PROCEEDINGS

of the Union of Scientists - Ruse

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Volume 6, 2006

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PROCEEDINGS
OF THE UNION OF SCIENTISTS - RUSE

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The Ruse Branch of the Union of Scientists in Bulgaria was founded in 1956. Its first Chairman was Prof. Stoyan Petrov. He was followed by Prof. Trifon Georgiev, PhD, Prof. Kolyo Vasilev, PhD, Prof. Georgi Popov, PhD, Prof. Mityo Kanev, PhD and, since June 2001, Prof. Georgi Popov, PhD again. Since April 2005 Assoc. Prof. Boris Borisov has been chosen as the Chairman of the Board of Directors. The individual members number nearly 300 recognized scientists from Ruse, organized in 12 scientific sections. There are several collective members too – organizations and companies from Ruse, known for their success in the field of science and higher education, or their applied research activities. The activities of the Union of Scientists – Ruse are numerous: scientific, educational and other humanitarian events directly related to hot issues in the development of Ruse region, including its infrastructure, environment, history and future development; commitment to the development of the scientific organizations in Ruse, the professional development and growth of the scientists and the protection of their individual rights.

The Union of Scientists – Ruse (US – Ruse) organizes publishing of scientific and popular informative literature, and since 1998 – the "Proceedings of the Union of Scientists-Ruse".

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INTRODUCTION

In the year 2006 the Union of Scientists – Ruse celebrated its 50-th anniversary. The former section of Physics and Mathematics, recently expanded to a Section of Mathematics, Informatics and Physics, has taken active part in the Union's activities for the last 30 years. Its members work in numerous branches of science. We will mention only a few of them – algebra, differential equations, geometry, expert and CAD-CAM systems, web-design, nuclear physics, applications in education.

The publication of this volume, entirely written in English, is our contribution to the future successful cooperation with the scientific community in the European Union, especially after 1st January, 2007.

Assoc. Prof. Tsetska Rashkova, PhD Chairman of the Section
Desislava Atanasova, MSc Secretary of the Section

Assoc. Prof. Svetoslav Jordanov Bilchev, PhD

60 YEARS OF AGE,
45 OF WHICH DEDICATED
TO
MATHEMATICS
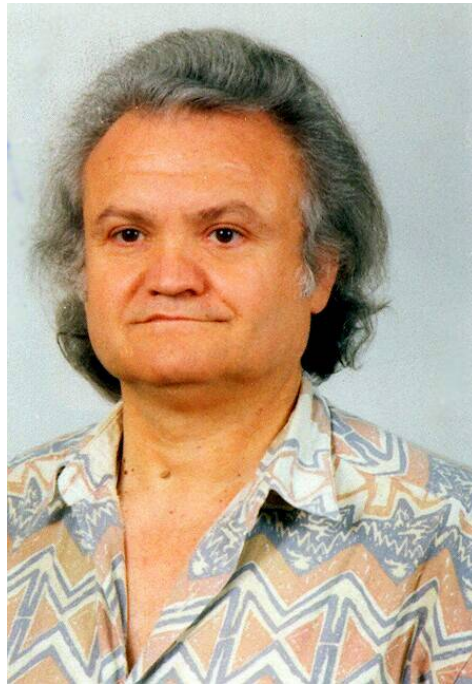
Congratulations
Dear Slavy!

CURRICULUM VITAE

NAME : SVETOSLAV JORDANOV BILCHEV

DATE AND PLACE OF BIRTH : **30. 09. 1946**, **Ruse, Bulgaria**

AGE : 60.

STATUS: **Married** with **26** years old daughter **MARINA**, bachelor of "**Business Mathematics"** at **The University of Waterloo** and **Wilfrid Laurier University, Waterloo, Canada**.

LANGUAGE PREPARATION : Russian - excellent, **English** - very good, **German** - good, **Serbian, Romanian, Polish, Hungarian** - free reading of mathematical literature.

EDUCATION :

    SECONDARY – **1964** : High school "**Baba Tonka"- Ruse**.

    PARTICIPANT **in Two International Mathematical Olympiads - 5th IMO in Wrozlaw, Poland, 1963, and 6th IMO in Moskow, USSR, 1964. Winner of two third prizes.**

    HIGHER - **1969**, **Mathematics** (**Specialization - Differential Geometry**), **Moskow State University "M. V. Lomonosov**", **Mechanics Mathematics Faculty**.

    PhD THESIS - 1975, Mathematics – "Geometry of Partial Hyperbolic Systems of Two Equations With Two Independent Variables", Scientific Council of The Unit Center for Science and Preparing of Scientists of Mathematics and Mechanics, Sofia.

    HABILITATION - 1979, Associate Professor of Mathematics in VIMMESS (now RU), Ruse. Elected by the Scientific Council of the Center of Applied Mathematics in VMEI, Sofia**, December 14, 1979.**

WORKING PRACTICE : More than **36 years, from August 01, 1969**, **only in The University of Ruse (VIMMESS, VTU, TU, RU).**

SPECIALIZATIONS ABROAD : **USSR, Russia, Greece, Norway, England, Italy, Israel**.

INTERNATIONAL PROJECTS : TEMPUS JEP No 04016 – "Creating a Department of Applied Mathematics and Informatics" – **COORDINATOR**; **PROJECT ERB 4061 PL 95 - 0796 (SPADE)** – "Sequential and Parallel Algorithms for the Solution of Non-linear Differential Equations (with applications in the biomedical sciences and chemistry)"; **PROJECT EURECA** – "Mathematical Modeling and Investigation of Process in Medium Voltage Network Regarding the Consumption Reduction of Energy - Intensive Users"; **PROJECTS - ERASMUS, COPERNICUS** for **The RU, Bulgaria, University of Ioannina, Greece, and Brunel University of West London, England**; **PROJECT "MATHEU" of the MATHEMATICAL ASSOCIATION of the SOCIETIES of SOUTH - EASTERN EUROPE – "MASSEE" –** taking part as an expert from **the UNION of BULGARIAN MATHEMATICIANS (UBM), PROJECT "CEEPUS H - 0127 - 04 - 07" – lecturer,** etc.

TAKING PART IN THE PREPARING OF TEAMS FOR I M O : Member of **The Bulgarian National Time for Extracurricular Work of Mathematics** from **1981**, **preparing of The Greece National Team** from **1987, preparing of The England National Team – 1995.**

TAKING PART IN THE INTERNATIONAL ACTIVITIES DURING THE LAST YEARS :

    1**. ICME 6, 7, 8, 9, 10** - International Congress on Mathematical Education - **6** (Budapest, **Hungary**, **1988**), **7** (Quebec City, **Canada**, **1992**), **8** (Seville, **Spain**, **1996**), **9** (Tokyo - Makuhary, **Japan**, **2000**), **10** (Copenhagen, **Denmark, 2004**).

    2. **WFNMC CONGRESS 1, 2, 3, 4** - Congresses of The World Federation of National Mathematics Competitions - **1st** (Waterloo, **Canada**, **1990**), **2nd** (Pravetz, **Bulgaria, 1994**), **3rd** (Zhong Shan, **China**, **1998**), **4th** (Melbourne, **Australia**, **2002**).

3. **THE UBM CONFERENCES** - The Union of Bulgarian Mathematicians Winter Conferences - from **1971 till now**.

4. **10th , 11th , 15th , 18th and 21th Panhellenic Congresses on Mathematical Education of the Greek Mathematical Society** - Kalamata, December 17-19, **1993**; Kerkyra, December 16-18, **1994**; Samos, **1998**; Rodos, **2001**; Trikala, November 19-21, **2004.**

5. **The U. K. Mathematics Foundation Summer School, Oxford, Queens College**, July 4 - 6, **1995**.

6. Second International Conference on Mathematics **"Work With Distinguished Students"**, **Varna, Bulgaria**, May 30 - June 2, **1997.**

7. **3rd Mediterraneaen Conference on Mathematical Education**, **Athens - Hellas**, 3 - 4 - 5 January, **2003.**

8. **3rd International Conference: Creativity in Mathematics Education and The Education of Gifted Students**, University of Ruse, **Ruse, Bulgaria**, August 3 - 9, **2003**.

9. **International Congress MASSEE ' 2003**, Borovets, **Bulgaria**, September 15 – 21, 2003.

10. **Fourth Panhellinio Sinedrio** : Aristarhos o Samios, Pithagorion and Karlovassi, **Samos, Greece**, October 17 - 19, **2003.**

11.**Thirty Third Spring Conference of the Union of Bulgarian Mathematicians**, Borovets, **Bulgaria,** April 1 - 4, **2004.**

12. **CASTME International and CASTME Europe Conference "Linking Science, Mathematics and Technology Education and Their Social Relevance", Cyprus,** April 15 – 18**, 2004.**

13. **10th International Conference On Mathematical Education (ICME -10),** Copenhagen, **Denmark**, July 4 – 11, **2004**.

14. **Scientific Conference "60 Years Union of Scientists in Bulgaria",** October 29 – 30, 2004, University of Ruse, Union of Scientists – Ruse, Section "Pedagogy and Psychology", **Ruse.**

15. **21ο Πανελληνιο Συνεδριο Ματηματικησ Παιδειασ – 21th Panhellenic Conference On Mathematical Education,** Greek Mathematical Society, Trikala, **Greece,** November 19 - 20 - 21, **2004.**

16. **4th Mediterranean Conference On Mathematical Education,** Italian Mathematical Society, Cyprus Mathematical Society, January 28 - 30, Palermo, **Italy, 2005.**

17. **International Conference on Mathematics Education,** 3 – 5 June 2005, Svishtov, **Bulgaria**, Sofia, **2005.**

SCIENTIFIC INTERESTS (AREAS) : Geometry, Differential Geometry, Partial Differential Equations and Systems, Ordinary Differential Equations, Differential Games, Mathematical Models in Economics, Oscillations of Neutral Differential Equations, Air Electric Nets, Geometric Inequalities, Transformations, Mathematics Education, Education of Talented Pupils and Students, Mathematical Competitions and Olympiads .

SCIENTIFIC PAPERS : **Over than 143 scientific papers** (**56** in **Bulgarian**, **52** in **English**, **33** in **Russian**, **1** in **Greek** and **1** in **Spanish** languages**)**, **10 books** (**5** in **Bulgarian**, **4** in **English**, **1** in **Russian** languages**)** and more than **17 problems,** published in **Bulgaria, Australia, Canada, USA, Greece, Suisse, Yugoslavia, Croatia, USSR, Russia, Germany, Romania, Singapore, Iran, Cyprus, Latvia, Italy, Spain.**

AWARDS :

1. **LAUREAT OF THE SECOND BALKANIAD** for **Young Scientific Researchers**, Athens, Greece, **1972.**

2. **GOLDEN SIGN** of the Former Society for Disseminating of Scientific Knowledge "Georgi Kirkov", Sofia, **1983.**

3. **MEDAL "KIRIL AND METODII"** - **III** Degree, **1985**.

4. **MEDAL "KIRIL AND METODII"** - **II** Degree, **1986**.

5. **OUTSTANDING PERSON** of the Ministry of National Education, Sofia, **1986**.

6. **HONORARY PLATE "RUSE" and DIPLOMA** from the Major of the Municipality of Ruse, **1999, 2000** and **2003.**

7. **MANY OTHER DIPLOMAS and AWARDS** – since **1963** till now.

Awarded with the noted above awards (2.-7.) for more than 36 years educational and leading work with talented students of mathematics in Ruse and in many other cities in **Bulgaria, Greece, England, USSR**, **Italy,** etc. *More than 25 students from secondary schools in Ruse taking part in the International Mathematical Olympiad*. Some of them now are **Doctors**, **Associate Professors** and **Full Professors** of **Mathematics and informatics** in **Bulgaria** and abroad (**USA, Canada, England, France**, etc.).

8. **DIPLOMA and a MEDAL** from **the Union of Latvian Mathematicians** and **the Institute of Mathematics and Informatics** from **the Latvian Academy of Sciences**, August, **2003**.

9. **THE FIRST "MERITORIUS" AWARD as a mentor and as a creator of the Project for Creating of Didactical System of Problems on the Theme :** "$x^2 \geq o$" in **The Competition "Best Practice in Education" (18 E. 16th Street, NEW YORK, NY 10003, USA), 2003.**

10. **ASSOCIATE INVITED PROFESSOR** of **the North University of Baia Mare**, **BAIA MARE**, Romania, September 30, **2003**.

11. **THE FIRST GOLD SIGN of the UNIVERSITY of RUSE, 21.11.2006.**

MEMBER OF :

1. **The Union of Bulgarian Mathematicians.**

2. **The Union of Bulgarian Scientists.**

3. **The American Mathematical Society.**

4. **The World Federation of National Mathematics Competitions.**

5. **The Lions Club International - Ruse.**

6. **The Editorial Board** of **the Carpathian Journal of Mathematics**, published by Department of Mathematics and Computer Science, **North University of Baia Mare**, Baia Mare, **Romania** from **1998.**

7. **The Broad Editorial Board** of **the Journal** of **Mathematics and Informatics**, Sofia.

8. **The Bulgarian National Committee for the International Union of Mathematics** from **1999**.

PROFESSIONAL REALIZATION: From **1969** year till now – **Mid assistant (1969), Assistant (1969), Senior Assistant (1972), Chief Assistant (1975), Associate Professor (1979), Chairman of Department**, **Vice Director** and **Director of The Center of Mathematics, Dean of the Pedagogical Faculty** of **The University of Ruse** (**1994 - 2003**). **Chairman of the Department of Algebra and Geometry from February 2004.**

PUBLICATIONS DURING THE LAST 15 YEARS

1. **Bilchev, Sv.** The **"AHA"** Triangle: **Arystarh** from Samos, **Hyparh** from Nykkeya, **Arystarh** from Moskow", "Ρρακτικά", Fourth Greek Congress **"Arystarh from Samos",** Pithagorion and Karlovassi, **Samos, Greece**, October 17 - 19, **2003**, 255 – 266.

2. **Bilchev, Sv.,** E. Velikova. A Group of Transformations for a Triangle and Some of Its Applications, Mathematics and Education in Mathematics, Proceedings of XX Spring Conference of the Union of Bulgarian Mathematicians, Varna, April 2 - 5, 1991, **Sofia,** BAS, **1991**, 377 - 387.

3. **Bilchev, Sv.,** E. Velikova. About Some Generators of New Asymmetric Triangle Inequalities, Proceedings of the Third International Conference "Creativity in Mathematics Education and the Education of Gifted Students", 4 - 9 August, 2003, Ruse, Bulgaria, E. Velikova (Editor), V - publications, Athens, **Greece, 2003,** 57 - 66.

4. **Bilchev, Sv.,** E. Velikova. On Some Asymmetric Trigonometric Inequalities - Another Way of Competition, Mathematics Competitions, Journal of the WFNMC, Australian Mathematics Trust, Canberra, **Australia,** Vol. 9, No. 2, **1996**, 30 - 39.

5. **Bilchev, Sv.,** E. Velikova, P. M. Vlamos. Challenges**,** Proceedings of the Third International Conference "Creativity in Mathematics Education and the Education of Gifted Students", 4 - 9 August, 2003, Ruse, Bulgaria, E. Velikova (Editor), V - publications, Athens, **Greece, 2003**, 347 – 350.

6. **Bilchev Sv.,** E. Velikova**.** The Role of the Triangle "STS" for Development of the Mathematically Talented Students, Proceedings of the Third International Conference "Creativity in Mathematics Education and the Education of Gifted Students", 4 - 9 August, 2003, Ruse, Bulgaria, E. Velikova (Editor), V - publications, Athens, **Greece, 2003**, 67 - 70.

7. **Bilchev, Sv.,** E. Velikova. The Teaching of Transformations for Solving Competition Problems as a Route Towards Higher Mathematics, Mathematics Competitions, Journal of the WFNMC, Australian Mathematics Trust, Canberra, **Australia,** Vol. 6, No. 2, **1993**, 45 - 52.

8. **Bilchev, Sv.,** E. Velikova. About Some Basic Principles of the Extracurricular Work with Talented Students, Proceedings of the 4th Mediterranean Conference on Mathematics Education, January 28 – 30, 2005, **Palermo, Italy,** Cyprus Mathematical Society, **2005**, 553 – 559.

9. **Bilchev, Sv.,** G. Zhitomirsky. Z - Maximum and Its Properties, Multicriterial Dynamical Problems Under Unsertainty, Collection of Scientific Works, Orekhovo - Zuevo, **Russia, 1991**, 11 - 14.

10. **Bilchev, Sv.**, M. Grammatikopoulos, I. Stavroulakis. Oscillations of Second - Order Neutral Differential Equations with Deviating Arguments, Contemporary Mathematics, **USA**, Vol. 129, **1992**, 1 - 21.

11. **Bilchev, Sv.,** M. Grammatikopoulos, I. Stavroulakis. Oscillations of Higher Order Neutral Differential Equations, Journal of **Australian** Mathematical Society, Series A, 52, **1992**, 261-284.

12. **Bilchev, Sv.,** M. Grammatikopoulos, I. Stavroulakis. Oscillation Criteria in Higher Order Neutral Equations, **Journal of Mathematical Analysis and Applications**, Vol. 183, No. 1, April, **1994**, 1 – 24, 1992.

13. **Bilchev, Sv.,** M. Kunchev, T. Mitev, B. Kuiyumdzieva, R. Chaparov. All Squares Are Non – Negative, Write A Problem Set A Challenge, International Competition, Best Practice In Education, New York, **USA, 2002**, 1 – 20.

14. **Bilchev, Sv.,** M. Bilcheva. The Method Of Infinite Descent, Proceedings of the Union of Scientists – Ruse, Ser. 5, "Mathematics, Informatics and Physics", Volume 4, **Ruse, 2003**, 148 – 162.

15. **Bilchev, Sv.** Strategic Manoeuvre of Russia in the Recent Geoeconomical Coordinates (Russian), Security & Eurasia (in Russian and in English), No. 2 (20), April-June, **2005,** Moskow, **Russia,** ISSN 1607 – 7334, 627 - 635.

16. **Bilchev, Sv.** The Concept of the "Triple Ladder" for Identification and Motivation of the Talented Students, International Conference on Mathematics Education, 3 – 5 June 2005, Svishtov, Bulgaria, Sofia, **2005**, 138 - 145.

17. **Bilchev, Sv.** This Fairy – Land Named **"Mathland",** Proceedings of the Union of Scientists – Ruse, Ser. 5, "Mathematics, Informatics and Physics", Volume 4, **Ruse, 2003**, 168 – 180.

18. **Bilchev, Sv.,** E. Velikova. Asymmetric Quadrilateral Inequalities, Proceedings of 16th Panhellenic Conference on Mathematics Education, Greek Mathematical Society, Larissa, **Greece,** November 12 – 14, **1999**, 270 – 28 (**Plenary Report).**

19. **Bilchev, Sv.,** Al. Kripakov. Methods of Decreasing of Currency and Price Risks of the Enterprises (Russian), Proceedings of the Union of Scientists – Ruse, Ser. 5, "Mathematics, Informatics and Physics", Volume 4, **Ruse, 2003**, 129 – 147.

20. **Bilchev, Sv.**, E. Velikova**.** The Advantages of MQ - MA Examinations, Proceedings of the Union of Scientists – Ruse, Ser. 5, "Mathematics, Informatics and Physics", Volume 2, **Ruse, 2002**, 3 - 14.

21. **Bilchev, Sv.,** V. Kovshevny**.** Network Procurement: Problems and Perspectives of Development in Bulgaria and Russia (Russian), Proceedings of the Union of Scientists – Ruse, Ser. 5, "Mathematics, Informatics and Physics", Volume 4, **Ruse, 2003**, 111 – 128.

22. **Bilchev, Sv.,** Dimitri G. Kontogiannis. A Short and Elementary Proof of Mushkarov - Simeonov's Inequality, Rad Hrvatske Academija Znanosti i Umjetnosti, Rada 456, Matematicke znanosti, Svezak 10, **Zagreb**, **1991**, 33 - 37.

23. **Bilchev, Sv.,** E. Velikova. On a Certain Triangle Transfotmation and Some of Its Applications, Rad Jugoslovenske Akademija Znanosti i Umjetnosti, Rada 450, Matematicke Znanosti, Svezak 9, **Zagreb, 1990**, 69 - 76.

24. **Bilchev, Sv.,** P. Rashkov. Specialized Groups of Advanced Growth in Ruse - Achievements and Problems, Mathematics Competitions, Journal of the WFNMC, **Australia**, Vol. 4, No. 1, **1991**, 34 - 46.

25. **Bilchev, Sv.** 40 Years School Mathematical Circles in Ruse (Bulgarian), Mathematics and Education in Mathematics, Proceedings of the XXX Spring Conference of the Union of Bulgarian Mathematicians, Borovets, April 8 – 11, **2001**, BAS, **Sofia,** 51 – 65.

26. **Bilchev, Sv.** About an Unexpected Transition from Algebra to Geometry, Mathematics Competitions, Journal of the WFNMC, Australian Mathematics Trust, **Canberra, Australia,** Vol. 17, No. 2, **2004,** 17 – 27.

27. **Bilchev, Sv.,** A. Momchilova, I. Ganchev. Interdisciplinary Connections For The Creativity In The Motive Performance of Pupils, Proceedings of the Third International Conference "Creativity in Mathematics Education and the Education of Gifted Students", 4 – 9 August, 2003, Ruse, Bulgaria, E. Velikova (Editor), V - publications, Athens, **Greece, 2003**, 259 – 262.

28. **Bilchev, Sv.,** E. Velikova, Hr. Lesov. Spieker and Crelle-Brocard Points and Their Crucial Role for the Theory of Geometric Inequalities, Mathematics and Education in Mathematics, Proceedings of XXII Spring Conference of the Union of Bulgarian Mathematicians, **Sofia,** April 2 - 5, **1993**, 173 - 180.

29. **Bilchev, Sv.,** E. Velikova**.** About a "Ladder" of Plane Geometric Problems, Scientific - Applied Conference "Mathematics, Informatics and Computer Sciences", 20 Years Mathematics and Informatics in VTU "Saint Saint Kiril and Methodii", 12 – 13.05.2006, Veliko Tarnovo, **2006,** 220 – 231.

30. **Bilchev, Sv.,** E. Velikova**.** About a New Friendly System of Mathematical Exams, MASSEE International Congress on Mathematics, MICOM 2006, May 21 – June 4, **2006,** Paphos, Cyprus, Abstracts, pp. 18 - 19 (to appear in "Matematica Balkanika"**.**

31. **Bilchev, Sv.,** E. Velikova, P. Kenderov, S. Grozdev, G. Makrides. The European Project "MATHEU": Identification, Motivation and Support of the Mathematical Talents in European Schools (Bulgarian and English), Scientific Conference **"60 Years Union of the Scientists in Bulgaria",** October 29 – 30, 2004, University of Ruse "A. Kanchev", Union of the Scientists – Ruse, Section "Pedagogy and Psychology. Physical Culture and Sport", Volume 41, Ser. 6.3, **Ruse, 2005**, 48 – 65.

32. **Bilchev, Sv.,** E. Velikova, St. Genchev**.** The Advantages of The Method of Evaluating "MQ – MA" (Bulgarian), May Scientific Reading of The Faculty of Education - Silistra, May 19 – 20**,** 2000, Section 5 "The Education on Natural – Mathematics Sciences", **Silistra, 2000**, 247 - 259.

33. **Bilchev, Sv.,** E. Velikova. The Education of Mathematics in Bulgaria, Μαθηματικη Επιθεωρηση, Greek Mathematical Society, **Greece,** No. 62, December, **2004,** 72 – 88.

34. **Bilchev, Sv.** Generalization of a Differential Equation With Deviating Argument in Economics, Scientific - Applied Conference "Mathematics, Informatics and Computer Sciences"**,** 20 Years Mathematics and Informatics in VTU "Saint Saint Kiril and Methodii", 12 – 13.05.2006, Veliko Tarnovo, **2006,** 41 – 46.

35. **Bilchev, Sv.** Generalization of a Differential Equation With Deviating Argument in Economics, MASSEE International Congress on Mathematics, MICOM 2006, May 21 – June 4, **2006,** Paphos, Cyprus, Abstracts, p. 17 (to appear in "Matematica Balkanika")**.**

36. **Bilchev, Sv.** Geoeconomics and Logistics (Russian), Proceedings of the Union of Scientists – Ruse, Ser. 5, "Mathematics, Informatics and Physics", Volume 3, **Ruse, 2002**, 3 – 31.

37. **Bilchev, Sv.**, Hr. Lesov. The Spieker Point and Some of Its Applications (Bulgarian), Education of Mathematics and Informatics, **Sofia,** No. 6, **1992**, 34 - 38.

38. **Bilchev, Sv.** Logistics in the Training and Education Sphere (Russian), Security & Eurasia, No. 3 (5), July – September, **2001,** Moskow, **Russia,** ISSN 1607 – 7334, 419 – 434.

39. **Bilchev, Sv.,** P. Vlamos**.** A New Glance on The Fundamental Triangle Inequality, Proceedings of the Union of Scientists – Ruse, Ser. 5, "Mathematics, Informatics and Physics", Volume 1, **Ruse, 2001**, 69 – 73.

40. **Bilchev, Sv.,** P. Vlamos**.** About A Strange Walther Janous' Problem, Proceedings of the Union of Scientists – Ruse, Ser. 5, "Mathematics, Informatics and Physics", Volume 1, **Ruse, 2001**, 83 – 87.

41. **Bilchev, Sv.,** P. Kenderov. Bulgarian Winter Competitions In Mathematics, Informatics And Mathematical Linguistics, Μαθηματικη Επιθεωρηση, Greek Mathematical Society, No. 56, December **2001**, **Greece,** 89 – 106.

42. **Bilchev, Sv.,** A. Mateev. The Scientists, the Teacher, the Man of Wisdom, the Artist, the Friend…(Bulgarian), Mathematics and Informatics, No. 5 – 6, **Sofia, 2000**, 31 – 32.

43. **Bilchev, Sv.** Provoking Curiosity and Creativity of the Gifted Students in Mathematics by Obtaining New Results, University of South Bohemia Českė Budějovice, Pedagogical Faculty, Department of Mathematics Report Series, Volume 14, **2006,** pp. 65 – 68.

44. **Bilchev, Sv.,** V. Bokov. Geoeconomical and Geopolitical Risks: Recent Problems and Solutions, Abstracts, International Congress MASSEE'2003, September 15 - 21, **2003**, Borovets, Bulgaria, 141, full published in **Latvian Academy of Sciences, University of Latvia, Institute of Mathematics, Proceedings: ACTA UNIVERSITATIS LATVIENSIS. MATHEMATICS, Volume 688, University of Latvia, Riga, Latvia, 2005,** 13 - 26.

45. Bokov, V., **Sv. Bilchev.** Mathematics Models for Short Time Prognosis and Management in Economics of the Education (Russian), Proceedings of the Fifth International Conference on Differential Equations and Applications - CDE'V, **Ruse,** Bulgaria, August 24 - 29, **1995**, 15 - 28.

46. Bokov, V., **Sv. Bilchev,** P. Vlamos**.** A New Logistical   Approach To Management Of Export/Import Operations In A National Economics, Μαθηματικη Επιθεωρηση, No. 54, December **2000**, Greek Mathematical Society, **Greece,** 43 – 51.

47. Bokov, V., **Sv. Bilchev.** Prognosis of the Optimal Samuelson – Sollow Curve: Stakelberg – Nash Differential Game (Russian), Scientific Proceedings of the VTU "A. Kanchev" – Ruse, Volume XXXV, Ser. 8, Physics, Mathematics and Informatics, **Ruse**, **1994**, 8 - 15.

48. Bokov, V., **Sv. Bilchev**, V. Gladyshev. The High Technological Method for Inflation Control in Economic System : Differential Game, Proceedings of the University of Sofia, **Sofia,** Volume 88, No. 1, **1996.**

49. Bokov, V., **Sv. Bilchev**, Vl. Gladyshev. Model of Controllable Macroeconomic Equilibrium and Optimal Equipment of Economic System by Labour Force, Mathematics and Education of Mathematics, Proceedings of the XXIV Spring Conference of the Union of Bulgarian Mathematicians, Svishtov, April 4 - 7, **1995**, **Sofia,** 318 - 323.

50. Bokov, V., **Sv. Bilchev.** Prognosis and Management of the Training of Specialists in a Multiregional Economical System – Multilevel Optimization (Russian), Mathematics and Education in Mathematics, Proceedings of XXII Spring Conference of the Union of Bulgarian Mathematicians, **Sofia,** April 2 - 5, **1993**, 194 - 197.

51. Bokov, V., **Sv. Bilchev**. Desargues's Metaphysical Heuristics in One Recent Problem of the Mathematical Knowledge, Proceedings of the 6th Greek Conference on Mathematical Analysis, Karlovassi Samos, September 5 - 7, 1997, University of AEGEAN, Faculty of Mathematics, Karlovassi, **Greece, 1998**, 39 - 45.

52. Bokov, V., **Sv. Bilchev.** Sergei Maximovich Perevertkin, Management of the Inflation in Economical System – Educational Game (Russian), Mathematics and Education in Mathematics, Proceedings of the XXVI Spring Conference of the Union of Bulgarian Mathematicians, Plovdiv, April 22 - 25, **1997**, **Sofia,** 223 - 230.

53. Bokov, V., **Sv. Bilchev, P. Vlamos.** Perspectives of Training Specialists of Logistics on the Base of Game Theory: Example of Russia and Bulgaria (Russian), Scientific Session **"45 Years University of Ruse "Angel Kanchev",** October 7 – 8, 1999, **Ruse,** Scientific Works, Volume 37, Ser. 8, Mathematics and Informatics (**Sv. Bilchev – Editor**), **1999**, 71 – 91.

54. Bokov, V., **Sv. Bilchev.** Model of Non Crisis Evolution of Connected – Diversification Systems: Shumpeter Approach (Russian), Scientific Session "45 Years University of Ruse "Angel Kanchev", October 7 – 8, 1999, **Ruse,** Scientific Works, Volume 37, Ser. 8, Mathematics and Informatics (**Sv. Bilchev – Editor**), **1999**, 65 – 70.

55. Bokov, V., **Sv. Bilchev,** P. Vlamos. A Model Of Management Of Targeted Capital Structure Of A Company, Buletinul Ştiinţific Al Universităţii Din **Baia Mare,** Seria B, Fascicola, Matematică-Informatică, Vol. XVII, Nr. 1-2, **2001**, 13 – 22.

56. Bokov, V., **Sv. Bilchev.** Prognosis of the Optimal Phillips Curve for Applications in Econometric Models (Russian), Mathematics and Education of Mathematics, Proceedings of the XXIV Spring Conference of the Union of Bulgarian Mathematicians, Svishtov, April 4 - 7, **1995**, **Sofia,** 360 - 369.

57. Kontogeorgis, M., P. Vlamos, **Sv. J. Bilchev**. Limiting Cases Of Thermodynamic Functions, Buletinul Ştiinţific Al Universităţii din **Baia Mare,** Seria B, Fascicola, Matematică - Informatică, Vol. XV, Nr. 1-2, **1999**, 9–16.

58. Laos, K., **Sv. Bilchev**. Some Results for an Infinitely Extended 2 - Polyhedron of One Plane, Mathematics and Education in Mathematics, Proceedings of the XXV Spring Conference of the Union of Bulgarian Mathematicians, Kazanlak, April 6 - 9, **1996**, **Sofia,** 78 - 80.

59. Momchilova, A., **Sv. Bilchev**. Complex – Integrative Tendencies in New Programs of Primary School, Proceedings of the CASTME International and CASTME Europe Conference "Linking Science, Mathematics and Technology Education and Their Social Relevance", **Cyprus,** April 15 – 18, 2004, Cyprus Mathematical Society, **2004,** 215 – 220.

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Full text of 13 of my papers concerning extracurricular work with gifted students in mathematics and mathematics competitions and Olympiads is possible to find on the following addresses (sites):

www.lanet.lv and more directly: ftp://ftp.liis.lv/macmat/matemat/bilcevs.zip,
and: www.oei-campus.org/oim/revistaoim.

December 06, 2006.   *Signed :*
Ruse, Bulgaria   **(Assoc. Prof. Dr. Svetoslav Jordanov BILCHEV)**

25-TH ANNIVERSARY

DEPARTMENT OF

INFORMATICS AND INFORMATION TECHNOLOGIES

ANGEL KANCHEV UNIVERSITY OF RUSE

CONGRATULATIONS DEAR COLLEAGUES!

ANNIVERSARY

The Department of Informatics and Information Technologies at Angel Kanchev University of Ruse completed its 25th anniversary in 2006. It was founded in February 1981 as a sector of Informatics within the Center of Mathematics then having the rank of a faculty to the former University "VIMMESS" (Institute of Mechanical Engineering, Mechanization and Electrification of Agricultural Machinery). It involved 5 members and was headed by the Assoc. Prof. Marko Todorov, PhD. The main objective was teaching Programming to students from all specialties.

Today, the Informatics and Information Technologies (IIT) Department constitutes a part of the Faculty of Natural Sciences and Education, newly established in 2006. The full staff consists of 18 lecturers, 2 system programmers, a technical assistant and a study process organizer. The lecturers comprise 3 associate professors, 6 PhDs, 5 assistant professors working on PhD degree. At the University of Ruse (UR) the IIT Department is known with its benevolent microclimate that is much owed to the long-term contribution of its Head – Prof. Varban Iliev, PhD who has recently retired, but actively supports the education process.

Teaching Programming and Information Technologies to students from all specialties is still a function of the IIT Department, but not the main one. The Department efficiently participates in the curriculum development and the teaching process of two new specialties established as a result of educational projects of EU's TEMPUS program - Mathematics and Informatics, starting from 1992 and Information Technologies, starting from 1993. At present, it is the specializing department for IIT students who deepen their knowledge in software engineering and software application following a curriculum that is in accordance with the modern demands of the software industry. The IIT Department conducts several master degree courses, the most popular being the course for "Teachers of IIT".

An important factor for the teaching process quality is the modern equipment, available thanks to the assistance and support of UR authorities. A wide range of computers has been used for ensuring effective teaching results. It began with EC1020 followed by mini computing machines such as PDP11, VAX, and various personal computers starting with Pravetz 8 and nowadays using modern ones. Today, for educational purposes, the Department has on its disposal 6 well-equipped computer labs and contemporary software systems. The local computer network was established in 1994.

To ensure an efficient education process and provide students with learning materials for self-dependent work, the department staff worked out more than 50 lecture notes and tutorials. Most of them are already published on the university e-learning site <eLSe>.

The IIT Department members carry out scientific research with results announced in hundreds of publications in scientific national and international journals, or reported on national and international conferences. They work on a significant number of investigation projects of various national and European programs – more than 100 projects funded by national organizations and 11 projects funded by programs of EU, IBM and other international organizations.

A notable research achievement of the Department is the software system for programming of CNC machines, developed by a team under the direction of Prof. V. Iliev in the period of 1983 – 1991. The authors were awarded with a gold medal in 1986 at the Plovdiv autumn fair, and with gold signs at several software exhibitions. It successfully competes with similar software systems developed in the European countries and Japan. More than 50 companies and scientific institutes in Bulgaria and the former USSR and GDR implement it.

An important extra-curriculum activity is the preparation and performance of student competitions in Programming, as well as the leadership of UR's student teams participating in national student competitions.

The 25th anniversary of IIT Department was celebrated on 8th of December at Angel Kanchev University of Ruse. It was a wonderful occasion for drawing up a balance of all the work done, for feeling proud of the results and for motivating future achievements.

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