Professor Adel BELOUCHRANI, IEEE Fellow
Fellow of The World Academy of Sciences (TWAS)
Founding Member of the Algerian Academy of Science and Technology
Electrical Engineering Department,
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Research Interests

Statistical signal processing and (blind) array signal processing with applications in biomedical, telecommunications and power systems, Time-frequency analysis, Time-frequency array signal processing, Machine Learning, Mean Field Games for Communications, Application of spin crossover materials in telecommunications.

Education

- **1992/1995** Doctorate Degree "Ph.D" from the Ecole Nationale Supérieure des Télécommunications (ENST), Paris, France, with the highest distinction "Très Honorable avec les Félicitations du Jury" in the field of Signal and Images.

- **1991/1992** D.E.A Degree "M.Sc." in Signal, Image and Speech Processing from Institut National Polytechnique de Grenoble (INPG), France, granted with highest honors.

- **1986/1991** State Engineer Degree in Electronics from Ecole Nationale Polytechnique (ENP), Algiers, Algeria, granted with highest honors.

Professional Experience

- **Since 2006** Full Professor, Electrical Engineering Department, Ecole Nationale Polytechnique, Algiers, Algeria.

- **December 2024** Visiting Professor at KFUPM (King Fahd University of Petroleum and Minerals), Dhahran, Kingdom of Saudi Arabia.

- **September/November 2024** Visiting Professor at the Center For Applied Mathematics – Ecole Polytechnique (CMAP), Paris, France.

- **May 2023** Visiting Professor at "Laboratoire de Chimie de Coordination", CNRS, Toulouse, France.

- **February 2023** Visiting Professor at "Laboratoire d'Analyse des Signaux et Production Industrielle (LASPI)", University of Jean Monnet Saint Etienne, Roanne, France.

- **November 2022** Visiting the "Laboratoire de Chimie de Coordination" of CNRS (LCC), Toulouse, France.

- **August 2019** Visiting Professor at Brown University, Providence, Rhode Island, USA.

- **February 2018** Visiting Professor at "Laboratoire d'Analyse des Signaux et Production Industrielle (LASPI)", University of Jean Monnet Saint Etienne, Roanne, France.

- **April 2017** Visiting Professor at "Laboratoire de Traitement et de Transport de l'Information (L2TI)", Paris 13 University, France.

- **July/August 2016** Visiting Professor at Brown University, Providence, Rhode Island, USA.

- **May 2016** Visiting Professor at Mathematics Department of Paris 8 University, France.

- **December 2014** Visiting Professor at KAUST (King Abdullah University of Science and Technology), Thuwal, Kingdom of Saudi Arabia and at KFUPM (King Fahd University of Petroleum and Minerals), Dhahran, Kingdom of Saudi Arabia.

- **December 2013** Visiting Professor at KAUST (King Abdullah University of Science and Technology), Thuwal, Kingdom of Saudi Arabia.

- **2009/2010** Vice director of the Ecole Nationale Polytechnique in charge of the scientific research office.

- **June 2008** Visiting professor at "Laboratoire d'Analyse des Signaux et Production Industrielle (LASPI)", University of Jean Monnet Saint Etienne, Roanne, France.

- **2001/2006** Associate Professor, Electrical Engineering Department, Ecole Nationale Polytechnique, Algiers, Algeria.

- **Jannary 2003/July 2005** Vice director of the Ecole Nationale Polytechnique, Algiers, Algeria, in charge of studies.

- **March 2006** Visiting Professeur at "Laboratoire d'Analyse des Signaux et Production Industrielle (LASPI)", University of Jean Monnet Saint Etienne, Roanne, France.

- **September 2006** Visiting Professeur at " Laboratoire Electronique, Informatique et Image"(LE2I), CNRS UMR 5158, University of Bourgogne, Dijon, France.

- **May 2005** Visiting Professeur to "Laboratoire Electronique, Informatique et Image" (LE2I), CNRS UMR 5158, University of Bourgogne, Dijon, France.

- **December 2003/January 2004** Visiting Professor at Telekom Malaysia RnD, Kuala Lumpur, Malaysia.

- **July/September 2003** Sabbatical stay at the signal and image processing department of the Ecole Nationale Supérieure des Télécommunications (ENST) of Paris (France).

- **August/September 2001** Visiting Researcher at Brain Signal Processing Laboratory, Riken, Japan.

- **May/June 2001** Visiting Scholar at the Department of Cognitive Science of University of California at San Diego, USA.

- **1998/2000** Assistant Professor, Electrical Engineering Department, Ecole Nationale Polytechnique, Algiers, Algeria.

- **August/September** 2000 Visiting Researcher at Brain Signal Processing Laboratory, Riken, Japan.

- **1996/1997** Doctor-Engineer at Alcatel/ETCA, Belgium. Research Associate at Department of Electrical and Computer Engineering, Villanova University, USA. Consultant to Comcast Inc., Philadelphia.

- **February** 1997 Visiting Researcher at Laboratory for Artificial Brain Systems, Riken, Japan.

- **1995/1996** Visiting position at Department of Electrical Engineering and Computer Sciences of University of California at Berkeley, USA.

- **1994/1995** Teaching in electronics at Cergy Pontoise University (France).

- **1993/1994** Teaching in electronics at Cergy Pontoise University (France). Supervising of Engineer and Master projects in Signal Processing at Telecom Paris.

Awards and Distinctions

- **2024** Elected as Fellow of The World Academy of Sciences (TWAS), Class 2025.

- **2020-2023** Among the world's top 2% scientists according to a ranking study conducted by a team from Stanford University.
  https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/7

- **2020** IEEE Fellow.

- **2019** Selected by the IEEE Signal Processing Society as Candidate to the 2020 General Election of Regional Director-at-Large for Region 8.

- **2019** Elected Member of the IEEE Sensor Array and Multichannel Technical Committee, 2019-2021 term.

- **2017** Elected Member of the EURASIP Special Area Team (SAT)-Theoretical and Methodological Trends in Signal Processing, 2018-2020 term.

- **2016** Fellowship Award from the US National Academy of Sciences.

- **2015** Elected as Founding Member of the Algerian Academy of Science and Technology.

- **2014** IEEE Senior Member.

- **2013** Elected as Member of the Administration Council of GRETSI, the French signal processing society founded in 1957.

- **2010** Algeria Scopus Award in the field of Computer and Electrical Engineering.

- **1995/1996** Post Doctoral Fellowship from University of California at Berkeley, USA.

- **1991/1995** Doctoral Scholarship in France from the Ministry of higher education and scientific research of Algeria.

Citation Index

- **Google Scholar:** Google Scholar Profile

  - Total Citations: 9875
  - h-index: 37
  - i10-index: 98

- **Scopus:** Scopus Profile

  - Total Citations: 5708
  - h-index: 28

- **Web of Science-Core Collection:**

  – Sum of Times Cited: 4449
  – h-index: 24
  – Sum of Times Cited by Patents: 52

Teaching

Signal Processing, Digital Communications, Estimation Theory, Array Signal Processing for Communications, Time Frequency Analysis, Mathematical Statistics.

Languages

Arabic, French, English.

Tutorials

- **A. Belouchrani**, Blind source separation: Concepts, Approaches and Applications, presented at the 6th International Symposium on Signal Processing and its Applications (ISSPA), Kuala-Lumpur, Malaysia, 12 August 2001.

- **A. Belouchrani**, Blind source separation: Concepts and Applications, presented at the seminar The Technologies at the service of security organized jointly by Ecole Militaire Polytechnique and NATO Research and Technology Organization, 3-4 November 2008.

- **A. Belouchrani**, Array signal processing: Basic concepts, recent advances, and applications, presented at the 10th International Conference on Information Science, Signal Processing and their Applications (ISSPA), Kuala Lumpur, Malaysia, 10-13 May 2010.

- **A. Belouchrani**, Quadratic Time Frequency Array Signal Processing: Multi-Dimensional Processing for Non-stationary Signals, presented at the 22nd IEEE Statistical Signal Processing Workshop, Hanoi, Vietnam, 2-5 July 2023.

Plenaries

- **A. Belouchrani**, TV Broadcasting based Bistatic Radars, at DAT Conference 2004, Reghaia.

- **A. Belouchrani**, Blind Source separation: Concepts and Applications, at DAT Conference 2006, Beni-Messous.

- **A. Belouchrani**, Techniques d'appoint pour la détection de vecteurs aériens: Radars passifs et localisation acoustique, at DAT Conference 2011, Beni-Messous.

- **A. Belouchrani**, Time Frequency Array Signal Processing: A Synergistic Relationship between Time Frequency Methods and Sensor Array Processing, at First National Conference on Telecommunications, CNT'2012, November 2012, Guelma.

- **A. Belouchrani**, Blind Multi Sensor Processing: Concepts and Some Applications, U.S. NAS-KAUST Frontiers of Sensor Science Symposium, Saudi Arabia, December 5-7, 2015.

- **A. Belouchrani**, Smart antennas for non stationary signals, The 7th International Conference on Wireless Networks and Mobile Communications October 29 - November 01, 2019 Fez, Morocco.

- **A. Belouchrani**, Array Processing for non-Stationary Signals: Exploiting Spatial Time Frequency Dis- tributions, IEEE International Conference on Signal, Control and Communication (SCC 2019), 16 - 18 December 2019, Hammamet, Tunisia.

- **A. Belouchrani**, How to Write a Research Paper?, the 12th National Conference on High Voltage Engineering (CNHT),October 04 - 06, 2022, Sidi Bel-Abbs, Algeria.

- **A. Belouchrani**, Blind Signal separation: Concepts and some applications, the IEEE International Conference on Advanced Electrical Engineering 2022 (ICAEE 2022), 29 - 31 October, 2022, Constantine, Algeria.

Editorial Activities

Editorial Services

- **Revue Traitement du Signal:** Associate Editor from 2004 to 2007.

- **EURASIP Journal on Advances in Signal Processing:** Lead Guest Editor for Special Issue on Advances in Time Frequency and Array Processing of Nonstationary Signals, 2012.

- **Digital Signal Processing-Elsevier:** Editorial Board member from 2011 to 2019.

- **IEEE Transactions on Signal Processing:** Associate Editor (2013-2017), Senior Area Editor (2017-2021).

- **ENP Engineering Science Journal:** Editor-in-Chief since 2021.

Regular reviewer of

- IEEE transactions on Signal Processing, IEEE Transactions on Communications, IEEE Transactions on Neural Networks, IEEE Signal Processing Letter, Neurocomputing, Journal on Applied Signal Processing, Signal Processing, Journal of Zhejiang University science, IEE Electronics let- ter, IEEE Transactions on Circuits and Systems, IEEE Transactions on Image Processing, IEEE Signal Processing Magazine

Conference and Summer School Activities

- Member of the technical committee of the workshop SIT99, Sheraton Algiers, Algeria. 30 November- 1 December 1999

- Member of the technical committee of the conference ICEE2000, Boumerdes, Algeria. 4-6 November 2000

- Member of the technical committee of the International Symposium on Signal Processing and its applications (ISSPA) , Kuala - Lumpur, Malaysia, 13-16 August 2001.

- Member of the technical committee of the 2nd Internationale conference JTEA'2002, Sousse Nord, Tunisia, 21-23 March 2002.

- Chairman of the First Polytechnic Symposium on Signal Processing, Algiers, Algeria, 25 April 2002.

- Member of the technical committee of the International Symposium on Signal Processing and its applications (ISSPA), Paris, France, 1-4 July 2003.

- Africa Liaison of the International Symposium on Signal Processing and its applications (ISSPA), Paris, France, 1-4 July 2003.

- Member of the steering committee (Founder Member) of the International Summer School On Signal Processing and its Applications: Signal Processing and Technologies for telecommunications, Algiers, Algeria, September 11-14, 2004

- Chairman of the Second Polytechnic Symposium on Signal Processing, Algiers, Algeria, 15 September 2004.

- Member of the technical committee of the International Symposium on Signal Processing and its applications (ISSPA), 22-25 August 2005, Sydney, AUSTRALIA.

- Africa Liaison of the International Symposium on Signal Processing and its applications (ISSPA), 22-25 August 2005, Sydney, AUSTRALIA.

- Member of the steering committee (Founder Member) of the Second International Summer School On Signal Processing and its Applications: Fundamental and Practice of Signal Processing, Mostaganem, Algeria, September 24-28, 2005.

- Member of the technical committee of the 3rd international symposium on image and Signal, Processing and Analysis (ISPA), Zegreb, Groatia, September 15-17, 2005.

- Member of the technical committee of the Colloque National sur le Traitement du signal et ses Applications CNTSA'2005, Université 08 mai 45, Guelma, 26-27 septembre 2005.

- Member of the technical committee of the Second International Symposium Communications, Control and Signal Processing, ISCCSP 2006, 13-15 March 2006, Marrakech, Morocco

- Organizing a special session on "Blind source separation and its applications" at the Second International Symposium Communications, Control and Signal Processing, ISCCSP 2006, 13-15 March 2006, Marrakech, Morocco.

- Member of the technical committee of the 6th International Conference on Independent Component Analysis and Blind Source Separation (ICA), March 5-8, 2006, Charleston SC, USA.

- Member of the technical committee of the EUSIPCO 2006, Italie. 2003.

- Member of the technical committee of the 3rd International Symposium on Image/Video Communications over fixed and mobile networks, September 13-15, 2006, Yasmine-Hammamet, Tunisia.

- Acted as Reviewer for ICASSP 2006, Toulouse, France.

- Member of the steering committee (Founder Member) of the Third International Summer School On Signal Processing and its Applications: Image Processing, Jijel, Algeria, July 8-12, 2006.

- Member of the technical committee of the SIGMAP 2006, 7-10 August 2006, Setubal, Portugal.

- Member of the steering committee (Founder Member) of the Third International Summer School On Signal Processing and its Applications: Image Processing, Jijel, Algeria, July 8-12, 2006.

- Member of the technical committee of the conference CGE, EMP, Bordj EL Bahri, Algiers, 16-17 april 2007.

- Member of the steering committee (Founder Member) of the Fourth International Summer School On Signal Processing and its Applications, Session 2007, Boumerdese, Juillet 2007.

- Member of the technical committee of the Third International Symposium Communications, Con- trol and Signal Processing, ISCCSP 2008, 12-14 March 2008, Malta.

- Member of the technical committee of the International Radar Conference, RADAR 2009, 12-19 October 2009, Bordeaux, France.

- Member of the steering committee (Founder Member) of the 6th International Summer School On Signal Processing and its Applications, Oran, October 2009.

- Signal Processing Program Track Chair of the 10th International Conference on Information Science, Signal Processing and their applications (ISSPA), Kuala Lumpur, Malaysia, 10-13 May 2010.

- Chairman of the 7th International Workshop on Systems, Signal Processing and their Applications (WOSSPA 2011), Corne d'Or, Tipaza, Algeria, May 09-11, 2011.

- Co-Technical Chair of the 8th International Workshop on Systems, Signal Processing and their Applications (WOSSSPA 2013), Mazafran, Algiers, Algeria, May 12-15, 2013.

- Chair of the Poster session "Spectrum Estimation" at the 21st European Signal Processing Conference, 9-13 September 2013, Marrakech, Morocco.

- Acted as Reviewer for ICASSP 2014, Florence, Italy.

- Area chair of the track "Medical Image and Signal Processing" at the international conference EUSIPCO 2016, 28 Aug.- 02 Sep. 2016, Budapest, Hungary.

- Program committee Member of 10th International Symposium on Image and Signal Processing and Analysis (ISPA 2017) 18-20th September 2017, Ljubljana, Slovenia.

- Member of the steering committee (Founder Member) of the 7th Algerian Summer School on Signal Processing and its Applications, Session 2017 'Signal Processing for Telecommunications', December 17-20, 2017, Guelma.

- Member of the organizing committee of the seventh U.S. NAS Arab-American Frontiers Symposium, 17-19 November 2019, Cairo, Egypt.

- Co-Chair of the Special Session: Dependent Source Separation, at 11th IEEE Sensor Array And Multichannel Signal Processing Workshop, SAM 2020, June 8 - 11, 2020, Hangzhou, China.

- General Chair of the 9th International School On Signal Processing and its Applications: Signal Processing and Artificial Intelligence, Algiers, Algeria, June 23-26, 2024.

- Member of the technical committee of the EUSIPCO 2024, 26th-30th, August, 2024, Lyon, France.

- Member of the technical committee of the International Radar Conference, RADAR 2024, 21-25 October 2024, Rennes, France.

- Member of the technical committee of the Asilomar Conference on Signals, Systems, and Computers, 27-30 October, 2024, Asilomar, USA.

Committees and Scientific Councils

- Member of the scientific council of the Center for Development of Advanced Technologies (CDTA) from 2003 to 2007.

- Member of scientific council of the Algerian Space Agency from 2003 to 2008.

- Member of the National Researchers Evaluation Commission 2010-2019.

- Member of the Permanent Council of the Ministry of Higher Education and Scientific Research of Algeria from 2011 to 2021.

- Member of the National Academic Commission, January 2012.

- Ministry of Higher E President of the Scientific Council of the Electrical Engineering Department of Ecole Nationale Polytechnique 2016-2019.

- Member of the Scientific Council of the Thematic Agency for Research in Science and Technology from 2013 to 2017 and from 2020 to 2022.

- Member of the Administration Council of GRETSI, the French signal processing society founded in 1957, since 2013.

- Member of the National Validation Committee for Scientific journals of the Ministry of Higher Education and Scientific Research, since 2014.

- Member of Scientific Council of the National Institute for Education Research, since 2021.

- Member of the Scientific Council of the national sanitary security agency (NSSA), since 2022.

Principal Investigator of National Research Projects

1. Implementation and establishment of a product development and validation process for Traffic Sign Company (EPS Inc.) 2012-2014, PNR project

2. Digital communications by carrier currents. CNEPRU project, J1602020504.

3. Machine learning for anomaly detection on biological data. CNEPRU project, J0200520060071.

4. Source separation and equalization without a learning sequence. CNEPRU project, J0204820070004.

5. Antenna Processing: Algorithms and Applications. CNEPRU project, J0204820100002.

6. Development of signal processing algorithms with applications in biomedical and radar detection. CNEPRU project, J0204820140001.

Supervised Ph.D. Thesis

1. Angle and Frequency Doppler Estimation for Low-Elevation Targets, defended by Mustapha Djeddou on June 2005 at Ecole Nationale Polytechnique.

2. Blind separation of source signals from their convolutive mixtures : Block Joint Diagonalization tech- nique based en second order statistics defended, by Hicham Bousbia-Salah on May 2006 at Ecole Na- tionale Polytechnique. Hicham Bousbia-Salah is currently with Ecole Nationale Polytechnique, Algeria.

3. Fast blind equalizers for multichannel robust to channel order overestimation, defended by Ibrahim Kacha. on March 2007 at Ecole Nationale Polytechnique.

4. Parameter Estimation of multi-component polynomial-phase signals: Exploitation of the spatial infor- mation provided by a multi-sensor array, defended by Mounir Adjrad on November 2007 at Ecole Nationale Polytechnique. Mounir Adjrad joined University College London, UK.

5. A study of the stochastic and cyclic behavior of the wind in Algeria, defended by Farouk Chellali on April 2011 at Ecole Nationale Polytechnique. This Work has received The DESERTEC Thesis Award. Farouk Chellali is currently with Centre for the Development of Renewable Energies (CDER), Algeria.

6. Hyperbolic decomposition Techniques for array signal processing, defended by Redha Iferroudjene on July 2011 at Ecole Militaire Polytechnique.

7. Architectures of SoC Implementation for DNS/DNSSEC server, defended by Rabah Sadoun on February 2012 at Ecole Nationale Polytechnique.

8. Digital Phase Detectors in VLSI, defended by Samir Tagzout on February 2012 at Ecole Nationale Polytechnique.

9. Radar Detection in interfering target environment : Algorithm design and real time implementation, defended by Boualem Magaz on March 2012 at Ecole Nationale Polytechnique.

10. Contribution to reduced complexity hardware implementation of Blind Source Separation Algorithms: Development of A VLSI Architectures Design Platform, defended by Abdelmalek Fermas on May 2012 at Ecole Militaire Polytechnique.

11. Cardiac arrhythmia recognition using Support Vector Machines (SVMs), defended by Zahia Zidelmal on June 2012 at Mouloud Mammeri University. Zahia Zidelmal is currently with Mouloud Mammeri University, Tizi-Ouzou, Algeria.

12. Exploitation of the discrete nature of digital communications signals in blind equalization and source separation techniques, defended by Abdenour Labed on February 2013 at Ecole Militaire Polytechnique.

13. Subspace Based Encryption: Concepts and Robustness Study , defended by Atef Mermoul on October 2013 at Ecole Nationale Polytechnique.

14. Poursuite sous espace, estimation robuste et analyse de performance : Application au traitement d0antennes et radar MIMO, defended by Messaoud Thameri on December 2013 at Telecom-ParisTech, Paris, France. (Co-directed with Prof. K. ABED-MERAIM).

15. Traitement Radar Adapté á l'Environnement : Conception de formes d'onde et traitement de clutter, defended by Mohamed EL Mounir Abdelaziz on May 2014 at Ecole Nationale Polytechnique.

16. Analyse des Performances des Algorithmes MUSIC et ESPRIT Temps-Fréquence pour la Localisation de Sources en Présence d'Erreurs de Modéle, defended by Mohamed Khodja on May 2015 at Ecole Nationale Polytechnique.

17. Time-Frequency Distributions: Compact Support Kernels, Performances and Implementations, de- fended by Mansour Abed on June 2015 at Ecole Nationale Polytechnique. Mansour Abed is currently with University of Mostaganem, Mostaganem, ALGERIA.

18. Micro-Doppler Signals: Classification and Source Separation through Conjoint Diagonalization, de- fended by Mesloub Amar on June 2015 at Ecole Militaire Polytechnique. (Supervised with Prof. K. Abed-Meraim). Mesloub Amar is currently with Ecole Militaire Polytechnique, Algeria.

19. Contributions to Source Localization and Separation, defended by Abdelouahab Boudjellal on September 2015 at University of Orleans, Orleans, France. (Supervised with Prof. K. Abed-Meraim and Prof. P. Ravier).

20. Data fusion applied to radar tracking and source loclization in multi-sensor context, de- fended by Cherchar Ammar, on December 2016 at Ecole Militaire Polytechnique.

21. Source separation algorithms for real time applications, defended by Meziane Bentahar Meziane Abdelfettah on June 2017 at Ecole Nationale Polytechnique.

22. Motion parameter estimation of moving acoustic source exploiting time-frequency analysis, defended by Timlelt Hakima on July 2017 at University of Science and Technology Houari Boumediene (USTHB). (Supervised with Prof. Y. Remram).

23. Arithmétiques et algorithmiques pour l'optimisation des circuits intégrés, defended by EL-Sedik Lamini on November 2018 at University of Science and Technology Houari Boumediene (USTHB). (Supervised with Prof.H. Belbachir and Dr S. Tagzout).

24. Modélisation et optimisation des implémentations physiques dune fonction, defended by Bellal Rima Nariméne on May 2019 at University of Science and Technology Houari Boumediene (USTHB). (Su- pervised with Prof. H. Belbachir and Dr S. Tagzout).

25. Annulation d'interférences dans les systémes MIMO et MIMO massifs (Massive MIMO), defended by Ladaycia Abdelhamid on July 2019 at University of Paris 13, Sorbonne Paris Cit/'e, France. (Supervised with Prof. K. Abed-Meraim and Prof. A. Mokraoui).

26. Contribution to Performance Improvement in Antenna-System-Design for Advanced Wireless Communications, defended by TEBACHE Soufiane on July 2021 at Ecole Nationale Polytechnique (Supervised with Dr Farid Ghanem).

27. Optimisation de filtres RII en arithmétique virgule fixe: Application á la conception de boucles verrouillage de phase numérique, defended by Mohammed Zelmat on November 2022 at University of Science and Technology Houari Boumediene (USTHB). (Supervised with Prof.H. Belbachir and Dr S. Tagzout).

28. Contributions aux nouveaux défis de la séparation de sources, defended by Saliha MEZIANI on December 2023 at Ecole Militaire Polytechnique (Supervised with Prof. K. Abed-Meraim).

Co-Supervised Ph.D. Thesis (Collaboration)

29. Estimation and separation of linear frequency- modulated signals in wireless communications using time-frequency signal processing, with Prof. B. Boashash and Prof. K. Abed-Meraim. Thesis defended by Nguyen Linh- Trung on October 2004 at Queensland University of Technology.

30. Source detection and Parameter estimation in Array Processing in the presence of Nonuniform Noise, with Prof. A. M Zoubir at Curtin University of Technology, Australia. Thesis defended by Said Aouada on May 2006 at T.U. Darmstadt, Germany.

31. Séparation aveugle de sources audio dans le contexte automobile, with Prof. K. Abed-Meraim and Prof. Y. Grenier. Thesis defended by Abdeldjalil Aissa El Bey on July 2007 at Ecole Nationale Supérieure des télécommunications, Paris, France.

Some Selected Supervised Master of Science Thesis

- Radar Detection in the time frequency domain : Exploitation of the reassigned representation, presented by Mohamed Laid BENCHEIKH on June 2000 at Ecole Nationale Polytechnqiue.

- Exploitation of the Spatial and Frequency diversity for the Estimation of Propagation Parameters in MultiCarrier Systems, presented by Said AOUADA on September 2000 at Ecole Nationale Polytechn- qiue.

- Robust Beamforming through target tracking presented by Samir DRISSI on December 2001 at Ecole Militaire Polytechnique.

- Application of Extended Kalman Filter to chirp identi

  cation, presented, presented by Mounir ADJRAD on April 2002 at Ecole Nationale Polytechnique.

- Study and FPGA Implementation of spread spectrum communication system based on chirp modulation, presented by Yacine SARNI on April 2002 at Ecole Nationale Polytechnique.

- Pipeline and Parallel Architectures for Recursive and Adaptive Filters: Automatic Design Platform for VLSI Architectures, presented by Abdelmalek FERMAS on January 2005 at Ecole Militaire Polytech- nique.

- Bistatic Radar exploiting radiations of non cooperative emitters: Design of a simulator under MATLAB, presented by Allaoua BOUGHRIRA on February 2007 at Ecole Militaire Polytechnique.

- Unsupervised source separation: Implementation on DSP TMS320C6211 card, presented by Abdelfetah MEZIANE BENTAHAR MEZIANE on February 2007 at University of Sciences and Technology Houari Boumediene (USTHB).

- DOA estimation in the time frequency domaine, presented by Mohamed Seddik TOUHAMI on May 2007 at Ecole Nationale Polytechnique.

- Cellular Mobile Positioning using array signal processing, presented by Abdelouahab BOUD-JELLAL on November 2009 at Ecole Militaire Polytechnique.

- Oblique projection operators and their application to array signal processing, presented by Saliha MEZIANI on February 2011 at Ecole Militaire Polytechnique.

- Passive Detection using DVB-T signals, presented by Abdelhamid LADAYCIA on June 2012 at Ecole Militaire Polytechnique.

Some Selected Ph.D. and "HDR" Assessment

- Member of the HDR "Habilitation á Diriger des Recherches" defense jury of Mohamed EL BADAOUI, Analyse Cyclostationnaire et Séparation de sources des signaux mécaniques, électriques et biomécaniques, on 12 Juin 2009 at Jean Monnet University of Saint Etienne, Roanne, France.

- Member of the Ph.D defense jury of Anahid SAFAVI, Contributions on Exploiting Transmit and Receive Diversity for a Multi-Antenna Wireless System, on September 2003 at Ecole nationale supérieure des télécommunications(ENST) de Paris, France.

- External Examinator ("Rapporteur") of the Ph.D dissertation of Lamia BERRICHE, Semi-Blind Es- timation of MIMO Channels : Algorithms and Performance. Thesis defended on September 2006 at Ecole nationale supérieure des télécommunications (ENST) de Paris, France.

- Member of the Ph.D defense jury of Nhat Anh CHE VIET, Analyse cyclostationnaire : Estimation des fréquences cycliques et séparation de sources, on October 2011 at Jean Monnet University of Saint Etienne, Roanne, France.

- External Examinator ("Rapporteur") of the Ph.D dissertation of Fatiha DJEBBAR, Contribution to audio steganography: Algorithms and robustness analysis. Thesis defended on January 2012 at University of Bretagne Occidentale, Brest, France.

- External Examinator ("Rapporteur") of the Ph.D dissertation of Siwar REKIK, Sécurisation de la communication parlée par une technique stéganographique. Thesis defended on May 2012 at University of Bretagne Occidentale, Brest, France.

- External Examinator of the Ph.D dissertation of Victor SUCIC, Parameters Selection for Optimising Time-Frequency Distributions and Measurements of Time-Frequency Characteristics of Nonstationary Signals. Thesis defended on 2003 at Queensland University of Technology (QUT), Brisbane, Australie.

- External Examinator of the Ph.D dissertation of Daniel CAREY, Statistical Modelling and Reduction of Multiple Access Interference Power in Wideband DS-CDMA & MC-CDMA Communications Systems. Thesis defended on 2005 at Queensland University of Technology (QUT), Brisbane, Australie.

- Member of the Ph.D defense jury of Latifa HAMAMI, Réalisation d'un systéme de reconnaissance de l'écriture arabe imprimée, on September 2002 at Ecole Nationale Polytechnique.

- Member of the Ph.D defense jury of Amina BENMERABET SERIR, Analyses Multi-résolution et multi-échelle appliquées aux traitements d'images satellitaires, on 2002 at University of Sciences and Technology Houari Boumediene (USTHB).

- Member of the Ph.D defense jury of Nadia LASSOUAOUI, Segmentation des images par différentes approches et optimisation avec les algorithmes génétiques, on 2004 at Ecole Nationale Polytechnique.

- Member of the Ph.D defense jury of Amine MOKRAOUI, Contribution l'amélioration des performances des antennes TSA: Analyse par des méthodes numériques, February 2005 at Ecole Nationale Polytechnique.

- Member of the Ph.D defense jury of Amel AISSAOUI, Synchronisation Adaptative du code PN Dans les Systémes de Communication DS/SS, on 2008 at MENTOURI University of Constantine.

- Member of the Ph.D defense jury of El Houssin EL BOUCHIKHI, On parametric spectral estimation for induction machine faults detection in stationary and nonstationary environments. Thesis defended on November 2013 at University of Bretagne Occidentale, Brest, France.

- External committee member ("Rapporteur") of the Ph.D dissertation of Abdelkrim Kamel OUDJIDA, Arithmetic for Finite-Word-Length Linear Controllers: MEMS Applications. Thesis defended on December 2013 at University of Franche-Comté, France.

- External committee member of the Ph.D dissertation of Otto DEBALS, Tensorization and applications in blind source separation. Thesis defended on August 2017 at KU Leuven - Faculty of Engineering Science, Belgium.

- External committee member of the Ph.D dissertation of Amine BRAHMI,Contribution la séparation de sources cyclo-stationnaires: Application aux signaux de télécommunications, mécaniques et Biomécaniques. Thesis defended on December 2017 at Sidi Mohamed Ben Abdellah BDELLAH University of Fez, Morocco.

Head of "Master of Science" Program

- Systémes d'analyse et de traitement du signal, 2003-2005 at ENP.

Teaching at Ecole Nationale Polytechnique

Signal and Communications (Master of Science Level)

- Digital Communications Systems from 1997 to 1998.

- Array signal processing from 1997 to 1998.

- Digital Communications from 1999 to 2003.

- Estimation theory and Array signal processing from 1999 to 2003. Signal analysis and processing Systems (Master of Science Level)

- Signal processing basics from 2003 to 2005

- Signal processing for communications from 2003 to 2005.

- VLSI Digital signal processing from 2003 to 2005

- Estimation theory from 2003 to 2005

- Time frequency analysis from 2003 to 2005. Telecommunications Systems (Master of Science Level)

- Estimation theory from 2005 to 2010.

- Array signal processing from 2005 to 2010. Electronics (Engineering Level)

- Signal Processing since 1997.

- Array signal processing since 2013

- Estimation and detection theory since 2013

- Time Frequency analysis since 2013. TEACHING IN OTHER UNIVERSITIES

- Analog Electronics at Cergy Pontoise University, France, from 1993 to 1995. durant 93/94 et 94/95.

- Time frequency analysis at Department of Electrical and Computer Engineering of Villanova University, Villanova, USA in 1996.

- Stochastic processus, Array signal processing and Spread spectrum communications at Telekom Malaysia RnD, Kuala Lumpur, Malaysia. from December 2003 to January 2004.

- Array signal processing at l'Ecole Supérieure de Communications, "SupCom", Tunis, Tunisia in February 2009.

- Time Frequency Analysis at Fez University, Fez, Morocco, November 2019.

- Time Frequency Analysis at Jean Monnet University, Saint-Etienne, Campus Roanne, France, February 2022 (Online).

- Bibliographic search, scientific writing and signal processing projects at Jean Monnet University, Saint-Etienne, Campus Roanne, France, October 2023- February 2024 (Online).

- Mathematical Statistics (Refesher Master 2 Data Science) at Ecole Polytechnique, Paris, France, September 2024.

Personal Data

Born on May 5-th 1967 in Algiers, Married, Four Children.