methods.

**Other current activities and honors**:

**1,** (1990 - ) Member of Scientific board of Institute of Molecular Biology, SAS.

**2,** (1998 - ) Member of the Committee of the Slovak Society for Biochemistry and Molecular Biology

**3,** (2008 – 2015) Member of the committee of grant agency VEGA for biological sciences

**4,** (2014 – 2017) Member of the committee of grant agency APVV for natural sciences

**5,** (2010 – 2012) Member of the accreditation committee of SAS for evaluation of institutes

**6,** (2022 – 2025) Member of the committee of grant agency APVV for natural sciences

**7,** Scientific prize of Slovak Academy of Sciences, Bratislava, 1996 for the best project: “The role of sigma factors of RNA polymerase in differentiation of *Streptomyces*.”.

**8,** Awarded by the prize: “Scientist of the year of Slovak Republic” in 2004.

**9,** Scientific prize of Slovak Academy of Sciences, Bratislava, 2014 for the best project: “Intriguing properties of new antibiotic auricin and complex mechanism of the regulation of its biosynthesis”.

**10,** Scientific prize of Slovak Academy of Sciences, Bratislava, 2019 for the best project in the field of international collaborations: “Genetically manipulated strains of streptomycetes for

efficient production of biotechnologically relevant biomolecules”.

**Publications:**

129 original research papers, 6 chapter in books, 2510 WOS citations, 121 abstracts from national and international scientific meetings, 1 patent.

The main research interests include the role of RNA polymerase sigma factors in stress response, pathogenicity and bacterial differentiation and regulation of antibiotics biosynthesis.