






PERSONAL INFORMATION

Goran Dimić



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Sex Male | Date of birth 1974 | Nationality Serbian

JOB APPLIED FOR  
POSITION  
PREFERRED JOB  
STUDIES APPLIED FOR

Energy Efficient Computing and Communications

WORK EXPERIENCE

Scientific Associate

2005 - present

“Mihajlo Pupin” Institute, Volgina 15, 11060 Belgrade, Serbia, <http://www.pupin.rs/en/>

Project manager and/or member of the research team:

- TV-WEB, “Tackling the “Digital Divide” in SEE by using the capacity of DTT networks,” (<http://www.see-tvweb.eu/>) SEE program of the EU, the manager of the project team of the “Mihajlo Pupin” Institute, Sept. 2012 – Nov. 2014;
- FP7-BALCON, “Boosting EU-Western Balkan Countries Research Collaboration in the Monitoring and Control Area,” (<http://www.balcon-project.eu/mainpage>), Advisory Board member, Sept. 2011 – Aug. 2013;
- COST Action IC 1004, “Cooperative Radio Communications for Green Smart Environments,” (<http://www.ic1004.org/>), Management Committee member from Serbia and contributor to the action proposal, May 2011 – May 2015;
- “Development and Modeling of Energy-Efficient, Adaptable, Multisensor and Multiprocessor Low-Power Electronic Systems,” research and technological development (RTD) project funded by the Ministry of Education and Science of the Republic of Serbia (MESRS); Grant No.: TR-32043; project manager and proposal coordinator, Jan. 2011 – Dec. 2015;
- “Integrated System for Fire Detection and Fire Propagation Estimation through Real-Time Critical Parameter Tracking,” integrated and interdisciplinary (III) project funded by MESRS; Grant No.: III-44003, work package leader, Jan. 2011 – Dec. 2015;
- “Advancing Embedded Systems Research in Serbia”, SCOPES program of the Swiss National Science Foundation, the manager of the project team of the “Mihajlo Pupin” Institute, Feb. 2010 – June 2013;
- FP7-AgroSense, “Wireless Sensor Networks and Remote Sensing – Foundation of a Modern Agricultural Infrastructure in the (West-Balkans) Region,” ([www.agrosense.org](http://www.agrosense.org)) Grant No.: 204472, the manager of the project team of the “Mihajlo Pupin” Institute, May 2008 – April 2011;
- “Wireless sensor networks and remote sensing – foundations of new agricultural infrastructure,” research and technological development (RTD) project funded by the Ministry of Science of the Republic of Serbia (MSRS); Grant No.: TR-11022, Apr. 2008 – Dec. 2010;
- “New Telecommunication Systems Modeling Methods,” RTD project funded by the MSRS; Grant No.: TR-11040, contributor to the project proposal; Apr. 2008 – Dec. 2010;
- “Development of Next Generation Communication Systems in Enterprise Networks,” RTD project funded by the MSRS; Grant No.: TR-6105B; Dec. 2005 – March 2008
- Design of 18 VHF/UHF and WiFi radio networks for remote monitoring and control 2006 – 2013.
- Proposal for Electricity Distribution Utility of Belgrade Telecommunication Infrastructure Development – Part on Wireless Communications, 2009-2010.
- Software-defined short-wave multi-carrier receiver, Jan. 2006 – Dec. 2007.

Business or sector Public sector – Research and Development

- 2004 - 2005 **Military Duty**
  - Military Duty, Sep. 2004 – Dec. 2004.
  - Business or sector** Public sector
  
- 1999 - 2004 **Research Assistant**

Graduate Research Assistant, Univ. of Minnesota, USA, Jan. 2000 – June 2004 and Univ. of Virginia, USA, Sept. 1999 – Dec. 1999.

Member of the research staff:

  - “Design and Performance Analysis of a Blind W-CDMA Receiver in Fading Channels with Large Delay Spread,”
  - “Stability, Steady-state and Mean Packet Delay Analysis of the Class of Network-Assisted Diversity Multiple Access Protocols,”
  - “Design and Performance Analysis of a Capacity-Approaching Multiuser Downlink Transmission Scheme.”

**EDUCATION AND TRAINING**

- 2001 – 2004 **PhD in Electrical Engineering** PhD

University of Minnesota, Department of Electrical and Computer Engineering, Minneapolis, U.S.A.  
Adviser: Professor Nikolaos D. Sidiropoulos. June 2004
  
- 1999 – 2001 **MSc in Electrical Engineering** MSc

University of Minnesota, Department of Electrical and Computer Engineering, Minneapolis, U.S.A.  
Adviser: Professor Nikolaos D. Sidiropoulos. May 2001
  
- 1993 – 1999 **BSc in Electrical Engineering (5-year studies)** BSc

University of Belgrade, Faculty of Electrical Engineering, Serbia. Aug. 1999

**PERSONAL SKILLS**

Mother tongue(s) Serbian

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2-Proficient user	C2-Proficient user	C2-Proficient user	C2-Proficient user	C2-Proficient user
Integral part of regular education, from primary to university level.					

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

- Communication skills
  - Good communication skills
- Organisational / managerial skills
  - Coordinator of the Research activities at the Telecommunications department at the “Mihajlo Pupin” Institute

- Job-related skills**
- Research and software development in signal processing and optimization applied to:
    - Dataflow computing;
    - Energy efficiency in wireless communications;
    - Embedded wireless networks for sensing, data acquisition and control.
  - Academic co-adviser and other support to PhD students:
    - Mr. Nikola Zogović, PhD, October 2013, Univ. of Novi Sad, Faculty of Technical Sciences, Novi Sad, Serbia.
    - Ms. Mirjana Stojilović; PhD, December 2013, Univ. of Belgrade, School of Electrical Engineering, Belgrade, Serbia; the PhD is a result of joint research on the national project, Grant No.: TR-32043 (project coordinator), and “Advancing Embedded Systems Research in Serbia” of the SCOPES program 2010-2013 (local coordinator at IMP).
  - Reviewer, Technical Program Committee member and evaluator:
    - the IEEE Trans. on Signal Processing, IEEE Signal Processing Letters, IEEE Trans. on Communications, IEEE Communication Letters, IEEE Journal on Selected Areas in Communications, IEEE Trans. on Wireless Communications, IEEE Trans. on Information Theory, IEEE Trans. on Vehicular Technology, and various IEEE conferences;
    - Technical Program Committee Member of the IEEE WCNC 2012, Paris, France, April 2012, IEEE SPAWC 2012, Cesme, Turkey, June 2012, and IEEE VTC2015-Spring Cooperative Communications and Networks.
    - FP7 expert evaluator.
- Computer skills**
- Operating systems: Windows, Linux;
  - Office Automation: MS Office (Word, Excel, etc.), LibreOffice, LATEX
  - Data Bases: MySQL
  - Presentation skills: MS PowerPoint
  - Programming languages: Java, Matlab
- Other skills**
- Qi Gong
- Driving licence**
- B category (car) since Oct. 1993

ADDITIONAL INFORMATION

- Publications** Over 40 published scientific papers – see Annex 1
- Presentations**
- Projects** Number of citations: over 840 by Google Scholar (as of June 2015)
- Conferences**
- Seminars** IEEE Signal Processing Society Best Paper Award for 2007, for the paper co-authored with Nikolaos D. Sidiropoulos, “On Downlink Beamforming with Greedy User Selection: Performance Analysis and a Simple New Algorithm,” published in IEEE Trans. on Signal Processing, vol. 53, no. 10, pp. 3857 – 3868, Oct. 2005
- Honours and awards**
- Memberships**
- References** Member of the IEEE (Student Member since 1997, Member since 2005)

ANNEXES

Annex 1 : Goran Dimić  
Bibliography**Books and Monographs**

- [1] COST IC1004 book, River Pub., 2015 (expected publication date: October 2015)
- [2] H.F. Jelinek, D.J. Cornforth and A.H. Khandoker (editors), ECG Time Series Variability Analysis: Engineering and Medicine, CRC Press, 2015 (expected publication date: December 2015)

**International scientific journals**

- [3] N. Zogović, G. Dimić, D. Bajić, "PHY-MAC Cross-Layer Approach to Energy-Efficiency and Packet-Loss Trade-off in Low-Power, Low-Rate Wireless Communications," IEEE Commun. Letters, vol. 17, no. 4, April 2013, pp. 661 - 664.
- [4] G. Dimić and N. D. Sidiropoulos, "On Downlink Beamforming with Greedy User Selection: Performance Analysis and a Simple New Algorithm," IEEE Trans. on Signal Processing, vol. 53, no. 10, Oct. 2005, pp. 3857 - 3868 (IEEE Signal Processing Society Best Paper Award for 2007)
- [5] G. Dimić, N. D. Sidiropoulos, and R. Zhang, "Medium Access Control - Physical Cross-Layer Design," IEEE Signal Processing Magazine, special issue on Signal Processing for Networking, vol. 21, no. 5, Sept. 2004, pp. 40 - 50
- [6] G. Dimić, N. D. Sidiropoulos, and L. Tassiulas, "Wireless networks with retransmission diversity access mechanisms: Stable throughput and delay properties," IEEE Trans. on Signal Processing, vol. 51, no. 8, Aug. 2003, pp. 2019 - 2030
- [7] N. D. Sidiropoulos, G. Dimić, "Blind multiuser detection in W-CDMA systems with large delay spread," IEEE Signal Proc. Letters, vol. 8, no. 3, March 2001, pp. 87 - 89

**International scientific conferences**

- [8] S. Tomić, M. Beko, R. Dinis, G. Dimić, M. Tuba, "Distributed RSS-based Localization in Wireless Sensor Networks with Node Selection Mechanism", in "Technological Innovation for Cloud-based Engineering Systems", DOCEIS 2015 Selected Papers, Eds. L. M. Camarinha-Matos, T. A. Baldissera, G. D. Oro, F. Marques: pp. 204-214, ISBN: 978-3-319-16765-7, Springer International Publishing, 2015. Link: <http://link.springer.com/book/10.1007/978-3-642-54734-8>
- [9] Draško Furundžić, Srđan Stanković, Goran Dimić, "Error Signal Distribution as an Indicator of Imbalanced Data," Proceedings of the 12th Symposium on Neural Network Applications in Electrical Engineering, NEUREL 2014, Belgrade, Serbia, Nov. 25-26 2014, pp. 189-194, ISBN: 978-1-4799-5887-0, IEEE Catalog Number: CFP14481-PRT
- [10] G. Dimić, D. Bajić, M. Beko, "Energy- and Spectral-Efficiency Increase while Constraining Interference using Regenerative Relay," Proc. of TELFOR 2014, Belgrade, Serbia, Nov. 25-27, 2014
- [11] N. Zogović, D. Bajić, G. Dimić, "A real ARQ Scheme for Improving Decision Space Resolution," Proc. of TELFOR 2014, Belgrade, Serbia, Nov. 25-27, 2014
- [12] G. Dimić, D. Bajić, M. Beko, "Relay Type 1a in LTE-Advanced: Can It Increase Energy Efficiency?," the 31st URSI General Assembly and Scientific Symposium 2014, Beijing, China, August 16-23, 2014, C05.3 (invited paper)
- [13] N. Bežanić, J. Popović-Božović, I. Popović, G. Dimić, V. Milutinović, "Large dataset encryption on the Maxeler platform: a service-oriented approach," 10th International Summer School on Advanced Computer Architecture and Compilation for High-Performance and Embedded Systems, ACACES 2014, 13-19 July 2014, Fiuggi, Italy, pp. 17-20
- [14] G. Dimić, D. Bajić, M. Beko, "Regenerative Relay: Constraining Interference vs. Increasing Energy- and Spectral-Efficiency," the European Conference on Networks and Communications 2014, Bologna, Italy, June 23-26, 2014, P.30
- [15] N. Zogović, G. Dimić, D. Bajić, "A "Raised-Fractional-Power" Wireless Transmitter Power Consumption Model," 29th International Conference on Microelectronics, MIEL 2014, Belgrade, Serbia, May 12-14, 2014, pp. 401 - 404
- [16] S. Tomić, M. Beko, R. Dinis, V. Lipovac, G. Dimić, "RSS-based Localization in Wireless Sensor Networks with Unknown Transmit Power and Path Loss Exponent using SDP Relaxation," 11th WSEAS Intern. Conf. on Applied Electromagnetics, Wireless and Optical Communications, Dubrovnik, Croatia, June 25-27, 2013, pp. 17 - 22
- [17] M. Radulović, M. Pavlović, N. Nenadić, G. Dimić, "Industrial Single Board Computer Based on OMAP5 Processor", MECO 2013, 2nd Mediterranean Conference on Embedded Computing, Budva, Montenegro, June 16-20, 2013, pp. 84 - 87
- [18] G. Dimić, N. Zogović, D. Bajić, "Supportive Relay with Heterogeneous Transceivers: Quantification of Energy Efficiency Improvement," IEEE ICC 2013 - Energy Efficiency in Wireless Networks and Wireless Networks for Energy Efficiency Workshop, Budapest, Hungary, June 9, 2013, pp. 458 - 462
- [19] D. Bajić, G. Dimić, N. Zogović, "A Hybride Procedure with Selective Retransmission for Aggregated Packets of Unequal Length," IEEE ICC 2013 - Selected Areas in Communications Symposium, Budapest, Hungary, June 10, 2013, pp. 4078 - 4082
- [20] G. Dimić, N. Zogović, D. Bajić, "A Wireless Transceiver Power Consumption Model and Two-hop vs. Single-hop Energy Efficiency Ratio," Future Network and Mobile Summit 2012, Berlin, Germany, 4-6 July 2012
- [21] G. Dimić, N. Zogović, D. Bajić, "Energy Efficiency of Supportive Relay with a Novel Wireless Transmitter Power Consumption Model," International Conference on Selected Topics in Mobile & Wireless Networking - iCOST'2012, Avignon, France, 3-4 July 2012
- [22] M. Pejanović Đurišić, Z. Tafa, G. Dimić, V. Milutinović, "A Survey of Military Applications of Wireless Sensor Networks," Mediterranean Conference on Embedded Computing MECO-2012, Bar, Montenegro, 19-21 June 2012, pp. 196 - 199, as a part of the plenary tutorial: M. Pejanović Đurišić, Z. Tafa, G. Dimić, M. Bojović, V. Filipović, N. Kojić, D. Milićev, V. Milutinović, S. Stojanović, S. Vujičić Stanković, Goran Rakocević, Oskar Mencer, and M. J. Flynn, "Coverage in Wireless Sensor Networks and Related Research in Mission Critical WSN Applications: Datamining and Supercomputing," at Mediterranean Conference on Embedded Computing

- MECO-2012, Bar, Montenegro, 19-21 June 2012
- [23] N. Zogović, G. Dimić, D. Bajić, "PHY-MAC Cross-Layer Approach to Energy-Efficiency Improvement in Low-Power Communications," The 8th International Symposium on Wireless Communication Systems, ISWCS 2011, Aachen, Germany, 6th - 9th November, 2011
- [24] N. Zogović, G. Dimić, D. Bajić, "Packet length and transmission power adaptation for energy-efficiency in low-power wireless communications," The 10th International Conference on Telecommunications in Modern Satellite, Cable and Broadcasting Services, TELSIKS 2011, Niš, Serbia, Oct. 5-8, 2011
- [25] N. Zogović, G. Dimić, D. Bajić, "Transmitter power consumption modeling in low-power communications", the Second International Workshop on ICT and Sensing Technologies in Agriculture, Forestry and Environment – EcoSense11, Beograd, Serbia, Apr. 2011
- [26] N. Zogović, G. Dimić, D. Bajić, "The impact of packet length and packet error rate on energy-efficiency in low-power wireless communications", the Second International Workshop on ICT and Sensing Technologies in Agriculture, Forestry and Environment – EcoSense11, Beograd, Serbia, Apr. 2011
- [27] N. Zogović, G. Dimić, D. Bajić, "Channel Loss Based Energy Consumption Model for Low-Power Wireless Communications," 4th IFIP International Conference on New Technologies, Mobility and Security: 3rd Wireless Sensor Networks Workshop, Paris, France, Feb. 8-9, 2011
- [28] N. Zogović, G. Dimić, D. Bajić, "Low-Power Wireless Transceiver - a Total Channel-Loss Based Power Consumption Model," 9th International Symposium on Electronics and Telecommunications ISETC 2010, Timisoara, Romania, Nov. 2010
- [29] N. Zogović, G. Dimić, D. Bajić, "Wireless Sensor Networks: QoS Provisioning at MAC and Physical Layers," Proc. of TELFOR 2009, Belgrade, Serbia, Nov. 2009
- [30] G. Dimić, N. Nenadić, M. Nikolić, "Symbol and Frame Timing Estimation for Multicarrier HF Packet Radio," Proc. of TELFOR 2009, Belgrade, Serbia, Nov. 2009
- [31] M. Jevtić, N. Zogović, G. Dimić, "Evaluation of Wireless Sensor Network Simulators", Proc. of TELFOR 2009, Belgrade, Serbia, Nov. 2009
- [32] N. Zogović, G. Dimić, D. Bajić, "Quality of Service Provisioning in WSN - Overview of Medium Access Control and Physical-Layer Issues," the First International Workshop on ICT and Sensing Technologies in Agriculture, Forestry and Environment - BioSense09, Novi Sad, Serbia, Oct. 2009, pp. 71-78
- [33] G. Dimić, N. D. Sidiropoulos, "Low-complexity downlink beamforming for maximum sum capacity," Proc. of ICASSP 2004, Montreal, Canada, May 2004
- [34] G. Dimić, N. D. Sidiropoulos, "Frequency-hopped network diversity multiple access for semi-ad-hoc wireless networks," Proc. of ICASSP 2003, vol. IV, pp. 205-208, 2003
- [35] G. Dimić, N. D. Sidiropoulos, and L. Tassiulas, "Stability and maximum stable throughput of blind retransmission diversity multiple access," Proc. of 36-th Asilomar Conference on Signals, Systems and Computers, vol. 2, pp. 1230-1234, Nov. 2002
- [36] G. Dimić, N. D. Sidiropoulos, "On the stability of certain collision resolution protocols with retransmission diversity," Proc. of ISIT 2002, Lausanne, Switzerland, July 2002, p. 154
- [37] G. Dimić, N. D. Sidiropoulos, "Stability analysis of collision resolution protocols with retransmission diversity," Proc. of ICASSP 2002, pp. III-2133-2136, Orlando, FL, 2002
- [38] G. Dimić, N. D. Sidiropoulos, "Multicode multicarrier random access," Proc. of 34-th Asilomar Conf., pp. 1230 - 1234, Oct. 2000
- [39] N. D. Sidiropoulos, G. Dimic, "Blind Multiuser Detection in W-CDMA Systems with Large Delay Spread: A Two-Step PARAFAC/Hankel Approach," Proc. of 2000 Conference on Information Sciences and Systems, Princeton University, March 2000
- [40] D. Radenović, G. Dimić, D. Radojević: "Discriminate analysis based on logical representation of Choquet integral," Proceedings of EUROFUZE-SIC'99, The Fourth Meeting of the EURO Working Group on Fuzzy Sets and The Second International Conference on Soft and Intelligent Computing, Budapest, Hungary, 1999. pp. 34-38.

#### National scientific journals

- [41] G. Dimić, D. Bajić, M. Beko, "Trade-off Analysis of Energy- and Spectral-Efficiency versus Generated Interference when using Regenerative Relay," TELFOR JOURNAL, vol. 7, 2015, Belgrade, Serbia, 2015 (submitted)

#### National scientific conferences:

- [42] T. Tomić, V. Timčenko, G. Dimić, "HbbTV Application for DVB-T2," Proc. of TELFOR 2013, Belgrade, Serbia, Nov. 2013, pp. 983 – 986 (in Serbian)
- [43] 17. M. Milanović, M. Stojilović, M. Oklobdžija, and G. Dimić, "A Wireless Sensor Network Adaptation for Detection and Alarm Activation," 11th Symposium Infoteh 2012, Jahorina, RS, BiH, March 21-23, 2012 (in Serbian)
- [44] N. Zogović, G. Dimić, D. Bajić, "L – model: Link Level Power Consumption Model for Low-power Wireless Communications Based on Total Channel-loss," Proc. of ETRAN 2010, D. Milanovac, Serbia, June 2010

#### PhD Dissertation:

"Capacity-Approaching Schemes for Multiple Access and Multiuser Downlink Transmission in Wireless Networks," University of Minnesota, Department of Electrical and Computer Engineering, Minneapolis, U.S.A., June 2004

#### Master's degree thesis:

"Multicode Blind Network-Diversity Multiple Access," University of Minnesota, Department of Electrical and Computer Engineering, Minneapolis, U.S.A., May 2001

#### Technological solutions – key projects results:

1. Study on Overhead Power Lines Temperature Measurement and Dynamic Line Rating in the Power Transmission Grid in Serbia (2014)
2. Big and Dense Matrix Multiplication using Maxeler Dataflow Architecture (2013)
3. Embedded computer with video signal processor and wireless connectivity (2012)
4. Error probability estimator in IEEE 802.15.4-based networks (2012)
5. Flood-Monitoring-and-Warning System communication network for the town of Trebinje and the surrounding area, Bosnia and Herzegovina (commissioned in 2012)
6. MOTE1 communication protocol (2011)
7. WSN gateway – a WSN-to-GPRS gateway (2011)
8. MOTE1 – a wireless sensor network (WSN) node (2010)
9. PACTOR 3 Demodulator and Decoder – Windows-based software (delivered to client in 2008)
10. PACTOR 2 Demodulator and Decoder – Windows-based software (delivered to client in 2007)