SLOBODAN ZDRAVKOVIĆ

Corresponding member of Serbian Academy of Nonlinear Sciences since October 11, 2019. Since 2016, he has been a member of the Society of Physical Chemists of Serbia.

Born on August 8, 1953, in Banja Luka, where he completed the first five years of elementary school. The remaining part of the elementary school and the secondary school he completed in Belgrade, where he took his bachelor's degree from the Electrical Engineering Department at the University of Belgrade. He took his master's degree from the University of North Carolina at Chapel Hill, USA, while he took his Ph.D. from the University of Novi Sad, Serbia, in 2004.

He taught physics and electrical engineering at the Educational Centre Milentije Popović in Smederevo from 1981 until 1988. He was a teaching assistant from 1988 until 1990 (5 семестара) and from 1991 until 1992 (3 семестара) at the University of North Carolina at Chapel Hill and the University of Illinois at Urbana-Champaign, USA, respectively. He was employed for two years at Nikola Tesla University in Knin as a teaching assistant of physics. After that, he was a teaching assistant and an assistant professor at the Faculty of Technical Sciences at the University of Priština from 1995 until 2011. Finally, he worked at the Vinča Institute of Nuclear Sciences from March 1, 2011, until his retirement. He received tenure as a full research professor in 2014.

He is fluent in English and Russian.

Research Interests: Dr. Zdravković's research field of interest is the nonlinear dynamics of DNA and microtubules. This includes modelling of these biological systems. The existence of solitary waves such as breathers, kinks, and bell-type solitons is critical.

Scientific Results: Up to the end of February 2023, he has published 62 papers in international research journals, 27 of which have been published in the journals of classes M21 and M21a. He wrote two chapters for books M11 and M12. He was an editor for the book M11 by Springer, for which he wrote an introduction and two chapters. In a majority of these publications, Dr. Zdravković is the principal author.

A list of his selected contributions includes the following:

- A description of a local opening in DNA using the resonant mode concept.
- Demodulated standing solitary waves are used to describe DNA-RNA transcription.
- Improvement of the first and three new models describing the dynamics of microtubules.
- A theorem that simplifies the determination of the total energy of systems like DNA and microtubules.

Response to Research Results: According to Google Scholar, Dr. Zdravković had been cited (by the end of February 2023) 958 times, with an h-factor of 18, and 40 papers cited 10 or more times. He has reviewed 29 papers for publication in journals like Chaos, European Physical Journal B and D, Chaos, Solitons and Fractals, and so on. He also reviewed one Belgian project.

He has participated in 29 conferences, mainly international ones.

Educational Activities: He was a supervisor for two master's degrees and a member of the Ph.D. committee at the University of Novi Sad. He reviewed three Indian Ph.D. thesis.

Organizational: Dr. Zdravković has participated for years in the international condensed matter project, representing collaboration between Serbia and the Joint Institute of Nuclear Research in Dubna, Russia. He has been to Dubna four times so far. Now, he is the leader of the project "Solitons and chaos in nonlinear dynamics of biomolecules." He was twice a guest of the Abdus Salam International Centre for Theoretical Physics in Trieste, Italy. He has established international collaboration. The co-authors of his papers are the authors from Canada, India, Cameroon, and Russia.

Contribution to Nonlinear Sciences: Until now, the complete research work of Dr. Zdravković has been dedicated to nonlinear biophysics. His research is theoretical, but in a couple of papers, some experiment proposals were offered.

A List of 5 Selected Research Publications:

1. S. Zdravković, L. Kavitha, M.V. Satarić, S. Zeković, J. Petrović, „Modified extended tanh-function method and nonlinear dynamics of microtubules“, *Chaos Solitons Fract.* 45, pp. 1378-1386, doi: 10.1016/j.chaos.2012.07.009, 2012.
2. S. Zdravković, M.V. Satarić, A.Yu. Parkhomenko, A.N. Bugay, „Demodulated standing solitary wave and DNA-RNA transcription“, *Chaos* 28, pp. 113103, doi: 10.1063/1.5046772, 2018.
3. S. Zdravković, D. Chevizovich, A.N. Bugay, A. Maluckov, „Stationary solitary and kink solutions in the helicoidal Peyrard-Bishop model of DNA molecule“, *Chaos* 29, pp. 053118, doi: 10.1063/1.5090962, 2019.
4. D. Ranković and S. Zdravković, „Two component model of microtubules – subsonic and supersonic solitary waves“, *Chaos Soliton Fract.* 164, pp. 112693, doi: 10.1016/j.chaos.2022.112693, 2022.
5. S. Zdravković and D. Chevizovich, Editors, „Nonlinear Dynamics of Nanobiophysics“, ISBN 978-981-19-5322-4, ISBN 978-981-19-5323-1 (eBook), doi: 10.1007/978-981-19-5323-1, 2022.

Link to Google Scholar: https://scholar.google.com/citations?user=4aZki90AAAAJ&hl=sr.