

## CURRICULUM VITAE

**STOYAN TZONKOV**  
**Prof., D.Sc.**



Prof. Stoyan Tzonkov was born in March 1939 in Debnevo. He graduated at Technical University of Sofia in 1966 with master's degree in Plant Electrical Equipment and Automation. He defended his Ph.D. thesis at Technical University – Sofia in 1972 and D.Sc. thesis at Central Laboratory of Bioinstrumentation and Automation – Bulgarian Academy of Sciences (CLBA – BAS), Sofia in 1984. Since 1974 Stoyan Tzonkov has been an associated professor, and since 1987 – a full professor at Central Laboratory of Bioinstrumentation and Automation – Bulgarian Academy of Sciences.

### Professional experience

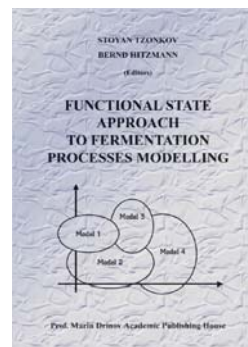
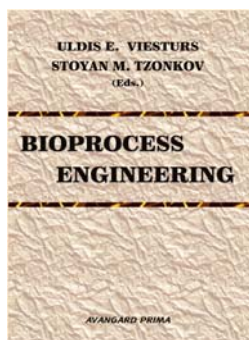
- since 1994 Head of department of *Modelling and Optimization of Bioprocess Systems* at Centre of Biomedical Engineering – BAS
- 1982 – 1992 Head of CLBA – BAS
- 1984 – 1989 Founder and head of department *Bioengineering* at Technical University – Sofia
- 1976 – 1982 Head of department *Industrial Automation* at Technical University – Sofia
- 1976 – 1980 Deputy rector of Technical University – Sofia
- 1972 – 1975 International Scientists Team of Control Problems, Moscow, Russia
- 1966 – 1972 Assistant at department *Industrial Automation* at Technical University – Sofia

### Major Fields of Scientific Research

- Modelling and control of bioprocess systems
- Analysis and synthesis of control systems with variable structure
- Control systems for objects with distributed parameters
- Control of complex systems
- Methods and tools for control and automation of technological and biotechnological processes

### Scientific achievements

The research achievements of prof. Tzonkov are published in more than 350 scientific articles and about 30 books and textbooks. Five of prof. Tzonkov's books are of monographic nature. The last two of them are published in 2006 and 2007.



The scientific and research activities of prof. Tzonkov confirm him as a founder and leader in the area of bioinstrumentation in Bulgaria. He lays the groundwork of this scientific direction in the *Unified Centre of Biology* at the *Bulgarian Academy of Sciences* and has guided for

many years the development and industrial realization of series of scientific and laboratory devices as a result of scientific investigations in CLBA – BAS.

Under the guidance of prof. Tzonkov the following inventions have been realized:

- a system of elements with variable structure – SEPS
- a system of microprocessor modules for control and automatization – SIMMAK.
- a family of laboratory bioreactors with microprocessor control (ABR) – introduced to practice for first time in Bulgaria.



Automated laboratory fermentation system

Prof. Tzonkov has been a leader and member of 47 national and international research projects. He is an inventor of 14 patents and innovations and 2 registered software packages. For those achievements prof. Tzonkov has been honored with the awards “*For a Contribution of the Technical Progress*”, “*Honored Inventor*”, etc.

### **Teaching activities**

Prof. Tzonkov has been a supervisor of 18 successfully defended Ph.D. students, some of which have established themselves as leading scientists in Bulgaria and abroad. He has 45 years in students training as a professor in *Technical University – Sofia*, *Trakia University – Stara Zagora*, *St. Cyril and St. Methodius University of Veliko Tarnovo*, *Moscow State University of Economics, Statistics and Informatics – branch Sofia*, etc. The main lecture courses are on *Control of Large-scale Systems*, *Bases of Automatic Control of Biotechnological Processes*, *Automation of Technical Processes*, *Management and Control of Ecosystems*, *Planning of Systems for Control*, *Strategic Control* etc. Prof. Tzonkov has also been invited as a guest-lector in IH-Leipzig.

### **Expertise**

During his scientific career, prof. Tzonkov has been a member and a scientific secretary of the *National scientific board of automation and system control* to *High Attestation Commission*, *Academic council of the Technical University – Sofia*, *Faculty council of the Faculty of Automatics of Technical University – Sofia* and many other scientific councils.

Prof. Tzonkov has been a member of the editorial boards of national and international journals, among that *Biotechnology and Chemistry*, *Biotechnology and Biotechnics*, *Biotechnology and Biotechnological Equipment* and *Scientific Appliances* – Warsaw, Poland. Between 1984 and 1991 he was the founder and the chief-editor of journal *Bioavtomatika*. Nowadays Prof. Tzonkov is the founder and the chief editor of the *International Journal Bioautomation*.

Prof. Tzonkov is a member of *Union of Automation and Informatics*, as well as of *Union of Scientists in Bulgaria*.

Prof. Tzonkov has participated in the organization of a number of national and international scientific events and he has been a member of many international program committees. He is

the founder and a long-year chairman of the program and organizing committee of the *International Symposium and Young Scientists' School "Bioprocess Systems – BioPS"*. The beginning was set in 1984, when a group of enthusiasts from the CLBA – BAS carried out a seminar for the presentation of their scientific results in the relatively new area of modeling, optimization and control of bioprocess systems.



Prof. Tzonkov at II<sup>nd</sup> International Symposium  
“Automation of Biotechnical  
and Biological Processes”



Prof. Tzonkov at the Opening ceremony of  
20<sup>th</sup> Anniversary International Symposium  
“Bioprocess Systems 2007 – BioPS’07”

During that more than 25-years of history, in the passed 21 symposiums about 700 lectures have been presented and a lot of new contacts between colleagues, working in similar scientific fields were established.

### Honors

Prof. Tzonkov’s scientific achievements have been highly appraised with numerous awards on high national level:

- 2009 The Decoration of Honor “For Special Merits to the Bulgarian Academy of Sciences” on the occasion of his 70<sup>th</sup> anniversary
- 2005 Silver medal for “A long standing teacher practice, scientific research and administrative work” on the occasion of 60 years of Faculty of Electrical Engineering of Technical University - Sofia
- 1990 The award of the Union of Scientists in Bulgaria for high scientific achievements
- 1989 Award of the Bulgarian Academy of Sciences and St. Kliment Ohridski Sofia University for Technical Sciences – for the monograph “*Design of the Control Systems with Variable Structures*”
- 1987 Order of St. St. Apostles Cyril and Methodius, I<sup>st</sup> degree

*The Editorial board of the International Journal **BIOAUTOMATION** congratulates prof. Tzonkov with his 70<sup>th</sup> anniversary and wish him a lot of health and further achievements!*

*Deputy chief editors of International Journal **BIOAUTOMATION***

*Prof. Mikhail Matveev, Ph.D.  
Head of Centre of Biomedical Engineering*

*Assoc. Prof. Tania Pencheva, Ph.D.  
Scientific secretary of Centre of Biomedical Engineering*