



INTERNATIONAL UNIVERSITY OF SARAJEVO  
INTERNACIONALNI UNIVERZITET U SARAJEVU

International University of Sarajevo			
PRIMLJENO-ARHIVA 20.04.2022			
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## COMMITTEE FOR PREPARATION OF PROPOSALS FOR APPOINTMENT INTO ACADEMIC TITLE OF SCIENTIFIC FIELD OF "COMPUTER SCIENCE"

To the Faculty Council of the Faculty of Engineering and Natural Sciences

Pursuant to Article 107, paragraph (3) of the Law on Higher Education ("Official Gazette of Sarajevo Canton" 33/17, 35/20, 40/20 and 39/21) and based on the Decision of the Council of the Faculty of Engineering and Natural Sciences, No. IUS-FENS 06-993/22 dated April 15<sup>th</sup>, 2022, acting in accordance with the submitted Confirmation Certificate by Administrative Service, No. IUS-FENS-06-980-1/22 (attached to this Report), the Committee for preparation of proposals for the appointment to academic titles composed of:

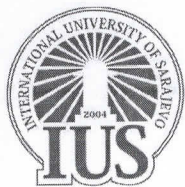
1. **Dr. Emine Yaman**, associate professor at the Faculty of Engineering and Natural Sciences; appointed for the scientific field of *Computer Science*,
2. **Dr. Khaldoun Al Khalidi**, associate professor at the Faculty of Engineering and Natural Sciences; appointed for the scientific field of *Computer Science*, and
3. **Dr. Sehabeddin Taha Imeci**, full professor at the Faculty of Engineering and Natural Sciences; appointed for the scientific field of *Electrical Engineering*.

Evaluated application of Dr. Kanita Karađuzović-Hadžiabdić for the appointment to position of Associate Professor in the field of *Computer Science* upon public vacancy announcement published in newspaper *Nezavisne novine* and web page on April 5<sup>th</sup>, 2022, and submits the following

### REPORT with a Proposal for Appointment to the Academic Title

**Applicant's name: DR. KANITA KARAĐUZOVIĆ-HADŽIABDIĆ**, per her application for appointment into academic title of Associate Professor

Dr. Kanita Karađuzović – Hadžiabdić, born in 1978 in Sarajevo, Bosnia and Herzegovina started her university education at *Eastern Mediterranean University* where in 1999 she successfully completed undergraduate study at Department of Applied Mathematics and Computer Science. In 2001, she earned the degree Master of Science from *Oxford University* majoring in Computer Science. Dr. Karađuzović – Hadžiabdić advanced her academic education in homeland at International University of Sarajevo where on November 10, 2011 she earned her PhD degree in Computer Science and Engineering after she defended doctoral dissertation entitled *Framework for Evaluation of Deghosting Algorithms for Multi-exposure High Dynamic Range Imaging*. Dr. Karađuzović-Hadžiabdić was working as senior assistant at IUS in the period from 2011 to 2016 and currently she holds position of assistant professor.



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## KOMISIJA ZA PRIPREMANJE PRIJEDLOGA ZA IZBOR U AKADEMSKO NASTAVNO ZVANJE ZA NAUČNU OBLAST „RAČUNARSKE NAUKE“

### VIJEĆU FAKULTETA PRIRODNIH I TEHNIČKIH NAUKA

Na osnovu člana 107., stav (3) Zakona o visokom obrazovanju („Službene novine Kantona Sarajevo“ 33/17, 35/20, 40/20 i 39/21), postupajući na osnovu Odluke Vijeća Fakulteta prirodnih i tehničkih nauka, broj: IUS-FENS 06-993/22 od 15.04.2022. godine i Potvrde Stručne službe, broj: IUS-FENS-06-980-1/22 (u sastavu ovog izvještaja), Komisija za pripremanje prijedloga za izbor u akademska zvanja za naučnu oblast „Računarske nauke“, u sastavu:

1. **Dr. Emine Yaman**, vanredna profesorica na Fakultetu prirodnih i tehničkih nauka Internacionalnog univerziteta u Sarajevu, izabrana za naučnu oblast „Računarske nauke“,
2. **Dr. Khaldoun Al Khalidi**, vanredni profesor na Fakultetu prirodnih i tehničkih nauka Internacionalnog univerziteta u Sarajevu, izabran za naučnu oblast „Računarske nauke“, i
3. **Dr. Sehabeddin Taha Imeci**, redovni profesor na Fakultetu prirodnih i tehničkih nauka Internacionalnog univerziteta u Sarajevu, izabran za naučnu oblast „Elektrotehnika“.

Nakon izvršene analize prijave za zvanje vanrednog profesora, podnesene po javnom konkursu od 05.04.2022. godine u dnevnim novinama „Nezavisne novine“ i internet stranici Internacionalnog univerziteta u Sarajevu, od strane aplikanta Dr. Kanite Karađuzović-Hadžiabdić, Komisija podnosi *sljedeći*:

### IZVJEŠTAJ sa prijedlogom za izbor u zvanje

**Kandidat: DR. KANITA KARAĐUZOVIĆ-HADŽIABDIĆ**, postupajući po prijavi za zvanje vanrednog profesora

Dr. Kanita Karađuzović-Hadžiabdić, rođena 1978. u Sarajevu, BiH, započela je fakultetsko obrazovanje na „Eastern Mediterranean University“ gdje je 1999. godine uspješno završila dodiplomski studij na Odsjeku za primijenjenu matematiku i računarstvo. Godine 2001. stekla je titulu magistra na „Oxford University“ na smjeru Računarske nauke. Dr. Karađuzović – Hadžiabdić usavršavala je svoje akademsko obrazovanje u domovini na Internacionalnom univerzitetu u Sarajevu gdje je 10. novembra 2011. godine doktorirala iz oblasti Računarske nauke nakon obrane doktorske disertacije pod nazivom „Framework for Evaluation of Deghosting Algorithms for Multi-exposure High Dynamic Range Imaging“. Dr. Karađuzović-Hadžiabdić radila je kao viši asistent na IUS-u u periodu od 2011. do 2016. godine, a trenutno je u zvanju docenta.

#### A. EDUCATION / OBRAZOVANJE

Stepen/Degree	Odsjek/Program	Univerzitet/University	Godina/Year
BA	Applied Mathematics and Computer Science	<i>Eastern Mediterranean University</i>	1995 – 1999
MA	Computer Science	Oxford University	2000 – 2001
PhD	Computer Science and Engineering	International University of Sarajevo	2011 – 2016

#### B. ACADEMIC WORK EXPERIENCE / AKADEMSKO RADNO ISKUSTVO

Assistant Professor / Docent 2016 –  
Senior Assistant / Viši asistent 2011 – 2016

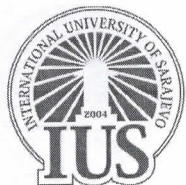
#### C. TEACHING PORTFOLIO / NASTAVNI PORTOFOLIO

Dr. Karadžuzović-Hadžiabdić je predavala sljedeće predmete u postupku sticanja diplome prvog ciklusa studija: CS308 Software Engineering, CS299 Social Legal and Ethical Issues in Computer Science, CS105 Advanced Programming, CS310 Human Computer Interaction, SE322 Software Requirements Analysis, EE418 Introduction to Machine Learning, EE221 Object Oriented Programming, te CS516 User Interface Design, Implementation and Evaluation, CS504 Advanced Software Engineering, CS530 High Dynamic Range Imaging na drugom ciklusu studija.

Dr. Karadžuzović-Hadžiabdić was teaching following undergraduate courses: CS308 Software Engineering, CS299 Social Legal and Ethical Issues in Computer Science, CS105 Advanced Programming, CS310 Human Computer Interaction, SE322 Software Requirements Analysis, EE418 Introduction to Machine Learning, EE221 Object Oriented Programming; and graduate courses: CS516 User Interface Design, Implementation and Evaluation, CS504 Advanced Software Engineering, CS530 High Dynamic Range Imaging.

#### D. LIST OF SCIENTIFIC AND OTHER PUBLICATIONS SINCE THE APPOINTMENT TO THE ACADEMIC TITLE OF ASSISTANT PROFESSOR / PREGLED NAUČNIH I DRUGIH RADOVA OD IZBORA U ZVANJE DOCENTA

D.1. Publications in the international peer-refereed journals / Naučni radovi u recenziranim međunarodnim časopisima



1. F. A.M. Trtak, K. Karađuzović-Hadžiabdić, "Clinical decision making for prediction of otitis using machine learning approach", *Periodicals of Engineering and Natural Sciences*, Vol 10, No 1, 2022, DOI: <http://dx.doi.org/10.21533/pen.v10i2.2749> (INDEXED by Scopus).
2. K. Karađuzović-Hadžiabdić, R. Spahić, E. Tahirović, "Evaluation of IBM Watson Natural Language Processing Service to predict influenza-like illness outbreaks from Twitter data", *Periodicals of Engineering and Natural Sciences*, Vol 10, No 1, 2022, DOI: <http://dx.doi.org/10.21533/pen.v10i1.2454> (INDEXED by Scopus).
3. L.J. Marcos-Zambrano, K. Karaduzovic-Hadziabdic, T. Loncar Turukalo et al., "Applications of machine learning in human microbiome studies: a review on feature selection, biomarker identification, disease prediction and treatment ", *Frontiers in Microbiology*, Vol. 12, 2021, <https://doi.org/10.3389/fmicb.2021.634511> (INDEXED by SCI).
4. L. Badimon, E.L. Robinson, A. Jusic, I. Carpusca, L.J. deWindt, C. Emanuelli, P. Ferdinandy, W. Gu, M. Gyongyosi. M. Hackl, K. Karaduzovic-Hadziabdic et al. "Cardiovascular RNA Markers and Artificial Intelligence May Improve COVID-19 Outcome: a position paper from the EU-CardioRNA COST Action CA17129", *Cardiovascular Research*, Oxford Academic, Oxford University Press, 117(8), pp. 1823-1840, 2021, <https://doi.org/10.1093/cvr/cvab094> (INDEXED by SCI).
5. E. Džaferović, K. Karaduzovic-Hadziabdic "Quality Prediction in Sarajevo using Machine Learning Methods, A Case of Bjelave Neighbourhood, Sarajevo, BiH", Springer, *Advanced Technologies, Systems, and Applications V*, IAT 2020. *Lecture Notes in Networks and Systems*, Vol. 142, pp. 423-434, 2020, <https://link.springer.com/bookseries/15179>, [https://doi.org/10.1007/978-3-030-54765-3\\_29](https://doi.org/10.1007/978-3-030-54765-3_29), (Indexed by SCOPUS, SCIMago, etc.).
6. CPC Gomes, B. Agg, A. Andova, S. Arslan, A. Baker D. Beis, et al. "Catalyzing transcriptomics research in cardiovascular disease: the CardioRNA COST Action CA17129", *Non-Coding RNA*, MDPI Open Access Journals, Vol. 5, Issue 2, <https://doi.org/10.3390/ncrna5020031> (INDEXED by SCI.).
7. A. Kutlay, K. Karaduzovic-Hadziabdic, "Static based classification of malicious software using machine learning methods", Springer, *Advanced Technologies, Systems, and Applications IV*, IAT 2019. *Lecture Notes in Networks and Systems*, Vol. 83, pp. 621-628, 2019, ISBN: 978-3-030-24985-4, <https://link.springer.com/bookseries/15179>, [https://doi.org/10.1007/978-3-030-24986-1\\_49](https://doi.org/10.1007/978-3-030-24986-1_49) (Indexed by SCOPUS, SCIMago, etc.).
8. K. Karaduzovic-Hadziabdic, J. Hasic Telalovic, R. K. Mantiuk, "Assessment of multi-exposure HDR image dehohsting methods", *Computers and Graphics*, Elsevier, Vol. 63, pp. 1-17, April 2017, <https://doi.org/10.1016/j.cag.2017.01.002> (INDEXED by SCI).

#### **D.2. Publications published in refereed international conference proceedings / Naučni radovi objavljeni u recenziranim zbornicima sa konferencija**

1. K. Karaduzovic-Hadziabdic, R. Spahic, "Comparison of Machine Learning Methods for Code Smell Detection Using Reduced Features", 3<sup>rd</sup> International Conference on Computer Science and

Engineering, (Proceedings of IEEE), pp. 670-672, <https://doi.org/10.1109/UBMK.2018.8566561>, 2018 (Indexed by Scopus)

2. R. Spahic, K. Karaduzovic-Hadziabdic, "Class Level Code Smell Detection using Machine Learning Methods", Proceedings of Computational Methods and Telecommunication in Electrical Engineering and Finance, Sarajevo, BiH, 2018, [https://cmteef.ius.edu.ba/sites/default/files/cmteef-book\\_of\\_proceedings\\_web.pdf](https://cmteef.ius.edu.ba/sites/default/files/cmteef-book_of_proceedings_web.pdf)

### D.3. Book Chapters / Poglavlja u knjigama

1. K. Karaduzovic-Hadziabdic, A. Peters, "Artificial intelligence in clinical decision-making for diagnosis of cardiovascular disease using epigenetics mechanisms", in "Epigenetics in Cardiovascular Disease", Y. Devaux, E. L. Robinson (Editors), Academic Press, Elsevier, Vol. 24 in Translational Epigenetics, pp 327-345, 2021, ISBN: 978-0-12-822258-4 url: <https://www.sciencedirect.com/science/article/pii/B9780128222584000201> (INDEXED by Scopus)

The Committee finds that Dr. Hadžiabdić has published 11 papers (since last appointment to academic title) in total which are relevant for appointment to the academic title. Thus, Dr. Karadžović-Hadžiabdić satisfied requirement of published at least 8 papers in acknowledge publications for appointment to the academic title of Associate professor.

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Komisija nalazi da je Dr. Hadžiabdić objavio ukupno 11 naučnih radova (od posljednjeg izbora u zvanje) koji su relevantni za izbor u akademsko zvanje. Time je Dr. Karadžović-Hadžiabdić ispunila uslov objave najmanje osam naučnih radova objavljenih u priznatim publikacijama za izbor u zvanje vanrednog profesora.

### E. PUBLISHED BOOKS (since the last appointment) / OBJAVLJENE (od posljednjeg izbora u zvanje)

1. Master studies in Bioanalytical technologies - Instructions for lecturers, Altijana Hromic-Jahjefendic, Daria Ler, Dzejla Mededovic, Emin Tahirovic, Emir Karamehmedovic, Kanita Karaduzovic-Hadziabdic, Mirza Suljagic, Muhamed Hadziabdic, Nima Rabiei, Ramo Palalic, Benjamin Durakovic, CIP - Katalogizacija u publikaciji Nacionalna i univerzitetska biblioteka Bosne i Hercegovine ISBN 978-9958-896-49-1, COBISS. BH-ID 42904070, 2021.

### F. MENTORSHIPS SINCE THE LAST APPOINTMENT TO THE ACADEMIC TITLE / MENTORSTVA OD POSLJEDNJEG IZBORA U ZVANJE



### F.1. Master theses / Magistarske teze

- Fatima Abdel Monem Trtak, *Application of Machine Learning Methods Using Human Microbiota in Prediction of Otitis*, 2020, IUS
- Emina Džaferović, *Air Quality Prediction in Sarajevo using Machine Learning Methods, A Case of Bjelave Neighbourhood*, Sarajevo, BiH, 2019, IUS
- Dino Sudžuković, *Analysis and Application of Machine Learning Methods in Exoplanet Habitability Classification*, 2019, IUS
- Darko Suljić, 2019, *Performance Analysis of Blockchain Nodes*, 2019, IUS
- Kanita Krdžalić-Korić, *News Classification Using Machine Learning Methods: The case of Bosnian Language*, 2019, IUS
- Rialda Spahić, *Tracking the Spread of Infectious Disease Using Online Social Networks*, 2018, IUS
- Muhammed Ali Kutlay, *Classification of Machine Learning Malicious Software Using Machine Learning Methods*, 2018, IUS
- Nevres Jahić, *Artificial Intelligence Methods in Games*, 2018, IUS

The Committee finds that Dr. Kanita Karađuzović-Hadžiabdić has successfully completed the assigned mentorship and thus fulfilled the condition of mentorship of master student (since the last appointment to academic title) prescribed by the Law on Higher Education for appointment to academic title of Associate Professor.

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Komisija konstatuje da je Dr. Kanita Karađuzović-Hadžiabdić uspješno okončala dodijeljena mentorstva, te time ispunila uslov mentorstva studenta drugog ciklusa studija (od posljednjeg izbora u zvanje), koji propisuje Zakon o visokom obrazovanju za izbor u akademsko zvanje vanrednog profesora.

### G. PATENTS, PROJECT, ORIGINAL METHOD / PATENT, PROJEKAT, ORIGINALNI METOD

1. **The Horizon 2020 project “COV1RNA – A diagnostic test to improve surveillance and care of COVID-19 patients”** (<https://covirna.eu>). The project is one of the 23 research projects awarded within the framework of the Horizon 2020 call for Expression of Interest “Innovative and rapid health-related approaches to respond to COVID-19 and to deliver quick results for society for a higher level of preparedness of health systems.” The Project is coordinated by the Luxembourg Institute of Health (LIH) and it includes 15 partners from healthcare, academia and industry from 12 European countries. The project is funded by the European Union and its total budget is EUR 4.44 million. Nov 2020 – ongoing.
2. KUL project, a joint project with International University of Sarajevo and the Catholic University of Lublin (KUL) to establish a master’s study in the field of bioanalytical technologies. Funded by Polish Government. 2019 – 2021. Team member. Budget: approx: 50,000.00 EUR.

3. The project "**Positioning Level V Qualification in BiH.**" The project was funded by the EU Delegation of BiH and its total budget was 169,843KM. It was a three-year project (06/2013-05/2016).

The Committee finds that Dr. Kanita Karađuzović-Hadžiabdić was a principal investigator and researcher in the funded projects since appointment to the academic title of assistant professor, and thereby satisfied the condition of an original professional accomplishment for appointment to the academic title of associate professor.

Komisija nalazi da je dr. Kanita Karađuzović-Hadžiabdić bila nosilac projekata i istraživač na finansiranim projektima od izbora u zvanje docenta, te je time zadovoljila uslov originalnog stručnog uspjeha za izbor u akademsko zvanje vanrednog profesora.

#### H. INTRODUCTORY LECTURE

Dr. Kanita Karađuzović-Hadžiabdić does not need to deliver introductory lecture since she participated in the implementation of the teaching process at the higher education institution.

Dr. Kanita Karađuzović-Hadžiabdić ne treba održati pristupno predavanje obzirom da je sudjelovala u realizaciji nastavnog procesa na visokoškolskoj ustanovi.

#### I - PROPOSAL AND RATIONALE

Based on the scientific work since the last appointment to the academic title, in accordance with the Law on Higher Education of Sarajevo Canton ("Official Gazette of Sarajevo Canton" No: 33/17, 35/20, 40/20 and 39/21), the Selection Committee unanimously proposes to the Council of the Faculty of Engineering and Natural Sciences to appoint DR. KANITA KARAĐUZOVIĆ-HADŽIABDIĆ to the academic title of ASSOCIATE PROFESSOR in the scientific field of "COMPUTER SCIENCE", at the Faculty of Engineering and Natural Sciences of the International University of Sarajevo.

Na osnovu naučnog rada od posljednjeg izbora u akademsko zvanje, u skladu sa odredbama Zakona o visokom obrazovanju Kantona Sarajevo ("Službene novine Kantona Sarajevo" br: 33/17, 35/20, 40/20 i 39/21), Komisija jednoglasno predlaže Vijeću Fakulteta prirodnih i tehničkih nauka Internacionalnog univerziteta u Sarajevu da se DR. KANITA KARAĐUZOVIĆ-HADŽIABDIĆ izabere za nastavnika u naučnonastavnom zvanju VANREDNI PROFESOR u naučnoj oblasti "RAČUNARSKE NAUKE", na Fakultetu prirodnih i tehničkih nauka Internacionalnog univerziteta u Sarajevu.



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**COMMITTEE / KOMISIJA**

1. **Assoc. Prof. Dr. Emine Yaman**

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(Signature / Potpis)

2. **Assoc. Prof. Dr. Khaldoun Al Khalidi**

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(Signature / Potpis)

3. **Prof. Dr. Sehabeddin Taha Imeci**

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(Signature / Potpis)