Curriculum Vitae

Name: Angela-Manuela DIGULESCU - POPESCU

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Education:

2013 - 2017: *Universite Grenoble Alpes*, France.
    Military Technical Academy of Bucharest, Romania.
- PhD thesis on advanced algorithms for signal analysis
  https://tel.archives-ouvertes.fr/tel-01483499v2/document

2011-2013: *University POLITEHNICA of Bucharest,* Romania.
- Master degree, *Mobile Communications* master program at the *Faculty of Electronics, Telecommunications and Information Technology*.

2006-2010: *Military Technical Academy of Bucharest*, Romania.
- Engineering degree from the *Faculty of Military Electronic and Information Systems*.

2002-2006: "Mihai Viteazul" Military College, Alba-Iulia, Romania.
- Various courses/seminars organized by the "Mihai Viteazul" Military College for the National Mathematics Olympiads and Competitions.

Employment

2017 – present
- University lecturer at the *Department of Communications for Defense and Security, Faculty of Communications and Electronic Systems for Defense and Security, "Ferdinand I" Military Technical Academy*.

2013-2017
- Teaching assistant and PhD student at the *Department of Communications and Military Electronic Systems, Faculty of Military Electronic and Information Systems, Military Technical Academy of Bucharest.*
- PhD student at *GIPSA-lab, Universite Grenoble Alpes, France*.

2010-2013
- Teaching assistant at the *Department of Communications and Military Electronic Systems, Faculty of Military Electronic and Information Systems, Military Technical Academy of Bucharest.*

Awards and achievements:

2008: Special award at the "Traian Lalescu" National Mathematics Competition.

2007: Bronze medal at the South Eastern European Mathematical Olympiad for University Students with International Participation (SEEMOUS) from Cyprus.

2006: Special award at the "Marian Tarina" National Competition (Mathematics).

2005: Second award at the "Marian Tarina" National Competition (Mathematics).

2004: Second award at the "Marian Tarina" National Competition (Mathematics).

Experience

March 2018-October 2018

- Research project with GIPSA-Lab and Edf DTG Grenoble on the topic: "Analyse fréquentielle de la puissance électrique consommée par les servomoteurs du Parc"

October 2013 – February 2014
- Research internship at EDF R&D Chatou Site, STEP Department on the topic: "Detection, localization and quantification of flaws under low pressure difference".

March 2013 – June 2013
- Research internship for the dissertation thesis completion at GIPSA-lab, INP Grenoble on the topic: "Localization system of acoustic transitory sources".

April 2010 – June 2010
- Erasmus scholarship for the Bachelor thesis completion at GIPSA-lab, INP Grenoble on the topic: "Non invasive analysis of fluid flows in closed pipelines".

April 2009 – June 2009
- Erasmus scholarship at GIPSA-lab, INP Grenoble on the topic: "Non invasive analysis of fluid flows in closed pipelines".

Computer skills

- MATLAB, Cadence OrCAD, Proteus EDA/CAD, C, C++, Java.
- Microsoft Office, LaTeX, Kali Linux.

Publications

1. International conferences & journals

- Denis Stanescu, Cornel Ioana, Angela Digulescu, Alexandru Serbanescu, "High rate acoustic imagery for underwater object classification in dynamic configuration", OCEANS19 MTS IEEE, Seattle, 2019.
- Angela Digulescu, Cornel Ioana, Alexandru Serbanescu, "Phase Diagram-Based Sensing with Adaptive Waveform Design and Recurrent States Quantification for the

Instantaneous Frequency Law Tracking", SENSORS, Volume: 19, Issue: 11, Article Number: 2434, Published: JUN 1 2019.

- Georgiana Rosu, <u>Angela Digulescu</u>, Ion Candel, Alexandru Serbanescu, Anisia Culea-Florescu, Carmina Miuta, Octavian Baltag, "The MCG Filtering Based on the Phase Diagram Representation Domain", *2018 12th International Conference on Communications (COMM)*, 14-16 June 2018, Bucharest.

- <u>Angela Digulescu</u>, Cornel Ioana, Ion Candel, Alexandru Serbanescu, "On the Recognitions Capabilities of Modulated Signals in Phase Diagram Domain", *2018 12th International Conference on Communications (COMM)*, 14-16 June 2018, Bucharest.

- <u>Angela Digulescu</u>, Alexandru Serbanescu, Ion Candel, Cornel Ioana, "On the extension of acoustic flow metering devices to monitor underwater transient phenomena", *OCEANS MTS/IEEE 2018*, Charleston, U.S.A, October 22-25, 2018.

- Ion Candel, Cornel Ioana, <u>Angela Digulescu</u>, Carmen Badina, "On the Extension of Acoustic Flow Metering Devices to Monitoring of Transient Phenomena", *29th IAHR Symposium on Hydraulic Machinery and Systems*, Kyoto, Japan, 16-21 September 2018.

- <u>Angela Digulescu</u>, Cornel Ioana, Ion Candel and Alexandru Serbanescu, "Exploring the properties of the phase diagram domain for the Instantaneous Frequency Law estimation", *2018 41st International Conference on Telecommunications and Signal Processing (TSP)*, July 4-6, 2018, Athens, Greece.

- Alexandru Serbanescu, Cornel Ioana, <u>Angela Digulescu</u>, "Overview of our Recent Results in Signal Analysis Using Recurrence Plots", *REVUE ROUMAINE DES SCIENCES TECHNIQUES-SERIE ELECTROTECHNIQUE ET ENERGETIQUE,* Volume: 63 Issue: 2 Pages: 172-177 Published: APR-JUN 2018.

- <u>Angela Digulescu</u>, Costin Vasile, Cornel Ioana, Alexandru Șerbănescu, Gabriel Vasile, Jérome Mars, „Instantaneous Frequency Law tracking using signal's representation in phase diagram domain", *22nd International Conference on Digital Signal Processing*, August 23-25, London, United Kingdom.

- Alexandru Sandu, <u>Angela Digulescu</u>, Cornel Ioana, Ion Candel, Alexandru Șerbănescu, Petrică Ciotirnae, „Underwater acoustic object imaging using spatial matched filtering", *OCEANS '17 MTS/IEEE Anchorage*, Alaska, USA, September 18 – 22th, 2017.

- Irina Murgan, <u>Angela Digulescu</u>, Ion Candel, Cornel Ioana, Anizia-Luiza Culea-Florescu, Alexandru Șerbănescu, „Multimodal Sensing of Erosive Cavitation Phenomena", *OCEANS '17 MTS/IEEE Anchorage*, Alaska, USA, September 18 – 22th, 2017.

- Costin Vasile, <u>Angela Digulescu</u>, Cornel Ioana, „ Electrical Fault Characterization by Hough Transform of Phase Diagram Information", *IEEE Conference on Microwaves, Communications, Antennas, Electronic Systems (COMCAS 2017)*, 13-15 November, Tel Aviv, Israel.

- Costin Vasile, Cornel Ioana, <u>Angela Digulescu</u>, Ion Candel, „Electromagnetic and acoustic bimodality for the detection and localization of electrical arc faults" Proc. SPIE 10010, Advanced Topics in Optoelectronics, Microelectronics, and Nanotechnologies VIII, 1001004 (December 14, 2016).

- <u>Angela Digulescu</u>, Cornel Ioana, Florentina Bunea, Adrian Nedelcu, Ion Candel, Gabriel Vasile and Alexandru Serbanescu, "Cavitation characterization using wide band signals in an acoustic active sensing system", *Oceans16 MTS IEEE Monterey*, California, USA, September 19-23th, 2016.

- Irina Murgan, Ion Candel, Cornel Ioana, <u>Angela Digulescu</u>, Florentina Bunea, Gabriel Ciocan, Andrei Anghel," Flow velocity profiling using acoustic time of flight flow

metering based on wide band signals and beamforming techniques", *28th IAHR symposium on Hydraulic Machinery and Systems, IAHR Grenoble* July 4-8th, 2016.

- Angela Digulescu, Irina Murgan, Ion Candel, Florentina Bunea, Gabriel Ciocan, Diana Maria Bucur, Georgiana Dunca, Cornel Ioana, Gabriel Vasile, Alexandru Serbanescu," Cavitating vdortex characterization based on acoustic signal detection", *28th IAHR symposium on Hydraulic Machinery and Systems, IAHR Grenoble* July 4-8th, 2016.

- Angela Digulescu, Irina Murgan, Cornel Ioana, Ion Candel, Alexandru Serbanescu, "Applications of Transient Signal Analysis using the concept of recurrence plot analysis", *Recurrence Plots and Their Quantifications: Expanding Horizons, Springer Proceedings in Physics, 2016.*

- Cindy Bernard, Angela Digulescu, Alexandre Girard, Cornel Ioana, "Multi-lag phase diagram analysis for transient signal quantification", *Recurrence Plots and Their Quantifications: Expanding Horizons, Springer Proceedings in Physics, 2016.*

- Angela Digulescu, Cindy Bernard, Elena Lungu, Ion Candel, Cornel Ioana, Gabriel Vasile, "Transient signal analysis using multi-lag phase-space analysis", *IEEE International Conference on Microwaves, Communications, Antennas and Electronic Systems (COMCAS)*, Tel Aviv, Israel, 2-5 November 2015.

- Angela Digulescu, Cindy Bernard, Elena Lungu, Ion Candel, Cornel Ioana, "High-speed sensing for object detection in underwater bi-static acoustic paths", *OCEANS'15 MTS/IEEE Conference,* USA, Washington, 2015.

- Mirel Paun, Angela Digulescu, Razvan Tamas, Cornel Ioana,"Electric arc localization based on antenna arrays and MUSIC direction of arrival estimation ", *SPIE Proceedings Vol. 9258: Advanced Topics in Optoelectronics, Microelectronics, and Nanotechnologies VII*, February 2015

- Alexandru Serbanescu, Cornel Ioana, Adrian Diconu, Angela Digulescu, "Between two engineering ages: of information and complex systems, professional research is based on a team work!", *7th International Conference on Electronics, Computers and Artificial Intelligence (ECAI)*, 25-27 June 2015, Bucharest, Romania.

- Eric Larose, Anne Obermann, Angela Digulescu, Thomas Planes, Jean-Francois Chaix, Frederic Mazerolle, Gautier Moreau, "Locating and characterizing a crack in concrete with LOCADIFF:a four-point bending test", *The Journal of the Acoustical Society of America*, 2015.

- Angela Digulescu, Teodor Petrut, Ion Candel, Florentina Bunea, Georgiana Dunca, Diana Maria Bucur, Cornel Ioana, Alexandru Serbanescu, "Rotational Vortex Rope detection using Recurrence Plot Analysis", *MTA Review, Vol. XXV, No.1, Mar. 2015*, pp. 5-16, ISSN 1843-3391.

- Angela Digulescu, Ion Candel, Cornel Ioana, Gabriel Vasile, Georgiana Dunca, Diana Maria Bucur, Alexandru Serbanescu, " Water hammer effect characterization using an acoustic signal processing approach", *The 9th International Symposium on Advanced Topics in Electrical Engineering*, May 7-9, 2015, Bucharest, Romania.

- Angela Digulescu, Teodor Petrut, Ion Candel, Florentina Bunea, Georgiana Dunca, Diana Maria Bucur, Cornel Ioana, Alexandru Serbanescu, "On the vortex parameter estimation using wide-band signals in active acoustic system", *OCEANS'14 MTS/IEEE Conference,* Taipei, Taiwan, 2014.

- Angela Digulescu, Ion Candel, Florentina Bunea, Diana Bucur, Cornel Ioana, Teodor Petrut, "Underwater object tracking using time-frequency signatures of acoustic signal", *OCEANS'14 MTS/IEEE Conference,* Taipei, Taiwan, 2014.

- Angela Digulescu, Teodor Petrut, Cindy Bertrand, Ion Candel, Cornel Ioana, Alexandru Serbanescu, "Advanced signal processing techniques for detection and

localization of electrical arcs", *The 10ᵗʰ International Conference on Communications*, Bucharest, Romania, 2014.

- <u>Angela Digulescu</u>, Mirel Paun, Costin Vasile, Daniela Deacu, Cornel Ioana, Razvan Tamas, "Electrical arc surveillance and localization system based on advanced signal processing techniques", *IEEE International Energy Conference*, Dubrovnik, Croatia, 2014.
- Ion Candel, <u>Angela Digulescu</u>, Cornel Ioana, Gabriel Vasile, "Adaptive waveforms for flow velocity estimation using acoustic signals", *22ⁿᵈ Europeean Signal Processing Conference*, Lisbon, Portugal, 2014.
- Cornel Ioana, <u>Angela Digulescu</u>, ,Alexandru Serbanescu, Ion Candel, Florin-Marian Birleanu, "Recent advances in non-stationary signal processing based on Recurrence Plot Analysis concept", *Translational Recurrences. From Mathematical Theory to Real-World Applications, Springer Proceedings in Mathematics & Statistics*, 2014.
- <u>Angela Digulescu</u>, Ion Candel, Jawad Dahmani, Cornel Ioana, Vasile Gabriel, "Electric Arc Locator in Photovoltaic Power Systems Using Advanced Signal Processing Techniques", *55th International Symposium ELMAR-2013,* Zadar. Croatia, 2013.
- Florin Birleanu. Alexandru Serbanescu, <u>Angela Digulescu</u>, "Overview of recent results in recurrence plot analysis of signals", *2013 International Conference on Electronics, Computers and Artificial Intelligence*, Pitesti, Romania, 2013.
- Bogdan Hurezeanu, Mihaela Ungureanu, <u>Angela Digulescu</u>, Alexandru Serbanescu, Hariton Costin, Rodica Strungaru, " Fetal heart rate variability study with recurrence plot analysis", *4th IEEE International Conference on E-Health and Bioengineering (EHB)*, Iasi, Romania, 2013.
- <u>Angela Digulescu</u>, Elif Tuba Celik, Alexandru Serbanescu, Octavian Fratu, Simona Halunga, "Modulation Detection In Wireless Sensor Networks using Recurrence Plot Analysis", *Global Wireless Summit 2013*, Atlantic City, New Jersey, USA, 2013.
- Ion Candel, <u>Angela Digulescu</u>, Cornel Ioana, Alexandru Serbanescu, Emil Sofron, „Optimization of partial discharge detection in high voltage cables based on advanced signal processing techniques", *11th International Conference on Information Sciences, Signal Processing and their Applications*, Montreal (Quebec), Canada, 2012.
- Elif Tuba Celik, <u>Angela Digulescu</u>, Bogdan Hurezeanu, Madalian Mazilu, "Fetal ECG representation using Recurrence Plot Analysis", *6th International Conference on Application of Information and Communication Technologies,* Tbilisi, Georgia, 2012.
- Ion Candel, <u>Angela Digulescu</u>, Alexandru Serbanescu, Emil Sofron, „Partial Discharge Detection in High Voltage cables using Polyspectra and Recurrence Plot Analysis", *9th International Conference on Communications*, Bucharest, Romania, 2012.

2. Technical reports
- <u>Angela Digulescu</u>, Cornel Ioana, Guy d'Urso, „*Détection, Localisation et Quantification des fuites sous faible différence de pression*", deliverable EdF, 2014.
- Cornel IOANA, <u>Angela DIGULESCU</u>*, „Analyse fréquentielle de la puissance électrique consommée par les servomoteur du Parc",* deliverable EdF, 2018.

3. Disertation Thesis

- <u>Angela Digulescu,</u> "Localization system of transitory signal sources in acoustic environment", *University POLITEHNICA of Bucharest*, July 2013.

4. PhD Thesis

- <u>Angela Digulescu</u> "Characterization of dynamic phenomena based on the signal analysis in phase diagram representation domain", *DOCTEUR DE LA COMMUNAUTE UNIVERSITE GRENOBLE ALPES*, préparée dans le cadre d'une cotutelle entre la Communauté Université Grenoble Alpes et l'Académie Technique Militaire de Bucarest, January 2017.

Languages

- Romanian (native)
- English (intermediate)
- French (intermediate)