## PERSONAL INFORMATION  Călin Vlădeanu



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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

Business or sector  Education

**2008 – 2014**   Associate Professor

"Politehnica" University of Bucharest, Romania, Faculty of Electronics, Telecommunications and Information Technology, Telecommunications Department
- lecture / applications in: Data Communications; Computer Networks

Business or sector  Education

**2004 – 2008**   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

Business or sector  Education

**1998 – 2004**   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
*Non-conventional Coding and Modulation Techniques for Data Transmissions*

**2010-2013**   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) |
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"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. Marţian, *Energy Detection Algorithm for Spectrum Sensing Using Three Consecutive Sensing Events*, IEEE Wireless Comm. Letters, DOI: 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($2^N$) 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($2^N$) 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. Vladeanu.
2. *New Turbo Multi-User Detection receivers for CDMA systems*, 2007-2008, grant CNCSIS AT, manager C. Vladeanu.
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. Vladeanu.
4. *Cognitive Radio Technology and RF Spectrum Efficient Utilization*, UEFISCSU Grant, PN-II-PCE-Idei, 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. Lucaciu, 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. Vladeanu**, 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, Barcelone, 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. Lucaciu, 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. Ciochina, **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)