

PERSONAL INFORMATION

Name and surname	Radun Vulović
Date and place of birth	1972. Kragujevac
Scientific title	Research Associate
E-mail	radun@kg.ac.rs
Educational-scientific / educational-artistic field	Technical and technological sciences
University, Faculty, Organizational unit	Institute for information technologies, University of Kragujevac
Research field and areas	Bioengineering, Biomechanics, Informatics

EDUCATION

BACHELOR

Year	1997.
Place	Kragujevac
Institution	Faculty of mechanical engineering, University of Kragujevac

MASTER STUDIES

Year	2006.
Place	Kragujevac
Institution	Faculty of mechanical engineering, University of Kragujevac

DOCTORAL DISSERTATION

Year	2015.
Place	Kragujevac
Institution	Faculty of engineering, University of Kragujevac
Title of doctoral dissertation	Computer modeling and simulation of biomechanical characteristics in athletes

Scientific title	
Research area	Technical and technological sciences - electronics, telecommunications and information technologies

PROFESSIONAL BIOGRAPHY – ELECTION IN RESEARCH OR SCIENTIFIC TITLE

Date	Institution	Scientific title
2008.	Faculty of mechanical engineering, University of Kragujevac	Research Assistant
20.12.2017.	Faculty of engineering, University of Kragujevac	Research Associate
7.10.2022.	Institute for information technologies, University of Kragujevac	Research Associate

PROFESSIONAL BIOGRAPHY - TRAINING

Year	Institution	Duration
2007.	Faculty of mechanical engineering, University of Kragujevac	12 months

ENGAGEMENT IN THE FORMATION OF SCIENTIFIC PERSONNEL

--

PARTICIPATION IN NATIONAL PROJECTS FINANCED BY MINISTRY OF EDUCATION/MINISTRY OF SCIENCE AND TECHNOLOGICAL DEVELOPMENT/SCIENCE FUND OF THE REPUBLIC OF SERBIA:

1. OI-174028, funded by the Ministry of Science and Technological Development, 2011-2019, „Multiscale modeling methods with applications in biomedicine“. Project manager: prof. Ph.D. Miloš
--

- Kojić. Research organization: Research and Development Center for Bioengineering, BioIRC, Kragujevac.
2. IIII41007, funded by the Ministry of Science and Technological Development, 2011-2019, „Application of biomedical engineering in preclinical and clinical practice“. Project manager: prof. Ph.D. Nenad Filipović. Research organization: Faculty of engineering, University of Kragujevac.
 3. TP12007, grants by Ministry of Science of Serbia, 2008-2010, “Software and hardware development in the field of bioengineering with applications in clinical practice“. Project manager: Ph.D. Nenad Filipović. Research organization: Faculty of mechanical engineering, University of Kragujevac.
 4. TP-6209A, grants by Ministry of Science of Serbia, 2005-2007, “Development of computer methods and software for modeling and simulation in the field of general and biomedical engineering“. Project manager: prof. Ph.D Miloš Kojić. Research organization: Faculty of mechanical engineering, University of Kragujevac.

PARTICIPATION IN INTERNATIONAL PROJECTS

1. EMBalance, A Decision Support System incorporating a validated patient-specific, multi scale Balance Hypermodel towards early diagnostic Evaluation and efficient Management plan formulation of Balance Disorders, FP7-ICT-2013-5-2-610454 Project Coordinator: University College London – UCL, 2013-2016. Roles: researcher, software developer.
2. SMARTool: Simulation Modeling of coronary ARtery disease: a tool for clinical decision support, (01/01/16-30/06/19), H2020-PHC-2015-single-stage. Grant agreement ID: 689068, Project Coordinator: CONSIGLIO NAZIONALE DELLE RICERCHE, 01.01.2016 – 30.06.2019. Roles: researcher, software developer.
3. PANBioRA, Personalized And/Or Generalized Integrated Biomaterial Risk Assessment, H2020, Grant agreement ID: 760921,

Project Coordinator: STEINBEIS 2I GMBH, 01.01.2018 – 31.12.2022.
Roles: researcher, software developer.

MEMBERSHIP IN SCIENTIFIC AND PROFESSIONAL ASSOCIATIONS

1. Serbian Society for Mechanics
2. Serbian Society for Computational Mechanics

ORGANIZATION OF NATIONAL/INTERNATIONAL SCIENTIFIC MEETINGS (CONFERENCES, CONGRESSES...)

--

LIST OF SCIENTIFIC PAPERS:

Monographs, Monographic studies, Thematic anthologies	Sum
Papers published in scientific journals of international scientific importance	Sum
	8
1. Tijana Šušteršič, Gorkem Muttalip Simsek, Guney Guven Yapici, Milica Nikolić, Radun Vulović, Nenad Filipovic, Nihal Engin Vrana: An In-Silico Corrosion Model for Biomedical Applications for Coupling With In-Vitro Biocompatibility Tests for Estimation of Long-Term Effects, <i>Frontiers in Bioengineering and Biotechnology</i>, (Front. Bioeng. Biotechnol.), September 2021, Volume 9, Article 718026. DOI: 10.3389/fbioe.2021.718026 (M21) 2. R. Vulović, M. Nikolić, N. Filipović: Smart Platform for the Analysis of Cupula Deformation caused by Otoconia Presence within SCCs, <i>Computer Methods in Biomechanics and Biomedical Engineering</i>, Volume 22, 2019, Issue 2, pp. 130-138, Dec. 2018. DOI: 10.1080/10255842.2018.1539166 (M22) 3. V. Mrdaković, N. Pažin, R. Vulović, N. Filipović, D. Ilić: Neuromechanical control in submaximal drop jumps: The effects of volitional effort demands and drop height magnitude on soleus muscle activation, <i>Acta of Bioengineering and Biomechanics</i>,	

Faculty of Mechanical Engineering, Wroclaw University of Technology, Poland, vol. 20, no. 4, pp. 101 - 111, DOI: 10.5277/ABB-01210-2018-02, 2018. (M23)

4. Nikola Mijailovic, Radun Vulovic, Ivan Milankovic, Radivoje Radakovic, Nenad Filipovic and Aleksandar Peulic: Assessment of Knee Cartilage Stress Distribution and Deformation Using Motion Capture System and Wearable Sensors for Force Ratio Detection, Computational and Mathematical Methods in Medicine, Article ID 963746, Vol. 2015. DOI: 10.1155/2015/963746 (M23)
5. Mrdaković, V., Ilić, D., Vulović, R., Matić, M., Janković, N., Filipović, N.: Leg stiffness adjustment during hopping at different intensities and frequencies, Acta of bioengineering and biomechanics, Vol. 16, no. 3, 2014. DOI:10.5277/abb140308 (M23)
6. Filipović, N., Isailovic, V., Nikolic, D., Peulic, A., Mijailovic, N., Petrovic, S., Cukovic, S., Vulovic, R., Matic, A., Zdravkovic, N., Devedzic, G., Ristic, B.: Biomechanical Modeling of Knee for Specific Patients with Chronic Anterior Cruciate Ligament Injury, Computer Science and Information Systems, ComSIS V10 N1 (2013), DOI:10.2298/CSIS120531014F (M23)
7. N., Filipović, R., Vulović, A., Peulić, R., Radaković, Dj., Kosanić, B., Ristić: Noninvasive determination of deformation and stress inside knee cartilage during jumping on the force plate, Journal of Sports Science and Medicine (JSSM) December 2009. (M23)
8. V., Devedžić, M., Rakin, R., Vulović, Z., Ševarac, J., Jovanović, J., Lozanović, A., Sedmak: Virtual consultant in welding – Creation of the content server, Welding in the world -London-, London, Great Britain, 2007., Vol. 51, SPI, pages 207-214.

Proceedings of international scientific conferences

Sum

17

1. R. Radaković, R. Vulović, A. Peulić, D. Nikolić, N. Filipović: Method for software tracking and analysis of player's motion during a football match and general parameters for fc red star players during the qualification rounds for uefa europe league, 1st International Conference on Chemo and BioInformatics, ICCBIKG 2021, (161-164), Oct. 26-27, 2021, Kragujevac, Serbia. DOI: 10.46793/ICCBI21.161R (M33)

2. T. Šušteršič, M. Nikolić, R. Vulović, N. E. Vrana, N. Filipović: Use of Lung and Liver Computer Modeling in Preclinical Practice, VPH2020 Conference, Paris 26-28 August 2020. (M33)
3. V. Mrdaković, B. Rakojević, N. Pažin, R. Vulović, M. Ubović, A. Stanković, D. Ilić: Effect of target size on speed-accuracy tradeoff of instep kick, XXI Scientific Conference „FIS COMMUNICATIONS 2018“ in physical education, sport and recreation, ISBN:978-86-87249-89-9, Niš, Serbia, Oct. 18-20, 2018. (M33)
4. R., Vulović, M., Nikolić, N., Filipović: Software Solution of Cupula's Membrane Deformation Shew for Use in Clinical Praxis, 4th South-East European Conference on Computational Mechanics – SEECCM 2017, 03-04 July, Kragujevac, Serbia, 2017. (M33)
5. Jovičić G., Vulović A., Đorović S., Vukićević A., Vulović R., Radaković R., Filipović N.: Numerical analysis of knee joint at maximum power tennis serve, 8th International Congress of the Serbian Society of Mechanics, Kragujevac, Serbia, pp. 287-288, June 28-30, 2021. (M34)
6. V. Mrdaković, B. Rakojević, N. Pažin, R. Vulović, M. Ubović, B. Leontijević, P. Božić, A. Stanković, D. Ilić: The effects of two different short-term training programs on the speed and accuracy performances of the instep kick in young soccer players = Efekti dva različita kratkotrajna trenažna programa na brzinu i preciznost udarca prednjim hrptom stopala kod mladih fudbalera, COBISS.SR-ID - 514892204, Међународна научна конференција Ефекти примене физичке активности на антрополошки статус деце, омладине и одраслих (2017 ; Београд), ISBN - 978-86-89773-31-6, COBISS.SR-ID – 252483596 (M34)
7. B. Rakojević, V. Mrdaković, N. Pažin, R. Vulović, M. Ubović, A. Stanković, P. Božić, D. Ilić: Uticaj brzine izvođenja udarca hrptom stopala na ostvarenu preciznost šuta kod mladih fudbalera = Influence of instep kicking speed on achieved accuracy in young soccer players, COBISS.SR-ID - 514823596, Међународна научна конференција “Efekti primene fizičke aktivnosti na antropološki status dece, omladine i odraslih”, Univerzitet u Beogradu, Fakultet sporta i fizičkog vaspitanja, Republika Srbija, Beograd,

10. decembar 2016. ISBN:978-86-89773-23-1, COBISS.SR-ID – 227739404 (M34)

8. R. Radaković, M. Dopsaj, N. Filipović, R. Vulović, B. Leontijević: Pouzdanost analize kretanja vrhunskih fudbalera tokom utakmice merena softverskim sistemom za analizu kretanja Tracking motion bioirc system = The reliability of motion analysis at elite football players during the match measured by the Tracking motion bioirc system, COBISS.SR-ID - 514755756, Međunarodna naučna konferencija "Efekti primene fizičke aktivnosti na antropološki status dece, omladine i odraslih", Univerzitet u Beogradu, Fakultet sporta i fizičkog vaspitanja, Republika Srbija, Beograd, 10. decembar 2015. ISBN: 978-86-89773-14-9, COBISS.SR-ID - 221980428 (M33)
9. R., Vulović, R., Radaković, N., Filipović, N., Mijailović, M., Dopsaj, B., Leontijević: The Reliability of Motion Analysis of Elite Soccer Players During Match measure by the Tracking Motion, 15th IEEE International Conference on Bioinformatics & Bioengineering (BIBE) (M33), 2015, IEEE Computer Society, 978-1-4673-7982-3, Serbia, 02-04.11.2015. (M33)
10. R., Vulović, R., Radaković, A., Peulić, D., Nikolić, N., Filipović: Method for software tracking and analysis of player's motion during a football match, International scientific conference "Effects of physical activity application to anthropological status with children, youth and adults", University of Belgrade, Faculty of Sport and Physical Education, Belgrade, 11-12. December 2012. (M33)
11. R., Radaković, R., Prosinečki, Ž., Đurović, R., Vulović, A., Peulić, D., Nikolić, N., Grubor, N., Filipović: Opšti parametri Tracking Motion analize igrača FK Crvena Zvezda tokom utakmice 3. kola kvalifikacija za ligu Evrope 2012/13., International scientific conference "Effects of physical activity application to anthropological status with children, youth and adults", University of Belgrade, Faculty of Sport and Physical Education, Belgrade, 11-12. Decembar 2012. (M33)
12. R., Radaković, A., Peulić, R., Vulović, N., Filipović: Primena 3D analize i neinvazivnog određivanja sila u zglobu kolena i deformacija hrskavice pri skokovima na Force Plate-u, 8.

konferencija Kondicijska priprema sportaša, KPS 2010, Zagreb, 26-27.02.2010. (M33)

13. R., Radaković, A., Peulić, R., Vulović, N., Filipović: Neinvazivno određivanje sila u hrskavici kolena pri skoku na platformi za merenje sile, Međunarodna naučna konferencija „Teorijski, metodološki i metodički aspekti takmičenja i pripreme sportista“, Fakultet sporta i fizičkog vaspitanja, Beograd, 11. decembar 2009. (M33)
14. R., Radaković, Dj., Kosanić, R., Vulović, M., Radosavljević, N., Filipović: Modeling of impact force during jumping on the force plate, 2nd International Congress of Serbian Society of Mechanics (IConSSM 2009), Palić (Subotica), Serbia, 1-5 June 2009. (M33)
15. V., Lazić, M., Jovanović, B., Nedeljković, R., Vulović, D., Đorđević: Design and application of apparatus for welding the truck body assembly in the protective gasses atmosphere, The 5th International symposium about design in mechanical engineering, KOD 2008, 15-16 April 2008, Novi Sad, Serbia, Faculty of Technical Sciences, Proceedings, pp. 237-242. (M33)
16. R., Vulović, V., Lazić, M., Jovanović, R., Nikolić, D., Adamović,: Selection of the welding technology of reliable joints using gmaw proces, V Međunarodna konferencija, Teška mašingradnja, Kraljevo, 2005., pp. II A.5 – II A.8. (M33)
17. V., Lazić, M., Jovanović, N., Ratković, D., Adamović, R., Vulović: Procena otpornosti na habanje navarenih slojeva izvedenih manganskom elektrodom, X Jugoslovenska konferencija - Železničko mašinstvo sa međunarodnim učešćem, Niš, 2002., str. 207-212. (M33)

Proceedings of national scientific conferences	Sum
Monographs of national importance	Sum
Scientific papers in national journals	Sum
	9

1. Adamović Katarina, Vukićević Arso, Vulović Radun, Đorović Smiljana, Radaković Radivoje, Jovičić Gordana, Filipović Nenad: Procena otpornosti kolena primenom kompjuterskih metoda, Fizička kultura, 2020, vol. 74, br. 1, str. 57-64. DOI: 10.5937/fizkul2001057A (M51)
2. R., Vulović, V., Lazić, M., Jovanović, D., Adamović: Elektrootporsko lemljenje mesinga i niskougljeničnih čelika, Časopis za nauku u praksi "Zastava", broj 41, Kragujevac, mart 2006. (M53)
3. V., Lazić, M., Jovanović, N., Ratković, D., Adamović, R., Vulović: Procena otpornosti na habanje navarenih slojeva izvedenih manganskom elektrodom, Tribologija u industriji, originalni naučni rad, god. XXII, br. 3&4, 2002., str. 10-17. (M53)
4. N., Filipovic, A., Peulic, V., Mladenovic, R., Vulovic, M., Kojic: Preventive Body Posture Monitoring and Computer Modeling to Reduce Risk of Back Injury and Low Back Pain and Educate People for correct body posture, Proceedings from PROSENSE Seminar Presentations, Ljubljana, Dec 18-21, 2008. (M63)
5. V., Lazić, M., Jovanović, R., Čukić, B., Nedeljković, R., Vulović: Reparturno zavarivanje prelomljene osovine motalice, XXXII Savetovanje proizvodnog mašinstva sa međunarodnim učešćem, Novi Sad, 2008., Zbornik radova, str. 267-270. (M63)
6. V., Lazić, M., Jovanović, R., Vulović, N., Ratković: Izbor optimalne tehnologije zavarivanja cevi poluobloge i kutije zadnjeg mosta kamiona vatrogasnog vozila, XXXI Savetovanje proizvodnog mašinstva Srbije i Crne Gore 2006. sa međunarodnim učešćem, Kragujevac, 2006., Zbornik radova, str. 243-250. (M63)
7. V., Lazić, M., Jovanović, R., Vulović, N., Ratković: Pregled čelika povišene jačine i ocena njihove zavarljivosti, XXXI Savetovanje proizvodnog mašinstva Srbije i Crne Gore 2006. sa međunarodnim učešćem, Kragujevac, 2006., Zbornik radova, str. 235-242. (M63)
8. V., Lazić, M., Jovanović, R., Vulović, D., Adamović: Elektrootporsko spajanje mesinga i niskougljeničnih čelika lemljenjem, Zavarivanje 2003., Međunarodna konferencija, Beograd, 2003. (M63)
9. V., Lazić, M., Vuković, M., Jovanović, S., Aleksandrović, R., Vulović: Ocena kvaliteta tačkasto zavarenog spoja standardnim i

novim metodama kontrole sa razaranjem - deo 1, 25. Savetovanje sa međunarodnim učešćem Zavarivanje 2008, Subotica. Rad usmeno izložen, objavljen u celosti na CD-u (red. br. 86) i u Zborniku rezimea radova, str. 119. (M64)	
Technical solutions	Sum
Patents	Sum

CITATION OF SCIENTIFIC PAPERS

According to the Scopus database, the total number of citations of candidate is 29 with an h-index (Hirsch index) of 4.

BRIEF DESCRIPTION OF RESEARCH IN THE PREVIOUS PERIOD

BRIEF DESCRIPTION OF PLANNED RESEARCH IN THE NEXT PERIOD

Areas of research: a) biomechanics of the locomotor system (EMG and dynamic analysis of jumps in athletes, MKE analysis of load on knee elements), b) algorithms for automatic detection and tracking of players' movements in football matches, c) analysis of the behavior of biomaterials in terms of assessing their long-term combined effects corrosion in silicon and in-vitro.

Practical work: development of server and mobile applications in order to support research - calculations, algorithms for detecting and tracking the movement of objects, image processing, analysis and visualization of results.