Dr. Milica Petrović

Personal data

Address:
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Faculty of Mechanical Engineering,
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Nationality:
Serbian

Date of birth:
August 28th, 1986

Research or academic title

Associate Professor

Research field/area

Mechanical engineering / Intelligent Manufacturing Systems and Processes, Process Planning & Scheduling, Optimization Algorithms, Combinatorial Optimization, Swarm Intelligence & Evolutionary Computation, Machine Learning & Artificial Intelligence, Neural Networks, Robotics, Multi-agent systems, Decision-making methods, Manufacturing technologies.

Education

2016 — **Doctor of technical science (PhD-Mech.Eng.)**
University of Belgrade - Faculty of Mechanical Engineering,
Department of Production Engineering
Dissertation title: Design of intelligent manufacturing systems by using artificial intelligence

2010 — **Master of Science (M.Sc.) in Mechanical Engineering**
University of Belgrade - Faculty of Mechanical Engineering,
Department of Production Engineering
Thesis title: Towards the development of intelligent manufacturing systems in the domain of internal material transport based on machine learning

2008 — **Bachelor of Science (B.Sc.) in Mechanical Engineering**
University of Belgrade - Faculty of Mechanical Engineering,
Department of Production Engineering
Thesis title: Analysis of the possibility of using automatically guided vehicles in the flexible manufacturing system for cans production

Employment

May 2011 – Present — **Associate Professor (since September 2021)**
University of Belgrade - Faculty of Mechanical Engineering,
Department of Production Engineering
Laboratory for Industrial Robotics and Artificial Intelligence (ROBOTICS & AI)

Jan. 2011 – Apr. 2011 — **Junior Research Assistant**
University of Belgrade - Faculty of Mechanical Engineering,
Department of Production Engineering

Awards and prizes

- BEST (Board of European Students of Technology) Award (2017); Rodoljub Niciforovic Foundation Award for Best Dissertation (2016); Best Presentation Award (2011); Best Master Thesis Award (2011); Five Best student awards

Languages

Serbian, English, Russian, Spanish

Skills

- Microsoft Office (Word, Excel, PowerPoint, Access, Visio), LaTeX, AutoCAD, SolidWorks, MATLAB, Mathematica, Fortran, AnyLogic, TRIZ, CorelDRAW, Dreamweaver;
- Robots programming;
- External expert (2019-) assisting to „Research Executive Agency - REA“ (Established by European Commission);
- Expert of the National Science Centre – Poland for the evaluation of proposals (2019-).

Number of citations (excluded self-citations)

391

Hirsch index

8

Certificates

- Expert Systems with Applications; IEEE Access; Applied Soft Computing; Swarm Intelligence; Swarm and Evolutionary Computation; International Journal of Advanced Manufacturing Technology; Flexible Services and Manufacturing; International Journal of Computer Integrated Manufacturing; International Journal of Simulation Modelling; Engineering Optimization; Processes; Mathematical Problems in Engineering; Technical Gazette; IEEE Symposium Series on Computational Intelligence.

(2006, 2007, 2008, 2009, 2010); two Vuk Stefanovic Karadzic Awards (2001, 2005);

- Postdoctoral Scholarship (2019); Scholarships awarded by the Belgrade student association (2011-2013); Young Talents Fund Scholarship of the Serbian Government (2009-2010); Scholarships awarded by the „Seine et Sava“ Association, Paris, France (2007-2011); Scholarships for undergraduate/graduate students from Serbian Ministry for Science and Technology (2005-2009); Scholarships of the Serbian Government (2001-2005);

Publications (selected)

1. Mitić,M., Vuković,N., Petrović,M., Miljković,Z., **Chaotic fruit fly optimization algorithm**, *Knowledge-Based Systems* (ISSN 0950-7051), Vol. 89, pp. 446-458, Elsevier BV, Netherlands, November 2015. (Online first published on 22 August 2015; DOI: 10.1016/j.knosys.2015.08.010), http://www.sciencedirect.com/science/article/pii/S0950705115003147 (**Science Citation Index-Web of Science® – IF = 3,325 (2015); source KoBSON**)
2. Petrović,M., Vuković,N., Mitić,M., Miljković,Z., **Integration of process planning and scheduling using chaotic particle swarm optimization algorithm**, Journal *Expert Systems with Applications* (ISSN 0957-4174), Vol. 64, pp. 569-588, Elsevier, December 2016. (Available online: 4 August 2016; DOI: 10.1016/j.eswa. 2016.08.019), https://doi.org/10.1016/j.eswa.2016.08.019 (**Science Citation Index-Web of Science® – IF = 3,928 (2016)**; source **KoBSON**)
3. Vuković,N., Petrović,M., Miljković,Z., **A comprehensive experimental evaluation of orthogonal polynomial expanded random vector functional link neural networks for regression**, *Applied Soft Computing* (ISSN 1568-4946), Special Issue: *Non-Iterative Learning*, Vol. 70, pp. 1083-1096, September 2018, Elsevier, https://www.sciencedirect.com/science/article/pii/S1568494617306154 (Available online: 12 October 2017; DOI: 10.1016/j.asoc.2017.10.010; https://doi.org/10.1016/j.asoc.2017.10.010) (**Science Citation Index-Web of Science® – IF = 4.873 (2018)**; source **KoBSON**)
4. Mitić,M., Vuković,N., Petrović,M., Miljković,Z., **Chaotic metaheuristic algorithms for learning**

Products, services (datasets, software, technical solutions)

1. Jokić, A., Petrović, M., Miljković, Z., **Visual servoing control of mobile robot in manufacturing environment based on camera,** Technical solutions, UB - FME, Belgrade, Serbia, 2018.
2. Petrovic, M., Miljkovic, Z., Vukovic, N., **Optimization of flexible process planning by using Ant Lion Optimization algorithm**. Technical solutions, UB - FME, Belgrade, Serbia, 2016.
3. Petrovic, M., Petronijevic, J., Mitic, M., Vukovic, N., Miljkovic, Z., Babic, B., **Integrated process planning and scheduling based on particle swarm optimization algorithm and chaos theory**. Technical solutions, UB - FME, Belgrade, Serbia, 2015.
4. Petrovic, M., Petronijevic, J., Vukovic, N., Mitic, M., Miljkovic, Z., Babic, B., **Integrated process planning and scheduling based on multi-agent systems and artificial intelligence**. Technical solutions, UB - FME, Belgrade, Serbia, December 2014.
5. Petrovic, M., Miljkovic, Z., Vukovic, N., Babic, B., Petronijevic, J., **Optimization of flexible process planning based on hybrid metaheuristic algorithm.** Technical solutions, UB - FME, Belgrade, Serbia, December 2013.

and reproduction of robot motion trajectories, *Neural Computing and Applications* (ISSN 0941-0643), Vol. 30 Issue: 4, pp. 1065-1083, August 2018, Springer-Verlag London Ltd., United Kingdom, (First Online: 03 December 2016; DOI: 10.1007/s00521-016-2717-6), http://link.springer.com/article/10.1007/s00521-016-2717-6 (**Science Citation Index-Web of Science® – IF = 4,664 (2018); source KoBSON**)

5. Petrović,M., Miljković,Z., Jokić,A., **A novel methodology for optimal single mobile robot scheduling using whale optimization algorithm**, *Applied Soft Computing* (ISSN 1568-4946), Vol. 81, pp. In Press (105520), August 2019, Elsevier, https://doi.org/10.1016/j.asoc.2019.105520 (Available online: 23 May 2019) (**Science Citation Index-Web of Science® – IF = 4.873 (2018),** source **KoBSON**)

Projects and activities (selected)

2017–2018 Babić, B., Miljković, Z. and Petrović, M., ***Information technologies in production engineering***, Project within program activity "Development of Higher Education", Ministry of Education, Science and Technological Development of the Government of the Republic of Serbia.

2011-2019 Babić, B., Miljković, Z., Petrović, M., et al. ***An innovative, ecologically based approach to the implementation of intelligent manufacturing systems for the production of sheet metal parts,***
Grant: TR-35004,
Project funded by the Ministry of Education, Science and Technological Development of the Government of the Republic of Serbia.