

Curriculum vitae

Nikša Tadić

General information

- Birth date: March 27, 1966.
- Sex: Male
- Marital Status: Married
- Citizenship: Montenegro
- Native language: Montenegrin
- Foreign language: English active knowledge.

Education

- Ph.D., July 27, 2000, in Electrical Engineering at the University of Montenegro, Department of Electrical Engineering, Podgorica, Montenegro, Federal Republic of Yugoslavia. Ph.D. Thesis: “Resistive mirror based voltage controlled resistors”.
- M.S., June 12, 1996, in Electrical Engineering at the University of Montenegro, Department of Electrical Engineering, Podgorica, Montenegro, Federal Republic of Yugoslavia. M.S. Thesis: “Microprocessor based new measuring techniques”.
- B.S., October 14, 1992, in Electrical Engineering at the University of Montenegro, Department of Electrical Engineering, Podgorica, Montenegro, Federal Republic of Yugoslavia. Diploma Thesis: “Microcontroller based instrument for impedance measurement of capacitors and inductors”.

Academic employment

- June 2nd, 2011 – present: Full Professor at the University of Montenegro, Faculty of Electrical Engineering, Podgorica, Republic of Montenegro.
- June 1st, 2006 – June 2nd, 2011: Associate Professor at the University of Montenegro, Faculty of Electrical Engineering, Podgorica, Republic of Montenegro.
- June 13th, 2001 – June 1st, 2006: Assistant Professor at the University of Montenegro, Department of Electrical Engineering, Podgorica, Montenegro, Federal Republic of Yugoslavia.
- July 1st, 1995 - June 13th, 2001: Research and Teaching Assistant at the University of Montenegro, Department of Electrical Engineering, Podgorica, Montenegro, Federal Republic of Yugoslavia.

Courses taught

- Undergraduate studies
 - Fundamentals of electronics,
 - Computer hardware.
- Graduate studies
 - VLSI design,
 - Electronic instrumentation,
 - Analog integrated circuit design,
 - Integrated micro-systems,
 - Microprocessor instrumentation.
- Doctoral studies
 - Nanotechnologies.

Position held

- June 2005 – December 2006: Chief of the academic study program of Electronics, Telecommunications and Computers, University of Montenegro, Department of Electrical Engineering, Podgorica, Montenegro,
- May 2002 – June 2004: Coordinator of the Electrical Engineering Laboratory, University of Montenegro, Department of Electrical Engineering, Podgorica, Montenegro,
- September 2003 – May 2004: Vice-President of the Council of the Department of Electrical Engineering, University of Montenegro, Department of Electrical Engineering, Podgorica, Montenegro.

Professional activities

- **Professional society memberships**
 - 2001 – present: *Member of the Institute of Electrical and Electronics Engineers (IEEE): IEEE Instrumentation and Measurement Society (since 1995), IEEE Solid-State Circuits Society (since 1998), IEEE Circuits and Systems Society (since 2003),*
 - 1995-2001: *Associate Member of the Institute of Electrical and Electronics Engineers (IEEE): IEEE Instrumentation and Measurement Society (since 1995), IEEE Solid-State Circuits Society (since 1998).*
- **Other service to profession**
 - 2000 – present: *Reviewer of the IEEE Transactions on Instrumentation and Measurement,*

- 2004 – present: Reviewer of the *International Journal of Electronics*,
- 2006 – present: Reviewer of the *IEEE Transactions on Circuits and Systems, part II: Express Briefs*,
- 2007 – present: Reviewer of the *IET, Circuits, Devices and Systems*,
- 2007 – present: Reviewer of the *IET, Electronics Letters*,
- 2010 – present: Reviewer of the *Journal of Circuits, Systems, and Computers*,
- 1994 – 1995: Member of the Mass Commission of the Yugoslav Federal Bureau for Measures and Precious Metals,
- April 2003 – 2007: President of the Commission for the secondary school programs in the areas of electronics, telecommunications and computers in the Republic of Montenegro.

Industrial experience

- May 1, 1992 - July 1, 1995: Research assistant at the EMI, Podgorica.

Research interest

- Analog integrated circuit design (low-voltage design, current-mode circuits);
- Optoelectronic integrated circuit design;
- Smart sensors and interfaces (sensor signal conditioning, integrated sensor interfaces);
- Integrated microsystems;
- CAD tools (CADENCE, SPICE).

Fellowships

- July 1st, 2015 – August 31st, 2015: scientific research project
 - Allocated by Vienna University of Technology (August),
 - Project: Experimental verification of the current source with $1/(T-t)$ time dependence in 0.35 μm BiCMOS technology,
 - Supervisor: Prof. Dr Horst Zimmermann,
 - Research institution:
Vienna University of Technology
Faculty of Electrical Engineering and Information Technology
Institute of Electrodynamics, Microwave and Circuit Engineering
Group for Circuit Design
Gusshausstrasse 25/354, A-1040 Vienna, Austria

- July 2nd, 2014 – August 31st, 2014: scientific research project
 - Allocated by Vienna University of Technology (August),
 - Project: Current source with $1/(T-t)$ time dependence in 0.35 μm BiCMOS technology,
 - Supervisor: Prof. Dr Horst Zimmermann,
 - Research institution:
Vienna University of Technology
Faculty of Electrical Engineering and Information Technology
Institute of Electrodynamics, Microwave and Circuit Engineering
Group for Circuit Design
Gusshausstrasse 25/354, A-1040 Vienna, Austria

- July 1st, 2013 – August 31st, 2013: scientific research project
 - Allocated by Vienna University of Technology (August),
 - Project: Experimental verification of the negative resistance based operational amplifier in 0.35 μm CMOS technology,
 - Supervisor: Prof. Dr Horst Zimmermann,
 - Research institution:
Vienna University of Technology
Faculty of Electrical Engineering and Information Technology
Institute of Electrodynamics, Microwave and Circuit Engineering
Group for Circuit Design
Gusshausstrasse 25/354, A-1040 Vienna, Austria

- July 1st, 2012 – August 30th, 2012: scientific research project
 - Allocated by Vienna University of Technology,
 - Project: Optical sensor front-end for optical distance measurement in 0.35 μm CMOS technology using frequency shifted feedback laser,
 - Supervisor: Prof. Dr Horst Zimmermann,
 - Research institution:
Vienna University of Technology
Faculty of Electrical Engineering and Information Technology
Institute of Electrodynamics, Microwave and Circuit Engineering
Group for Circuit Design
Gusshausstrasse 25/354, A-1040 Vienna, Austria

- July 2nd, 2011 – August 31st, 2011: scientific research project
 - Allocated by World University Service – Austria (July), Vienna University of Technology (August),

- Project: Negative resistance based operational amplifier in 0.35 μm CMOS technology,
- Supervisor: Prof. Dr Horst Zimmermann,
- Research institution:
Vienna University of Technology
Faculty of Electrical Engineering and Information Technology
Institute of Electrodynamics, Microwave and Circuit Engineering
Group for Circuit Design
Gusshausstrasse 25/354, A-1040 Vienna, Austria

- June 30th, 2010 – August 30th, 2010: scientific research project
 - Allocated by Vienna University of Technology (August),
 - Project: Four-stage operational amplifier in 0.6 μm CMOS technology,
 - Supervisor: Prof. Dr Horst Zimmermann,
 - Research institution:
Vienna University of Technology
Faculty of Electrical Engineering and Information Technology
Institute of Electrodynamics, Microwave and Circuit Engineering
Group for Circuit Design
Gusshausstrasse 25/354, A-1040 Vienna, Austria

- July 1st, 2009 – September 1st, 2009: scientific research project
 - Allocated by World University Service – Austria (July), Vienna University of Technology (August),
 - Project: Experimental verification of the optical receiver with variable transimpedance using BJT translinear loop,
 - Supervisor: Prof. Dr Horst Zimmermann,
 - Research institution:
Vienna University of Technology
Faculty of Electrical Engineering and Information Technology
Institute of Electrodynamics, Microwave and Circuit Engineering
Group for Circuit Design
Gusshausstrasse 25/354, A-1040 Vienna, Austria

- July 1st, 2008 – September 1st, 2008: scientific research project
 - Allocated by World University Service – Austria (July), Vienna University of Technology (August),
 - Project: Optical receiver with variable transimpedance using BJT translinear loop,
 - Supervisor: Prof. Dr Horst Zimmermann,
 - Research institution:
Vienna University of Technology
Faculty of Electrical Engineering and Information Technology

Institute of Electrical Measurements and Circuit Design
Group for Circuit Design
Gusshausstrasse 25/354, A-1040 Vienna, Austria

- July 1st, 2007 – September 1st, 2007: scientific research project
 - Allocated by World University Service – Austria (July), Vienna University of Technology (August),
 - Project: Experimental verification of the optical receiver with wide transimpedance bandwidth product,
 - Supervisor: Prof. Dr Horst Zimmermann,
 - Research institution:
Vienna University of Technology
Faculty of Electrical Engineering and Information Technology
Institute of Electrical Measurements and Circuit Design
Group for Circuit Design
Gusshausstrasse 25/354, A-1040 Vienna, Austria

- July 1st, 2006 – September 1st, 2006: scientific research project
 - Allocated by World University Service – Austria (July), Vienna University of Technology (August),
 - Project: Optical receiver with wide transimpedance bandwidth product,
 - Supervisor: Prof. Dr Horst Zimmermann,
 - Research institution:
Vienna University of Technology
Faculty of Electrical Engineering and Information Technology
Institute of Electrical Measurements and Circuit Design
Group for Circuit Design
Gusshausstrasse 25/354, A-1040 Vienna, Austria

- June 15th, 2004 – June 15th, 2005: Lise Meitner Postdoctoral Research Position
 - Allocated by Austrian Science Fund (FWF),
 - Project: Optical receiver with electronically tunable sensitivity (project number: M820-N02),
 - Supervisor: Prof. Dr Horst Zimmermann,
 - Research institution:
Vienna University of Technology
Faculty of Electrical Engineering and Information Technology
Institute of Electrical Measurements and Circuit Design
Group for Circuit Design
Gusshausstrasse 25/354, A-1040 Vienna, Austria

Awards

- Member of the Top 100 Engineers 2011 of the International Biographical Centre, Cambridge, England.
- Biography record in Marquis Who's Who in the World, 28th edition, 2011.
- Biography record in Marquis Who's Who in the World, 27th edition, 2010.
- Member of the Top 100 Engineers 2009 of the International Biographical Centre, Cambridge, England.
- Biography record in Marquis Who's Who in the World, 26th edition, 2009.
- Certificate of Excellence by WUS Austria in honour of outstanding performance and dedication in the category Best Overall Course implemented within 2005 - 2007 Course Development Program + in Montenegro, 13.11.2007;
- 1994. Award of the Montenegrin Fund for Innovation;
- 1989. Award for the best student of the generation at the Department of Electrical Engineering, University of Montenegro;
- 1987. Student award "19. December".

Invited lectures

- N. Tadić, "Razvoj dizajnerskih centara u oblasti poluprovodničkih integrisanih tehnologija u Crnoj Gori", Electrical Engineering Students' European Association (EESTEC, Local Committee Podgorica), Plava sala Rektorata Univerziteta Crne Gore, Podgorica, Crna Gora, 17.04.2015.
- N. Tadić, "Rail-to-rail operacioni pojačavač na bazi ulaznih adaptera u integrisanoj BiCMOS tehnologiji", inauguraciono predavanje za izbor u zvanje redovnog profesora, Rektorat Univerziteta Crne Gore, Podgorica, Crna Gora, 19.04.2011.
- N. Tadić, "Od katodne cijevi do nanotehnologija", Zimska škola nauke, Budva, Crna Gora, 23.12.2010.
- N. Tadić, "Optički medijumi za memorisanje podataka", Drugi festival nauke – Noć istraživača (tribine), Podgorica, Crna Gora, 24.09.2010.
- N. Tadić, "Perspektive razvoja visokih tehnologija u Crnoj Gori u XXI vijeku", u sklopu projekta "Crna Gora u XXI vijeku - u eri kompetitivnosti (nauka i tehnologija)", Crnogorska akademija nauka i umjetnosti, Podgorica, 09.04.2010.
- N. Tadić, "Optical receiver with voltage-controlled transimpedance in BiCMOS technology", University of Montenegro, Department of Electrical Engineering, Podgorica, Montenegro, February 4th, 2005 (within the project "Piloting Solutions for Alleviating Brain-drain in Bosnia and Herzegovina, Croatia, and Serbia and Montenegro", organized through the UNESCO – Hewlett-Packard partnership).
- N. Tadić, "Voltage- or current-controlled resistors: versatile active circuit elements", Swiss Federal Institute of Technology, Lausanne, Switzerland, September 5, 2001.
- N. Tadić, "Electronically variable semiconductor resistors", Physikalisch-Technische Bundesanstalt, Braunschweig, Germany, April 26, 2001.

Contact

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- Fax: +382 20 245 873
- E-mail: niksa_tadic@yahoo.com
- Web site: niksatadic.me

List of scientific publications

- ***Papers published in the leading international scientific journals***

- [A1] N. Tadić, S. Schidl, and H. Zimmermann, "Vertical triple-junction RGB optical sensor with signal processing based on the determination of the space-charge region borders", *Optics Letters*, vol. 39, issue 17, pp. 5042-5045, September 1, 2014.
- [A2] N. Tadić, M. Zogović, and D. Gobović, "A CMOS controllable constant-power source for variable resistive loads using resistive mirror with large load resistance dynamic range", *IEEE Sensors Journal*, vol. 14, pp. 1988-1996, June 2014.
- [A3] N. Tadić, M. Zogović, W. Gaberl, and H. Zimmermann, "On frequency response and stability of an optical frontend with variable-gain current amplifier using a BJT translinear loop", *International Journal of Circuit Theory and Applications*, vol. 41, issue 8, pp. 792-817, August 2013.
- [A4] N. Tadić, M. Zogović, W. Gaberl, and H. Zimmermann, "A 78.4 dB photo-sensitivity dynamic range, 285 TΩHz transimpedance bandwidth product BiCMOS optical sensor for optical storage systems", *IEEE Journal of Solid-State Circuits*, vol. 46, pp. 1170-1182, May 2011.
- [A5] N. Tadić, W. Gaberl, M. Zogović, and H. Zimmermann, "A BJT Translinear Loop Based Optoelectronic Integrated Circuit with Variable Transimpedance for Optical Storage Systems", *Analog Integrated Circuits and Signal Processing*, vol. 66, no. 2, pp. 293-298, February 2011.
- [A6] N. Tadić, M. Zogović, M. Banjević, and H. Zimmermann, "A Low-Voltage CMOS Adapter Circuit Suitable for Input Rail-to-Rail Operation", *International Journal of Electronics*, vol. 97, no. 11, pp. 1283-1309, November 2010.
- [A7] N. Tadić, M. Banjević, F. Schloegl, and H. Zimmermann, "Rail-to-rail BiCMOS operational amplifier using input signal adapters with floating outputs", *Analog Integrated Circuits and Signal Processing*, vol. 63, no. 3, pp. 433-449, June 2010.
- [A8] N. Tadić, A. Marchlewski, and H. Zimmermann, "A 122 TΩHz transimpedance bandwidth product BiCMOS optical sensor front-end with a 54.7 dB voltage-controlled photo-sensitivity range", *Analog Integrated Circuits and Signal Processing*, vol. 61, no. 1, pp. 19-33, October 2009.

- [A9] N. Tadić and H. Zimmermann, "Optical receiver with widely tunable sensitivity in BiCMOS technology", *IEEE Transactions on Circuits and Systems, part I: Regular papers*, vol. 55, pp. 1223-1236, June 2008.
- [A10] N. Tadić, A. Marchlewski, and H. Zimmermann, "BiCMOS optical receiver with 54.7 dB voltage-controlled sensitivity range", *Electronics Letters*, vol.44, no. 6, pp. 440-441, 13th March 2008.
- [A11] N. Tadić and D. Gobović, "Smart sensor interfacing circuit using square-rooting current-to-frequency conversion", *International Journal of Electronics*, vol. 94, no. 12, pp. 1075-1098, December 2007.
- [A12] N. Tadić and H. Zimmermann, "Low-power BiCMOS optical receiver with voltage-controlled transimpedance", *IEEE Journal of Solid-State Circuits*, vol. 42, pp. 613-626, March 2007.
- [A13] N. Tadić and H. Zimmermann, "Highly linear BiCMOS optical receiver with voltage-controlled sensitivity", *Electronics Letters*, vol. 42, no. 2, pp. 116-117, 19th January 2006.
- [A14] N. Tadić and D. Gobović, "A square-rooting current-to-frequency converter", *IEEE Transactions on Instrumentation and Measurement*, vol. 52, pp. 1035-1040, August 2003.
- [A15] N. Tadić and D. Gobović, "Current-controlled CMOS transconductor using bisection of input voltage", *Electronics Letters*, vol. 39, no. 1, pp. 45-46, 9th January 2003.
- [A16] N. Tadić and D. Gobović, "A voltage-controlled resistor in CMOS technology using bisection of the voltage range", *IEEE Transactions on Instrumentation and Measurement*, vol. 50, pp. 1704-1710, December 2001.
- [A17] N. Tadić and D. Gobović, "Self-balancing linear bridge circuits with resistive mirrors for resistance measurement," *IEEE Transactions on Instrumentation and Measurement*, vol. 49, pp. 1318-1325, December 2000.
- [A18] N. Tadić, "Resistive mirror with the current-mode approach in bipolar technology," *IEEE Transactions on Instrumentation and Measurement*, vol. 49, pp. 132-136, February 2000.
- [A19] N. Tadić, "Resistive mirror-based voltage controlled resistor with generalized active devices," *IEEE Transactions on Instrumentation and Measurement*, vol. 47, pp. 587-591, April 1998.

- **Papers published in other scientific journals (titles are in the language in which the papers appeared):**

- [B1] N. Tadić and D. Gobović, "Naponom kontrolisan otpornik sa negativnim otpornostima u BiFET tehnologiji," *ETF Journal of Electrical Engineering*, vol. 9-10, no. 1, pp. 92-101, October 2001.
- [B2] N. Tadić and D. Gobović, "Resistive mirror-based voltage-controlled resistor with the current-mode approach in bipolar technology," *ETF Journal of Electrical Engineering*, vol. 8, no. 1, pp. 67-86, November 1999.
- [B3] N. Tadić, "Naponom kontrolisan otpornik na bazi otpornog ogledala - realizacija korišćenjem MOSFET-ova", *ETF Journal of Electrical Engineering*, vol. 7, no. 1, pp. 118-129, April 1998.

- **Papers presented on the leading international scientific conferences:**

- [C1] N. Tadić and M. Zogović, "A low-voltage CMOS voltage-controlled resistor with wide resistance dynamic range", in *Proceedings of the IEEE International Conference on Microelectronics MIEL 2010*, Niš, Serbia, pp. 341-344, 16-19 May, 2010.

- [C2] N. Tadić, M. Banjević, F. Schloegl, and H. Zimmermann, "Input adapter based BiCMOS operational amplifier with rail-to-rail capability", in *Proceedings of the IEEE International Conference on Microelectronics MIEL 2008*, Niš, Serbia, pp. 403-406, 11-14 May, 2008.
- [C3] N. Tadić, A. Marchlewski, and H. Zimmermann, "Optical receiver with voltage-controlled transimpedance in BiCMOS technology with a gain bandwidth product of 126 TΩHz", in *Proceedings of the IEEE International Conference on Microelectronics MIEL 2008*, Niš, Serbia, pp. 399-402, 11-14 May, 2008.
- [C4] N. Tadić and H. Zimmermann, "Optical receiver with voltage-controlled transimpedance in BiCMOS technology", in *Proceedings of the IEEE International Conference on Microelectronics MIEL 2006*, Belgrade, Serbia and Montenegro, pp. 421-424, 14-17 May, 2006.
- [C5] N. Tadić and D. Gobović, "A square-rooting current-to-frequency converter," in *Proceedings of the IEEE Instrumentation and Measurement Technology Conference IMTC/2002*, Anchorage, AK, USA, pp. 1393-1398, May 21-23 2002.
- [C6] N. Tadić and D. Gobović, "A floating, negative resistance voltage-controlled resistor", in *Proceedings of the IEEE Instrumentation and Measurement Technology Conference IMTC/2001*, Budapest, Hungary, pp. 437-442, May 21-23, 2001.
- [C7] N. Tadić and D. Gobović, "A voltage-controlled resistor in CMOS technology using bisection of the voltage range", in *Proceedings of the IEEE Instrumentation and Measurement Technology Conference IMTC/2000*, Baltimore, USA, pp. 925-930, May 1-4, 2000.
- [C8] N. Tadić and D. Gobović, "Self-Balancing DC bridge circuits using resistive mirror-based voltage-controlled resistors", in *Proceedings of the IEEE Instrumentation and Measurement Technology Conference IMTC/2000*, Baltimore, USA, pp. 1176-1181, May 1-4, 2000.
- [C9] N. Tadić, "A β -error elimination in the translinear reduction of the "log-antilog" multiplier/divider," in *Proceedings of the IEEE Instrumentation and Measurement Technology Conference IMTC/99*, Venice, Italy, pp. 525-530, May 24-26, 1999.
- [C10] N. Tadić, "Resistive mirror-based voltage-controlled resistor," in *Proceedings of the IEEE Instrumentation and Measurement Technology Conference IMTC/98*, St. Paul, Minnesota, USA, pp. 760-765, May 18-21, 1998.

- ***Papers presented on the less significant international scientific conferences (titles are in the language in which the papers appeared):***

- [D1] N. Tadić, R. Dragović-Ivanović, i Z. Mijanović, "Elektronički pokazni uređaj mjerila mase klase tačnosti III za mjerenje mase u industriji," 18. mjeriteljski simpozijum, Cavtat, Hrvatska, 8.-10. oktobar, 2001.

- ***Papers presented on Yugoslav (Serbian and Montenegrin) scientific conferences (titles are in the language in which the papers appeared):***

- [E1] N. Tadić, D. Gobović, i M. Banjević, "Current differencing CMOS voltage-controlled transconductor and resistor", *XLIX Konferencija ETRAN-a*, Budva, sveska I, str. 83-85, June 5-10, 2005.

- [E2] N. Tadić, D. Gobović, i M. Radulović, "Electronically tunable negative resistance device", rad po pozivu, *XLV Konferencija ETRAN-a*, Arandjelovac-Bukovička Banja, sveska I, str. 57-62, June 4-7, 2001.
- [E3] N. Tadić, D. Gobović, i Rada Dragović-Ivanović, "Naponom ili strujom kontrolisan otpornik u CMOS tehnologiji sa polovljenjem ulaznog napona", Kongres metrologa Jugoslavije, Novi Sad, 15.-17. novembar 2000.
- [E4] N. Tadić, D. Gobović, i M. Radulović, "Automatic balancing of linear DC bridge circuits using resistive mirrors", *XLIV Konferencija ETRAN-a*, Soko Banja, sveska I, str. 72-75, 26.-29. jun 2000.
- [E5] D. Gobović i N. Tadić, "An analog multiplier/divider using the modification of the translinear reduction of the "log-antilog" approach", *Zbornik radova XLIII Konferencije ETRAN-a*, Zlatibor, sveska I, str. 65-68, 20.-22. septembar 1999.
- [E6] N. Tadić i D. Gobović, "A resistive mirror using the multiplier/divider with the current-mode approach in bipolar technology", *Zbornik radova XLIII Konferencije ETRAN-a*, Zlatibor, 20.-22. septembar 1999., sveska I, str. 61-64.
- [E7] N. Tadić, "Strujom kontrolisan otpornik na bazi pretvaranja transkonduktanse u otpornost", *Zbornik radova Simpozijuma o merenjima i mernoj opremi*, Beograd, 6.-8. oktobar 1998., knjiga I, str. 497-504.
- [E8] N. Tadić, "Naponom kontrolisan otpornik na bazi otpornog ogedala", *Zbornik radova XLI Konferencije ETRAN-a*, Zlatibor, 3.-6. jun 1997., sveska I, str. 23-26.
- [E9] N. Tadić i Đ. Jovanović, "4-kvadrantni računarski upravljani naponsko-strujni izvor za napajanje", *Zbornik radova XXXIX Konferencije ETRAN-a*, Zlatibor, 6.-9. jun 1995., sveska I, str. 96-98.
- [E10] Z. Mijanović, Đ. Jovanović, i N. Tadić, "Sistem za automatsko ispitivanje elektronskih komponenti", *Zbornik radova XXXIX Konferencije ETRAN-a*, Zlatibor, 6.-9. jun 1995., sveska I, str. 42-44.
- [E11] N. Tadić i Z. Mijanović, "LCR-metar upravljani mikrokontrolerom", *XXXVII Konferencija ETRAN-a*, Beograd, 20.-23. septembar 1993.