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**Редовни професор Факултета инжењерских наука
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ОСНОВНИ ПОДАЦИ

Име и презиме	Ненад Филиповић
Место и година рођења	Крагујевац, 1970.
Звање	Редовни професор
Е-mail адреса	fica@kg.ac.rs
Образовно/научно поље	Техничко-технолошке науке
Универзитет, факултет, орг. јединица	Универзитет у Крагујевцу, Факултет инжењерских наука
Област и ужа специјалност	Машинско инжењерство, биомедицинско инжењерство

ОБРАЗОВАЊЕ

ОСНОВНЕ СТУДИЈЕ	
Година	1994.
Место	Крагујевац
Институција	Машински факултет
Наслов дипломског рада	Аутоматско генерисање мрежа за методу коначних елемената
Област	Компјутерски прорачуни
ДОКТОРСKE СТУДИЈЕ	
Година	1999.
Место	Крагујевац
Институција	Машински факултет
Наслов докторске дисертације	Нумеричко решавање спрегнутих проблема деформабилног тела солида и струјања флуида
Област	Компјутерски прорачуни

НАПРЕДОВАЊЕ У ЗВАЊИМА

Година	Звање
1994.	Истраживач сарадник
2000.	Доцент
2005.	Ванредни професор
2010.	Редовни професор

РУКОВОДЕЋЕ ФУНКЦИЈЕ НА УНИВЕРЗИТЕТУ У КРАГУЈЕВЦУ

Година	Функција
2018-данас	Ректор
јун 2018-дец. 2018.	Вршилац дужности ректора
2012-2015.	Проректор за међународну сарадњу

УСАВРШАВАЊА

Година и трајање	Институција
2001. (2 месеца)	Универзитет у Бечу, Аустрија Учествовање у пројекту за компјутерско моделирање и симулацију рада вештачког срца на главној Универзитетској АКН клиници.
2003-2010.	Универзитет Харвард, САД Боравак у трајању од неколико месеци годишње уз усавршавање и учествовање на пројектима из области биоинжењерства.

РАЗВОЈ НАСТАВЕ

- Иницијатор 4 мастер програма на Универзитету у Крагујевцу:
 - Биоинжењеринг, Информационе технологије, Развој компјутерских игара и Развој вештачке интелигенције.
- Иницијатор смера за Софтверско инжењерство на Факултету инжењерских наука.
- Био је ментор 10 докторских дисертација.

НАГРАДЕ И ПРИЗНАЊА

Година	
2003.	Награда за младе истраживаче, <i>Second MIT Conference on Computational Fluid & Solid Mechanics</i> , БОСТОН, САД.
2020.	Захвалница Владе Србије за изузетан научни допринос Центра за биоинжењеринг Факултета инжењерских наука Универзитета у Крагујевцу у борби против болести COVID-19.
2020.	Захвалница Центру за биоинжењеринг Факултета инжењерских наука Универзитета у Крагујевцу за допринос Клиничком центру Крагујевац у борби против болести COVID-19.
2020.	Признање „Капетан Миша Анастасијевић” уручено је проф. др Ненаду Филиповићу, ректору Универзитета у Крагујевцу, за подстицање развоја научноистраживачке делатности у Републици Србији.

ЧЛАНСТВО И ПОЗИЦИЈЕ У СТРУЧНИМ УДРУЖЕЊИМА

- Председник Српског друштва за механику (СДМ)
- Секретар Српског друштва за рачунску механику (СДРМ);
- Члан Српске академије нелинеарних наука;
- Координирајући члан друштва European Society of Biomechanics, за подручје Србије и Црне Горе;
- Члан друштва European Society for Artificial Organs;
- Члан форума Internet Electronic Biomechanics Discussion Forum – BIOMECH – L;
- Члан друштва European Society for Biomechanics (ESB);
- Члан друштва IEEE Engineering in Medicine and Biology Society;
- Члан друштва European Community on Computational Methods in Applied Science (ECCOMAS);
- Члан асоцијације International Association for Computational Mechanics (IACM) General Council.

УРЕДНИЧКИ РАД У ЧАСОПИСИМА

- Члан уредништва међународних научних и стручних часописа:
 - International Journal of Monitoring and Surveillance Technologies Research (IJMSTR);
 - Journal of Biomedical and Health Informatics - IEEE EMBS.
- Придружени уредник међународног часописа: IEEE, Journal of Biomedical and Health Informatics;
- Главни уредник међународног часописа: EAI Endorsed Transactions on Bioengineering and Bioinformatics (BEBI);
- Организациони уредник националног часописа: Journal of the Serbian Society for Computational Mechanics.

БИБЛИОГРАФИЈА

M11

1. **N Filipovic**, Computational modeling in bioengineering and bioinformatics, Academic Press, no.of pages: 442, ISBN: 978-0-128-19583-3, 2019
2. Rakocevic G., Djukic T., **Filipovic N.**, Milutinovic V.,(Editors) Computational Medicine in Data Mining and Modeling, Springer, br. Str. 376, ISBN 978-1-4614-8784-5, 2013
3. Kojic M, **Filipovic N**, Stojanovic B, Kojic N, Computer Modeling in Bioengineering: Theoretical Background, Examples and Software., John Wiley and Sons, no.of pages: 446, ISBN 978-0-470-75175-6., Chichester, England., 2008

M13

1. Tijana Sustersic, Aleksandra Vulovic, Nemanja Trifunovic, Ivan Milankovic, **Nenad Filipovic**, Face Recognition Using Maxeler DataFlow, Exploring the DataFlow Supercomputing Paradigm, In: Milutinovic V., Kotlar M. (eds) Exploring the DataFlow Supercomputing Paradigm. Computer Communications and Networks. Springer, Cham, pp 171-196, ISBN: 978-3-030-13802-8, 2019
2. Peulic A.S., Milankovic I., Mijailovic N.V., **Filipovic N**, Biomedical Images Processing Using Maxeler DataFlow Engines. In: Milutinovic V., Kotlar M. (eds) Exploring the DataFlow Supercomputing Paradigm. Computer Communications and Networks. Springer, Cham, pp 197-227, ISBN: 978-3-030-13802-8, 2019
3. **Nenad Filipovic**, Computational modeling of atherosclerosis. In: Computational Modeling in Bioengineering and Bioinformatics, Academic Press pp 1-39,ISBN: 978-0-128-19583-3, 2019
4. Dalibor D. Nikolic, **Nenad Filipovic**, Topological and parametric optimization of stent design - numerical methods. In: Computational Modeling in Bioengineering and Bioinformatics, Academic Press pp 69-103,ISBN: 978-0-128-19583-3, 2019
5. Milica Nikolic, **Nenad Filipovic**, Lab-on-a-chip and epithelial lung cells modeling. In: Computational Modeling in Bioengineering and Bioinformatics, Academic Press pp 105-135, ISBN: 978-0-128-19583-3, 2019
6. Igor B. Saveljic, **Nenad Filipovic**, Aortic Dissection: Numerical Modeling, Virtual Surgery. In: Computational Modeling in Bioengineering and Bioinformatics, Academic Press pp 137-178, ISBN: 978-0-128-19583-3, 2019
7. Aleksandra Vulović, **Nenad Filipovic**, The biomechanics of lower human extremities. In: Computational Modeling in Bioengineering and Bioinformatics, Academic Press pp 179-210, ISBN: 978-0-128-19583-3, 2019
8. Tijana Šušteršič, **Nenad Filipovic**, Computational modelling of dry powder inhalers for pulmonary drug delivery. In: Computational Modeling in Bioengineering and Bioinformatics, Academic Press pp 257-288, ISBN: 978-0-128-19583-3
9. Velibor Isailovic, **Nenad Filipovic**, Computer modeling of cochlea mechanics. In: Computational Modeling in Bioengineering and Bioinformatics, Academic Press pp 289-319, ISBN: 978-0-128-19583-3, 2019
10. Tijana Đukić, **Nenad Filipovic**, Numerical modeling of cell separation in microfluidic chips. In: Computational Modeling in Bioengineering and Bioinformatics, Academic Press pp 321-352, ISBN: 978-0-128-19583-3, 2019
11. Smiljana Djorovic, **Nenad Filipovic**, Computational analysis of abdominal aortic aneurysm before and after endovascular aneurysm repair. In: Computational Modeling in Bioengineering and Bioinformatics, Academic Press pp 353-386, ISBN: 978-0-128-19583-3, 2019
12. Radivoje Radakovic, **Nenad Filipovic**, Sports biomechanics. In: Computational Modeling in Bioengineering and Bioinformatics, Academic Press pp 387-418, ISBN: 978-0-128-19583-3, 2019
13. **N. Filipovic**, Modeling the behavior of smart composite materials, Smart Composite Coatings and Membranes, Editor Montemor M. F., Transport, Structural, Environmental and Energy Applications, pp 61-81, ISBN 978-1-78242-283-9, 2016

M14

1. **Filipovic N.**, Kojic M., Tsuda A., Multiscale Modeling of Thrombosis by Finite Element (FE) and Dissipative Particle Dynamics (DPD) in the Large Arteries, Advanced Topics in Scattering and Biomedical Engineering, Editors: Charalambopoulos A., Fotiadis D. I., Polyzos D., World Scientific 2008, pp 269-281, ISBN -13- 978-981-281-484-5, doi [10.1142/9789812814852_0030](https://doi.org/10.1142/9789812814852_0030)

M21a и M21

1. Andreas S Panayides, Amir Amini, **Nenad D Filipovic**, Ashish Sharma, Sotirios A Tsaftaris, Alistair Young, David Foran, Nhan Do, Spyretta Golemati, Tahsin Kurc, Kun Huang, Konstantina S Nikita, Ben P Veasey, Michalis Zervakis, Joel H Saltz, Constantinos S Pattichis, AI in Medical Imaging Informatics: Current Challenges and Future Directions, IEEE Journal of Biomedical and Health Informatics, Vol.24, No.7, pp 1837 - 1857, ISSN 2168-2194, Doi 10.1109/JBHI.2020.2991043, 2020
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4. M Madzarevic, D Medarevic, A Vulovic, T Sustersic, J Djuris, **N Filipovic** Optimization and Prediction of Ibuprofen Release from 3D DLP Printlets Using Artificial Neural Networks, Pharmaceutics, Vol.11, No.10, p.p. 544, ISSN 1999-4923, Doi 10.3390/pharmaceutics11100544, 2019
5. T Djukic, I Saveljic, **N Filipovic**, Numerical modeling of the motion of otoconia particles in the patient-specific semicircular canal, Computational Particle Mechanics, Vol.6, No.4, p.p. 767-780, ISSN 0010-4825, Doi 10.1007/s40571-019-00260-1, 2019
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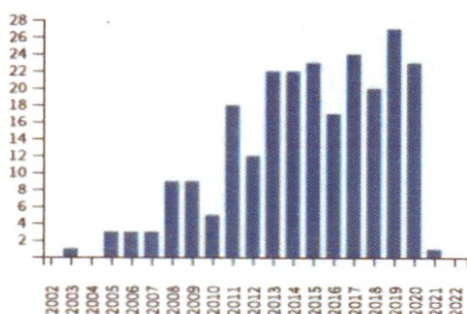
Адресе на интернету на којима је биографија и научни резултати: [Google Scholar](#)

Број цитата, Хиршов индекс¹

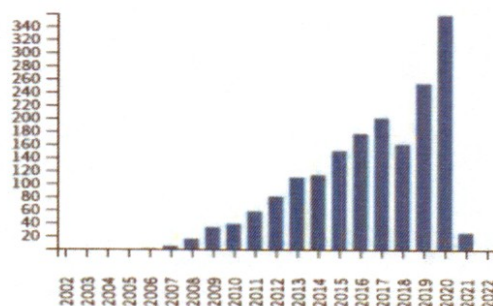
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Према бази података *WoS*: број цитата (укупно) 1786 *h*-индекс = 22

Према бази података *Scopus*: број цитата (укупно) 1666 *h*-индекс = 20



Слика 1. Број радова по години²



Слика 2. Број цитата по години²

¹ Претрага на дан 1. март 2021.

² Према бази података *WoS*.

ЗНАЧАЈНЕ ПРОЈЕКТНЕ АКТИВНОСТИ

Руковођење међународним пројектима:

(координација међународног пројектног конзорцијума):

- 1. Computational modeling of blood flow in the tumor vasculature**
 - трајање: 2012-2015.
 - финансирање: Швајцарска национална научна фондација, програм SCOPES
- 2. Role of blood flow and sdf-1/cxcr4-induced recruitment of mononuclear cells in intussusceptive angiogenesis**
 - трајање: 2014-2016.
 - финансирање: Швајцарска национална научна фондација, програм SCOPES
- 3. Increasing scientific, technological and innovation capacity of Serbia as a Widening country in the domain of multiscale modelling and medical informatics in biomedical engineering (SGABU)**
 - трајање: 2020-2023.
 - финансирање: ЕУ програм за истраживање, развој и иновације Хоризонт 2020
- 4. Production of medical ventilators by using 3D printers and lasers, with lower production cost and in shorter production time compared to the standard industry approach, this solution enables the production of affordable medical ventilators in Serbia, for the fight against COVID-19 virus**
 - трајање: 5. август 2020 - 5. децембар 2020.
 - финансирање: Програм Уједињених нација за развој (UNDP)
- 5. Use of Regressive Artificial Intelligence (AI) and Machine Learning (ML) Methods in Modelling of COVID-19 spread (COVIDAI)**
 - трајање: 6. јул 2020 - 31. децембар 2020.
 - финансирање: Програм Централно-европске иницијативе (CEI)

Учешће у значајнијим међународним пројектима:

(координација на нивоу Србије)

- 1. International European project for software development of clinical information system for orthopedic clinic in Bologna (MULTIMOD)**
 - трајање: 2003-2005.
 - финансирање: ЕУ програм за истраживање, развој и иновације FP6
- 2. Particles in Developing Lung: Bioengineering Approach, Harvard University and University of Kragujevac**
 - трајање: 2004-2008.
 - финансирање: НИH фонд, NHLBI истраживачки грант R01 HL070542-03, САД
- 3. Multi-level patient-specific artery and atherogenesis model for outcome prediction, decision support treatment, and virtual hand-on training (ARTreat)**
 - трајање: 2008-2013.
 - финансирање: ЕУ програм за истраживање, развој и иновације FP7
- 4. An Adriatic Network for Advancing Research Development and Innovation towards the Creation of new Policies for Sustainable Competiveness and Technological Capacity of SMEs (ADRIATinn)**
 - трајање: 2013-2016.
 - финансирање: IPA фонд – Јадрански програм прекограничне сарадње
- 5. FLIRT: Fall in love with research tonight**
 - трајање: 2014-2015.
 - финансирање: ЕУ програм за истраживање, развој и иновације Хоризонт 2020 - Марија Кири

акција Ноћ истраживача

6. **Simulation Modeling of coronary ARTery disease: a tool for clinical decision support (SMARTool)**
- трајање: 2016-2019.
- финансирање: ЕУ програм за истраживање, развој и иновације Хоризонт 2020
7. **Drug-coated balloon simulation and optimization system for the improved treatment of peripheral artery disease (DECODE)**
- трајање: 2020-2024.
- финансирање: ЕУ програм за истраживање, развој и иновације Хоризонт 2020 - Марија Кири програм

COST пројекти:

1. COST Action MP1005, 2011-2015, **NAMABIO: From nano to macro biomaterials (design, processing, characterization, modeling) and applications to stem cells regenerative orthopedic and dental medicine**
2. COST Action MP1301, 2013-2017, **NEWGEN New Generation Biomimetic and Customized Implants for Bone Engineering**
3. COST Action MP1404, 2015-2019, **SimInhale: Simulation and Pharmaceutical Technologies for Advanced Patient-Tailored Inhaled Medicines**
4. COST Action CA15120, 2016-2020, **OpenMultiMed: Open Multiscale Systems Medicine**
5. COST Action CA16122, 2017-2021, **BIONECA: Biomaterials and advanced physical techniques for regenerative cardiology and neurology**

Билатерални пројекти

(координатор тима из Србије проф. др Ненад Филиповић)

1. **Development of an anatomical model for the simulation of excitation propagation and cardiac biomechanics, 2004-2006.** (Србија - Грчка)
2. **Integration of data mining and high-performance computer modeling for coronary artery disease, Serbia-Slovenia, 2010-2011.** (Србија - Словенија)
3. **Patient-specific computer model of the coronary arteries and prediction of the formation and growth of atherosclerotic plaque, 2010-2012.** (Србија - Шпанија)
4. **Computer simulation for cardiovascular disease on high performance computing 2016-2017.** (Србија - Хрватска)
5. **Modelling of innovative hearing implant devices using bone conduction sound, 2016-2017.** (Србија - Аустрија)
6. **Simulation and modelling of metabolism in astrocytes, 2018-2019.** (Србија - Словенија)
7. **Mathematical modeling and experimental procedures for tissue engineering of blood vessels by electrospinning, 2018-2019.** (Србија - Кина)

Руковођење значајнијим националним пројектима:

1. **Развој софтвера и хардвера из области биоинжењеринга са применом у клиничкој пракси**, TP-12007, финансиран од Министарства за науку и технолошки развој Републике Србије, 2008-2010. Носилац истраживања је био Машински факултет у Крагујевцу.
2. **Примена биомедицинског инжењеринга у претклиничкој и клиничкој пракси**, ИИИ41007, финансиран од Министарства за науку и технолошки развој Републике Србије, 2011-2020. Носилац истраживања је био Машински факултет у Крагујевцу.
3. **Развој мобилне апликације за виртуелни FFR (Fraction Flow Reserve)**, финансиран од Фонда за иновациону делатност Републике Србије, 2020-2021. Носилац истраживања је био Факултет инжењерских наука у Крагујевцу.
4. **Иновирање лабораторијских вежби и експеримената на предметима мастер студијског програма Биоинжењеринг (БИОЛАБ)**, финансиран од стране Министарства просвете, науке и технолошког развоја Републике Србије, 2019-2020. Носилац истраживања је био Факултет инжењерских наука у Крагујевцу.

Учешће у националним пројектима:

1. **Развој метода и софтвера за нелинеарну анализу конструкција**, 1110, финансиран од Републичког министарства за науку и технологију, 1993-1995. Руководилац пројекта је био проф. др Милош Којић. Носилац истраживања је био Машински факултет у Крагујевцу.
2. **Развој нових инжењерских метода у машинству и бродоградњи**, 11M06, финансиран од Републичког министарства за науку и технологију, 1996-2000. Руководилац пројекта је био проф. др Милош Којић. Носилац истраживања је био Машински факултет у Крагујевцу.
3. **Развој метода и софтвера за нумеричка и експериментална истраживања из области биомедицинских наука**, финансиран од Републичког министарства за науку и технологију, 1997-2000. Руководилац пројекта је био проф. др Милош Којић. Носилац истраживања је био Центар за научна истраживања САНУ и Универзитета у Крагујевцу.
4. **Развој метода, софтвера и уређаја за област биомеханике и биоинжењеринга**, TP233, финансиран од Републичког министарства за науку и технолошки развој, 2001-2004. Руководилац пројекта је био проф. др Милош Којић. Носилац истраживања је био Машински факултет у Крагујевцу.
5. **Транспорт биолошки активних молекула у физиолошким мембранама**: ОИ1246, финансиран од Републичког министарства за науку и технолошки развој, 2001-2005. Руководилац пројекта је био проф. др Мирко Росић. Носилац истраживања је био Медицински факултет у Крагујевцу.
6. **Развој компјутерских метода и софтвера у општем и биомедицинском инжењерингу**, TP-6209A, финансиран од стране Министарства за науку и заштиту животне средине, 2005-2007. Руководилац пројекта је био проф. др Милош Којић. Носилац истраживања је био Машински факултет у Крагујевцу.
7. **Методe моделирања биомеханичких система са применом у медицини**, ОИ-144028, финансиран од стране Министарства за науку и заштиту животне средине, 2006-2010. Руководилац пројекта је био проф. др Милош Којић. Носилац истраживања је био Машински факултет у Крагујевцу.