europass

Ajay Kumar

Nationality: Indian **Date of birth:** 10/04/1991 **Place of birth:** India **Gender:** Male

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ABOUT ME

I am a dedicated researcher with a comprehensive thinking approach and excellent expertise in several tools and techniques in the Plant Molecular Biology field. I have secured multiple fellowships to support international lab visits, project execution, and the presentation of significant scientific findings on global platforms. I have actively sought opportunities to work in multicultural lab environments across various countries. Putting consistent efforts to advance the knowledge and explore new skills to secure the best position in a scientific career.

WORK EXPERIENCE

Dr. Jozef Mravec – Nitra, Slovakia

Address: Akademická 2 Centrum biológie rastlín a biodiverzity SAV, v. v. i., 95007 Nitra (Slovakia)

Postdoctoral Researcher

[01/09/2024 – Current]

Project: Aptamer-based analytical platform for in vitro and in situ analyses of complex carbohydrates – CARBODNA (IMPULZ fund:IM-2021-23)

Research Assistant

[01/02/2023 – 31/08/2024]

doc. RNDr. Ján Jásik, DrSc. – Bratislava, Slovakia

City: Bratislava | **Country:** Slovakia

Research Assistant

[01/09/2023 – 31/01/2024]

Participated in a funded research project (APPV-16-0398) investigating Synaptotagmin function in *Arabidopsis thaliana*

National Institute of Plant Genome Research – New Delhi, India

City: New Delhi | **Country:** India

Junior Research Fellow

[01/08/2018 – 30/08/2019]

Research focused on the phenotypic characterization of 300 rice varieties and studying the epigenetic modification influencing seed morphology

EDUCATION AND TRAINING

Protoplast Biotechnology—Training School

Cost Action CA21157 – COPYTREE [07/10/2024 – 09/10/2024]

City: Ghent | **Country:** Belgium

Doctor of Philosophy

Faculty of Natural Sciences, Comenius University [11/09/2019 – 20/08/2024]

City: Bratislava | **Country:** Slovakia | **Field(s) of study:** Botany | **Level in EQF:** EQF level 8 | **Thesis:** Dissection of the function of the Arabidopsis genes SYNAPTOTAGMIN 4 and 5 in plant development and response to environmental stresses

Erasmus+ Internship

University of Malaga [20/10/2022 – 20/12/2022]

City: Malaga | **Country:** Spain

Functional Imaging of Biological Systems

FEBS advanced practical course on Microspectroscopy [06/09/2022 – 15/09/2022]

City: Nijmegen and Wageningen | **Country:** Netherlands

Industrial Traineeship under BITP–DBT Program

Sericare; a division of Healthline Pvt. Ltd [01/02/2018 – 30/04/2018]

City: Bangalore | **Country:** India

Master of Science

Dr. Rajendra Prasad Central Agriculture University [01/08/2014 – 30/08/2017]

City: Samastipur (Bihar) | **Country:** India | **Field(s) of study:** Agricultural Biotechnology | **Level in EQF:** EQF level 7 | **Thesis:** Genome-wide association analysis for identification of genes involved in ion accumulation in rice grain

Master's Research Exchange Program

University of Milan—BRAVE Project (Erasmus Mundus) [10/10/2015 – 30/08/2016]

City: Milan | **Country:** Italy | **Level in EQF:** EQF level 7

Field Phenotyping Workshop

Whealbi Project [18/04/2016 – 20/04/2016]

City: CREA, Fiorenzuola d'Arda | **Country:** Italy

Bachelor of Science

Chhatrapati Shahu Ji Maharaj University

City: Kanpur (U.P.) | **Country:** India | **Field(s) of study:** Biotechnology | **Level in EQF:** EQF level 6 | **Thesis:** Role of Nyctanthis arbor-tristis in alleviating heavy metal toxicity from the contaminated soil

Basic Molecular Biology and Biotechnology Techniques

Genetech Laboratories, Biotech Park [01/12/2012 – 31/01/2013]

City: Lucknow (U.P.) | **Country:** India

LANGUAGE SKILLS

Mother tongue(s): Hindi

Other language(s):

English

LISTENING C1 **READING** C1 **WRITING** C1

SPOKEN PRODUCTION C1 **SPOKEN INTERACTION** C1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

SKILLS

Laboratory skills

Isolation of nucleic acid / PCR techniques / Protein isolation / SDS-PAGE / Western blot / Cloning and transformation techniques / Sectioning and imaging techniques / Genotyping / Phenotyping

Computational skills

Bioinformatic tools / MEGA software / Snapgene / GraphPad / Biorender / MS office

PUBLICATIONS

[2025]

Probing homogalacturonan in situ: A comprehensive review of available molecular recognition tools

Authors: Harenčár Ľ, Heldesová K, Stratilová B, Kumar A, Mravec J. | **Journal Name**: International Journal of Biological Macromolecules | **Volume, Issue and Pages**: 311, 4, 143752

[2024]

SYNAPTOTAGMIN 4 is expressed mainly in the phloem and participates in abiotic stress tolerance in Arabidopsis

Authors: Kumar A, Krausko M, Jasik J. | **Journal Name**: Frontiers in Plant Science | **Volume, Issue and Pages**: 15, 1363555

[2022]

The absence of the AtSYT1 function elevates the adverse effect of salt stress on photosynthesis in Arabidopsis

Authors: Krausko M, Kusá Z, Peterková D, Labajová M, Kumar A, Pavlovič A, Bačovčinová, M, Bačkor M, Jásik, J. | **Journal Name**: International Journal of Molecular Sciences | **Volume, Issue and Pages**: 23, 3, 1751

[2019]

Continuous flooding or alternate wetting and drying differently affect the accumulation of health-promoting phytochemicals and minerals in rice brown grain

Authors: Orasen G, Patrizia DN, Lucchini G, Abruzzese A, Pesenti M, Maghrebi M, Kumar A, Nocito FF, Baldoni E, Morgutti S, Negrini N. | **Journal Name**: Agronomy | **Volume, Issue and Pages**: 9, 10, 628

[2019]

Alleviation of heavy metal stress in Nyctanthes arbor-tristis under the treatment of lead

Authors: Kumar A, Mishra S, Chaudhary M. | **Journal Name**: SN Applied Sciences | **Volume, Issue and Pages**: 1, 2, 143

[2018]

Gardens of the future: Plantibodies

Authors: Mishra S, Kumar A, Suman SK | **Journal Name**: Book: In Dimensions of Agricultural Science (ed. P. K. Ojha)- ISBN: 978-93-272-8337-2 | **Volume, Issue and Pages**: 109–121 | **Publisher**: Kalyani Publishers

CONFERENCES AND SEMINARS (RECENT 5)

Kumar A, Krausko M, Jasik J. 2025. Phloem-specific localization of SYNAPTOTAGMIN 4 in Arabidopsis and its potential role in abiotic stress responses. Plant Biology CS 2025, Bratislava, Slovakia

Kumar A, Krausko M, Jasik J. 2025. Phloem-specific localization of SYNAPTOTAGMIN 4 in Arabidopsis and its potential role in abiotic stress responses. 35-International Conference on Arabidopsis Research – 2025, Ghent, Belgium

Kumar A, Jásik J. 2024. Potential role of Arabidopsis SYNAPTOTAGMIN 4 in phloem development. Mendel Early Career Symposium,Vienna BioCenter, Austria

Krausko M, Kumar A, Kusá Z, Peterková D, Labajová M, Jásik J. 2022. The impact of AtSYT1 gene absence of photosynthesis performance in Arabidopsis under salt stress. Mendel Early Career Symposium, Vienna BioCenter, Austria

Kumar A, Jásik J. 2022. Expression analysis of closely related synaptotagmin AtSYT4 and AtSYT5 genes in Arabidopsis. Student Conference of Plant Biology- Charles University, Prague, Czech Republic

HONOURS AND AWARDS

[28/06/2025] Jai Narain Vyas University, Jodhpur
Prof. A.R. Mehta Memorial Lecture-2025 Invited lecture entitled: Phloem-specific localization of SYNAPTOTAGMIN-4 in Arabidopsis and its potential role in abiotic stress responses

[2025] Association of Applied Biologists, U.K.
Travel Grant for International Conference on Arabidopsis Research 2025

[2022] Federation of European Biochemical Societies
Youth Travel Funds for Fluorescence Microspectroscopy: Functional Imaging of Biological Systems

[2020] DoktoGrant SAV
Certificate for High-Quality Project

[2018] Agricultural Scientists Recruitment Board, India
Qualified National Eligibility Test

[2018] Department of Biotechnology-Biotechnology Industrial Training Programme, India
Industrial Training Fellowship

[2018] Department of Biotechnology, India
Junior Research Fellowship-Cat. 1

[2011] Indian Institute of Pulses Research, Kanpur (U.P.), India
Certificate of Excellence: Best Poster Presentation in the Symposium

NETWORKS AND MEMBERSHIPS

[01/04/2025 – Current] United Kingdom
Association of Applied Biologists

[01/08/2022 – 31/08/2023] Slovakia
The Slovak Society for Biochemistry and Molecular Biology