Executive Summary

Dr. Shady Abdel Aleem received the B.Sc., M.Sc. and Ph.D. degrees in Electrical Power and Machines from the Faculty of Engineering, Helwan University, Egypt, in 2002, and the Faculty of Engineering, Cairo University, Egypt, in 2010 and 2013 respectively. Currently, he is an Associate Professor at the Department of Electrical Engineering and Electronics, Valley Higher Institute of Engineering and Technology, Science Valley Academy, Qalubia, Egypt. He is the Vice Dean for Graduate Studies and Scientific Research. Since September 2019, he has been an Adjunct Associate Professor at the Arab Academy for Science, Technology & Maritime Transport, College of Engineering and Technology, Smart Village Campus to teach power quality energy efficiency, wind energy, and energy conversion courses. Also, he is a consultant of power quality studies in ETA Electric Company, Egypt. His research interests include harmonic problems in power systems, power quality, renewable energy, smart grid, energy efficiency, optimization, green energy, and economics. Dr. Shady is the author or co-author of many refereed journals and conference papers. He has published 150 plus journal and conference papers, 18 plus book chapters, and 10 edited books with the Institution of Engineering and Technology (IET) (2), Elsevier (3), Springer (1) and InTech (2). He was awarded the State Encouragement Award in Engineering Sciences in 2017 from Egypt. He was also awarded the medal of distinction from the first class of the Egyptian State Award in 2020 from Egypt. Dr. Shady is a senior member of the Institute of Electrical and Electronics Engineers (IEEE). Dr. Shady is also a member of the Institution of Engineering and Technology (IET). He is an Editor/Guest Editor/Associate Editor for the *International Journal of Renewable Energy Technology*, *Vehicle Dynamics*, *IET Journal of Engineering*, *Energies*, *Sustainability*, *Technology and Economics of Smart Grids and Sustainable Energy*, and *International Journal of Electrical Engineering Education*.

Personal Data

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Social

Research Gate
https://www.researchgate.net/profile/Shady_Abdel_Aleem2

Google Scholar
https://scholar.google.com.eg/citations?user=YnlO4zsAAAAJ&hl=en
Scopus (Author ID: 35995314900)

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Education

Ph.D.

- Received: July 2013. From: Department of Electrical Power and Machines Engineering, Cairo University, Giza, Egypt. Thesis Title: Optimal *C* -Type Passive Filters Design for Distorted Loads. Subject: Power Quality.

M.Sc.

- Received: Jan. 2010. From: Department of Electrical Power and Machines Engineering, Cairo University, Giza, Egypt. Thesis Title: Comparison of Shunt and Series Passive Filters for DC Drives Loads. Subject: Power Quality.

B.Sc.

- Received: June 2002. From: Department of Electrical Power and Machines Engineering, Helwan University, Cairo, Egypt. Subject: Electrical Power and Machines Engineering.

Areas of Expertise

- Power System Analysis
- Electrical Machines and Drives
- Optimization
- Power Quality
- Renewable Energy
- Green Energy
- Smart Grid
- Capacity Integration and Distributed Generation (Hosting Capacity Studies)
- Engineering Mechanics
- Artificial Intelligence Applications in Power Systems
- Numerical Analysis
- Analysis Tools: Matlab, Etap, Simulink, and FORTRAN
- Microgrids
- Utilization of Electrical Energy

Memberships

1. **Institute of Electrical and Electronics Engineers (IEEE), USA**
   Member number: 91269651. Grade: Senior Member (9 years). IEEE Region: R8 -Europe, Middle East, Africa. Egypt Section.
   IEEE Societies: Life Sciences Community (6 years), Smart Grid Community (6 years), IEEE Young Professionals (6 years) and IEEE Industrial Electronics Society (3 years).
2. **The Institution of Engineering and Technology (IET), UK**
   Member number: 1100443052. Grade: Member (5 years).
3. **Egyptian Syndicate of Engineers, Egypt**
   Member number: 1/2002/4707236/11. Grade: Member (19 years).
4. **International Electrotechnical Commission (IEC), Egyptian National Committee, Egypt**
   Member TC 3 Documentation, Graphical Symbols and Representation of Technical Information SC 3 (C, D), December 2019 to present.
   Member TC 70 Degrees of Protection Provided by Enclosures, December 2019 to present.

Speeches/Presentations/Workshops:

1. **Workshop:** Integration of Renewable Energy Resources offered by the High Voltage and Superconductivity labratory - Tanta University, Tanta, Egypt, August 2018. Discipline: Energy and Power Quality.
2. **Invited Speaker:** Integration of Renewable Energy Resources and Hosting Capacity. Tanta University, Tanta, Egypt, August 2018. Discipline: Renewable Energy and Power Quality.
3. **Course/Presentation:** Quality Standards in Teaching, 15th of May Higher Institute of Engineering, Egypt, July 2018.
4. **Course/Presentation:** Effective Presentation Skills, 15th of May Higher Institute of Engineering, Egypt, July 2018.
5. **Course/Presentation:** Management Time and Meetings, 15th of May Higher Institute of Engineering, Egypt, July 2018.
6. **Course/Presentation:** Exams and Student Evaluation, 15th of May Higher Institute of Engineering, Egypt, July 2018.
7. **Course/Presentation:** International Publishing of Scientific Research, 15th of May Higher Institute of Engineering, Egypt, July 2018.
8. **Course/Presentation:** Self-Assessment Course for Higher Education Institutions, 15th of May Higher Institute of Engineering, Egypt, May 2017.
9. **Workshop**: UK-Egypt enhanced research networks in renewable energy to support economic development. Under the Researcher Links scheme offered by the Newton Fund, the British Council and the Science Technology Development Fund in Egypt. Arab Academy of Science & Technology, Alexandria Campus, Alexandria, Egypt, February 22-25, 2015. Discipline: Renewable Energy and Power Quality.
10. **Course/Presentation:** Occupational Safety and Health: 15th of May Higher Institute of Engineering, Egypt, 2007.

10+ Years of Experience

Shady Abdel Aleem has Bachelor (2002), Master (2010), and Doctoral degrees (2013) in an IEEE-designated field (Electrical Engineering). In 2018, Dr. Shady awarded the associate professor degree with scientific excellence honor sign in electrical engineering.

Academic activities:

15th of May Higher Institute of Engineering, Egypt, Sept. 2018 - Present

Director of Quality Assurance Unit, 15th of May Higher Institute of Engineering.

Develop the institute's educational process by developing an integrated internal audit system and self-evaluation and accreditation system in light of local, national, and international performance standards. This is done to achieve total quality and continuous improvement of the institute's educational system and promote the institute education outputs' quality level and competitiveness.

Arab Academy for Science, Technology & Maritime Transport, Sept. 2019 – Present

Adjunct Associate Professor for teaching power quality, energy utilization, energy efficiency, wind energy, and energy conversion courses.

15th of May Higher Institute of Engineering, Egypt, Aug. 2018 - Sept. 2019

Associate Professor, Mathematical, Physical and Engineering Sciences Dept., 15th of May, Helwan, Cairo, Egypt

Pyramids Higher Institute of Engineering and Technology, 6th October, Giza, Egypt, Sept. 2016 - Sept. 2017

Adjunct Associate Professor for teaching artificial intelligence courses.

6th October University, Faculty of Engineering, 6th October, Giza, Egypt, Sept. 2013 - Sept. 2014
Adjunct Associate Professor for teaching digital control courses.
10th Ramadan Higher Institute of Engineering and Technology, 6th October, Giza, Egypt
Adjunct Associate Professor for teaching engineering mechanics courses.
15th of May Higher Institute of Engineering, Egypt, Sept. 2013 - Aug. 2018
Assistant Professor, Mathematical, Physical and Engineering Sciences Dept., 15th of May Higher Institute of Engineering, 15th of May, Helwan, Cairo, Egypt
15th of May Higher Institute of Engineering, Egypt, Dec. 2009- Sept. 2013
Teaching Assistant, 15th of May Higher Institute of Engineering, 15th of May, Helwan, Cairo, Egypt
15th of May Higher Institute of Engineering, Egypt, Dec. Sept. 2002 – Dec. 2009
Demonstrator, 15th of May Higher Institute of Engineering, 15th of May, Helwan, Cairo, Egypt.

Consultancy activities:

Consultant, June, 2018-Present, ETA Electric company, Giza, Egypt, Design of power quality compensators in Arco Steel-Sadat city (SVC) and active harmonic filter in Vox cinema (mall of Egypt).
Consultant, December, 2018-Present, Nahda Masr Group, Giza, Egypt, Performing technical studies on power factor correction, power systems harmonics, and power quality-related problems.
Expert, 2014-Present, Cairo, Egypt, providing professional advice to organizations or individuals on subject matter expertise.
Senior Engineer, 2014-Present, Cairo, Egypt, overseeing electrical projects, starting from reviewing their feasibility studies, through their complete implementation. My responsibilities include the review of technical specifications.
Senior Engineer, June 2011-June 2012, Egyptian documents domicile, Ministry of Culture, **Cairo, *Egypt,*** Participating as a Senior Engineer in a project for development and expansion of electric power components and equipment of including Power factor improvement, improvement of control & power rooms, replacement of mainboard panels and distribution panels, replacement of old cables, and protection system improvement.
Senior Engineer, December 2010-November 2011, 15th of May Higher Institute of Engineering, Cairo, Egypt, developed underlying electrical design projects and supporting simulation and analysis to *15th of May Higher Institute of Engineering* end user to demonstrate the final design functioned correctly and reliably.
Senior Member, Institute of Electrical and Electronics Engineers (IEEE), [#91269651, 9 years].
Member, The Institution of Engineering and Technology (IET), [1100443052, 5 years].

Medals, awards, collegiality & management

- In 2020, I was awarded the medal of distinction from the **First Class of the Egyptian State Award in Engineering Sciences**.
- In 2018, I was awarded the associate professor degree with **scientific excellence honor sign** in electrical engineering (five years beyond the doctorate and promotion to associate professor).
- Director of Quality Assurance Unit, 15th of May Higher Institute of Engineering, Sept. 2018 - Sept. 2019.
- Student Experience Committee Member, 15th of May Higher Institute of Engineering, Sept. 2013 - Sept. 2019.
- Library Committee, Faculty of Engineering, 15th of May Higher Institute of Engineering, Sept. 2017 - Sept. 2019.

Research papers

Conference proceedings papers:

1. A. M. Mahmoud, M. Ezzat, A. Y. Abdelaziz and **S. H. E. A. Aleem**, "A Cost-Benefit Analysis of Optimal Active and Reactive Power Compensators and Voltage Conditioners Allocation in a Real Egyptian Distribution System," 2021 22nd International Middle East Power Systems Conference (MEPCON), 2021, pp. 116-123, doi: 10.1109/MEPCON50283.2021.9686207.
2. M. M. Refaat, **S. H. E. A. Aleem**, Y. Atia, Z. M. Ali and M. M. Sayed, "AC and DC Transmission Line Expansion Planning Using Coronavirus Herd Immunity Optimizer," *2021 22nd International Middle East Power Systems Conference (MEPCON)*, 2021, pp. 313-318, doi: 10.1109/MEPCON50283.2021.9686191.
3. B. G. Mahmoud, **S. H. E. A. Aleem** and M. Sayed, "Optimal Allocation of Shunt Capacitors and DG Units in Distribution Systems Operating Under Non-Sinusoidal Conditions using GA," 2021 International Conference on Electrical, Computer and Energy Technologies (ICECET), 2021, pp. 1-6, doi: 10.1109/ICECET52533.2021.9698810.
4. H. T. Ellamsy, A. M. Ibrahim, Z. M. Ali and **A. A. Shady H. E.**, "Multi-Objective Particle Swarm Optimization for Harmonic-Constrained Hosting Capacity Maximization and Power Loss Minimization in Distorted Distribution Systems," 2021 IEEE International Conference on Environment and Electrical Engineering and 2021 IEEE Industrial and Commercial Power Systems Europe (EEEIC / I&CPS Europe), 2021, pp. 1-6, doi: 10.1109/EEEIC/ICPSEurope51590.2021.9584785.
5. A. H. Gamily, A. M. Ibrahim, **S. H. E. Abdel Aleem** and M. Ćalasan, "Optimal Design of Anti-Resonance Third-Order Harmonic Filters for Power Systems Operating in Non-Sinusoidal Conditions," 2021 25th International Conference on Information Technology (IT), 2021, pp. 1-7, doi: 10.1109/IT51528.2021.9390094.
6. A. M. Zobaa, **S. H. E. Abdel Aleem** and H. K. M. Youssef, "Comparative Analysis of Double-Tuned Harmonic Passive Filter Design Methodologies Using Slime Mould Optimization Algorithm," 2021 IEEE Texas Power and Energy Conference (TPEC), 2021, pp. 1-6, doi: 10.1109/TPEC51183.2021.9384950.
7. I. M. Diaaeldin, **S. H. E. Abdel Aleem**, A. El-Rafei, A. Y. Abdelaziz and M. Ćalasan, "Optimal Soft Open Points Operation and Distributed Generations Penetration in a Reconfigured Egyptian Distribution Network," 2021 25th International Conference on Information Technology (IT), 2021, pp. 1-6, doi: 10.1109/IT51528.2021.9390150.
8. M. H. Mostafa, S. G. Ali, M. Ćalasan, A. Y. Abdelaziz and **S. H. E. Abdel Aleem**, "Scenario-Based Approach for Efficient Energy Management in Microgrids Considering Parameters Uncertainty," 2021 25th International Conference on Information Technology (IT), 2021, pp. 1-7, doi: 10.1109/IT51528.2021.9390127.
9. I. M. Diaaeldin, **S. H. E. Abdel Aleem**, A. El-Rafei, A. Y. Abdelaziz, and M. Calasan, "Optimal Network Reconfiguration and Distributed Generation Allocation using Harris Hawks Optimization," in *2020 24th International Conference on Information Technology, IT 2020*, 2020, doi: 10.1109/IT48810.2020.9070762.
10. A. I. Omar, A. M. Sharaf, **A. Shady H. E. Abdel**, A. A. Mohamed, and E.-Z. Essam E. A., "Optimal Switched Compensator for Vehicle-to-Grid Battery Chargers Using Salp Optimization," in *2019 21st International Middle East Power Systems Conference (MEPCON)*, Dec. 2019, pp. 139–144, doi: 10.1109/MEPCON47431.2019.9008229.
11. Mostafa, Mostafa H., **Shady HE Abdel Aleem**, Samia Gharib Ali, and Almoataz Y. Abdelaziz. "Day-Ahead Optimal Scheduling for Grid-Connected Microgrid with Energy Storage Systems." In *2019 21st International Middle East Power Systems Conference (MEPCON)*, pp. 828-833. IEEE, 2019.

12. Diaaeldin, Ibrahim Mohamed, **Shady HE Abdel Aleem**, Ahmed El-Rafei, and Almoataz Y. Abdelaziz. "A Novel Reconfiguration Methodology of Radial Distribution Systems for Power Loss Minimization Using Expanded Invasive Weed optimization." In *2019 21st International Middle East Power Systems Conference (MEPCON)*, pp. 119-124. IEEE, 2019.
13. Ahmed Omar, **Shady H. E. Abdel Aleem**, Essam E. A. El-Zahab, and Fahmy Bendary, "A Robust D-FACTS Based Metaheuristic Control System for Battery Charging Scheme", CIRED 2019, Madrid, Spain, 3-6 June 2019, 287.
14. Sherif Ismael, **Shady H. E. Abdel Aleem**, Almoataz Abdelaziz, and Fahmy Bendary, "Optimal Harmonic Passive Filters for Power Factor Correction, Harmonic Mitigation and Electricity Bill Reduction Using Dragonfly Algorithm", CIRED 2019, Madrid, Spain, 3-6 June 2019, 86.
15. A. El-Shahat, A. Carver, O. Castle, A. Moore, **S. A. Aleem** and A. Sharaf, "Special Power Electronics Converters for Photovoltaic Nano-Grids Applications," *2018 IEEE Global Humanitarian Technology Conference (GHTC)*, San Jose, CA, USA, 2018, pp. 1-2. doi: https://doi.org/10.1109/GHTC.2018.8601925
16. A. El-Shahat, G. May, B. Hanna and **S. A. Aleem**, "Self-Sustained Home Power System," 2018 IEEE Global Humanitarian Technology Conference (GHTC), San Jose, CA, USA, 2018, pp. 1-2. doi: https://doi.org/10.1109/GHTC.2018.8601886
17. S. M. Ismael, **S. H. E. A. Aleem**, and A. Y. Abdelaziz, "Hosting Capacity Enhancement of Electrical Distribution Systems under Sinusoidal and Non-Sinusoidal Conditions," in 2018 Twentieth International Middle East Power Systems Conference (MEPCON), Cairo University, Cairo, Egypt, December 18-20, 2018 (MEPCON'2018).
18. Mostafa Hassan Mostafa, Samia Gharib Ali, **Shady Hossam Eldeen Abdel Aleem** and Almoataz Youssef Abdelaziz, "Optimal Allocation of Energy Storage System for Improving Performance of Microgrid Using Symbiotic Organisms Search," in 2018 Twentieth International Middle East Power Systems Conference (MEPCON), Cairo University, Cairo, Egypt, December 18-20, 2018 (MEPCON'2018).
19. S. M. Ismael, **S. H. E. A. Aleem**, and A. Y. Abdelaziz, "Renewable Energy Resources in the Egyptian Oil and Gas Industry: Outlooks and Challenges," Proceedings of the 9th Mediterranean Offshore Conference & Exhibition (MOC-2018)-MEDITERRANEAN POTENTIALS UNLOCKED – STEP 2, Alexandria, Egypt, April 2018.
20. S. M. Ismael, **S. H. E. A. Aleem**, and A. Y. Abdelaziz, "Optimal sizing and placement of distributed generation in Egyptian radial distribution systems using crow search algorithm," in *2018 International Conference on Innovative Trends in Computer Engineering (ITCE)*, 2018, pp. 332–337. DOI: 10.1109/ITCE.2018.8316646
21. Sherif M. Ismael, **Shady H. E. A. Aleem** and Almoataz Y. Abdelaziz, "Optimal Selection of Conductors in Egyptian Radial Distribution Systems Using Sine-Cosine Optimization Algorithm," 2017 Nineteenth International Middle East Power Systems Conference (MEPCON), Menoufia University, Egypt, December 19-21, 2017, Cairo, Egypt. DOI: 10.1109/MEPCON.2017.8301170
22. Shamel H. Hamouda, **Shady H. E. A. Aleem** and Ahmed M. Ibrahim, "Harmonic Resonance Index and Resonance Severity Estimation for Shunt Capacitor Applications in Industrial Power Systems," 2017 Nineteenth International Middle East Power Systems Conference (MEPCON), Menoufia University, Egypt, December 19-21, 2017, Cairo, Egypt. DOI: 10.1109/MEPCON.2017.8301231
23. M. Fahmy, Ahmed M. Ibrahim, Murat E. Balci, and **S. H. E. Abdel Aleem**, "Multi-objective Optimization of Double-Tuned Filters in Distribution Power Systems Using Non-Dominated Sorting Genetic Algorithm-II," 10th International Conference on Electrical and Electronic Engineering (ELECO 2017), Bursa, Turkey, December 2017.
24. A. Lamlom, A. Ibrahim, M. E. Balci, A. Karadeniz and **S. H. E. A. Aleem**, "Optimal design and analysis of anti-resonance C-type high-pass filters," *2017 IEEE International Conference on Environment and Electrical Engineering and 2017 IEEE Industrial and Commercial Power Systems Europe (EEEIC / I&CPS Europe)*, Milan, Italy, 2017, pp. 1-6. DOI: https://doi.org/10.1109/EEEIC.2017.7977602

25. H. M. A. Mageed, A. I. Omar, and **S. H. E. A. Aleem**, "Comparison of Traditional and Green Building Designs in Egypt: Energy Saving," ICCMREA 2017: 19th International Conference on Composite Materials and Renewable Energy Applications, London, United Kingdom. February 16 - 17, 2017. urn:dai:10.1999/1307-6892/10006643
26. S. S. Kandil, **S. H. E. A. Aleem** and A. M. Ibrahim, "Multiple-arm passive filters design based on different reactive power sharing approaches," *2016 Eighteenth Int. Middle East Power Syst. Conf.*, pp. 147-155, Dec. 2016. DOI: https://doi.org/10.1109/MEPCON.2016.7836884
27. M. F. A. Mostafa, **S. H. E. A. Aleem** and A. M. Ibrahim, "Using solar photovoltaic at Egyptian airports: Opportunities and challenges," *2016 Eighteenth Int. Middle East Power Syst. Conf.*, pp. 73-80, Dec. **2016**. DOI: https://doi.org/10.1109/MEPCON.2016.7836874
28. M. F. A. Mostafa, **S. H. E. A. Aleem**, and A. F. Zobaa, "Risk assessment and possible mitigation solutions for using solar photovoltaic at airports," *2016 Eighteenth Int. Middle East Power Syst. Conf.*, pp. 81–88, Dec. 2016. DOI: https://doi.org/10.1109/mepcon.2016.7836875
29. D. A. Madboly, **S. H. E. A. Aleem** and A. M. Ibrahim, "Optimal sizing of different configurations of renewable distributed generation systems for a green building in Egypt," *2016 Eighteenth Int. Middle East Power Syst. Conf.*, pp. 107-116, Dec. 2016. DOI: https://doi.org/10.1109/MEPCON.2016.7836879
30. R. Kannan, **S. H. E. A. Aleem**, A. F. Zobaa and A. M. A. Monem, "Optimal multiple-steps single-tuned harmonic filters under time-varying conditions," 2016 6th International Conference on Intelligent and Advanced Systems (ICIAS), Kuala Lumpur, 2016, pp. 1-6. DOI: https://doi.org/10.1109/ICIAS.2016.7824065
31. S. Sakar, M. E. Balci, **S. H. E. A. Aleem**, and A. F. Zobaa, "Hosting capacity assessment and improvement for photovoltaic-based distributed generation in distorted distribution networks," in EEEIC 2016 - International Conference on Environment and Electrical Engineering, 2016. DOI: https://doi.org/10.1109/EEEIC.2016.7555515
32. A.M. Sharaf, **Shady H. E. Abdel Aleem**, Foad H. Gandoman, "A Robust Decoupled DC-AC FACTS Based Switched Filter Compensation Scheme for PV-Smart Grid Applications," 1st Future University International Conference on New Energy & Environmental Engineering "ICNEEE", Cairo, Egypt, April 2016.
33. S. Sakar, **S. H. E. Abdel Aleem**, M. E. Balci, and A. F. Zobaa, "A filter design approach to maximize ampacity of cables in nonsinusoidal power systems," in 12th Conference-Seminar: International School on Nonsinusoidal Currents and Compensation, ISNCC 2015-Conference Proceedings, 2015. DOI: https://doi.org/10.1109/ISNCC.2015.7174693
34. S. Sakar, A. D. Karaoglan, M. E. Balci, **S. H. E. Abdel Aleem**, and A. F. Zobaa, "Optimal design of single-tuned passive filters using Response Surface Methodology," 12th Conf. Int. Sch. Nonsinusoidal Curr. Compens. ISNCC 2015 - Conf. Proc., 2015. DOI: https://doi.org/10.1109/ISNCC.2015.7174709
35. **S. H. E. A. Aleem**, M. E. Balci, A. F. Zobaa, and S. Sakar, "Optimal passive filter design for effective utilization of cables and transformers under non-sinusoidal conditions," in Proceedings of International Conference on Harmonics and Quality of Power, ICHQP, 2014, pp. 626–630. DOI: https://doi.org/10.1109/ICHQP.2014.6842881
36. **S. H. E. A. Aleem**, A. F. Zobaa, and A. C. M. Sung, "On the economical design of multiple-arm passive harmonic filters," in Proceedings of the Universities Power Engineering Conference, 2012. DOI: https://doi.org/10.1109/UPEC.2012.6398664
37. M. T. Elmathana, A. F. Zobaa, and **S. H. E. Abdel Aleem**, "Economical design of multiple-arm passive harmonic filters for an industrial firm - Case study," in Proceedings of International Conference on Harmonics and Quality of Power, ICHQP, 2012, pp. 438–444. DOI: https://doi.org/10.1109/ICHQP.2012.6381242
38. **S. H. E. Abdel Aleem**, A. F. Zobaa, A. M. Ibrahim, "Mathematical Analysis of the Turbine Coefficient of Performance for Tidal Stream Turbines", Proceedings of the 16th International

Middle East Power Systems Conference, MEPCON 2014, Ain Shams University, Egypt, December, 23-25, 2014.

39. **S. H. E. Abdel Aleem**, A. F. Zobaa, A. M. Ibrahim, "Harmonics Mitigation of Industrial Distributed Networks Using Harmonic Blocking Compensators", Proceedings of the 16th International Middle East Power Systems Conference, MEPCON 2014, Ain Shams University, Egypt, December, 23-25, 2014.
40. **S. H. E. A. Aleem**, A. F. Zobaa, E. E. A. El-Zahab, and A. M. Ibrahim, "Economical design of capacitive components of multiple-arm shunt passive harmonics filter," in 15th International Middle East Power Systems Conference (MEPCON'12), Alexandria, Egypt, 2012.

Publications of technical papers

1. Muhyaddin Rawa, Yusuf Al-Turki, Hatem Sindi, Martin Ćalasan, Ziad M. Ali, **Shady H.E. Abdel Aleem**, Current-voltage curves of planar heterojunction perovskite solar cells – Novel expressions based on Lambert W function and Special Trans Function Theory, Journal of Advanced Research, 2022, https://doi.org/10.1016/j.jare.2022.03.017.
2. Sayed, Mahmoud M., Mohamed Y. Mahdy, **Shady HE Abdel Aleem**, Hosam KM Youssef, and Tarek A. Boghdady. "Simultaneous Distribution Network Reconfiguration and Optimal Allocation of Renewable-Based Distributed Generators and Shunt Capacitors under Uncertain Conditions." Energies 15, no. 6 (2022): 2299.
3. Almalaq, Abdulaziz, Khalid Alqunun, Mohamed M. Refaat, Anouar Farah, Fares Benabdallah, Ziad M. Ali, and **Shady HE Abdel Aleem**. "Towards Increasing Hosting Capacity of Modern Power Systems through Generation and Transmission Expansion Planning." Sustainability 14, no. 5 (2022): 2998.
4. Rawa, Muhyaddin, Abdullah Abusorrah, Yusuf Al-Turki, Martin Calasan, Mihailo Micev, Ziad M. Ali, Saad Mekhilef, Hussain Bassi, Hatem Sindi, and **Shady HE Aleem**. "Estimation of Parameters of Different Equivalent Circuit Models of Solar Cells and Various Photovoltaic Modules Using Hybrid Variants of Honey Badger Algorithm and Artificial Gorilla Troops Optimizer." Mathematics 10, no. 7 (2022): 1057.
5. M. Micev, M. Ćalasan, **S. H. E. A. Aleem**, H. M. Hasanien and D. S. Petrović, "Two Novel Approaches for Identification of Synchronous Machine Parameters From Short-Circuit Current Waveform," in IEEE Transactions on Industrial Electronics, vol. 69, no. 6, pp. 5536-5546, June 2022, doi: 10.1109/TIE.2021.3086715.
6. Ali, Z. M., **Aleem, S. H. A.,** Omar, A. I., & Mahmoud, B. S. (2022). Economical-Environmental-Technical Operation of Power Networks with High Penetration of Renewable Energy Systems Using Multi-Objective Coronavirus Herd Immunity Algorithm. Mathematics, 10(7), 1201.
7. Ahmed Mahdy, Hany M. Hasanien, Waleed Helmy, Rania A. Turky, Shady H.E. Abdel Aleem, Transient stability improvement of wave energy conversion systems connected to power grid using anti-windup-coot optimization strategy, Energy, Volume 245, 2022, 123321, ISSN 0360-5442, https://doi.org/10.1016/j.energy.2022.123321
8. Ahmed, E.M., Rakočević, S., Ćalasan, M., Ali, Z.M., Hasanien, H.M., Turky, R.A. and Aleem, S.H.A., 2022. BONMIN solver-based coordination of distributed FACTS compensators and distributed generation units in modern distribution networks. Ain Shams Engineering Journal, 13(4), 2022 , p.101664. https://doi.org/10.1016/j.asej.2021.101664
9. Muhyaddin Rawa, Sultan Alghamdi, Ahmad H. Milyani, Fahd Hariri, Baheej Alghamdi, Mohammed Ajour, Martin Ćalasan, Ziad M. Ali, Hany M. Hasanien, Bozidar Popovic, Shady H.E. Abdel Aleem, Thermal model of supercapacitors operating in constant power applications: New mathematical expressions for precise calculation of temperature change, Journal of Energy Storage, Volume 49,2022,104121,ISSN 2352-152X, https://doi.org/10.1016/j.est.2022.104121
10. Ahmed I. Omar, Nehad M. Khattab, Shady H.E. Abdel Aleem, Optimal strategy for transition into net-zero energy in educational buildings: A case study in El-Shorouk City, Egypt, Sustainable

Energy Technologies and Assessments, Volume 49, 2022,101701, ISSN 2213-1388, https://doi.org/10.1016/j.seta.2021.101701

11. Nehad M. Khattab, Shady H.E. Abdel Aleem, Aboul'Fotouh El'Gharably, Tarek A. Boghdady, Rania A. Turky, Ziad M. Ali, Mahmoud M. Sayed, A novel design of fourth-order harmonic passive filters for total demand distortion minimization using crow spiral-based search algorithm, Ain Shams Engineering Journal, Volume 13, May 2022, 101632, ISSN 2090-4479, https://doi.org/10.1016/j.asej.2021.11.001.
12. Ćalasan M, Micev M, Radulović M, Zobaa AF, Hasanien HM, Abdel Aleem SHE. Optimal PID Controllers for AVR System Considering Excitation Voltage Limitations Using Hybrid Equilibrium Optimizer. Machines. 2021; 9(11):265. https://doi.org/10.3390/machines9110265
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11. Mostafa H. Mostafa, **Shady H.E. Abdel Aleem**, Samia Gharib Ali, Almoataz Y. Abdelaziz, Energy-management solutions for microgrids, In: Distributed Energy Resources in Microgrids. Edited by: Rajeev Kumar Chauhan, Kalpana Chauhan, Academic Press, 2019, 483-515.
12. Iman Rahimi, Abdollah Ahmadi, Ahmed F. Zobaa, Ali Emrouznejad, **Shady H.E. Abdel Aleem**: Big Data Optimization in Electric Power Systems: A Review. In: Big Data Analytics in Future Power Systems. Edited by Ahmed F. Zobaa, Trevor J. Bihl, CRC Press, 14 August 2018. DOI: https://doi.org/10.1201/9781315105499
13. Navid Rezaei, Abdollah Ahmadi, Sara N. Afifi, Ahmed F. Zobaa, **Shady H. Aleem**: Overview of energy storage technologies (Energy Engineering, 2018). In: 'Energy Storage at Different Voltage Levels: Technology, integration, and market aspects', Chap. 1, pp. 1-29, DOI: 10.1049/PBPO111E_ch1.DOI: https://digital-library.theiet.org/content/books/10.1049/pbpo111e_ch1
14. S. M. Ismael, **S. H. E. Abdel Aleem**, A. Y. Abdelaziz, and A. F. Zobaa, "Optimal Conductor Selection of Radial Distribution Feeders: An Overview and New Application Using Grasshopper Optimization Algorithm," Edited by: A. F. Zobaa, Shady Abdel Aleem, and Almoataz Abdelaziz, Academic Press, Elsevier, 2018, pp. 185–217. https://doi.org/10.1016/B978-0-12-812441-3.00008-2
15. A. F. Zobaa, **Shady H. E. Abdel Aleem** and M. E. Balci "Introductory Chapter: Power System Harmonics—Analysis, Effects, and Mitigation Solutions for Power Quality Improvement," Power System Harmonics by Ahmed F. Zobaa, Shady Aleem, Murat Balci, IntechOpen, 2018. DOI: 10.5772/intechopen.76628
16. Adel M. Sharaf, Foad H. Gandoman, Noshin Omar, A. F. Zobaa, **Shady H. E. Abdel Aleem**, Electric and Hybrid Vehicle Drives and Smart Grid Interfacing. In book: Advances in Renewable Energies and Power Technologies. Volume 2: Geothermal and Biomass Energies, Fuel Cells, and Smart Grid. Edited by Imene Yahyaoui, Elsevier, 2018. DOI: https://doi.org/10.1016/B978-0-12-813185-5.00008-5
17. Ahmed Rashad, Salah Kamel, Francisco Jurado, **Shady H.E. Abdel Aleem**: Stability of Distribution Networks with Wind Turbines. In: Electric Distribution Network Management and Control. Edited by Ali Arefi, Farhad Shahnia, Gerard Ledwich, Springer, 2018. DOI: https://doi.org/10.1007/978-981-10-7001-3_11
18. Mohamed Ebeed, Salah Kamel, **Shady H. E. Abdel Aleem**, Almoataz Y. Abdelaziz: Optimal Allocation of Compensators. In: Electric Distribution Network Planning. Edited by Farhad Shahnia, Ali Arefi, Gerard Ledwich, Springer, 2018. DOI: https://doi.org/10.1007/978-981-10-7056-3_12

19. **Shady H. E. Abdel Aleem**, Almoataz Y. Abdelaziz, A. F. Zobaa: Egyptian Grid Code of Wind Farms and Power Quality. In: Handbook of Distributed Generation. Edited by R. Bansal, Springer, March 2017. DOI: https://doi.org/10.1007/978-3-319-51343-0_7

Publications of edited books

1. Zobaa, Ahmed F., **Shady HE Abdel Aleem**, and Ahmed M. Zobaa, eds. Emerging Electric Machines: Advances, Perspectives and Applications. BoD–Books on Demand, IntechOpen, 2021. DOI: 10.5772/intechopen.77462. https://www.intechopen.com/books/emerging-electric-machines-advances-perspectives-and-applications
2. Ahmed F. Zobaa, and **Shady H.E Abdel Aleem**: *Uncertainties in Modern Power Systems*. Elsevier. Ed. 1. October 2020. Paperback ISBN: 9780128204917. Imprint: Academic Press. https://www.elsevier.com/books/uncertainties-in-modern-power-systems/zobaa/978-0-12-820491-7
3. Ahmed F Zobaa, **Shady HE Abdel Aleem**, Sherif M. Ismael, and Paulo F. Ribeiro, eds. *Hosting Capacity for Smart Power Grids*. Springer International Publishing, 2020. **eBook ISBN:** 978-3-030-40029-3, **DOI:** 10.1007/978-3-030-40029-3.
4. **Shady H.E Abdel Aleem**, Almoataz Youssef Abdelaziz, Ahmed F. Zobaa, Ramesh Bansal: *Decision Making Applications in Modern Power Systems*. Elsevier. Ed. 1. October 2019. Paperback ISBN: 9780128164457. Imprint: Academic Press. https://www.elsevier.com/books/decision-making-applications-in-modern-power-systems/abdel-aleem/978-0-12-816445-7
5. Ahmed F Zobaa, Paulo F. Ribeiro, **Shady Hossam Eldeen Abdel Aleem** and Sara N. Afifi (eds.), *Energy Storage at Different Voltage Levels: Technology, integration, and market aspects*. **IET**. Ed. 1, ISBN: 978-1-78561-349-4, October 2018. https://www.theiet.org/resources/books/pow-en/voltage-levels.cfm
6. Ahmed Zobaa, **Shady H.E Abdel Aleem**, Murat E. Balci: *Power System Harmonics*. **InTecOpen** 2018. Published: May 30th 2018, ISBN: 978-1-78923-191-5, Print ISBN: 978-1-78923-190-8. DOI: 10.5772/intechopen.68674
7. Ahmed Zobaa, **Shady H.E Abdel Aleem**, Almoataz Youssef Abdelaziz: *Classical and Recent Aspects of Power System Optimization*. **Elsevier**. Ed. 1. June 2018. Paperback ISBN: 9780128124413. Imprint: Academic Press. https://www.elsevier.com/books/classical-and-recent-aspects-of-power-system-optimization/zobaa/978-0-12-812441-3
8. Ahmed F. Zobaa, **Shady H. E. Abdel Aleem**: *Power Quality in Future Electrical Power Systems*. **IET**. Ed. 1, 2017. Product Code: PBPO0920, ISBN: 978-1-78561-123-0. http://www.theiet.org/resources/books/pow-en/powqfut.cfm

Special issues

1. Special Issue: Power System Planning and Resource Management in Microgrids (April 2020-Open). Journal: Energies. Guest Editor(s): Abdollah Ahmadi, Foad H. Gandoman, Shady H.E. Abdel Aleem
2. Special Issue: Future Perspectives of Safety and Reliability Assessment for Electric-Powered Vehicles (October 2020-Open). Journal: Sustainability. Guest Editor(s): Shady H.E. Abdel Aleem, Ahmed F. Zobaa, Foad H. Gandoman
3. Special Issue: Renewable Energy for Water Desalination – Emerging Solutions to Close the Water Gap (April 2020-Open). Journal: Energies. Guest Editor(s): Ahmed F. Zobaa, Shady H.E. Abdel Aleem.
4. Special Issue: Emerging Challenges in Hosting Capacity Enhancement due to High Penetration of Renewable Energy Resources (August 2019-Closed). Journal: Energies. Guest Editor(s): Ahmed F. Zobaa, Shady H.E. Abdel Aleem

5. Special Issue: Computer Intelligence in Electrical Engineering Education (April 2018). Journal: International Journal of Electrical Engineering Education (IJEEE). Guest Editor(s): Ahmed F. Zobaa and Shady H. E. Abdel Aleem

Citations or recognition and h-index

- Google Scholar: Citations 3062 and *h*-index 31
- Scopus: Citations 2106 and *h*-index 27
- Web of Science: Citations 1055 and *h*-index 20

Journals Reviewer

*I served as a Journal Referee in many IEEE, IET, Elsevier, Springer, Wiley, Sage, Taylor and Francis, and other international publishers. He has reviewed more than 600 papers in the last four years (**427 Verified Reviews on Publons).***

Research Projects

1. External International Consultant: Funded by the deanship of Scientific Research at Prince Sattam Bin Abdulaziz University under the research project No. 2020/01/13220, Saudia Arabia.
2. Researcher: Project number 01008.STZ.2011-2 supported by the Turkish Republic Ministry of Science, Industry, and Technology and BEST Transformers Co., Turkey.

Supervision (Selected)

1. Ibrahim Diaa: Power Network Reconfiguration Using Decision-making Optimization for Hosting Capacity Enhancement, Ph.D. Thesis, Ain Shams University, 2021.
2. Mostafa Hassan: Optimal Allocation of Energy Storage Systems for Improving Performance of Microgrids, Ph.D. Thesis, Ain Shams University, 2020.
3. Sherif Mohsen: Electrical Distribution Systems-Hosting Capacity: Assessment and Enhancement, Ph.D. Thesis, Ain Shams University, 2019.
4. Ahmed Omar: Enhancing Power Quality in Microgrids using D-FACTS, Ph.D. Thesis, Cairo University, 2019.
5. Diaa Ahmed Madboly: Optimal Sizing of Different Configurations of Renewable Distributed Generation Systems for a Green Building, M.Sc. Thesis, Cairo University, Jan. 2017.
6. Ahmed Mohammed Saeed Abd El Fattah: Power Conditioning Using Dynamic Voltage Restorers under Different Voltage Sag Types. M.Sc. Thesis, Cairo University, Sept. 2015.
7. Islam Mohamed: Optimal Sizing of C-Type Passive Filters under Non- Sinusoidal Conditions: A Techno-Economic Study. M.Sc. Thesis, Cairo University, March 2015.

External Examiner (Selected)

1. Rajesh T, Design of Integer and Fractional Order Model Based Controller With Parameter Optimization Technique for Industrial Processes, Ph.D. Thesis, Anna University, India 2021.
2. Mohamed Yousef S., Innovative Design of Multilevel DC-AC Converters with Symmetrical and Asymmetrical Structure for Medium Voltage Applications. Ph.D. Thesis, Anna University, India 2018.
3. R. Sakthivel: Design of Power System Stabilizer Using Intelligent Optimization Technique, Annamalai University, India 2017.

4. Surendiran S.: Fuzzy Gain Scheduling of Optimal PID Controller for Load Frequency Control of Two Area Interconnected Power System, Ph.D. Thesis, Anna University, India 2016.
5. Malathi, G.: Implementation of Principal Component Analysis Method to analyse Harmonics and Mitigation of Harmonics Using Shunt Active Power Filter in Power Systems, PhD Thesis, Anna University, India 2016.
6. Aiswariya, S.: Certain Investigations on Performance Improvement of Front-End Power Factor Correction Converter in Electric Vehicle Applications, Ph.D. Thesis, Anna University, India 2016.

Intel International Science and Engineering Fair: Judge

1. Dr. Shady Abdel Aleem is a Judge in the Intel International Science and Engineering Fair, the largest pre-college scientific research event globally.

Technical Program Committee (Selected)

1. Dr. Shady Abdel Aleem is a member of the Technical Program Committee in various international IEEE conferences and workshops such as:

    - 2021 The International Conference on Applied Mathematics, Modeling and Computer Simulation Wuhan, China | November 13-14, 2021. https://www.macsconf.org/commit
    - International Conference on Green Nanotechnology and Computational Fluid Dynamics (GCFD 2018).
    - Aswan International Workshop on Computational Methods in Power Systems (CMPS 2018).
    - IEEE International Conference on Smart Technologies (IEEE EUROCON 2017).

Professional awards and licenses

1. Senior member degree elevation, 2021, IEEE.
2. Medal of Scientific Excellence in Engineering Sciences in 2020, Egypt.
3. The 2019 Albert Nelson Marquis Lifetime Achievement Award, USA.
4. State Encouragement Award in Engineering Sciences in 2017, Egypt
5. The 2017 Albert Nelson Marquis Lifetime Achievement Award, USA.
6. Inclusion in the 30th-32nd Pearl Anniversary Edition (2013-2015) of Who's Who in the World, USA.
7. Best Master thesis in 2009/2010 in the Electrical Engineering Department, Cairo University, Giza, Egypt.