

## PERSONAL INFORMATION

## Corina-Alda Naforniță

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Sex Female | Date of birth | Nationality Romanian

JOB APPLIED FOR  
POSITION  
PREFERRED JOB  
STUDIES APPLIED FOR

## Habilitation thesis, UNIVERSITATEA POLITEHNICA TIMIȘOARA

## WORK EXPERIENCE

2013 – present

**Associate Professor**

Universitatea „Politehnica” din Timișoara, Piața Victoriei 2, 300006 Timișoara <http://www.upt.ro>

▪ Teaching and research

**Business or sector** Higher education

2008 – 2013

**Lecturer**

Universitatea „Politehnica” din Timișoara, Piața Victoriei 2, 300006 Timișoara <http://www.upt.ro>

▪ Teaching and research

**Business or sector** Higher education

April-June 2011

**Invited Researcher**

Lab. Intégration du Matériau au Système, ENSEIRB Bordeaux, 1 Avenue du Docteur Albert Schweitzer, 33402 Talence, France <http://www.enseirb-matmeca.fr>

▪ Research

**Business or sector** Higher education

September-October 2009

**Invited Professor**

Lab. Intégration du Matériau au Système, Université Bordeaux I, 351 Cours de la Libération, 33400 Talence, France <http://www.u-bordeaux1.fr>

▪ Research, Lectures

**Business or sector** Higher education

2006 – 2008

**Assistant Professor**

Universitatea „Politehnica” din Timișoara, Piața Victoriei 2, 300006 Timișoara <http://www.upt.ro>

▪ Teaching and research

**Business or sector** Higher education

2003 – 2006

**Teaching Assistant**

Universitatea „Politehnica” din Timișoara, Piața Victoriei 2, 300006 Timișoara <http://www.upt.ro>

▪ Teaching and research

**Business or sector** Higher education

EDUCATION AND TRAINING

- 2003 – 2008 **PhD – Thesis title “Contributions to digital watermarking of still images in the wavelet transform ”**  
 Technical University of Cluj-Napoca (main IOSUD), Politehnica University of Timisoara  
 ▪ Electronics and Telecommunications, **Magna Cum Laude**
- 2003 – 2004 **Master of Science Traitement du Signal-in French**  
 Politehnica University of Timisoara  
 ▪ Electronics and Telecommunications, GPA: 10.00/10.00
- 1998 – 2003 **Bachelor of Science**  
 Politehnica University of Timisoara  
 ▪ Electronics and Telecommunications, GPA : 10.00/10.00, **Graduated first in a class of 200**

PERSONAL SKILLS

Mother tongue(s) Romanian

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Listening	Reading
English	C1	C1	C1	C1	C1
French	C1	C1	C1	C1	C1
German	B2	B2	B2	B2	B2
Zertifikat Deutsch Als Fremdsprache ZDaF - Goethe Institut, Gut.					
Italian	B1	B1	B1	B1	B1
Spanish	B1	B1	B1	B1	B1

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user  
 Common European Framework of Reference for Languages

Communication skills Team work

Organisational / managerial skills

**Technical Program Committee member for:**

- 22nd European Signal Processing Conference, EUSIPCO 2014, September 1-5, 2014, Lisbon, Portugal
- 21st European Signal Processing Conference, EUSIPCO 2013, Marrakech, Morocco, 9-13 September 2013
- 20th European Signal Processing Conference, EUSIPCO 2012, Bucharest, Romania, 27-31 August 2012
- 18th EUNICE Conference on Information and Communications Technologies EUNICE 2012, 29-31 August 2012, Budapest, Hungary
- 4th IEEE International Workshop on Information Forensics and Security, WIFS 2012, Tenerife, Spain, December 2-5, 2012

**2014, 2012** Publication Chair, International Symposium on Electronics and Telecommunications ISETC 2012, Timisoara, November 15-16, 2012 & ISETC 2014, Nov 2014

**2004-2010** Organizing committee member for the International Symposium of Electronics and Telecommunications, Politehnica University of Timisoara. Editions 2010, 2012 are included in IEEE Xplore, SCOPUS, ISI Web of Knowledge.

**2006-present:** Scientific secretary, Scientific Bulletin of "Politehnica" University of Timisoara, Trans. Electronics and Communications. Correspondence with authors, reviewers, web & publicity

**Reviewer for the following ISI journals:**

- 2006 IEEE Trans. Information Forensics & Security
- 2007-2008, 2011-2012 IEEE Trans. Multimedia
- 2009-2010 IEEE Trans. Signal Processing
- 2010-2011, 2013 IEEE Trans. Image Processing
- 2007-2008 EURASIP Journal on Information Security
- 2007-2010 IET Information Security
- 2008 Research Letters in Electronics, Elsevier
- 2008 Journal of Systems and Software, Elsevier
- 2008-2013 Signal Processing, Elsevier
- 2013 IET Radar, Sonar & Navigation
- 2013 Physical Communication

**Reviewer for the following conferences:**

- 22nd European Signal Processing Conference, EUSIPCO 2014, September 1-5, 2014, Lisbon, Portugal
- 21st European Signal Processing Conference, EUSIPCO 2013, Marrakech, Morocco, 9-13 September 2013,
- 11-th International Symposium on Signals, Circuits and Systems, July 11-12, 2013, Iasi, Romania.
- 13th International Conference on Optimization of Electrical and Electronic Equipment OPTIM 2012, May 24-26, 2012, Brasov, Romania,
- 2nd IEEE International Conference on Information Science and Technology, ICIST 2012, 23-25 May 2012, Wuhan, China
- IEEE International Symposium on Electronics and Telecommunications, Timisoara, November 15-16, 2012, ISETC 2012
- Statistical Signal Processing Workshop, 28-30 June 2011, Nice, France, SSP 2011
- IEEE International Symposium on Electronics and Telecommunications, November 11-12, 2010, Timisoara, ISETC 2010,
- 8-th International Symposium on Signals, Circuits and Systems, ISSCS 2007, Iasi, July 12-13, 2007

Job-related skills

- statistical signal processing,
- signal and image processing,
- multimedia security, watermarking,
- denoising,
- wavelets,
- radar.

Computer skills

MATLAB, Wavelet Toolbox, WaveLab, C/C++ for Linux, shell programming, LaTeX, C/C++, Mathematica

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 ADDITIONAL INFORMATION

## Publications

**Over 40 publications. Selected publications after the PhD thesis:**

1. Isar, A.; Nafornita, C., On the statistical decorrelation of the 2D discrete wavelet transform coefficients of a wide sense stationary bivariate random process Digital Signal Processing Volume: 24 Pages: 95-105 Published: 2014, DOI: 10.1016/j.dsp.2013.10.001
2. Nafornita, C., Isar, A., and Nelson, J. D. B., Regularised, semi-local Hurst estimation via generalised lasso and dual-tree complex wavelets" IEEE International Conference on Image Processing ICIP 2014, Paris, France, pp. 2689-2693, ISBN: 978-1-4799-5750-7
3. Adrian Macaveiu, Corina Nafornita, Alexandru Isar, Andrei Campeanu, Ioan Nafornita, A Method for Building the Range-Doppler Map for Multiple Automotive Radar Targets, 11th International Symposium on Electronics and Telecommunications (ISETC), 2014, 14-15 Nov. 2014, Timisoara, Romania, pp. 151-156, ISBN 978-1-4799-7266-1
4. C. Nafornita, Y. Berthoumieu, I. Nafornita and A. Isar, Kullback-Leibler Distance Between Complex Generalized Gaussian Distributions, EUSIPCO 2012, Bucharest, Romania, August 27-31, pp. 1850-1854 ISI-P
5. Corina Nafornita, Alexandru Isar, Maria Kovaci, "Increasing Watermarking Robustness using Turbo Codes," IEEE International Symposium on Intelligent Signal Processing WISP 2009, Budapest, Hungary, 26-28 August 2009 pp. 113-118, ISBN 978-1-4244-5058-9
6. C. Nafornita, I. Firoiu, J.-M. Boucher, A. Isar, A New Watermarking Method Based on the Use of the Hyperanalytic Wavelet Transform Proc. SPIE Europe: Photonics Europe, vol. 7000: Optical and Digital Image Processing 7000W, pp.7000W-1-7000W-12, ISBN 97808194 71987, Strasbourg, April, 2008 ISI-P
7. Schutz, A., Berthoumieu, Y., Turcu, F., Nafornita, C., Isar, A., Barycentric distribution estimation for texture clustering based on information-geometry tools, 2012 10th International Symposium on Electronics and Telecommunications, ISETC 2012 – Conference Proceedings , art. no. 6408132 , pp. 343-346 ISI-P
8. Firoiu, I.; Nafornita, C.; Isar, D.; Isar, A.; Bayesian Hyperanalytic Denoising of SONAR Images, Geoscience and Remote Sensing Letters, IEEE; 2011, 8(6), 1065-1069 (DOI : 10.1109/LGRS.2011.2155617) ISI
9. Ioana Firoiu, Corina Nafornita, Jean-Marc Boucher, Alexandru Isar, Searching Appropriate Mother Wavelets for Hyperanalytic Denoising, Advances in Electrical and Computer Engineering, Issue 4, 2010, ISSN: 1582-7445, ISI
10. Ioana Adam(Firoiu), Corina Nafornita, Jean-Marc Boucher, Alexandru Isar, Image Denoising Using a New Implementation of the Hyperanalytic Wavelet Transform, IEEE Transactions on Instrumentation and Measurement, august 2009, vol. 58, no. 8, pp. 2410-2416. ISI

## Presentations

- Complex Wavelet Transforms, October 2009, Université Bordeaux I, France

## Grants (director)

**2011-2012 - bilateral program Brancusi EGIDE/ANCS, Romanian Director, "Classification de textures fondée sur la théorie des ondelettes hyper-analytiques et les copules", French Director: Prof. Yannick Berthoumieu grant no. 510/31.03.2011, period 2011-2012, partners UPT, IPB-ENSEIRB MATMECA, funded by ANCS in 2011 and UEFISCDI in 2012 / EGIDE, value 16 864,85 RON. Papers published in the framework of this grant:**

- Schutz, Y. Berthoumieu, F. Turcu, Corina Nafornita, A. Isar, Barycentric Distribution Estimation For Texture Clustering Based On Information-Geometry Tools, Int. Symp on Electronics and Telecommunications, ISETC2012, Timisoara 15-16 nov 2012.
- Corina Nafornita, Yannick Berthoumieu, Ioan Nafornita, Isar Alexandru, Kullback-Leibler Distance Between Complex Generalized Gaussian Distributions, Proceedings of International Conference Eusipco 2012, Bucuresti, Romania, August 27-31, 2012, ISBN: 778-2-3234-7919-1,
- Firoiu, I. ; Nafornita, C. ; Isar, D. ; Isar, A. ; Bayesian Hyperanalytic Denoising of SONAR Images, IEEE Geoscience and Remote Sensing Letters, vol. 8, Issue 6, 2011, pp. 1065-1069,
- Corina Nafornita, Alexandru Isar, "A Complete Second Order Statistical Analysis of the HWT", Int. Symp on Electronics and Telecommunications, ISETC2012, Timisoara 15-16 nov 2012.
- Corina Nafornita, Alexandru Isar, Ioan Nafornita, The Hyperanalytic Wavelet Packets -A Solution to Increase the Directional Selectivity in Image Analysis, Int. Symp on Electronics and Telecommunications, ISETC2012, Timisoara 15-16 nov 2012.
- Corina Nafornita, D. Isar, A. Isar, Searching the Most Appropriate Mother Wavelets for Bayesian Denoising of Sonar Images in the Hyperanalytic Wavelet Domain, Proceedings of the IEEE Workshop on Statistical Signal Processing SSP 2011, 28-30 June, 2011, Nice, France, ISBN 978-1-4577-0568-7, pp. 169-172,
- B. Arvinti-Costache, M. Costache, Corina Nafornita, A. Isar, Ronny Stoltz, Hannes Toepfer, A Wavelet Based Baseline Drift Correction Method for Fetal Magnetocardiograms, Proceedings of the 9th IEEE International NEWCAS Conference, June 26-29, 2011, Bordeaux, France
- Corina Nafornita, A. Isar, Application of Discrete Wavelet Transform in Watermarking-chapter 12 in "Discrete Wavelet Transforms. Algorithms and Applications", Edited by Hannu Olkkone, INTECH, 2011, ISBN 978-953-307-482-5, 197-218.
- Isar, I. Firoiu, Corina Nafornita, S. Moga, Sonar Images Denoising-chapter 8 in "Sonar Systems", Edited by Nikolai Kolev, INTECH Janeza Trdine 9, 51000, Rijeka, Croatia, 2011, ISBN 978-953-307-345-3, 173-206.

**2004-2006 – national grant TD, CNCSIS code 47, Digital watermarking for still images in the transform domain funding by CNCSIS, value 14,000 RON . Papers published in the framework of this grant:**

- Corina Nafornita, "A Wavelet-Based Watermarking for Still Images", Scientific Bulletin of Politehnica University of Timisoara, Trans. on Electronics and Telecommunications, 49(63), 2, 2004, special number dedicated to the Proc. of Symposium of Electronics and Telecommunications ETc 2004, 22 - 23 October 2004, Timisoara, pp. 126-131
- Corina Nafornita, Alexandru Isar, "Digital Watermarking of Still Images using the Discrete Wavelet Transform" Scientific Bulletin of Politehnica University of Timisoara, Trans. on Electronics and Telecommunications, 48 (62), 1, ISSN 1583-3380, 2003, pp. 73-78
- Nafornita Corina, Monica Borda Multiple Embedding in Wavelet Subbands for Robust Image Watermarking Proc. of IEEE International Workshop on Spectral Methods and Multirate Signal Processing, SMMSP 2005, 20-22 June 2005, Riga, Latvia, ISBN: 952-15-1366-7, pp. 135-140 2005 June ISBN: 952-15-1366-7
- Nafornita Corina, Alexandru Isar, Monica Borda, Improved Pixel-Wise Masking for Image Watermarking in Multimedia Content Representation, Classification and Security, September 11-13, 2006, Istanbul, Turkey, Lecture Notes in Computer Science, Springer-Verlag, pp 90-97 2006 Sept ISSN 0302-9743 /ISBN 978-3-540-39392-4 8
- Nafornita Corina, Alexandru Isar, Monica Borda, Image Watermarking Based on the Discrete Wavelet Transform Statistical Characteristics Proc. of IEEE EUROCON 2005 - The International Conference on "Computer as a tool", November 21-24, 2005, Belgrade, Serbia and Montenegro, pp. 943-946, ISBN 1-4244-0050-3 2005 November ISBN 1-4244-0050-3,
- Nafornita Corina Improved Detection for Robust Image Watermarking Proc. Of International Symposium on Signal, Circuits and Systems, ISSCS2005, Iasi, Romania, 14-15 July 2005, vol. 2, pp.473-476, ISBN 0-7803-9029-6 2005 July ISBN 0-7803-9029-6

**Grants (member)**

2014- ongoing, Quality of Services Improvement for GNSS Localisation in Constraint Environment by Image Fusing Techniques (IMFUSING), Contract with European Space Agency, ESA, nr. 4000111852/14/NL/Cbi, contractor UPT, subcontractor Thales Alenia (2014)

2014- ongoing, SEOM SY4Sci Synergy - Ocean Virtual Laboratory (OVL), Contract with European Space Agency, ESA, nr. 4000112389/14/I-NB, contractor OceanDataLab, subcontractor UPT

2011-2014 – FP7 EU program, Advanced Radar Tracking and Classification for Enhanced Road Safety ARTRAC 94,522 EUR

2013-2014 PC7 co-funding program for the FP7 programme Advanced Radar Tracking and Classification for Enhanced Road Safety ARTRAC

2009-2011 – national grant – The use of wavelet theory for decision making, funded by CNCSIS, ID 930, 2009-2011, 661548 RON

2007-2009 – national grant, Improvement of research & development basis in the field of communications at the Faculty of Electronics and Telecommunications, Politehnica Univ. of Timisoara, funded by ANCS, CAPACITATI PN II, 2007-2009, 77/CP/II/13.09.2007, value 1937880 RON

2005-2007 – national grant, Performance increase of digital receptors using wavelet theory, funded by CNCSIS, code 637/A/CNCSIS, value 48000 RON

2004-2006 – national grant, Modern methods for image analysis and image processing, 2004-2006, funded by CNCSIS, 146618 RON

2011-2012 – member of target group Doctoral School in support of research in the European context (“Scoală doctorală în sprijinul cercetării în context european”), POSDRU program 21/1.5/G/13798 2010-2012

**Scholarships**

Oct. 2009 - EGIDE scholarship for research, LAPS, Bordeaux, France

Sep. 2005 – ECRYPT scholarship, Summer School for Multimedia Security, University of Salzburg, Austria, 21-24 Sept. 2005

**Honours and awards**

- Nominated for the Information Forensics and Security Technical Committee IEEE

**Memberships**

- Since 2003, IEEE member, SP and CS societies.
- Since 2009, member of the Intelligent Signal Processing Research Centre ISPRC, in the framework of the Communications Dept, UPT.
- Since 2003, member of Association of Electrical Engineers from Timisoara.