


## CURRICULUM VITAE

<b>Name:</b>	<b>ALEKSANDAR Tode NOŠPAL</b>
 <b>Address:</b>	Mašinski fakultet, Karpoš II b.b., P. fah 464, 1000 Skopje, Republic of Macedonia  Phone: +389 2 309 92 28; Fax: +389 2 309 92 98 Home: +389 2 246 04 32  E-mail: <a href="mailto:nospal@mf.edu.mk">nospal@mf.edu.mk</a> ; <a href="mailto:atnospal@hotmail.com">atnospal@hotmail.com</a> web site: <a href="http://www.mf.ukim.edu.mk">http://www.mf.ukim.edu.mk</a>
<b>Nationality:</b>	Macedonian
<b>Date and place of birth:</b>	8 November 1945, Skopje, R. Macedonia.
<b>Marital status:</b>	married - wife Vera, 3 children - Tina, David i Ana

<i>University education:</i>	
1964 -1969	University "Sts. Kiril & Metodij", Skopje, R. Macedonia; Faculty of Mechanical Engineering; Academic Degree: Graduated Mechanical Engineer (Dipl. Ing.).
1971-1973	University of Belgrade (SFRYugoslavia); Faculty of Mechanical Engineering, Postgraduate Studies
1973 -1975	University of Iowa, Iowa City, USA; College for Graduate Studies; Field of Studies: Mechanics and Hydraulics; Academic Degree: Master of Science (MSc).
1977 - 1980	University of Belgrade (SFRY); Faculty of Mechanical Engineering; Academic Degree: Doctor of Science (PhD).

<i>Employment record:</i>	
<b>• Present position:</b>	
1969 -present	University "Sts. Kiril i Metodij", Faculty of Mechanical Engineering; Title of the present position: Full Professor
	<i>Positions at the Faculty of Mechanical Engineering:</i>
1969 - 1977	Teaching Assistant; from 1975 acts as Lecturer
1977 - 1981	Lecturer
1981 - 1986	Associate Professor
1986- present	Full Professor, 1986 - election; 1992 - I re-election; 1998 - II re-election
<b>• Other positions:</b>	
1986-1991	Assembly and Government of the Republic of Macedonia, Skopje, R. Macedonia. Title of the position: Deputy of the President of the Republic Committee for Science, Technology Development and Informatics (later Ministry for Science). 1990-1991, performed the duty of the President, In the period 1986-1991 he has also continued to work as University Professor.
1973 -1975	the University of Iowa, Institute of Hydraulic Research, Iowa City, USA. Title of the position: Graduate Research Assistant.

<b>• Part time positions:</b>	
1983 - 1987	Metal Works Company "Tito", Factory for pumps and equipment, Consultant and Head of the group for new products
1987-1991	Federal Committee of Technology Development (SFRY); Periodic engagement as an expert for technology development.

<b><i>University teaching</i></b>	
<b>• Undergraduate Studies:</b>	
Subjects in the area of Fluid Technology and Automatics: Hydraulic Machinery and Equipment; Hydraulic Machinery; Hydraulic Positive Displacement Machinery; Hydraulic Machinery and Components; Fluid Flow Measurements and Instrumentation; Sensors in Automation; Measurements in Hydraulics and Automation; Fluid Flow Experiments and Simulations; Fluid Mechanics.	
<b>• Postgraduate Studies:</b>	
Measurement Methods, Measurements and Data Acquisition; Disposal of Wasted Fluids; Engineering Experimentation; Measurements, Monitoring and Data Acquisition; Selected Chapters of Hydrostatic Transmissions.	

<b><i>Scientific Research:</i></b>	
Main research interest: Applied fluid mechanics, Turbulent flows, Experimental Fluid Mechanics, Heat Disposal From Power Generation, Fluid Flow Measurements, Hydraulic Machinery, Automatics etc. Over 200 scientific and professional projects, articles, studies, and other works, published in Macedonia and abroad (see list of published works). He has participated with his works on several scientific seminars, symposia and congresses. Some of his works were cited by scientists from known universities (MIT for example).	

<b><i>Books and educational materials</i></b>	
Nošpal A.: <i>Fluid Mechanics</i> - Prepared lectures material for <i>the Development of Environmental and Resources Engineering Curriculum (DEREC)</i> subject, TEMPUS JEP CD_JEP-19840-2004, edition of the Faculty of Mechanical Engineering, Skopje, 2007/2008	
Nošpal A.,: " <i>Hydraulic Positive Displacement Machinery</i> ", a book prepared for print, distributed to students as internal edition of the Faculty of Mechanical Engineering, Skopje, 2005.	
Nošpal A.: " <i>Fluid Flow Measurements and Instrumentation</i> ", book, publisher MB-3, Skopje, 1995.	
Stojkovski V., Nošpal A., Kostic.Z.: " <i>Practicum for Laboratory Works for the Subject Fluid Flow Measurements and Instrumentation</i> ", edition for students of the Faculty of Mechanical Engineering, Skopje, 1993.	
Nošpal A., Kostic Z., : " <i>Characteristics of the Hydraulic Positive Displacement Machinery</i> ", edition for students of the Faculty of Mechanical Engineering, Skopje, 1983.	
Nošpal A., Tupurkovska S.: " <i>Dimensional Analysis Application</i> ", internal edition of the Faculty of Mechanical Engineering, Skopje, 1980.	
Several internal editions of materials for students exam preparations for subjects taught by A. Nospal on the undergraduate and postgraduate studies of the Faculty of Mech. Engineering in Skopje.	

**Professional stays abroad, grants and awards:**

• **Longer stays**

1963	France, one month, on a basis of students' exchange
1967	Switzerland, 3 months, grant for student technical practice in "Ateliers des Charmiles",
1973 - 1975	USA, graduate studies at the University of Iowa, Fulbright scholarship.
1999	Great Britain, one month stay at the University of Sheffield, EU TEMPUS Phare JEP.

• **Some important shorter stays (one week approximately):**

1982	Poland, Cooperation with Krakow Polytechnics.
1986	France, World Energy Conference in Cannes.
1986 and 1992	Germany, Cooperation with German firms and universities.
1987	Spain, VII World Congress in Theory of Machines and Mechanisms
1991	Hungary, EU EUREKA Congress
1996	Austria, Cooperation with the firm FESTO and the University of Vienna .
1998	Czech Republic, 13 <sup>th</sup> International Congress CHISA'98.
1999	Hong Kong, Lectures of A. Nošpal at the Hong Kong Institute of Vocational Education.
2001, 2007	Italy, Torino, Tempus Phare Expert Work on JEP proposals evaluation.

He has participated on several scientific symposia, conferences and congresses in Greece, Turkey, Yugoslavia, Bulgaria.

He obtained several diplomas for recognition of achievements.

**Elections and Appointments:**

Vice-Dean for Education and Science of the Faculty of Mechanical Engineering (two mandates);  
Member of the Faculty Council;  
Member of several University and Faculty commissions;  
Member of the Republic Committee for Education.  
Deputy of the President of the Republic Committee for Science, Technology Development and Informatics;  
Head of the Institute for Hydrotechnics, Pneumatics and Automatics;  
Head of the Chair for Automatics;  
Member of the University Senate;  
Candidate for Rector Election of the University "Sts. Kiril and Metodij";  
TEMPUS Academic Expert.

**Membership of professional bodies:**

Member of the Executive Committee of the Agreement for Co-operation in FBC and AEEEAT of SEEC;  
Member of the Executive Committee *SEE Agreement for Co-operation with the Aim to Research, Develop and Implement New Energy Efficient and Ecologically Acceptable Technologies Applied to Energy Production, Chemical and Environmental Engineering*;  
Member of the Society of Mechanics and IFToMM.

**Foreign languages:**

English, French, Serbo-Croatian - very good reading, writing and speaking;  
Russian and Bulgarian - reasonable use.

### **List of Some of the Published Works of Prof. Dr. Aleksandar Nošpal**

Dr. Nošpal has realized over 200 scientific and professional projects, articles, studies, and other works, published in Macedonia and abroad - the entire list is presented in the link "Трудови" of the Macedonian version of his web site: [www.mf.ukim.edu.mk](http://www.mf.ukim.edu.mk)

Some of the works with titles in English are listed here.

1. Nošpal A.: "Investigation of the Thermal Near Field for an Alternating Multiport Diffuser Pipe", M.S.Thesis, the University of Iowa, Iowa City, 1974
2. Kennedy J. F., Onishi E., Nospal A. et al.: "Movable Bed Model Study of a Power Plant Intake Structure on the Missouri River", conducted for Nebraska Public power District, Institute of Hydraulic Research (IIHR), the University of Iowa, Iowa City, 1973.
3. Kennedy J. F., Tatinclaux J. C., Nospal A. et al.: "Study of the Condenser Water Discharge Structure of Dresden Nuclear Power Plant", Project of the Institute of Hydraulic Research, IIHR, the University of Iowa, 1973/74.
4. Kennedy J. F., Tatinclaux J. C., Nospal A. et al.: "Analysis, Design and Testing of the Waste-Heat Management System for St.Lucie Power Plant", Project of the Institute of Hydraulic Research, IIHR, the University of Iowa, 1974/75.
5. Nošpal A., Tatinclaux J.C.: "Design of Alternating Diffuser Pipes", ASCE Journal of Hydraulic Research, No.HY4, 1976.
6. Nošpal A.: "Submerged Discharge of Condenser Water from Thermal Power Plants", I Conference for Energy Problems in Macedonia, Skopje, 1976.
7. Nošpal A., Boševski T.: "Analysis of the Jets in Case of Submerged Diffuser Discharge of Condenser Water", research project "Possibilities for NPP Location in Macedonia" realized for Electric Power Company of Macedonia, Faculties of Electrical and Mechanical Engineering, Skopje, 1977.
8. Ivanovski H., Nošpal A., Tupurkovska S., et al.: "Analysis of the Causes for Cavitation Appearance and Normal Operation Disturbances with Suggestion for Reliable Work of the Pumps in the Steel-Works "Skopje" ", Faculty of Mechanical Engineering, Skopje, 1976.
9. Nošpal A. : "Improved Methodology for the Near Field Numerical Solving of Condenser Effluent Diffuser Discharge " XXI Yugoslave Conference for ETAN, Banja Luka, 1977.
10. Nošpal A., Boševski T.: "Methodology and Program for Thermal Load Prediction in Case of Condenser Water Submerged Discharge in Quiescent Ambient", XXII Yugoslave Conference for ETAN, Zadar, 1978.
11. Boševski T., Nošpal A., Popov N.: "Possibilities for Thermal Power Plants Cooling with Lakes Waters in Macedonia", research project realized for Electric Power Company of Macedonia, Faculties of Electrical and Mechanical Engineering, Skopje, 1979.
12. Nošpal A., Boševski T.: "Mathematical Model for Prediction of the Velocity and Temperature Field under Conditions of Heat Disposal by Submerged Diffusers " , Symposium "Hydrodynamic Problems of Water Protection", Academy of Science and Arts of Bosnia and herzegovina, Sarajevo,1981.
13. Kostic Z., Nošpal A.: "Direct Pressure Regulation of Axial - Piston Pump", Proceedings of The Faculty of Mechanical Engineering, Skopje, 1981.
14. Nošpal A., Tupurkovska S.: "Dimensional Analysis Application", internal edition of the Faculty of Mechanical Engineering, Skopje, 1980.
15. Nošpal A. : "Temperature Field in Nonisothermal Turbulent Diffusion of Warm Water Submerged Discharge", Ph.D. Dissertation, University of Belgrade, Faculty of Mechanical Engineering, Belgrade, 1981.
16. Nošpal A., Kostic Z., : "Model Testing of Pelton Turbine and Centrifugal Pump", laboratory instruction edition for the subject "Fluid Flow measurements and Instrumentation", Faculty of Mechanical Engineering, Skopje, 1981.
17. Nošpal A., Kostic Z., : "Characteristics of the Hydraulic Positive Displacement Machinery", edition of the Faculty of Mechanical Engineering, Skopje, 1983.
18. Nošpal A., Kostic Z., Bundalevski T., Trajkovski L.: "Project for Hydraulic Installation for Sand and Micro Filters Investigation", idea and main projects realized for MZT "HEPOS", Faculty of Mechanical Engineering, Skopje, 1983.
19. Nošpal A., Kostic Z., Bundalevski T., Trajkovski L.: "Idea Project of Hydraulic Transmission System of a Machine for Vineyard Branches Seizing and Cutting", realized for HEK "Jugohrom", Faculty of Mechanical Engineering, Skopje, 1983.
20. Boševski T., Nošpal A., Kostic Z., et al.: "Comparison Analysis of the Cooling Possibilities of NPP of the Locations Krivolak, Brest, Ubogo and Dubrovo", research studies - books 1 and 2, realized for the Electric Power Company of Macedonia, Faculties of Electrical, Mechanical and Civil Engineering, Skopje, 1984.

21. Bundalevski T., Strezov V., Nošpal A., et al. : "*Complex Informative System for Maintenance of the Electric Power Plants in Macedonia*", idea and main project realized for realized for the Electric Power Company of Macedonia, Faculty of Mechanical Engineering, Skopje, 1984/86.
22. Nošpal A., Kostic., Trajkovski L.: "*Projects for Vane Pumps for Liquid Natural Gases*", construction and main projects for series of rotational vane pumps production realized for MZT "Pumpi", Faculty of Mechanical Engineering, Skopje, 1984/87.
23. Nošpal A., Kostic., Trajkovski L.: "*Projects for Variable Displacement Vane Pumps for Hydraulic Transmissions*", studies, series of construction and main projects realized for MZT "Pumpi", Faculty of Mechanical Engineering, Skopje, 1986/87.
24. Kostic Z., Nošpal A., : "*Computation and Balncing of the System for Ashes Driving Off from the Electro-Filter in TPP "Bitola" "*", realized for TPP Bitola", Faculty of Mechanical Engineering, Skopje, 1985.
25. Nošpal A., Kostic Z. : "*Causes for the Nonreliable Operation of the Liquid Natural Gases Filling Up System and Suggestion for its Reliable Work*", research realized for MZT "Pumpi" and "Makpetrol" - Skopje, Faculty of Mechanical Engineering, Skopje, 1985.
26. Nošpal A., Gavrilovski G., Kostic Z.: "*Investigations of Arms for Pouring off Oil and Oil Derivatives*", realized for "Makpetrol Company"- Skopje, Faculty of Mechanical Engineerin, Skopje, 1986.
27. Nošpal A., Kostic Z., Trajkovski L.: "*A Methodology for Vane Pump Hydraulic Properties Determination*", 7-th World Congress "*the Theory of Machines and Mechanisms*", Sevilla, 1987.
28. Nošpal A., Kostic Z., Tupurkovska S., Trajkovski L.: "*Investigations of Arms for Pouring off Liquid Natural Gases*", realized for "Makpetrol Company"- Skopje, Faculty of Mechanical Engineerin, Skopje, 1987.
29. Kostic Z., Nošpal A., et al. : "*Investigations of the Operation and Reliabilility of the Components for Technical Gases Installations*", realized for "Tehnogas" - Skopje, Faculty of Mechanical Engineering, Skopje, 1988/89.
30. Kostić, Z., Nošpal, A.: "*Experimental Determination of the Minimal Fluidization Velocity in Function of the Bed Temperature*", Proceedings of the Faculty of Mechanical Engineering. No.7, Skopje, 1988.
31. Stojanovski, V., Nošpal, A., Panovski, S. : "*Comparison of the Numerically and Experimentally Obtained Results for Maximum Discharge for Additional Water for TPP Bitola*", Proceedings of the Faculty of Mechanical Engineering. No.7, Skopje, 1988.
32. Bundalevski, T., Nošpal, A., Kostić, Z., et al.: "*Parallel System for Inner Ashes Driving Off from the Electro-Filter in TPP "Bitola" "*", project realized for TPP "Bitola", Faculty of Mech. Eng., Skopje, 1991.
33. Kostić, Z., Nošpal, A.: "*Testing of a Mathematical Model with Experimental Results in a Case of Solid Fuel Combustion in Fluidized Bed*", Proceedings of the Faculty of Mech. Eng., No. 10, Skopje, 1991.
34. Nošpal A., Kostic., Stojkovski V. : "*Measurments of the Flow Parameters of a Vane Compressor*", realized for FENIMAK - Kavadarci, Faculty of Mechanical Engineering, Skopje, 1991.
35. Nošpal A., Kostic., Stojkovski V. : "*Measurments and Determination of a Electro-magnetic Valve Characteristics*" realized for MZT HEPOS - Skopje, Faculty of Mechanical Engineering, Skopje, 1992.
36. Nošpal A., Kostic.Z., Stojkovski V. : "*Inestigations of Series of Polyethylen and Polypropylen Pipes and Accessorries*", relized for Hidroplast - Gevgelija and HEK Jugohrom - Tetovo, Faculty of Mechanical Engineering, Skopje, 1992/99.
37. Popovska Z., Dzekov T., Nošpal A. : "*Project Task for thr Programme of Technology Development of SR Macedonia in the Period up to Year 2000*", realized for the Government of the R. Macedonia, Skopje, 1987.
38. Nošpal A., Kostic.Z., Kosevski M. : "*Measurments of the Pressure Change in the Pressure Pipe in Case of the Turbine Valve Shut-off*", research realized for HPP Globocica - Struga, Faculty of Mechanical Engineering, Skopje, 1992.
39. Kostić, Z., Nošpal., et al.: "*Experimental Verification of the Ejectors Computation Methodology*", Proceedings of the Faculty of Mechanical Engineering, No. 12, Skopje, 1992.
40. Stojkovski V., Nošpal A., Kostic.Z.: "*Practicum for Laboratory Works for the Subject Fluid Flow Measurments and Instrumentation*", edition of the Faculty of Mechanical Engineering, Skopje, 1993.
41. Kostić, Z., Nošpal, A., Stojkovski, V.: "*Experimental Investigation of Straw Combustion in Fluidized Bed*", Proceedings of the Faculty of Mechanical Engineering, No. 13, Skopje, 1993.
42. Stojkovski, V., Kostić, Z., Bundalevski, T., Nospal, A.: "*Experimental Installation for Investigation of the Particles Entrainment and Elutriation from Fluidized Bed*", Proceedings of the Faculty of Mechanical Engineering, Skopje, 1993.
43. Bundalevski T., Nošpal A., Stojkovski V. et al. : "*Determination of the Hydraulic Characteristics of Pipes with Cement and Epoxide Inner Plasters*", research project for the Welded Pipes Factory "11 Oktomvri" ", Faculty of Mechanical Engineering, Skopje, 1994.
44. Bundalevski T., Nošpal A., et al. : "*Development of Hydraulic and Pneumatic Machines and Components, research project supported by the Ministry of Science of the R. Macedonia*", Faculty of Mechanical Engineering, Skopje, 1994.
45. Kostić, Z., Nošpal A., : "*Mathematical Model for Solid Fuel Combustion in Fluidized Bed*", Proceedings of the Faculty of Mechanical Engineering, No. 13, No. 1 (15), Skopje, 1994.

46. Nospal A.: "*Fluid Flow Measurements and Instrumentation*", book, publisher MB-3, Skopje, 1995.
47. Kostić, Z., Nošpal A., Stojkovski V. : "*Working Parameters of the Pumps and the Hydraulic System of the Dredge BROYT X41*", Investigations performed for Silika d.o.o. - Gostivar", Faculty of mechanical Engineering, Skopje, 1996
48. Kostic, Z., Oka, S., Nospal, A.: "*Biomass Combustion in Fluidized Bed*", Thermal Science, International Journal of the Yugoslav Thermal Society, Vol. XXI, No. 4, Belgrade, 1995.
49. Nošpal Kostic, Z., Stojkovski, V., Bundalevski, T., Nošpal, A.: "*Minimum Fluidization Velocity on Polydispersive Materials - Binary Mixtures*", Proc.Fac.Mech.Eng.Skopje, Vol.14, No.2, pp.81-92, 1995.
50. Stojkovski, V., Kostic, Z., Nošpal, A., Bundalevski, T.: "*Experimental Determination of the Terminal Velocity of Narrow Fraction Particles*", Proc.Fac.Mech.Eng.Skopje, Vol.15, No.1-2, pp.9-17, 1996.
51. Stojkovski, V., Kostic, Z., Nošpal, A.: "*Determination of Terminal Velocity on Non-Spherical Particles*", 10<sup>th</sup> Symposium of Yugoslav society of thermal engineers, YUTERM 97,24-28.06.1997, Zlatibor, 1997.
52. Stojkovski V., Kostic Z., Nošpal A.: "*Limitation Parameters of Pneumatic Components Controlled with Electromagnets*", XI YU Congress for Process Technology Equipment, Tivat, 1997.
53. Stojkovski, V., Kostic, Z., Nošpal, A., Mickovska, A.: "*Experimental Determination of Minimum Fluidization Velocity and Bubble Diameter in Two Dimensional Fluidized Bed*", Proc. Fac.Mech.Eng., Skopje, Vol.16. No.1., 1997.
54. STOJKOVSKI, V., MICKOVSKA, A., KOSTIC, Z., NOSPAL, A.: "*DEPENDENCE OF THE BUBBLE DIAMETER ON APPARENT AND TOTAL NUMBER OF FLUIDIZATION*", 1<sup>ST</sup> SOUTH EAST EUROPEAN SYMPOSIUM FLUIDIZED BEDS IN ENERGY PRODUCTION, CHEMICAL AND PROCESS ENGINEERING AND ECOLOGY, PROC. VOL. I, SEPTEMBER 1997, OHRID.
55. Stojkovski, V., Kostic, Z., Bundalevski, T., Nošpal, A.; "*Dilemma in Determination the Minimum Fluidization Velocity Using Published Equation for Polydispersive Materials - Binary Mixtures*", 1<sup>st</sup> South East European Symposium Fluidized Beds in Energy Production, Chemical and Process Engineering and Ecology, Proceedings Volume I, September '97, Ohrid.
56. Stojkovski V., Kostic, Z., Nospal, A.: "*Particles flux Distribution in the Fluidized bed Freeboard*", 1<sup>st</sup> South East European Symposium Fluidized Beds in Energy Production, Chemical and Process Engineering and Ecology, Proceedings Vol I, September '97, Ohrid.
57. Kostic, Z., Stojkovski, V., Nospal, A., Mickovska, A.: "*Differences Between the Value of Minimum Fluidization Velocities in 2-D and 3-D Fluidized Bed*", 1<sup>st</sup> South East European Symposium Fluidized Beds in Energy Production, Chemical and Process Engineering and Ecology, Proceedings Vol I, September '97, Ohrid.
58. Mickovska, A., Kostic, Z., Stojkovski, V., Nospal, A.: "*Mathematical Modeling of the Dependence of the Pre-erupted Bubble Diameter on Total Number of Fluidization on Two Dimensional Fluidized Bed*", 1<sup>st</sup> South East European Symposium of Fluidization, Proceedings Vol I , 24-27.09.1997, Ohrid
59. Kostic, Z., Oka, S., Nospal, A.: "*Straw combustion in fluidized bed*", 1<sup>st</sup> South East European Symposium Fluidized Beds in Energy Production, Chemical and Process Engineering and Ecology, Proceedings Vol I, September '97, Ohrid.
60. Nošpal A.: "*Research and Application Possibilities in the Field of Fluidized Beds Technologies in the Republic of Macedonia*", National Report, 1<sup>st</sup> South East European Symposium Fluidized Beds in Energy Production, Chemical and Process Engineering and Ecology, Proceedings Vol II, Ohrid, 1997.
61. Oka S., Nošpal A., Kostic Z., Stojkovski V., i dr.: "*1<sup>st</sup> South East European Symposium Fluidized Beds in Energy Production, Chemical and Process Engineering and Ecology*", Proceedings of Lectures - Volume I, Ohrid, 1997.
62. Oka S., Nošpal A., Kostic Z., Stojkovski V., i dr.: "*1<sup>st</sup> South East European Symposium Fluidized Beds in Energy Production, Chemical and Process Engineering and Ecology*", Proceedings of Keynote Lectures and National Reports - Volume II, Ohrid, 1997.
63. Kostic, Z., Nospal, A., Stojkovski V.: "*Measurements of the Flow Parameters of the Dust Driving Off Pneumatic Systems in the Cement Factory "Usje"*", realized for the Cement Factory Usje - Skopje, Faculty of Mechanical Engineering, Skopje, 1997.
64. Nospal A., Kostic Z., Petrovski I., Stojkovski V., et al.: "*Mathematical and Experimental Modeling of the Flow Processes and Combustion in Fluidized Bed*", Research project supported by the Ministry of Science of R. Macedonia, chief researcher A. Nospal, 1995 to 1997, Faculty of Mechanical Engineering, Skopje, 1998.
65. Bundalevski T., Cakulev T., Trajkovski L., Nospal A., et al: "*Dynamics of the Robot Control with Hydraulic and Pneumatic Driving*", Research project supported by the Ministry of Science of R. Macedonia, 1995 to 1997, Faculty of Mechanical Engineering, Skopje, 1998.
66. Stojkovski V., Kostic Z., Nošpal A. : "*Mathematical Model of Particle Entrainment Distribution along the Freeboard Height in a Bubble Fluidization Bed*", 13<sup>th</sup> International Congress of Chemical and Process Engineering CHISA'98, Praha, R.Czech, August 1998.
67. Mickovska A., Stojkovski V., Kostić Z., Nošpal A., "*Determination of the Bubble Diameter in the Preeruption Region of the Fluidized Bed*", Thermal Science, International Journal of the Yugoslav Thermal Society, Vol. 2 (1988), No. 1, pp. 57-70, Belgrade, 1999.

68. Nošpal A.: "Realized and Present Research of the Faculty of Mechanical Engineering at the University "Sv. Kiril i Metodij" in the Field of Fluidized Bed Technologies and Application Possibilities of these Technologies in R. Macedonia", Lecture presented by A. Nošpal at the Hong Kong Institute of Vocational Education, Hong Kong, March 1999.
69. Kostic Z., Oka S., Nošpal A.,: "Straw combustion in fluidized bed", Lecture presented by A. Nošpal at the Hong Kong Institute of Vocational Education, Hong Kong, March 1999.
70. Čosevski M., Nošpal A., Danev D., et al.: "Introduction of Complex Modelling System in Industrial Engineering High Education and Continous Training of SME Professionals", TEMPUS PHARE Joint European Project AC-JEP-13571-98, 1999/2000.
71. Nošpal A.: "Research and Application Possibilities in the Field of Fluidized Beds Technologies in the Republic of Macedonia", 37<sup>th</sup> IEA Fluidized Bed Conversion Meeting, Chatou, France, 1998.
72. Mickovska, A., Stojkovski, V., Kostić, Z., Nošpal, A.: "Determination of the Bubble Diameter in the Pre-Eruption Region of The Fluidized Bed", Thermal Science, vol.2 No. 1, Yugoslavia 1998.
73. Bundalevski T., Kostic Z., Nospal A., Stojkovski V., "Experimental Determination of the Friction Factor of Pipes with Cement and Epoxide Inner Plasters", VI Symposium of Theoretical and Applied Mechanics - DDM, Struga, October 1998.
74. Stojkovski, V., Kostić, Z., Nošpal, A.: "Dependence of the Total Entrainment Flux Upon the Apparent and Total Number of Fluidization", Journal of Thermal Science, Vol. 4, No. 1, pp. 65-73, Belgrade 2000.
75. Stojkovski, V., Kostic, Z., Nošpal, A.: "Investigation of the Phenomena in the Fluidized Bed Freeboard by Software Fluent Use", 1<sup>st</sup> Southeastern European Fluent Users Group Meeting, Thessaloniki, Greece, October 2000, S4, pp. 22-29.
76. Nošpal, A., Čosevski M., Danev, D.: "Fluent Software Application in Education and Research at the Faculty of Mechanical Engineering", 1<sup>st</sup> Southeastern Europe Fluent Users Group Meeting, Thessaloniki, Greece, October 2000, S2, pp. 35-41.
77. Stojkovski, V., Nošpal, A., Kostic, Z.: "Prediction of Calibration Curve at Sharp-Edge Orifice Flow Meter by Fluent", 1<sup>st</sup> Southeastern European Fluent Users Group Meeting, Thessaloniki, Greece, October 2000, S5, pp. 8-15.
78. Kostic, Z., Stojkovski, V., Nošpal, A.: "Fluent Software Application for Model Tets Control of Hydro-Power Plant Kozjak Bottom Outlet Gate", 1<sup>st</sup> Southeastern European Fluent Users Group Meeting, Thessaloniki, Greece, October 2000, S5, pp. 21-28.
79. Trajkovski, L., Nošpal, A., Kostic, Z., Stojkovski, V.: "Time Dependent Flow of Compressible Fluids in Small Pipelines", 1<sup>st</sup> Southeastern European Fluent Users Group Meeting, Thessaloniki, Greece, October 2000, S5, pp. 54-60.
80. Stojkovski V., Nošpal A., Kostic Z., "Application oh the CFD Technology In Fluid Flow Measurements", DMM, 7-th Symposium for Theoretical and Applied Mechanics, september 2000, pp. 357-364.
81. Nošpal, A., Kosevski, M., Stojkovski, V., "Seminar for Fluent Software Application for SME Professionals", prented materials published by the Faculty of Mechanical Engineering, Skopje, 2000.
82. Stojkovski V., Kostic Z., Nošpal A.,: "Lagrangean Aproach to the Analysis of a Low Concentration Pneumatic Transport System ", XVI Congress of Equipment in Process Industry, Processing 2001, Belgrade, april 2001.
83. Stojkovski V., Nošpal A., Kostic Z., Trajkovski, L., " Instalation Bends as Possible Discharge Measurment Instruments", 8-th Symposium of the Thermal Engineering Society of R. Maceodonia (DTRM), sept. 2001.
84. Valentino Stojkovski, Zvonimir Kostić, Aleksandar Nošpal, A new corelation for the elutriation rate konstants  $K_{ico}$ , 3<sup>rd</sup> Symposium of South-East European Countries, SEEC 2001, September, Sinaia, Romania.
85. Nošpal A., Kostic Z., Trajkovski, L., Stojkovski V., " Sediment Measurement in Hydro Accumulations" , 8-th Symposium for Water Supply in R. Macedonia, Struga, October 2001.
86. R. Filkoski, I. Petrovski, A. Nospal, V. Stojkovski: CFD Predictions of Heat Transfer in Circulating Fluidised Bed Boilers, 2<sup>nd</sup> Southeastern Europe Fluent Users Group Meeting, Bucharest, Romania, 2001
87. Stefanova, A., Petrovski, I., Nošpal, A., Filkovski, R.: " Recent findings in heat transfer modeling in circulating fluidized bed boilers ", 7th International Conference on Circulating Fluidized Beds, May 5-8, 2002, Niagara Falls, Ontario, Canada.
88. R. Filkoski, I.Petrovski, A. Nospal: CFD Simulation of Processes in Pulverised Coal-Fired Boiler Furnace, 15<sup>th</sup> International Congress of Chemical and Process Engineering "CHISA 2002", Praha, Czech Republic, 2002.
89. R. Filkoski, A. Stefanova, I.Petrovski, A. Nospal: "Examination of Flow Field and Temperature Profiles in a Circulating Fluidised Bed", 15<sup>th</sup> International Congress of Chemical and Process Engineering "CHISA 2002", Praha, Czech Republic, 2002.
90. R. Filkoski, I.Petrovski, A. Nospal, A. Stefanova: CFD Simulation of Processes in Circulating Fluidised Bed Boilers, 13 International Symposium on Transport Phenomena, Victoria, British Columbia, Canada, 2002.
91. R. Filkoski, A. Stefanova, I.Petrovski, A. Nospal: " Thermal Characteristics Investigation of Circulating Fluidized Bed Furnaces", Procesing 2002, Subotica, SR Jugoslavija, 2002

92. R. V. Filkoski, A. J. Stefanova, I. J. Petrovski, A. Nošpal: *Investigation of the Thermal Characteristics of Circulating Fluidized Bed Furnaces*, *Procesna tehnika*, No.1, 2002, pp.83-86
93. Caloska, J., Lazarev, J., Nospal, A., & Stojkovski, V.: *Exit Velocities Profile at the Extrusion Process of Aluminium Square Pipe*, SOUTHEASTERN EUROPE FLUENT USERS GROUP MEETING 2002, October 2002, Thessaloniki Technology Park, Greece.
94. Stojkovski, V., Kostic, Z., Trajkovski, L., & Nospal, A., *Experimental & Numerical Investigation of Cavitation in the Flow Domain of Orifice*, SOUTHEASTERN EUROPE FLUENT USERS GROUP MEETING 2002, October 2002, Thessaloniki Technology Park, Greece
95. Trajkovski, L., Stojkovski, V., Kostic, Z., & Nospal, A., *Numerical Analysis of the Influence of the Length of Inner Immersed Tube on the Cyclone Performance*, SOUTHEASTERN EUROPE FLUENT USERS GROUP MEETING 2002, October 2002, Thessaloniki Technology Park, Greece.
96. R. Filkoski, I. Petrovski, A. Nospal: *CFD Technique for Utility Steam Generators: Challenges and Opportunities*, ENERGY FORUM 2002, Varna, Bulgaria, 2002
97. V. Stojkovski, Z. Kostic & A. Nospal, *Bubbles eruption mechanism at the fluidized bed surface*, 4th International Symposium for South-East European Countries (SEEC) on *Fluidized Beds in Energy Production, Chemical and Process Engineering and Ecology*, Thessaloniki, April 2003.
98. V. Stojkovski, Z. Kostic & A. Nošpal, *Eruptive Bubbles Concentration at the Fluidized Bed Free Surface*, 11th Symposium of Thermal Engineering of Serbia and Monte, Zlatibor, October 2003.
99. V. Stojkovski, Z. Kostić, A. Nošpal: *Bubbles eruption mechanism at the fluidized bed surface*, 4th International Symposium for South-East European Countries (SEEC) on *Fluidized Beds in Energy Production, Chemical and Process Engineering and Ecology*, Thessaloniki, April 2003.
100. Laze Trajkovski, Valentino Stojkovski, Zvonimir Kostic, Aleksandar Nospal: *Analysis of velocity profiles in the space of cone funnel at the system for drying rubble*, SOUTHEAST EUROPE FLUENT USERS GROUP MEETING 2003, Istanbul, Turkey, 16.-17.10.2003 g.
101. Valentino Stojkovski, Laze Trajkovski, Aleksandar Nospal: *CFD analysis of Y-junctions at the pipe line system*, SOUTHEAST EUROPE FLUENT USERS GROUP MEETING 2003, Istanbul, Turkey, 16.-17.10.2003 g.
102. Nošpal, A., Kostic, Z., Stojkovski, S., *Comparison of the Head, Efficiency and Power Characteristics of Centrifugal Pump*, SOUTHEAST EUROPE FLUENT USERS GROUP MEETING 2003, Istanbul, Turkey, 16.-17.10.2003 g.
103. Nošpal, A., Kostic, Z., Stojkovski, S., *CFD Technology Application for Working Characteristic Determination of a Turbo-machine (Pump)*, CFD model developed for the company MZT PUMPI - Skopje, Faculty of Mechanical Engineering, Skopje, 2003.
104. Kostic, Z., Nošpal, A., Stojkovski, S., *CFD Technology Applied in Numerical Experimentation and Working Characteristic Check-up of a Centrifugal Submerged Pump*, a study realized for the company MZT PUMPI, Skopje, April 2003.
105. Nospal A., Oka S., Kostic Z., Petrovski I., Bundalevski T., Stojkovski V., Filkovski R. et al.: *Methodes for Rational Use of Fluidized Bed Plants*, Research project supported by the Ministry of Science of R. Macedonia, chief researcher A. Nospal, 2000 to 2003, Faculty of Mechanical Engineering, Skopje, September 2003.
106. Petrovski I., Nospal A., Filkovski R., Kostic Z., Stojkovski V., Stefanova A., et al.: *Investigation of the Thermal and Ecological Performances of Modern Boiler Plants - Mathematical and Experimental Modeling*, Research project supported by the Ministry of Science of R. Macedonia, chief researcher I. Petrovski, 2000 to 2003, Faculty of Mechanical Engineering, Skopje, September 2003.
107. Valentino Stojkovski, Aleksandar Nospal, and Zvonimir Kostic, University St. Kiril and Metodij, Macedonia, *Implementation of CFD Technology for Comparison of the Head, Efficiency and Power Characteristics of Centrifugal Pump*, HydroVision 2004, Montreal, August 2004.
108. Nošpal A., Kostic Z., Trajkovski L., Stojkovski V.: *Working Parameters of the vacuum pump of the Paper Drying System*, realized for the Paper Factory Komuna, Skopje, 2001.
109. Nošpal A., Kostic Z., Trajkovski L., Stojkovski V.: *Measurements of the Air Flow in the Dust Drivig Off Pneumatic Systems in the Mills 4,5 and 6 of the Cement Factory "Usje"*, realized for the Cement Factory Usje - Skopje, Faculty of Mechanical Engineering, Skopje, march 2003.
110. Nošpal A., Kostic Z., Trajkovski L., Stojkovski V.: *Determination of the Fans Working Characteristics in the Mills 4,5 and 6 of the Cement Factory "Usje"*, realized for the Cement Factory Usje - Skopje, Faculty of Mechanical Engineering, Skopje, May 2003.
111. Nošpal A., Kostic Z., Trajkovski L., Stojkovski V.: *Fans Working Characteristics in the Dust Drivig Off Systems of of the Cement Factory "Usje" - the Packing Systems 2and 3, the Mill 2, Silo 4 and Klinker Hall*, realized for the Cement Factory Usje - Skopje, Faculty of Mechanical Engineering, Skopje, November 2004.
112. Nošpal A., Trajkovski L, Stojkovski V., Kostic.Z.: *Investigations of Series of Polyethylen and Polypropylen Pipes and Accessorries*, realized for diferent pipes producers, Faculty of Mechanical Engineering, Skopje, 1999 to 2005.
113. Z. Kostic, M. Ilic, A. Nospal, I. Petrovski, L. Trajkovski, V. Stojkovski, R. Filkoski: *Fluidized Bed Combustion of Wood and Agriculture Wastes and Coal*, project in the framework of the Programme for international scientific-technical cooperation, co-financed by the Ministry of Science of the Republic of Macedonij, Skopje and Ministry of Science of Serbia, Faculty of Mechanical Engineering, Skopje, Institute Vinca, Serbia, 2004-2005

114. Nošpal A.: "*Hydraulic Positiv Displacement Machinery*", a book prepared for print, distributed to students as internal edition of the Faculty of Mechanical Engineering, Skopje, 2005.
115. A.Nošpal, V.Stojkovski: "Hydraulic Computation and Design of a Branched Pipe Wash jet System", realized for IPI - Mine Institute, Faculty of Mechanical Engineering, Skopje, October 2005.
116. Zaev E., Tuneski A., Nospal A. : *SCADA Computer Application for Command Simulation of a Hydro Power Plant*, ZEMAK International Symposium *Energetics 2006*, Ohrid, October 2006.
117. Muench, J. W., Lennan, D., Nospal., A., "*Impact of the Tempus programme in the Balkan region*", Study realized for EC and EU Training Foundation - published by ETF Tempus Department Torino, 2006
118. Stojkovski, V., Kostic, Z., Nospal, A.: *Transient analisys of the water supply system of hydropower plants with short penstock*, International Conference of Numerical Analysis and Applied Mathematics 2007, Corfu, Greece.
119. Nošpal A.: *Fluid Mechanics* - Prepared lectures material for *the Development of Environmental and Resources Engineering Curriculum (DEREC)* subject, TEMPUS JEP CD\_JEP-19840-2004, edition of the Faculty of Mechanical Engineering, Skopje, 2007/2008
120. Nospal, A., Lazarevska, A., "*Environmental Protection and Industry: Parameters Necessary for Environmentally Related Decision Making*", *Keynote Lecture*, NATO ARW "Geographical Information Processing and Visual Analytics for Environmental Security", Trento Italy 2008, published by SPRINGER NATO Science for Peace and Security Series - C: *Environmental Security GeoSpatial Visual Analytics*, Springer Science Media 2009.
121. Stojkovski, V., Kostic, Z., Nospal, A., Tanurkov, D.: *Feasibility Evaluation criteria for Small Hydro Power Plants Construction*, International Conference *Energetika 2008*, Zlatibor 2008, Serbia.
122. Nospal A., Petrovski I., Stojkovski V., Filkovski R. et al.: *APPLICATION OF CFD AND CAX TECHNOLOGIES IN FLUID FLOW PROCESSES IN ENERGETICS AND ECOLOGY*, Research project supported by the Ministry of Science of R. Macedonia, chief researcher A. Nospal, 2006 to 2009, Faculty of Mechanical Engineering, Skopje, August 2009.
123. Petrovski I., Nospal A., Filkovski R., Stojkovski V., Belosevic S. iet al.: "*REASEARCH AND OPTIMIZATION OF THE THERMAL PROCESSES IN ENERGETICS PLANTS AND FACILITIES WITH NUMERICAL THERMAL ANALYSIS TECHNOLOGY APLICATION*", Research project supported by the Ministry of Science of R. Macedonia, chief researcher I. Petrovski, 2006 to 2009, Faculty of Mechanical Engineering, Skopje, August 2009.
124. R. V. Filkoski, I. J. Petrovski, A. T. Nospal, V. M. Stojkovski: *Energy Efficiency and Energy Saving in Industry and Services*, 14 Simposium of Thermal Engineers, Sokobanja, Serbia, 2009.
125. Nošpal A., Trajkovski L, Stojkovski V., et al.: "*Inestigations of Series of Polyethylen and Polypropylen Pipes and Accessorries*", realized for diferent pipes producers, Faculty of Mechanical Engineering, Skopje, 2005 to 2009.