CURRICULUM VITAE

Address
Prof. Dr. Ahmet Mete VURAL
Electrical and Electronics Engineering
Department, Engineering Faculty, Gaziantep
University, 27310, Gaziantep, Turkey

Prof. Dr. Ahmet Mete VURAL

Work Phone: +90 (342) - 317 2128
E-mail: metevural@gmail.com; mvural@gantep.edu.tr
Webpage: http://www.gantep.edu.tr/akademik/index.php?akadID=1000000797&bolum_id=102
Google Scholar: http://scholar.google.com/citations?user=XBqU5vkAAAAJ
Researchgate: http://www.researchgate.net/profile/Mete_Vural
ORCID id: orcid.org/0000-0003-2543-4019
Web of Science Researcher ID: I-1190-2019
Last updated: May-2023

Research Interests

- Renewable energy
- Microgrid
- Utility applications of power electronics
- Power quality
- Battery storage
- Flexible AC transmission systems (FACTS)

Education

2009-2012	**PhD in Electrical and Electronics Engineering** Çukurova University, Adana, Turkey
1999-2001	**MSc in Electrical and Electronics Engineering** Gaziantep University, Gaziantep, Turkey (*Visitor Scholar in the University of Strathclyde, UK*)
1995-1999	**BSc in Electrical and Electronics Engineering** Gaziantep University, Gaziantep, Turkey

Academic Positions

2023-present	**Professor** Electrical and Electronics Engineering Department Gaziantep University, Gaziantep, Turkey

2017-present	**Associate Professor**
	Electrical and Electronics Engineering Department
	Gaziantep University, Gaziantep, Turkey

2014-2017	**Assistant Professor**
	Electrical and Electronics Engineering Department
	Gaziantep University, Gaziantep, Turkey

2013-2014	**Assistant Professor**
	Electrical and Electronics Engineering Department
	Hasan Kalyoncu University, Gaziantep, Turkey

2011-2013	**Instructor**
	Electrical and Electronics Engineering Department
	Hasan Kalyoncu University, Gaziantep, Turkey

2008-2011	**Instructor**
	Electrical and Electronics Engineering Department
	Atılım University, Ankara, Turkey

2004-2007	**Research Assistant**
	Automation and Control Engineering Department
	University of Wuppertal, Wuppertal, Germany

1999-2004	**Research Assistant**
	Electrical and Electronics Engineering Department
	Gaziantep University, Gaziantep, Turkey

Teaching Experience

Given courses *(in Gaziantep University for the last 2 years)*

EEE321 - EEE322	Electromechanical Energy Conversion I-II (undergrad)
EEE471	Power System Analysis (undergrad)
EEE475	High Voltage Techniques (undergrad)
EEE570	Selected Topics on Power Systems (grad)
EEE573	Power System Dynamics and Control (grad)
EEE574	Power System Operation and Control (grad)
EEE578	Power System Planning (grad)

Supervised Thesis (Completed)

1) "*Performance Evaluation of a Real-Time Ethernet Protocol Using Matlab-Simulink*", Bogdan Ionica, Master thesis, University of Wuppertal, Department of Automation and Control Engineering, Co-supervisor, 2006.
2) "*Intelligent Coordinated Control of Unified Power Flow Controller and Power System Stabilizer to Damp Inter-Area Oscillations in Multi-Machine Power Systems*", Ali Dahham ABDULAZEEZ, Master thesis, Gaziantep University, Graduate School of Applied and Natural Sciences, 2015.
3) "*Modeling and Analysis of an Intelligent Controlled Micro Grid Power System*", Youssef Haical, Master thesis, Gaziantep University, Graduate School of Applied and Natural Sciences, 2016.
4) "*Modeling and Intelligent Control of a Standalone PV-Wind-Diesel Hybrid System*", Sardar Adil Mohammed AI-BARAZANCHI, Master thesis, Gaziantep University, Graduate School of Applied and Natural Sciences, 2016.

5) "*Modular Multi-level Converter Based High Voltage Direct Current Transmission System*", Hakam Muayad Yousıf, Master thesis, Gaziantep University, Graduate School of Applied and Natural Sciences, 2017.

6) "*Cascaded H-bridge Multilevel Converter Based D-STATCOM*", Husnain Ul Haseeb Kazmı, Master thesis, Gaziantep University, Graduate School of Applied and Natural Sciences, 2017.

7) "*Modeling and Simulation of Bazyan Gas Power Plant*", Kameran Kamal Salman, Master thesis, Gaziantep University, Graduate School of Applied and Natural Sciences, 2017.

8) "*Single-phase Asymmetric Hybrid Multi-level Inverter* ", Mustafa Deniz, Master thesis, Gaziantep University, Graduate School of Applied and Natural Sciences, 2018.

9) "*Design And Control Of Offshore Wind Farm Connected to Main Grid With High Voltage Direct Current Transmission*", Auwalu Ibrahim Ismail, Master thesis, Gaziantep University, Graduate School of Applied and Natural Sciences, 2018.

10) "*Comparison of Dynamic Performances of TCSC, SSSC and STATCOM on Inter-Area Oscillation Damping*", Saif Taher Fadhıl Alshammary, Master thesis, Gaziantep University, Graduate School of Applied and Natural Sciences.

11) "*Preliminary Design and Analysis of Electrical Power Subsystem (EPS) for a Conceptual 1U CubeSat Mission*", Ali Danladı, Master thesis, Gaziantep University, Graduate School of Applied and Natural Sciences.

12) "*Three-Phase Modular Multilevel Converter Based Unified Power Flow Controller*", Emile Njodzefon Wirsiy, Master thesis, Gaziantep University, Graduate School of Applied and Natural Sciences.

13) "*Design and Implementation of a Multilevel Cascaded H-bridge Inverter*", Fatih Eroğlu, Master thesis, Gaziantep University, Graduate School of Applied and Natural Sciences.

14) "*Comparison of Dynamic Performances of IPFC, UPFC and Back-To-Back HVDC Transmission on Local and Inter-Area Oscillation Damping*", Mohammed Hamad, Master thesis, Gaziantep University, Graduate School of Applied and Natural Sciences.

15) "*Design And Implementation Of A Low Cost, Low Loss Energy Quality Regulator For Energy Distribution Systems*", Ahmet Eren, Master thesis, Gaziantep University, Graduate School of Applied and Natural Sciences.

16) "*Design and Implementation of a Single-Phase Cascaded H-Bridge Multi-level Converter Based STATCOM*", Hamed Atyia Soodi, PhD thesis, Gaziantep University, Graduate School of Applied and Natural Sciences, 2019.

17) "*Design and Simulation of a Wind Energy Conversion System Based on Doubly Fed Induction Generator and Back-to-Back Modular Multilevel Converters*", Ahmed Majeed Hajeem, Master thesis, Gaziantep University, Graduate School of Applied and Natural Sciences, 2019.

18) "*Design of Modular Multi-level Converter and Permanent Magnet Synchronous Based Wind Energy Conversion System*", Hakam Hekmat Abdulhakeem, Master thesis, Gaziantep University, Graduate School of Applied and Natural Sciences, 2019.

19) "*Design and Simulation of a Back-to-Back Modular Multilevel Converter Based Permanent Magnet Synchronous Generator Wind Energy System Having Ultracapacitor Energy Storage*", Nissan Sabbar Thumail, Master thesis, Gaziantep University, Graduate School of Applied and Natural Sciences, 2019.

20) "*Design and Control of Three Phase Grid Connected Photovoltaic System With 1 MW Power Capacity*", Ercan Macit, Master thesis, Gaziantep University, Graduate School of Applied and Natural Sciences, 2020.

21) "*Microcontroller Based Automatic Power Factor Correction for Single-Phase Loads*", Bahaulddin Makaiber Rija, Master thesis, Gaziantep University, Graduate School of Applied and Natural Sciences, 2021.

22) "*Modular Multilevel Converter Design*", Ali Osman Arslan, PhD thesis, Gaziantep University, Graduate School of Applied and Natural Sciences, 2021.

23) "*Modeling and Control of 1.5 MW Rated Sparse Matrix Converter Based Wind Energy Conversion System*", Waleed Khaled Abdulrazaq Abdulrazaq, Master thesis, Gaziantep University, Graduate School of Applied and Natural Sciences, September 2021.

24) "*1MWh Battery Energy Storage System Connected to Distribution Network: Design, Modeling, and Control*", Yousif Mustafa Sadeq Al-Khdhairi, Master thesis, Gaziantep University, Graduate School of Applied and Natural Sciences, September 2021.

25) *"Design and Implementation of a Modular Multilevel Converter Based Wind Energy Conversion System"*, Mehmet Kurtoğlu, PhD thesis, Gaziantep University, Graduate School of Applied and Natural Sciences, 2022.

26) *"Energy Storage Technologies and Their Contribution to Damping of Low-frequency Oscillations Within the Context of Renewable Energy Sources"*, Hasan A.M. Abumeteir, PhD thesis, Gaziantep University, Graduate School of Applied and Natural Sciences, 2022.

Computer Skills

- PSCAD/EMTDC
- MATLAB

Editorship

- Associate Editor-in-Chief, Turkish Journal of Electrical Engineering & Computer Sciences, *since* Jan *07, 2020*
- Associate Editor, International Transactions on Electrical Energy Systems, *since Oct 04, 2021*

Refereeing (SCI/SCI-E)

- IEEE Transactions on Power Electronics
- IEEE Transactions on Sustainable Energy
- International Journal of Electrical Power and Energy Systems
- Journal of Energy Storage
- Applied Energy
- Electric Power Components and Systems
- Electrical Engineering

Supported Projects

- Coordinator (01/10/2021 – 01/04//2023), "Development of a Fault Tolerant Novel Adaptive SOC Balancing Method for Three-Phase Cascaded H-Bridge Multilevel Converter Based Grid-Connected Battery Energy Storage Systems", The Scientific And Technological Research Council of Turkey, TUBITAK-1001 project, project no: 121E186.
- Coordinator (12/11/2021 – 11/05/2023), "PUC7 Çok Seviyeli Invertör ve Sabit Mıknatıslı Senkron Jeneratör Tabanlı Değişken Hızlı Rüzgar Enerjisi Dönüşüm Sistemi Geliştirilmesi", BAP Project, Gaziantep University, No: MF.DT.21.09.
- Coordinator (08/01/2018 – 08/07/2019), "Tek-faz çok seviyeli kaskat h-köprü evirici tasarımı ve gerçeklenmesi", BAP Project, Gaziantep University, No: MF.YLT.18.01.
- Coordinator (2014-2015), "Gaziantep Üniversitesi'nin Bilişim Altyapısının İyileştirilmesi", BAP Project, Gaziantep University, No: MF.14.11.

Publications

SCI / SCI-E Journal Papers

1. Fatih Eroğlu, Mehmet Kurtoğlu, Ahmet Eren, **Ahmet Mete Vural**, Multi-Objective Control Strategy for Multilevel Converter Based Battery D-STATCOM with Power Quality Improvement, Applied Energy, accepted on April 6, 2023.

2. Waleed Khaled Abdulrazaq ABDULRAZAQ, **Ahmet Mete VURAL**, "Fuzzy fractional-order PID control for PMSG based wind energy conversion system with sparse matrix converter topology", International Transactions on Electrical Energy Systems, Volume 2022, Article ID 3663237, https://doi.org/10.1155/2022/3663237

3. Fatih Eroglu, Mehmet Kurtoglu, Ahmet Eren, **Ahmet Mete Vural**, A novel adaptive state-of-charge balancing control scheme for cascaded H-bridge multilevel converter based battery storage systems, ISA Transactions, Volume 135, 2023, Pages 339-354.

4. Yousif Mustafa Sadeq Al Khdhairi & **Ahmet Mete Vural** (2022) Nonlinear Control of a Two-Stage 1-MWh Grid-Connected Battery Energy Storage System by Exact Linearization via State Feedback, IETE Journal of Research, DOI: 10.1080/03772063.2022.2116360

5. Abdurrahim Erat, **Ahmet Mete Vural,** "DC/DC Modular Multilevel Converters for HVDC Interconnection: A comprehensive review", International Transactions on Electrical Energy Systems, Volume 2022 | Article ID 2687243 | https://doi.org/10.1155/2022/2687243.

6. Abumeteir, H.A.; **Vural, A.M.** Design and Optimization of Fractional Order PID Controller to Enhance Energy Storage System Contribution for Damping Low-Frequency Oscillation in Power Systems Integrated with High Penetration of Renewable Sources. Sustainability 2022, 14, 5095.

7. Kurtoğlu Mehmet, Eroğlu Fatih, **Vural Ahmet Mete**. A Generalized Capacitor Voltage Balancing Scheme and Sampling Frequency Analysis for Modular Multilevel Converters, Journal of the Faculty of Engineering and Architecture of Gazi University, vol. 38, No: 2 (2023), pp. 753-769.

8. Mehmet KURTOĞLU, **Ahmet Mete VURAL**, "A Novel Nearest Level Modulation Method with Increased Output Voltage Quality for Modular Multilevel Converter Topology", Hindawi International Transactions on Electrical Energy Systems, Volume 2022, Article ID 2169357, 17 pages

9. **Ahmet Mete VURAL**, Mehmet KURTOĞLU, Fatih EROĞLU, "An Efficient Capacitor Voltage Balancing Scheme for Modular Multilevel Converter Based Wind Energy Conversion System", Advances in Electrical and Computer Engineering, Volume 21, Number 4, 2021, pp. 31-42.

10. Ahmet EREN, **Ahmet Mete VURAL**, "Arm Cortex M4 microprocessors based ±100 kVAR energy quality regulator for reactive power/neutral current compensation, load balancing and harmonic mitigation", Engineering Science and Technology, an International Journal, Volume 27, March 2022, 101018.

11. Hamed Atyia Soodi & **Ahmet Mete Vural** (2023) Design, Optimization and Experimental Verification of a Low Cost Two-Microcontroller Based Single-Phase STATCOM, IETE Journal of Research, 2023, VOL. 69, NO. 3, 1694–1704

12. Eroğlu, F, Kurtoğlu, M, **Vural, AM**. Bidirectional DC–DC converter based multilevel battery storage systems for electric vehicle and large-scale grid applications: A critical review considering different topologies, state-of-charge balancing and future trends. IET Renewable Power Generation. Volume 15, issue 5, pp. 915– 938. (2021).

13. **Ahmet Mete Vural**, Emile Njodzefon Wirsiy, "Three-Phase Modular Multilevel Converter based Unified Power Flow Controller", Engineering Science and Technology, an International Journal, Volume 23, Issue 2, April 2020, Pages 299-306.

14. Ali Osman Arslan, Fatih Eroğlu, Mehmet Kurtoğlu, **Ahmet Mete Vural**, "Optimal Selection of Arm Inductance and Switching Modulation for Three-Phase Modular Multilevel Converters in Terms of DC Voltage Utilization, Harmonics, and Efficiency", Journal of Power Electronics, Vol. 19, No. 4, pp. 922-933, July 2019.

15. Fatih Eroğlu, Mehmet Kurtoğlu, Ali Osman Arslan, **Ahmet Mete Vural**, "Harmonic Reduction Under Unbalanced Operating Conditions of PV Connected Cascaded H-bridge Multilevel Inverters Using

Fault Tolerant Adaptive Phase-shifted Pulse Width Modulation", International Transactions on Electrical Energy Systems, Volume 29, Issue 4, April 2019.

16. Hamed Atyia Soodi and **Ahmet Mete Vural**, "Controller Parameter Optimization for a 13-Level Cascaded H-Bridge Medium Voltage Static Synchronous Compensator", International Transactions on Electrical Energy Systems, Volume 29, Issue 4, April 2019.

17. Mehmet Kurtoglu, Fatih Eroglu, Ali Osman Arslan, Ahmet Mete Vural, "Recent Contributions and Future Prospects of the Modular Multilevel Converters: A Comprehensive Review", International Transactions on Electrical Energy Systems, Volme 29, Issue 3, pp. 1-36, March 2019.

18. Hamed Atyia Soodi and **Ahmet Mete Vural**, "STATCOM Estimation Using Back-Propagation, PSO, Shuffled Frog Leap Algorithm, and Genetic Algorithm Based Neural Networks," Computational Intelligence and Neuroscience, vol. 2018, Article ID 6381610, 17 pages, 2018.

19. **Ahmet Mete Vural**, Kamil Çağatay Bayındır, Power flow modeling of Back-to-Back STATCOM: Comprehensive simulation studies including PV curves and PQ circles, Ain Shams Engineering Journal, Volume 8, Issue 3, September 2017, pp. 431-443.

20. **Vural, Ahmet Mete**: 'Self-capacitor voltage balancing method for optimally hybrid modulated cascaded H-bridge D-STATCOM', IET Power Electronics, vol. 9, issue 14, 2016, pp. 2731-2740.

21. **Ahmet Mete VURAL**, "Contribution of high voltage direct current transmission systems to inter-area oscillation damping: A review", Renewable & Sustainable Energy Reviews, vol 57, May 2016, pp. 892-915.

22. **VURAL, Ahmet Mete**, "Sırt-sırta bağlı yüksek gerilim doğru akım sistemleri ile bölgeler-arası salınımların sönümlendirilmesi: Zaman bölgesi tabanlı tasarım", Journal of the Faculty of Engineering and Architecture of Gazi University, vol. 31, no. 3, 2016, pp. 763-771. 2016.

23. **Ahmet Mete VURAL**, "Interior-point based slack-bus free power flow solution for balanced islanded microgrids", International Transactions on Electrical Energy Systems, vol.26, issue 5, 2016, pp. 968-992.

24. **A.M. Vural**, K.C. Bayindir, "Quasi-multi-pulse voltage source converter design with two control degrees of freedom", International Journal of Electronics, vol. 102, issue 5, 2015.

25. **Vural A.M.**, Bayindir K.C., "Optimal IPFC damping controller design based on simplex method and self-tuned fuzzy damping scheme in a two-area multi-machine power system", Turkish Journal of Electrical Engineering and Computer Sciences, vol.23, No.5, pp. 1449-1464, 2015.

26. **Ahmet Mete Vural**, Kamil Cagatay Bayindir, "Hybrid Fuzzy-PI Control Scheme for a Quasi Multi-pulse Interline Power Flow Controller Including PQ Decoupling Feature", Journal of Power Electronics, vol. 12, no. 5, pp. 787-799. 2012.

27. **A. Mete Vural**, Mehmet Tümay, "Mathematical modeling and analysis of a unified power flow controller: A comparison of two approaches in power flow studies and effects of UPFC location", *International Journal of Electrical Power & Energy Systems*, vol.29, issue 8, pp. 617-629.

28. Mehmet Tümay, **A. Mete Vural**, "Analysis and Modeling of Unified Power Flow Controller: Modification of Newton–Raphson Algorithm and User-defined Modeling Approach for Power Flow Studies", Arabian Journal for Science and Engineering, Vol. 29, No. 2B, pp. 135-153.

29. Mehmet Tümay, **A. Mete Vural**, K.L. Lo, "The Effect of Unified Power Flow Controller (UPFC) location in power systems", *International Journal f Electrical Power & Energy Systems*, vol.26, issue 8, pp. 561-569.

Referred Journal Papers

1. Macit, E., **Vural, A. M.** "Modelling and Simulation of 1 MW Grid-Connected PV System Regulated by Sliding Mode Control, Model Predictive Control and PI Control". Gazi University Journal of Science, Vol. 35, Issue 4, pp. 1433-1452, 2022. **(E-SCI)**

2. Yousif Mustafa Sadeq Al-khdhairi, **Ahmet Mete Vural**, "Study on the modeling and simulation of a grid-connected battery energy storage system based on cascaded h-bridge converter", International Journal of Energy Applications and Technologies, Vol. 8, Issue 3, pp. 98-112, December 2021.

3. Bahaulddin Makaiber Rija, Mohammed Khalil Hussain, **Ahmet Mete Vural**, "Microcontroller Based Automatic Power Factor Correction for Single-Phase Lagging and Leading Loads", Engineering, Technology & Applied Science Research, Vol. 10, Issue 6, pp. 6515-6520, December 2020 **(E-SCI)**

4. **VURAL, A. M**., ARSLAN, A. O., & DENİZ, M. (2020). Design and Experimental Verification of a Single-Phase Asymmetric Hybrid Multi-level Inverter. European Journal of Engineering Science and Technology, 3(2), 1-17. https://doi.org/10.33422/ejest.v3i2.344.

5. Aslan, M, Özpolat, A, İşçi, C, Eroğlu, F, **Vural, A** . (2020). DESIGN AND MODELLING OF INTERNAL PERMANENT MAGNET MOTOR. The International Journal of Energy and Engineering Sciences, 5 (2), 80-104.

6. Fadhıl, S, Hamad, M, Arslan, A, **Vural, A** . (2020). COMPARISON OF DYNAMIC PERFORMANCES OF STATCOM, SSSC, IPFC AND UPFC ON INTER-AREA OSCILLATION DAMPING . The International Journal of Energy and Engineering Sciences, 5 (2), 62-79.

7. Fatih Eroğlu, Husnain Ul Haseeb Kazmi, **Ahmet Mete Vural**, "Modelling and Control of a Three-Level Diode-Clamped Medium Voltage Distribution Static Synchronous Compensator using Space Vector Pulse Width Modulation", Gazi University Journal of Science, Vol. 33, No. 1, pp. 106-118 (2020). **(E-SCI)**

8. Ali Danladı**,** Mehmet Kurtoğlu, **Ahmet Mete Vural**, "Design, Analysis and Performance Evaluation of Electrical Power Subsystem based on Triple-Junctions Solar PV Cells and SEPIC for a Conceptual 1u Cubesat Mission", EMITTER International Journal of Engineering Technology, Vol. 7, No. 1, June 2019, pp. 275-300. **(E-SCI)**

9. **A. M. Vural**, A. İ. İsmail, "Modeling and Control of an Offshore Wind Farm Connected to Main Grid with HVDC Transmission '', Electrica, vol. 18, no: 2, pp. 198-209, 2018. **(E-SCI)**

10. Power System Performance Enhancement Study Using A Single Phase Multi-Level Cascade Invertor Based STATCOM, Hamed Atyia Soodi, **Ahmet Mete Vural**, Sci.Int.(Lahore), Volume 29, Issue 5, September-October 2017, pp. 1139-1145.

11. **Ahmet Mete Vural**, "PSCAD modeling of a two-level space vector pulse width modulation algorithm for power electronics education, Journal of Electrical Systems and Information Technology, Volume 3, Issue 2, September 2016, pp. 333-347.

12. **Ahmet M. Vural**, Kamil C. Bayindir, "Transient stability improvement using quasi-multi pulse BTB-STATCOM", Advances in Energy Research, Vol. 2, No. 1 (2014), pp. 47-59.

13. **A. Mete Vural**, K. Çağatay Bayındır, "Two-level Quasi Multi-Pulse Voltage Source Converter Based Generalized Unified Power Flow Controller", *International Review of Electrical Engineering*, Vol. 6, No. 5, pp. 2622-2637. **(SCOPUS)**

14. **Ahmet Mete Vural**, Kamil Cagatay Bayindir, "Transient Stability Enhancement of the Power System Interconnected with Wind Farm Using Generalized Unified Power Flow Controller with Simplex Optimized Self-tuning Fuzzy Damping Scheme", *International Review of Electrical Engineering*, Vol. 7, No. 4, pp. 5091-5107. **(SCOPUS)**

15. **A. M. Vural**, K. Ç. Bayındır, "Quasi Multi-Pulse Back-to-Back Static Synchronous Compensator Employing Line Frequency Switching 2-Level GTO Inverters", International Journal of Electrical, Computer, Energetic, Electronic and Communication Engineering, Issue 60, December 2011, pp. 1863-1874.

16. **A. Mete Vural**, K. Çağatay Bayındır, "Simplex Optimized Twelve-Pulse STATCOM Control System and LC Filter", *European Journal of Scientific Research* Vol.64, No.3, 2011, pp.415-425.

17. Mehmet Tümay, İlyas Eker, H.Fırat Aksoy, **A.Mete Vural**, M.Uğur Ünver, "Dynamic Performances of Adjustable Speed AC drives Part I: Dynamic Modelling and Implementation of PWM-Fed Synchronous and Asynchronous Machines", *Information Technology Journal*, July-September 2002, pp. 98-105.

18. Mehmet Tümay, İlyas Eker, H.Fırat Aksoy, **A.Mete Vural**, M.Uğur Ünver, "Dynamic Performances of Adjustable Speed AC drives Part II: Control and Simulation of AC Machines", *Information Technology Journal*, July-September 2002, pp. 106-117.

International Conference Papers

1. Fatih Eroğlu, **Ahmet Mete Vural**, "Digital Implementation of Level-Shifted Pulse Width Modulation for Multilevel Converters", 4th International Congress on Human-Computer Interaction, Optimization and Robotic Applications (HORA 2022), Jun 09-11, 2022, Ankara.

2. Fatih Eroglu, **Ahmet Mete Vural**, "A Critical Review on State-of-Charge Balancing Methods in Multilevel Converter Based Battery Storage Systems", IEEE 4th Global Power, Energy and Communication Conference, (IEEE GPECOM 2022), June 14-17, 2022, Cappadocia, Nevsehir, Turkey.

3. Fatih Eroglu, Mehmet Kurtoglu, Ahmet Eren and **Ahmet Mete Vural**, "State-of-Charge Balancing Control in Grid-Connected Single-Phase Cascaded H-Bridge Multilevel Converter Based Battery Storage Systems", IEEE 4th Global Power, Energy and Communication Conference, (IEEE GPECOM 2022), June 14-17, 2022, Cappadocia, Nevsehir, Turkey.

4. F. Eroğlu, M. Kurtoğlu, A. Eren and **A. M. Vural**, "Level-Shifted Pulse Width Modulation Based Battery State-of-Charge Balancing Method for Single-Phase Cascaded H-Bridge Multilevel Converters," 2021 13th International Conference on Electrical and Electronics Engineering (ELECO), 25-27 Nov. 2021, pp. 560-564, doi: 10.23919/ELECO54474.2021.9677692.

5. **Ahmet Mete Vural**, "Design and Development of Deep Learning Based Bi-directional Converter for Hybrid Microgrids to Alleviate Power Quality Problems", 2021 4th International Conference on Electronics and Electrical Engineering Technology (EEET 2021), Nanjing, China, December 3-5, 2021. *Invited speaker.*

6. Habip Yusuf HASIRCI, **Ahmet Mete VURAL**, "Power Converter Topologies for PMSG Based Wind Energy Systems: Packed U Cell Multilevel Inverter Simulation", 5th International Symposium on Multidisciplinary Studies and Innovative Technologies (ISMSIT), Turkey, October 21-23, 2021, pp. 529-534.

7. Waleed Abdulrazaq, **Ahmet Mete Vural**, "Sparse Matrix Converter Modelling and Simulation", 7th International Conference on Engineering and Natural Sciences (ICENS 2021), Bosnia and Herzegovina, June 23-27, 2021, pp. 134-142.

8. H. A. Abumeteir and **A. M. Vural**, "Impact of High Penetration Renewable Energy Systems on Low-Frequency Oscillations," 2021 International Conference on Electric Power Engineering - Palestine (ICEPE-P 2021), 23-24 March 2021, pp. 1-4, doi: 10.1109/ICEPE-P51568.2021.9423472.

9. **Ahmet Mete Vural**, Fatih Eroğlu, "Bi-directional DC-DC converter based multilevel battery storage systems for electric vehicle and large-scale grid applications: A critical review considering different topologies, state-of-charge balancing and future trends", International Symposium on Electrical, Electronics and Information Engineering (ISEEIE 2021) February 19-21, 2021 Seoul, South Korea, *invited speaker.*

10. Youssef Haical, **Ahmet Mete Vural**, "Modeling and analysis of a fuzzy logic controlled microgrid operating in islanded mode", 2nd International Eurasian Conference on Science, Engineering and Technology, Eurasianscientech 2020, 07-09 October 2020, Gaziantep / Turkey, pp. 436-443.

11. Mehmet Kurtoğlu, Ali Osman Arslan, Fatih Eroğlu, **Ahmet Mete Vural**, "Comparison Of Different Submodule Topologies In Modular Multilevel Converters", 3rd International Symposium on Multidisciplinary Studies and Innovative Technologies, Ankara / Turkey, October 11-13, 2019.

12. Fatih Eroğlu, Mehmet Kurtoğlu, Ali Osman Arslan, **Ahmet Mete Vural**, "Performance Comparison Of Phase-Shifted Carrier PWM Techniques On Cascaded H-Bridge Multilevel Inverters With Unequal DC Voltages", 3rd International Symposium on Multidisciplinary Studies and Innovative Technologies, Ankara / Turkey, October 11-13, 2019.

13. Ali Osman Arslan, Fatih Eroğlu, Mehmet Kurtoğlu, **Ahmet Mete Vural**, "Optimal Carrier Frequency Swapping For PD-PWM In Modular Multilevel Converter", 3rd International Symposium on Multidisciplinary Studies and Innovative Technologies, Ankara / Turkey, October 11-13, 2019.

14. N. Sabbar and **A. M. Vural**, "Study on The Improvement of Permanent Magnet Synchronous Generator Based Wind Energy System by Integration of Ultracapacitor," 2019 4th International Conference on Power Electronics and their Applications (ICPEA), Elazig, Turkey, 2019, pp. 1-6.

15. Nissan SABBAR, **Ahmet Mete VURAL**, "Modeling and Case Studies of a Permanent Magnet Synchronous Generator Wind Energy System Having Back-to-Back Modular Multilevel Converters", 2. International Science and Academ/ic Congress 2019, 19-20 April 2019, Konya, Turkey, volume 1, pp. 546-562.

16. A. O. Arslan, F. Eroğlu, M. Kurtoğlu and **A. M. Vural**, "Effect of Arm Inductance on Efficiency of Modular Multilevel Converter," 2018 2nd International Symposium on Multidisciplinary Studies and Innovative Technologies (ISMSIT), October 19-21, 2018, Kızılcahamam, Ankara, pp. 1-4.

17. F. Eroğlu, M. Kurtoğlu, A. O. Arslan and **A. M. Vural**, "FPGA Implementation of PS-PWM for Single-Phase Thirteen-Level Cascaded H-Bridge Multilevel Inverters," 2018 2nd International Symposium on Multidisciplinary Studies and Innovative Technologies (ISMSIT), October 19-21, 2018, Kızılcahamam, Ankara, pp. 1-6

18. M. Kurtoglu, A. O. Arslan, F. Eroglu and **A. M. Vural**, "Investigation of Traditional and Hybrid Modular Multilevel Converters under Various Voltage Levels," *2018 2nd International Symposium on Multidisciplinary Studies and Innovative Technologies (ISMSIT)*October 19-21, 2018, Kızılcahamam, Ankara, pp. 1-4.

19. Hamed Atyia SOODI, **Ahmet Mete VURAL**, "Reactive Power Compensation In Three Phase Balance Loaded System By Using Statcom With Dispense Of The Intermediate Transformer", 3rd International Energy and Engineering Conference, UEMK 2018, 18-19 October 2018, Gaziantep University, TURKEY, pp. 411-425.

20. Ahmed Hachim, **Ahmet Mete Vural**, "Design And Simulation Of A Wind Energy Conversion System Based On Doubly Fed Induction Generator And Back To Back Modular Multilevel Converters", 3rd International Energy and Engineering Conference, UEMK 2018, 18-19 October 2018, Gaziantep University, TURKEY, pp. 402-410.

21. H. A. Soodi and **A. M. Vural**, "Single Phase Nine-Level Convertor Based STATCOM for Reactive Power Compensation and Power Factor Correction," 2018 International Conference on Engineering Technology and their Applications (IICETA), Al-Najaf, 2018, pp. 19-24.

22. Emile N. Wirsiy, **Ahmet Mete Vural**, "Three-Phase Modular Multilevel Converter (MMC) Inverter Simulation", 2nd International Students Science Congress, İzmir Katip Çelebi University, Turkey, May 4-5, 2018, pp 72-72.

23. **Ahmet Mete Vural**, Mohammed S. Hamad, "Comparison Of Dynamic Performances Of IPFC, UPFC And Back-To-Back HVDC Transmission On Local And Inter-Area Oscillation Damping In Power Systems", 2018 5th International Conference on Electrical and Electronics Engineering (ICEEE 2018), İstanbul, Turkey, May 3-5, 2018, pp. 31-35.

24. Saif T. Fadhil, **Ahmet M. Vural**, "Comparison of Dynamic Performances of Tcsc, Statcom, Sssc on Inter-Area Oscillations", 2018 5th International Conference on Electrical and Electronics Engineering (ICEEE 2018), İstanbul, Turkey, May 3-5, 2018, pp. 138-142.

25. Fatih Eroğlu, Ali Osman Arslan, Mehmet Kurtoğlu, **Ahmet Mete Vural**, "Generalized Adaptive Phase-Shifted PWM for Single-Phase Seven-Level Cascaded H-Bridge Multilevel Inverters", 2018 5th International Conference on Electrical and Electronics Engineering (ICEEE 2018), İstanbul, Turkey, May 3-5, 2018, pp. 7-12.

26. Ali Osman Arslan, Mehmet Kurtoğlu, Fatih Eroğlu, **Ahmet Mete Vural**, "Comparison of Phase and Level Shifted Switching Methods for a Three-Phase Modular Multilevel Converter", 2018 5th International Conference on Electrical and Electronics Engineering (ICEEE 2018), İstanbul, Turkey, May 3-5, 2018, pp. 91-96.

27. Mehmet Kurtoğlu, Fatih Eroğlu, Ali Osman Arslan, **Ahmet Mete Vural**, "Modular Multilevel Converters: A Study on Topology, Control and Applications", 2018 5th International Conference on Electrical and Electronics Engineering (ICEEE 2018), İstanbul, Turkey, May 3-5, 2018, pp. 79-84.

28. Hamed Atyia SOODI, **Ahmet Mete VURAL**, "Cascaded H-Bridges for Harmonic Current Compensation in Active Power Filter", International Conference on Engineering Technologies, (ICENTE17), 07-09 December 2017, Selçuk University, Faculty of Technology, Konya, pp.268-276.

29. **Ahmet Mete VURAL**, Hamed Atyia SOODI, "Single Phase Five-Level Inverter Based Statcom For Reactive Power Compensation", International Conference on Advances and Innovations in Engineering (ICAIE), Fırat University, Elazığ, May 10-12, 2017, pp. 311-319.

30. H. M. Yousif and **A. M. Vural**, "Modeling of modular multilevel converter based high voltage direct current transmission system," 4th International Conference on Electrical and Electronic Engineering (ICEEE), 8-10 April 2017, Ankara, pp. 43-51.

31. K. K. Al-Dalwi and **A. M. Vural**, "Modeling and simulation of Bazyan Gas Power Plant," 4th International Conference on Electrical and Electronic Engineering (ICEEE), 8-10 April 2017, Ankara, pp. 163-169.

32. H.A. Abumeteir, **A.M. Vural**, "The determining factors of selecting energy storage systems for the renewable energy sources in the energy efficient building", The 6th International Engineering Conference on Energy Efficient Buildings, 25-26 October 2016.

33. Mustafa DENİZ, **A. Mete VURAL**, Hybrid Asymmetric Multilevel Inverter Design", International Energy and Engineering Conference on October 13-14, 2016, Gaziantep University, Turkey, pp. 709-727.

34. Ahmet Mete VURAL, Ali Dahham ABDULAZEEZ, "Coordinated Design of Multi-PSS and UPFC to Damp Inter-Area Oscillations", International Conference on Natural Science and Engineering (ICNASE'16), March 19-20, 2016, Kilis 7 Aralik University, Turkey, pp. 2155-2164.

35. S. A. M. Al-Barazanchi and **A. M. Vural**, "Modeling and intelligent control of a stand-alone PV-Wind-Diesel-Battery hybrid system," International Conference on Control, Instrumentation, Communication and Computational Technologies (ICCICCT), 18-19 Dec 2015, Kumaracoil, pp. 423-430.

36. A.Mete Vural, K. Cagatay Bayindir, "Converter level modeling and control of quasi multi-pulse static synchronous series compensator, IEEE Symposium on Electrical and Electronics Engineering, EEESYM'2012, 24-27 June 2012, pp. 698-702.

37. A.Mete Vural, K. Cagatay Bayindir, "Understanding the steady-state modeling and analysis of power systems embedded with VSC-based FACTS devices", IEEE EnergyTech2012, 29-31 May 2012, Cleveland, Ohio, USA.

38. A.M. Vural, K. Cagatay Bayindir, "Optimization of Parameter set for STATCOM Control System", IEEE PES, Transmission and Distribution Conference and Exposition, 19-22 April 2010.

39. A.M. Vural, M. Tumay, "Steady State Analysis of Unified Power Flow Controller: Mathematical Modeling and Simulation Studies", IEEE Powertech-2003, Bologna-ITALY, 23-26 June 2003.

40. İlyas Eker and **A. Mete Vural** "Experimental on-line identification of a three-mass mechanical system", IEEE CCA-2003, Conference on Control Applications, June 23-35, 2003, İstanbul-TURKEY. Vol.1, pp. 60-65.

41. A. Mete Vural, Mehmet Tumay, "Power Flow Analysis of Power System Embedded With UPFC Using Psasp Program", ELECO 2003, International Conference on Electrical and Electronics Engineering, Bursa / Turkey, 3-7 Dec. 203, Paper code: A1-06, Electric and Control Proceedings, pp.22-26.

42. M. Vural, M. Tümay, "UPFC for Controlling Power Flow in Power Systems", ELECO 2001, International Conference on Electrical and Electronics Engineering, Bursa / Turkey, 7 - 11 November 2001, pp. 1-4.

43. A.M. Vural, I. Eker, "Parameter Identification of a Permanent Magnet DC Motor: An Experimental Approach", ICEM 2004, 16. International Conference on Electrical Machines, Krakow, Poland, 5-8 September 2004, paper no. 104.

National Conference Papers

1. Abdurrahim Erat, **Ahmet Mete Vural**, "Yüksek Gerilim Doğru Akım Güç Şebekelerinin Ara Bağlantıları İçin DA/DA Modüler Çok Seviyeli Dönüştürücüler", Elektrik-Elektronik ve Biyomedikal Mühendisliği Konferansı, (ELECO-2022), 24-26 Kasım 2022.

2. Ahmet Eren, **Ahmet Mete Vural**, "Enerji Dağıtım Sistemleri İçin Düşük Kayıplı Düşük Maliyetli Enerji Kalitesi Düzenleyicisi Tasarımı ve Benzetimi", Elektrik-Elektronik Mühendisliği Kongresi, EEMKON 2017, 16-18 Kasım 2017, İstanbul, pp. 110-117.

3. **A. Mete Vural**, K. Çağatay Bayındır, Mehmet Tümay, "12 Darbeli bir STATCOM için Denetleyici ve Filtre Parametrelerinin Simplex Yöntemi ile Optimizasyonu", 13. Elektrik, Elektronik, Bilgisayar, Biyomedikal Mühendisliği Ulusal Kongresi, 23-26 Aralık 2009, ODTÜ, Ankara, pp. 65-71.

4. **A. Mete Vural**, Mehmet Tümay, "Gelişmiş Güç Akış Denetleyicileri ile Donatılmış Güç Sistemlerinin Newton-Raphson Metodu ile Analizi", Elektrik-Elektronik-Bilgisayar Mühendisliği 10. Ulusal Kongresi, 18-21 Eylül 2003, İstanbul, pp. 63-66.

5. **A.Mete Vural**, İlyas Eker, "Least squares on-line identification of a dc motor", MBGAK'2003, Mühendislik Bilimleri Genç Araştırmacılar 1. Kongresi, İstanbul Üniversitesi Mühendislik Fakültesi, 17-23 Şubat 2003, İstanbul, pp. 183-190.

6. **A. Mete VURAL**, "Güç akış denetleyicilerinin enerji nakil hatlarındaki yerleşimlerinin güç sistemleri üzerine etkileri", ELECO 2002, Elektrik, Elektronik ve Bilgisayar Mühendisliği Sempozyumu ve Fuarı, Bursa, 18-22 Aralık 2002, pp. 1-5.

7. **A.M. Vural**, M. Tümay, T.T. Ma, "Güç Sistemlerindeki Güç Akışının UPFC ile Kontrolü", EMO 2001, Elektrik-Elektronik-Bilgisayar Mühendisliği 9. Ulusal Kongresi, Kocaeli, 19-21 Eylül 2001, pp. 196-199.