

Albert Krastanov

Professor, PhD, Doctor of Technical Sciences, Engineer

Born June 30, 1960 in Veliko Tarnovo, Bulgaria. Secondary education graduated from the mathematical high school in his hometown and a university degree in 1985 at the University of Food Technologies in Plovdiv, Bulgaria. He graduated as a technology engineer for fermentation products.

Prof. Krastanov started as an assistant at the Department of Microbiology and Biotechnology in University of Food Technologies. He defended her doctoral thesis in 1997 and since 2001 he is a regular Associate professor at the Department of Biotechnology. In 2007 he was awarded the scientific degree "Doctor of Technical Sciences". Since the following year he has been a full professor at the Department of Biotechnology, and since 2012 he has been his head. From 2015 he is a co-founder and expert at the newly established "Academic Unit for Traditional Bulgarian Dairy Products" at the Bulgarian Academy of Sciences.

Specialized in: Department of Chemical Enzymology at Moscow University, Russia; Department of Biotechnology, University of Padua, Italy; "Institute for Scientific and Industrial Research" at the University of Osaka, Japan; "International Center for Biotechnology" at the University of Osaka, Japan; State University of Iowa, USA; State University of New York, USA; Department of Biotechnology at the University of Osaka, Japan. In 2001 he was a visiting professor at the University of Osaka, Japan, and in 2004 visiting professor at the University of Vellor, India. He lectures in front of academic staff from universities in Italy, USA, India and Japan. He holds a regular biotech course for PhD students at the University of Padua, Italy.

Research activities of prof. Krastanov are in the field of: enzyme technology and enzyme engineering, biodegradation, biotransformation and antioxidant properties of biologically active substances, biocatalysis in homogeneous and heterogeneous environment, microbial biosynthesis and purification of enzymes, probiotics, metabolomics and aquaphotomics of lactic acid bacteria as well as development of new generation of biomaterials from basidiomycetes.

Prof. Krastanov is the author of over 210 scientific publications, 4 patents and 8 textbooks on biochemistry, biotechnology and enzymology. His scientific achievements are cited more than 4100 times by the international scientific community. He leads and participates in a number of scientific and international projects of the EU's Seventh Framework Program, in the US, Japan, Italy and Germany.

Member of: Union of Scientists in Bulgaria; Academy of Sciences in New York; The Union of Biotechnologists in Bulgaria; the American Chemical Society; the American Association for Science and Technology (AASCIT); European Federation of Biotechnology and Delegate from Bulgaria to the Scientific Committee of EFB Section on Applied Biocatalysis. Member of the Editorial Board of "Engineering in Life Science", "Ecological Engineering and Environmental Protection", "Biotechnology & Biotechnological Equipment", "International Journal of Agricultural Science and Technology", "Food Science and Applied Biotechnology" (co-editor), "The Open Biotechnology Journal", „Journal of Molecular Biology and Biotechnology“ and "International Journal of Food Science and Biotechnology".

Awarded with grants from the Matsumae International Foundation - Japan; JSPS - Japan and FULBRIGHT - USA. He is the winner of the annual "Pitagor Prize" for a well-known scientist in the field of technical sciences for the year 2014.

Other activities:

- Invited lectures:
 - 2001 - International Center for Biotechnology, Osaka University, Japan
 - 2003-2005 – State University of New York, USA
 - 2004 – Department of Biotechnology, VIT, Vellore, India
 - 2010-2018 – Dept. of Biotechnology, Padua University, Italy
- Member of expert committee at the National Evaluation and Accreditation Agency and NACID
- Member of expert committees for evaluation of scientific projects at the University of Padua, Italy and the International Panel for Program Accreditation of the Caledonian College of Engineering in Oman.
- Leader and participant in **25** national and international scientific projects incl. EU FP7.
- Participant with plenary reports and presentations at 30 International Conferences.
- Reviewer in 17 national and international peer-reviewed journals.
- Consultant of SELUR PHARMA Ltd., BIOVET JSC, EUROMED JSC, BIOTECHFARM Ltd., EADS - Germany, STABIL ENGINEERING Ltd., INOTOP BIO Ltd, BULGARIAN CONSULTING ORGANIZATION Ltd., BIOMIC Ltd., VENSOMY Ltd. and other company in the field of biotechnology.

Curriculum Vitae

Name: Albert Ivanov Krastanov

Date of birth: June 30, 1960

Place of birth: V.Tarnovo, Bulgaria

Nationality: Bulgarian

Marital status: Single

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4002 - Plovdiv, Bulgaria

Mobile: +359 887 410 977

Educational degrees:

- 1997, **Ph.D.**, University of Food Technologies, Plovdiv, Bulgaria (Enzymology), Title of the thesis: “Biosynthesis of Invertase from yeast, immobilization of the cells and their application in biotechnological processes.”
- 1985, **M.Sc.**, University of Food Technologies, Plovdiv, Bulgaria (Biotechnology, Fermentation technology, Industrial microbiology)
- 1984, **B.Sc.**, University of Food Technologies, Plovdiv, Bulgaria (Biotechnology)
- 1978, High School of Mathematic, V.Tarnovo, Bulgaria

Scientific degree:

- 2007, **D.Sc.**, University of food technologies, Plovdiv, Bulgaria (Immobilized biocatalysts)

Professional positions:

- 1985, Research Assistant, Laboratory of Appl. Enzymology, Institute of Industrial Microbiology (“Actavis”), Razgrad, Bulgaria. Field of research – *Application of enzymes for obtaining of new antibiotics.*
- 1987, Lecturer, College of Biotechnology, Razgrad, Bulgaria. Field of research and teaching – *Enzyme technology.*
- 1988, Assistant Professor, Dept. of Biotechnology, University of Food Technologies , Plovdiv, Bulgaria

- 1994, Senior Assistant Professor, Dept. of Biotechnology, University of Food Technologies, Plovdiv, Bulgaria. Field of research – *Enzyme technology; Chemistry of vitamins; Industrial microbiology*.
- 2001–2008, Associate Professor, Dept. of Biotechnology, University of Food Technologies, Plovdiv, Bulgaria. Field of research and – *Enzyme technology, Enzyme engineering, Industrial microbiology, Food technology*
- 2001-2002, Visiting-Professor, International Center for Biotechnology, Osaka University, **Japan**. Field of research - *Enzyme technology, Immobilized cell system and their application for carbohydrate transformation*.
- 2004, Visiting-Professor, Dep. of Biotechnology, Vellore Institute of Technology, **India**. Field of study – *Enzyme engineering (immobilized enzyme and cell technology)*.
- 2007, Doctor of Science, *Enzyme engineering (immobilized enzyme and cell technology)*.
- 2008 (to present), PROFESSOR, Dept. of Biotechnology, University of Food Technologies, Plovdiv, Bulgaria *Enzyme technology, Enzyme engineering, Industrial microbiology, Food technology*
- 2012 (to present), Head of the Dept. of Biotechnology, University of Food Technologies, Plovdiv, Bulgaria
- 2016-2017, Expert, Specialized Academic Unit for Traditional Dairy Products, Bulgarian Academy of Science

Specializations:

- 1990, 5 months, Dept. of Chemical Enzymology, Moscow University, Russia (*Protein engineering; Biosynthesis of enzymes; Downstream processes*).
- 1997/98, 12 months (Post-doc), Dept. of Biotechnology, Padova University, Italy (*Purification and immobilization of enzymes and peptide antibiotics; Enzyme kinetic; Applied biocatalysis; Food technology*).
- 2000, 6 months (Post-doc), Division of Biological Sciences, Institute of Scientific and Industrial Research, Osaka University, Japan (*Enzyme function and kinetic; Purification of Enzymes; Spectroscopy Studies; Site-directed mutagenesis*).
- 2001/2002, 6 months (professorship), International Center for Biotechnology, Osaka University, Japan (*Microbial production of Enzymes, Immobilization of microbial cells and application for Palatinose production*)
- 2003, 5 months, USDA Grant, Dep. of Biochemistry, Biophysics and Molecular Biology, Iowa State University, USA (*Cholesterol reductase purification and assay, transformation of cholesterol with immobilized cells*).
- 2004, 5 months, Dep. of Biotechnology, Vellore Institute of Technology, India (*Biosynthesis, purification and characterization of thermostable proteinase and tannase*).
- 2005-2006, 6 months, FULBRIGHT GRANT, State University of New York, USA (*Preparation and characterization of immobilized and co-immobilized enzymatic systems with copolymer/enzyme constructs; Nondestructive Regioselective Modification of Laccase by Linear-Dendritic Copolymers*)
- 2009, 3 months, JSPS GRANT, Department of Biotechnology, Osaka University, Japan (*METABOLOMICS - progress on metabolomics tactics and its application for biotechnology and the related fields, progress on metabolomics tactics and its application for biotechnology and the related fields*)

Related courses and short visit:

- 1996, Laboratory of Protein Chemistry, INRA – Nantes, France (*Recent purification methods in protein chemistry and biochemistry*)
- 1996, Advanced course of Applied Biocatalysis, Balatonfüred, Hungary
- 1999, Institute of Molecular Biology & Biotechnology, Heraklion, Greece (*Methods in molecular biology and genetic*)
- 2009, Dept. of Biotechnology, Padua University, Italy (*Immobilization of Bifidobacteria for novel Fructooligosaccharides production*)
- 2012, Dept. of Biotechnology, Padua University, Italy (*ERASMUS program*)

Teaching:

Under-graduate Courses

Department of Biotechnology, University of Food Technologies, Plovdiv, Bulgaria:

- Industrial enzymology
- Applied enzymology
- Industrial microbiology
- Separation and analysis of bio-products
- Vitamins

Graduate Courses

Department of Biotechnology, University of Food Technologies, Plovdiv, Bulgaria:

- Enzyme engineering
- Applied bio-catalysis and bio-sensors

International Center for Biotechnology, Osaka University, Japan:

- Microbial production of enzymes
- Immobilized cell systems

Department of Biotechnology, VIT, Vellore, India:

- Chromatographic methods for enzyme purification

PhD Courses

Department of Biotechnology, VIT, Vellore, India:

- Enzyme biosynthesis and purification

Dept. of Biotechnology, Padua University, Italy (ERASMUS)

- Immobilized enzyme and cells technology

University of Food Technologies and Bulgarian Academy of Science – Supervisor of 10 PhD students (8 graduated)

Scientific expertise: Biotechnology, Enzymology, Industrial enzymology, Enzyme engineering, Probiotics, Biologically active substances, Industrial microbiology

Number of scientific publications – 202. In peer-reviewed journals with IF – 100. Textbooks – 15

Author ID: **6507774291**, *h* - index: **23** (*h* - index according to Google Scholar: **30**)

Number of citations – **3850** in total, **2040** according to Scopus

<https://scholar.google.bg/citations?user=NoumwWEAAAAJ&hl=bg>
<https://www.scopus.com/authid/detail.uri?authorId=6507774291>

Patent authorship (single or shared) - 4

Membership in scientific organizations:

- 1992 to present, Member, The Union of Scientists in Bulgaria
- 1994 to present, Member, The New York Academy of Sciences
- 2002 to present, Member, The society of the Biotechnologists in Bulgaria
- 2008 to present, Member, American Chemical Society
- 2014 to present, Member, American Association for Science and Technology (AASCIT)
- 2017 to present, Member, European Federation of Biotechnology (EFB)
- 2018 to present, Delegate from Bulgaria to the Scientific Committee of EFB Section on Applied Biocatalysis

Editorial board member:

- “Engineering in Life Science” – “WILEY-VCH”
- “Ecological engineering and environment protection” – Bulgaria
- “Biotechnology & Biotechnological Equipment” – “Taylor & Francis”
- “International Journal of Agricultural Science and Technology” (IJAST)
- „Food Science and Applied Biotechnology“ (co-editor)
- “Scientific Works of University of Food Technologies”
- “International Journal of Biotechnology and Recent Advances”
- “The Open Biotechnology Journal”
- „Journal of Molecular Biology and Biotechnology“
- “International Journal of Food Science and Biotechnology”

Other activities:

- Invited lectures:
 - 2001 - International Center for Biotechnology, Osaka University, Japan
 - 2003-2005 – State University of New York, USA
 - 2004 – Department of Biotechnology, VIT, Vellore, India
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- Reviewer in 17 national and international peer-reviewed journals.

- Consultant of SELUR PHARMA Ltd., BIOVET JSC, EUROMED JSC, BIOTECHFARM Ltd., EADS - Germany, STABIL ENGINEERING Ltd., INOTOP BIO Ltd, BULGARIAN CONSULTING ORGANIZATION Ltd., BAYOMIC Ltd., VENSOMY Ltd. and other company in the field of biotechnology.

Scientific interests and expertise:

Enzymology and Biotechnology – enzyme engineering (immobilized enzymes and cells), enzyme technology, fermentation technology, biological activity, biodegradation technology, probiotics.

Participation in the implementation of contracts with the industry

Contract	Company	Position, technological solution
Construction of the pharmaceutical enterprise SELOUR PHARMA Ltd.	SELUR HOLDING JSC	Chief consultant and head of the scientific and design team
Development and implementation of technologies for production of probiotic preparations	SELUR PHARMA Ltd.	Chief consultant and head of the scientific team
Development of technology for obtaining and formulation of two new synbiotic products	BIOVET JSC	Chief consultant and head of the scientific team
Realization of a project for obtaining a new generation of composite biomaterials from agro-waste and mycelium from basidiomycetic mushrooms	BAYOMIC Ltd.	Chief consultant and head of the scientific and design team
Development and implementation of a method for pure production, storage and processing of artichoke for the production of fructans	INOTOP BIO Ltd.	Chief consultant and head of the scientific and design team
Creation of a new biotechnology enterprise in Razgrad and implementation of technologies for new bioproducts.	BIOTECHFARM Ltd.	Chief consultant and head of the scientific and design team
Creation of an original innovative product based on enzyme concentrates and probiotics	VENSOMI Ltd.	Chief consultant and head of the scientific and design team

Foreign Languages

Competence on a scale from 1 to 5 (5 – excellent, 1 - basic)

Language	Understanding		Speaking		Writing
	Listening	Reading	Participation in a conversation	Individual oral presentation	
English	4	5	5	4	4
Russian	5	5	5	5	4

**Winner of the PITAGOR Award for an Established Scientist in the Field of
Technical Sciences - 2014**