



Europass Curriculum Vitae



Personal information

First names / Surname **Zlatoliliya Simanova Ilcheva**
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Nationality Bulgarian
Date of birth 16.03.1952
Gender female

Work experience

Dates 01.10.2010 - to present
Occupation or position held Deputy Director, Associate Professor
Main activities and responsibilities Research and development (R&D) in the field of computer and communication systems, lecturing at university programs; tutoring of PhD students; preparation of scientific publications and project proposals; project implementation and management, participations in scientific conferences, seminars and workshops, preparation of referee reports of papers.
Name and address of employer Institute of Information and Communication Technologies, Bulgarian Academy of Sciences
Bl. 2, Acad, G. Bonchev Str., 1113 Sofia, Bulgaria
Type of business or sector Research Academic Institute

Dates 01.02.2010-01.07.2010
Occupation or position held Director, Associate Professor
Main activities and responsibilities Research and development (R&D) in the field of computer and communication systems, lecturing at university programs; tutoring of PhD students; preparation of scientific publications and project proposals; project implementation and management, participations in scientific conferences, seminars and workshops, preparation of referee reports of papers.
Name and address of employer Institute of Computer and Communication Systems, Bulgarian Academy of Sciences
Bl.2, Acad, G. Bonchev Str., 1113 Sofia, Bulgaria
Type of business or sector Research Academic Institute

Dates 1997-2010
Occupation or position held Associate Professor
Main activities and responsibilities Research and development (R&D) in the field of man-machine control systems; computer and communication systems; solving real-life application problems; tutoring of Master and PhD students, participations in scientific conferences, seminars and workshops, participation in the organizing of scientific events, presentation of research papers.
Name and address of employer Institute of Computer and Communication Systems, Bulgarian Academy of Sciences
Bl.2, Acad, G. Bonchev Str., 1113 Sofia, Bulgaria
Type of business or sector Research Academic Institute

Dates	1981-1997
Occupation or position held	Research Associate
Main activities and responsibilities	Research and development (R&D) in the field of man-machine control systems; development of commercial software packages for multicriterial and random search optimization; participations in scientific conferences, seminars and workshop, presentation of research papers.
Name and address of employer	Institute of Technical Cybernetics and Robotics, Bulgarian Academy of Sciences Institute of Applied Cybernetics, Bulgarian Academy of Sciences Bl.2, Acad, G. Bonchev Str., 1113 Sofia, Bulgaria;
Type of business or sector	Research Academic Institute
Dates	1979-1981
Occupation or position held	Dipl. Engineer
Main activities and responsibilities	Research in the field of man-machine control systems; software creation and implementation research, participations in scientific conferences, seminars and workshops, presentation of research papers.
Name and address of employer	Institute of Technical Cybernetics and Robotics, Bulgarian Academy of Sciences Bl.2, Acad, G. Bonchev Str., 1113 Sofia, Bulgaria
Type of business or sector	Research Academic Institute

Education and training

Dates	1976–1979
Title of qualification awarded	PhD in Technical Cybernetics
Name and type of organization providing education and training	Institute of Technical Cybernetics and Robotics, Bulgarian Academy of Sciences
Level in national or international classification	Highest Education

Dates	1976-1977
Title of qualification awarded	Postgraduate study in Mathematics and Mathematical Methods
Name and type of organization providing education and training	Technical University, Sofia
Level in national or international classification	Higher Education

Dates	1970-1975
Title of qualification awarded	M.Sc. in Automatics and Telemechanics
Name and type of organization providing education and training	Technical University, Sofia
Level in national or international classification	Higher Education

Personal skills and competences

Mother tongue **Bulgarian**

Other languages **English, German, Russian**

Self-assessment

European level ()*

English

German

Russian

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
C1	Proficient user	C1	Proficient user	C1	Proficient user	C1	Proficient user	C1	Proficient user
B2	Independent user	B2	Independent user	B2	Independent user	B2	Independent user	B2	Independent user
C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user

(*) [Common European Framework of Reference for Languages](http://www.cedefop.europa.eu)

Research interests and activities	Digital image processing and recognition; Text processing and recognition, OCR systems; Digital steganography and digital water marking; Digital image and video compression; Image databases and content-based image retrieval; Computer vision systems; Man-machine control systems.
Computer skills and competences	MS Windows, Linux, Programming Languages: Matlab, Visual Basic. NET, Visual C++.
Social skills and competences	Adaptive, open-minded, working under pressure, hard working, responsible, innovative, calm, team player, ability to accept and implement changes, ability to motivate, consolidate and integrate people, presentation skills.
Organizational skills and competences	Able to manage projects, coordination and administration of people, projects and budgets, long-term oriented, able to set priorities, able to create detailed action plans and to apply follow-up, able to apply strict time management, able to identify the gaps, able to create and lead a good team, stress resistant, able to organize effective working meetings and seminars, acquired in the participation of different projects, funded by EC and national institutions.
Technical skills and competences	Control Systems, Decision Support Systems, Expert Systems.
Driving licence	Yes / B, M
Additional information	
Key qualifications	Computer Sciences; Automation; Decision Support, Optimization Models, Methods and Systems; Technologies of the Information Society.
Membership of professional bodies	IEEE (Signal Processing Society); Union of Automatics and Informatics
Annexes	<p>Selected Publications:</p> <ol style="list-style-type: none"> 1. Ilcheva ZI. S., Ilchev S. V. Modular Data Hiding for Digital Image Authentication. Proceedings of IADIS European Conference on Data Mining 2010, 28-30 July 2010, Freiburg, Germany, IADIS Press, 2010, 122-127. 2. Ilchev V. V., Ilcheva ZI. S. Application of a Model of Neutral Sensory Cells in Multidimensional Approximation Problems. Proceedings of the International Conference 'Automatics and Informatics'10, (3-7 October 2010, Sofia), SAI, Sofia, 2010, I-25 – I-28. 3. Ilchev S. V., Ilcheva ZI. S. Modular Data Hiding Approach for WEB Based Applications. Proceedings of the International Conference 'Automatics and Informatics'10, (3-7 October 2010, Sofia), SAI, Sofia, 2010, I-253 – I-256. 4. Ilcheva ZI. S., Ilchev V. V. Watermarking for Digital Multimedia Authentication. Proceedings of the International Conference 'Automatics and Informatics'09, (29.09-04.10. 2009, Sofia), SAI, Sofia, 2009, I-25 – I-28. 5. Ilchev V. V., Ilcheva ZI. S. Image Analysis of Non-intersected Compact Sets in the Multidimensional Hough space. Proceeding of the ICCS-BAS, Year III, Volume III, 2009, 110-121. 6. Ilchev V. V., Ilcheva ZI. S. Basic Properties of the Classification Hyperplanes Represented by Extremum Points in the multidimensional Hough Space. Cybernetics and Information Technologies (CIT), Vol. 8, No. 4, 2008, 27-39. 7. Ilchev V. V., Ilcheva ZI. S. Some basic properties of the best hyperplane separating two compact sets. Proceeding of the ICCS-BAS, Year II, Volume II, 2008, 100-109. 8. Ilchev V. V., ZI. S. Ilcheva. An assessment of classification hypersurfaces by means of the variations of their functions. Proceedings of the ICCS-BAS, Year I, Volume I, 2007, 133-138. 9. Ilcheva ZI. S., V. D. Kozuharski, V. V. Ilchev. Digital watermarks for authentication of multimedia documents. Proceeding of the ICCS-BAS, Year I, Volume I, 2007, 154-159. 10. Ilchev V. V., ZI. S. Ilcheva. Some Basic Invariant Properties of the Multidimensional Hough Transformation. Cybernetics and Information Technologies (CIT), Vol. 7, No. 2, 2007, 45-56. 11. Ilcheva ZI. S., V. V. Ilchev. A Digital Image Steganography Method for Covert Communication, Engineering Science, Year XLIV, No. 2, 2007, 5-13. 12. Ilcheva ZI. S., V. V. Ilchev. Digital Steganography on the Base of Images: A Review. Engineering

Science, Year XLIII, No. 3, 2006, 5-14.

13. Ilchev V. V., **ZI. S. Ilcheva**. A Self-Organizing Neural Network for Variable Convex Clusterization, Cybernetics and Information Technologies (CIT), Vol. 6, No. 1, 2006, 17-23.
14. **Ilcheva ZI. S.**, V. V. Ilchev. Lossless Compression of Digital Images. Engineering Science, Year XLII, No. 1, 2005, 5-13.
15. **Ilcheva ZI. S.**, V. V. Ilchev. A Method for Lossless Compression of Images. Proceedings of the International Conference on Computer Systems and Technologies **CompSysTech '2003**, June 2003, Sofia, III.5-1 – III.5-6.
16. **Ilcheva ZI. S.** A Skew Angle Estimation Method for Computer Processed Text Document. Proceedings of the National Conference 'Automatics and Informatics'2000, October 2000, Sofia, Vol. I, 17-20.
17. **Ilcheva ZI.**, Alexandrov V. I. A Method for Recognition of Symbols on Images, received from Scanner. Technical Ideas, Year XXXV, No. 1-2, 1998, 3-9.
18. Ilchev V. V., **ZI. S. Ilcheva**. The error function in case of classification of lineary separable classes. Comptes rendus de l'Academie bulgare des Sciences, Tome 50, No.3, 1997, 43-46.
19. **Ilcheva ZI. S.** Interactive correction of unrecognized symbols in computer processing of cadastral maps. Problems of Engineering Cybernetics and Robotics, Vol. 45, 1997, 32-36.
20. **Ilcheva ZI. S.** Encoding and segmentation of character images obtained by optical scanners. Problems of Engineering Cybernetics and Robotics, Vol. 44, 1997, 23-27.
21. **Ilcheva ZI. S.**, V. I. Alexandrov, V. V. Ilchev. A Two Stage Method for Recognition of Alphanumerical Symbols. Comptes rendus de l'Academie bulgare des Sciences, Tome 49, No. 7-8, 1996, 45-48.
22. Ilchev V. V., **Dimitrova (Ilcheva) ZI. S.** Identification of Nonlinear Control Plants, using Finite Functions. Problems of Engineering Cybernetics and Robotics, Vol. 34, 1992, 3-9.
23. **Dimitrova (Ilcheva) ZI. S.**, Ilchev V. V. The Relation between the Human-Operator and the Control Device in Man-machine Systems with the help of Linguistic Information. Problems of Engineering Cybernetics and Robotics, Vol. 30, 1990, 26-35.
24. Ilchev V. V., **Dimitrova (Ilcheva) ZI. S.** Application of an Adaptive Algorithm for Increasing the Accurace of Materials Dosing in the Beton control Systems. Problems of Engineering Cybernetics and Robotics, Vol. 30, 1990, 36-43.
25. Iliev N. B., **ZI. S. Dimitrova (Ilcheva)**, S. A. Angelov. A Method for Structural Recognition of Characters Based on Run Length Coding of the Images. Proc of the Sixth Symp. on Microcomputer and Microprocessor Applications, October 1989, Budapest, Hungary, Vol. II, 813-820.
26. Tropolov K. II., **ZI. S. Dimitrova (Ilcheva)**, V. V. Ilchev, P. Pavlov. A Microprocessor System for Automatic Control of the Technological Process in Concrete Plants. NOVOSTI IAI, INTERATOMINSTRUMENT, Poland, No.4 (49), 1984, 21-24.
27. Ilchev V. V., **ZI. S. Dimitrova (Ilcheva)** An Algorithm for Random Search in Solving the Unconstrained Minimization Problem. Problems of Engineering Cybernetics and Robotics, Vol. 17, 1983, 32-35.
28. **Dimitrova (Ilcheva) ZI. S.**, V. V. Ilchev. On the Problem of Structure Optimization of Complex Control Systems. Problems of Engineering Cybernetics and Robotics, Vol. 15, 1982, 30-33.
29. Ilchev V. V., **ZI. S. Dimitrova (Ilcheva)**. Investigations on the Principles Compromise, Applied in Multicriterial Choice Problems. Systems and Control, No. 2, 1981, 34-38.
30. **Dimitrova (Ilcheva) ZI. S.**, V. V. Ilchev. A Package of Applied Programs for Solving a discrete Problem for Multicriterial Choice. Systems and Control, No. 3, 1980, 38-40.
31. Naplatanov N. D., **ZI. S. Dimitrova (Ilcheva)**. Formalization of the Problem for Optimal Distribution of the Functions in Man-machine Control Systems. Technical Ideas, Year XVI, No. 6, 1979, 7-12.
32. Ilchev V. V., **ZI. S. Dimitrova (Ilcheva)**. An Algorithm for Multicriterial Choice in the Syntesis of Man-machine Control Systems. Systems and Control, No. 4, 1978, 25-29.

Selected Research Projects:

1. Adaptation and Application of the Operation System EUROS by the Development of Distributed Wireless Networks of Intelligent Sensors. Contract with EUROS Embedded Systems GmbH,

- Nürnberg, Germany. 2010-2014.
2. Joint Research Framework Contract with DATECS GmbH in the Area of Information and Communication Systems and Technologies (GIS and Image Databases). 2010-2014.
 3. Joint Research Framework Contract with OMNITEL GmbH in the Area of Information and Communication Systems and Technologies (Embedded Systems and Wireless Communications). 2010-2014.
 4. Methods, Algorithms and Software for Covert Communications and Multimedia Document Authentication. 2008-2009.
 5. Component Objects for Distributed Systems. Data Hiding in Multimedia. Multimedia Security Management, 2006-2007.
 6. Component Objects for WEB-based Training and Communications. Lossy and lossless Compression – Methods, Algorithms and Programs, 2004-2005.
 7. Methods and Systems for Digital Image Processing. Methods and Algorithms for Lossless Compression of Digital Images. 2001-2003.
 8. Joint Research Project "Mathematical Methods for Digital Image Processing" between ICCS - BAS, Sofia, and ICTR - SAS (Slovak Academy of Sciences), Bratislava. 2000-2001.
 9. Instrumental Devices for Multimedia Systems. 1998-2000.
 10. Preliminary Processing of Printed Documents. Algorithms and Software for Segmentation and Skew Angle Estimation of the Page. 1997-1998.
 11. Development of OCR System for Recognition of Cyrillic Symbols on Cadastral Maps. 1995-1997.
 12. European Communities COPERNICUS Project No. 10239 "Innovative Computer - Aided Interpretation of Cadastral Maps" (ICICM), Workpackage 4: User Oriented Support of Text Recognition. 1994-1995.
 13. Integrated System for Scanning, Recognition and Correction of Bulgarian Text Documents. 1992-1994.
For the period 1993-1995 more than 150 systems are sold in Bulgaria.
 14. Input, Processing and Output of Image and Sound in Computer Systems with Account to the Specifics of the Bulgarian Language and Alphabet 1991-1992.
 15. Research and Creation of New Generation Basic Means for Building of Cybernetics Systems with High Distribution and Intelligence. 1989-1991.
 16. Principles for Building of Personal Workstations for Complex Processing of Graphic and Text Information. 1988-1989.
 17. Specialized Microprocessor Programmable Controller of a System for Automatic Control of the Technological process in a Concrete Plant 1987-1988.
 18. Project No. 09 - PRB - 83/27 TP of Interatom instrument (International Company for Nuclear Instruments). "Development and Implementation of an Experimental System for Concrete Plant Control". 1984-1985.
 19. Automatic Control System of Concrete Plant Accounting the Humidity of the Additional Materials. 1983-1984.
 20. A Microprocessor System for Automatic Control of the Technological Process in a Concrete Plant "Betoncontrol". 1981-1983.
For the period 1983 - 1989 more than 40 systems "Betoncontrol" are implemented in Bulgaria.
 21. Project from the Program for International Collaboration between ITKR-BAS and IECT- Academy of Sciences of Lithuania. "Theory of Control Devices and Automation of Control Devices Design". 1981-1985.
 22. Design and Optimization of a Man-Machine System for Distance Control of a Class Movable Objects. 1979-1981.

Scientific Specializations:

1. Study visit in Institut für Informatik, Friedrich - Alexander University, Erlangen -Nürnberg, Germany, financed by Deutcher Akademischer Austauschdienst (DAAD), 2002.
2. Study visit in Institut für Informationsmanagement im Ingenieurwesen (IMI), Universität Karlsruhe, Germany, financed by Deutsche Forschungsgemeinschaft (DFG), 2007.
3. Study visit in Institut für Informationsmanagement im Ingenieurwesen (IMI), Universität Karlsruhe, Germany, financed by Deutsche Forschungsgemeinschaft (DFG), 2008.
4. Study visit in Institut für Informationsmanagement im Ingenieurwesen (IMI), Karlsruhe Institut of Technology (KIT), Germany, financed by Deutcher Akademischer Austauschdienst (DAAD),2010.