Curriculum Vitae

Dr. Ezzeddine Salah Touti
Associate Professor

❖ PERSONAL DATA

Name:	Ezzeddine Salah Touti
Current Position:	Associate Professor
Specialization:	Electrical Engineering (Control of electrical and power systems)
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❖ EDUCATION

- **Ph.D.** Electrical Engineering, National Engineering School of Monastir, University of Monastir, **Tunisia** and Artois University in **France**, 2013.
- **M. Sc**. Electrical Engineering, National Engineering School of Tunis, College of Engineering of Tunis, University of Tunis-El Manar, Tunis, **Tunisia**, 2005.
- **Aggregation** in Electrical Engineering, National Higher Engineering School of Tunis, University of Tunis, Mont-Fleury**, Tunisia**, 2002
- **B. Sc.** Electrical Engineering, National Higher Engineering School of Tunis, University of Tunis, Mont-Fleury, **Tunisia**, 1997.

❖ ACADEMIC EXPERIENCE (ACADEMIC POSITION)

- **Associate Professor**, Electrical Engineering Department, College of Engineering, Northern Border University, Kingdom of Saudi Arabia, 2021-till now.
- **Assistant Professor**, Electrical Engineering Department, College of Engineering, Northern Border University, Kingdom of Saudi Arabia, 2015-2020.
- **Assistant Professor**, Electrical Engineering Department, College of Engineering, Kairouan, University, 2013-2015.
- **Aggregated lecturer**, Higher Institute of Technological Studies of Radès from 2003.

❖ SERVICE ACTIVITIES (WITHIN AND OUTSIDE OF THE INSTITUTION)

A- Academic Accreditation

As a member of the College of Engineering's quality and accreditation team, I have been actively engaged in initiatives at the college and departmental levels. Specific contributions include:

1- **Researcher** in the **Center for Scientific Research and Entrepreneurship** at Northern Border University **(November 2024 - Present)**
   - ❖ Member of Prince **Faisal** bin **Khalid** bin **Sultan** Chair for **Renewable Energy Studies and Applications**

2- **College Level (College of Engineering, Northern Border University)**

❖ **Member of the NCAAA Accreditation Committee (2021-2025)**
- Collaborated in the NCAAA accreditation process ensuring compliance with all necessary standards.
- Supported the preparation of self-study reports, coordinated evidence gathering, and participated in the implementation of improvement strategies.
- Contributed to the successful NCAAA accreditation of the Electrical Engineering program.

❖ **Member, ABET Accreditation Committee (2016 - 2025)**
- Contribute to the accreditation process through effective documentation management and participation in continuous improvement initiatives.
- Participated in the successful ABET accreditation of the Electrical Engineering Program during the 2016-2018 cycle.
- Collaborated in the 2023 renewal process, contributing to a positive preliminary outcome for the Electrical Engineering Program (final accreditation decision expected in August 2024).

3- **Department Level (Electrical Engineering Department, College of Engineering, Northern Border University)**

❖ **Coordinator, Academic Accreditation Committee** (**2016 - 2025**)
- Lead the department's accreditation processes, ensuring adherence to national and international standards.
- Guide faculty teams in preparing self-study reports and implementing corrective actions for successful accreditation outcomes.
- Represent the program at the college Level for quality assurance and accreditation coordination.

❖ **Chairman, NCAAA Self-Study Report Committee** (**2022/2023 – 2023/2024**)
- Oversee the creation and submission of NCAAA self-study reports, ensuring thorough documentation and compliance.
- Successfully directed the accreditation process by the NCAAA, including preparation of self-study reports, evidence, and all required documentation, as well as the preparation of the accreditation visit for the Electrical Engineering Program.

❖ **Chairman, ABET Self-Study Report Committee** (**2016/2018 & 2022/2023**)

- Lead the preparation and submission of ABET self-study reports, driving continuous quality improvement.
- Successfully directed ABET accreditation efforts in **2016-2018 and 2022-2024.**

B- Curriculum Development

I have actively supported curriculum development initiatives within the College of Engineering and Department of Electrical Engineering. My contributions involve both the college and departmental levels.

1- College Level (College of Engineering, Northern Border University)

❖ **Member, Curriculum Committee (2019 - 2025)**

- Participate in the continuous improvement of College of Engineering programs, ensuring they adhere to educational standards and align with industry trends.
- Played an active role in the comprehensive 2022/2023 program review and curriculum restructuring during the transition to a new academic scheduling system.

2- Department Level (Electrical Engineering Department, College of Engineering, Northern Border University)

❖ **Member, Curriculum Committee (2019 - 2025)**

- Contribute to ongoing curriculum development and the 2022/2023 periodic review, maintaining the quality and relevance of the Electrical Engineering program.

❖ MEMBERSHIP IN PROFESSIONAL SOCIETIES

- Reviewer in International Journal of Ambient Energy
- Reviewer in IEEE Access Journal
- Reviewer in Cogent Engineering Journal
- Reviewer in Results in Engineering Journal

❖ CERTIFICATIONS OR PROFESSIONAL REGISTRATIONS

- Electrical Safety Trainer
- Electrical Systems Drive Trainer

❖ RESEARCH EXPERTISE AREAS

- Renewable Energy
- Micro grid
- Control and Optimization of Electrical Systems
- Smart Grid
- Electrical Systems Drive Control
- Electric Vehicles
- Fuzzy Systems controllers
- Swarm Intelligence
- Electrical Machine & Drives

❖ TEACHING ACTIVITIES

List of courses taught

- Electrical power systems
- Modelling and simulation of Electrical Systems
- Electrical drive systems
- Electromechanical energy conversion
- High voltage
- Power Systems Lab
- Special topics in electrical machines
- Advanced control systems
- principles of Control
- switchgear of power systems protection
- Electrical circuits and systems

❖ PUBLICATIONS IN REFEREED SCIENTIFIC JOURNALS

1. Wasif Ur rehman, Mohsin Ali Koondhar, Samandar Khan Afridi, Lutfi Albasha, Idris H. Smaili, Ezzeddine Touti, Mouloud Aoudia, Wassim Zahrouni, Ibrahim Mahariq, M.M.R. Ahmed, *The role of 5G network in revolutionizing agriculture for sustainable development: A comprehensive review*, Energy Nexus, Volume 17, 2025, 100368
2. Inam-ur-raheem khoja, Abdul Sattar Saand, Muhammad Ismail Jamali, Mohsin Ali Koondhar, Ghulam Sarwar Kaloi, Lutfi Albasha, Mouloud Aoudia, and Ezzeddine Touti "*A Comparative Review: Floating Photovoltaic, Agrivoltaics, and Ground-Mounted PV Systems*" in IEEE Access, vol. 13, pp. 45853-45873, 2025.
3. Mohamed Hedi Rahmouni, Mohamed Salah Salhi, Ezzeddine Touti, Hatem Allagui, Mouloud Aoudia, Mohammad Barr, *Embedded deep learning models for multilingual speech recognition*, Computers and Electrical Engineering, Volume 123, Part D,2025,110271.
4. Rameez Akbar Talani, Ghulam Sarwar Kaloi, Aamir Ali, Muhammad Ali Bijarani, Ghulam Abbas, Mohammed Hatatah , Paolo Mercorelli, and **Ezzeddine Touti,** *Dynamic Performance Analysis and Fault Ride Through Enhancement by a Modified Fault Current Protection Scheme of a Grid-Connected Doubly Fed Induction Generator*. Machines, **2025**, Volume 13, n. 2, p. 168
5. Abdul Hameed Soomro, Abdul Sattar Larik, Mukhtiar Ahmed Mahar, Anwer Ali Sahito, Mohsin Ali Koondhar, Yun-Su Kim, Zuhair Muhammed Alaas**, Ezzeddine Touti**, MMR Ahmed, *Enhancement of power quality based on dynamic voltage restorer matrix inverter-sliding mode control scheme,* Electric Power Systems Research, Volume 241, April **2025**, 111408.
6. Mazen A Ba-abbad, **Ezzeddine Touti**, Ibrahim Alrougy, Fahd Alalweet *Techno-economic assessment of 1TW Solar and Wind System with Thermal and Pumped Hydro energy storage in Saudi Arabia,* Cleaner Engineering and Technology, Volume 24, February **2025**, 100871
7. RA Younis, **E Touti**, M Aoudia, W Zahrouni, AI Omar, AH Elmetwaly, *Innovative Hybrid Energy Storage Systems with Sustainable Integration of Green Hydrogen and Energy Management Solutions for Standalone PV Microgrids Based on Reduced Fractional* , Results in Engineering Volume 24, December 2024, 103229.
8. Tayyab Ali, Muhammad Asad, **Ezzeddine Touti**, Besma Bechir Graba, Mouloud Aoudia, Ghulam Abbas, Hammad Alnuman, Waleed Nureldeen, *Terminal Voltage and Load Frequency Control in a Real Four-Area Multi-Source Interconnected Power System With Nonlinearities via OOBO Algorithm*, IEEE Access, VOLUME 12, 2024.
9. Zhenyu Xu, Jinming Wang, Fengjun Hu, Ghulam Abbas, **Ezzeddine Touti**, Mohammed Albekairi, Osama I El-Hamrawy, *Improved camouflaged detection in the large-scale images and videos with minimum boundary contrast in detection technique,* Expert Systems with Applications, Volume 249, Part A, 1 September 2024, 123558.

10. Sadullah Chandio, Javed Ahmed Laghari, Muhammad Akram Bhayo, Mohsin Ali Koondhar, Yun-Su Kim, Besma Bechir Graba**, Ezzeddine Touti,** *Machine learning-based multiclass anomaly detection and classification in hybrid active distribution networks*, IEEE Access, VOLUME 12, 2024.
11. **Ezzeddine Salah Touti**, Mohamed Fterich, Aamir Ali, *Dynamic Stability Enhancement of Wind Power Generation with Static VAR Compensator using Multiobjective Optimization Algorithms*, Engineering, Technology & Applied Science Research, Vol. 14, No. 4, 2024, 15325-15329.
12. Abdulaziz Alanazi, **Ezzeddine Touti**, Cristian Nichita, Ashglaf Mohamed, *Emulation Structures and Control of Wind-Tidal Turbine Hybrid Systems for Saudi Arabia Off-shore Development*, Engineering, Technology & Applied Science Research, Vol. 14, No. 4, 2024, 15251-15256
13. **Ezzeddine Touti**, Mohsin Ali Koondhar, Lutfi Albasha , Ibrahim Mahariq, Besma Bechir Graba, *Reviewing floating photovoltaic (FPV) technology for solar energy generation*, Energy Strategy Reviews Volume 54, July 2024, 101449.
14. Mohsin Ali Koondhar, Samandar Khan Afridi, Abdul Sattar Saand, Abdul Rafay Khatri, Lutfi Albasha, Zuhair Muhammed Alaas, Besma Bechir Graba, **Ezzeddine Touti**, Mouloud Aoudia, MMR Ahmed, *Eco-Friendly Energy from Flowing Water: A Review of Floating Waterwheel Power Generation*, IEEE Access, VOLUME 12, 2024.
15. Ahmed Saad Eddine Souissi, Majed Masmali, Mohamed Fterich, Ezzeddine Touti, Houssam Chouikhi, *3D Numerical Study and Parametric Analysis of PV/T Design Effect on Thermal and Electrical Performance*, Engineering, Technology & Applied Science Research, Vol. 14, No. 3, 2024, 14175-14182.
16. Ezzeddine Touti, Shaik Rafikiran, Besma Bechir Graba, Mouloud Aoudia & S. Senthilkumar, *A comprehensive performance analysis of advanced hybrid MPPT controllers for fuel cell systems*, Scientific Reports, 14, 12510 (2024).
17. Ezzeddine Touti, Shaik Rafikiran, Mouloud Aoudia, Ibrahim Mohammed Alrougy, Baseem Khan, Ahmed Ali, *A new single switch universal supply voltage DC-DC converter for PV systems with MGWM-AFLC MPPT controller*, Scientific Reports, 14, 12103 (2024).
18. Samandar Khan Afridi, Mohsin Ali Koondhar, Muhammad Ismail Jamali, Zuhair Muhammed Alaas, Mohammed H Alsharif, Mun-Kyeom Kim, Ibrahim Mahariq, Ezzeddine Touti, Mouloud Aoudia, MMR Ahmed, *Winds of Progress: An In-depth Exploration of Offshore, Floating, and Onshore Wind Turbines as Cornerstones for Sustainable Energy Generation and Environmental Stewardship*, IEEE Access, VOLUME 12, pp. 66147– 66166, 2024.
19. Ezzeddine **Touti**, Mohamed Abdeen, Mahmoud A El-Dabah, Habib Kraiem, Ahmed Agwa, Abdulaziz Alanazi, Tarek I Alanazi "*Sub-Synchronous Oscillation Mitigation for Series-Compensated DFIG-Based Wind Farm Using Resonant Controller*", IEEE Access, VOLUME 12, pp. 66185 – 66195, 2024.
20. Asif Ali, Zhizhen Liu, Aamir Ali, Ghulam Abbas, Ezzeddine Touti, Waleed Nureldeen, *Dynamic Multi-Objective Optimization of Grid-Connected Distributed Resources Along with Battery Energy Storage Management Via Improved Bidirectional Coevolutionary Algorithm*, IEEE Access,2024-04-24.
21. Samandar Khan Afridi, Mohsin Ali Koondhar, Muhammad Ismail Jamali, Zuhair Muhammed Alaas, Mohammed H Alsharif, Mun-Kyeom Kim, Ibrahim Mahariq, Ezzeddine Touti, Mouloud Aoudia, MMR Ahmed, *Winds of Progress: An In-depth Exploration of Offshore, Floating, and Onshore Wind Turbines as Cornerstones for Sustainable Energy Generation and Environmental Stewardship*, IEEE Access,2024-05-06
22. Ezzeddine Touti, Mohamed Abdeen, Mahmoud A El-Dabah, Habib Kraiem, Ahmed Agwa, Abdulaziz Alanazi, Tarek I Alanazi, *Sub-Synchronous Oscillation Mitigation for Series-Compensated DFIG-Based Wind Farm Using Resonant Controller*, IEEE Access,2024-04-29

23. Abdullah Altamimi & Andika Aji Wijaya Shahjahan Alias Sarang, Muhammad Amir Raza, Madeeha Panhwar, Malhar Khan, Ghulam Abbas, Ezzeddine Touti, *Maximizing solar power generation through conventional and digital MPPT techniques: a comparative analysis,* Scientific Reports, vol.14 , p. 8944,2024

24. Ezzeddine Touti, Mouloud Aoudia, C. H. Hussaian Basha, Ibrahim Mohammed Alrougy, *A Novel Design and Analysis Adaptive Hybrid ANFIS MPPT Controller for PEMFC-Fed EV Systems*, International Transactions on Electrical Energy Systems, vol. 2024, p. 17, 2024

25. H Iftikhar, N Khan, MA Raza, G Abbas, M Khan, M Aoudia, E Touti, *Electricity theft detection in smart grid using machine learning*, Frontiers in Energy Research, Vol.12, p.1383090, 2024.

26. A Ali, A Hassan, MU Keerio, NH Mugheri, G Abbas, M Hatatah, E Touti. *A novel solution to optimal power flow problems using composite differential evolution integrating effective constrained handling techniques*, Scientific Reports 14 (1), 6187

27. MA Raza, MM Aman, G Abbas, SA Soomro, A Yousef, **E Touti**, NH Mirjat, , *Managing the low carbon transition pathways through solid waste electricity*, Scientific Reports 14 (1), 5490

28. Mohamed Salah Salhi, Manel Salhi, Ezzeddine Touti, Naoufel Zitouni, Faouzi Benzarti, "*On the Use of Wireless Sensor Nodes for Agricultural Smart Fault Detection*", Wireless Personal Communications, 2024, pp. 1-23

29. Zhenyu Xu, Jinming Wang, Fengjun Hu, Ghulam Abbas, Ezzeddine Touti, Mohammed Albekairi, Osama I El-Hamrawy. "*Improved camouflaged detection in the large-scale images and videos with minimum boundary contrast in detection technique*". Expert Systems with Applications. 2024, 123558.

30. Kalsoom Bano, Ghulam Abbas, Mohammed Hatatah, Ezzeddine Touti, Ahmed Emara, Paolo Mercorelli, "*Phase Shift APOD and POD Control Technique in Multi-Level Inverters to Mitigate Total Harmonic Distortion*". Mathematics, vol. 12, No. 5, 2024, pp. 656.

31. Ali A, Shah A, Keerio MU, Mugheri NH, Abbas G, Touti E, Hatatah M, Yousef A, Bouzguenda, M. "*Multi-objective Security Constrained Unit Commitment Via Hybrid Evolutionary Algorithms*". IEEE Access. 2024 Jan 9.

32. Majed Masmali, Mamdouh Elamy, Mohamed Fterich, **Ezzeddine Touti**, Ghulam Abbass. "*Comparative studies on Load Frequency Control with different governors connected with Mini Hydro Power Plant using PSCAD Software*". Engineering, Technology & Applied Science Research Vol. 14, No. 1, **2024**, 12975-12983.

33. Khan N, Raza MA, Mirjat NH, Balouch N, Abbas G, Yousef A and Touti E, "*Unveiling the predictive power: a comprehensive study of machine learning model for anticipating chronic kidney disease*". Front. Artif. Intell. vol. 6, 2024.

34. Ali, G. Abbas, A. Khan, A. Yousef, and E. Touti, "*Optimal Site and Size of FACTS Devices with the Integration of Uncertain Wind Generation on a Solution of Stochastic Multi-Objective Optimal Power Flow Problem*," Front. Energy Res., Vol. 11, pp. 1293870. 2023

35. Khan M, Raza MA, Jumani TA, Mirsaeidi S, Ali A, Abbas G, Touti E and Alshahir, A. "*Modeling of intelligent controllers for solar photovoltaic system under varying irradiation conditions*". Front. Energy Res. vol. 11, pp. 1288486, 2023.

36. Bouzguenda M, Hatatah M, Sheharyar , Ali A, Abbas G, Khan A, **Touti E**, Yousef A, Mirsaeidi S and Alshahir, A. "*An optimal dispatch schedule of EVs considering demand response using improved MACD algorithm*". Front. Energy Res. vol. 11, p. 1295476, 2023.

37. Mohamed Salah Salhi, Ezzeddine Touti, Faouzi Benzarti, Zied Lachiri, "*Computational sensor nodes optimization for smart anomaly detection applied to wind energy*", Renewable Energy Focus, Elsevier, vol.47, pp.100489. 2023.

38. SALHI, M. S., SALHI, M., TOUTI, E., BENZARTI, F. "*Artificial intelligence optimization for forest fire risk predicting applied to green environment",* Applied ecology and environmental research 21(6):5693-5710, 2023.

39. Sohrab Mirsaeidi and Ahmed Alshahir Mounir Bouzguenda, Muahmmad Hatatah, Sheharyar, Aamir Ali, Ghulam Abbas, Aamir Khan, Ezzeddine Touti, Amr Yousef, "*An optimal dispatch schedule of EVs considering demand response using improved MACD algorithm*", Frontiers in energy research, Vol.11, 2023

40. Ghulam Abbas, Mohammed Hatatah, Aamir Ali, Ezzeddine Touti, Ahmed Alshahir, Ali M Elrashidi, "A *Novel Energy Proficient Computing Framework for Green Computing Using Sustainable Energy Sources*" IEEE Access, vol. 11, 126542-126554, 2023

41. Ezzeddine Touti, Majed Masmali, Mohamed Fterich, Houssam Chouikhi' *Experimental and numerical study of the PVT design impact on the electrical and thermal performances'*, Case Studies in Thermal Engineering, volume 43, p.102732, 2023.

42. Nitasha Khan , Muhammad Amir Raza , Darakhshan Ara , Sohrab Mirsaeidi , Aamir Ali, Ghulam Abbas , Muhammad Shahid, Ezzeddine Touti , Amr Yousef, and Mounir Bouzguenda, "*A deep learning technique Alexnet to detect electricity theft in smart grids*" Front. Energy Res, Volume 11 - 2023

43. Ahmed M Agwa, Tarek I Alanazi, Habib Kraiem, Ezzeddine Touti, Abdulaziz Alanazi, Dhari K Alanazi, *MPPT of PEM Fuel Cell Using PI-PD Controller Based on Golden Jackal Optimization Algorithm*", Biomimetic, 2023, vol. 8, no 5, p. 426.

44. Mohamed Fterich, Mamdouh Ibrahim Elamy, **Ezzeddine Touti**, Hatem Bentaher, " *Experimental and numerical study of tomatoes drying kinetics using solar dryer equipped with PVT air collector*", Engineering Science and Technology, an International Journal, Volume 47, 2023.

45. Mohamed Salah Salhi, Ezzeddine Touti, Faouzi Benzarti, Zied Lachiri, "*Computational sensor nodes optimization for smart anomaly detection applied to wind energy"*, Renewable Energy Focus, Volume 47, 2023.

46. Habib Kraiem, Ezzeddine Touti, Abdulaziz Alanazi, Ahmed M. Agwa, Tarek I. Alanazi, Mohamed Jamli and Lassaad Sbita, "*Parameters Identification of Photovoltaic Cell and Module Models Using Modified Social Group Optimization Algorithm*". Sustainability, 15, 10510, 2023.

47. Aamir Ali, Ghulam Abbas, Muhammad Usman keerio, Ezzeddine Touti, Zahoor Ahmed, Osamah Alsalman, and Yun-su Kim, "*A Bi-Level Techno-Economic Optimal Reactive Power Dispatch Considering Wind and Solar Power Integration*". IEEE Access Volume 11, 2023.

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49. Ezzeddine Touti' *Relevant decentralized observer-based control procedure for complex interrelated systems*'. Journal of the North for Basic & Applied Sciences, Vol. 7, N.1, P-ISSN: 1658-7022, E-ISSN: 1658-7014, pp. 39-54, Saudi Arabia.2022

50. Abdelkader Abbassi Rached Ben Mehrez , Bilel Touaiti, Laith Abualigah, Ezzeddine Touti**,** "*Parameterization of photovoltaic solar cell double-diode model based on improved arithmetic optimization algorithm*", Optik-International Journal for Light and Electron Optics, 253 (2022) 168600, 13 January 2022.

51. R. Romary, R. Pusca, E. Touti, V. Cazac, P. Livinti, I. Nuca '*Procedure for detection of stator inter-turn short circuit in AC machines measuring external magnetic field'* Energies 2021, 14(4), 1132, 2021

52. Touti, E.; Zayed, H.; Pusca, R.; Romary,R '*Dynamic Stability Enhancement of a Hybrid Renewable Energy System in Stand-alone Applications*' Computation 2021, 9(2), 14, 2021

53. Ezzeddine Touti '*Reactive power analysis and frequency control of autonomous wind induction generator using PSO and Fuzzy Logic'*, Energy Exploration & Exploitation, 38(3), pp.755, 2020
54. Ezzeddine Touti, Ali Sghaier Tlili, Muhannad Almutiry, "*Dynamic output feedback control for nonlinear large-scale interconnected systems*", COMPEL - The international journal for computation and mathematics in electrical and electronic engineering, Vol. 39, N. 4, 18 May 2020.
55. Habib kraiem, Ezzeddine Touti, Tamer Fetouh '*The efficiency of PSO-based MPPT technique of an electric vehicle within the city*", Measurement and control, Vol. 53(3-4) 461–473,2020
56. Ezzeddine **Touti,** Habib kraiem, Remus pusca, Raphael romary, "*Modeling of an isolated induction generator considering saturation effect*", archives of electrical engineering, Vol. 67(4), pp. 755–772, 2018.
57. Mohamed Zaky, Ezzeddine Touti, Haithem Azazi, "*Two-degrees of freedom and variable structure controllers for induction motor drives* ' Advances in Electrical and Computer Engineering, Volume 18, Number 1, pp. 71-80, 2018.
58. Mohamed Zaky, Haithem Azazi, Ezzeddine Touti '*PFC Control for LED Lamp Driver Using Sensorless Predictive Current Controller Engineering*, Technology & Applied Science Research, Vol. 8, No. 5, pp. 3373-3379, 2018.
59. Ezzeddine Touti, Remus pusca, J. F. Brudny, Abdelkader Châari ' *Reactive Power Control in AC Power Systems: self-excited induction generator in remote site*.' eBook, Springer, ISBN 978-3-319-51118-4, ISSN 1860-4676, 2017.
60. Ezzeddine Touti, Remus pusca, J.P. Manata, J.F. Brudny, Abdelkader Châari '*On the use of a dimmer for a robust frequency control of a self-excited three-phase induction wind generator*. Journal of Power Electronics, Vol. 12, No. 4, pp. 580-591, 2014.
61. Ezzeddine **Touti** '*Dynamic Behavior of the Static VAR Compensator during Faults of a Grid Including Wind Power Plant*' Journal of the North for Basic & Applied Sciences, Vol. 5, N. 2, P-ISSN: 1658-7022, E-ISSN: 1658-7014, Nov 2020.
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❖ Conferences and Scientific Symposia:

No	Conference	Date &Place
1.	Vision of Solar Energy in the Kingdom of Saudi Arabia: Applications and Challenges. (VSESA 2020)	College of Engineering, Qassim University, Saudi Arabia 9 - 10 December 2020
2.	International webinar on "Perovskite Solar Cells"	Department of Engineering Physics, K.L.E. Institute of Technology, Hubballi on 12th December 2020

3.	XXIIIrd International Conference Proceedings- 23rd International Conference on Electrical Machines,	September 3-6, 2018 Alexandroupoli, Greece.
4.	International conference on information and communication Technologies innovations and applications, ICTIA 2014	Sousse - Tunisia 6-8 March 2014
5.	9th International Conference on industrial power engineering – 5th Edition, Electronics, Computers and Artificial Intelligence	22-24 May, 2014 Bacau, Romania
6.	International Conference – 5th Edition, Electronics, Computers and Artificial Intelligence (ECAI 2013)	June 27-29, 2013, Pitesti, Romania.
7.	International Conference on Control Decision and Information Technologies (CoDIT 2013)	May 6-8, 2013 Hammamet, Tunisia.

❖ Books and chapter books

Ezzeddine Touti, Remus pusca, J. F. Brudny, Abdelkader Châari. "Reactive Power Control in AC Power Systems: self-excited induction generator in remote site", eBook, ISBN 978-3-319-51118-4, ISSN 1860-4676, 2017, Springer.

❖ Research Group management

❖ Research Projects in Progress:

➢ Research Group Project 1.

Title: Renewable Energy Applications for Sustainable Development and Energy Efficiency.

✓ Research Group Objectives

The main objectives of the research group are the following:

- Fostering a culture of excellence in integrated disciplines through the support of distinguished research.
- Increasing the quality and quantity of scientific research and improving joint research work by creating a collaborative atmosphere and strengthening ties between researchers.
- Increasing the productivity of graduate students and new researchers, and directing their research interests to serve sustainable development.

- Establishing partnerships with universities and research institutes locally and internationally.

➢ Funded Projects

➢ Project 1.

Title: Emulation structures and control of wind-tidal turbines hybrid systems for Saudi Arabia off-shore developments

The main objective of this project is to study the concept of offshore wind-tidal turbine hybridization based on the flexibility of a multi-function emulator allowing various emulation architectures: wind turbines, tidal turbines, and hybrid wind - tidal turbines systems. Dynamic and steady state modeling of different elements of off-shore wind-tidal turbine system are conducted since this is the preliminary step for the **H**ardware **I**n **L**oop **S**imulation (**HILS**): wind and tidal turbines, **D**oubly-**F**ed **I**nduction **G**enerator (**DFIG**), three-phase rectifier, three-phase controlled inverter and DC bus. The simulation of a wind-turbine hybrid system is specifically developed based on an electromechanical coupling on the common shaft of a Double Fed Induction Generator

➢ Project 2.

Title: Dynamic stability enhancement of wind power generation with static VAR compensator using multiobjective optimization algorithms.

In this project, we are interested in the development of meta-heuristics methods which allow the attainment of the grid with optimal distribution towards its different constraints. To improve wind power quality and transient stability, Grasshopper Algorithm (GA), Two-Phase Algorithms (ToP), Multi-objective- Evolutionary Algorithms (MOEA) and Particles Swarm Optimization (PSO) are adapted to the problem of the optimal reactive power flow.

➢ Accomplished Research Projects:

No	Project & Date	Institution	Investigator(s)
1.	Comparative studies on Load Frequency Control with different governors connected with Mini Hydro Power Plant using PSCAD Software **January 2024**	Northern Border University Deanship of Scientific Research	1-Majed Masmali (PI), 2-Mamdouh Elamy 3-Mohamed Fterich, **4-Ezzeddine Touti** 5- Ghulam Abbass
2.	Experimental and numerical study of the PVT design impact on the electrical and thermal performances **March 2023**	Northern Border University Deanship of Scientific Research	**1-Ezzeddine Touti(PI)** 2-Majed Masmali, 3-Mohamed Fterich, 4- Houssam Chouikhi
3.	Experimental and numerical study of tomatoes drying kinetics using solar dryer equipped with PVT air collector		1-Mohamed Fterich, 2-Mamdouh Elamy, **3-Ezzeddine Touti**, 4-Hatem Bentaher,

	September 2023		
4.	Dynamic modeling and stability enhancement of flexible electrical grids including wind and photovoltaic resources **Fall 2018**	Northern Border University Deanship of Scientific Research	**1-Ezzeddine Touti (PI)** **2-**Hossem Zayed 3-Remus Pusca 4-Rafael Romary
5.	Design a reference model for robust control for complex, large-scale systems: an application to interconnected generators in renewable energy systems **Fall 2018**	Northern Border University Deanship of Scientific Research	**1-Ezzeddine Touti** (PI) 2-Ali Tlili 3-Muhanned Almutiry
6.	Renewable energies in remote areas equipped with self-excitation induction generators: Frequency analysis and reactive power control **Fall 2017**	Northern Border University Deanship of Scientific Research	-**Ezzeddine Touti** (PI)
7.	Renewable energies: Methodology for controlling wind turbines and diagnosing their faults **Fall 2016**	Northern Border University Deanship of Scientific Research	**1-Ezzeddine Touti** (PI) 2-Habib Kraiem 3-Remus Pusca 4-Rafael Romary
8.	Photovoltaic systems: a study of optimization and efficiency Fall 2016	Northern Border University Deanship of Scientific Research	1- Habib Kraiem 2- **Ezzeddine Touti** 3-Remus Pusca 4-Rafael Romary

Seminars/ Invited Talks/ Workshops

- Renewable Energy & Solar PV Seminars
- Wind Power Energy
- Water desalination
- Power Protection & Control Seminar

Engineering software

- MATLAB
- LAB VIEW
- PVsyst
- ISIS
- PSIM
- DSPACE
- Arduino