

Mikhail Matveev

Professor of Biomedical Engineering



Prof. Mikhail Matveev was born on June 14, 1946 in Kula, Bulgaria. He graduated from St. Kliment Ochridski University, Sofia in 1971 with a Master's degree in Nuclear Physics and with a postgraduate degree in Computing Mathematics in 1972. He defended his Ph.D. thesis on "Optimized Criteria for Heart Diseases Detection Based on ECG and Clinical Data" at the Medical Academy in 1984, and Research thesis qualifying for a Professor's degree in: "Engineering Approach to Cardiac Risk Evaluation" at the Centre of Biomedical Engineering, Bulgarian Academy of Sciences, in 2006. Since 1986, Mikhail Matveev has been an Associate Professor at the Sofia Medical Academy, and since 2006 – a full professor at the Centre of Biomedical Engineering (currently the Institute of Biophysics and Biomedical Engineering), BAS.

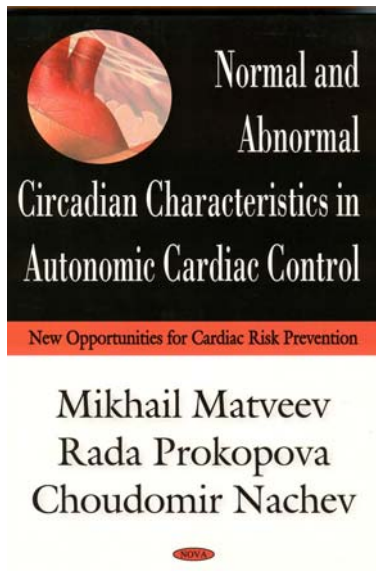
Positions held

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| 2010 – present | Deputy Director of the Institute of Biophysics and Biomedical Engineering, BAS. |
| 2004 – present | Member of the General Assembly, BAS. |
| 2003 – 2010 | Director (Head) of the Centre of Biomedical Engineering, BAS. |
| 2000 – 2003 | President of General Assembly of Scientists, Centre of Biomedical Engineering, BAS. |
| 1994 – 2003 | Associate Professor, Analysis and Processing of Biomedical Signals and Data Department, Centre of Biomedical Engineering, BAS. |
| 1988 | Head of Technological Innovations Department, Presidium of the Medical Academy. |
| 1986 – present | Visiting Professor, Technical University of Sofia. |
| 1986 – 1994 | Associate Professor, Center of Biomedical Engineering, MA. |
| 1979 – 1986 | Research Associate, Center of Biomedical Engineering, MA. |
| 1978 – 1979 | Research Associate, Center of Biology, BAS. |
| 1974 – 1978 | Research Associate, Center of Biomedical Engineering, Ministry of Health. |
| 1972 – 1974 | Head of Mathematical Modeling Department, Computing Center, Ministry of Heavy Industry. |
| 1970 – 1972 | Programmer, Computing Center, Ministry of Heavy Industry. |

Major fields of scientific research

Biomedical engineering; medical microprocessor systems and devices; biomedical data and signal processing and analysis; basic sciences in cardiology; pattern recognition; medical decision support systems and medical decision making.

Scientific achievements



The research achievements of Prof. M. Matveev are published in more than 150 scientific articles including 2 monographies and chapters in 2 other books. He is the inventor of 3 patents and more than 60 innovations, implemented in clinical practice, including: a device for screening analysis of the heart activity in newborn; ECG screening analyzer; device for haemodynamic parameter computation by marker dilution; microprocessor system for vectorcardiogram processing; microprocessor analyzers of forced expiration function; microprocessor analyzers of electroencephalograms – laboratory and clinical versions; microprocessor electrocardiographs; computer-aided central monitoring station; high resolution wireless ECG and VCG data acquisition systems; microcomputer expert systems in intensive care and for clinical examinations; program packs for data and signal analysis; program packs for decision support systems in medicine; methods for evaluation of autonomic cardiac control, method for assessment of the Infarct Size from High-Resolution ECG, Screening Models for Cardiac Risk Evaluation in Emergency Abdominal Surgery, etc.

Prof. Matveev has been a Principal Investigator or Investigator in more than 25 national and international research projects.

Teaching activities

Prof. Matveev has been a supervisor of 10 successfully defended Ph.D. students. He is a lecturer at the Technical University of Sofia and Medical University of Sofia, teaching undergraduate and graduate courses on:

- “Processing of Biomedical Signals and Data”,
- “Expert Systems in Medicine”,
- “Video-Computer Instrumentation in Medicine”,
- “Information Technologies in Medicine”.

Expertise

During his scientific career, Prof. M. Matveev has been, or currently is, a member of the:

- Technical Commission, Department of Biomedical Engineering, Medical Academy;
- Board on Expert Systems, National Council on Automation;
- Educational Center, Ministry of Health;
- Scientific Board, National Center for Health Information;

- Scientific Board, Centre of Biomedical Engineering, BAS;
- Council on Medical Science, Medical University, Sofia;
- National Scientific Council on Electronics and Computer Technology;
- Coordination Council on “e-Health”, Ministry of Health;
- Problem Council on Medical and Biological Investigations, BAS.

He is a State Expert at the National Evaluation and Accreditation Agency, Council of Ministers.

Prof. M. Matveev is a Deputy Chief Editor of the International Journal Bioautomation and a permanent reviewer for many scientific journals, including: Physiological Measurement, Physics in Medicine and Biology, Measurement Science and Technology; Inverse Problems; Artificial Intelligence in Medicine; World Journal of Emergency Surgery; Biomedical Engineering On-Line; etc.

He is a reviewer for Granting Agencies, such as the Royal Society e-GAP (UK), FENS Forum (Austria), National Science Fund of Bulgaria, Council on Medical Science, Medical University, Sofia, Research and Development sector, Technical University, Sofia, etc.

Prof. M. Matveev is a Member of the Working Group of the Institute of Physics Publishing (UK) for nominating high quality papers published in IOP Journals during previous years. He has participated in the organization of a number of scientific events and has been a member of many program committees.

Prof. M. Matveev is a member of:

- European Society for Computing and Technology in Anaesthesia and Intensive Care (ESCTAIC),
- International Federation of Medical and Biological Engineering (IFMBE),
- American Heart Association (AHA),
- European Society of Cardiology (ESC),
- Heart Failure Association of the ESC (HFA),
- European Hearth Rhythm Association (EHRA),
- European Association for Cardiovascular Prevention and Rehabilitation (EACPR),
- Bulgarian Society for Biomedical Physics and Engineering,
- Union of the Physicists in Bulgaria,
- Union of Bulgarian Mathematicians,
- Union of Scientists in Bulgaria.

Awards for scientific and applied research activity

Scientific achievements of Prof. M. Matveev have been highly recognized with numerous awards:

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| 1975 | Ministry of Health (for development of the ECG screening analyzer). |
| 1978 | The Association for Research Encouraging Young People. |
| 1985 | Two prototype designs, accepted in the World Innovation Exhibition, organized under the auspices of the World Organization for Intellectual Property. |
| 1987 | Honorable Inventor (from Ministry of Science and Technologies). |
| 1989 | Diploma from the Organizing Committee of the First National Conference ‘Medical Cybernetics’. |

- 2006 Diploma for “Important Scientific Contribution to Cardiology” from the Program Committee, 10th National Congress of Cardiology, Sofia.
- 2006 Inclusion in the list of honourable contributors, referees and board members - Measurement Science and Technology “MOSAIC Project”, Institute of Physics Publishing (UK).
- 2008 The Prize for Best Presentation at the 2008 Annual Conference of Computers in Cardiology.
- 2008 Diploma and Prize for High Scientific Achievements from the Union of Scientists in Bulgaria.

Let wish him health and creative power for new achievements.

Editorial Board of Int. J. Bioautomation