Curriculum Vitae

Massimiliano Laddomada

September 2009

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1 Personal Details

Full Name (first, last): Massimiliano Laddomada

Office Phone: (903) 3346655
E-mail: mladdomada@tamut.edu,
laddomada@ieee.org
http://www.tlc.polito.it/dcc_team/people.php?id=1

2 Professional Experience

August 2008 to present:
Assistant professor of Electrical Engineering at Texas A&M University-Texarkana, TX.

2006 to present:
Part-time faculty in the Electrical and Computer Engineering Department at California State University, Los Angeles.

2000 to present:
Free-lance scientific journalist for the Italian newspaper "TuttoScienze e Tecnologia-La Stampa". Write scientific papers for the general audience in the field of wireless communications.

March 2003-August 2008:
Visiting Assistant Professor in the Electronics Department of Polytechnic University of Turin.

2004-2006:
Research Associate at the Research Institute "Istituto Superiore Mario Boella", Torino, ITALY.
Lead research activities within the project OBAN "Open Broadband Access Network" funded by the European Commission (proposal number FP6-IST-2003-001889, http://www.oban.org).

2001-2008:
Regular **consultant** for the Company Euroconcepts S.r.l. (www.euroconcepts.it) in the following areas: Software Radio, Channel Equalization, and Channel Coding.

2000-2001:
R&D Senior Engineer. TechnoConcepts, Inc., Newbury Park, CA.
Conducted R&D on the development of a Software-Radio Transceiver.

3 Education

Professional Exam in Electrical Engineering, 2002.

Ph.D. in Electrical Engineering
Polytechnic University of Turin[1], ITALY, March 2003
Thesis: "Receiver Front-End based on Software Radio Techniques: Analysis and Design of Efficient Algorithms"
Advisor: Prof. Marina Mondin and Prof. Fred Daneshgaran (California State University,LA)
Major area: wireless communications; software radio; analog and digital signal processing; belief propagation algorithms

M.Sc. (Laurea Degree) in Electrical Engineering
Polytechnic University of Turin, ITALY, December 1999
Thesis: "Software Implementation of a lossless image decoder based on the Rice's standard on DSP 21020 Analog Devices"
Advisor: Dr. Letizia Lo Presti

4 Scientific Activity

The applicant's research interests have been developed mainly along the fields of Signal Processing and Wireless Communications over both Single-Input Single-Output and Multiple-Input Multiple Output Channels. They include digital communications, satellite communications, broadband communications, information theory, iterative decoding, turbo codes, codes on graphs, joint source-channel coding, iterative decoding schemes for source and channel coding, coding for multi-terminal sources, signal processing and digital filter design especially for computationally efficient multirate applications.

Within such fields various topics have been developed. Those where the more original contributions have been produced, are listed in the following along with references[2] to the published works summarized in Section 10.

1. Analysis and design of digital receivers (P1, P4, P19)
2. Algorithms for the design of encoders and decoders devoted to correlated sources (P12, P16, P17)
3. Analysis and design of concatenated coding schemes with iterative decoding, turbo codes and serially concatenated convolutional codes (P7, P8, P9, P11, P13, P14, P18, P20, P22, CAP2, C7, C9, C10, C11, C13, C14)
4. Low-Density Parity-Check (LDPC) Code design (P15, P16, P22, CAP2, C12, C14)
5. Digital filter design for multirate applications (P2, P5, P10, P21, P23, P28, P29, P31, CAP1)
6. Software Radio techniques for the design of reconfigurable digital communications transceivers (P1, P3, P4, I6, C1, C2, C3, C4, C5)
7. Belief propagation algorithms for signal processing applications (P15)

[1] Polytechnic University of Turin was established in 1859, and is a leader technical university in Italy in the fields of Engineering; it is ranked 51-75th in the 2008 world university ranking in engineering, and 7th in Europe (http://www.arwu.org/ARWU-FIELD2008/ENG2008.htm).
[2] Acronims are as follows. P# is short for published Journal Paper, C# stands for published Conference paper, , CAP# means book chapter, and REV# is short for submitted and revised papers.

8. Localization and connectivity issues in wireless sensor networks (P24, C18)
9. Analysis and Modelling of the Distributed Coordination Function (DCF) of IEEE 802.11 protocols (P25, P26, P27, C15, C16, C17)
10. Cross-layer design (MAC-PHY) of wireless communications systems (C15)

Further contributions have been given to the following fields:
- Analysis and design of OFDM transceivers;
- Blind detection over vector channels (P6, C8);

The resulting publications are listed in Section 10.

5 Teaching and Student Advising Activities

The applicant's teaching activity has been focused in the fields of Analog and Digital Signal Analysis, Analog and Digital Systems Analysis, Wireless Communications, and Information Theory. The details of the teaching activity are summarized in section 5.2.

The applicant has supervised the thesis of more than 20 master degree students, 4 Bachelor students working on their senior project, and the research activities of 4 Ph.D. students at Polytechnic University of Turin. As a result, several works have been published in both International Journals and Conferences.

The applicant's teaching activity began in 2001 as noted in section 5.2.

5.1 Course Development and Development of Teaching Material

The applicant has developed and taught the classes listed in section 5.2. Among them, at Polytechnic University of Turin he developed the course "Elaborazione Numerica dei Segnali" (Digital Signal Processing) that deals with the analysis of physical signals and systems. The students learn the theory of representation of both signals and systems in the discrete-time domain, basic methods of spectrum analysis (among the various techniques, we mention the following: z-transform, discrete-time and discrete Fourier transform, Laplace transform, and Fourier transform), FIR and IIR filter design, analysis of the effects of the finite data representation on hardware platforms, and development of a personal and professional perspective of a discrete-time system. The teaching plan is innovative, and integrates theoretical analysis and laboratory experience using software codes developed for Matlab. Most of the materials developed for this course, has been collected in the textbook "Elaborazione numerica dei segnali", published in October 2007 by Pearson Prentice Hall. The book has been co-authored by Prof. Marina Mondin.

Moreover, the candidate has produced teaching material in order to support the classes he taught during his academic activities.

At Texas A&M, Texarkana, the applicant has been instrumental in developing the courses EE325 Signals and Systems I, EE326 Signals and Systems I-Lab, EE210 Introduction to Electrical Engineering, EE220 Introduction to Circuits, EE 425 Signals and Systems II, EE 320 Circuit Laboratory, and EE429 Basic Communication Theory for the new Bachelor of Science program in Electrical Engineering. Courses have been devepoled in compliance with ABET Accreditation criteria.

5.2 Detailed List of the Courses Taught

List of courses taught as instructor

2009-10:

1. EE210-Introduction to Electrical Engineering (Bachelor in Electrical Engineering, Texas A&M University-Texarkana) 1st semester.
2. EE317-Information Theory (Bachelor in Electrical Engineering, Texas A&M University-Texarkana) 1st semester.

2008-09:

1. EE210-Introduction to Electrical Engineering (Bachelor in Electrical Engineering, Texas A&M University-Texarkana) 1st semester.
2. EE220-Introduction to Circuits (Bachelor in Electrical Engineering, Texas A&M University-Texarkana) 2nd semester.
3. EE325-Signals and Systems I (Bachelor in Electrical Engineering, Texas A&M University-Texarkana) 2nd semester.

2007-08:

1. Digital Signal Processing (Bachelor in Telecommunications Engineering, Polytechnic University of Turin).
2. Signal Analysis (Bachelor in Biomedical Engineering, Polytechnic University of Turin).
3. (Fall quarter 2007) EE332 Systems Analysis. California State University, Los Angeles.

2006-07:

1. (Summer quarter 2006) EE422 Digital Signal Processing. California State University, Los Angeles.
2. Digital Signal Processing (Bachelor in Telecommunications Engineering, Polytechnic University of Turin).
3. Signal Analysis (Bachelor in Biomedical Engineering, Polytechnic University of Turin).
4. Digital Signal Processing (Bachelor in Technologically Mediated Instruction (TMI) in Telecommunications Engineering).

2005-06:

1. Information Theory and Coding (Master degree in Electrical Engineering, Polytechnic University of Turin).
2. Digital Signal Processing (Bachelor in Telecommunications Engineering, Polytechnic University of Turin).

2004-05:

1. Digital Signal Processing (Bachelor in Telecommunications Engineering, Polytechnic University of Turin).
2. Signal Analysis (Bachelor in Biomedical Engineering, Polytechnic University of Turin).

2003-04:

1. Signal Theory (Bachelor in Mathematics for Engineering, Polytechnic University of Turin).
2. Digital Signal Processing (Bachelor in Technologically Mediated Instruction (TMI) in Computer Science. Polytechnic University of Turin, Alessandria).

3. Signal Theory (Bachelor in Technologically Mediated Instruction (TMI) in Computer Science. Polytechnic University of Turin, Torino).
4. Signal Theory (Bachelor in Technologically Mediated Instruction (TMI) in Computer Science. Polytechnic University of Turin, Alessandria).

2002-03:
1. Digital Signal Processing (Bachelor in Technologically Mediated Instruction (TMI) in Computer Science. Polytechnic University of Turin, Alessandria).
2. Signal Theory (Bachelor in Technologically Mediated Instruction (TMI) in Computer Science. Polytechnic University of Turin, Torino).
3. Signal Theory (Bachelor in Technologically Mediated Instruction (TMI) in Computer Science. Polytechnic University of Turin, Alessandria).

2001-02:
1. Signal Theory (Bachelor in Technologically Mediated Instruction (TMI) in Computer Science. Polytechnic University of Turin, Torino).
2. Signal Theory (Bachelor in Technologically Mediated Instruction (TMI) in Computer Science. Polytechnic University of Turin, Alessandria).

List of courses taught as teaching assistant

2008:
1. Signal Theory (Bachelor in Telecommunications Engineering, Polytechnic University of Turin).

2006-07:
2. Digital Signal Processing (Bachelor in Telecommunications Engineering, Polytechnic University of Turin).

2005-06:
1. Signal Theory (Bachelor in Telecommunications Engineering, Polytechnic University of Turin).

2004-05:
1. Signal Theory (Bachelor in Telecommunications Engineering, Polytechnic University of Turin).
2. Digital Signal Processing (Bachelor in Telecommunications Engineering, Polytechnic University of Turin).

2002-03:
1. Signal Theory (Bachelor in Telecommunications Engineering, Polytechnic University of Turin).
2. Digital Signal Processing (Bachelor in Computer Science, Polytechnic University of Turin).

2001-02:
1. Signal Theory (Bachelor in Telecommunications Engineering, Politecnico of Torino).
2. Deterministic Signal Theory (Bachelor in Telecommunications Engineering, Polytechnic University of Turin).

6 Grants and Research Projects

September 2009
Submitted the grant proposal "Development of an Ontogenetic FPGA Architecture with Self-Healing and Self-Propagating Features" to the NSF-RUI program. Requested $ 324,542 for 3 years. The candidate is Co-PI of the project.

May 2009
Submitted the grant proposal "An E-Learning Tool for Random Processes in Engineering Courses" to the NSF-CCLI program. Requested $ 200,000 for 2 years. The candidate will lead this project as PI upon acceptance.

May 2009 through January 2010
PI of the project "Introduction to Engineering" funded by the Texas Higher Education Coordinating Board ($91000)

January through August 2008
Conducting research for the project "Analysis and investigation of coding schemes for transmission of environmental data" funded by Region Piedmont within the "Regional Funding Proposal for Applied Scientific Research 2004- Development of a smart wireless RF-ID sensor network for monitoring the hot-cold chain".
Reference: Prof. Marina Mondin (marina.mondin@polito.it)

2006 through 2007
Conducting research within the project ICONA, "Design Solutions based on position information in heterogenous radio networks". This project has been funded in 2005 by the research Ministry of the Italian Universities. The research topic focuses on design of algorithms for heterogenous radio networks, and the applicant's contributions are presented in the papers P20, P28, P29 in Section 10.
The applicant participated actively in the writing of the funding proposal for the research unit of the Polytechnic University of Turin.
He also coordinated the research activities of two Ph.D. students working on the same project.
Reference: Prof. Marina Mondin (marina.mondin@polito.it)

2007
Research consultant for Telecom Italia, the major italian network operator, on the contract "Advanced Signal Processing Techniques for OFDM-based MIMO Systems under Standardization within the 3GPP E-UTRA".
Activity: analysis of interference mitigation techniques over OFDM-based MIMO systems currently under investigation within 3GPP E-UTRA.

2006
Research consultant for Research Center of Radiotelevisione Italiana (RAI) on the contract "Analysis of a satellite transmission system based on the standard DVB-S2".
Activity: performance validations of LDPC codes standardized within the DVB-S2 standard over satellite channels.

2004-2006
Conducted research within the project OBAN, "Open Broadband Access Network" (contract number FP6-IST-2003-001889, http://www.oban.org), which received a total funding of $7 millions distributed over 16 European partners from both Universities and private companies. The research topic focused on the design of iterative decodable channel coding solutions and analysis and performance of the MAC layer for third/fourth generation wireless communication systems.
The research in this project led to a number of scientific results presented in the papers P25,P26,P27, P15, S1,S4,C15,C16,C17 listed in Section 10.
Reference: Prof. Marina Mondin (marina.mondin@polito.it)

2003-2006
Conducted research within the CAPANINA project, "Communications from Aerial Platform Networks delivering broadband communications for All" (contract number FP6-IST-2003-506745), which received a total funding of $4.2 million distributed over 13 European partners from both Universities and private companies.
The research in this project led to a number of scientific results presented in the papers P19,P21,P22, P23,P13, C13,C14 listed in Section 10.
The applicant participated actively in the writing of the funding proposal for the research unit of the Polytechnic University of Turin
Reference: Prof. Marina Mondin (marina.mondin@polito.it)

2005
Conducted research within the project "SDR-SATellite" funded by the private company Carlo Gavazzi Space, Milano, Italy. The research topic was focused on the investigation of Software Radio implementation of signal processing algorithms for satellite communications.
The research in this project led to a number of scientific results presented in the paper C7 listed in Section 10.
Reference: Prof. Marina Mondin (marina.mondin@polito.it)

2003-2004
Conducted research on Workpackage WP3 of a project for the Center for Multimedia Wireless Communications (CERCOM), funded by the Ministry of research for the Italian Universities. Research topics focused on Software Radio algorithms and coding techniques for Wireless Communication Platforms (http://www.cercom.polito.it/people.asp).
The research in this project led to a number of scientific results presented in the papers P3,P10,P18 listed in Section 10.
Reference: Prof. Marina Mondin (marina.mondin@polito.it)

2003-2004
Conducted research for the project "Dynamically reconfigurable Transceiver for telescience applications", financed by the Italian Space Agency (ASI).
The research in this project led to a number of scientific results presented in the paper C3 listed in Section 9.
Reference: Prof. Marina Mondin (marina.mondin@polito.it)

2002-2004
Conducted research for the project "Systems for personal wideband communication from satellite and stratospheric platform (SHINES)" financed by the Ministry of research for Italian Universities. Research topics are as follows: Software Radio techniques devoted to the design of transmission systems for High Altitude Platforms, and symbol synchronization techniques for OFDM-based transmission systems.
The research in this project led to a number of scientific results presented in the papers P8,P9,P10,P11,C11 listed in Section 10.
Reference: Prof. Marina Mondin (marina.mondin@polito.it)

2000-2002:
Conducted research on Software Radio techniques devoted to the design of transmission systems for High Altitude Platforms for the project "Definition and development of architectures for wideband CDMA radio connections (CABIS)" financed by the Ministry of research for Italian Universities.
The main results of this research were published in the papers P4,P6,P7,P9,I6,C8,C9,C10 listed in Section 10.
Reference: Prof. Marina Mondin (marina.mondin@polito.it)

7 Professional Activities

Associate Editor (2008 to present), International Journal on Advances in Telecommunications, ISSN 1942-2601.

Associate Editor (2009 to present), International Journal of Latest Advancements in Multimedia.

Associate Editor (2007 to present), International Journal of Digital Multimedia Broadcasting (Hindawi). http://www.hindawi.com/journals/ijdmb/editors.html

Associate Editor (2003 to present), IEEE Communications Surveys and Tutorials. http://www.comsoc.org/livepubs/surveys/index.html

Lead Guest Editor of the Special Issue "Advanced Techniques on Multirate Signal Processing for Digital Information Processing" for the International Journal IET Signal Processing, 2009.

Lead Guest Editor of the Special Issue "Spectrum Sharing and Sensing for Future Broadband Networks: The Cognitive Radio Technology" for the International Journal of Digital Multimedia Broadcasting (Hindawi). 2009. http://www.hindawi.com/journals/ijdmb/osi.html

Guest Editor of the Special Issue "Recent Advances on Iterative Decoding and Cross-Layering Techniques for Digital Multimedia Broadcasting" for the International Journal of Digital Multimedia Broadcasting (Hindawi). 2008.
http://www.hindawi.com/journals/ijdmb/osi.html

Member of the Technical Program Committee of the International Conference SPACOMM 2010, the First International Conference on Advances in Satellite and Space Communications

Member of the Technical Program Committee for PHY-layer of the conference IEEE Wireless Communications and Networking Conference 2010

Chair of the Sessions "Digital Signal Processing I" and "Digital Signal Processing II" of the 52nd IEEE Midwest Symposium on Circuits and Systems

Chair of the Technical Program Committee of the International Conference SPACOMM 2009, the First International Conference on Advances in Satellite and Space Communications.
www.iaria.org/conferences2009/ComSPACOMM09.html

Member of the Scientific Committee of the conference IADIS 1st International Conference on Collaborative Technologies 2010

Member of the Technical Program Committee of the 2008 International Conference on Audio, Language and Image Processing. http://www.icalip2008.cn/

Member of the Technical Program Committee of the International Conference TRIDENTCOM08. http://www.tridentcom.org/tpc.shtml

Member of the Technical Program Committee of the International Conference IEEE International Conference on Communications (ICC) 2008.

2002
Lecturer on advanced topics in Frequency Analysis and FFT for the 14th MASTER of Telecom Laboratories (TiLab), Italy.

2000 to present:
Regular reviewer for many International Journals and Conferences.
Among them:
IEEE Transactions on Information Theory,
IEEE Transactions on Communications,
IEEE Communications Surveys and Tutorials,
IEEE Transactions on Wireless Communications,
IEEE Transactions on Signal Processing,
IEEE Signal Processing Letters,
IEEE Communications Letters,
IEEE Transactions on Circuits and Systems-I and II,
IET Proceedings: Communications, and Signal Processing,
IET Electronics Letters,
Elsevier-Signal Processing,
EURASIP Journal on Wireless Communications and Networking,
EURASIP Journal on Advances on Signal Processing,
European Transactions on Telecommunications,
IEEE International Conference on Communications,
IEEE Globecom,
EUSIPCO.

8 University Service

May 2009 to present:
Member of the Search Committee of the Founding Dean of the STEM College at Texas A&M-Texarkana

Fall 2008 to May 2009:
Member of the International Student Recruitment Committee at Texas A&M-Texarkana

November 2008:
Judge of student research at Texas A&M University System Pathways 6th Annual Student Research Symposium

9 Honors, Awards, Patents, and Professional Society Membership

- ✓ **Senior Member** of **IEEE (since 2008)**.
- ✓ **Full member of the society Sigma Xi (since 2008).**

July 2009
Best paper award at the International Conference SPACOMM 2009 for the paper "LDPC-Based Iterative Algorithm for Compression of Correlated Sources at Rates Approaching the Slepian-Wolf Bound".

January 2009
Submitted a patent disclosure to the technological office of the Texas A&M system for a work on multirate digital filter design.

March 2006
Co-author of a patent with Drs. Fred Daneshgaran and Marina Mondin entitled, ``A method and system for Information processing'', Patent No. 05006313.0 of the European Papent Office. The patent is valid in the following countries: USA (Patent No. US 2007/0079223 A1), Europe (Patent No. 05006313.0), AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE; SI, SK, TR, Japan.
The main functionalities of the proposed algorithm have been published in the papers P11, P16.

2003
The applicant was awarded the *Premio Zucca per la Innovazione nell'ICT* by Unione Industriale of Turin, ITALY, for the research topic on Iterative Decoding of Correlated Sources.

2000 to present:
Free-lance scientific journalist for the Italian newspaper "TuttoScienze e Tecnologia-La Stampa".
The applicant writes scientific tutorial papers in the field of wireless communications (papers I1 to I5, and I7 to I10 in section 10).

1993-1998
The applicant was awarded a five-year open-ended fellowship by Ente per il Diritto allo Studio Universitario (E.D.S.U.) in recognition of his university career in Electrical Engineer.

10 List of Publications in International Journals and Conferences

10.1 International Journals

P31. **M. Laddomada**, "Fixed-Point Design of Generalized Comb Filters: A Statistical Approach", Accepted for publication on the journal IET Signal Processing, June 2009.

P30. F. Daneshgaran, **M. Laddomada**, and M. Mondin, "Editorial: Recent Advances on Iterative Decoding and Cross-Layering Techniques for Digital Multimedia Broadcasting", ***International Journal of Digital Multimedia Broadcasting***, November 2008.

P29. **M. Laddomada**, "On the Polyphase Decomposition for Design of Generalized Comb Decimation Filters", ***IEEE Transactions on Circuits and Systems-I, Regular Papers***. Volume 55, Issue 8, September 2008 Page(s):2287 - 2299.

P28. **M. Laddomada**, "Design of Multistage Decimation Filters Using Cyclotomic Polynomials: Optimization and Design Issues", ***IEEE Transactions on Circuits and Systems-I, Regular Papers,*** Volume 55, Issue 7, Aug. 2008 Page(s):1977 - 1987.

P27. F. Daneshgaran, **M. Laddomada**, F. Mesiti and M. Mondin, "On The Linear Behaviour of the Throughput of IEEE 802.11 DCF in Non-Saturated Conditions", ***IEEE Communications Letters***, Volume 11, Issue 11, November 2007 Page(s):856 - 858. Published in Piscataway (NJ), USA.

P26. F. Daneshgaran, **M. Laddomada**, F. Mesiti, M. Mondin and M. Zanolo, "Saturation Throughput Analysis of IEEE 802.11 in Presence of Non Ideal Transmission Channel and Capture Effects", ***IEEE Transactions on Communications***, Volume 56, Issue 7, July 2008 Page(s):1178 - 1188. Published in Piscataway (NJ), USA.

P25. F. Daneshgaran, **M. Laddomada**, F. Mesiti and M. Mondin, "Unsaturated Throughput Analysis of IEEE 802.11 in Presence of Non Ideal Transmission Channel and Capture Effects", ***IEEE Transactions on Wireless Communications***, VOL. 7, NO. 4, pp. 1276-1286, APRIL 2008. Published in Piscataway (NJ), USA.

P24. F. Daneshgaran, **M. Laddomada**, and M. Mondin, "Connection Between System Parameters and Localization Probability in Network of Randomly Distributed Nodes", ***IEEE Transactions on Wireless Communications***, Volume 6, Issue 12, December 2007 Page(s):4383 - 4389. Published in Piscataway (NJ), USA.

P23. **M. Laddomada**, "Generalized Comb Decimation Filters for ΣΔ A/D Converters: Analysis and Design", ***IEEE Transactions on Circuits and systems I- regular papers***, Vol. 54, No. 5, pp. 994-1005, May 2007. Published in Piscataway (NJ), USA.

P22. A. Boch, F. Daneshgaran, **M. Laddomada**, and M. Mondin, "Advanced Channel Coding Solutions for the Provision of Broadband Services from HAPs within the CAPANINA Project", ***IEEE Aerospace and***

Electronic Systems Magazine, Vol. 22, No. 9, pp. C7-C16, September 2007. Published in Piscataway (NJ), USA.

P21. **M. Laddomada**, "Comb-based Decimation Filters for Sigma-Delta A/D Converters: Novel Schemes and Comparisons", ***IEEE Transactions on Signal Processing***, Vol. 55, No. 5, pp. 1769-1779, May 2007. Published in Piscataway (NJ), USA.

P20. **M. Laddomada** and B. Scanavino, "Some Extended Results on the Design of Punctured Serially Concatenated Convolutional Codes", ***Journal of communication software and systems***. Vol.3, No.2, pages 235-244, September 2006.

P19. E. Falletti, **M. Laddomada**, M. Mondin, and F. Sellone, "Integrated Services from High Altitude Platforms: a Flexible Communication System", ***IEEE Communications Magazine***, No.2, pp.124-133, February 2006. Published in Piscataway (NJ), USA.

P18. **M. Laddomada** and B. Scanavino, "A Cost-Function Based Technique for Design of Good Prunable Interleavers for Turbo Codes", ***IEEE Transactions on Wireless Communications***, Vol.5, N0.8, pp. 1953-1958, August 2006. Published in Piscataway (NJ), USA.

P17. F. Daneshgaran, **M. Laddomada**, and M. Mondin, "Iterative Joint Channel Decoding of Correlated Sources", ***IEEE Transactions on Wireless Communications***, Vol.5, No.10, Oct. 2006, Page(s):2659 – 2663. Published in Piscataway (NJ), USA.

P16. F. Daneshgaran, **M. Laddomada**, and M. Mondin, "LDPC-Based Channel Coding of Correlated Sources with Iterative Joint Decoding", ***IEEE Transactions on Communications***, Vol. 54, No. 4, April 2006. Published in Piscataway (NJ), USA.

P15. F. Daneshgaran, **M. Laddomada**, and M. Mondin, "An Algorithm for the Estimation of the Minimum Distance of LDPC Codes", ***ETT European Transactions in Telecommunications***, Volume 17, Issue 1, pp.57-62, January 2006. Published in Piscataway (NJ), USA.

P14. **M. Laddomada** and B. Scanavino, "Design of Punctured Serially Concatenated Convolutional Codes", ***IEEE Communications Letters***, Vol. 9, No. 2, pp. 169-171, February 2005. Published in Piscataway (NJ), USA.

P13. F. Daneshgaran and **M. Laddomada**, "Reduced Complexity Interleaver Growth Algorithm for Turbo Codes", ***IEEE Transactions on Wireless Communications***, Vol. 4, No. 3, pp. 954-964, May 2005. Published in Piscataway (NJ), USA.

P12. F. Daneshgaran, **M. Laddomada**, and M. Mondin, "Iterative Joint Channel Decoding of Correlated Sources Employing Serially Concatenated Convolutional Codes", ***IEEE Transactions on Information Theory***, Vol. 51, No. 7, pp. 2721-2731, July 2005. Published in Piscataway (NJ), USA.

P11. F. Daneshgaran, **M. Laddomada**, and M. Mondin, "High Rate Recursive Convolutional Codes for Concatenated Channel Codes", ***IEEE Transactions on Communications***. ISSN 0090-6778, Vol. 52, No. 11, pp. 1846-1850, November 2004. Published in Piscataway (NJ), USA.

P10. **M. Laddomada** and M. Mondin, "Decimation Schemes for Sigma Delta A/D Converters based on Kaiser and Hamming Sharpened Filters", ***IEE Proceedings of Visual, Image and Signal Processing***, Vol. 151, No. 4, pp. 287-296, August 2004. ISSN 1350-245X. Published in Oxford (UK).

P9. F. Daneshgaran, **M. Laddomada**, and M. Mondin, "Interleaver Design for Serially Concatenated Convolutional Codes: Theory and Application", ***IEEE Transactions on Information Theory***. Vol.50, No. 6, pp. 1177-1188, June 2004. ISSN 0018-9448, Published in Piscataway (NJ), USA.

P8. F. Daneshgaran, **M. Laddomada**, and M. Mondin, "An Extensive Search for Good Punctured Rate k/k+1 Recursive Convolutional Codes for Serially Concatenated Convolutional Codes", ***IEEE Transactions on Information Theory***, Vol.50, No. 1, pp. 208-217, January 2004. ISSN 0018-9448, Published in Piscataway (NJ), USA.

P7. F. Daneshgaran and **M. Laddomada**, "Optimized Prunable Single Cycle Interleavers for Turbo Codes", ***IEEE Transactions on Communications***, Vol. 52, No. 6, pp. 899-909, June 2004. ISSN 0090-6778. Published in Piscataway (NJ), USA.

P6. F. Daneshgaran and **M. Laddomada**, "Multiscale Iterative LBG Clustering for SIMO Channel Identification", ***KICS, JCN, Journal of Communications and Networks***. Vol. 5, No. 2, pp. 157-166, June 2003. ISSN 1229-2370. Published in Seoul, Korea.

P5. **M. Laddomada**, L. Lo Presti, and M. Mondin, "Digital Pulse-Shaping FIR Filter Design with Reduced Intersymbol and Interchannel Interference", ***ETT-European Transactions on Telecommunications***, Wiley Publisher, Vol. 14, Issue 5, pp. 423-433, December 2003.

P4. F. Daneshgaran and **M. Laddomada**, "Transceiver Front-End Technology for Software Radio Implementation of Wideband Satellite Communication Systems", ***Wireless Personal Communications, An International Journal. Kluwer Academic Publisher***. Vol. 24, No. 2, pp.99-121, December 2003. ISSN 0929-6212. Published in Netherlands.

P3. **M. Laddomada**, "Reconfiguration Issues of Future Mobile Software Radio Platforms", ***Wireless Communications and Mobile Computing, Wiley Publisher***, Vol. 2, No. 8, pp. 815-826, December 2002. DOI:10.1002/wcm.117. Published in West Sussex, UK.

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2. F. Daneshgaran, M. Laddomada, M. Mondin, "The Problem of Localization in Networks of Randomly Deployed Nodes: Asymptotic and Finite Analysis, and Thresholds". submitted to IET Communications. Provisionally accepted with revisions.

3. M. Laddomada, F. Mesiti, M. Mondin, and F. Daneshgaran, "Characterization of the Loading Conditions of Multirate IEEE 802.11 Networks" submitted to European Transactions on Telecommunications.

4. M. Laddomada, F. Mesiti, "On the Optimization of the IEEE 802.11 DCF: A Cross-Layer Perspective", submitted to IEEE Transactions on Wireless Communications. Provisionally accepted with revisions.

5. M. Laddomada, "Finite Thresholds of the k-Connectivity Problem in Randomly DeployedWireless Networks" submitted to the journal IET Electronics Letters.

6. G. Jovanovic Dolecek and M. Laddomada, "A Two-Stage Architecture for Design of Multiplierless Generalized Comb Filters" submitted to the journal IEEE Transactions on Circuits and Systems-I.

7. F. Daneshgaran, M. Laddomada, M. Mondin, "LDPC-Based Iterative Algorithm for Compression of Correlated Sources at Rates Approaching the Slepian-Wolf Bound", Extended version of the paper published in *SPACOMM 2009* (in preparation for journal submission as an invited paper).

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