




## PERSONAL INFORMATION



## Nikola Tomasevic

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Sex Male | Date of birth 04/12/1983 | Nationality Republic of Serbia

## WORK EXPERIENCE

2021-Present

**Scientific Director**

Institute Mihajlo Pupin, Belgrade, Serbia

<http://www.pupin.rs/en/>

- Definition and realization of R&D strategic objectives of the Institute (identification of suitable national and EU funding programmes; planning and quality control of ongoing R&D projects; resource planning; realization of partnership with international companies and institutes; planning of R&D potential development)
- Coordination of R&D project acquisition as part of national and EU calls (formulating and realization of project proposals in accordance to the call requirements, coordination at the Institute level)
- Project coordination of EU H2020 project:
  - SINERGY "Capacity building in Smart and Innovative eENERGY management", EU H2020, CSA, Pr. No.: 952140. <https://project-sinergy.org/>
- Technical leader of EU H2020 projects:
  - HESTIA "Holistic dEmand response Services for European residenTIAI communities", EU H2020, IA, Pr. No.: 957823. <https://hestia-eu.com/>
  - NEON "Next-Generation Integrated Energy Services fOr Citizen Energy CommuNities", EU H2020, CSA, Pr. No.: 101033700.
  - REACT "Renewable Energy for self-sustAinable island CommuniTies", EU H2020, IA, Pr. No.: 824395. <https://react2020.eu/>
- Involved in other EU H2020 projects: AI-PROFICIENT, TRAPEZE, PLATOON, LAMBDA
- Involved in national R&D project:
  - ARTEMIS (ARTificial Intelligence in Energy Management Innovative Services), Science Fund of the Republic of Serbia, Program for Development of Projects in the field of Artificial Intelligence, Pr. No.: 6527051.

2019-Present

**Scientific JPO Team Coordinator**

Institute Mihajlo Pupin, Belgrade, Serbia

<http://www.pupin.rs/en/>

- Coordination of R&D project acquisition as part of national and EU calls within the Joint Project Office (JPO) team
- Technical leader of EU H2020 projects:
  - REACT "Renewable Energy for self-sustAinable island CommuniTies", EU H2020, IA, Pr. No.: 824395. <https://react2020.eu/>
  - RESPOND "Integrated demand REsponse Solution towards energy Positive Neighbourhoods", EU H2020, IA, Pr. No.:768619. <http://project-respond.eu/>
- Involved in other EU H2020 projects: AI-PROFICIENT, TRAPEZE, HESTIA, SINERGY, LAMBDA, InBetween

2016-Present

**R&D Project manager**

Institute Mihajlo Pupin, Belgrade, Serbia

<http://www.pupin.rs/en/>

- R&D team lead in national and EU projects
- Technical leader of EU H2020 project:
  - RESPOND “Integrated demand REsponse Solution towards energy Positive Neighbourhoods”, EU H2020, IA, Pr. No.:768619. <http://project-respond.eu/>
- Involved in EU H2020 projects:
  - SlideWiki “Large-scale pilots for collaborative OpenCourseWare authoring, multiplatform delivery and Learning Analytics”, EU H2020, IA, Pr. No.: 688095. <https://slidewiki.org/>
- Involved in national R&D project:
  - SOFIA “Software Framework for Intelligent and Adaptive Management of Complex Facilities”, The Ministry of Education, Science and Technological Development of the Republic of Serbia, TR32010. <http://www.sofia.rs>

#### 2007-2015 R&D scientist

Institute Mihajlo Pupin, Belgrade, Serbia

<http://www.pupin.rs/en/>

- R&D assistant in national and EU projects
- Involved in EU FP7 projects:
  - Energy Positive Neighbourhoods Infrastructure Middleware based on Energy-Hub Concept (EPIC-HUB) (2012-2015) - involved in technical characterization of Nikola Tesla airport (Belgrade) and design and implementation of EPIC-Hub running model demonstrator
  - ICT for Energy Efficient Airports (CASCADE) (2011-2014) – responsible for technical characterization of project pilots and modelling of CASCADE airport ontology
  - Emergency Management in Large Infrastructures (EMILI) (2010-2012) – responsible for development of intelligent EM system for supervision of Nikola Tesla airport in Belgrade
  - Responsive Flexible Collaborating Ambient (REFLECT) (2008-2010) – responsible for design and implementation of OSGi based Reflective Simulator aimed for seamless man-machine interfacing
- Involved in national R&D projects:
  - SOFIA “Software Framework for Intelligent and Adaptive Management of Complex Facilities”, The Ministry of Education, Science and Technological Development of the Republic of Serbia, TR32010. <http://www.sofia.rs>
  - AMICA “Adaptive infrastructure for context-aware intelligent systems”, TR13004.

#### 2006 IT developer (practical training)

General Telecom Services, Tunis, Tunisia

<http://www.gtstunisie.com/>

- Voice and data transmission over HF, VHF, UHF
- Interfacing with RTUs of voice/data broadcast system

## EDUCATION AND TRAINING

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#### 2007-2013 Ph.D.

Faculty of Electrical Engineering, University of Belgrade, Serbia

- Department of Telecommunications and Information Technologies
- Ph.D. Thesis: Artificial neural network based simulation of short-term fading in mobile propagation channels
- With average mark 10.0 (maximum 10.0)

#### 2002-2007 Dipl.Ing.

Faculty of Electrical Engineering, University of Belgrade, Serbia

- Department of Telecommunications and Information Technologies
- Graduated with average mark 9.7 (maximum 10.0)

PERSONAL SKILLS

Mother tongue(s) Serbian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C	C	C	C	C
German	A	B	A	A	B

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

Computer skills

Programming/modelling languages:

- Java, JavaScript, C, C++, Pascal, HTML, OWL, RDF, SPARQL, SWRL, SQL, UML, XML, R, VHDL, Verilog

Computer software/environments:

- Eclipse, MATLAB, Spice, Visio, Maple, Protégé, TopBraid Composer, Enterprise Architect, MagicDraw UML, ModelSim-Altera, Microsoft Office, Adobe Photoshop

Other skills

Music school "Vatroslav Lisinski" (Belgrade), graduated 1997, Department of Piano

Driving licence

B

ADDITIONAL INFORMATION

Publications

Journal publications:

- Andrew Barney, Heracles Polatidis, Marko Jelić, Nikola Tomasević, Gobind Pillai, Dias Haralambopoulos, "Transition towards decarbonisation for islands: Development of an integrated energy planning platform and application," Sustainable Energy Technologies and Assessments, Volume 47, 101501, ISSN 2213-1388, 2021.
- Iker Esnaola-Gonzalez, Marko Jelić, Dea Pujic, Francisco Javier Diez, Nikola Tomašević, "An AI-powered system for residential demand response," Electronics 2021, ISSN 2079-9292, 10(6):693.
- Jelić, M.; Batić, M.; Tomašević, N.; Barney, A.; Polatidis, H.; Crosbie, T.; Abi Ghanem, D.; Short, M.; Pillai, G. Towards Self-Sustainable Island Grids through Optimal Utilization of Renewable Energy Potential and Community Engagement. Energies 2020, 13, 3386.
- Nikola Tomasevic, Nikola Gvozdenovic, Sanja Vranes, "An overview and comparison of supervised data mining techniques for student exam performance prediction," Computers & Education, Vol. 143, January 2020, 103676 (18 pages), ISSN: 0360-1315, Available online 30 August 2019. DOI: 10.1016/j.compedu.2019.103676
- Nikola M. Tomasevic, Aleksandar M. Neskovic, Natasa J. Neskovic, Correlated EEG Signals Simulation Based on Artificial Neural Networks, International Journal of Neural Systems (IJNS), ISSN: 0129-0657, Volume 27, Issue 5, 1750008 (15 pages), 2017. DOI: 10.1142/S0129065717500083
- Marko Batic, Nikola Tomasevic, Giovanni Beccuti, Turhan Demiray, Sanja Vranes, Combined energy hub optimisation and demand side management for buildings, Energy and Buildings, ISSN: 0378-7788, Vol. 127, pp. 229–241, 2016. DOI: 10.1016/j.enbuild.2016.05.087
- V. Mijovic, N. Tomasevic, V. Janev, M. Stanojevic, S. Vranes, "Emergency Management In Critical Infrastructures: A Complex-Event-Processing Paradigm", Journal of Systems Science and Systems Engineering, Springer Berlin Heidelberg, ISSN: 1004-3756 (Paper), Volume 28, Issue 1, pp. 37–62, February 2019; ISSN: 1861-9576 (Online), November 2018. DOI: 10.1007/s11518-018-5393-5
- Tomasevic N., Batic M., Blanes L., Keane M., Vranes S., "Ontology-based Facility Data Model for Energy Management," Advanced Engineering Informatics, in press, available online, doi:10.1016/j.aei.2015.09.003, Sept. 2015.
- Tomasevic N., Neskovic A., Neskovic N., "Artificial neural network based simulation of correlated short-term fading," AEU - International Journal of Electronics and Communications, vol. 68, no. 4, pp. 301-311, 2014.
- Tomasevic N., Neskovic A., Neskovic N., "Artificial neural network based approach to EEG signal

- simulation," *International Journal of Neural Systems (IJNS)*, vol. 22, no. 3, 1250008 (16 pages), 2012.
- Tomasevic N., Neskovic A., Neskovic N., "Short-term fading simulation using artificial neural networks," *AEU - International Journal of Electronics and Communications*, vol. 65, no. 7, pp. 641–649, 2011.
  - Stanojevic M., Tomasevic N., Vranes S., "NIMFA - Natural language Implicit Meaning Formalization and Abstraction", *Expert Systems With Applications*, in publication, vol. 37, no. 12, pp. 8172-8187, 2010.

## Conference papers:

- Iker Esnaola-Gonzalez, Francisco Javier Diez, Dea Pujić, Marko Jelic, Nikola Tomasevic, "An Artificial Intelligent System for Demand Response in Neighbourhoods," AIPES Workshop on Artificial Intelligence in Power and Energy Systems, 29th August – 3rd September.
- Pujić, D., Jelić, M., Tomašević, N. Comparison between different ML approaches for PV and STC production forecasting using real world data. In: Zdravković, M., Konjović, Z., Trajanović, M. (Eds.) ICIST 2020 Proceedings, pp.94-98, 2020.
- Pujić, D., Jelić, M., Batić, M., Tomašević, N. Energy user benchmarking using clustering approach. In: Zdravković, M., Konjović, Z., Trajanović, M. (Eds.) ICIST 2020 Proceedings, pp.89-93, 2020.
- Jesús Febres, Federica Fuligni, Khalid Atta, Wolfgang Birk, Federico Seri, Nikola Tomasevic, Martin Klepal, and Tatiana Loureiro "District and Building Energy Systems: A Collaborative Exchange of Results on Optimal System Operation for Energy Efficiency," *Proceedings of Sustainable Places 2019*, Cagliari, Italy, 5-7 June 2019, 20(1), 4; Published: 19 July 2019.
- L. Berbakov, M. Batić and N. Tomašević, "Smart Energy Manager for Energy Efficient Buildings," *IEEE EUROCON 2019*, 18th International Conference on Smart Technologies, Electronic ISBN: 978-1-5386-9301-8, Novi Sad, Serbia, 2019, pp. 1-4. DOI: 10.1109/EUROCON.2019.8861616
- Lazar Berbakov, Marko Batić, Nikola Tomašević, „Mobile application for energy management in smart buildings," *ICIST 2019*, 9th International Conference on Information Society and Technology, ISBN: 978-86-85525-24-7, pp. 240-243, Kopaonik, 10-13.03.2019.
- Lazar Berbakov, Nikola Tomašević, Marko Batić, "Architecture and implementation of IoT system for energy efficient living," *Proceedings of 26th Telecommunications forum TELFOR 2018*, ISBN: 978-1-5386-7171-9, pp. 265-268, Serbia, Belgrade, November 20-21, 2018. DOI: 10.1109/TELFOR.2018.8611888
- Iker Esnaola-Gonzalez, Francisco Javier Diez, Lazar Berbakov, Nikola Tomasevic, Pavel Storek, Miguel Cruz, Peter Kirketerp, "Semantic Interoperability for Demand-Response programs: RESPOND project's use case," 2018 Global Internet of Things Summit (IOT Week 2018), ISBN: 978-1-5386-6451-3, pp. 361-366, Bilbao, 04-07.06.2018. DOI: 10.1109/GIOTS.2018.8534568
- Nikola Tomašević, Dejan Paunović, Sanja Vraneš, „User-based collaborative filtering approach for content recommendation in OpenCourseWare platforms," *ICIST 2018*, 8th International Conference on Information Society and Technology, ISBN: 978-86-85525-22-3, pp. 177-181, Kopaonik, 11-14.03.2018.
- Marko Batić, Nikola Tomašević, Sanja Vraneš, „IoT based energy efficiency platform architecture design considerations," *ICIST 2018*, 8th International Conference on Information Society and Technology, ISBN: 978-86-85525-22-3, pp. 237-241, Kopaonik, 11-14.03.2018.
- Milan Đurović, Marko Batić, Nikola Tomašević, „An Overview of Techniques for Non-Intrusive Load Monitoring," *ICIST 2018*, 8th International Conference on Information Society and Technology, ISBN: 978-86-85525-22-3, pp. 321-326, Kopaonik, 11-14.03.2018.
- Nikola Tomasevic, Dejan Paunovic, Sanja Vranes, "Educational data mining for student performance prediction in SlideWiki OpenCourseWare platform," *eLearning*, 8th Conference on eLearning 2017, ISBN: 978-86-89755-13-8, pp.40-45., Belgrade, 28.-29.09.2017.
- Nikola Tomašević, Marko Batic, Sanja Vraneš, "Service-oriented integration of smart home and building automation systems", *ICIST 2017*, 7th International Conference on Information Society and Technology, ISBN: 978-86-85525-19-3, pp. 60-64, Kopaonik, 12-15.03.2017.
- Marko Batic, Nikola Tomašević, Sanja Vraneš, "IoT enabled End User engagement towards energy efficient lifestyles", *ICIST 2017*, 7th International Conference on Information Society and Technology, ISBN: 978-86-85525-19-3, pp. 65-69, Kopaonik, 12-15.03.2017.
- Nikola Tomašević, Marko Batic, Sanja Vraneš, "Interfacing with SCADA system for energy management in multiple energy carrier infrastructures", *ICIST 2016*, 6th International Conference on Information Society and Technology, ISBN: 978-86-85525-18-6, pp. 106-111, Kopaonik, 28.02-02.03.2016.
- Marko Batic, Nikola Tomašević, Sanja Vraneš, "ICT Platform for Holistic Energy Management of Neighbourhoods", *ICIST 2016*, 6th International Conference on Information Society and Technology, ISBN: 978-86-85525-18-6, pp. 112-117, Kopaonik, 28.02-02.03.2016.
- Giovanni Beccuti, Turhan Demiray, Marko Batic, Nikola Tomasevic, Sanja Vranes, "Energy Hub

- Modelling and Optimisation: An Analytical Case-Study”, PowerTech 2015 Conference, p. 1-6, DOI: 10.1109/PTC.2015.7232413, Eindhoven 29.06.-02.07.2015.
- Nikola Tomašević, Marko Batić, Vuk Mijović, Sanja Vraneš, “Data point Mapping Approach to Airport Ontology Modelling and Population”, ISBN: 978-86-85525-14-8, pp. 83-88, Kopaonik, Serbia, 08-11.03.2015.
  - Marko Batic, Nikola Tomasevic, Sanja Vraneš, “Software Module for Integrated Energy Dispatch Optimization”, ICIST 2015, 5th International Conference on Information Society and Technology, ISBN: 978-86-85525-16-2, pp. 83-88, Kopaonik, 08-11.03.2015.
  - Nikola Tomasevic, Marko Batic, Sanja Vranes, “Genetic algorithm based energy demand-side management,” ICIST 2014, 4th international Conference on Information Society and Technology, ISBN: 978-86-85525-14-8, pp.61-66, Kopaonik, Serbia, 9.-13.03. 2014.
  - Tomašević M. Nikola, Nešković M. Aleksandar, Nešković J. Nataša, „Artificial Neural Network Based Simulation of Short-Term Fading in Mobile Propagation Channel,” 22nd Telecommunications Forum, TELFOR 2014, Invited paper, ISBN: 978-1-4799-6191-7, pp. 206-212, Belgrade, Serbia 25.-27. November, 2014. DOI: 10.1109/TELFOR.2014.7034390
  - Marko Batic, Nikola Tomasevic, Sanja Vranes, “INTEGRATED ENERGY DISPATCH APPROACH BASED ON ENERGY HUB AND DSM,” ICIST 2014, 4th international Conference on Information Society and Technology, ISBN: 978-86-85525-14-8, pp.67-72, Kopaonik, Serbia, 2014
  - Nikola Tomasevic, Marko Batic, Sanja Vranes, “Ontology-enabled airport energy management,” ICIST 2013, 3rd International conference on information society technology, ISBN: 978-86-85525-12-4, pp. 112-117, Kopaonik, Serbia, 03-06.03.2013.
  - Marko Batic, Nikola Tomasevic, Sanja Vranes, “Ontology API for web-enabled FDD system,” ICIST 2013, 3rd International conference on information society technology, ISBN: 978-86-85525-12-4, pp. 142-147, Kopaonik, Serbia, 03-06.03.2013.
  - V. Janev, V. Mijovic, N. Tomasevic, L. Kraus, S. Vranes, "Dynamic Workflows for Airport Emergency Management Training", 23rd International Workshop on Database and Expert Systems Applications (DEXA), ISSN: 1529-4188, p. 5-9, Vienna, 3-7 Sept. 2012.
  - Nikola Tomašević, Marko Batić, Gordan Konečni, Sanja Vraneš, "*Ontology-based airport data model*", 2nd International Conference on Information Society Technology ICIST 2012, 29.02-03.03. 2012, Kopaonik, Serbia, pp. 158-163.
  - Marko Batić, Nikola Tomašević, Dejan Paunović, Sanja Vraneš, "*A novel approach to microgrid data modelling*", 2nd International Conference on Information Society Technology ICIST 2012, 29.02-03.03. 2012, Kopaonik, Serbia, pp. 153-157.
  - V. Mijovic, N. Tomasevic, V. Janev, M. Stanojevic, S. Vranes, "*Ontology enabled decision support system for emergency management at airports*", I-Semantics, 7<sup>th</sup> international Conference on Semantic Systems, September 07-09, 2011, Graz, Austria, pp. 163-166.
  - S. Vranes, M. Stanojevic, V. Janev, V. Mijovic, N. Tomasevic, L. Kraus, Z. Ilic, "*Application of complex event processing paradigm in situation awareness and management*", Proceedings of DEXA 2011: 22nd International Workshop on Database and Expert Systems Applications, IEEE Computer Society, Toulouse, France, 29.08-02.09, 2011, pp.289-293.
  - L. Kraus, M. Stanojevic, N. Tomasevic and V. Mijovic, "*A decision support system for building evacuation based on the EMILI SITE environment*", 20th IEEE International Workshops on Enabling Technologies: Infrastructure for Collaborative Enterprises, Track: Collaborative Technology for Coordinating Crisis Management (CT2CM), Paris, June 27-29 2011, pp. 334 – 336.
  - Gian Mari Bertolotti, Andrea Cristiani, Remo Lombardi, Marko Ribaric, Nikola Tomasevic, Mladen Stanojevic, "*Self-adaptive prototype for seat adaption*", Proceedings of the 4th IEEE International Conference on Self-Adaptive and Self-Organizing Systems (SASO 2010), 2nd PerAda Workshop. Budapest, Hungary, September 2010, pp. 136-141.
  - M. Stanojević, N. Tomašević, S. Vraneš, "*Probabilistic semantic classifier*", Proceedings of the 5th International Symposium on Data Mining and Intelligent Information Processing, Budapest, Hungary, 2009, pp. 260-265.
  - Nikola Tomasevic, Aleksandar Neškovic, Nataša Neškovic, "*Short-term fading simulator based on artificial neural networks*", the IEEE Region 8 Eurocon 2009 Conference, May 18-23, 2009, Saint-Petersburg, Russia, pp. 1681-1688.
  - N. Serbedzija, M. Ribaric, N. Tomasevic, G.Beyer, "*Simulating adaptive control in multimedia applications*", Proceedings of PERADA workshop at International Conference on Self-Adaptive and Self-Organizing Systems (SASO), Venice, Italy, on October 20.-21., 2008, pp. 150-155.

## National conferences:

- Nikola Tomašević, Marko Batić, "ICT tehnologije za energetske efikasne aerodrome," IX Međunarodni forum o čistim energetske tehnologijama, Energetski Horizont Srbije 2020, Novi Sad, 29-30.09.2015.
- Nikola Tomašević, Gordan Konečni, "Generic message format for integration of SCADA-enabled



emergency management systems”, 17th Conference and Exhibition YU INFO, Kopaonik, 06.03.-09.03. 2011, pp. 71-76.

- Nikola Tomašević, Gordan Konečni, „Mapiranje VIEW2 SCADA modela podataka za komunikaciju sa daljinskim stanicama“, 54. Konferencija ETRAN-a, Donji Milanovac, 07.06.-11.06. 2010, pp. (RT4.8)1-4.
- Marko Ribarić, Nikola Tomašević, „Softverska unapređenja reflektivnog simulatora“, 16. međunarodna konferencija YU INFO, Kopaonik, 03.03.-06.03. 2010, pp. (S3.1.6)1-4.
- Nikola Tomašević, Marko Ribarić, “Sistem adaptivne kontrole u automobilu“, 53. konferencija ETRAN-a, Vrnjačka Banja, 15.06.-19.06. 2009, pp. (RT8.1)1-4.
- Nikola Tomašević, “Reflektivni simulator“, 15. međunarodna konferencija YU INFO, Kopaonik, 08.03.-11.03. 2009, pp. (P3.23)1-6.
- Nikola Tomašević, “Simulacija short-term fading-a pomoću veštačkih neuralnih mreža“, 15. Telekomunikacioni forum TELFOR 2007, Beograd, 20.11.-22.11. 2007, pp. 749-752.

#### Book chapters:

- Dea Pujić, Marko Jelić, Nikola Tomašević, Marko Batić, Case Study from the Energy Domain, in V. Janev, D. Graux, H. Jabeen, E. Sallinger (Eds) Knowledge Graphs and Big Data Processing, pp. 165-180, Springer International Publishing (2020).

#### Honours and awards

##### Awards:

- 2020 - Award of Đoke Vljakovića Foundation for the best scientific journal paper published by the young researchers of the University of Belgrade
- 2013 - Award of the Institute Mihajlo Pupin for outstanding scientific results achieved in EU and national R&D projects
- 2007 - ETF BAFA USA competition award for the best student project at the Faculty of Electrical Engineering, University of Belgrade, Serbia
- 2002 - Award for maximum number of points at the entrance examination of the Faculty of Electrical Engineering, University of Belgrade, Serbia
- 1998 - 2001 - Prizes at Republic (Serbia and Montenegro) and Regional (Belgrade) competitions in mathematics, physics and chemistry
- 1997 - Award at Belgrade Chemistry Olympiad

##### Scholarships:

- 2008 - Ministry of Telecommunication and Information Society, Republic of Serbia (1<sup>st</sup> year of Ph.D. studies)
- 2007 - Eurobank EFG scholarship (for best Serbian students)
- 2006-2007 - Scholarship of city Belgrade - City management
- 2003-2007 - Ministry of Science and Technological Development, Republic of Serbia