Azeddine Chaiba

Curriculum Vitae

Abbes Laghrour University, Khenchela
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PERSONAL DATA

Born : March 17, 1977 at Algeria.
Citizenship : Algerian.
Additional address: B P 125 Batna Annasr 05014 Batna Algeria.

EDUCATION

2013 HdR in Electrical engineering from university of Batna, Algeria

2010 PhD in Electrical engineering from university of Batna, Algeria

Thesis: Control of Doubly fed asynchronous machine using artificial intelligence

2004 Magister in Electrical control from university of Batna, Algeria.

2001 Engineer in Electrical network from university of Batna, Algeria.

EXPERIENCE

Juin 2018 – Present **Full Professor**
Department of industrial engineering, Faculty of sciences and technology, university of Khenchela.

Dec 2016 – Juin 2018 **Associate Professor**
Department of industrial engineering, Faculty of sciences and technology, University of Khenchela.

Dec 2010 – Dec 2016 **Associate Professor**
Department of Electrical engineering, Faculty of sciences and technology, University of Setif 1.

Dec 2008 – Dec 2010 **Assistant Professor**
Department of Electrical engineering, Faculty of sciences and technology, University of Setif 1.

Sept 2003 – June 2008 **Assistant Research Scientist**
Department of Electrical engineering and department of sciences and technology Faculty of sciences and technology, University of Batna2.

TEACHING EXPERIENCE

Université de Khenchela, Alreria 2016 - Present

- Control of Electrical machines
- Electrical control techniques.
- Artificial intelligence Techniques.
- Advanced Control.
- Maintenance and operational safety.
- Diagrams and equipments.
- Informatic.
- Electric energy transmission and distribution networks.

University of Setif 1, Algeria 2008 - 2016

- Mesurement in electrical engineering.
- Signal and pressurer theory.
- Electrical machine" TP.
- Electromagnetic field theory.
- Electrical mesurements.

University of Batna 2, Algeria 2003 - 2008

- Informatic (programming).
- B & Technique WEB"
- Informatics (Matlab programming).
- Electricity.

RESEARCH INTERESTS

Power electronics applications, e.g., DC/DC converters, back-to-back inverter,, control of Renewable energy systems, Intelligent control e. g fuzzy system type 1 and 2 control, neural network control, .., Solar energy system, DFIG, Advanced control techniques e.g., sliding mode control, adaptive control, …

MENTORSHIP

PhD Supervising

- FAYSSAL AMRANE, PhD, - Contribution to the control of wind energy conversion system based on doubly fed induction generator. Defended in 2018, university of Setif.

- RAFIK GHENIMI, PhD, - Contribution to the control of hybrid renowable energy conversion system. Not defended, university of Khenchela.

- BOUNAB ALAEDDINE, PhD, Contribution to the control of multi-machine mono-converter system used in railway traction. Not defended. University of Batna.

Master Supervising

2012 – Present: more than **20** Master thesis supervised and defended.

Engineer Supervising

2005 – 2012: **11** Engineer thesis supervised and defended.

Other

Participate at more than **50** jury of Magister and PhD defense, and more than **100** jury of Master defense.

SERVICE

- President of scientific committee of industrial engineering department at university of Khenchela.
- Membre of scientific committee of industrial engineering department at university of Khenchela.
- Responsable of Master in Electrical control of industrial engineering department at university of Khenchela.
- Membre of scientific committee of the international conference in electrical engineering, university of bejaia. Algeria, 04-05 Déc 2023.
- Membre of scientific committee of the international conference in electrical engineering, university of bejaia. Algeria, 04-05 Déc 2019.
- Membre of scientific committee of PhD, 2014, University of Setif.

- Membre of scientific committee of PhD, 2023, University of Khenchela.
- Membre of organisation committee of the 5th Conference on Electrical Engineering CEE'08, 27-29 October 2008, university of Batna, 2008.

RESEARCH PROJECTS

- Member of PRFU project : "Simulation d'une centrale électrique à énergie renouvelable éolienne-photovoltaïque (réalisation d'un banc d'essai)",
  Code of projet : J0201220090010, University of Setif, année 2010.
- Responsable of PRFU project : Commande et supervision d'un système hybride éolien-photovoltaïque avec système de stockage, Code of projet : J0201220140057, University of Setif, 2015.
- Responsable of PRFU project : Implémentation expérimentale de la commande d'un système de conversion éolien à base de la génératrice double alimentée, Code of project : A01L07UN400120190001, University of Khenchela, 2019.

PUBLICATIONS

JOURNAL PAPERS

- F. Amrane, A. Chaiba and B. Francois,"Improved Adaptive Nonlinear Control For Variable Speed Wind-Turbine Fed By Direct Matrix Converter, Vol. 68, 1, pp. 58–64, Bucarest, 2023
- F. Amrane, B. Francois and A. Chaiba "Experimental investigation of efficient and simple wind-turbine based on DFIG-direct power control using LCL-filter for stand-alone mode", ISA Transactions, 2022.
- A. Bounab and **A. Chaiba** and S Belkacem "Evaluation of the High Performance Indirect Field Oriented Controlled Dual Induction Motor Drive Fed by a Single Inverter using Type-2 Fuzzy Logic Control", Engineering, Technology & Applied Science Research Vol. 10, No. 5, pp, 6301-6308, 2020.
- F. Amrane and **A. Chaiba** and Saad Mekhilef "High performances of Grid-connected DFIG based on Direct Power Control with Fixed Switching Frequency via MPPT Strategy using MRAC and Neuro-Fuzzy Control", Journal of Power Technologies (JTP), Vol 96, No.1, pp. 27-39, 2016.
- F. Amrane, **A. Chaiba**, A. Chebabhi, " Improvement performances of Doubly Fed Induction Generator via MPPT Strategy using Model Reference Adaptive Control based Direct Power Control with Space Vector Modulation", Journal of Electrical Engineering, *JEE*. Vol.16, N°3, pp225-232, Romania, 2016.
- Fayssal AMRANE and **Azeddine CHAIBA**, "Performances of Type-2 Fuzzy Logic Control and Neuro-Fuzzy Control Based on DPC for Grid Connected DFIG with Fixed Switching Frequency", International Journal of Electrical, Computer, Energetic, Electronic and Communication Engineering, Vol: 10, n°: 7, pp. 805-813, 2016.
- Fayssal AMRANE and **Azeddine CHAIBA**, "A Novel Direct Power Control for Grid-Connected Doubly Fed Induction Generator based on Hybrid Artificial Intelligent Control with Space Vector Modulation", Rev. Roum. Sci. Techn.– Électrotechn. et Énerg Vol: 61, n°: 3, pp. 263-268 , 2016.
- Fayssal AMRANE, **Azeddine CHAIBA**, Badr Eddine BABES and Saad MEKHILEF, "Design and Implementation of High Performance Field Oriented Control for Grid-Connected Doubly Fed Induction Generator via Hysteresis Rotor Current Controller", Rev. Roum. Sci. Techn.– Électrotechn. et Énerg Vol: 61, n°: 4, pp. 319- 324, 2016.
- **A. Chaiba**, R. Abdessemed, and M. L. Bendaas, A hybrid intelligent control based torque tracking approach for Doubly Fed Asynchronous Motor (DFAM) drive, *Journal of. Electrical Systems*, Vol. 9, No.3, pp. 1-13, 2012.

- **A. Chaiba**, R. Abdessemed, and M. L. Bendaas, A Neuro-Fuzzy Controller for Doubly Fed Asynchronous Motor Drive,i-manager's Journal on Electrical Engineering, Vol.4, No.1, pp. 65-70, India. 2010.
- **A. Chaiba**, R. Abdessemed, and M. L. Bendaas, A Torque Tracking Control Algorithm for Doubly-Fed Induction Generator, Journal of Electrical Engineering Elektrotechnický èasopis, *JEEEC*, Vol.59, No.3, pp. 165-168, Slovakia, 2008.
- **A. Chaiba**, R. Abdessemed, M. L. Bendaas**,** " Control of Torque and Unity stator Side Power Factor of the Doubly-Fed Induction Generator", International journal of Electrical and Power Engineering 1 (4), pp. 377-381, 2007.
- **A. Chaiba**, R. Abdessemed, M. L. Bendaas and A. Dendouga, "Performances of Torque Tracking Control for Doubly Fed Asynchronous Motor using PI and Fuzzy Logic Controllers", Journal of Electrical Engineering, *JEE*. Vol.5, N°2, pp25-30, Romania, 2005.

CONFERENCE PAPERS

- Amrane Fayssal, Francois Bruno and **Azeddine CHAIBA** "*Hardware Implementation study of Variable Speed Wind-Turbine-DFIG in Stand-alone Mode*." EPE'20 ECCE Europe-Conference 22nd European Conference on Power Electronics and Applications, 7-11 September, 2020, Lyon, France.
- Fayssal AMRANE and **Azeddine CHAIBA**: "*Model Reference Adaptive Control for DFIG based on DPC with a Fixed Switching Frequency*" International Electrical Computer Engineering Conference, IECEC 23-25th May 2015 Setif-Algeria.
- Fayssal AMRANE and **Azeddine CHAIBA**: "*Direct Power Control for grid-connected DFIG using Fuzzy Logic with a Fixed Switching Frequency*" Conférence Internationale d'Automatique et de la Mécatronique, CIAM 10-11th Nov 2015 Oran-Algeria.
- Fayssal AMRANE and **Azeddine CHAIBA**: "*Comparative Study on the performance of Fuzzy-PID and MRAC-PID Controllers based on DPC with SVM for DFIG using MPPT Strategy*" International Conference on Automatic Control, Telecommunication and Signals, ICATS 16-18th Nov 2015 Annaba-Algeria.
- Fayssal AMRANE and **Azeddine CHAIBA**: "*A Hybrid Intelligent Control based on DPC for grid-connected DFIG with a Fixed Switching Frequency using MPPT Strategy*" 4th International Conference on Electrical Engineering, IEEE Conference, ICEE 13-15th Dec 2015 Boumerdes-Algeria.
- Fayssal AMRANE, **Azeddine CHAIBA** and Khaled Eben el-Oualid. MEDANI: "*Neuro-Fuzzy Control based on DPC for grid-connected DFIG with a Fixed Switching Frequency*" International conference on electrical engineering and first workshop on robotics and controls, 9th CEE 2-4th October 2016 Batna-Algeria.
- Fayssal AMRANE**, Azeddine CHAIBA** and Khaled Eben el-Oualid. MEDANI: "*Improved Input-Output Linearizing Control using MRAC in Variable Speed DFIG-based on WECS Fed by Three-Level Voltage Source Inverter*" International conference on electrical engineering and first workshop on robotics and controls, 9th CEE 2-4th October 2016 Batna-Algeria.
- Fayssal AMRANE, **Azeddine CHAIBA** and Ali CHEBABHI: "*Improved Active and Reactive Power Control WECS for grid-connected DFIG using Type-1 and Type-2 Fuzzy Logic Control*" International Conference on Technological Advances in Electrical Engineering, ICTAEE 24-26th October 2016 Skikda-Algeria.
- Fayssal AMRANE, **Azeddine CHAIBA** and Ali CHEBABHI: "*Robust and Simplified Input-Output Linearizing Control in Variable Speed DFIG using MRAC with Fixed Switching Frequency*"International Conference on Technological Advances in Electrical Engineering, ICTAEE 24-26th October 2016 Skikda-Algeria.

- Fayssal AMRANE, **Azeddine CHAIBA** and Bruno FRANCOIS: "*Application of Adaptive T2FLC in Stator Active and Reactive power Control WECS based on DFIG via Hypo/Hyper-Synchronous Modes*", 4ième Conférence des Jeunes Chercheurs en Génie Electrique, JCGE, 30 Mai et 1er Juin 2017, Arras, France.
- Fayssal AMRANE, **Azeddine CHAIBA**, Bruno FRANCOIS and Badr Eddine BABES: "*Experimental Design of Stand-alone Field Oriented Control for WECS in Variable Speed DFIG-based on Hysteresis Current Controller*"15th International Conference on Electrical Machines, Drives and Power Systems ELMA, 1-3th June 2017 Sofia-Bulgaria.
- Fayssal AMRANE, **Azeddine CHAIBA**, Bruno FRANCOIS and Badreddine BABES: "*Real Time Implementation of Grid-connection control using Robust PLL for WECS in Variable Speed DFIG-based on HCC*", 5th International Conference on Electrical Engineering, IEEE Conference, ICEE 29-31th Oct 2017 Boumerdes-Algeria.
- Fayssal AMRANE, **Azeddine CHAIBA** and Bruno FRANCOIS: "*Suitable Power Control based on Type-2 Fuzzy Logic Control for Wind-Turbine DFIG Under Hypo-Synchronous Mode Fed by NPC Converter*" 5th International Conference on Electrical Engineering, IEEE Conference, ICEE 29-31th Oct 2017 Boumerdes-Algeria
- **Azeddine CHAIBA**, "*A neuro-fuzzy control based torque tracking approach for doubly fed induction generator*", 4th International Conference on power engineering energy and electrical drives, Istanbul, Turkey,13-17 May, 2013
- A. Dendouga, R. Abdessemed, M. L. Bendaas and **A. Chaiba,** " Decoupled active and reactive power control of a doubly fed induction generator (DFIG)", ***IEEE*** Mediterranean Conference on control & Automation 'MED***'07***', June 27-29, 2007, Grec.
- A. Dendouga, R. Abdessemed, **A. Chaiba,** "Sliding Mode and Direct Torque Control of variable speed wind turbine", Conference Internationale sur les energies renouvelables "ICRE07", Bejaia, 23, 26 et 27 Novembre, 2007.
- **A. Chaiba**, R. Abdessemed, M. L. Bendaas and A. Dendouga," Performances of Fuzzy Logic based Torque Tracking Control for Doubly Fed Induction Generator", First international conference on Electrical Systems PCSE'05, Oum El-Bouaghi, Algeria, proc. pp 236-241, May 9-11, 2005.
- **A. Chaiba**, R. Abdessemed, M. L. Bendaas and A. Dendouga**,** " A Torque Tracking Control Algorithm for Doubly-Fed Induction Machine", Third ***IEEE*** International Conference on Systems, Signals & Devices '*SSD'05*', Volume II, march 21-24, 2005, Sousse, Tunisia.
- A. Dendouga, R. Abdessemed, M. L. Bendaas and **A. Chaiba,** " Power flow control of a doubly-fed induction generator (DFIG)", Third ***IEEE*** International Conference on Systems, Signals & Devices '*SSD'05*', Volume II, march 21-24, 2005, Sousse, Tunisia.
- **A. Chaiba**, R. Abdessemed, M. L. Bendaas and A. Dendouga**,** " Control of Torque and Unity stator Side Power Factor of the Doubly-Fed Induction Generator", Conférence sur le Génie Electrique "*CGE'04*", l'Ecole militaire polytechnique, proc. 12-13 avril, 2005.
- **A. Chaiba**, R. Abdessemed, M. L. Bendaas and A. Dendouga, " Evaluation of the High Performance Vector Controlled Doubly-Fed Induction Generator (DFIG)", 3rd Conference on Electrical Engineering "*CEE'04*", Batna University, proc. pp117-120, 04-06 October, 2004.
- A. Dendouga, R. Abdessemed, M. L. Bendaas and **A. Chaiba**, "Réglage par mode glissant des puissances active et réactive de la machine asynchrone à double alimentation (MADA)", 3rd Conference on Electrical Engineering "*CEE'04*", Batna University, proc. pp117-120, 04-06 October, 2004.

BOOK & BOOK CHAPTERS

Book :

Amrane Fayssal, ***Chaiba Azeddine***, "Improved Indirect Power Control (IDPC) of Wind Energy Conversion Systems (WECS)", Bentham eBooks imprint. 2019, ISBN (Online) : 978-981-14-12677, ISBN (Print) : 978-981-14-12660

Book :

Chaiba Azeddine, "Commandes intelligentes de la génératrice asynchrone double alimentée.", Presse académique francophone (PAF), Germany, 2012. ISBN: 978-3-8381-7081-7.

Book Chapter:

Amrane Fayssal, ***Chaiba Azeddine***, "Novel I/O-LDC Control Based on ANFIS for Variable Speed Wind-Turbine System.", "Published by: Nova Science Publishers, Inc, New York, USA, 2019. ISBN: 978-1-53616-093-2. (ebook). ISSN: 2163-3932.

Book Chapter:

Amrane Fayssal, ***Chaiba Azeddine***, "Type2 Fuzzy Logic Control: Design and Application in Wind Energy Conversion System based on DFIG via Active and Reactive Power Control", Published by Nova Science Publishers, Inc, New York, USA, July 2016. ISBN: 978-1-63485-889-2. ISBN: 978-1-53616-093-2. (ebook). ISSN: 2163-3932.