

## ОСНОВНИ ПОДАЦИ

Име и презиме	Миљан Милошевић
Година и место рођења	1984, Крагујевац
Звање	Доктор наука – машинско инжењерство
E-mail	miljan.m@kg.ac.rs
Образовно-научно / образовно-уметничко поље	Техничко-технолошке науке
Универзитет, факултет, организациона јединица	Универзитет у Крагујевцу, Институт за информационе технологије, Депарتمان за техничко-технолошке науке
Област и ужа научна област	Машинско инжењерство, Примењена информатика и рачунарско инжењерство

## ОБРАЗОВАЊЕ

### ОСНОВНЕ СТУДИЈЕ

Година	2008
Место	Крагујевац
Институција	Машински факултет у Крагујевцу

### МАСТЕР СТУДИЈЕ

Година	
Место	
Институција	

### ДОКТОРСКА ДИСЕРТАЦИЈА

Година	2012
Место	Крагујевац
Институција	Факултет инжењерских наука у Крагујевцу
Наслов докторске дисертације	Нумеричко моделирање дифузије у композитним медијумима

Област	Машинско инжењерство
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### **СТРУЧНА БИОГРАФИЈА – ИЗБОРИ У ИСТРАЖИВАЧКА ОДНОСНО НАУЧНА ЗВАЊА**

Датум избора	Институција	Звање
2010.	Факултет инжењерских наука, Универзитет у Крагујевцу	истраживач сарадник
2015.	Универзитет Метрополитан Београд	научни сарадник
2020.	Факултет инжењерских наука, Универзитет у Крагујевцу	виши научни сарадник

### **СТРУЧНА БИОГРАФИЈА - УСАВРШАВАЊЕ**

Година	Институција	Трајање
2011	Технолошки институт универзитета Нортвестерн, Еванстон, Илиноис, САД	6 месеци
2015	Институт за примењену информатику, Технички универзитет Брауншвајг, Немачка	45 дана

### **АНГАЖОВАНОСТ У ФОРМИРАЊУ НАУЧНИХ КАДРОВА**

Ангажован као наставник на ДАС биоинжењеринг (Факултет инжењерских наука, Универзитета у Крагујевцу) и МАС Развој компјутерских игара Универзитета у Крагујевцу. Налази се на листи ментора Факултета инжењерских наука (ФИН) Универзитета у Крагујевцу. Као члан комисије учествовао је у реализацији и одбрани два мастер рада и две докторске дисертације на Универзитету у Крагујевцу. Тренутно је коментор једном студенту ДАС машинско инжењерство на ФИН Крагујевац.

### **УЧЕШЋЕ НА ПРОЈЕКТИМА РЕСОРНОГ МИНИСТАРСТВА**

ТП 12007 – „Развој софтвера и хардвера из области биоинжењеринга са

применом у клиничкој пракси“, Пројекат Министарства за науку и технолошки развој Републике Србије за период 2008. – 2010. године. Руководилац пројекта је проф. др Ненад Филиповић. Носилац истраживања је БИОИРЦ доо Крагујевац.

Интеграција откривања законитости података и сложеног компјутерског моделирања болести коронарних артерија, Билатерални пројекат Србија-Словенија. 2010-2012, Руководилац Др Ненад Филиповић, ванр. проф. Носилац истраживања је Машински факултет Крагујевац.

Методe моделирања на више скала са применама у биомедицини (ОН 174028) 2011-2020, Руководилац пројекта је др. Милош Којић. Носилац истраживања је БИОИРЦ доо Крагујевац.

#### **УЧЕШЋЕ НА МЕЂУНАРОДНИМ ПРОЈЕКТИМА**

SEE-GRID2: South-Eastern European Grid-enabled eInfrastructure Development 2, Contract number 031775. Руководилац Др Ненад Филиповић, ванр. проф. (2007-2009).

BSEC project: New cardiovascular planning and diagnostic tool for coronary arteries in BSEC countries using computational simulation, 2009-2010. Руководилац Др Ненад Филиповић, ванр. проф. Носилац истраживања је Машински факултет Крагујевац.

FP7- ICT IP-224297-ARTreat: Multi-level patient-specific artery and atherogenesis model for outcome prediction, decision support treatment, and virtual hand-on training (09/01/08-08/31/12) ФП7 пројекат.

Координатор за Србију и научни координатор, Др Ненад Филиповић, редовни професор. Носилац истраживања је Универзитет у Крагујевцу.

H2020-EU.3.1.5 SC1-PM- 777119 InSilc: In-silico trials for drugeluting BVS design, development and evaluation, Nov 2017 – Apr 2021. <https://insilc.eu/SILICOFCM>, „In Silico trials for drug tracing the effects of sarcomeric protein mutations leading to familial cardiomyopathy“, FP7-ICT-2011-9-600933, 2018 –2022 , Координатор пројекта – Проф. Др Ненад Филиповић, Институција – Факултет инжењерских наука у Крагујевцу,

Република Србија. <https://silicofcm.eu/>

DECODE, „Drug-coated balloon simulation and optimization system for the improved treatment of peripheral artery disease“, 2021- , Marie Skłodowska-Curie grant agreement No 956470, Координатор за Србију, Проф. Др Ненад Филиповић, Институција – Факултет инжењерских наука у Крагујевцу, Република Србија, <https://www.decodeitn.eu/>

### ЧЛАНСТВО У НАУЧНИМ И СТРУЧНИМ АСОЦИЈАЦИЈАМА

Члан Српског друштва за рачунску механику (SSCM)

Члан Српског друштва за механику (SCM)

Члан Друштва инжењера и техничара града Крагујевца

Члан Европског удружења за рачунску механику и примењене науке - ECCOMAS

### ОРГАНИЗАЦИЈА СКУПОВА

2021: Учествовао у организовању Прве конференције о хемо и биоинформатици (ICCBIG 2021)

### НАУЧНО-ИСТРАЖИВАЧКИ РАД\*

#### Списак резултата М10

Монографије, Монографске студије, Тематски зборници- обавезно навести категорију

Број

3

1. Milos Kojic, Miljan Milosevic, Arturas Ziemys, Computational Models in Biomedical Engineering - Finite Element Models Based on Smeared Physical Fields: Theory, Solutions, and Software, 1st Edition, Elsevier, September 11, 2022, ISBN: 9780323884723. **M11.**
2. Milos Kojic, **Miljan Milosevic**, Nikola Kojic, Velibor Isailovic, Dejan Petrovic, Nenad Filipovic, Mauro Ferrari, Arturas Ziemys, Transport phenomena: Computational models for convective and diffusive transport in capillaries and tissue, chapter in book: Multiscale Modeling in Biomechanics and Mechanobiology, Editors: Suvranu De, Wonmuk Hwang, Ellen Kuhl, Springer, 2015, ISBN 978-1-4471-

6598-9. <https://doi.org/10.1007/978-1-4471-6599-6> 7. **M13.**

3. Arturas Ziemys, Milos Kojic, Miljan Milosevic, Bernhard Schrefler, Mauro Ferrari, Chapter 7 - Multiscale models for transport and biodistribution of therapeutics in cancer, QSP book project of the CACE series (Volume 42, 2018, Pages 209-237), 2018, <https://doi.org/10.1016/B978-0-444-63964-6.00007-6> . **M13.**

### Списак резултата M20

Радови објављени у научним часописима међународног научног значаја- обавезно навести категорију

Број

29

1. Fine D, Grattoni A, Hosali S, Ziemys A, De Rosa E, Gill J, Medema R, Hudson L, Kojic M, **Milosevic M**, Brousseau Iii L, Goodall R, Ferrari M, Liu X. A robust nanofluidic membrane with tunable zero-order release for implantable dose specific drug delivery, *Lab on a Chip*, 2010,10, 3074-3083. ISSN: 1473-0189. doi: 10.1039/c0lc00013b. **M21a.**
2. A.Ziemys, M. Kojic, **M.Milosevic**, N. Kojic, F.Hussain, M.Ferrari, A. Grattoni, Hierarchical modeling of diffusive transport through nanochannels by coupling molecular dynamics with finite element method, *Journal of Computational Physics*, 230(2011) 5722-5731. ISSN: 0021-9991. <https://doi.org/10.1016/j.jcp.2011.03.054>. **M21a.**
3. A. Ziemys, M. Kojic, **M. Milosevic**, M. Ferrari, Interfacial effects on nanoconfined diffusive mass transport regimes, *Physical Review Letters*, 2012, Volume 108, Issue 23, 236102, doi: 10.1103/PhysRevLett.108.236102. **M21a.**
4. M. Kojic, **M. Milosevic**, N. Kojic, K. Kim, M. Ferrari, A. Ziemys. A multiscale MD–FE model of diffusion in composite media with internal surface interaction based on numerical homogenization procedure, *Computer Methods in Applied Mechanics and Engineering*. 01/2014; 269:123–138. <https://doi.org/10.1016/j.cma.2013.11.010>. **M21a.**
5. Guillermo U. Ruiz-Esparza, Suhong Wu, Victor Segura-Ibarra, Francisca E. Cara, Kurt W. Evans, **Miljan Milosevic**, Arturas Ziemys, Milos Kojic, Funda Meric-Bernstam, Mauro Ferrari and Elvin Blanco, Polymer nanoparticles enhanced in a cyclodextrin

complex shell for potential site- and sequence-specific drug release, *Advanced Functional Materials*, Volume 24, Issue 30, pages 4753–4761, August 13, 2014. <https://doi.org/10.1002/adfm.201400011>. **M21a.**

6. K. Yokoi, M. Kojic, **M. Milosevic**, T. Tanei, M. Ferrari, A. Ziemys. Capillary-wall collagen as a biophysical marker of nanotherapeutic permeability into the tumor microenvironment. *Cancer Research* (2014). 2014 Aug 15;74(16):4239-46. doi: 10.1158/0008-5472.CAN-13-3494. **M21a.**
7. M. Kojic, **M. Milosevic**, N. Kojic, Z. Starosolski, K. Ghaghada, R. Serda, A. Annapragada, M. Ferrari, A. Ziemys, A multi-scale FE model for convective-diffusive drug transport within tumor and large vascular networks, *Computer Methods in Applied Mechanics and Engineering*, 2015, 294:100–122. <https://doi.org/10.1016/j.cma.2015.06.002>. **M21a.**
8. Kenji Yokoi, Diana Chan, Milos Kojic, **Miljan Milosevic**, David Engler, Rise Matsunami, Tomonori Tanei, Yuki Saito, Mauro Ferrari, Arturas Ziemys, Liposomal doxorubicin extravasation controlled by phenotype-specific transport properties of tumor microenvironment and vascular barrier, *Journal of Controlled Release*, 2015 Sep 25;217:293-299. doi: 10.1016/j.jconrel.2015.09.044. **M21a.**
9. Kiseliovas V, **Milosevic M**, Kojic M, Mazutis L, Kai M, Liu YT, Yokoi K, Ferrari M, Ziemys A, Tumor progression effects on drug vector access to tumor-associated capillary bed, *Journal of Controlled Release*, 2017 Sep 10;261:216-222. doi: 10.1016/j.jconrel.2017.05.031. **M21a.**
10. M. Kojic, **M. Milosevic**, V. Simic, E.J. Koay, J.B. Fleming, S. Nizzero, N. Kojic, A. Ziemys, M. Ferrari, A composite smeared finite element for mass transport in capillary systems and biological tissue, *Computer Methods in Applied Mechanics and Engineering*, 29 June 2017, <https://doi.org/10.1016/j.cma.2017.06.019>. **M21a.**
11. Milosevic M, Simic V, Milicevic B, Koay E.J, Ferrari M, , Ziemys A, Kojic M, Correction function for accuracy improvement of the Composite Smeared Finite Element for diffusive transport in biological tissue systems. *Comput. Methods Appl. Mech. Engrg*, Vol 338, August 2018, pp 97-116, doi.org/10.1016/j.cma.2018.04.012 , ISSN : 0045- 7825. **M21a.**

12. A. Ziemys, K. Yokoi, M. Kai, Y.T. Liu, M. Kojic, V. Simic, M. Milosevic, A. Holder, M. Ferrari, Progression- dependent transport heterogeneity of breast cancer liver metastases as a factor in therapeutic resistance, *Journal of Controlled Release*, Vol 291, December 2018, DOI : <https://doi.org/10.1016/j.jconrel.2018.10.014> , pp 99-105. **M21a.**
13. T. S. Mahadevan, **M. Milosevic**, M. Kojic, F. Hussain, N. Kojic, R. Serda, M. Ferrari, A. Ziemys, Diffusion transport of nanoparticles at nanochannel boundaries, *Journal of Nanoparticle Research*, February 2013, doi: 10.1007/s11051-013-1477-9, ISSN: 1388-0764. **M21.**
14. Milos Kojic, **Miljan Milosevic**, Suhong Wu, Elvin Blanco, Mauro Ferrari, Arturas Ziemys, Mass partitioning effects in diffusion transport. *Physical Chemistry Chemical Physics*, 2015, vol. 17 br. 32, str. 20630-20635. doi: 10.1039/C5CP02720A. **M21.**
15. M. Milosevic, D. Stojanovic, V. Simic, B. Milicevic, A. Radisavljevic, P. Uskokovic, M. Kojic, A Computational Model for Drug Release from PLGA Implant, *Materials*, Vol. 11, November 2018, <https://doi.org/10.3390/ma11122416> , pp 1-17. **M21.**
16. Milos Kojic, Miljan Milosevic, Vladimir Simic, Bogdan Milicevic, Vladimir Geroski, Sara Nizzero, Arturas Ziemys, Nenad Filipovic, Mauro Ferrari, Smearred Multiscale Finite Element Models for Mass Transport and Electrophysiology Coupled to Muscle Mechanics, *Frontiers in Bioengineering and Biotechnology*, ISSN 2296-4185, Vol. 7, No. 381, pp. 1-16, doi.org/10.3389/fbioe.2019.00381, 2019. **M21.**
17. Miljan Milosevic, Dusica B. Stojanovic, Vladimir Simic, Mirjana Grkovic, Milos Bjelovic, Petar S. Uskokovic and Milos Kojic, Preparation and modeling of three-layered PCL/PLGA/PCL fibrous scaffolds for prolonged drug release, <https://doi.org/10.1038/s41598-020-68117-9>, *Scientific Reports*, vol 10, Article number: 11126 (2020). **M21.**
18. Ziemys, A., Simic, V., Milosevic, M., Kojic, M., Liu, Y.T., Yokoi, K. Attenuated Microcirculation in Small Metastatic Tumors in Murine Liver. *Pharmaceutics* 2021, Vol 13, 703, doi.org/10.3390/pharmaceutics13050703. **M21.**
19. Filipovic N, Sustersic T, Milosevic M, Milicevic B, Simic V, Prodanovic M, Mijailovic S and Kojic M, SILICOFCM platform,

- multiscale modeling of left ventricle from echocardiographic images and drug influence for cardiomyopathy disease, *Computer Methods and Programs in Biomedicine* 2022, Vol 227, ISSN 0169-2607, doi.org/10.1016/j.cmpb.2022.107194. **M21.**
20. Bogdan Milićević, Miloš Ivanović, Boban Stojanović, Miljan Milošević, Miloš Kojić, Nenad Filipović, Huxley muscle model surrogates for high-speed multi-scale simulations of cardiac contraction, *Computers in Biology and Medicine*, Volume 149, October 2022, 105963, <https://doi.org/10.1016/j.compbimed.2022.105963>. **M21.**
21. Kojic M, Milosevic M., Simic V., Koay E.J., Kojic N., Ziemys A., Ferrari M., "Multiscale smeared finite element model for mass transport in biological tissue : From blood vessels to cells and cellular organelles", *Computers in Biology and Medicine*, Vol 99, August 2018, DOI : [10.1016/j.compbimed.2018.05.022](https://doi.org/10.1016/j.compbimed.2018.05.022), pp 7-23. **M22.**
22. M. Kojic, M. Milosevic, V. Simic, A. Ziemys, N. Filipovic, M. Ferrari, Smeared multiscale finite element model for electrophysiology and ionic transport in biological tissue, *Computers in Biology and Medicine*, Volume 108, May 2019, Pages 288-304. <https://doi.org/10.1016/j.compbimed.2019.03.023>. **M22.**
23. Santagiuliana R, Milosevic M, Milicevic B, Sciumè G, Simic V, Ziemys A, Kojic M, Schrefler BA. Coupling tumor growth and bio distribution models, *Biomed Microdevices* (2019) 21: 33. <https://doi.org/10.1007/s10544-019-0368-y>. **M22.**
24. Filipovic N, Nikolic D, Isailovic V, Milosevic M, Geroski V, Karanasiou G, Fawdry M, Flanagan A, Fotiadis D, Kojic M. In vitro and in silico testing of partially and fully bioresorbable vascular scaffold. *J Biomech.* 2021 Jan 22;115:110158. doi: 10.1016/j.jbiomech.2020.110158. Epub 2020 Dec 2. PMID: 33360181. **M22.**
25. Miljan Milosevic, Milos Anic, Dalibor Nikolic, Bogdan Milicevic, Milos Kojic, Nenad Filipovic, "InSilc Computational Tool for In Silico Optimization of Drug-Eluting Bioresorbable Vascular Scaffolds", *Computational and Mathematical Methods in Medicine*, vol. 2022, Article ID 5311208, 14 pages, 2022. <https://doi.org/10.1155/2022/5311208>. **M22.**
26. A.Ziemys, S.Klemm, **M.Milosevic**, K.Yokoi, M.Ferrari, M.Kojic,



Computational analysis of drug transport in tumor microenvironment as a critical compartment for nanotherapeutic pharmacokinetics, *Drug Delivery* (2015), 2015 Jun 8:1-8. doi: 10.3109/10717544.2015.1022837. **M23**.

27. N. Kojic, **M. Milosevic**, D. Petrovic, V. Isailovic, A. F. Sarioglu, D. Haber, M. Kojic, M. Toner, A computational study of circulating large tumor cells traversing microvessels, *Computers in Biology and Medicine*, 2015 Aug;63:187-95. doi: 10.1016/j.combiomed.2015.05.024. **M23**

28. M. Kojic, **M. Milosevic**, N. Kojic, E.J. Koay, J.B. Fleming, M. Ferrari and A. Ziemys, Mass release curves as the constitutive curves for modeling diffusive transport within biological tissue, *Computers in Biology and Medicine*, 2016, <http://dx.doi.org/10.1016/j.combiomed.2016.06.026> **M23**

29. Filipovic, N., Saveljic, I., Sustersic, T., Milosevic, M., Milicevic, B., Simic, V., Ivanovic, M., Kojic, M. In *Silico Clinical Trials for Cardiovascular Disease*. J. Vis. Exp. (183), e63573, doi:10.3791/63573, 2022. **M23**

30. Simic V, Milosevic M, Milicevic V, Filipovic N, Kojic M. A novel composite smeared finite element for mechanics (CSFEM): Some applications. *Technol Health Care*. 2022 Oct 14. doi: 10.3233/THC-220414. Epub ahead of print. PMID: 36314177. **M23**

### Списак резултата М30

Зборници међународних научних скупова- обавезно навести категорију

Број

44

1. M.Kojić, N.Kojić, M.Milosevic, A.Grattoni, E.De Rosa, M.Ferrari, Finite element modeling of diffusion in NDS (nanochannel delivery system), *2<sup>nd</sup> International Congress of Serbian Society of Mechanics (IConSSM 2009)*, Palić (Subotica), Serbia, 1-5 June 2009. ISBN 978-86-7892-173-5. **M33**.

2. M.Milosevic, A.Ziemys, M.Ferrari, M.Kojić, Modeling of diffusion within nanochannels with the surface effects, *3<sup>rd</sup> International Congress of Serbian Society of Mechanics (IConSSM 2011)*, Vlasina Lake, Serbia, 5-8 July 2011. ISBN 978-86-7892-173-5 **M33**

3. M.Kojic, M.Milosevic, N.Kojic, M.Ferrari, A.Ziemys, *Numeric modeling of diffusion in complex media with surface interaction effects*,

Fifth International Scientific Conference "CONTEMPORARY MATERIALS", Banja Luka, July 5 to 7, 2012. **M33**

4. Mahadevan, TS, Kojic, M, Milosevic, M, Isailovic, V, Filipovic, N, Ferrari, M & Ziemys, A 2012, 'Nanoparticle transport models in confined fluids'. in *Technical Proceedings of the 2012 NSTI Nanotechnology Conference and Expo, NSTI-Nanotech 2012*. pp. 412-415, Nanotechnology 2012: Electronics, Devices, Fabrication, MEMS, Fluidics and Computational - 2012 NSTI Nanotechnology Conference and Expo, NSTI-Nanotech 2012, Santa Clara, CA, 18-21 June. **M33**
5. Kojic M, Milosevic M, Simic V, Ziemys A, Ferrari M, Coupling fluid and solid domains in modeling drug transport within tumor, Apr 1 2015 COUPLED PROBLEMS 2015 - Proceedings of the 6th International Conference on Coupled Problems in Science and Engineering. International Center for Numerical Methods in Engineering, p. 583-592 10p. **M33**
6. Milos Kojic, Miljan Milosevic, Velibor Isailovic, Vladimir Simic, Mauro Ferrari and Arturas Ziemys, Computational Models for Convective and Diffusive Drug Transport in Capillaries and Tissue, The IEEE International Conference on Bioinformatics & Bioengineering BIBE 2015, Nov 02-04, 2015. Belgrade. **M33**
7. Miljan Milosevic, Vladimir Simic, Velibor Isailovic, Milos Kojic, Numerical modeling of drug delivery in organs: from CT scans to FE model, FABULOUS - 2<sup>nd</sup> EAI International Conference on Future Access Enablers of Ubiquitous and Intelligent Infrastructures, Belgrade, Serbia, October 24-25, 2016. **M33**
8. Velibor Isailovic, Miljan Milosevic, Nenad Filipovic, Milica Nikolic, Thanos Bibas, Antonis Sakellarios, Nikolaos Tachos, Numerical simulation of human hearing system, FABULOUS - 2<sup>nd</sup> EAI International Conference on Future Access Enablers of Ubiquitous and Intelligent Infrastructures, Belgrade, Serbia, October 24-25, 2016. **M33**
9. Vladimir Simic, Jessica Domitrovic, Miljan Milosevic, Bogdan Milicevic, Ashley Holder, Milos Kojic, Computational model for heat transfer coupled with fluid flow within peritoneal cavity, 1st International Conference on Chemo and Bioinformatics, Kragujevac, Serbia, 26-27th October, 2021, University of Kragujevac, Faculty of Engineering, ISBN 978-86-82172-00-0, pp. 271-274, doi:10.46793/ICCB121.271S. **M33**

10. Miljan Milosevic, Nicola Di Trani, Vladimir Simic, Alessandro Grattoni, Milos Kojic, COMPUTATIONAL MODELING OF INTRAOCULAR DRUG TRANSPORT, 1st International Conference on Chemo and Bioinformatics, Kragujevac, Serbia, 26-27th October, 2021, University of Kragujevac, Faculty of Engineering, ISBN 978-86-82172-00-0, pp 68-71, doi:10.46793/ICCB121.068M. **M33**
11. Bogdan Milicevic, Vladimir Simic, Miljan Milosevic, Milos Ivanovic, Boban Stojanovic, Milos Kojic and Nenad Filipovic, "Integration of Surrogate Huxley Muscle Model into Finite Element Solver for Simulation of the Cardiac Cycle," 2022 44th Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC), 2022, pp. 3943-3946, doi: 10.1109/EMBC48229.2022.9870995. **M33**.
12. T. Mahadevan, **M. Milosevic**, M. Kojic, F. Hussain, M. Ferrari, A. Ziemys, N. Kojic, *Nanoparticle transport through boundaries of nanoporous structures*, Abstract ASME IMECE, November 9-15, 2012, Houston, Texas. IMECE2012-85775, *Extended Abstract*. **M34**.
12. A. Ziemys, **M. Milosevic**, M. Ferrari, M. Kojic, *Interfacial Effects on Diffusive Mass Transport Regimes Through Nanofluidic Structures*, ASME IMECE, November 9-15, 2012, Houston, Texas. IMECE2012-85780, *Presentation*. **M34**.
13. A. Ziemys, M. Kojic, **M. Milosevic**, N. Kojic, F. Hussain, M. Ferrari, A. Grattoni, *Hierarchical Modeling Of Diffusion-Based Transport Through Nanochannels By Coupling Molecular Dynamics With Finite Element Method*, ASME IMECE, November 9-15, 2012, Houston, Texas. IMECE2012-85870, *Presentation*. **M34**.
14. M. Kojic, **M. Milosevic**, N. Kojic, M. Ferrari, A. Ziemys, Modeling of diffusion in composite media by using a numerical homogenization procedure, ASME IMECE, November 9-15, 2012, Houston, Texas. IMECE2012-86060, *Presentation*. **M34**.
15. M. Kojic, **M. Milosevic**, N. Kojic, M. Ferrari and A. Ziemys, Our multiscale model for diffusion in tissue, *Advances in Computational Mechanics (ACM 2013)* — February 24-27, 2013, San Diego, California. *Presentation*. **M34**.
16. Arturas Ziemys, **Miljan Milosevic**, Milos Kojic Transport model for drug release from delivery vectors accounting for chemical and microstructure properties. 3rd International Conference and

Exhibition on Pharmaceuticals & Novel Drug Delivery Systems, April 08-10, 2013 Hilton Chicago/Northbrook, USA, Presentation, **M34**.

17. **M. Milosevic**, M. Kojic, N. Kojic, A. Ziemys, M. Ferrari, Hierarchical model for diffusion within biological media, Fourth Serbian (29<sup>th</sup> Yu) Congress on Theoretical and Applied Mechanics, Vrnjačka Banja, Serbia, 4-7 June 2013. **M34**.
18. **M. Milosevic**, M. Kojic, N. Kojic, M. Ferrari and A. Ziemys, Multiscale modeling of molecular diffusion in tissue, SEECM III - 3<sup>rd</sup> South-East European Conference on Computational Mechanics - *an ECCOMAS and IACM Special Interest Conference* M. Papadrakakis, M. Kojic, I. Tuncer (eds.), Kos Island, Greece, 12–14 June 2013. **M34**.
19. V. Isailovic, **M. Milosevic**, I. Vlastelica, N. Kojic, N. Filipovic, M. Kojic, M. Ferrari, Computational modeling of transport of cells and particles in small blood vessels, SEECM III - 3<sup>rd</sup> South-East European Conference on Computational Mechanics - *an ECCOMAS and IACM Special Interest Conference* M. Papadrakakis, M. Kojic, I. Tuncer (eds.), Kos Island, Greece, 12–14 June 2013. **M34**.
20. **M. Milosevic**, M. Kojic, N. Kojic, M. Ferrari and A. Ziemys, Numerical modeling of therapeutical particle diffusion in tissue, 19<sup>th</sup> Congress of the European Society of Biomechanics (ESB 2013) Patras, Greece, 25–28 August 2013. **M34**.
21. Milos Kojic, **Miljan Milosevic**, Dejan Petrovic, Velibor Isailovic, Nikola Kojic, Nenad Filipovic, Mauro Ferrari, MODELING OF LARGE DEFORMATION OF INCOMPRESSIBLE SOLIDS AND IMPLEMENTATION TO TRANSPORT OF CELLS AND PARTICLES IN SMALL BLOOD VESSELS, WCCM XI -ECCM V - ECFD VI, July 20 - 25, 2014, Spain. *Presentation*. **M34**.
22. **Miljan Milosevic**, Milos Kojic, Dejan Petrovic, Nikola Kojic, Mauro Ferrari and Arturas Ziemys, APPLICATION OF OUR MULTISCALE DIFFUSION MODEL TO DETERMINATION OF DRUG DISTRIBUTION WITHIN TUMOR, WCCM XI -ECCM V - ECFD VI, July 20 - 25, 2014, Barcelona, Spain. *Presentation*. **M34**.
23. Milos Kojic, **Miljan Milosevic**, Vladimir Simic, Arturas Ziemys, Mauro Ferrari, A computational model for drug transport in tumor, 5<sup>th</sup> International Congress of Serbian Society of Mechanics,

- Arandjelovac, Serbia, June 15-17, 2015. Extended abstract. M34.
24. Milos Kojic, **Miljan Milosevic**, Mass release curve as the constitutive curve for diffusion in complex media, 5th International Congress of Serbian Society of Mechanics, Arandjelovac, Serbia, June 15-17, 2015. Extended abstract. M34.
25. **Miljan Milosevic**, Vladimir Simic, Ananth Annapragada, Milos Kojic, Modeling of convective-diffusive transport within mouse brain, 5th International Congress of Serbian Society of Mechanics, Arandjelovac, Serbia, June 15-17, 2015. Extended abstract. M34.
26. Milos Kojic, **Miljan Milosevic**, Vladimir Simic, Mauro Ferrari, Eugene J. Koay, Arturas Ziemys, A MODEL FOR DRUG TRANSPORT IN TUMOR, ECCOMAS Congress 2016, VII European Congress on Computational Methods in Applied Sciences and Engineering, Crete Island, Greece, 5–10 June 2016. Abstract. M34.
27. **Miljan Milosevic**, Milos Kojic, Vladimir Simic, Dusica Stojanovic, Petar Uskokovic, NUMERICAL MODELING OF DIFFUSION IN POLY(LACTIC-CO-GLYCOLIC ACID) CONSISTED OF DRUG-LOADED EMULSION ELECTROSPUN NANOFIBERS, ECCOMAS Congress 2016, VII European Congress on Computational Methods in Applied Sciences and Engineering, Crete Island, Greece, 5–10 June 2016. Abstract. M34.
28. **Miljan Milosevic**, Milos Kojic, Vladimir Simic, FIELD OF CORRECTION FACTORS FOR SMEARED FINITE ELEMENT, 6th International Congress of Serbian Society of Mechanics, Mountain Tara, Serbia, June 19-21, 2017. Abstract. M34.
29. Milos Kojic, **Miljan Milosevic**, Vladimir Simic, CONVECTION–DIFFUSION TRANSPORT MODEL USING COMPOSITE SMEARED FINITE ELEMENT, 6th International Congress of Serbian Society of Mechanics, Mountain Tara, Serbia, June 19-21, 2017. Abstract. M34.
30. Milos Kojic, **Miljan Milosevic**, Vladimir Simic, Nikola Kojic, Arturas Ziemys, Mauro Ferrari, Convection–diffusion transport model using composite smeared finite element, 4th South-East European Conference on Computational Mechanics, 03-04 July, 2017, Kragujevac, Serbia. M34.
31. **Miljan Milosevic**, Milos Kojic, Vladimir Simic, Accuracy of smeared finite element model improved by a field of correction factors, 4th South-East European Conference on Computational Mechanics, 03-04 July, 2017, Kragujevac, Serbia. M34.

32. Vladimir Simić, **Miljan Milošević**, Bogdan Milićević, Miloš Kojić, „Application of multi-scale smeared finite element model for modeling of mass transport in capillary systems and biological tissue“, Book of Abstracts, ISSN 2334-6590, Vol 40, No. 1, Belgrade BioInformatics Conference, Belgrade, Serbia, 18-22 June, 2018, page 93. M34.
33. Milićević Bogdan, **Miljan Milošević**, Vladimir Simić, Miloš Kojić, „Muscle model with net of fibers used for modeling cell migration“, Book of Abstracts, ISSN 2334-6590, Vol 40, No. 1, Belgrade BioInformatics Conference, Belgrade, Serbia, 18-22 June, 2018. M34
34. Milos Kojic, Arso Vukicevic, **Miljan Milosevic**, Vladimir Simic, Igor Saveljic, Nenad Filipovic, Distribution of drug in tissue of heart as a function of concentration in coronary arteries, IEEE International Conference on Biomedical and Health Informatics – BHI 2018, 4-7 March, Las Vegas, 2018. M34.
35. R. Santagiuliana, M. Milosevic, B. Milicevic, G. Sciume, V. Simic, A. Ziemys, M. Kojic, B.A. Schrefler, On coupling of tumor growth and transport of fluids through heterogeneous, whole tumors and their microenvironment, The 8th edition of the International Conference on Computational Methods for Coupled Problems in Science and Engineering (COUPLED PROBLEMS 2019), 3 - 5 June 2019 in Sitges, Catalonia, Spain. M34.
36. Vladimir Simic, Miljan Milosevic, Arturas Ziemys, Milos Kojic, „Application of CSFE for drug delivery in liver model with tumor“, Proceedings of 8th International Conference on Computational Bioengineering (ICCB2019), ISBN: 978-86-81037-75-1, 8th International Conference on Computational Bioengineering, Belgrade, Serbia, 4-6 September 2019. pp 38-39. M34.
37. Milos Kojic, Miljan Milosevic, Bogdan Milićević, Vladimir Simic, „Heart mechanical model based on Holzapfel experiments“, Proceedings of 8th International Conference on Computational Bioengineering (ICCB2019), ISBN: 978-86-81037-75-1, 8th International Conference on Computational Bioengineering, Belgrade, Serbia, 4-6 September 2019. pp 36-37. M34.
38. Milos Kojic, Miljan Milosevic, Vladimir Simic, Bogdan Milicevic, Vladimir Geroski, Nenad Filipovic, “Smeared finite element model of heart wall: electrophysiology coupled with muscle mechanics”, 19th International Conference on Bioinformatics and Bioengineering

(BIBE), IEEE Computer Society, DOI : 10.1109/BIBE.2019.00089, Oct 28-30, 2019, pp: 458-461. M34.

39. Dalibor Nikolic, Miljan Milosevic, Velibor Isailovic, Milos Kojic, Nenad Filipovic, Mechanical modeling module - In silico mimic all the in vitro mechanical tests required by technical standards to assess a drug-eluting BVS, 8th European Medical and Biological Engineering Conference (EMBEC 2020), Portorož, Slovenia, 29 November – 3 December. M34.
40. D. Nikolic, V. Isailovic, M. Milosevic, M. Kojic and N. Filipovic, In silico trials mimicking all in vitro mechanical tests required by technical standards to assess drug-eluting BVS, VPH2020 Conference, Paris 24-28 August 2020. M34.
41. Vladimir Simic, Bogdan Milicevic, Miljan Milosevic, Arturas Ziemys, Nenad Filipovic, Milos Kojic, PARAMETER OPTIMIZATION OF TUMOR DRUG DELIVERY MODEL USING GENETIC ALGORITHMS, 1st Serbian International Conference on Applied Artificial Intelligence (SICAAI), Kragujevac, Serbia, May 19-20, 2022. M34.
42. Bogdan Milićević, Miljan Milošević, Vladimir Simic, Danijela Trifunovic, Nenad Filipović and Miloš Kojić, Simulation of the Eccentric Hypertrophy in Realistic Heart Geometry Generated from Echocardiography Modeled by Shell Elements, 13th HSTAM International Congress on Mechanics, Patras, 24-27 August 2022. M34.
43. Bogdan Milićević, Miljan Milošević, Vladimir Simić, Miloš Kojić, Nenad Filipović, SIMULATION OF THE FULL CARDIAC CYCLE USING PARAMETRIC LEFT VENTRICLE MODEL, IX International Conference on Computational Bioengineering, ICCB2022, 11-13 April 2022, Lisbon, Portugal. M34.
44. Bogdan Milicevic, Miljan Milosevic, Vladimir Simic, Danijela Trifunovic, Nenad Filipovic, Milos Kojic, Membrane Left Ventricle Model Generated from Echocardiography, 15th World Congress on Computational Mechanics (WCCM-XV), 8th Asian Pacific Congress on Computational Mechanics (APCOM-VIII), 31 July – 5 August 2022, Yokohama, Japan. M34.

#### Списак резултата М40

Монографије националног значаја- обавезно навести категорију

**Списак резултата М50**

Рад у часописима националног значаја- обавезно  
навести категорију

**Број**

15

1. Milosevic Miljan, Anic Milos, Nikolic Dalibor, Geroski Vladimir, Milicevic Bogdan, Kojic Milos, Filipovic Nenad, Application of in silico Platform for the Development and Optimization of Fully Bioresorbable Vascular Scaffold Designs, *Frontiers in Medical Technology*, VOL 3, 2021, 55, DOI=10.3389/fmedt.2021.724062, ISSN=2673-3129. **M51.**
2. M. Kojic, **M.Milosevic**, N. Kojic, M.Ferrari, A.Ziemys, On diffusion in nanospace, *JSSCM*, Vol. 5 / No. 1, 2011 / pp. 84-109. ISSN: 1820-6530. **M52.**
3. M. Kojic, A.Ziemys, **M.Milosevic**, V.Isailovic, N. Kojic, M.Rosic, N.Filipovic, M.Ferrari, Transport in biological tissues, *JSSCM – Special Issue for Scientific Conference: Biomedical engineering for human health*, Vol. 5 / No. 2, 2011 / pp. 101-128. ISSN: 1820-6530. **M52.**
4. N.Filipovic, M.Rosic, V.Isailovic, Z.Milosevic, D.Nikolic, D.Milasinovic, M.Radovic, B.Stojanovic, M.Ivanovic, I.Tanaskovic, I.Saveljic, **M.Milosevic**, D.Petrovic, M.Obradovic, E.Themis, A.Sakellarios, P.Siogkas, P.Marraccini, F.Vozzi, N.Meunier, Z.Teng, D.Fotiadis, O.Parodi, M.Kojic, ARTREAT project: computer, experimental and clinical analysis of three-dimensional plaque formation and progress in arteries, *JSSCM – Special Issue for Scientific Conference: Biomedical engineering for human health*, Vol. 5 / No. 2, 2011 / pp. 129-146 . ISSN: 1820-6530. **M52.**
5. N.Filipovic, M.Radovic, V.Isailovic, Z.Milosevic, D.Nikolic, I.Saveljic, **M.Milosevic** D.Petrovic, M.Obradovic, D.Krsmanovic, E.Themis, A.Sakellarios, P.Siogkas, P.Marraccini, F.Vozzi, N.Meunier, Z.Teng, D.Fotiadis, O.Parodi, M.Kojic, M. Kojic, Plaque formation and stent deployment with heating thermal effects in arteries, *JSSCM – Special Issue*, Vol. 6 / No. 1, 2012 / pp. 11-28 . ISSN: 1820-6530. **M52.**
6. M. Kojic, **M. Milošević**, N. Kojic, M. Ferrari, A. Ziemys, Numerical modeling of diffusion in complex media with surface interaction effects, *Contemporary Materials*, III-2 (2012), 153 – 166, doi:



10.7251/COMEN1202153K, ISSN: 1986-8677. **M52.**

7. P. Norvaisas, M. Kojic, **M. Milosevic**, A. Ziemys, Prediction and analysis of drug delivery systems: From drug–vector compatibility to release kinetics. CRS Newsletter 09/2013; 30(5):14-15. **M52.**
8. V. Isailovic, M. Kojic, **M. Milosevic**, N. Filipovic, N. Kojic, A. Ziemys, M. Ferrari, A COMPUTATIONAL STUDY OF TRAJECTORIES OF MICRO- AND NANO-PARTICLES WITH DIFFERENT SHAPES IN FLOW THROUGH SMALL CHANNELS, JSSCM, Vol. 8 / No. 2, 2014 / pp. 14-28. ISSN: 1820-6530, **M52**
9. M. Kojic, **M. Milosevic**, V. Simic, M. Ferrari, A 1D PIPE FINITE ELEMENT WITH RIGID AND DEFORMABLE WALLS, JSSCM, Vol. 8 / No. 2, 2014 / pp. 38-53. ISSN: 1820-6530, **M52**
10. M. Kojic, **M. Milosevic**, V. Simic, D. Stojanovic, P. Uskokovic, A radial 1D finite element for drug release form drug loaded nanofibers, JSSCM, Vol. 11 / No. 1, 2017 / pp. 82-93. ISSN: 1820-6530, **M52**
11. M. Kojic, **M. Milosevic**, V. Simic, Incremental finite element formulation for large strains based on the nodal force increments, JSSCM, Vol. 11 / No. 1, 2017 / pp. 97-109. ISSN: 1820-6530, **M52.**
12. M. Kojic, **M. Milosevic**, V. Simic, E.J. Koay, N Kojic, A. Ziemys, M. Ferrari, Extension of the composite smeared finite element (CSFE) to include lymphatic system in modeling mass transport in capillary systems and biological tissue, JSSCM, Vol. 11 / No. 2, 2017 / pp. 108-119. ISSN: 1820-6530, **M52.**
13. Kojic, Milos; Simic, Vladimir; and **Milosevic, Miljan**, Composite smeared finite element – some aspects of the formulation and accuracy, IPSI Transactions on Internet Research, 2017. **M52.**
14. I. Saveljić, **M. Milosević**, Upravljanje nelinearnih procesa putem modifikovanog PID zakona upravljanja, Tehnika – Mašinstvo, 2008, vol. 57, br. 2, str. 7-13. ISSN: 0461-2531. **M53.**
15. M. Kalanović, N. Petrović, **M. Milosević**, D. Nikolić, N. Zdravković, N. Filipović, M. Kojić, Three-dimensional finite element stress analysis of SKY implant system. JSSCM. Vol. 4 / No. 2, 2010 / pp. 87-96. ISSN: 1820-6530. **M53.**

<b>Списак резултата М60</b> Предавања по позиву на скуповима националног значаја- обавезно навести категорију	<b>Број</b> 10
<ol style="list-style-type: none"> <li data-bbox="236 367 1402 600">1. Vladimir Simic, <b>Miljan Milosevic</b>, Bogdan Milicevic, Milos Kojic, <i>APPLICATION OF THE CSFE FINITE ELEMENT IN LIVER MODEL WITH TUMORS</i>, Proceedings of 7<sup>th</sup> International Congress of Serbian Society of Mechanics, Sremski Karlovci, Serbia, June 24-26, 2019, pp. 172-173, ISBN 978-86-909973-7-4. <b>M64.</b></li> <li data-bbox="236 611 1402 891">2. Bogdan Milicevic, Raffaella Santagiuliana, <b>Miljan Milosevic</b>, Vladimir Simic, Bernhard Schrefler, Milos Kojic, <i>COMPUTATIONAL PROCEDURE FOR COUPLING OF TUMOR GROWTH AND DRUG DISTRIBUTION MODEL</i>, Proceedings of 7<sup>th</sup> International Congress of Serbian Society of Mechanics, Sremski Karlovci, Serbia, June 24-26, 2019, pp. 164-166, ISBN 978-86-909973-7-4. <b>M64.</b></li> <li data-bbox="236 902 1402 1182">3. <b>Miljan Milosevic</b>, Dusica Stojanovic, Vladimir Simic, Bogdan Milicevic, Andjela Radisavljevic, Petar Uskokovic, Milos Kojic, <i>NUMERICAL MODELS FOR DRUG RELEASE FROM DRUG-LOADED NANOFIBERS</i>, Proceedings of 7<sup>th</sup> International Congress of Serbian Society of Mechanics, Sremski Karlovci, Serbia, June 24-26, 2019, pp. 166-168, ISBN 978-86-909973-7-4 . <b>M64.</b></li> <li data-bbox="236 1193 1402 1473">4. Vladimir Geroski, Milos Kojic, <b>Miljan Milosevic</b>, Vladimir Simic, Bogdan Milicevic, Nenad Filipovic, <i>COUPLED ELECTROPHYSIOLOGICAL AND MECHANICAL FINITE ELEMENT MODEL OF THE HEART WALL</i>, Proceedings of 7<sup>th</sup> International Congress of Serbian Society of Mechanics, Sremski Karlovci, Serbia, June 24-26, 2019, pp. 180-182, ISBN 978-86-909973-7-4. <b>M64.</b></li> <li data-bbox="236 1485 1402 1765">5. Vladimir Simic, Miljan Milosevic, Bogdan Milicevic, Vladimir Geroski, Nenad Filipovic, Milos Kojic, <i>FLUID-ELECTRO-MECHANICAL PARAMETRIC MODEL OF THE LEFT VENTRICLE</i>, Proceedings of 8<sup>th</sup> International Congress of Serbian Society of Mechanics, ISBN 978-86-909973-7-4, Kragujevac, Serbia, June 28-30, 2021, pp. 172-173. <b>M64.</b></li> <li data-bbox="236 1776 1402 2007">6. Miljan Milosevic, Milos Anic, Vladimir Geroski, Dalibor Nikolic, Velibor Isailovic, Nenad Filipovic, Milos Kojic, <i>Computational model for polymeric bioresorbable poly-lactic acid (PLLA) stents</i>, Proceedings of 8<sup>th</sup> International Congress of Serbian Society of Mechanics, ISBN 978-86-909973-7-4, Kragujevac, Serbia 28-30 June</li> </ol>	

2021. **M64.**

7. Aleksandar Nikolic, Vladimir Simic, Miljan Milosevic, Arturas Ziemys, Kenji Yokoi, Milos Kojic, COMPUTATIONAL MODELING OF TUMOR CELL CIRCULATION IN CAPILLARY WITH PLATELETS, Proceedings of 8th International Congress of Serbian Society of Mechanics, ISBN 978-86-909973-7-4, Kragujevac, Serbia, June 28-30, 2021, pp. 172-173. **M64.**
8. Bogdan Milicevic, Miljan Milosevic, Vladimir Geroski, Vladimir Simic, Danijela Trifunovic, Nenad Filipovic, Milos Kojic, LEFT VENTRICLE MODEL GENERATED FROM ECHOCARDIOGRAPHIC DATA, Proceedings of 8th International Congress of Serbian Society of Mechanics, ISBN 978-86-909973-7-4, Kragujevac, Serbia, June 28-30, 2021, pp. 172-173. **M64.**
9. Vladimir Geroski, Miljan Milosevic, Bogdan Milicevic, Vladimir Simic, Nenad Filipovic, Milos Kojic, COUPLED OHARA-RUDY NUMERICAL MODEL FOR ELECTRO-MECHANICS, Proceedings of 8th International Congress of Serbian Society of Mechanics, ISBN 978-86-909973-7-4, Kragujevac, Serbia, June 28-30, 2021, pp. 172-173. **M64.**
10. Nenad Filipovic, Bogdan Milicevic, Miljan Milosevic, Vladimir Simic, Vladimir Geroski, Milos Kojic, BIOMECHANICS OF THE LEFT VENTRICLE AND IN SILICO DRUG TESTING, Proceedings of 8th International Congress of Serbian Society of Mechanics, ISBN 978-86-909973-7-4, Kragujevac, Serbia, June 28-30, 2021, pp. 172-173. **M64.**

Списак резултата М80	Број
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Техничка решења- обавезно навести категорију

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| 1. Којић, Миљан Милошевић, Артурас Зијемус, Мауро Ферари, Софтвер за моделирање НДС система за дозирање лекова применом МКЕ-SoftNDS, 2020. <b>M81.</b> |  |
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Списак резултата М90	Број
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Патенти- обавезно навести категорију

\*Разврставање резултата према ПРАВИЛНИКУ о стицању истраживачких и научних звања "Службени гласник РС", број 159 од 30. децембра 2020, Прилог 3 - Врста и квантификација индивидуалних научноистраживачких резултата.

## **ЦИТИРАНОСТ НАУЧНИХ РАДОВА**

Укупан број цитата по бази података Scopus је 599, од чега је 411 без аутоцитата.

## **КРАТАК ОПИС ИСТРАЖИВАЊА У ПРЕТХОДНОМ ПЕРИОДУ**

Примена методе коначних елемената (МКЕ) у дифузионом и конвективном транспорту, механици солида и динамици флуида. Нумеричко моделирање дифузије у тумору и органима, примена дистрибуиране (smeared) методологије у моделирању транспорта лекова у тумору и органима и деформабилним срединама. Примена методе коначних елемената у механици солида и динамици флуида

## **КРАТАК ОПИС ПЛАНИРАНИХ ИСТРАЖИВАЊА У НАРЕДНОМ ПЕРИОДУ**

Развој нових компјутерских модела и примена нумеричких симулација МКЕ у циљу моделирања транспорта лекова у тумору, органима и имплантима, транспорта лекова из ДЦБ балона, стентова. Примена МКЕ и нумеричких симулација код разних проблема из области биомедицинског инжењеринга.