Maja Sarevska, PhD

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PERSONAL INFO

- Date of birth (01/05/1974)
- Place of birth (Skopje, R. North Macedonia)
- Address (Prizrenska 2, No.4, 1000, Skopje)
- Marital Status (Single female)

PROFESSIONAL EXPERIENCE

- Assistant Professor (American University of Europe-FON, Skopje, 10/2018-10/2023)
  - Introduction to Programming (Language C)
  - Object Oriented Programing (Language C++)
  - Data Structures and Algorithms
  - Information Technologies (Windows and Microsoft Office)
  - Internet Technologies
- Visiting Professor (Military Academy, RNM, Skopje, 10/2019-present)
  - Basics in Telecommunications
  - Telecommunication Systems
- Programming Instructor (Mathematical-Informatics Gymnasium for talented pupils , RNM, Skopje, 2022/2023)
  - Programming in C and C++
  - Advanced Programming
  - Intelligent Systems
- Lecturer in Spacecraft Telecommunications and programming in C (Istanbul Technical University,Turkey, 03/2010-09/2011)
  - Signal spectrum
  - Electromagnetic wave propagation
  - Antenna system
  - Error-correcting codes
  - Satellite link parameters
  - Active participation in CubeSat project
- Postdoc in Merchator Research Group (Ruhr University, Germany, 04/2012-11/2013)
  - Two-layer neural network dynamic modeling
  - Sequence storage analyze
  - Robustness of sequence association
  - Presentation of papers of relevant journals

    - Participation on Bernstein Conference Munich and Tubingen
- Visiting scientist (LMU, Germany, 12/2013-02/2014)
    - Modeling of virtual maze for subject testing
    - Route base and mapping navigation algorithm
- Visiting scientist (ShanghaiTech University, PR China, 03/2016-06/2016)
    - Graph theory
    - Signal processing on graphs
- Commercialist/engineer for electrical products in a distribution firm(1999-2001).
- Administrator/manager in a small company for security electronic equipment (2003-2004).
- Short experience in marketing for electrical devices equipment (2007).
- Private lessons to students from faculties of electrical engineering, mathematics, informatics, natural sciences (2004-2010).

SKILLS

- Speaking languages (English)
- Electrotechnics (Maxwell equations, electromagnetic theory, antenna theory, antenna array theory, smart antenna, theory of information and coding, mobile communications, basics in radio-astronomy, wireless communications, satellite/spacecraft communications)
- Computational Neuroscience (neural networks, modeling of sequence storage, sequence association, firing rate model, neural attractors, spike models, analyze of experimental data, literacy in basic topics)
- Programming (scientific C and C++, Matlab)
- Mathematics (differential/integral equations, theory of stochastic processes, analytical geometry, linear algebra, calculus, Fourier analysis)

EDUCATION

PhD, Technical Sciences, April 2008
University of Nis

- Thesis Title: *Adaptive Antenna Systems Based on Neural Networks*
- Joint application of antenna array and RBF neural network
    - Conventional beamforming and antenna arrays
    - Criteria of best approximation property of RBF neural networks
    - Signal detection and neural nets
    - Direction of arrival estimation using neural nets
    - Beamforming using neural nets
- PhD scholarship funded by RNM, Ministry of Science

MSc, Electrotechnical Sciences, November 2001

University “St. Kiril and Methodius”

- Thesis Title: *Time-Space Signal Processing Using Real Antenna Array*
- Antenna array beamforming and mutual coupling effect
- Average postgraduating studies score: 10.00 (lowest and highest exam mark, 6 and 10, respectively)
- Complete costs were funded by RNM Ministry of Science.

BSc, Electrotechnics, July 1998
University “St. Kiril and Methodius”

- Average studies score 9.00 (lowest and highest exam mark, 6 and 10, respectively)

AWARDS

- Special honors for remarkable average graduating studies score.
- Best Student Paper Award at the WSEAS International Conference on Systems in Vouliagmeni, Athens, Greece, July 2005.

PUBLICATIONS

Maja Sarevska, ” Multi-User Detection for Synchronous CDMA Systems: Configuration with Match Filters”, *Conf. ETAI’00*, Ohrid, Macedonia, September 2000.

Maja Sarevska, ”Space Signal Processing in CDMA System Using Antenna Array”, *Conf. ETRAN’03*, Herceg Novi, Serbia and Montenegro, June 2003, pp. 273-276.

Maja Sarevska, ”The Influence of Real Antenna Array Parameters On BER Performances For Given Time-Space Signal Processing Scheme”, *Conf. ETAI’03*, Ohrid, Macedonia, September 2003.

Maja Sarevska, ”Time-Space Signal Processing for CDMA Using Given Receiving Configuration With RAKE Receivers”, *Conf. TELSIKS’03*, Niš, Serbia and Montenegro, October 2003, pp.171-174.

Maja Sarevska, Bratislav Milovanovic, ”Time Signal Processing for CDMA Using Given Receiving Configuration With RAKE Receivers”, *Conf. TELFOR’03*, Belgrade, Serbia and Montenegro, November 2003, CD-ROM version.

Maja Sarevska, Bratislav Milovanovic, and Zoran Stankovic, ”Alternative Signal Detection for Neural Network-Based Smart Antenna”, *Conf.NEUREL’04*, Belgrade, Serbia and Montenegro, September 2004, pp.85-89.

Maja Sarevska, Bratislav Milovanovic, and Zoran Stankovic, ”Generalization Capabilities of Neural Network-Based Smart Antenna for DOA Estimation”, *Conf.TELFOR’04*, Belgrade, Serbia and Montenegro, November 2004, CD-ROM version.

Maja Sarevska, "Time Signal Processing for CDMA Using Given Receiving Configuration With Rake Receivers", *Journal of Electronics and Mathematics*, Vol. 9, (2004), Kosovska Mitrovica, pp.11-18.

Bratislav Milovanovic, Zoran Stankovic, **Maja Sarevska**, and Aleksandar Jovanovic "Neural Models for Electromagnetic Strength Level Prediction – Application in RF Communications", *Conf.ICEST'05*, Niš, Serbia and Montenegro, June 2005, pp.411-414.

Zoran Stankovic, Bratislav Milovanovic, and **Maja Sarevska**, "New Neural Models of Microwave Cylindrical Cavity Applicators", *Journal of WSEAS Transactions on Systems*, Issue 6, Vol.4, June 2005, pp 761-769.

Maja Sarevska, Bratislav Milovanovic, and Zoran Stankovic, "Reliability of Radial Basis Function – Neural Network Smart Antenna", *Conf.WSEAS'05* on Communications, Athens, Greece, July 2005, CD-ROM version.

Zoran Stankovic, Bratislav Milovanovic, and **Maja Sarevska**, "Microwave Cylindrical Cavity Applicators Modeling Using Artificial Neural Networks", *Conf.WSEAS'05* on Systems, Athens, Greece, July 2005, CD-ROM version.

Maja Sarevska, Bratislav Milovanovic, and Zoran Stankovic, "Reliability of The Hidden Layer in Neural Network Smart Antenna", *Journal of WSEAS Transactions on Communications*, Issue 8, Vol.4, August 2005, pp. 556-563.

Zoran Stankovic, Bratislav Milovanovic, **Maja Sarevska**, "Novel Efficient Approaches in the Microwave Cavity Applicators modeling based on Artificial Neural Networks", ***International Journal of Factory Automation, Robotics and Soft Computing***, **ISSN 1828-6984, International Society for Advanced Research, Issue 2,** Italy, April 2006, pp.63-68.

Maja Sarevska, Liljana Gavrilovska "Capabilities of Neural Network – Based Smart Antenna for DOA Estimation", *Conf. ETAI'05*, Ohrid, FYROM, September 2005.

Maja Sarevska, Abdel-Badeeh M. Salem, "Antenna Array Beamforming using Neural network", *International Journal of Applied Science, Engineering and Technology*, Vol.2, No.2, pp. 60-64, 2005.

Maja Sarevska, Abdel-Badeeh M. Salem, "Neural Network-Based Null-Steering Beam Former for Smart Antenna", *Egyptian Computer Science Journal*, Vol.28, No.1, January 2006, pp.5-11.

Bratislav Milovanovic, Zoran Stankovic, **Maja Sarevska**, and Aleksandar Jovanovic "Efficient Neural Models for Electromagnetic Field Characterization–Application in RF Communications", *Microwave Review*, Vol 12. No.1, June 2006, pp.31-35.

Zoran Stankovic, Bratislav Milovanovic, **Maja Sarevska**, "Novel Efficient Models of the Microwave Cavity Applicators based on Artificial Neural Networks", *Recent advances in Control Systems, Robotics and Automation*, International Scientific Book, ISBN: 88-901928-0-1, Wide International Scientific and Academic Society (WISAS), Italy, 2006, pp.100-105.

Maja Sarevska, Bratislav Milovanovic, and Zoran Stankovic, ”Neural Network-Based DOA Estimation and Beamforming for Smart Antenna”, *Conf.ICEST’06*, Sofia, Bulgaria, July 2006, pp.25-28.

M. Sarevska B. Milovanović, Z. Stanković, **“**Antenna Array System Modeling Using RBF Neural Network**”,** *Sixth International Symposium Nikola Tesla*, Belgrade, SASA Serbia, October 2006, pp. 193-196.

B. Milovanović, Z. Stanković, M. Milijić, **M. Sarevska, “**Near-Earth Propagation Loss Prediction in Open Rural Environment using Hybrid Empirical Neural Model**”** *Conf. TELSIKS’07*, Niš, Serbia, September 2007, pp. 423-426.

Maja Sarevska, ”Signal detection for neural network-based antenna array”, *Conf.NAUN’08* on Circuits, Systems, and Signals, Marathon, Attica, Greece, June 2008, pp.115-119.

Maja Sarevska, Abdel-Badeeh M.Salem, Nikos Mastorakis, ”Null Steering Beamformer Based on RBF Neural Networks”, *Conf.WSEAS’08 on Communications*, Heraklion, Greece, July 2008, pp.29-34.

Maja Sarevska, Abdel-Badeeh M.Salem, Mohamed A. Aziz, ”Antenna Array Signal Detection with RBE Neural Networks”, *Conf.ICICIS’09*, Cairo, Egypt, 19-22 March 2009, CD-ROM version.

D. Urošević, B. Vukotić, B. Arbutina, and **M. Sarevska**, “The Orthogonal Fitting Procedure For Determination of The Empirical S-D Relations For Supernova Reminants: Application to Starburst Galaxy M82”, *The Astrophysical Journal*, 719:950–957, 2010, August 10.

Maja Sarevska, Nikos Mastorakis, ‘Neural Networks and Antenna Arrays’**,** 9th *WSEAS Int. Conf. on CIRCUITS, SYSTEMS, ELECTRONICS, CONTROL & SIGNAL PROCESSING* (CSECS '10), 29-31 December, 2010 , Athens, Greece.

Maja Sarevska, Nikos Mastorakis, ‘Regular Antenna Array Synthesis Using Neural Network’**,** *10th WSEAS Int. Conf. on TELECOMMUNICATIONS and INFORMATICS* (*TELE-INFO’11*) 27-29 May, 2011 , Lanzarote, Canary Islands , Spain.

Bratislav Milovanovic, Marija Agatonovic, Zoran Stankovic, Nebojsa Doncov, and **Maja Sarevska** ”Application of Neural Networks in Spatial Signal Processing”, *IEEE Conf. NEUREL’12*, Belgrade, Serbia, September 2012, pp.5-14**.**

M. Sarevska B. Milovanović, and Z. Stanković, “Synthesis of Intelligent Antenna Array Using Radial Basis Function Networks “, *IEEE Conf. TELSIKS’13*, Niš, Serbia, September 2013, Vol.2, pp. 521-525.

Maja Sarevska, Zoran Stanković and Bratislav Milovanović, ”Antenna Array Synthesis for Triangle Amplitude Distribution”, *Conf. ICIST 2012 - 2nd*

International Conference on Information Society Technology, Kopaonik, Serbia, March 2012, pp.200-204.

M. Sarevska, R. Ajjan & Sen Cheng, "Robustness of sequence association in two-layer feedforward network", *Bernstain Conf,* Tubingen, Germany, September 2013. (Abstract)

Maja Sarevska, "Robustness of two-layerd feedforward neural network", *Int. Sci. Conf. Sinteza*, Belgrade, April, 2017.

Zoran Stanković, Nebojsa Doncov, Ivan Milovanović, **Maja Sarevska**, Bratislav Milovanović, "Neural Model for far-field 1D localization of mobile stochastic EM sources with partially correlated radiation", *Int. Sci. Conf. Sinteza*, Belgrade, April, 2017.

Zoran Stankovic, Ivan Milovanović, Nebojsa Doncov, **Maja Sarevska**, and Bratislav Milovanovic, "Estimation of the EM Wave Phase Delay in the Ionosphere Using Neural Network", *Int. Sci. Conf. Icest'2017*, Niš, June, 2017.

Maja Sarevska, "Sequence association in two-layered feedforward neural network", *International Journal of Neural Networks and Advanced Applications,* NAUN, vol. 5, pp.40-44, May, 2018.

Maja Sarevska, Zoran Stankovic, Nebojsa Doncov, Ivan Milovanovic and Bratislav Milovanovic, "Design of well-matched UHF Planar Bowtie Dipole Antenna using Neural Model", TELSIKS, Nis, Serbia, October 23-25, 2019.

Zoran Stankovic, Nebojsa Doncov, Biljana Stosic, **Maja Sarevska,** and Ivan Milovanovic, "Design of well-matched Microwave Slot Antenna on a Flat Metal Grounded Plate using Neural Model", *Int. Sci. Conf. Icest'2020*, Niš, September, 2020.

Zoran Stankovic, **Maja Sarevska**, and Nebojsa Doncov, "Faraday Polarization Rotation in the Ionosphere Using Radial Basis Function ANN", TELSIKS, Nis, Serbia, October 20-22, 2021.

Zoran Stankovic, **Maja Sarevska**, Nebojsa Doncov, and Ksenija Pesic "Planar Archimedean Spiral Antenna Resonant Frequency and Bandwidth Estimation using MLP Neural Network", *ETRAN*, Novi Pazar, June, 2022.

Maja Sarevska, "RBF Neural Networks and Antenna Systems", *WSEAS Transactions on Electronics*, 13, 107-112, September, 2022.