

PERSONAL INFORMATION



Irena Ištoka Otković

📍 Ulica Vladimira Preloga 3, 31000 Osijek (Croatia)

☎ +385 31 544 683 📠 ++385 91 224 07 49 ; +385 91 522 08 19

✉ iirena@gfos.hr

🌐 <http://www.gfos.unios.hr/portal/index.php/fakultet/djelatnici/istoka-otkovic-irena.html>

🌐 <https://bib.irb.hr/lista-radova?autor=288381>

Sex Female | Date of birth 12 May 1967 | Nationality Croatian

WORK EXPERIENCE

-
- 01/03/2018 – Present **Associate Professor**
Faculty of Civil Engineering and Architecture Osijek, Department for Geotechnics, Transportation and Geodesy, Osijek (Croatia)
Scientific and teaching activities in the area - road, traffic simulation and modelling, urban traffic, traffic infrastructure, traffic safety, airports, expert systems
- 13/12/2012 – 01/03/2018 **Assistant Professor**
Faculty of Civil Engineering Osijek, Osijek (Croatia)
Teaching and researching in the field of computer science, traffic modelling and simulation, urban road design, road maintenance, airports
- 01/06/2011-12/12/2012 **Senior Teaching and Research Assistant**
Faculty of Civil Engineering Osijek, Osijek (Croatia)
Teaching and researching in the field of computer science, traffic modelling and simulation
- 01/07/2006-31/05/2011 **Teaching and Research Assistant**
Faculty of Civil Engineering Osijek, Osijek (Croatia)
Teaching and researching in the field of computer science, traffic modelling and simulation
- 01/03/2000 – 30/06/2006 **Expert assistant**
City of Osijek, Franje Kuhača 9, 31000 Osijek, Croatia
Maintenance of roads and public urban areas
- 01/11/1994 –29/02/2000 **Expert assistant**
The Highway Institute, Belgrade, Kumodraška 257, 11000 Belgrade, Serbia
Exploring the impact of traffic on the roads and the environment and design of protective structures

EDUCATION AND TRAINING

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- 19/03/2019 – 20/03/2019 **Changes in engineering education, education within the InterStruct project**
Faculty of Civil Engineering and Architecture Osijek
- 12/02/2018–16/02/2018 **Academic Teaching Excellence course (35-hour)**
British Council, Osijek (Croatia)
- 06/03/2017 – 08/03/2017 **Education "Civil Engineering Applications of Ground Penetrating Radar" organized by COST Action TU 1208**
Faculty of Civil Engineering Osijek, Osijek (Croatia)

- 2014–Present **Regular annual professional development programs for authorized persons to perform energy audits and energy certification of buildings and energy audits of public lighting system**
Faculty of Civil Engineering Osijek, Osijek (Croatia)
- 24/08/2013 – 05/09/2013 **Programme for Authorized persons to perform energy audits and energy certification of buildings with simple technical systems**
Faculty of Civil Engineering Osijek, Osijek (Croatia)
- 16/04/2013–17/04/2013 **Professional Training for Window and Door Measurement System and BlowerDoor**
BlowerDoor GmbH MessSysteme fur Luftdichtheit, Energie und Umweltzentrum, Springe-Eldagsen (Germany)
- 01/11/2008 – 26/05/2011 **Ph.D. in Civil Engineering**
Faculty of Civil Engineering, University of Maribor
Dissertation: *Application of neural networks in calibration of microsimulation model in analysis and design of urban roundabouts*
- 01/10/2009 – 01/02/2010 **Pedagogical-psychological and didactic-methodical education**
Faculty of Teacher Education Osijek, Osijek (Croatia)
- 1994-2005 **Master of science**
University of Belgrade, Faculty of Civil Engineering
- 1994-2005 **Civil engineering (dipl.ing.grad)**
University of Belgrade, Faculty of Civil Engineering

PERSONAL SKILLS

Mother tongue(s) Croatian

Other language(s)

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

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2: Proficient user
[Common European Framework of Reference for Languages](http://www.cerl.eu)

Communication skills Great communications skills through rich experience with teaching students for more than fourteen years. Member of the Lions Club NCLC "Kuna" Osijek - humanitarian work in local community

Organisational / managerial skills Developed organizational and coordination skills through work on a variety of professional and scientific jobs

Job-related skills Ability and a desire to learn; Organizational effectiveness; Ability to get along with others; Continuing personal development; Innovative problem solving; Positive Attitude; Flexibility/Adaptability; Driving License

Computer skills Excellent computer skills, ability to work in AutoCAD, Microsoft Office (Word, Excel, PowerPoint and MS Project), MATLAB, Expert Systems- Simulation traffic models (VISUM, VISSIM, VisWalk), NeuroShell2, statistical tools

ADDITIONAL INFORMATION

- Scientific Personal Identification Number 288381
- Published books**
- Ištoka Otković, Irena; Koški, Željko; Zagvozda, Martina. Tehničko crtanje s primjenom AutoCAD-a . Osijek : Građevinski fakultet Sveučilišta J.J. Strossmayera u Osijeku, 2015. Sveučilišni udžbenik/ University textbook ((ISBN 978-953-6962-46-4, CIP 140223054)
- Klem, Nikola; Koški, Željko; Ištoka Otković, Irena. *Tehničko crtanje i CAD* / Lončar-Vicković, Sanja (ur.). Osijek : Građevinski fakultet Osijek, 2008. Sveučilišni udžbenik/ University textbook. (ISBN 978-953-6962-23-5, CIP 120323098)
- Book Chapter**
- Krstić, Hrvoje; Lukić, Ivan; Teni, Mihaela; Ištoka Otković, Irena; Koški, Željko; Radonjanin, Vlastimir; Malešev, Mirjana. Utjecaj zrakopropusnosti na energetska učinkovitost zgrada // Izazovi u graditeljstvu 4 / Lakušić, Stjepan (ur.). Zagreb : Hrvatski savez građevinskih inženjera, 2017. Str. 262-297.
- Other publications**
- Netinger, Ivanka; Dolaček-Alduk, Zlata; Ištoka Otković, Irena. *Simulacija rada u ispitnom laboratoriju - Priručnik za radionicu/ Simulation of Work in Test Laboratory - Workshop Manual* . Osijek : Faculty of Electrical Engineering, Computer Science and Information Technology Osijek,, 2014.
- Fülöp, László; Koški Željko; Ištoka Otković, Irena; Krstić, Hrvoje; Magyar, Zoltán; Španić, Martina; Scientific brochure, *Air tightness investigation of rooms from the point of view of energy and comfort*, European project titled Air tightness investigation of rooms from the point of view of energy and comfort in the frame of Hungary-Croatia IPACross-border Cooperation Program 2007-2013, Osijek, 2013.
- Papers**
- Gruden, Chiara; Ištoka Otković, Irena; Šraml, Matjaž Neural Networks Applied to Microsimulation: A Prediction Model for Pedestrian Crossing Time // Sustainability, 12 (2020), 13; 5355, 22 doi:10.3390/su12135355 (međunarodna recenzija, članak, znanstveni)
- Ištoka Otković, Irena. *A Model to Predict Children's Reaction Time at Signalized Intersections* // Safety, 6 (2020), 2; 22, 15 doi:10.3390/safety6020022
- Zrakić, Ivana; Ištoka Otković, Irena. Optimization of the Urban Highway Acceleration Lane Length Using Traffic Simulations // Pomorski zbornik, **57** (2019), 143-160
- Tollazzi, Tomaž; Mauro, Raffaele; Cilionien, Daiva; Ištoka Otković, Irena; Stamatiadis, Nikiforos. Modern Roundabouts: A Challenge of the Future. // Special issue published in Journal of Advanced Transportation. 2019 (2019) ; 1-2 (editorial), doi.org/10.1155/2019/3950891
- Ištoka Otković, Irena. Primjena mikrosimulacijskih modela u prometnim analizama. // Put plus, Regionalni almanah niskogradnje i saobraćaja. 4-2017/2018 (2017) ; 92-96 (pregledni rad, znanstveni). <http://www.buildplus.rs/Almanah%20Put%20Plus%202017.pdf>
- Timko, Tatjana; Ištoka Otković, Irena. Comparison of different heliport solutions for the Clinical hospital center in Osijek. // The Electronic Journal of the Faculty of Civil Engineering Osijek e-GFOS. 14(2017); 58-67 <http://dx.doi.org/10.13167//2017.14.7>
- Krstić, Hrvoje; Ištoka Otković, Irena; Piotr, Kosiński; Wójcik, Robert. Validation of Neural Network Model for Predicting Airtightness of Residential and Non- residential Units in Poland. // Energy & Buildings. 133C (2016) ; 423-432 <http://dx.doi.org/10.1016/j.enbuild.2016.10.011>
- Ištoka Otković, Irena; Varevac, Damir; Šraml, Matjaž. Analysis of neural network responses in calibration of microsimulation traffic model. // The Electronic Journal of the Faculty of Civil Engineering Osijek e-GFOS. 10 (2015) ; 67-76, <http://dx.doi.org/10.13167/2015.10.8>
- Kolak, Ivan; Ištoka Otković, Irena; Barišić, Ivana. Using a microsimulation traffic model to compare two-lane and turbo-roundabouts. // The Electronic Journal of the Faculty of Civil Engineering Osijek e-GFOS.11 (2015) ; 71-80 <http://dx.doi.org/10.13167/2015.11.8>
- Krstić, Hrvoje; Ištoka Otković, Irena; Todorović, Goran. Validation of a model for predicting airtightness of residential units. // Energy Procedia, Proceedings of the 6th IBPC. 6th International Building Physics Conference, IBPC 2015. Torino, Italy. 78 (2015) ; 1525-1530 doi:10.1016/j.egypro.2015.11.182
- Miličević, Ivana; Ištoka Otković, Irena; Koški, Željko. Experimental design applied to modeling of the

air-tightness of a building. // The Electronic Journal of the Faculty of Civil Engineering Osijek e-GFOS. 4(2015) , 10; 41-46 (članak, znanstveni) <http://dx.doi.org/10.13167/2015.10.5>

Krstić Hrvoje; Koški Željko; Ištoka Otković Irena; Španić Martina. Application of Neural Networks in Predicting Airtightness of Residential Units, Energy and Buildings 84 (2014); 160-168; <http://dx.doi.org/10.1016/j.enbuild.2014.08.007>

Ištoka Otković, Irena; Tollazzi, Tomaž; Šraml, Matjaž. Calibration of microsimulation traffic model using neural network approach, Expert systems with applications. 40 (2013), 15; 5965-5974, <http://dx.doi.org/10.1016/j.eswa.2013.05.003>

Ištoka Otković, Irena; Tollazzi, Tomaž; Šraml, Matjaž. Analysis of the influence of car-following input parameters on the modelled travelling time.//Tehnički vjesnik-Technical Gazette. 20 (2013),5, 919-925

Koški, Željko; Ištoka Otković, Irena; Miličević, Ivana. Klasifikacija elemenata zgrada u funkciji mjerenja zrakopropusnosti (Classification of building elements as a function of air permeability measurements). // Građevinar : journal of the Croatian Association of Civil Engineers. 65 (2013), 3; 222-233

Marević, Martina; Ištoka Otković, Irena. Zakonski okviri i planiranje gospodarenja cestama (Legal frameworks and planning of road management). // Electronic journal of Faculty of civil engineering Osijek e-GFOS 4 (2012) ; 83-92

Ištoka Otković, Irena; Dadić, Ivan. Comparison of Delays at Signal-Controlled Intersection and Roundabout. // Promet - Traffic & Transportation. 21 (2009) , 3; 157-165

Ištoka Otković, Irena. Modeliranje kapaciteta kružnih raskrižja u Osijeku (Capacity modelling of roundabouts in Osijek). // Tehnički vjesnik- Technical Gazette. 15 (2008) , 3; 41-47

Conferences

Ištoka Otković, Irena; Deluka-Tibljaš, Aleksandra; Šurdonja, Sanja. *Validation of the calibration methodology of the micro-simulation traffic model* // Transport Infrastructure and systems in a changing world. Towards a more sustainable, reliable and smarter mobility. TIS Roma 2019 Conference Proceedings / Ignaccolo, Matteo ; Tiboni, Michela (ur.). Rim, Italija: Elsevier BV, 2020. str. 684-691 doi:10.1016/j.trpro.2020.02.110

Ištoka Otković, I., Deluka-Tibljaš, A., Šurdonja, S., Canale, A., Tesoriere, G., Campisi, T. *Analyses of factors influencing children behaviour while crossing the conflict zones at urban intersections* // Pedestrians, Urban Spaces and Health: Proceedings of the XXIV International Conference on Living and Walking in Cities (LWC, September 12-13, 2019, Brescia, Italy)

Ištoka Otković, Irena; Varevac, Damir. Application of microsimulation in analysis of the traffic load of the bridge // Road and Rail Infrastructure V / Lakušić, Stjepan (ur.), Zagreb : Tiskara Zelina, 2018. 1325-1331

Galić, Mario; Barišić, Ivana; Ištoka Otković, Irena. Route Reliability Based Simulation Model for HMA Delivery in Urban Areas // Procedia Engineering / Bureika, Gintautas ; Yatskiv Jackiva, Irina ; Prentkovskis, Olegas ; Maruschak, Pavlo (ur.). Vilnius, Lithuania : Elsevier, 2017. 378-386

Ištoka Otković, Irena; Ručević, Silvija; Borovac, Tijana; Marschhauser, Max; Jeremić, Kristina. Analysis of the results of traffic participants' time of reaction research for prevention of traffic insecurity // 6th International Scientific Symposium Economy of Eastern Croatia – Vision and Growth / Mašek Tonković, Anka (ur.). Osijek : Studio HS internet d.o.o., Osijek, 2017. 826-835

Gracin, Šime; Ištoka Otković, Irena. Assessment of cycling infrastructure within the urban transport network of the city of Osijek // 6th International Scientific Symposium Economy of Eastern Croatia – Vision and Growth / Mašek Tonković, Anka (ur.). Osijek : Studio HS internet d.o.o., Osijek, 2017. 798-807

Ištoka Otković, Irena; Ručević, Silvija; Borovac, Tijana. Pedestrian safety of children in an urban transportation network – research review // 5th International Scientific Symposium „Economy of Eastern Croatia – Vision and Growth” / Mašek Tonković, Anka (ur.). Osijek : Sveučilište J. J. Strossmayera u Osijeku, Ekonomski fakultet u Osijeku, 2016. 405-413

Ištoka Otković, Irena; Šraml, Matjaž. Evaluation of the calibrated microsimulation traffic model by using queue parameters // Road and Rail Infrastructure IV / Lakušić, Stjepan (ur.). Zagreb : Tiskara Zelina,

2016. 59-65

Ištoka Otković, Irena; Maričić, Siniša. Comparison of simulation results obtained by calibrated and non-calibrated microsimulation traffic model // 35th Conference on Transportation Systems with International Participation AUTOMATION IN TRANSPORTATION 2015 / Željko Šakić (ur.). Zagreb : KoREMA, Zagreb, 2015. 13-16

Ištoka Otković, Irena; Zagvozda, Martina. Aspects of Traffic Safety of Two-lane Roundabout, in: Anka Mašek Tonković (Ed), 4th International Scientific Symposium: Economy of Eastern Croatia – Vision and Growth, University of Osijek, Faculty of Economics in Osijek, Osijek, 2015, 780-788

Ištoka Otković, Irena; Zagvozda, Martina; Šraml, Matjaž. Comparison between modelled and measured traveling time in urban roundabouts, in: Lakušić, Stjepan (Ed), Road and Rail Infrastructure III (CETRA III), Građevinski fakultet Zagreb, Zagreb, 2014, 269-274

Bošnjak, Nataša; Brkanić, Ivana; Ištoka Otković, Irena. Transition of rural into urban space on the example of Višnjevac, in: Anka Mašek Tonković (Ed), 3rd International Scientific Symposium: Economy of Eastern Croatia–Vision and Growth, Ekonomski fakultet u Osijeku, Osijek, 2014, 218-225

Ištoka Otković, Irena; Krstić, Hrvoje; Zagvozda, Martina. The Comparison between the Risk Perception of Drivers and Statistic Indicators of Traffic Safety in the Analysis of Effects of Reconstruction of Selected Urban Intersections, 26th ICTCT Workshop in Maribor, October 24th & 25th 2013, Maribor, Slovenia

Ištoka Otković, Irena; Bošnjak, Nataša; Brkanić, Ivana. Analysis of Intrinsic and Extrinsic Motivation Impact on Achievement of First-Year Civil Engineering Students in Osijek // 2nd International Scientific Symposium Economy of Eastern Croatia - Yesterday, Today, Tomorrow / Mašek Tonković, Anka (ur.). Osijek : University of Osijek, Faculty of Economics in Osijek, 2013. 300-307

Ištoka Otković, Irena. Analysis of Average Delays of Roundabout Vinkovačka - Drinska in Osijek // 1st International scientific symposium economy of eastern Croatia – yesterday, today, tomorrow / Prof.dr.sc. Anka Mašek Tonković (ur.). Osijek : Studio HS internet d.o.o. Osijek, 2012. 158-163

Ištoka Otković, Irena. Assessment of intersection reconstruction impact through capacity analysis // Proceedings of the 2nd International scientific meeting: State and trends of civil engineering – GTZ 2012, Tuzla, Bosnia and Herzegovina / Doc.dr.sc. Adnan Ibrahimović, Doc.dr.sc. Damir Zenunović (ur.). Tuzla : IN SCAN d.o.o. Tuzla, 2012. 937-946

Presentations

Ištoka Otković, Irena. *Pedestrian traffic safety of children in urban traffic network*. 5th International Summer School 2018: Urban Mobility, Palermo, Italy, 03 – 07. September 2018.

Ištoka Otković, Irena. *Comparison of simulation results obtained by calibrated and non-calibrated VISSIM*. PTV User Group Meeting, Zagreb, 2016

Ištoka Otković, Irena. *Application of microsimulation models*. 4th International Summer School 2016, Maribor, 2016.

Ištoka Otković, Irena. *The application of neural networks to optimize the input parameters of VISSIM* // 2nd User Group Meeting PTV Southeast Europe, Ljubljana, Slovenia, 2010

Ištoka Otković, Irena. *Methods of measuring airtightness - theoretic approach*, 2013, Mid-term Conference Airtightness, Osijek, April 29, 2013.

Ištoka Otković, Irena, Koški, Željko. *Results of Airtightness Measurements - Summary and Recommendations for Further Research*, 2013, Closing Conference Airtightness, Pecs, June 28, 2013.

Projects

Project leader (Croatia) – International scientific research project - Croatian-Slovenian cooperation: Development of prediction model of pedestrian children behaviour in the urban transport network,

funded by Ministry of Science and Education, Republic of Croatia, 2020-2021.

Participant of project – project: Internationalization of Higher Education, entitled "International Study Program Structures resistant to extreme loads - Resilient Structures – InterStruct“, funded through the European Social Foundation

Project leader – project: Mikrosimulacijsko modeliranje pješačkog kretranja djece (Microsimulation Modelling of Pedestrian Movement of Children), funded by Faculty of Civil Engineering Osijek, 2016-2018

Participant of project titled Razvoj i primjena Hrvatskog kvalifikacijskog okvira u području visokog obrazovanja građevinskih inženjera, 2015 -2016, financed by European social Fund (ESF).

Participant of European project titled Strengthening women's position in the labour market, IPA IV, Human Resource Development, 2013-2015

Participant of European project titled Air tightness investigation of rooms from the point of view of energy and comfort in the frame of Hungary-Croatia IPACross-border Cooperation Program 2007-2013 (Air Tightness, HUHR/1001/2.1.3/0009).

Journal/proceedings editor

Member of editorial board of The Electronic Journal of the Faculty of Civil Engineering Osijek e-GFOS (2014-2018, Web of Science)

Guest editor of Special Issue: Modern Roundabouts: A Challenge of the Future, Journal of Advanced Transportation (2018-2019, Web of Science, SCOPUS)

Honours and awards

Faculty of Civil Engineering, University of Belgrade, Institute of Roads and Geotechnics for the best success in study (for students who graduated in 1994 in the department of roads and railways)

The award of the Road Serbia Association for the best thesis in the academic year 1994 / 1995
Thesis: *Rehabilitation of road construction on the section of the regional road R-100 Belgrade - Smederevo.*

Memberships

Member of the Croatian Association of Civil Engineers - Society of Civil Engineers Osijek

New Century Lions club-a «Kuna», Osijek

CROSBİ

[https://www.bib.irb.hr/pretraga/?operators=and||%C5%A1toka%20Otkovi%C4%87,%20Irena%20\(30737\)|text|profile&pub_type=authorship](https://www.bib.irb.hr/pretraga/?operators=and||%C5%A1toka%20Otkovi%C4%87,%20Irena%20(30737)|text|profile&pub_type=authorship)

ORCID

<https://orcid.org/0000-0003-3650-2021>

Google Scholar

<https://scholar.google.com/citations?hl=hr&user=HyWI09cAAAAJ>