PERSONAL INFORMATION   **Aleksandra Rashkovska Koceva**

Jamova cesta 39, 1000 Ljubljana, Slovenia

+386 1 477 3701   +386 30 242 513

Aleksandra.Rashkovska@ijs.si

http://e6.ijs.si/~arashkovska/

Sex Female | Date of birth 11/08/1981 | Nationality Slovenia and Macedonia

WORK EXPERIENCE

July 2018 – present   **Research fellow**

Department of Communication Systems, Jožef Stefan Institute,
Jamova cesta 39, 1000 Ljubljana, Slovenia

January 2014 – June 2018   **Research associate**

Department of Communication Systems, Jožef Stefan Institute,
Jamova cesta 39, 1000 Ljubljana, Slovenia

November 2014 – October 2015   **Post-doctoral researcher**

Department of Computer Science, University of Bari Aldo Moro,
Via E. Orabona 4, 70125 Bari, Italy

December 2009 – December 2013   **Research assistant**

Department of Communication Systems, Jožef Stefan Institute,
Jamova cesta 39, 1000 Ljubljana, Slovenia

September 2005 – present   **Administrator of the Electronic Evidence Management System for the European Credit Transfer System**

Faculty of Law,
Ss. Cyril and Methodius University, Skopje, Macedonia

May 2007 – September 2009   **Operational Support Systems Specialist**

IT Business Processes Software Management Department,
Makedonski Telekom AD, Skopje, Macedonia

Academic year 2006/2007   **Eminent expert in practice**

Faculty of Law,
Ss. Cyril and Methodius University, Skopje, Macedonia

▪ Subject: Law Informatics

Academic year 2006/2007   **Teaching assistant**

Faculty of Electrical Engineering,
Ss. Cyril and Methodius University, Skopje, Macedonia

▪ Subject: Basics of Electrotechnics

EDUCATION AND TRAINING

October 2009 – November 2013

PhD in Computer Science

International Postgraduate School Jožef Stefan, Ljubljana, Slovenia

- Major research and study area was Parallel and Distributed Computing, with special emphasis on computer simulations in biomedicine, advanced bio-signal analysis and cloud computing.
- Thesis title: Real-time control of hidden system variables with application in therapeutic knee cooling
- Supervisor: Prof. Dr. Roman Trobec

October 2000 – June 2006

BSc in Computer Science

Faculty of Electrical Engineering, University Ss. Cyril and Methodius, Skopje, Macedonia

- Major research and study area was Computer Science, Informatics and Automation
- Thesis title: Information system for support of the European Credit Transfer System at the Faculty of Law, Skopje (in Macedonian)
- Supervisor: Prof. Dr. Dančo Davčev

PERSONAL SKILLS

Mother tongue(s)   Macedonian

Other language(s)

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
English				
C1	C1	C1	C1	C1
Slovenian				
B2	B2	B2	B2	B2

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

Communication skills

Good communication skills acquired through
- Presentations at international workshops and conferences
- Work on joint publications with colleagues on various topics

Job-related skills

- Software development: Web applications (ASP.NET), Desktop applications (Microsoft Visual Studio), Flash applications (Macromedia Flash MX)
- Database design and administration: Microsoft SQL Server, Oracle
- Programming: Visual Basic, C#, PL/Transact SQL, Matlab

Organisational / managerial skills

- Steering committee member of the DC - Distributed Computing in Data Science and Biomedical Engineering Conference at the International Convention on Information and Communication Technology, Electronics and Microelectronics (MIPRO) since 2013
- Program committee member of the 2nd Workshop on Mining Data for Financial Applications, MIDAS 2017, Skopje, Macedonia, September 18, 2017
- Program committee member for the First Workshop on Mining Data for Financial Applications, MIDAS 2016, Riva del Garda, Italy, September 19, 2016

Other skills

Reviewing for relevant journals, conferences and workshops:
- *Journals*: Journal of Universal Computer Science; Scalable Computing: Practice and Experience; International Journal of Distributed Sensor Networks; Computers in Biology and Medicine; Sensors; Journal of Advanced Research, Computer Methods and Programs in Biomedicine; Engineering Science and Technology, an International Journal; IEEE Industrial Informatics; Journal of Affective Disorders; Measurements; Computer Methods and Programs in Biomedicine.
- *Conferences*: International Conference on Web Intelligence - WI 2015; International Symposium on Methodologies for Intelligent Systems - ISMIS 2015; Parallel, Distributed and Network-Based Processing – PDP 2011, 2012.

Driving licence
- Category B

ADDITIONAL INFORMATION

Projects
- SAAM – Supporting Active Ageing through Multimodal coaching; H2020-EU.3.1.4. -Active ageing and self-management of health, Project reference: 769661 (2018-2020)
- EkoSMART project – Smart Cities and Communities, grant No. C3330-16-529007, financed by the European Regional Development fund (2016 - 2019)
- Project "Multi-functional body sensor"; client: SIMED d.o.o., Slovenia (2015 - 2016)
- Project "System for mobile monitoring of vital physiological parameters and environmental context"; client: SAVING d.o.o., Slovenia (2015 - 2016)
- Technology Transfer Project *TETRACOM* - Wearable Multifunctional Body Sensor (MedSens); FP7-ICT-2013-10, Project reference: 609491 (2014 - 2015)
- *MAESTRA* - Learning from Massive, Incompletely annotated, and Structured Data; EU FP7-ICT-2013 FET-Open Xtrack, Project reference: 612944 (2014 - 2015).
- *OVE@PZ* - Control modules and information infrastructure for the integration of renewable energy sources in Smart Buildings; Ministry of Economic Development and Technology of the Republic of Slovenia, SMER+ (Cosylab d. d., Control System Laboratory, in partnership with Jožef Stefan Institute) (2013 - 2014)
- Centre of Competence *CLASS* - Centre of Competence CLASS – CLoud Assisted ServiceS; Ministry of Education, Science and Sport of the Republic of Slovenia and EU (EuroCloud Slovenia) (2011 - 2013)
- Study Relating to the Measurement of the Effects of Cryotherapy on a Human Body; client: Waegener R & D, Belgium (2011 - 2012)
- *ProSense* - Promote, Mobilize, Reinforce and Integrate Wireless Sensor Networking Research and Researchers; EU FP7-REGPOT-2007-3-01, Project reference: 205494 (2009 - 2010)

Honours and awards
- November 2017: Puh Certificate of Recognition for significant achievements in the field of medical equipment, Ministry of Education, Science and Sport of the Republic of Slovenia.
- September 2013: Special prize for innovations for economy for the inventive/innovative project "Smart Thermo Therapy" at the 6th International Technology Transfer Conference & Innovation Day, Brdo pri Kranju, Slovenia.
- 2009 – 2013: Young Researcher Grant No. PR-03266, Slovenian Research Agency ().
- December 2008: Microsoft Certificate for successfully completed course *Maintaining a Microsoft SQL Server 2005 Database*.
- November 2008: Microsoft Certificate for successfully completed course *Developing XML Web Services Using Microsoft ASP.NET*
- 2002 - 2004: Certificates for successfully finished year of studies with average grade 10.00 at the Faculty of Electrical Engineering, Ss. Cyril and Methodius University, Skopje, Macedonia.
- 2000 - 2005: Scholarship for talented university students from the Ministry of Education of the Republic of Macedonia.
- 1994 - 2000: Certificates and diplomas from state and regional competitions in Mathematics and Physics for high school students in Macedonia.

Memberships
- NESUS - *Network for Sustainable Ultrascale Computing* (COST IC1305), since August 2016.
- HiPEAC - *European Network on High Performance and Embedded Architecture and Compilation*, since February 2016.
- IEEE & IEEE Power & Energy Society, since December 2014.

Publications

Journal publications:
- Ceci, M., Corizzo, R., Malerba, D,, Rashkovska, A. (2019). Spatial autocorrelation and entropy for renewable energy forecasting. *Data mining and knowledge discovery*, doi: 10.1007/s10618-018-0605-7
- Ceci, M., Corizzo, R., Fumarola, F., Malerba, D., Rashkovska, A. (2016). Predictive modeling of PV energy production: how to set up the learning task for a better prediction?. *IEEE transactions on industrial informatics*, *13*, 956-966, doi: 10.1109/TII.2016.2604758
- Rashkovska, A., Kocev, D., Trobec, R. (2015). Non-invasive real-time prediction of inner knee temperatures during therapeutic cooling. *Computer methods and programs in biomedicine*, *122*, 136-148, doi: 10.1016/j.cmpb.2015.07.004.
- Kosec, G., Depolli, M., Rashkovska, A., & Trobec, R. (2014). Super linear speedup in a local parallel

meshless solution of thermo-fluid problem. *Computers & Structures, 133*, 30-38. doi: 10.1016/j.compstruc.2013.11.016.

- Trobec, R., Avbelj, V., & Rashkovska, A. (2014). Multi-functionality of wireless body sensors. *The IPSI BgD transactions on internet research, 10*, 23-27.
- Rashkovska, A., Trobec, R., Avbelj, V., & Veselko, M. (2013). Knee temperatures measured in vivo after arthroscopic ACL reconstruction followed by cryotherapy with gel-packs or computer controlled heat extraction. *Knee Surgery, Sports Traumatology, Arthroscopy*. doi:10.1007/s00167-013-2605-x.
- Tomašić, I., Rashkovska, A., Depolli, M., & Trobec, R. (2013). A comparison of Hadoop tools for analyzing tabular data. *Informatica, 37*, 131-138.
- Trobec, R., Rashkovska, A., & Avbelj, V. (2012). Two proximal skin electrodes - A respiration rate body sensor. *Sensors, 12*, 13813-13828.

Patents:

- Rashkovska, A., & Trobec, R. (2013). Method and device for non-invasive real-time control of inner body temperature variables during therapeutic cooling or heating (in Slovenian: Postopek in naprava za neinvazivno vodenje notranjih temperaturnih spremenljivk v realnem času med terapijo z ohlajanjem ali ogrevanjem). *Patent No. 24357.* Slovenia.
- Saldzievski, L., Ivanov, G., Rashkovski, D., Rashkovska, A., Saldzievski, M., & Blažev, J. (2006). System and devices for data collection to record the activities of students and teachers in educational institutions, according to the credit transfer syste. (in Macedonian: Систем и уреди за собирање на податоци за евиденција на активностите на учениците, студентите и наставниците во образовни институции, според кредит трансфер систем). *Patent No. 901795.* Macedonia.

Technology innovations:

- Trobec, R., Avbelj, V., Stanič, U., Depolli, M., Rashkovska, A., Tomašić, I., Krištofelc, T., Bregar, K., Kosec, G. (2015). System for mobile monitoring of vital physiological parameters and environmental context (In Slovenian: Sistem za mobilno spremljanje vitalnih fizioloških parametrov in konteksta okolja). Ljubljana, Institut Jožef Stefan.

Book chapters:

- Rashkovska, A., Trobec, R., Avbelj, V., Veselko, M. (2018). Efficacy of cryotherapy for pain control after anterior cruciate ligament reconstruction. In PRODROMOS, Chadwick C. (Ed.), *The anterior cruciate ligament : reconstruction and basic science.* 2nd ed. (pp. 207-210). Philadelphia: Elsevier.
- Rashkovska, A., Trobec, R., Depolli, M., & Kosec, G. (2012). 3-D numerical simulation of heat transfer in biomedical applications. In S. N. Kazi (Ed.), *Heat transfer phenomena and applications* (pp. 99-151). Rijeka: InTech.

Monographs:

- Trobec, R., Tomašić, I., Rashkovska, A., Depolli, M., Avbelj, V. (2018). *Body sensors and electrocardiography.* Springer Briefs in applied sciences and technology.

Conference and Workshop publications:

- Tomašić, I., Rashkovska, A., Trobec, R., Linden, M. The implications of the lead theory on the patch ECG devices positioning and measurement. *IFMBE proceedings: World Congress on Medical Physics and Biomedical Engineering 2018* (pp. 693-696). Singapore: Springer.
- Rashkovska, A., Avbelj, V. (2018). Three-year experience with a wireless ECG sensor. *Proceedings of MIPRO 2018: The 41st International Convention on Information and Communication Technology, Electronics and Microelectronics* (pp. 256-259). Rijeka: Croatian Society for Information and Communication Technology, Electronics and Microelectronics.
- Rashkovska, A., Avbelj, V. (2017). Abdominal Fetal ECG Measured With Differential ECG Sensor. *Proceedings of MIPRO 2017: The 40th International Convention on Information and Communication Technology, Electronics and Microelectronics* (pp. 308-310). Rijeka: Croatian Society for Information and Communication Technology, Electronics and Microelectronics.
- Rashkovska, A., Avbelj, V., Trobec, R. (2016). Wireless body sensor data analytics : challenges and approaches. *Proceedings of the 19th International Multiconference Information Society - IS 2016* (pp. 73-76). Ljubljana: Institut Jožef Stefan.
- Rashkovska, A., Kocev, D., Trobec, R. (2016). Clustering of heartbeats from ecg recordings obtained with wireless body sensors. *Proceedings of MIPRO 2016: The 39th International Convention on Information and Communication Technology, Electronics and Microelectronics* (pp. 481-486). Rijeka: Croatian Society for Information and Communication Technology, Electronics and Microelectronics.
- Rashkovska, A., Trobec, R. (2016). CE certification of wearable multifunctional body sensor. 4th Workshop on Transfer to Industry and Start-Ups – TISU, HiPEAC Conference.

- Kosec, G., Rashkovska, A., Trobec, R., Kosmač, J.(2016). Dynamic Thermal Rating of overhead power lines in icing conditions (DTRi). TETRACOM FP7 project - Poster session, HiPEAC Conference.
- Trobec, R., Rashkovska, A., Avbelj, V., Depolli, M., Krištofelc, T., Bregar, K., Simončič, B.(2016). Wearable Multifunctional Body Sensor (MedSens). TETRACOM FP7 project - Poster session, HiPEAC Conference.
- Ceci, M., Malerba, D., Manco, G., Masciari, E., Rashkovska, A. (2015). Big data techniques for supporting prediction of renewable energy production : testbed deployment case study. *EMENDER 2015 - energy managemENT Data ElaboRation*. Ljubljana: Institut Jožef Stefan.
- Ceci, M., Corizzo, R., Fumarola, F., Ianni, M., Malerba, D., Maria, G., Masciari, E., Oliverio, M., Rashkovska, A. (2015). Big data techniques for supporting accurate predictions of energy production from renewable sources. *Proceedings of the 19th International Database Engineering & Applications Symposium – IDEAS 2015* (pp. 62-71). New York: ACM = Association for Computing Machinery.
- Tomašić, I., Trobec, R., Rashkovska, A., Linden, M. (2015). Impact of electrode misplacement on the accuracy of 12-lead ECG synthesized from differential leads. *Proceedings of MIPRO 2015: The 38th International Convention on Information and Communication Technology, Electronics and Microelectronics* (pp. 384-388). Rijeka: Croatian Society for Information and Communication Technology, Electronics and Microelectronics.
- Ceci, M., Corizzo, R., Fumarola, F., Ianni, M., Malerba, D., Maria, G., Masciari, E., Oliverio, M., Rashkovska, A. (2015). VIPOC project research summary. *Proceedings of the 23rd Italian Symposium on Advanced Database Systems – SEBD 2015* (pp. 216-223).
- Rashkovska, A., Trobec, R., Mohorčič, M. (2015). Coexistence of wireless systems for remote monitoring of vital functions in the unlicensed ISM band. *Proceedings of the 8th International Conference on Health Informatics – HEALTHINF 2015* (pp. 628-633). SCITEPRESS = Science and Technology Publications.
- Rashkovska, A., Novljan, J., Smolnikar, M., Mohorčič, M., Fortuna, C. (2015). Online short-term forecasting of photovoltaic energy production. *Proceedings of the Sixth Conference on Innovative Smart Grid Technologies – ISGT2015* (pp. 17-20).
- Gjoreski, H., Rashkovska, A., Kozina, S., Luštrek, M., & Gams, M. (2014). Telehealth using ECG sensor and accelerometer. In P. Biljanović (Ed.), *Proceedings of MIPRO 2014: The 37th International Convention on Information and Communication Technology, Electronics and Microelectronics* (pp. 283-287). Rijeka: Croatian Society for Information and Communication Technology, Electronics and Microelectronics.
- Rashkovska, A., & Avbelj, V. (2013). Signal processing methods for ST variability assessment in ECG. In P. Biljanović (Ed.), *Proceedings of MIPRO 2013: The 36th International Convention on Information and Communication Technology, Electronics and Microelectronics* (pp. 355-358). Rijeka: Croatian Society for Information and Communication Technology, Electronics and Microelectronics.
- Tomašić, I., Rashkovska, A., & Depolli, M. (2013). Using Hadoop MapReduce in a multicluster environment. In P. Biljanović (Ed.), *Proceedings of MIPRO 2013: The 36th International Convention on Information and Communication Technology, Electronics and Microelectronics* (pp. 369-374). Rijeka: Croatian Society for Information and Communication Technology, Electronics and Microelectronics.
- Trobec, R., Rashkovska, A., & Avbelj, V. (2012). Multi-functional wireless body sensor. In G. Kreps, & P. Dini (Eds.), *Proceedings of Global Health 2012: The First International Conference on Global Health Challenges* (pp. 71-74).
- Tomašić, I., Ugovšek, J., Rashkovska, A., & Trobec, R. (2012). Multicluster Hadoop distributed file system. In P. Biljanović (Ed.), *Proceedings of MIPRO 2012: The 35th International Convention on Information and Communication Technology, Electronics and Microelectronics* (pp. 314-318). Rijeka: Croatian Society for Information and Communication Technology, Electronics and Microelectronics.
- Rashkovska, A., Tomašić, I., Bregar, K., & Trobec, R. (2012). Remote monitoring of vital functions - Proof-of-concept system. In P. Biljanović (Ed.), *Proceedings of MIPRO 2012: The 35th International Convention on Information and Communication Technology, Electronics and Microelectronics* (pp. 463-467). Rijeka: Croatian Society for Information and Communication Technology, Electronics and Microelectronics.
- Tomašić, I., Trobec, R., Rashkovska, A., Depolli, M., Mežnar, P., & Lipej, A. (2012). BigData and MapReduce with Hadoop. In R. Trobec (Ed.), *Proceedings of the 1st International Conference on CLoud Assisted ServiceS* (pp. 96-106). Ljubljana: Univerza v Ljubljani, Fakulteta za gradbeništvo in geodezijo, Komisija za informatiko, knjižničarstvo in založništvo.
- Rashkovska, A. (2011, December 14). Hybrid Cloud Storage (OpenStack Storage and AmazonS3). *OpenStack seminar: Open and safe in the cloud (in Slovenian: Odprto in varno v oblak)*. Ljubljana.
- Kosec, G., Trobec, R., Depolli, M., & Rashkovska, A. (2011). Multicore parallelization of a meshless PDE solver with OpenMP. In G. Haase, & M. Liebmann (Eds.), *Proceedings of ParNum '11* (pp. 58-69). Graz: University of Graz.
- Rashkovska, A., Tomašić, I., & Trobec, R. (2011). A telemedicine application: ECG data from wireless

body sensors on a smartphone. In P. Biljanović, & K. Skala (Eds.), *Proceedings of MIPRO 2011: The 34th International Convention on Information and Communication Technology, Electronics and Microelectronics* (Vol. 1, pp. 262-265). Rijeka: Croatian Society for Information and Communication Technology, Electronics and Microelectronics.

- Trobec, R., Avbelj, V., & Rashkovska, A. (2010). Evaluation of methods for ST variability assessment. *Scientific programme & book of abstracts from NEUROCARD 2010: The Second International Symposium on Neurocardiology* (pp. 77). Târgu Mureş: Târgu Mureş University Press.
- Rashkovska, A., & Trobec, R. (2010). e-ECTS: Electronic European Credit Transfer and Accumulation System - A case study from Macedonia. *Proceedings from NAEC 2010: The Networking and Electronic Commerce Research Conference* (pp. 99-103).
- Rashkovska, A., Trobec, R., Depolli, M., & Avbelj, V. (2010). Time and frequency analysis of non-uniform sampling. In P. Biljanović, & K. Skala (Eds.), *Proceedings of MIPRO 2010: The 33rd International Convention on Information and Communication Technology, Electronics and Microelectronics* (Vol. 1, pp. 269-273). Rijeka: Croatian Society for Information and Communication Technology, Electronics and Microelectronics.
- Rashkovska, A., Depolli, M., Tomašić, I., Avbelj, V., & Trobec, R. (2010, May19-21). Sensor networks in telemedicine and telecare. *Prosense workshop: Wireless sensor networks (WSN) and small medium enterprises (SME)*. Ljubljana.
- Kocev, D., & Rashkovska, A. (2005). Web application for testing of associative memory in humans (in Macedonian: Web апликација за испитување на асоцијативната меморија кај човекот). In M. J. Stankovski (Ed.), *Proceedings of ETAI 2005: VII National Conference with International Participation* (pp. 152-155). Ohrid: Society for Electronics, Telecommunications, Automatics and Informatics of the Republic of Macedonia.

Theses:
- Rashkovska, A. Real-time control of hidden system variables with application in therapeutic knee cooling. *Doctoral dissertation*. Jozef Stefan International Postgraduate School, Ljubljana, Slovenia, 2013.
- Rashkovska, A. Information system for support of the European Credit Transfer System at the Faculty of Law – Skopje (in Macedonian: Информационен систем за поддршка на Европскиот Кредит Трансфер Систем на Правниот факултет - Скопје). *Undergraduate thesis*. Faculty of Electrical Engineering, Skopje, Macedonia, 2006.

ANNEXES ▬

- The pdf files of the publications are available from the homepage http:// http://e6.ijs.si/~arashkovska/)