CURRICULUM VITAE
asst. prof. dr. ALEŠ ZAMUDA

Family name, First name: **Zamuda, Aleš**   Date of birth: 23. 4. 1982   Nationality: Slovenian

Researcher unique identifier(s): ORCID **0000-0002-3340-5624**, Research ID E-9728-2010

Web site: **http://www.aleszamuda.si**, **http://labraj.feri.um.si/~ales**

MEMBER: Institute of Electrical and Electronics Engineers (IEEE) - IEEE is the world's largest association of technical professionals with more than 400,000 members in chapters around the world
(integration in international networks)

SCIENTIFIC CITATIONS - Scientific excellence of the academic work
> SCOPUS: **416** (h-index 11), Google Scholar: **759** (h-index 14, i-10 index 19)

EDUCATION - Potential of the candidate

2012	Ph. D. in computer science, University of Maribor (UM), Slovenia
2008	M. Sc. in computer science, University of Maribor (UM), Slovenia
2006	B. Sc. in computer science, University of Maribor (UM), Slovenia

WORK POSITIONS - Potential of the candidate

2014 –	**Assistant Professor** (Docent),UM, Faculty of Electrical Engineering and Computer Science
2006 –	Teaching Assistant, UM, Faculty of Electrical Engineering and Computer Science
before 2006	student-paid works (laboratories at UM and other companies), see http://cv.aleszamuda.si

FELLOWSHIPS AND AWARDS - Scientific excellence and innovative approach of the academic work

2016	**Danubius Young Scientist Award, IDM (Austria)**
2012	gold medal at **SIIF, Seoul** (2012)
2011	most important scientific results of national research programme P2-0041 at UM FEECS
2012	most important socio-economic results of national research programme P2-0041
2007–2010	several Top 5 rankings at **IEEE** CEC world competitions on Evolutionary Algorithms;
2007	**IEEE Region 8 Student Paper Competition vice champion**
2008	Andrej Perlach UM research award
2006–2014	**four UM FEECS research awards**; UM bronze award for research, education, and profession
2006 –	research group member: 0796-001 Computer Architecture and Languages Laboratory
2007 –	international research society member: **IEEE Computational Intelligence Society**
other	several other national awards (available at http://aleszamuda.si/w/awards)

NATIONAL AND INTERNATIONAL TEACHING ACTIVITIES - Potential of the candidate

2006 –	University of Maribor, FEECS, courses 1) Connectible Systems and Intelligent Services, 2) Heterogeneous Computer Systems, 3) Programming I, 4) System Administration, 5) Computer Architectures, 6) Application Services; advised 8-course pedagogic team projects Network Games and Mobile Games (natioanl TV filmed), resulting in over dozen advised B. Sc. student diplomas.
2012/13/15/16	ERASMUS invited lecturer at University of Las Palmas de Gran Canaria, Spain
2013	ERASMUS invited lecturer at University of Alicante, Spain

ARTICLE PUBLICATIONS IN JOURNALS - Scientific excellence and innovative approach of the academic work, Thematic relevance of the scientific work for issues / problems of the Danube region / Central Europe, Relevance of the scientific work beyond the national borders, Potential of the candidate

1. [APEN2015] GLOTIĆ, Arnel, **ZAMUDA, Aleš**. Short-term combined economic and emission hydrothermal optimization by surrogate differential evolution. Applied energy, ISSN 0306-2619, 1 March 2015, vol. 141, pp. 42-56, doi: 10.1016/j.apenergy.2014.12.020. [COBISS ID18347030]   **JCR IF=5.613 (Q1)**

Relevance of the scientific work beyond the national borders: The co-author is now affiliated at Siemens, Austria (Power System Planning, Scheduling and Forecasting)

Thematic relevance of the scientific work for issues/problems of the Danube region: this study covers the issue of energy scheduling in Danube region, with emphasis on hydrothermal power plants, water reservoirs balancing, and consideration of thermal power plant pollution minimization at combined energy production on state level

2. [INS2014] **ZAMUDA, Aleš**, BREST, Janez. Vectorized procedural models for animated trees reconstruction using differential evolution. Information sciences, ISSN 0020-0255. [Print ed.], Sep. 2014, vol. 278, pp. 1-21, doi: 10.1016/j.ins.2014.04.037. [COBISS.SI-ID 17793558]   **JCR IF=4.038 (Q1)**

3. [INS2013] **ZAMUDA, Aleš**, BREST, Janez. Environmental framework to visualize emergent artificial forest ecosystems. Information sciences, ISSN 0020-0255. [Print ed.], Jan. 2013, vol. 220, pp. 522-540, doi: 10.1016/j.ins.2012.07.031. [COBISS.SI-ID 16157206]   **JCR IF=3.893 (Q1)**

4. [SWEVO2015] ZAMUDA, Aleš, BREST, Janez. Self-adaptive control parameters' randomization frequency and propagations in differential evolution. Swarm and evolutionary computation, ISSN 2210-6502, Dec. 2015, vol. 25, pp. 72-99, doi: 10.1016/j.swevo.2015.10.007. [COBISS.SI-ID 19030550]   **ScienceDirect HOT25**   **JCR IF= 2.963 (Q1)**

5. [ASOC2016] **ZAMUDA, Aleš**, HERNÁNDEZ SOSA, José Daniel, ADLER, Leonhard. Constrained differential evolution optimization for underwater glider path planning in sub-mesoscale eddy sampling. Applied soft computing, ISSN 1568-4946. May 2016, vol. 42, pp. 93-118, doi: 10.1016/j.asoc.2016.01.038. [COBISS.SI-ID 19316502]
Relevance of the scientific work beyond the national borders: EU-scale collaboration   **JCR IF=2.810 (Q1)**

6. [ASOC2014] **ZAMUDA, Aleš**, HERNÁNDEZ SOSA, José Daniel. Differential evolution and underwater glider path planning applied to the short-term opportunistic sampling of dynamic mesoscale ocean structures. Applied soft computing, ISSN 1568-4946, Nov. 2014, vol. 24, pp. 95-108, doi: 10.1016/j.asoc.2014.06.048. [COBISS.SI-ID 17953046]
Relevance of the scientific work beyond the national borders   **JCR IF=2.810 (Q1)**

7. [ASOC2011] **ZAMUDA, Aleš**, BREST, Janez, BOŠKOVIĆ, Borko, ŽUMER, Viljem. Differential evolution for parameterized procedural woody plant models reconstruction. Applied soft computing, ISSN 1568-4946, 2011, vol. 11, iss. 8, pp. 4904-4912, doi: 10.1016/j.asoc.2011.06.009. [COBISS.SI-ID 15175446]   **JCR IF=2.612 (Q1)**

8. [IJSS2013] BREST, Janez, KOROŠEC, Peter, ŠILC, Jurij, **ZAMUDA, Aleš**, BOŠKOVIĆ, Borko, SEPESY MAUČEC, Mirjam. Differential evolution and differential ant-stigmergy on dynamic optimisation problems. International Journal of Systems Science, ISSN 0020-7721, 2013, vol. 44, no. 4, pp. 663-679, doi: 10.1080/00207721.2011.617899. [COBISS.SI-ID 15354390]   **JCR IF=1.579 (Q1)**

9. [SOCO2011] BOŠKOVIĆ, Borko, BREST, Janez, **ZAMUDA, Aleš**, GREINER, Sašo, ŽUMER, Viljem. History mechanism supported differential evolution for chess evaluation function tuning. Soft computing, ISSN 1432-7643. 2011, vol. 15, no. 4, pp. 667-683, doi: 10.1007/s00500-010-0593-z. [COBISS.SI-ID 13985046]   **JCR IF=1.880 (Q1)**

10. [FRAI2016] H. Hamann, Y. Khaluf, J. Botev, M. Divband Soorati, E. Ferrante, O. Kosak, J.-M. Montanier, S. Mostaghim, R. Redpath, J. Timmis, F. Veenstra, M. Wahby, A. Zamuda. Hybrid Societies: Challenges and Perspectives in the Design of Collective Behavior in Self-organizing Systems. Frontiers in Robotics and AI (**editors: ZAMUDA, A**., HERNÁNDEZ SOSA, J. D.,), 2016, vol. 3, no. 14. DOI 10.3389/frobt.2016.00014.   **(JCR pending, 2000+ reads/month)**

Relevance of the scientific work beyond the national borders: [FRAI2016] - EU-scale collaboration, with highly cited authors, several also from Danube region; participation in scientific projects – this work was done under EU FET grant, project "Florarobotica", granted to first author (H. Hamann)

11. [INF2015] ZAMUDA, Aleš, MLAKAR, Uroš. Differential evolution control parameters study for self-adaptive triangular brushstrokes. Informatica, ISSN 0350-5596, June 2015, vol. 39, no. 2, pp. 105-113. [COBISS.SI-ID 18828310]**(JCR indexed)**

SELECTED SCIENTIFIC INTERNATIONAL CONFERENCES PUBLICATIONS

Relevance of the scientific work beyond the national borders

1. [WCCI2016a] **ZAMUDA, Aleš**, HERNÁNDEZ SOSA, José Daniel, ADLER, Leonhard. Improving Constrained Glider Trajectories for Ocean Eddy Border Sampling within Extended Mission Planning Time. IEEE World Congress on Computational Intelligence (**IEEE** WCCI), **Vancouver, Canada**, 24-29 July 2016, pp. 1727-1734.

2. [WCCI2016b] **ZAMUDA, Aleš**, MLAKAR, U. Tiled EvoLisa Image Evolution With Blending Triangle Brushstrokes and Gene Compression DE. **IEEE** World Congress on Computational Intelligence, **Vancouver, Canada**, 24-29 July 2016, pp. 2618-2625.

3. [EUROCAST2015] **ZAMUDA, Aleš**, HERNÁNDEZ SOSA, José Daniel. Underwater glider path planning and population reduction in differential evolution. V: QUESADA-ARENCIBIA, Alexis (ed.). EUROCAST 2015: Fifteenth International Conference on Computer aided systems theory, February 8-13, 2015, **Las Palmas de Gran Canaria, Spain**. [S. l.: s. n., 2015], pp. 274-275.

4. [SDE2014] BREST, Janez, **ZAMUDA, Aleš**, FISTER, Iztok, BOŠKOVIĆ, Borko. Some improvements of the self-adaptive jDE algorithm. V: IEEE Symposium on differential evolution, SDE 2014, December 9-12, 2014, **Orlando, Florida, U.S.A**. 2014 **IEEE** symposium series on computational intelligence : proceedings. Piscataway: IEEE, cop. 2014, pp. 73-80. [COBISS.SI-ID 18361622]

5. [BIOMA2014] MLAKAR, Uroš, BREST, Janez, **ZAMUDA, Aleš**. Differential evolution for self-adaptive triangular brushstrokes. V: Student Workshop on Bioinspired Optimization Methods and their Applications - BIOMA 2014, 13 September 2014, Ljubljana. ŠILC, Jurij (ur.), ZAMUDA, Aleš (ur.). Bioinspired optimization methods and their applications : proceedings of the Student Workshop on Bioinspired Optimization Methods and their Applications - BIOMA 2014, 13 September 2014, Ljubljana, Slovenia. Ljubljana: Jožef Stefan Institute, 2014, pp. 105-116. [COBISS.SI-ID 18089494]

6. [CEC2013a] **ZAMUDA, Aleš**, BREST, Janez, MEZURA-MONTES, Efrén. Structured population size reduction differential evolution with multiple mutation strategies on CEC 2013 real parameter optimization. V: [2013 IEEE CEC], June 20-23, 2013, **Cancun, Mexico**. **IEEE** Congress on Evolutionary Computation. [S. l.]: IEEE, cop. 2013, pp. 1925-1931. [COBISS.SI-ID 17008150]
Relevance of the scientific work beyond the national borders – collaboration with co-author from Mexico

7. [CEC2013b] BREST, Janez, BOŠKOVIĆ, Borko, **ZAMUDA, Aleš**, FISTER, Iztok, MEZURA-MONTES, Efrén. Real parameter single objective optimization using self-adaptive differential evolution algorithm with more strategies. V: [2013 IEEE CEC], June 20-23, 2013, **Cancun, Mexico**. **IEEE** Congress on Evolutionary Computation. [S. l.]: IEEE, cop. 2013, pp. 377-383. [COBISS 17007126]

8. [CEC2012a] **ZAMUDA, Aleš**, BREST, Janez. Tree model reconstruction innovization using multi-objective differential evolution. V: **IEEE** World Congress on Computational Intelligence, **Brisbane, Australia**. IEEE WCCI 2012. [S. l.: IEEE, 2012], IEEE CEC, pp. 575-582. [COBISS.SI-ID 16116758]

9. [CEC2012b] BREST, Janez, BOŠKOVIĆ, Borko, **ZAMUDA, Aleš**, FISTER, Iztok, SEPESY MAUČEC, Mirjam. Self-adaptive differential evolution algorithm with a small and varying population size. V: IEEE World Congress on Computational Intelligence, **Brisbane,**

Australia. **IEEE** WCCI 2012. [S. l.: IEEE, 2012], iEEE CEC, pp. 2827-2834. [COBISS.SI-ID 16116502]

10. [SDE2011] BREST, Janez, **ZAMUDA, Aleš**, FISTER, Iztok, BOŠKOVIĆ, Borko, SEPESYa MAUČEC, Mirjam. Constrained real-parameter optimization using a differential evolution algorithm. V: **IEEE** SSCI2011 symposium series on computational intelligence, **Paris, France**: proceedings. Piscataway: IEEE, cop. 2011, pp. 9-16. [COBISS.SI-ID 14952214]

11. [BIOMA2010] **ZAMUDA, Aleš**, BREST, Janez, BOŠKOVIĆ, Borko, ŽUMER, Viljem. Woody plants model recognition by differential evolution. V: FILIPIČ, Bogdan (ur.), ŠILC, Jurij (ur.). Bioinspired optimization methods and their applications : proceedings of the Fourth International Conference on Bioinspired Optimization Methods and their Applications, BIOMA 2010, 20-21 May 2010, Ljubljana, Slovenia. Ljubljana: Jožef Stefan Institute, 2010, pp. 205-215. [COBISS.SI-ID 14126102]

12. [CEC2010] BREST, Janez, **ZAMUDA, Aleš**, FISTER, Iztok, SEPESY MAUČEC, Mirjam. Large scale global optimization using self-adaptive differential evolution algorithm. V: **IEEE** World Congress on Computational Intelligence, **Barcelona, Spain**, July 18-23, 2010. WCCI 2010 Proceedings. [S. l.]: IEEE, cop. 2010, CEC IEEE, pp. 3097-3104. [COBISS.SI-ID 14281238]

13. [CEC2009a] **ZAMUDA, Aleš**, BREST, Janez, BOŠKOVIĆ, Borko, ŽUMER, Viljem. Differential evolution with self-adaptation and local search for constrained multiobjective optimization. V: 2009 **IEEE** Congress on Evolutionary Computation, IEEE CEC 2009, 18th to 21st May 2009, **Trondheim, Norway**: programme & abstracts. Piscataway: IEEE, 2009, pp. 195-202. [COBISS.SI-ID 13217558]

14. [CEC2009b] BREST, Janez, **ZAMUDA, Aleš**, BOŠKOVIĆ, Borko, SEPESY MAUČEC, Mirjam, ŽUMER, Viljem. Dynamic optimization using self-adaptive differential evolution. V: 2009 IEEE Congress on Evolutionary Computation, **IEEE** CEC 2009, 18th to 21st May 2009, **Trondheim, Norway**: programme & abstracts. Piscataway: IEEE, 2009, pp. 415-422. [COBISS.SI-ID 13217814]

AWARD: IEEE Computational Intelligence Society CEC 2009 Evolutionary computation in dynamic and uncertain environments competition Winning entry certificate

15. [BIOMA2008] BREST, Janez, **ZAMUDA, Aleš**, BOŠKOVIĆ, Borko, GREINER, Sašo, SEPESY MAUČEC, Mirjam, ŽUMER, Viljem. Self-adaptive differential evolution with SQP local search. V: FILIPIČ, Bogdan (ur.), ŠILC, Jurij (ur.). Bioinspired optimization methods and their applications: proceedings of the Third International Conference on Bioinspired Optimization Methods and their Applications, BIOMA 2008, 13-14 October 2008, Ljubljana, Slovenia. Ljubljana: Jožef Stefan Institute, 2008, pp. 59-69. [COBISS.SI-ID 12707862]

16. [CEC2008a] BREST, Janez, **ZAMUDA, Aleš**, BOŠKOVIĆ, Borko, SEPESY MAUČEC, Mirjam, ŽUMER, Viljem. High-dimensional real-parameter optimization using self-adaptive differential evolution algorithm with population size reduction. V: **IEEE** World Congress on Computational Intelligence, **Hong Kong**, June 1-6, 2008. WCCI 2008 Proceedings. [S. l.]: IEEE, 2008, pp. 2032-2039. [COBISS.SI-ID 12328982]

17. [CEC2008b] **ZAMUDA, Aleš**, BREST, Janez, BOŠKOVIĆ, Borko, ŽUMER, Viljem. Large scale global optimization using differential evolution with self-adaptation and cooperative co-evolution. V: **IEEE** World Congress on Computational Intelligence, **Hong Kong**, June 1-6, 2008. WCCI 2008 Proceedings. [S. l.]: IEEE, 2008, pp. 3719-3726. [COBISS.SI-ID 12329238]

18. [CEC2007] **ZAMUDA, Aleš**, BREST, Janez, BOŠKOVIĆ, Borko, ŽUMER, Viljem. Differential evolution for multiobjective optimization with self adaptation. V: CEC 2007: 2007 **IEEE** Congress on Evolutionary Computation : 25-28 September 2007, **Singapore**. Piscataway: Institute of Electrical and Electronics Engineers, 2007, pp. 3617-3624. [COBISS.SI-ID 11730710]

19. [EUROCON2007] **ZAMUDA, Aleš**, BREST, Janez, GUID, Nikola, ŽUMER, Viljem. Modelling, simulation and visualisation of forest ecosystems. V: The International Conference on Computer as a tool, **Warsaw, Poland**, September 9-12, 2007. Region 8 Eurocon 2007: proceedings. Piscataway, NJ: **IEEE** Service Center, [2007], pp. 2600-2606. [COBISS.SI-ID 11643926]

AWARD: "IEEE certifies that Aleš Zamuda has been awarded second place in the 2007 Region 8 Student paper competition for presentation"

20. [VIPSI2006] **ZAMUDA, Aleš**, BREST, Janez, GUID, Nikola, ŽUMER, Viljem. Construction of virtual trees within ecosystems with ecomod tool. V: International Conference on Advances in the Internet, Processing, Systems and Interdisciplinary Research, Bled, November 30-December 3, 2006. Proceedings of the VIPSI-2006 Slovenia: Multidisciplinary, Interdisciplinary, Transdisciplinary: M+I+T++, Bled Slovenia, November 30-December 3, 2006. **Belgrade**: IPSI, 2006, [5] f. [COBISS-ID 11005206]

OTHER PUBLICATIONS 20+ national slovenian publications and other book chapter publications

Reviewer for scientific journals (most JCR Q1, 30+ journals) - integration in international networks:

Applied soft computing, **Engineering applications of artificial intelligence**, **IEEE Transactions on evolutionary computation**, **Natural computing**, **Neural computing & applications**, **Neurocomputing**, **Swarm and evolutionary computation**, **Applied energy**, **Applied mathematical modelling**, **IEEE Transactions on cybernetics**, **Information sciences**, **International Journal of Biodeversity and Conservation**, **Mathematical problems in engineering**, **Remote sensing**, **Soft computing**, **African journal of business management**, **Applied mathematics and computation**, **Computational optimization and applications**, **Indian Journal of Engineering & Materials Sciences**, **Informatica**, **Journal of algorithms and optimization**, **Journal of Applied Mathematics**, **Journal of computers**, **Journal of Ecology and the Natural Environment**, **European journal of operational research**, **IEEE Transactions on industrial electronics**, **IEEE Transactions on systems, man and cybernetics**, **IEEE computational intelligence magazine**, **Journal of software engineering and applications**, **Memetic computing**, **International Journal of Systems Science**, **Journal of industrial and management optimization** - the ISSN numbers are available at http://bib.aleszamuda.si.

50+ scientific conferences committees member - integration in international networks:

AR4MET (**Bali**: 2015; **Batam** 2016), BIOMA (Ljubljana: 2014, 2016), CEC (**Singapore**: 2007; **Hong Kong**: 2008; **Trondheim**: 2009; **Barcelona**: 2010; **New Orleans**: 2011; **Vancouver**: 2016), CSOC (On-line: 2015, 2016), ERK (Portorose: 2010), EUROGEN (**Glasgow**: 2015), FABE (**Mykonos Island**: 2015), FUTURECOMP (**Venice**: 2014; **Nice**: 2015; **Rome**: 2016), IACIET (**Jaipur**: 2014), ICACCI (**Greater Noida**: 2014; **Aluva**: 2015), ICAISC (**Zakopane**: 2014, 2015, 2016), ICCME (**Athens**: 2015), ICEM (**Rome**: 2010; **Marseille**: 2012), ICIT (**Dubai**: 2014), ICOA (2015), IPIC (**Orlando**: 2015), ISNN (**Saint Petersburg**: 2016), PPSN (Ljubljana: 2014; **Edinburgh**: 2016), SASO FAS*W SOCO (**Augsburg**, 2016), SEMCCO (**Chennai**: 2010, 2011), SIRS (**Trivandrum**: 2015), SPICES (2015), SSCI SDE (**Paris**: 2011; **Singapore**: 2013; **Orlando**: 2014; **Cape Town**: 2015), WMSCI (**Orlando**: 2015, 2016).