

ИМЕ И ПРЕЗИМЕ: ---Vesna Šešum-Čavić, Technische Universität Wien		
РАДОВИ У МЕЂУНАРОДНИМ ЧАСОПИСИМА		Ukupno 16 radova u medjunarodnim casopisima (strane 8 -9 u Prilogu).
РАДОВИ САОПШТЕНИ НА МЕЂУН. СКУПОВИМА		Ukupno 23 kompletno recenziranih radova (strane 10-11 u Prilogu).
РЕЗУЛТАТИ У РАЗВОЈУ ОБРАЗОВНО-НАУЧНЕ ОБЛАСТИ		<ul style="list-style-type: none"> • Pedagoski rad obuhvata 13 kurseva na osnovnim studijama i 4 master studijama (strana 5 u Prilogu), kao i mentorski rad sa studentima (strana 7 u Prilogu). • Profesionalne aktivnosti u okviru internacionalne akademske zajednice obuhvataju: <ul style="list-style-type: none"> • Chair of the IEEE Women in Computational Intelligence (2019) • Member of the IEEE CIS Member Activities Committee • Member of the Task Force on Bio-Inspired Self-Organizing Collective Systems • Member of the IEEE Computational Intelligence Society/ Women in Computational Intelligence • Member of the IEEE CIS Webinars sub-committee (2019) • Member of the IEEE Women in Engineering Committee (2019) • Ucesce u uredjivanju internacionalnih naucnih casopisa
ЦИТИРАНОСТ НАУЧНИХ РЕЗУЛТАТА		h-index 5
МЕЂУНАРОДНА РЕПУБЛИКАЦИЈА	ГОСТ УРЕДНИК МЕЂУНАРОДНОГ ЧАСОПИСА	Stalni AE zurnala --- Editorial Board member (Associate Editor) casopisa: <ul style="list-style-type: none"> • IEEE Open Journal of Intelligent Transportation Systems, • IEEE Transactions on Emerging Topics in Computational Intelligence

	<p>ПРЕДСЕДАВАО МЕЂУНАРОДНИМ НАУЧНИМ КОНФЕРЕНЦИЈАМА</p>	<ul style="list-style-type: none"> • Chair of the Keynote Presentation at the 11th International Joint Conference on Computational Intelligence IJCCI 2019 • Program Committee Member: <ul style="list-style-type: none"> ○ SEFM 2017 - International Conference on Software Engineering and Formal Methods ○ ICSEA 2018, ICSEA 2019, ICSEA 2020 - International Conference on Software Engineering Advances • Organization and Co-Chair of BI-OO-NET 2017 - International Workshop on Bio-Inspired Network Optimization • Organization of SEFM 2016 - International Conference on Software Engineering and Formal Methods & Publicity Chair & Program Committee Member & Chair of the session Verification • Organization of European Meeting on Cybernetics and Systems Research EMSCR Conference & Chair of the session Biologically and Socially Inspired Self-* Systems, Symposium L. Self-* Systems Biological Foundations and Technological Applications, 21st European Meeting on Cybernetics and Systems Research EMSCR 2012 Conference • Paper Peer Reviewer of journal: IEEE Transactions on Evolutionary Computation (Impact Factor 8.5) • Project Peer Reviewer of the Science Fund of the Republic of Serbia • Paper Peer Reviewer of conferences: COORDINATION 2014, COORDINATION 2015, COORDINATION 2018, SEFM 2016, SEFM 2017, ICSEA 2018, ICSEA 2019, ICSEA 2020.
	<p>ЧЛАНСТВО У УРЕЂИВАЧКИМ ОДБОРИМА МЕЂУНАРОДНИХ НАУЧНИХ ЧАСОПИСА</p>	<ul style="list-style-type: none"> • Editorial Board member (Associate Editor) casopisa: <ul style="list-style-type: none"> ○ IEEE Open Journal of Intelligent Transportation Systems, ○ IEEE Transactions on Emerging Topics in Computational Intelligence

	<p>АУТОР МЕЂУНАРОДНЕ МОНОГРАФИЈЕ</p>	<ul style="list-style-type: none"> • Vorotović G., Petrović N., Mitrović Č., Šešum-Čavić V. Possibilities of BLOB (Binary Large Object) and CLOB (Character Large Object) integration into the core of IoT and using the SQL platform for distributing a large amount of data to HTML, JAVA and php platforms, Emerging Trends and Applications of the Internet of Things, (editors: Kocovic P., Behringer R., Ramachandran M., Mihajlovic R.), book chapter, IGI Global, 2017. • Šešum -Čavić V., Kühn E. Self-Organized Load Balancing through Swarm Intelligence, Next Generation Data Technologies for Collective Computational Intelligence, Studies in Computational Intelligence, Springer Verlag, book chapter, 352:195-224, 2011.
<p>НАПОМЕНА</p>		<p>Detaljna biografija je data u prilogu.</p>

CURRICULUM VITAE

Name: Vesna Šešum-Čavić

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Education:

Graduation as “Dipl. Math” (Diplom Mathematician)

(Belgrade University, Faculty of Mathematics, Belgrade, Serbia)

Graduation as “Mag. Computer Science” (Magister of Computer Sciences)

(Belgrade University, Faculty of Mathematics, Belgrade, Serbia)

Graduation as “Dr. techn” (Doctor of Technical Sciences)

(Technische Universität Wien – TU Wien, Faculty of Informatics, Vienna, Austria)

Employment:

1995 – 2006 Teaching Assistant at the Department of Mathematics,
Faculty of Mechanical Engineering, University of Belgrade,

1995 – 1996 &
2001 – 2005 Teaching Assistant at the Department of Mathematics,
Faculty of Forestry, University of Belgrade

2006 – 2010 University and Research Assistant at the Institute of Computer
Languages, Faculty of Informatics, TU Wien

2011 – University Lecturer in Mathematics and Informatics Module,
LBS University of Applied Sciences, Wien

2011 – 2013 Academic Dean at MIU International University Vienna

2011 – Principal Scientist and University Lecturer, research group Space
Based Computing – Compilers and Languages, Institute of
Information System Engineering, Faculty of Informatics, TU Wien

Academic Experience¹ (teaching):*Courses - Informatics:*

- Swarm-Based Metaheuristics
- Theory and Application of Algorithms
- Algorithms and Data Structures
- Optimization Methods
- Simulation and Modelling
- Computer Networks and Web Applications
- Introduction to Information Systems
- Business Information Systems
- Management Information Systems
- IT Advanced 1 & 2
- IT Specialized 1 & 2
- Programming Languages

Courses - Mathematics:

- Mathematics for Finance/Marketing
- Mathematics for Economics and Business 1
- Mathematics for Economics and Business 2
- Mathematics 1, 2 & 3

Courses - Statistics:

- Econometrics

Research Interests:

theory and design of algorithms, combinatorial optimization, artificial intelligence, swarm intelligence, complex systems, self-organization, multi-agent systems, network optimization, scalable distributed systems.

¹ Lectures are delivered in *English, German* and *Serbian*.

Membership

- **Chair** of the IEEE Women in Computational Intelligence (2019)
<https://cis.ieee.org/getting-involved/women-in-ci>
- **Member** of the IEEE CIS Member Activities Committee
<https://cis.ieee.org/about/members-activities-committee>
- **Member** of the Task Force on Bio-Inspired Self-Organizing Collective Systems
- **Member** of the IEEE Computational Intelligence Society/ Women in Computational Intelligence
- **Member** of the IEEE CIS Webinars sub-committee (2019)
- **Member** of the IEEE Women in Engineering Committee (2019)

Editorial Board & Review Activities

- **Editorial Board member (Associate Editor)** of journal: IEEE Open Journal of Intelligent Transportation Systems, IEEE Transactions on Emerging Topics in Computational Intelligence
- **Paper Peer Reviewer** of journal: IEEE Transactions on Evolutionary Computation (Impact Factor 8.5)
- **Project Peer Reviewer** of the Science Fund of the Republic of Serbia
- **Paper Peer Reviewer** of conferences: COORDINATION 2014, COORDINATION 2015, COORDINATION 2018, SEFM 2016, SEFM 2017, ICSEA 2018, ICSEA 2019, ICSEA 2020.

Academic Events

- **Keynote Speaker** at the 11th International Joint Conference on Computational Intelligence IJCCI 2019
- **Chair of the Keynote Presentation** at the 11th International Joint Conference on Computational Intelligence IJCCI 2019
- **Program Committee Member:**
 - SEFM 2017 - International Conference on Software Engineering and Formal Methods
 - ICSEA 2018, ICSEA 2019, ICSEA 2020 - International Conference on Software Engineering Advances

- Organization and **Co-Chair** of BI-OO-NET 2017 - International Workshop on Bio-Inspired Network Optimization
- Organization of SEFM 2016 - International Conference on Software Engineering and Formal Methods & **Publicity Chair & Program Committee Member & Chair of the session** Verification
- Organization of European Meeting on Cybernetics and Systems Research EMSCR Conference & **Chair of the session** Biologically and Socially Inspired Self-* Systems, Symposium L. Self-* Systems Biological Foundations and Technological Applications, 21st European Meeting on Cybernetics and Systems Research EMSCR 2012 Conference

Students Supervising

- Decentralized Unstructured Flat P2P Network with Streaming Content Delivery Method and User Collaboration, Daniel Dimchev Kanev, Diploma Thesis, TU-Vienna, 2015 (co-mentoring with Eva Kühn).
- A Coordination-Based Framework for Routing Algorithms in Unstructured Peer-to-Peer Networks, Stefan Zischka, Diploma Thesis, TU-Vienna, 2017 (co-mentoring with Eva Kühn).
- Peer Model Based and Actor Model Based Frameworks for Search Algorithms in Unstructured Peer-to-Peer Networks, Lukas Fleischhacker, TU-Vienna, 2019 (co-mentoring with Eva Kühn).
- Self-Initiative Peer-Clustering Agents, Laura Fagagnini, Diploma Thesis – in work, TU-Vienna (co-mentoring with Eva Kühn).
- CRM and ERP software systems improving customer satisfaction and loyalty, Ivo Fillipi, Bachelor Work, 2015 (mentoring).
- Direct response Internet Marketing, Tamir Israely, 2017 (mentoring).
- Applications of the blockchain technology beyond Bitcoin, Anastasia Tyuleneva, 2020 (mentoring).
- Machine learning in business: productivity, decision making and jobs, Owen Hankey, 2020 (mentoring).

Publications

Journals

- Šešum-Čavić V. A Survey of Swarm-Inspired Metaheuristics in P2P Systems: Some Theoretical Considerations and Hybrid Forms, *International Journal of Swarm Intelligence*, in press.
- Kühn E., Šešum-Čavić V. A Framework-Based Approach for Flexible Evaluation of Swarm-Intelligent Algorithms, *Women in Computational Intelligence*, Springer, in press.
- Šešum-Čavić V. Handling Complexity in Some Typical Problems of Distributed Systems by Using Self-Organizing Principles, *Studies in Computational Intelligence*, Springer, in press.
- Šešum-Čavić V., Kühn E., Fleischhacker L. Efficient Search and Lookup in Unstructured P2P Overlay Networks inspired by Swarm Intelligence, *IEEE Transactions on Emerging Topics in Computational Intelligence*, 4 (3):351-368, 2020.
- Šešum-Čavić V., Crockett K., Auephanwiriyakul S., Srinivasan D. The Role of the WCI Community in the IEEE CIM, *IEEE Computational Intelligence Magazine* (Impact Factor 5.8), 14(4), 2019.
- Kühn E., Craß S., Binder J., Šešum-Čavić V. XVSM Micro-Room Process Modeler, *International Journal of Cooperative Information Systems* (Impact Factor 0.528), 28(2), 1950004, 2019.
- Radenovic S., Kastriot Z., Dedovic N., Šešum-Čavić V., Ansari A.H. Bhaskar-Guo-Lakshmikantam- Ciric type results via new functions with applications to integral equations, *Applied Mathematics and Computation*, (Impact Factor 2.3), 357:75-87, 2019.
- Lazovic G., Šešum-Čavić V., Mitrovic S., Radojevic S., Dedovic N., Chaudhary N.I. Safety Times for Multi-Stage Assembly System, *Mathematical Problems in Engineering* (Impact Factor 1.145), vol. 2018, Article ID 8208049, 10 pages, 2018.
- Aydi H., Barakat M.A., Mitrovic Z., Šešum-Čavić V. A Suzuki Type Multi-Valued Contraction on Weak Partial Metric Spaces and Applications, *Journal of Inequalities and Applications*, 2018:270 (Impact Factor 0.966), 2018.
- Šešum-Čavić V., Kühn E., Zischka S. Swarm-Inspired Routing Algorithms for Unstructured P2P Networks, *International Journal of Swarm Intelligence Research*, IJSIR: 9(3), Article 2, (E SCI), 2018.
- Vujaković J., Auwalu A., Šešum-Čavić V. Some New Results for Reich Type Mappings on Cone B-Metric Spaces Over Banach Algebras, *University Thought - Publication in Natural Sciences*, 8(2), 2018.
- Ahmed A., Salunke J. N., Šešum-Čavić V. Some new results for generalized T-contractions in cone s-generalized b-metric space over Banach algebra, *Journal of Advanced Mathematical Studies*, 2018.

- Radenovic S., Ansari A.H., Saleem N., Dosenovic T., Šešum-Čavić V., Vujakovic J. C-class Functions on Some Fixed Point Results in Ordered Partial Metric Spaces via Admissible Mappings, NS Journal of Mathematics (NSJOM), 2018.
- Šešum-Čavić V., Kühn E., Kanev D. Bio-Inspired Search Algorithms for Unstructured P2P Overlay Networks, Swarm and Evolutionary Computation (Impact Factor 3.818) 29:73-93, Elsevier, 2016.
- Šešum V., Tosić D. Genetic Algorithms and Smoothing Filters in Solving the Geophysical Inversion Problem, YU Journal of Operational Research, 12(2): 215-226, 2002.
- Šešum V., Kratica J., Tosić D. Solving the Geophysical Inversion Problem Using Genetic Algorithms, YU Journal of Operational Research, 10(2): 283-292, 2000.

Books / Book Chapters:

- Vorotović G., Petrović N., Mitrović Č., Šešum-Čavić V. Possibilities of BLOB (Binary Large Object) and CLOB (Character Large Object) integration into the core of IoT and using the SQL platform for distributing a large amount of data to HTML, JAVA and php platforms, Emerging Trends and Applications of the Internet of Things, (editors: Kocovic P., Behringer R., Ramachandran M., Mihajlovic R.), book chapter, IGI Global, 2017.
- Šešum -Čavić V., Kühn E. Self-Organized Load Balancing through Swarm Intelligence, Next Generation Data Technologies for Collective Computational Intelligence, Studies in Computational Intelligence, Springer Verlag, book chapter, 352:195-224, 2011.
- Arandjelović I., Lazović G., Šešum V., Jandrić A., Golubović D. Introduction to Fortran, Vedes, Belgrade, ISBN: 2006ISBN867824030X, 2006.

Invited Talks / Keynote Lectures:

- Šešum-Čavić V. Swarm Intelligence in Distributed Systems Use-cases, Keynote Lecture, 11th International Joint Conference on Computational Intelligence IJCCI, 2019.
- Šešum-Čavić V. Self-Organizing Principles in Coping with Complexity of Distributed Software Systems, invited talk, Institute of Science and Technology Austria (IST), 2013.
- Šešum-Čavić V. Bio-Inspired Intelligence in Coping with Complexity of Distributed Software Systems, Webinar, IEEE CIS, 2019.

Conferences:

- Craß S., Kühn E., Šešum-Čavić V., Watzke H. An Open Event-Driven Architecture for Reactive Programming and Lifecycle Management in Space-Based Middleware, Euromicro Conference on Software Engineering and Advanced Applications SEAA, Vienna, Austria, 2017.
- Kühn E., Šešum-Čavić V., Schmid T. Dynamic Migration of Cloud Services, 3rd Symposium on Network Cloud Computing and Applications, IEEE NCCA, Rome, Italy, 2014.
- Craß S., Hirsch J., Kühn E., Šešum-Čavić V. Modeling a Flexible Replication Framework for Space-Based Computing, Communications in Computer and Information Science (CCIS), Software Technologies, 457: 256-272, Springer Verlag, 2014.
- Mitrović Č., Petrović N., Vorotović G., Šešum-Čavić V., Stamenković D. A numerical-analytical method for determination of the impedance of rotating structures by using the software module, 39th Conference of Maintenance of Machines and Equipments (OMO'14), Faculty of Mechanical Engineering, Belgrade, Serbia, 2014.
- Craß S., Hirsch J., Kühn E., Šešum-Čavić V. An Adaptive and Flexible Replication Mechanism for Space Based Computing, International Conference of Software and Data Technology, Reykjavik, Iceland, 2013.
- Šešum-Čavić V., Kühn E. Algorithms and Framework for Comparison of Bee-Intelligence Based Peer-to-Peer Lookup, 4th International Conference on Swarm Intelligence (ICSI 2013), Harbin, China, 2013; Lecture Notes in Computer Science, Advanced in Swarm Intelligence, vol. 7928, pp. 404-413, 2013.
- Šešum-Čavić V., Tuba M., Rankov S. The Influence of Self-Organization on Reducing Complexity in Dynamic Complex Environments, 12th WSEAS International Conference on Artificial Intelligence, Knowledge Engineering and Data Bases (AIKED '13), Cambridge, UK, 2013.
- Kühn E., Marek A., Scheller T., Šešum-Čavić V., Vögler M. A Space-Based Generic Pattern for Self-Initiative Load Clustering Agents, 14th International Conference on Coordination Models and Languages, Sweden, 2012.
- Šešum-Čavić V., Tuba M., Rankov S. Self-Organization in Reducing Complexity of Dynamic Complex Environments, 21st European Meeting on Cybernetics and Systems Research, Vienna, 2012.
- Šešum-Čavić V., Kühn E. Comparing configurable parameters of swarm intelligence algorithms for dynamic load balancing, IEEE International Workshop Self-Adaptive Network, IEEE/SASO/SAN 2010, Budapest, Hungary, 2010.

- Šešum-Čavić V., Kühn E. Applying swarm intelligence algorithms for dynamic load balancing to a Cloud Based Call Center, 4th IEEE International Conference on Self-Adaptive and Self-Organizing Systems, IEEE/SASO 2010, Budapest, Hungary, 2010.
- Šešum-Čavić V., Kühn E. A Swarm Intelligence Appliance to the Construction of an Intelligent Peer-to-Peer Overlay Network, 4th International Conference on Complex, Intelligent and Software Intensive Systems, Poland, 2010.
- Kühn E., Šešum-Čavić V. A Space-Based Generic Pattern for Self-Initiative Load Balancing Agents, Engineering Societies in the Agents World, Netherlands, 2009; Lecture Notes in Computer Science, Engineering Societies in the Agents World X, vol. 5881, 17-32, 2009.
- Šešum-Čavić V., Kühn E. Peer-to-Peer Overlay Network based on Swarm Intelligence, Engineering Societies in the Agents World, Netherlands, 2009; Lecture Notes in Computer Science, Engineering Societies in the Agents World X, vol. 5881, 65-67, 2009.
- Šešum-Čavić V., Kühn E. Instantiation of a Generic Model for Load Balancing with Intelligent Algorithms, 3rd International Workshop on Self-Organizing Systems, Austria, 2008; Lecture Notes in Computer Science, Self-Organizing Systems, vol. 5343, 311-317, 2008.
- Kühn E., Ruhdorfer A., Šešum-Čavić V. Asynchronous replication conflict classification, detection and resolution for heterogeneous data grids, International Conference of Software and Data Technology, Spain, 2007.
- Šešum V., Cvetković D. Genetic Algorithms for Internet Search: Examining the Sensitivity of Internet Search by Varying the Relevant Components of Genetic Algorithm, Proceedings of the International Conference on Advances in Infrastructure for E-Business, Science, and Education on the Internet, Italy, 2002.
- Šešum V., Kratica J. Some mathematic methods of solving the geophysical inversion problem, 25th Jupiter Conference, 2.61-2.66, Belgrade, 1999.
- Kratica J., Ljubić I., Šešum V., Filipović V. Some methods of solving the travelling salesperson problem using genetic algorithms, 2nd International Symposium of Industrial Engineering SIE'98, pp. 281-284, Belgrade, 1998.
- Kratica J., Radojević S., Šešum V. A method of improving the execution time of simple genetic algorithm, 23th Jupiter Conference, 457-462, Belgrade, 1997.
- Šešum V., Kratica J., Radojević S. Parallelisation of algorithms for solving systems of linear equations, 23th Jupiter Conference, 447-452, Belgrade, 1997.
- Kratica J., Filipović V., Šešum V., Tošić D. Solving of the Uncapacitated Warehouse Location Problem Using a Simple Genetic Algorithm, 14th International Conference on Material Handling and Warehousing, 3.33-3.37, Belgrade, 1996.
- Šešum V. Parallel algorithms for solving linear equations, Symposium SinfoN'96, 3, Serbia, 1996.

Technical Reports

- Kühn E., Šešum-Čavić V. Self-Organizing Coordinating Management Infrastructures for the Supervision of SLAs in Legacy Service Software, Technical Report TU-Vienna, E185/1, SBC-Group, 2007.
- Šešum-Čavić V., Kühn E., Lazović G. On Some Theoretical Considerations for Peer-to-Peer Overlay Network based on Bee Intelligence, Technical Report TU-Vienna, E185/1, SBC-Group, 2011.
- Šešum-Čavić V., Kühn E. Peer-to-Peer Lookup Based on Slime Mold Intelligence, Technical Report TU-Vienna, E185/1, SBC-Group, 2013.
- Šešum-Čavić V., Kühn E. Towards a General Methodology for Design, Implementation, Evaluation and Recommendation Process for Bio-Inspired Algorithms, Technical Report TU-Vienna, E185/1, SBC-Group, 2014.

Projects

- "Sensor System Bahn" funded by: FFG Mobilität der Zukunft, 2016-
- "Radar Based Infrastr. Monitoring System" funded by FFG Mobilität der Zukunft, 2013-2015
- "Coordination Middleware for Wireless Networks of Low Power Nodes" funded by FFG Bridge 2012-2014
- "A Secure Space for Collaborative Security Services" funded by FFG FIT-IT, 2010-2012
- "SWIS" funded by FFG, 2006-2007