Curriculum Vitae

B. Boukhezzar

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Contents

PERSONAL INFORMATION

1.1 Marital Status

Date of Birth	:	October 3rd, 1976
Place of Birth	:	Béjaïa, Algeria
Citizenship	:	Algerian
Status	:	Married, 2 children

1.2 Current Position

Post	:	**Full Professor,**
Address	:	Electronics Department, Technology Faculty, Constantine 1 University, Ahmed Hamani Campus, Ain-El-Bey road, 25017 Constantine, Algeria

1.3 Contact and References

Professional Email	:	boubekeur.boukhezzar@umc.edu.dz
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ORCID ID	:	**0000-0002-5716-7114**
Scopus Author ID	:	**15126526000**
Skype ID	:	boubekeur06
Personal Webpage	:	https://sites.google.com/site/bboukhezzar/
University Webpage	:	https://rs.umc.edu.dz/pagesperso/profil.php?nom=BOUKHEZZAR

1.4 On the web

Gogole scholar

Researchgate

Linkedin

Google sites

Youtube

EDUCATION

2.1 Degrees

Year	*Degree*	*Mention*
2015	**Accreditation to supervise research,** Constantine 1 University, Constantine, Algeria	–
2008–2009	**Postdoctoral in Renewable Energy,** Supélec, Gif-sur-Yvette, France	–
2002–2006	**PhD in Automatic Control and Signal Processing,** University of Paris-Sud, Supélec, France	With distinction
2001–2002	**Master in Automatic Control and Signal Processing,** University of Paris-Sud, Supélec, France	Pass with 70 to 80%
1994–2000	**Engineer in Electronics,** University of Béjaïa, Algeria	With honors, Valedictorian
1994	**Baccalaureate in Mathematics,** Les Oliviers Secondary School, Béjaïa, Algeria	Pass with 60 to 70%

2.2 Additional Training

Year	*Training*	*Institution*
2018	**Robot Operating System Workshop**	Agence universitaire francophone, Constantine 1 University, Algeria
2013	**Introduction to iLab and Lab2go architectures**	Carinthia University, Villach, Austria
2012	**Design, development and use of an online course**	Constantine 1 University, Algeria
2012	**Distant Learning creation and management**	University of Annaba, Algeria
2012	**Tutoring in open distant learning**	University of Oum-El-Bouaghi, Algeria
2007-2009	**Teaching units in Computer Science bachelor**	CNAM de Paris CNAM de Basse-Normandie, France

EDUCATIONAL ACTIVITIES

3.1 Teaching Experience

Year	*Activity*	*Institution*
2020-	**Full Professor in Electrical Engineering**	Electronics Department, Constantine 1 University, Algeria
2015-	**Accredited Professor in Electrical Engineering**	Electronics Department, Constantine 1 University, Algeria
2010-2015	**Associate Professor**	Electronics Department, Constantine 1 University, Algeria
2009-2010	**Assistant Professor**	Electronics Department, Constantine University, Algeria
2006-2008	**Assistant Professor**	UFR de Sciences, University of Basse-Normandie, Caen, France
2003-2004	**Lecturer (Half-Time)**	ESME SUDRIA (Engineering High-School), Paris, France
2003	**Lecturer (Half-Time)**	Electrical Engineering Master, Paris-Sud University, France

3.2 Taught Courses

Year	Course	Institution
2017-	Advanced Control, Automatic Control Master	Electronics Department, Constantine 1 University, Algeria
2010-2016	Advanced Control, Signals & Systems Master	Electronics Department, Constantine 1 University, Algeria
2009-2014	Analysis and Control of Nonlinear Systems, Signals & Systems Master	Electronics Department, Constantine 1 University, Algeria
2009-2014	C++ Programming, Automatic Control Bachelor	Electronics Department, Constantine 1 University, Algeria
2006-2008	Signals and Systems Theory, Engineering Sciences Bachelor	UFR Sciences, University of Caen Normandy, France
2006-2008	Industrial Informatics, Engineering Science Bachelor	UFR Sciences, University of Caen Normandy, France
2006-2008	Nonlinear Systems, Engineering Science Bachelor	University of Caen Normandy, France
2006-2008	Automatic Control, BTS in Chemistry	IUT of Caen, France
2006-2007	Digital Control of Linear Systems, Engineering Science Bachelor	University of Caen Normandy, France
2006-2007	Computer Engineering, Automatic Control Master	University of Caen Normandy, France
2006-2007	Signal Processing, Engineering students	ESME SUDRIA, Paris, France
2003-2004	Laboratory in Electronics	Engineering students, IEF, Orsay, France
2003	Laboratory in Automatic Control	Electrical Engineering Master, Paris-Sud University, France

3.3 Supervision

3.3.1 PhD thesis

1. Hethim BOUFRIOUA, Gain-scheduling control of physical systems. Constantine 1 University, Algeria. In Progress.
2. Laid SEHILI, Model Free Control with Algebraic Observer, Constantine 1 University, Algeria. thesis defended on July 6th, 2024 at Constantine 1 University, Algeria.
3. Zineddine TEBIB, Advanced Control of Wind Energy Conversion Systems, Constantine 1 University, Algeria. In Progress.
4. Abdeldjebar BEKTACHE, Flatness concept - predictive control. Application to AC motors, thesis defended on July 6th, 2019 at Setif 1 University, Algeria.

3.3.2 Master-Engineers thesis

1. Adaptive Control of a DC Motor: Theoretical and experimental study
2. Adaptive control of a variable speed wind turbine

3. Optimal Control of a DC Motor: Theoretical and experimental study
4. Remote control of a DC motor integrated to iLab
5. Robust control of a DC motor: Theoretical and experimental study
6. Identification and control of a cart on a rail
7. Advanced control of a DC motor, experimental study
8. Nonlinear control of a wind turbine with induction generator
9. Modeling and control of a cart-crane system
10. Modeling and control of a beam-ball system
11. Implementation of induction machines control
12. Identification and control of induction machine using neural networks
13. Predictive control of induction machine
14. Modeling and control of a variable speed wind turbine
15. Adaptive control of a variable speed wind turbine
16. Nonlinear control of variable speed wind turbine
17. Identification and control using neural networks of AC machines

RESEARCH ACTIVITIES

4.1 Current Activities

4.1.1 A Useful and Applied Search

The main idea of this project is to propose an approach that leads to useful and applied results.

Model-Free Control

The goal of the first axis of my research project is to design simple, easy-to-implement controllers that deliver better performance than current ones.

iLab

I was a designer and later the webmaster of the University of Constantine remote laboratory (iLab).

Renewable Energies

I have worked for over 15 years on the modeling and control of variable speed wind turbines.

Projects

Title
Tempus Project 2 E-Science: Remote Lab, Partnership Maghreb-European Union: Webmaster of the Remote Laborat
Member of CNEPRU3 Research Project number J20092010042: Stabilization, chaotification and hyperchaotification of
Member of the Energie Project

Accreditation

Advanced Control of Variable Speed Wind Turbines

Defense: Defended on April 15th, 2015, Constantine 1 University, Algeria.

PhD Thesis

Title: On Control Strategies for Variable Speed Wind Turbine Power Capture Optimization and Regulation.

Defense: Defended on February 23rd, 2006, at Supélec-Paris-Sud University, France.

SCIENTIFIC PUBLICATIONS

5.1 Journal papers

[1] L. Sehili and B. Boukhezzar, "Ultra-local model design based on real-time algebraic and derivative estimators for position control of a dc motor," *Journal of Control, Automation and Electrical Systems*, vol. 33, no. 4, pp. 1217–1228, 2022.

[2] S.-E. Chehaidia, A. Abderezzak, H. Kherfane, B. Boukhezzar, and H. Cherif, "An improved machine learning techniques fusion algorithm for controls advanced research turbine (cart) power coefficient estimation," *U.P.B. Sci. Bull., Series C*, vol. 82, no. 2, pp. 279–292, 2020.

[3] A. Bektache and B. Boukhezzar, "Nonlinear predictive control of a DFIG-based wind turbine for power capture optimization," *International journal of electrical power & Energy systems*, vol. 101, pp. 92–102, 2018.

[4] A. Ikhlef, M. Kihel, B. Boukhezzar, A. Guerroudj, and N. Mansouri, "Online temperature control system," *International Journal of Interactive Mobile Technologies (IJIM)*, vol. 9, no. 2, pp. 22–25, 2015.

[5] B. Boukhezzar and H. Siguerdidjane, "Nonlinear control of a variable-speed wind turbine using a two-mass model," *IEEE transactions on energy conversion*, vol. 26, no. 1, pp. 149–162, 2010.

[6] B. Boukhezzar and H. Siguerdidjane, "Comparison between linear and nonlinear control strategies for variable speed wind turbines," *Control Engineering Practice*, vol. 18, pp. 1357–1368, 2010.

[7] B. Boukhezzar and H. Siguerdidjane, "Nonlinear control with wind estimation of a DFIG variable speed wind turbine for power capture optimization," *Energy Conversion and Management*, vol. 50, no. 4, pp. 885–892, 2009.

[8] L. Lupu, "Multivariable control strategy for variable speed, variable pitch wind turbines," *Renewable energy*, vol. 32, no. 8, pp. 1273–1287, 2007.

[9] B. Boukhezzar, H. Siguerdidjane, and M. Hand, "Nonlinear control of variable-speed wind turbines for generator torque limiting and power optimization," *Journal of Solar Energy Engineering, Transactions of the ASME*, vol. 128, no. 4, November 2006, 2006.

5.2 International conferences with proceedings

[10] H. Boufrioua and B. Boukhezzar, "Gain scheduling: A short review," in *2022 2nd International Conference on Advanced Electrical Engineering (ICAEE)*, IEEE, 2022, pp. 1–6.

[11] S. E. Chehaidia, H. Kherfane, H. Cherif, *et al.*, "An improved supervised fuzzy pi collective pitch angle control for wind turbine load mitigation," in *International Conference on Digital Technologies and Applications*, Springer, 2022, pp. 685–695.

[12] S. E. Chehaidia, H. Kherfane, H. Cherif, *et al.*, "Robust nonlinear terminal integral sliding mode torque control for wind turbines considering uncertainties," *IFAC-PapersOnLine*, vol. 55, no. 12, pp. 228–233, 2022, 14th IFAC Workshop on Adaptive and Learning Control Systems ALCOS 2022.

[13] S. E. Chehaidia, A. Abderezzak, H. Kherfane, N. Guersi, H. Cherif, and B. Boukhezzar, "Fuzzy gain scheduling of pi torque controller to capture the maximum power from variable speed wind turbines," in *2020 IEEE 2nd International Conference on Electronics, Control, Optimization and Computer Science (ICECOCS)*, IEEE, 2020, pp. 1–6.

[14] A. Ikhlef, B. Boukhezzar, and N. Mansouri, "Web-based robotics remote lab," in *EDULEARN20 Proceedings*, ser. 12th International Conference on Education and New Learning Technologies, Online Conference: IATED, Jun. 2020, pp. 6174–6178.

[15] B. Boukhezzar and A. Ikhlef, "Advanced automatic control remote lab," in *INTED2020 Proceedings*, ser. 14th International Technology, Education and Development Conference, Valencia, Spain: IATED, Feb. 2020, pp. 8655–8659.

[16] A. Ikhlef, B. Boukhezzar, and N. Mansouri, "Development of an online laboratory: Application for the characterization of ntc temperature sensor," in *part of the Multi Conference On Computer Science And Information Systems 2019*, ERIC, 2019, p. 261.

[17] A. Ikhlef, M. Kihel, N. Mansouri, and F. Hobar, "Online pid control of tank level system," in *2016 IEEE Global Engineering Education Conference (EDUCON)*, IEEE, 2016, pp. 281–284.

[18] A. Ikhlef, M. Kihel, B. Boukhezzar, A. Guerrouj, and N. Mansouri, "Online temperature control system," in *2014 International Conference on Interactive Mobile Communication Technologies and Learning (IMCL2014)*, IEEE, 2014, pp. 75–78.

[19] B. Boukhezzar and H. Siguerdidjane, "Commande en calage et en couple d'une éolienne à vitesse variable," in *CIFA 2012*, Grenoble, France, Jul. 2012.

[20] B. Boukhezzar and H. Siguerdidjane, "Commande Adaptative Non Linéaire d'une Eolienne à Vitesse Variable Equipée d'une Génératrice Asynchrone Double Alimentée," in *Actes du Séminaire Méditerranéen sur l'Energie Eolienne (SMEE)*, Bou-Ismail, Tipaza,, Algeria, Apr. 2010, CD–Rom.

[21] S. Swaninathan, B. Boukhezzar, and H. Siguerdidjane, "PID-sliding mode and Lyapunov design controllers for power optimization and regulation of variable speed wind turbines," in *EVER'10*, Monte-Carlo, Monaco, France, Mar. 2010, CD–Rom.

[22] B. Boukhezzar and H. Siguerdidjane, "Comparison between linear and nonlinear control strategies for variable speed wind turbine power capture optimization," in *Fourth International Conference and Exhibition on Ecological Vehicles and Renewable Energies (EVER'09)*, 2009, CD–Rom.

[23] B. Boukhezzar and H. Siguerdidjane, "Commande non linéaire avec estimateur d'une éolienne à vitesse variable," in *Actes de la 5ième Conférence Internationale Francophone d'Automatique (CIFA)*, Bucarest, Romania, Sep. 2008.

[24] L. Lupu, B. Boukhezzar, and H. Siguerdidjane, "Pitch and Torque strategy for Variable Speed Wind Turbines for Power Regulation," in *Proceedings of the EWEC 2006*, Athènes, Greece, Mar. 2006.

[25] B. Boukhezzar, H. Siguerdidjane, and M. Hand, "Nonlinear control of variable speed wind turbines for load reduction and power optimization," in *44th AIAA aerospace sciences meeting and exhibit*, 2006, p. 602.

[26] B. Boukhezzar and H. Siguerdidjane, "Nonlinear control of variable speed wind turbines without wind speed measurement," in *Proceedings of the 44th IEEE Conference on Decision and Control*, IEEE, 2005, pp. 3456–3461.

[27] B. Boukhezzar and H. Siguerdidjane, "Nonlinear control of variable speed wind turbines for power regulation," in *Proceedings of 2005 IEEE Conference on Control Applications, 2005. CCA 2005.*, IEEE, 2005, pp. 114–119.

[28] B. Boukhezzar and H. Siguerdidjane, "Robust nonlinear control of a variable speed turbine," in *NREL, World Renewable Energy Congress–VIII*, 2004.

[29] B. Boukhezzar and H. Siguerdidjane, "Multi objective control of a variable speed wind turbine, ASIA International Renewable Energy Conference," in *ASIA International Renewable Energy Conference*, BeiJing, China, Apr. 2004.

[30] B. Boukhezzar and H. Siguerdidjane, "Robust multi objective control of a variable speed turbine," in *European wind energy conference*, 2004.

[31] B. Boukhezzar, H. Siguerdidjane, and F. Boudaoud, "Application des réseaux de neurones à l'estimation des fréquences dominantes des tensions de lignes électriques HT," in *Colloque Electrotechnique du Futur, EF'2003*, Gif-sur-Yvette, France, Dec. 2003.

5.3 Thesis

[32] B. Boukhezzar, "Sur les stratégies de commande pour l'optimisation et la régulation de puissance des éoliennes à vitesse variable," Ph.D. dissertation, Université Paris Sud-Paris XI, 2006.

[33] B. Boukhezzar, *Estimation de fréquences dominantes pour la remise sous tension de réseaux électriques*, Diplôme d'Etudes Approfondies thesis, 2001.

[34] B. Boukhezzar, *Commande par réseaux de neurones et algoritmes génétiques : Application à un bras manipulateur*, Diplôme d'ingénieur en électronique thesis, 2000.

5.4 Course notes

[35] B. Boukhezzar, *Programmation Orientée Objet : Cours et Travaux Pratiques*. Université de Constantine 1, 2014.

[36] B. Boukhezzar, *Commande Avancée : Notes de cours*. Université de Constantine 1, 2018.