

Dr TATJANA LAZOVIC, assistant professor

Address: Faculty of Mechanical Engineering, Kraljice Marije 16, 11120 Belgrade 35, SERBIA

Telephone: +381 11 3302 260

E-mail: tlazovic@mas.bg.ac.rs

Education/professional engagement

Education:

- 2008 Dr.Sci (Ph.D.) in scientific discipline Mechanical Engineering (scientific subdiscipline Machine design), thesis: "Investigation of rolling bearing abrasive wear", Faculty of Mechanical Engineering, Belgrade University
- 2000 Mr.Sci (M.Sc) in Mechanical Engineering, Machine design, thesis: "The analysis of deep groove ball bearing geometry influence on the load distribution and stiffness", Faculty of Mechanical Engineering, Belgrade University
- 1990 Dipl.-Ing. (Mech.Eng) Graduated at Moscow State Technological University "Stankin" - Technology, equipment and automation of machine-building productions

Professional experience:

- 2008 – present Assistant Professor (Docent) at Department of Machine design, courses: Machine elements 1, Machine elements 2, Machine design fundamentals, Testing of machine elements and constructions, Faculty of Mechanical Engineering Belgrade University
- 2000 – 2004 Teaching assistant in Military Technical Academy, course: Machine elements
- 1995 – 2008 Teaching and research assistant at Department of Machine design, courses: Machine elements, Machine design fundamentals, Machine design, Faculty of Mechanical Engineering, Belgrade University
- 1991 - 1995 Researcher in Research and Development Sector – In-line high pressure pumps Department, Industry of Precision Mechanics - IPM, Belgrade

Research interests

Machine design, power transmissions, machine elements: rolling bearings (geometry, load distribution, load capacity, service life...), gears, shafts... Machine elements tribology: lubrication, wear, abrasive wear. Testing of machine elements and constructions, machine safety standardization and national standards harmonization with European norms. Participant of many international conferences. Author/co-author of more than 50 papers published in conference proceedings and journals. References: 13 papers in international and national journals; 38 papers printed in proceedings of international and national conferences; 7 projects with national industry companies; 7 national research projects supported by Serbian Republic Ministry of Science and Technological Development; 1 book on machine elements.

Awards and Fellowships

BRONZE MEDAL Nikola Tesla for Inovation on International Exhibition of Inventions, New Technologies and Design INVENTIONS - BELGRADE 2007 (group of authors)

SILVER MEDAL Nikola Tesla for Inovation on International Exhibition of Inventions, New Technologies and Design INVENTIONS - BELGRADE 2008 (group of authors)

3rd prize for poster presentation of paper at the 6th Vienna International Conference on Mathematical Modelling - MATHMOD 2009 (two authors)

Additional information (other activities)

Membership:

INSTITUTE FOR STANDARDISATION OF SERBIA – Commission for Machine Safety, Commission for Technical Drawing
SERBIAN TRIBOLOGY SOCIETY

Visiting Professor in the frame of CEEPUS project (Central European Exchange Program for University Studies) at:

Technical University Liberec, Faculty of Mechanical Engineering, Liberec, Czech Republic
Slovak University of Technology, Faculty of Mechanical Engineering, Bratislava, Slovakia
Slovak University of Technology, Electrical Engineering and Information Technology Bratislava, Slovakia
University "Eftimie Murgu", Faculty of Engineering, Resita, Romania
University of Banja Luka, Faculty of Mechanical Engineering, Bosnia and Herzegovina

Coauthor and lecturer at continuing education seminars:

"Rolling Bearings Maintenance", lecture "Analysis of Causes of Rolling Bearings Failures", seminar for engineers in industry

"Machine Elements, Machine Design, Testing of Machines and Constructions", lecture "Rolling bearings service life", seminar for VET (Vocational Education and Training) teachers

"Methodology of machine elements estimation", lecture "Estimation under the dynamic conditions", seminar for VET (Vocational Education and Training) teachers

REFERENCES 2010. - 1997.

Papers printed in international and national journals:

1. Ognjanovic, M., Simonovic, A., Ristivojevic, M., Lazovic, T.: Research of rail traction shafts and axles fractures towards impact of service conditions and fatigue damage accumulation, *Engineering Failure Analysis*, Vol.17, №7-8, 2010, 1560-1571, ISSN1350-6307
2. Ristivojevic, M., Mitrovic, R., Lazovic, T.: Investigation of causes of fan shaft failure, *Engineering Failure Analysis*, Vol.17, №5, 2010, 1188-1194, ISSN1350-6307
3. Lazović, T., Mitrović, R., Ristivojević, M.: Influence of internal radial clearance on the ball bearing service life, *Journal of the Balkan Tribological Association*, Vol.16, №1, 2010, 1-8, ISSN 1310-4772
4. Ristivojevic, M., Odanovic, Z., Stamenic, Z., Lazovic, T.: Reparation in function of economy, energy and ecology efficiency, *Reparacija u funkciji ekonomske, energetske i ekološke efikasnosti, Tehnika – Mašinstvo*, Broj 2, Godina 58, 2008, 13-18, YU ISSN 0040 - 2176; UDC: 62 (062.2) (497.1)
5. Lazovic, T., Ristivojevic, M., Mitrovic, R.: Mathematical model of load distribution in rolling bearing, *FME Transactions*, Vol.36, №4, 2008, 189-196, ISSN 1451-2092
6. Bakić, G., Đukić, M., Lazović, T., Prokić-Cvetković, R., Popović, O., Rajičić, B.: New methodology for monitoring and prevention of rotating parts failures, *FME Transactions*, Vol.35, №4, 2007, 195-200, ISSN 1451-2092
7. Ristivojević, M., Mitrović, R., Lazović, T., Stamenić, Z.: Construction variation of packing machine in food processing, *Varijantna konstrukcija mašine za pakovanje prehrambenih proizvoda, Naučno stručni skup sa međunarodnim učešćem AKTUELNI PROBLEMI MEHANIZACIJE POLJOPRIVREDE*, Beograd, 2006 – rad objavljen u časopisu *POLJOPRIVREDNA TEHNIKA*, Epog 3, 2006, 57-64
8. Dubonjić, R., Ristivojević M., Mitrović, R., Jeftenić, V., Lazović, T., Stamenić, Z.: The economical beneficial upgrading of batcher on coal conveyer in fossil fuel power plant, *Analiza tehnokonomske opravdanosti uvođenja frekventnih regulatora na pogonima dozatora i dodavača uglja mlinova kotla u TENT*, *Tehnika – Mašinstvo*, Broj 5, Godina 55, 2006, 11-18, YU ISSN 0040 - 2176; UDC: 62 (062.2) (497.1)
9. Mitrović, R., Ristivojević, M., Stamenić, Z., Lazović, T.: National regulations adjustment machinery directive 98/37 ES, *Usklađivanje domaćih tehničkih propisa sa direktivom 98/37 ES u oblasti mašina*, *International Journal TOTAL QUALITY MANAGEMENT AND EXCELLENCE*, No.4, Vol.33, 2005, (u časopisu su objavljeni radovi izloženi na specijalnoj konferenciji "EUROPEAN DIRECTIVES - RESEARCH PROJECTS"), CD izdanje, 1-6
10. Mitrovic, R., Lazovic, T.: Influence of wear on deep groove ball bearing service life, *FACTA UNIVERSITATIS*, Series: Mechanical Engineering, Vol.1, №9, 2002, pp. 1117-1126
11. Lazović, T.: Influence of internal radial clearance of rolling bearing on load distribution between rolling elements, *J.of Mechanical Engineering Design*, Vol.4, №1, 2001, pp.25-32

12. Ristivojevic, M., Mitrovic, R., Lazovic, T.: Влияние длины контактных линий на контактные напряжения зубьев цилиндрических зубчатых передач, Influence of contact line length on the contact stresses of cylindrical gears teeth, ТЕХНИКА МАШИНОСТРОЕНИЯ, ТЕХНИКА МАШИНОСТРОЕНИЯ, 2/2001, 34-38
13. Mitrovic, R., Ristivojevic, M., Lazovic, T.: Распределение нагрузки между телами качения шариковых подшипников, Load distribution between rolling elements of deep groove ball bearings, ВЕСТНИК МАШИНОСТРОЕНИЯ, VESTNIK MASHINOSTROENIA, 3/2000, 14-17

Papers printed in proceedings of international and national conferences

1. Mitrovic, C., Trisovic, N., Lazovic, T., Marinkovic, A.: Simulation of energy absorption effects during helmet collision with a hard obstacle, Proceedings of the Tenth International Conference on Computational Structures Technology, CST'10, Valencia, Spain, 14-17 September, 2010, paper №220, 1-10, ISBN 978-1-905088-38-6
2. Marinkovic, A., Markovic, S., Lazovic, T., Stankovic, M., Ristic, M.: Computer aided design and simulation of a machine production line for heating, ventilation and air-conditioning duct systems, Proceedings of the Seventh International Conference on Engineering Computational Technology, ECT'10, Valencia, Spain, 14-17 September, 2010, paper №110, 1-10, ISBN 978-1-905088-41-6
3. Lazovic, T., Marinkovic, A., Trisovic, N., Mitrovic, C.: Mathematical modelling of load and stress distribution in a ball bearing, Proceedings of the Seventh International Conference on Engineering Computational Technology, ECT'10, Valencia, Spain, 14-17 September, 2010, paper №81, 1-12, ISBN 978-1-905088-41-6
4. Lazovic, T., Marinković A.: Influence of wear rate on the rolling bearing life, Solving Friction and Wear Problems, 17th International Colloquium Tribology, Technische Akademie Esslingen, 19 – 21 January, 2010, Stuttgart / Ostfildern Germany, Manuscripts Proceedings on CD, Book of Synopses p.195, ISBN 3-924813-80-9
5. Lazovic, T., Mitrovic, R., Ristivojevic, M.: Influence of internal radial clearance on the ball bearing service life, Proceedings of 3rd International Conference POWER TRANSMISSIONS 09, Kallithea – Chalkidiki, Greece, 1-2 October, 2009, 441-444, ISBN 978-960-243-662-2
6. Trisovic, N., Milovic, Lj., Lazovic, T.: Dynamic reanalysis of the structure, Book of Abstracts of 6th International Congress of Croatian Society of Mechanics – ICCSM, Dubrovnik, Croatia, 30 September – 2 October, 2009, p. 91, ISBN 978-953-7539-10-8
7. Lazovic, T., Marinkovic, A., Skoko, D.: Influence of abrasive wear on ball bearing internal geometry, Proceedings of 11th International Conference on Tribology – SERBIATRIB '09, Belgrade, Serbia, 13 – 15 May, 2009, 233-237, ISBN 978-86-7083-659-4
8. Lazovic, T., Mitrovic, R., Marinkovic, A.: Influence of abrasive wear on the ball bearing service life, Proceedings of European Conference on Tribology – ECOTRIB 2009, Pisa, Italy, 7 – 10 June, 2009, 387-392, ISBN 978-884672426-7
9. Marinkovic, A., Lazović, T.: Modelling and simulation of rolling bearings using advance software tools, MATHMOD 09, Proceedings of 6th Vienna Conference on Mathematical Modelling, Vienna, Austria, 11 – 13 February, 2009, 2580-2583, ISBN 978-3901608-35-3
10. Lazović, T., Marinkovic, A.: Influence of lubricant contamination on rolling bearing microgeometry, Proceedings of ÖTG-Symposium 2008 "Innovation in materials and lubricants for advanced eco-oriented tribosystems", Vienna, Austria, 20 November, 2008, 229-236, ISBN 978-3-901657-31-3
11. Komatina, M., Ristivojević, M., Stamenić, Z., Lazović, T.: Variant solution of fuel flowrate controller for counterflow boilers, Varijantno rešenje regulatora protoka goriva, Industrijska energetika i zaštita životne sredine u zemljama Jugoistočne Evrope – IEEP 2008, Zlatibor, Serbia, 2008
12. Ristivojevic, M., Mitrovic, R., Stamenic, Z., Lazovic, T.: Operational state of airport back up power unit transmission, Proceedings of International conference POWER TRANSMISSIONS 2006, Novi Sad, Serbia, 2006
13. Ristivojević M., Mitrović, R., Lazović, T., Stamenić, Z.: An investigation of possible causes of operational ability loss of fossilfuel power plant air fan, Istraživanje mogućih uzroka gubitka radne sposobnosti vratila ventilatora svežeg vazduha termoenergetskih postrojenja, Zbornik radova sa međunarodnog savetovanja ENERGETIKA 2005, Zlatibor, Serbia, 2005
14. Mitrović R., Ristivojević, M., Stamenić, Z., Lazović, T.: Analysis of the state of technical regulations in the area of machines with respect to European standards and directives, Analiza stanja tehničke

regulative u oblasti mašina u skladu sa zahtevima evropskih standarda i propisa, FESTIVAL KVALITETA 2005, Zbornik radova sa 32. Nacionalne konferencije o kvalitetu, Kragujevac, Serbia, 2005

15. Mitrović R., Ristivojević M., Stefanović N., Stamenić Z., Lazović T.: Service Problems of Primary Stage Air Fan of Fossilfuel Power Plant – part II – Construction Design Improvement, Proceedings of ICF 11 - Conference of Fractures. Turin, Italy 2005
16. Mitrović R., Ristivojević M., Stefanović N., Stamenić Z., Lazović T., Tasić M., Momčilović S.: Bearing State Analyses of Air Fan shaft of Fossilfuel Power Plant, Analiza stanja uležištenja vratila ventilatora svežeg vazduha termoenergetskih postrojenja, Društvo termičara Srbije i Crne Gore, Simpozijum ELEKTRANE 2004 sa međunarodnim učešćem, Vrnjačka Banja, Serbia, 2004.
17. Mitrović, R., Ristivojević, M., Plavšić, N., Ristivojević, M., Lazović, T., Stamenić, Z.: Constructors education inovations, Inovacije u obrazovanju konstruktora, Naučno-stručni skup IRMES '04, Kragujevac, Serbia, 2004
18. Mitrović, R., Ristivojević, M., Plavšić, N., Lazović, T., Stamenić, Z., Stefanović, N.: Failure analysis of mill AC power drive rolling bearing, Identifikacija uzroka otkaza kotrljajnog ležaja elektromotora za pogon mlina, Naučno-stručni skup IRMES '04, Kragujevac, Serbia, 2004
19. Dubonjić, R., Ristivojević, M., Mitrović, R., Jeftenić, B., Lazović, T., Stamenić, Z.: Techno-economic analyses of new design concept of the batcher power drive and coal mill conveyor, Tehnoekonomska analiza varijantnog rešenja pogonske grupe dozatora i dodavača uglja mlinova kotla, Naučno-stručni skup IRMES '04, Kragujevac, Serbia, 2004
20. Mitrović R., Ristivojević M., Stefanović N., Stamenić Z., Lazović T.: Service Problems of Primary Stage Air Fan of Fossilfuel Power Plant – part II – Construction Design Improvement, Centro Congressi Internazionale, ICF 11 - Conference of Fractures. Turin, Italy 2004.
21. Šijački-Žeravčić, V., Bakić, G., Đukić, M., Lazović, T., Mitrović, R., Jakovljević, A.: Proposed methodology for monitoring and prevention of rotating parts failures, 4th International Conference RaDMI '04, Zlatibor, Serbia, 2004
22. Šijački Žeravčić, V., Bakić, G., Đukić, M., Anđelić, B., Lazović, T.: Proposal of methodology for monitoring and prevention of rotating parts failures, Predlog metodologije za praćenje ponašanja i prevenciju havarija rotacionih tela, PREVIING – 11.Savetovanje sa međunarodnim učešćem, Beograd, Serbia, 2003
23. Mitrović, R., Ristivojević, M., Lazović, T.: Different approach to prediction of rolling bearing service life, Različiti pristupi proceni radnog veka kotrljajnih ležaja, IX SEVER-ov simpozijum o mehaničkim prenosnicima, Subotica, Serbia, 2003
24. Ristivojević, M., Mitrović, R., Lazović, T.: The influence of load distribution on authoritative load of the tooth, Uticaj raspodele opterećenja na merodavno opterećenje zupca, IX SEVER-ov simpozijum o mehaničkim prenosnicima, Subotica, Serbia, 2003
25. Lazović, T., Mitrović, R., Ristivojević, M.: Influence of abrasive particles geometry and material properties on the type of abrasive wear, 8th International Tribology Conference – ITC '03, Belgrade, Serbia, 2003
26. Lazović, T., Mitrović, R., Ristivojević, M.: Load distribution between rolling elements of ball and roller bearings, 3rd International Conference Research and Development in Mechanical Industry – RaDMI '03, Herceg Novi, Montenegro, 2003
27. Ristivojevic, M., Mitrovic, R., Lazovic, T.: The physical basis for defining the transverse load and the contact ratio factors, International conference POWER TRANSMISSIONS 03, Varna, Bulgaria, 2003
28. Ristivojević, M., Mitrović, R., Lazović, T.: The analysis of contact stress on the teeth flanks of cylindrical gears in the boundary load distribution, Analiza kontaktnog napona na bokovima zubaca cilindričnih zupčanika u uslovima granične raspodele opterećenja, Naučno-stručni skup IRMES, Jahorina, Bosnia and Hercegovina, 2002
29. Plavšić, N., Lazović, T., Stamenić, Z.: Vibrational diagnostics of rolling bearing, Vibraciona dijagnostika kotrljajnih ležaja, Naučno-stručni skup IRMES, Jahorina, Bosnia and Hercegovina, 2002
30. Mitrović, R., Ristivojević, M., Lazović, T.: Mathematical model of rolling bearing, NMatematički model kotrljajnog ležaja, aučno-stručni skup IRMES, Jahorina, Bosnia and Hercegovina, 2002
31. Mitrović, R., Ristivojević, M., Lazović, T.: Influence of internal radial clearance on service life of deep groove ball bearing, XVII International Conference on MATERIAL FLOW, MASCHINES AND DEVICES IN INDUSTRY, Belgrade, Serbia, 2002

32. Plavšić, N., Lazović, T., Stamenić, Z.: Destruction under contact strain, XXIII Yugoslav congress of Theoretical and applied mechanics, Belgrade, Serbia, 2001
33. Mitrović, R., Lazović, T.: Analyses of influence of wear on the rolling bearing service life, Analiza uticaja habanja na radni vek ležaja, VII Jugoslovenska konferencija o tribologiji, Beograd, Serbia, 2001
34. Ristivojević, M., Dojčinović, M., Lazović, T.: Analysis of operational ability of rotating shaft according volume strength, XVI International Conference on MATERIAL FLOW, MASCHINES AND DEVICES IN INDUSTRY, Belgrade, Serbia, 2000
35. Plavšić, N., Lazović, T.: Rolling bearing diagnostics in railway, Dijagnostika kotrljajnih ležaja sa osvrtom na primenu u železnici, IX naučno-stručni simpozijum TEHNIKA ŽELEZNIČKIH VOZILA, Niš, Serbia, 2000
36. Mitrović, R., Lazović, T., Ristivojević, M.: The analysis of operational internal radial clearance of rolling bearing, Analiza unutrašnjeg radijalnog zazora kotrljajnog ležaja u radu, Zbornik radova sa naučno-stručnog skupa IRMES, Beograd, Serbia, 1998
37. Mitrović, R., Lazović, T., Ristivojević, M.: The analysis of load distribution between rolling elements of bearing, Analiza raspodele opterećenja na kotrljajna tela ležaja, Zbornik radova sa XXII Jugoslovenskog kongresa teorijske i primenjene mehanike, Vrnjačka Banja, Serbia, 1997
38. Plavšić, N., Lazović, T.: The analysis of causes and progress of contact damage, Analiza uzroka i toka razaranja pri kontaktnom naprezanju, Zbornik radova sa međunarodnog naučno-stručnog skupa VAZDUHOPLOVSTVO, Beograd, Serbia, 1997