



Valko Petrov, Senior Researcher
Institute of Mechanics, Bulgarian Academy of Sciences
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Date and place of birth: 29.06.1946, Simeonovgrad, Bulgaria

Nationality: Bulgarian

Education (*degrees, dates, universities*)

M.Sc. on Physics – 30.11.1970, Sofia University “St.Kliment Ohridski”

Ph.D. on Biomechanics – 07.07.1988, Bulgarian Academy of Sciences

Senior Researcher -10.07.1991, Bulgarian Academy of Sciences

Career/Employment (*employers, positions and dates*)

Centre of Geophysics, Sofia – Physicist – 30.11.1970

Central Laboratory of Biomechanics, Sofia - Researcher – 12.03.1973

Institute of Mechanics and Biomechanics, Sofia – Senior Researcher – 10.07.1991

Head of Section “Biodynamics and Biorheology” – 10.07.1991

South-Western University of Bulgaria – Assoc.Professor – 01.10.1992

Sofia University “St.Kliment Ohridski”- Assoc.Professor - 01.10.1997

Field of research: Analytical and statistical approaches to reconstructing low-dimensional dynamical systems, from experimentally and computationally generated time series, with applications to biological processes:

Kinetics of blood cells aggregation; Dynamics of nerve cells interaction, Mechanism of muscle fibres contraction; Intracellular mechanisms of cell cycle; Dynamics of cell signalling pathways; Reaction-diffusion schemes of protein interactions etc.

Searching analytical and statistical scheme to reducing the number of dynamical equations required for realistic systems biological models at organic, cellular and molecular level. Applying bifurcation theory to structural stability analysis and validation of dynamical models in systems biology.

Staff position: Head of Section on Biodynamics and Biorheology to the Institute of Mechanics, Sofia, Bulgaria.