

PERSONAL INFORMATION

Călin Vlădeanu



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Sex Male | Date of birth 20/02/1975 | Nationality Romanian

JOB APPLIED FOR  
POSITION  
PREFERRED JOB  
STUDIES APPLIED FOR

WORK EXPERIENCE

01.10.2014 – present

**Professor**

"Politehnica" University of Bucharest, Romania, Faculty of Electronics, Telecommunications and Information Technology, Telecommunications Department

- lecture / applications in: Advanced Data Communications; Computer Networks

2008 – 2014

Business or sector Education

**Associate Professor**

"Politehnica" University of Bucharest, Romania, Faculty of Electronics, Telecommunications and Information Technology, Telecommunications Department

- lecture / applications in: Data Communications; Computer Networks

2004 – 2008

Business or sector Education

**Lecturer**

"Politehnica" University of Bucharest, Romania, Faculty of Electronics, Telecommunications and Information Technology, Telecommunications Department

- lecture / applications in: Data Communications; Data Transmissions
- applications in: Data Transmissions, Computer Networks

1998 – 2004

Business or sector Education

**Teacher Assistant**

"Politehnica" University of Bucharest, Romania, Faculty of Electronics, Telecommunications and Information Technology, Telecommunications Department

- applications in: Data Communications; Data Transmissions; Computer Networks

Business or sector Education

EDUCATION AND TRAINING

2014

**Habilitation Thesis**

"Politehnica" University of Bucharest, Romania, Faculty of Electronics and Telecommunications, Telecommunications Department

- Electronics and Telecommunications

2010-2013

***Non-conventional Coding and Modulation Techniques for Data Transmissions***  
**Post-Doctoral fellowship**

grant POSDRU/89/1.5/S/62557, EXCEL, "Politehnica" University of Bucharest, Romania

- Cognitive Communications in the Context of the Future Internet
  - *Applications of Non-linear Dynamical Systems for Numerical Transmissions over Wireless Channels*
- 1999-2006 **PhD**  
 "Politehnica" University of Bucharest, Romania, Faculty of Electronics and Telecommunications, Telecommunications Department
- Mobile Communications
  - *Contributions to DS-CDMA Mobile Communications Systems. Chaotic spreading sequences with better correlation properties than conventional sequences*
- 1998-1999 **Master of Science in Electrical Engineering (MSEE)**  
 "Politehnica" University of Bucharest, Romania, Faculty of Electronics and Telecommunications, Telecommunications Department
- Telecommunication Networks
  - *The Carrierless Amplitude-Phase Modulation Technique*
- 1993-1998 **Bachelor of Science, Electrical Engineering (BSEE)**  
 "Politehnica" University of Bucharest, Romania, Faculty of Electronics and Telecommunications, Telecommunications Department
- Transmission and Processing of Data and Voice Signals
  - *An Orthogonally Frequency Division Multiplexing Modulation Technique*

PERSONAL SKILLS

Mother tongue(s) Romanian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1
French	C2	B1	B1	B2	A1

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 gained through my experience as teacher and researcher

Organisational / managerial skills ▪ Management skills – Director of 3 CNCSIS/UEFISCDI grants (1TD + 1AT + 1TE); responsible for a team of up to 4 people  
 ▪ Member of several international and national conferences organizing committees;

Job-related skills ▪ Design, Implementation, and Testing of Telecommunications systems using Matlab and C programming - implementing and testing signal processing algorithms for: channel coding, MIMO, OFDM, CDMA, etc.;  
 ▪ participant to 12 national grants and 1 international grant - involved in activities for physical layer design and testing in several mobile communications systems;  
 ▪ Member of several international and national conferences / journals technical committees (more than 50 reviews of research papers);

Computer skills ▪ preparation of research reports and dissemination - good command of Microsoft Office™ and Latex tools

Driving licence ▪ B category from 1996;

## ADDITIONAL INFORMATION

## Publications

## Books

1. **C. Vlădeanu, S. El Assad**, *Nonlinear Digital Encoders for Data Communications*, Ed. **John Wiley & Sons**, 2014, ISBN 978-1-84821-649-5.
2. **C. Vlădeanu**, *Signal Detection in DS-CDMA Systems* (in Romanian), Ed. Printech, Bucharest, Romania, 2013.
3. **C. Vlădeanu**, *High Performances Chaotic Spreading Sequences for DS-CDMA Systems*, (in Romanian), Ed. Printech, Bucharest, Romania, 2008.
4. **C. Vlădeanu, I. Bănică, S. Popescu**, *Data Communications Systems and Networks* (in English), Ed. Printech, Bucharest, Romania, 2007.
5. **C. Vlădeanu**, *Spreading sequences for the DS-CDMA system*, (in Romanian), "ELECTRONICA 2000", Bucharest, Romania, 2003.

## Journals (selected)

1. **C. Vlădeanu, C. V. Năstase, A. Marțian**, *Energy Detection Algorithm for Spectrum Sensing Using Three Consecutive Sensing Events*, *IEEE Wireless Comm. Letters*, DOI: [10.1109/LWC.2016.2543723](https://doi.org/10.1109/LWC.2016.2543723), vol. 5, pp. 284-287, June 2016, ISSN 2162-2337.
2. **C. Vlădeanu, I. Bănică, B. O. Hogstad, M. Pätzold, C. E. D. Sterian**, *Combining Super-Orthogonal Space-Frequency Trellis Coding, Constellation Shaping by Shell Mapping, and OFDM for High Data Rate Broadband Mobile Communications*, *Transactions on Emerging Telecommunications Technologies (ETT)*, Wiley, 2014, ISSN 2161-3915, vol. 28, Issue 1, January 2017.
3. **C. Vlădeanu**, *Coding Gain Distance Exact Estimation for Space-Time Trellis Coded Modulation*, *Circuits, Systems, and Signal Processing*, Springer, Birkhäuser Boston, vol. 32, no. 2, pp. 919-929, Apr. 2013, ISSN 0278-081X.
4. **C. Vlădeanu, S. El Assad**, *Hybrid Maximum-Likelihood Detector for Trellis Coded Spatial Modulation*, *Revue Roumaine des Sciences Techniques – Serie Electrotechnique et Energetique*, Ed. Academiei Romane, vol. 57, no. 4, pp. 383-393, Bucharest, Romania, 2012.
5. **C. Vlădeanu, S. El Assad, I. Marghescu, A.F. Paun, J.-C. Carlach, and R. Quéré**, *Recursive GF(2<sup>N</sup>) Encoders Using Left-Circulate Function for Optimum TCM Schemes*, *Revue Roumaine des Sciences Techniques – Serie Electrotechnique et Energetique*, Ed. Academiei Romane, vol. 55, no. 3, pp. 320-329, Bucharest, Romania, 2010.
6. **C. Vlădeanu, S. El Assad, J.-C. Carlach, R. Quéré, and I. Marghescu**, *Recursive GF(2<sup>N</sup>) Encoders Using Left-Circulate Function for Optimum PSK-TCM Schemes*, *Elsevier Signal Processing*, vol. 90, no. 9, pp. 2708-2713, Sept., 2010 doi:10.1016/j.sigpro.2010.03.021.
7. **C. Vlădeanu, S. El Assad, J.-C. Carlach, R. Quéré**, *Improved Frey Chaotic Digital Encoder for Trellis-Coded Modulation*, *IEEE Trans. Circuits and Systems – II*, vol. 56, no. 6, pp. 509-513, June, 2009.
8. **C. Vlădeanu, C. Paleologu, I. Marghescu**, *Multilevel Chaos-Based Spreading Sequences for DS-CDMA System Performance Improvement*, *Revue Roumaine des Sciences Techniques – Serie Electrotechnique et Energetique*, 2008.
9. **C. Vlădeanu, C. Paleologu**, *Fast convergence adaptive MMSE receiver for asynchronous DS-CDMA systems*, *Revue Roumaine des Sciences Techniques – Serie Electrotechnique et Energetique*, Tome 52, no. 1, pp. 51-60, Jan.-Mar., 2007.

## Projects

1. *New Convolutional Coding Schemes with Reduced Complexity Operating over Higher Order Galois Fields for Channel Error Correction*, grant UEFISCSU type RU-TE, 2010-2013, manager C. Vlădeanu.
2. *New Turbo Multi-User Detection receivers for CDMA systems*, 2007-2008, grant CNCSIS AT, manager C. Vlădeanu.
3. *Performance Analysis of DS-CDMA Mobile Communications Systems*, grant CNCSIS Type Td, 2004-2005, CNCSIS Code 471, phase 1 (*Spreading sequences for the DS-CDMA system - 2004*) and phase 2 (*BER performances analysis for the DS-CDMA system using chaotic sequences - 2005*), manager C. Vlădeanu.
4. *Cognitive Radio Technology and RF Spectrum Efficient Utilization*, UEFISCSU Grant, PN-II-PCE-Ideii, 2007-2011, manager I. Marghescu.
5. *New Adaptive Receivers for CDMA Communications Systems*, Grant type CEEX-ET, MEC-UEFISCSU, 2006-2008, manager C. Paleologu.
6. *A new family of least squares adaptive algorithms suitable for finite precision implementation*, 2004, AT type contract, CNCSIS, manager C. Paleologu.
7. *Multimedia Communications Systems, phase IV (2002): Fast adaptive algorithms for channel equalization and interference cancellation in multimedia communications systems*, Orizont 2000, UPB-ITC-ANSTI, nr.540 /2000, Manager Adelaida Mateescu.
8. *Multimedia Communications Systems, phase III (2001): A study of access systems in multimedia communications systems: new solutions*, Orizont 2000, UPB-ITC-ANSTI, nr.540 /2000, Manager Adelaida Mateescu.
9. *Access interfaces of the telecommunications network to the global communications network*, UPB-ANSTI, nr.836 /A6, 2000, Manager Adelaida Mateescu.

## Conferences (selected)

1. M. J. Ahmad Al Sammarraie, A. Martian and **C. Vlădeanu**, "Adaptive IED Spectrum Sensing Algorithm for Different Duty Cycle Values," 2018 International Conference on Communications (COMM), Bucharest, Romania, 2018, pp. 51-54. doi: 10.1109/ICComm.2018.8430110
2. C. Năstase, A. Marțian, **C. Vlădeanu** and I. Marghescu, "Spectrum Sensing Based on Energy Detection Algorithms Using GNU Radio and USRP for Cognitive Radio," 2018 International Conference on Communications (COMM), Bucharest, Romania, 2018, pp. 381-384. doi: 10.1109/ICComm.2018.8430143
3. A. Marțian and **C. Vlădeanu**, "On the Compromise between Delay and Performance of the Three-Event Energy Detection Algorithm in Cognitive Radio Systems," 12th IEEE International Symposium on Electronics and Telecommunications (ISETC), Timisoara, ROMANIA, OCT 27-28, 2016, pp. 111-115, ISBN:978-1-5090-3748-3.
4. E. I. Dobre, **C. Vlădeanu**, and A. Marțian, "USRP-based Experimental Platform for Energy Detection in Cognitive Radio Systems," IEEE 11th International Conference on Communications (COMM), Bucharest, ROMANIA, JUN 09-11, 2016, pp. 185-188, ISBN: 978-1-4673-8197-0.
5. C. V. Năstase, A. Marțian, **C. Vlădeanu**, I. Marghescu, *An Accurate Average Energy Detection Algorithm for Spectrum Sensing in Cognitive Radio Systems*, IEEE 11th International Symposium on Electronics and Telecommunications - ISETC 2014, Timisoara, Romania, Nov. 14-15, 2014.
6. **C. Vlădeanu**, *Spatial Modulation with Joint Antenna Index and Symbol Index Turbo Trellis Coding*, IEEE 11th Int. Symp. on Signals, Circuits and Systems - ISSCS 2013, p. 1-4, Iași, Romania, 11 - 12 July, 2013.
7. **C. Vlădeanu**, *Turbo Trellis-Coded Spatial Modulation*, IEEE Global Communications Conference - GLOBECOM 2012, pp. 4240-4245, Anaheim, CA, USA, Dec. 3-7, 2012.
8. **C. Vlădeanu**, A. Marțian, A.F. Paun, S. El Assad, *A New ML Detector for Trellis-Coded Spatial Modulation Using Hard and Soft Estimates*, IEEE 10th International Symposium on Electronics and Telecommunications - ISETC 2012, pp. 143-146, Timisoara, Romania, Nov. 15-16, 2012.
9. **C. Vlădeanu**, R. Lucaci, A. Mihăescu, *Optical Spatial Modulation for Indoor Wireless Communications in Presence of Inter-Symbol Interference*, IEEE 10th International Symposium on Electronics and Telecommunications - ISETC 2012, pp. 183-186, Timisoara, Romania, Nov. 15-16, 2012.
10. **C. Vlădeanu**, A. Marțian, S. El Assad, *EXIT Charts Analysis for Turbo-TCM Schemes Using Non-Binary RSC Encoders*, IEEE 8th Advanced Int. Conf. on Telecomm. AICT 2012, pp. 150-155, Stuttgart, Germany, May 27-June 1, 2012.
11. **C. Vlădeanu**, S. El Assad, *Punctured 8-PSK Turbo-TCM Transmissions Using Recursive Systematic Convolutional  $GF(2^N)$  Encoders*, 19th European Signal Proc. Conf. - EUSIPCO 2011, pp. 111-115, Barcelona, Spain, Aug. 29-Sept. 2, 2011.
12. **C. Vlădeanu**, S. El Assad, *Designing Optimum 2D-TCM Schemes Using New Systematic Convolutional Encoders over  $GF(2^N)$* , IEEE 10th Int. Symp. on Signals, Circuits and Systems - ISSCS 2011, pp. 479-483, Iași, Romania, 30 June - 1 July, 2011.
13. **C. Vlădeanu**, S. El Assad, *Optimum QAM-TCM Schemes Using Left-Circulate Function over  $GF(2^N)$* , IEEE 7th Advanced Int. Conf. on Telecomm. AICT 2011, pp. 112-116, St. Maarten, Dutch Antile, Mar. 20-25, 2011.
14. **C. Vlădeanu**, A.F. Paun, R. Lucaci, S. El Assad, *Parallel Turbo-TCM Schemes using Recursive Convolutional  $GF(2^N)$  Encoders over Frequency Non-Selective Fading Channel*, IEEE 9th International Symposium on Electronics and Telecommunications - ISETC 2010, pp. 285-288, Timisoara, Romania, Nov. 11-12, 2010.
15. A.F. Paun, **C. Vlădeanu**, I. Marghescu, S. El Assad, A. Martian, *On the QAM Parallel Turbo-TCM Schemes using Recursive Convolutional  $GF(2^N)$  Encoders*, 18th European Signal Proc. Conf. - EUSIPCO 2010, pp. 1414-1418, Aalborg, North Denmark, Aug. 23-27, 2010.
16. H. Noura, S. El Assad, **C. Vlădeanu**, *Design of a Fast and Robust Chaos-Based Crypto-System for Image Encryption*, IEEE 8th International Conf. On Communications - COMM 2010, pp. 423-426, Bucharest, Romania, June 10-12, 2010.
17. A.F. Paun, **C. Vlădeanu**, I. Marghescu, S. El Assad, J.-C. Carlach, R. Quéré, *New Recursive Convolutional  $GF(2^N)$  Encoders for Parallel Turbo-TCM Schemes*, IEEE 6th Advanced Int. Conf. on Telecomm. AICT 2010, pp. 182-186, Barcelona, Spain, May 9-15, 2010.
18. **C. Vlădeanu**, S. El Assad, J.-C. Carlach, R. Quéré, I. Marghescu, *Optimum  $GF(2^N)$  Encoders Using Left-Circulate Function for PSK-TCM Schemes*, Proc. 17th European Signal Proc. Conf. - EUSIPCO 2009, pp. 1171-1175, Glasgow, Scotland, Aug. 24-28, 2009 (awarded "outstanding paper" – ranked among first 5% evaluation scores).
19. **C. Vlădeanu**, S. El Assad, J.-C. Carlach, R. Quéré, I. Marghescu, *Optimum PAM-TCM Schemes Using Left-Circulate Function over  $GF(2^N)$* , IEEE 9th Int. Symp. on Signals, Circuits and Systems - ISSCS 2009, pp. 267-270, Iași, Romania, July 9-10, 2009.
20. **C. Vlădeanu**, S. El Assad, J.-C. Carlach, R. Quéré, C. Paleologu, *Chaotic Digital Encoding for 2D Trellis-Coded Modulation*, IEEE 5th Advanced Int. Conf. on Telecomm. AICT 2009, pp. 152-157, Venice, Italy, May 24-28, 2009.
21. **C. Vlădeanu**, A. F. Păun, S. El Assad, and D. Garagata, *Cross-correlation matrix exact estimation for the asynchronous passband DS-CDMA system*, Proc. of IEEE International Conference IEEE - COMM 2008, pp. 257-260, Bucharest, Romania, June 5-7, 2008.
22. **C. Vlădeanu**, C. Paleologu, *Optimum multilevel chaotic sequences for asynchronous DS-CDMA systems over Rician selective fading channel*, EUSIPCO 2007, pp. 474-478, Poznan, Polonia, Sept. 3-9, 2007.
23. C. Paleologu, **C. Vlădeanu**, Ioan Bacalu, *Gradient Adaptive Lattice Algorithm for MMSE Receivers in DS-CDMA Systems*, Proc. of IEEE ICSNC 2007, pp. 27-32, Cap Esterel, France, Aug. 25-31, 2007.
24. A. F. Paun, S. Ciocchina, **C. Vlădeanu**, *Low complexity Turbo-Equalization and Iterative Channel Estimation for TDMA Packet Systems*, Proc. of IEEE ISSCS'07, vol. 1, pag. 465-468, Iași, Romania, July 12-13, 2007.
25. C. Paleologu, **C. Vlădeanu**, *On the Behavior of LMS Adaptive Algorithm in MMSE Receivers for DS-CDMA Systems*, Proc. of IEEE ICCGI 2007, Guadeloupe, 2007 (IEEE Computer Society) - ICCGI 2007 Paper Award.

**Memberships**

- IEEE member since 2007;

**References**

- Prof. Bănică Ion, Telecommunications Dept., UPB, Bucharest, Romania (email: banica@comm.pub.ro)
- Assoc. Prof. Safwan El Assad, IETR UMR CNRS 6164; Image team - site of Nantes, France, (email: safwan.elassad@univ-nantes.fr)