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CURRENT POSITION

- **Lecturer and Researcher, Electrical Engineering Department College of Engineering, King Saud University Address: P.O. Box 800, Riyadh 11421, Saudi Arabia**

Education

2007 **Ph.D, School of Engineering Design and Technology, University of Bradford**
2004 **MPhil, School of Engineering Design and Technology, University of Bradford**
1979 **B.Sc., Faculty of Engineering , Menofia University**

Teaching and Mentoring

I have experience in teaching different Engineering courses including:

Analogue circuit's Electronic lab, KSU
Digital circuit's lab, KSU FPGA basic design for engineer,KSU
Testing and measurement's instrumentation in electronic system, KSU
Microprocessor application in power system, KSU
Basics of Electronic Circuits and Trouble shooting for students from Saudi Ministry of Defense.
Basics of Electronic Circuits and Trouble shooting for Physics teachers from Saudi Ministry of Education.
Basics of Electronic Circuits and Trouble shooting for technicians at KSU

Research Interests

Solar Cell

Nano actuator

Phase-locked loop

Analogue circuit design

RFID design circuits and FPGA

Energy Harvester and power generation

Jitter in digital telecommunication networks

Research Publications

Journal Articles

1 M. Amari, O. H. AL-Zoubi, P. Bansal, *et al.*, "A self-powered and flexible deep ultraviolet photodetector based on nio/ga2o3 heterojunction and employing stable mxene electrodes," *Sensors and Actuators A: Physical*, vol. 373, p. 115 360, 2024, ISSN: 0924-4247. DOI: https://doi.org/10.1016/j.sna.2024.115360.

2 S. Barakat, A. I. Osman, E. Tag-Eldin, A. A. Telba, H. M. Abdel Mageed, and M. Samy, "Achieving green mobility: Multi-objective optimization for sustainable electric vehicle charging," *Energy Strategy Reviews*, vol. 53, p. 101 351, 2024, ISSN: 2211-467X. DOI: https://doi.org/10.1016/j.esr.2024.101351.

3 Q. Hassan, C.-Y. Hsu, K. MOUNICH, *et al.*, "Enhancing smart grid integrated renewable distributed generation capacities: Implications for sustainable energy transformation," *Sustainable Energy Technologies and Assessments*, vol. 66, p. 103 793, 2024, ISSN: 2213-1388. DOI: https://doi.org/10.1016/j.seta.2024.103793.

4 Q. Hassan, A. K. Nassar, A. K. Al-Jiboory, *et al.*, "Mapping europe renewable energy landscape: Insights into solar, wind, hydro, and green hydrogen production," *Technology in Society*, vol. 77, p. 102 535, 2024, ISSN: 0160-791X. DOI: https://doi.org/10.1016/j.techsoc.2024.102535.

5 M. Houcine, M. Mohamed, S. A. E. M. Ardjoun, *et al.*, "Electromagnetic compatibility characterization of start-capacitor single-phase induction motor," *IEEE Access*, vol. PP, pp. 1–1, Jan. 2024. DOI: 10.1109/ACCESS.2023.3349018.

6 A. Kumar, M. K.A. Mohammed, A. A.Telba, *et al.*, "Calotropis-mediated biosynthesis of tio2@sno2/ag nanocomposites for efficient perovskite photovoltaics," *Optical Materials*, vol. 151, p. 115 402, 2024, ISSN: 0925-3467. DOI: https://doi.org/10.1016/j.optmat.2024.115402.

7 K. A. Metwally, A. A. T. Oraiath, I. M. Elzein, *et al.*, "The mathematical modeling, diffusivity, energy, and enviro-economic analysis (md3e) of an automatic solar dryer for drying date fruits," *Sustainability*, vol. 16, no. 8, 2024, ISSN: 2071-1050. DOI: 10.3390/su16083506.

8 C. Li, S. F. Ahmad, A. Y. B. Ahmad Ayassrah, *et al.*, "Green production and green technology for sustainability: The mediating role of waste reduction and energy use," *Heliyon*, vol. 9, no. 12, e22496, 2023, ISSN: 2405-8440. DOI: https://doi.org/10.1016/j.heliyon.2023.e22496.

9 H. Miloudi, M. Miloudi, S. A. E. M. Ardjoun, *et al.*, "Electromagnetic compatibility characterization of start-capacitor single-phase induction motor," *IEEE Access*, vol. 11, pp. 12 345–12 356, 2023. DOI: 10.1109/ACCESS.2023.3349018.

10 M. Nour, G. Magdy, A. Bakeer, *et al.*, "A new fractional-order virtual inertia support based on battery energy storage for enhancing microgrid frequency stability," *Fractal and Fractional*, vol. 7, no. 12, 2023, ISSN: 2504-3110. DOI: 10.3390/fractalfract7120855.

11 M. A. Ashraf, K. Jamil, A. Telba, M. A. Alzabidi, and A. R. Sebak, "Design and development of a wideband planar yagi antenna using tightly coupled directive element," *Micromachines*, vol. 11, no. 11, 2020, ISSN: 2072-666X. DOI: 10.3390/mi11110975.

12 A. Basit, M. I. Khattak, A. R. Sebak, A. B. Qazi, and A. A. Telba, "Design of a compact microstrip triple independently controlled pass bands filter for gsm, gps and wifi applications," *IEEE Access*, vol. 8, pp. 77 156–77 163, 2020. DOI: 10.1109/ACCESS.2020.2989377.

13 A. Elboushi, A. Telba, A. Sebak, and K. Jamil, "Electromagnetic soil characterization for undergrounded rfid system implementation," *Electronics*, vol. 9, no. 1, 2020, ISSN: 2079-9292. DOI: 10.3390/electronics9010106.

14 M. Irshad Khan, M. I. Khattak, S. U. Rahman, A. B. Qazi, A. A. Telba, and A. Sebak, "Design and investigation of modern uwb-mimo antenna with optimized isolation," *Micromachines*, vol. 11, no. 4, 2020, ISSN: 2072-666X. DOI: 10.3390/mi11040432.

15 A. Telba, "Determination of the stress and resistivity of stainless steel foams," Sep. 2015. DOI: 10.13140/RG.2.1.2008.1123.

16 A. Telba, "Motor speed control using fpga," *Lecture Notes in Engineering and Computer Science*, vol. 2211, no. 1, pp. 313–316, 2014.

17 A. Telba and K. Jamil, "Design and simulation of radio frequency identification," *International Journal of Engineering and Innovative Technology (IJEIT)*, vol. 4, no. 3, pp. 160–165, 2014.

18 A. Telba and K. Jamil, "Radio frequency identification design and simulation," *Lecture Notes in Engineering and Computer Science*, vol. 2211, no. 1, pp. 353–357, 2014.

19 Telba and H. S. Alhokail, "Wideband low jitter frequency synthesizer modeling and simulation," *International Journal of Engineering and Innovative Technology (IJEIT)*, vol. 2, no. 11, pp. 153–155, 2013.

20 J. M. N. Telba, "Minimization of jitter in digital systems using dual phase-locked loops," *International Journal of Engineering and Innovative Technology (IJEIT)*, vol. 2, no. 8, pp. 105–107, 2013.

21 A. Telba and W. G. Ali, "Modeling and simulation of piezoelectric energy harvesting," *Lecture Notes in Engineering and Computer Science*, vol. 2198, no. 1, pp. 959–961, 2012, ISSN: 2078-0958.

22 A. A. Telba and W. G. Ali, "Real time measurements of hysteresis in a piezoelectric nanopositioner stage," *Journal of Instruments and Experimental Techniques*, vol. 3, 2012.

23 A. Telba and W. G. Ali, "Hysteresis modeling in a piezoelectric nanopositioner stage," *Lecture Notes in Engineering and Computer Science*, vol. 2191, no. 1, pp. 1493–1495, 2011, ISSN: 2078-0958.

24 A. Telba, "Fpga implementation of low jitter and wide band frequency synthesizer for clock recovery circuit," *Journal of Active and Passive Electronic Devices*, vol. 6, pp. 265–273, 2011.

25 A. A. Telba, "Experimental results for low-jitter wide-band dual cascaded phase locked loop system," *Journal of Instruments and Experimental Techniques*, vol. 3, 2011.

26 "Experimental investigation of low-jitter and wide-band dual cascaded pll system," *IAENG Transactions on Engineering Technologies*, vol. 6, Oct. 2010, Special Edition of the World Congress on Engineering and Computer Science 2010.

27 S. M. Qasim, A. A. Telba, and A. Y. AlMazroo, "Fpga design and implementation of matrix multiplier architectures for image and signal processing applications," *International Journal of Computer Science and Network Security*, vol. 10, no. 2, pp. 168–176, 2010.

28 A. Telba and A. Al-Mazroo, "A wideband low jitter frequency synthesizer modeling and simulation," *International Journal of Computer Science and Network Security*, vol. 10, no. 1, pp. 260–263, 2010.

29 A. A. Telba, "Low jitter and wide band frequency clock recovery circuit," *International Journal of Computer Science and Network Security*, vol. 10, no. 4, pp. 234–237, 2010.

30 A. Telba, S. M. Qasim, J. M. Noras, B. Almashary, and M. A. El Ela, "Behavioral modeling and simulation of dual cascaded pll based frequency synthesizer," *Journal of Active and Passive Electronic Devices*, vol. 4, pp. 321–334, Oct. 2009.

31 A. Khan, A. Telba, and A. Kahldi, "Simple attachment analog/digital multimeter for frequency measurements up to 10mhz," *International Journal of Electronics*, vol. 62, no. 1, pp. 93–95, 1987.

Conference Proceedings

1 A. Alkuhayli and A. Telba, "Effect of high temperature on the efficiency of grid-connected pv system," in *Proceedings of the World Congress on Engineering*, YEAR, pp. 7–9.

2 O. Salman and A. Telba, "Solar energy in kingdom of saudi arabia in new plan and the effect of high temperature on efficiency," in *2023 IEEE International Flexible Electronics Technology Conference (IFETC)*, 2023, pp. 1–5.

3 A. A. Telba, A.-R. Sebak, D. K. Jamil, and A. Elboushi, "Ultra-wideband antenna for rfid underground oil industry application," in *International Conference of Electrical and Electronics Engineering the World Congress on Engineering 2019 (WCE 2019)*, Imperial College London, U.K., Jul. 2019, pp. 1–3.

4 B. Almashary and A. A. Telba, "Effect of high temperature to output power of solar cell," in *International Conference of Electrical and Electronics Engineering The World Congress on Engineering 2018 (WCE 2018)*, Imperial College London, U.K., Jul. 2018, pp. 1–3.

5 A. A. Telba and W. Gharieb, "Modeling of piezoelectric energy harvesting for low power generation," in *International Conference of Electrical and Electronics Engineering The World Congress on Engineering 2017 (WCE 2017)*, Imperial College London, U.K., Jul. 2017, pp. 1–3.

6 A. Telba, "Behavioral model and simulation of piezoelectric nanopositioning actuator," in *International Conference of Electrical and Electronics Engineering The World Congress on Engineering 2016 (WCE 2016)*, Imperial College London, U.K., Jun. 2016.

7 A. Telba, "Determination of the stress and resistivity of stainless steel foams," in *International Conference of Electrical and Electronics Engineering The World Congress on Engineering 2015 (WCE 2015)*, Imperial College London, U.K., Jul. 2015, pp. 1–3.

8 A. Telba and K. Jamil, "Modeling and simulation of high speed pll based frequency synthesizer used in rfid," English, in *WCE 2015 - World Congress on Engineering 2015*, S. Ao, L. Gelman, A. Korsunsky, D. Hukins, and A. Hunter, Eds., ser. Lecture Notes in Engineering and Computer Science, 2015 World Congress on Engineering, WCE 2015 ; Conference date: 01-07-2015 Through 03-07-2015, Newswood Limited, 2015, pp. 349–353.

9 A. Telba and K. Jamil, "Modeling and simulation of high-speed pll based frequency synthesizer used in rfid," in *International Conference of Electrical and Electronics Engineering The World Congress on Engineering 2015 (WCE 2015)*, Imperial College London, U.K., Jul. 2015, pp. 1–3.

10 A. Telba, "Motor speed control using fpga," in *International Conference of Electrical and Electronics Engineering The World Congress on Engineering 2014 (WCE 2014)*, Imperial College London, U.K., Jul. 2014, pp. 2–4.

11 A. Telba and K. Jamil, "Radio frequency identification design and simulation," in *International Conference of Electrical and Electronics Engineering The World Congress on Engineering 2014 (WCE 2014)*, Imperial College London, U.K., Jul. 2014, pp. 2–4.

12 Telba, "Low jitter circuits in digital system using phase locked loop," in *The 2013 International Conference of Electrical and Electronics Engineering The World Congress on Engineering 2013 (WCE 2013)*, Imperial College London, U.K., Jul. 2013, pp. 3–5.

13 A. Telba and W. G. Ali, "Modeling and simulation of piezoelectric energy harvesting," in *The 2012 International Conference of Electrical and Electronics Engineering The World Congress on Engineering 2012 (WCE 2012)*, Imperial College London, U.K., Jul. 2012.

14 A. Telba and W. G. Ali, "Hysteresis modeling in a piezoelectric nanopositioner stage," in *The 2011 International Conference of Electrical and Electronics Engineering The World Congress on Engineering 2011 (WCE 2011)*, Imperial College London, U.K., Jul. 2011.

15 A. Telba, S. M. Qasim, and A. Y. AlMazroo, "Fpga design and implementation of dense matrix-vector multiplication for image processing application," in *The 2010 International Conference of Electrical and Electronics Engineering The World Congress on Engineering 2010 (WCE 2010)*, Imperial College London, U.K., Jun. 2010.

16 A. Telba, "Modeling and simulation of wideband low jitter frequency synthesizer," in *International Conference on Multimedia, Signal Processing and Communication Technologies (IMPACT-2009)*, India, Mar. 2009.

17 A. Telba, A. Almazroo, M. A. El Ela, and B. Almashary, "Low jitter wide band clock recovery circuit using dual loop pll," in *7th Saudi Engineering Conference*, Riyadh, Saudi Arabia, Nov. 2007.

18 A. Telba, S. M. Qasim, J. M. Noras, B. Almashary, and M. A. El Ela, "Behavioral modelling and simulation of dual cascaded pll based frequency synthesizer," in *Proc. of 14th IEEE Int. Conf. on Mixed Design of Integrated Circuits and Systems, MIXDES 2007*, IEEE, Ciechocinek, Poland, Jun. 2007, pp. 407–411.

19 A. Telba, S. M. Qasim, J. M. Noras, M. A. El Ela, and B. Almashary, "Vhdl-ams modeling and simulation of dual phase locked loop based frequency synthesizer," in *Proc. of Int. Conf. on Advanced Technologies in Telecommunications and Control Engg. 2006, ATTCE 2006*, Kuala Lumpur, Malaysia, Aug. 2006. URL: http://www.eng.brad.ac.uk/kt1/export/EDT_INTI_Newsletter_2007.pdf.

20 A. Telba, J. M. Noras, M. Abou El Ela, and B. AlMashary, "Jitter minimization in digital transmission using dual phase locked loops," in *Microelectronics, 2005. ICM 2005. The 17th International Conference on*, IEEE, Dec. 2005, pp. 270–273.

21 A. Telba, J. M. Noras, M. Abou El Ela, and B. Almashary, "Simulation technique for noise and timing jitter in phase locked loop," in *Microelectronics, 2004. ICM 2004 Proceedings. The 16th International Conference on*, IEEE, Dec. 2004, pp. 501–504.

22 N. Debbar, A. Telba, and M. Alkanhal, "Effect of the optical power and active layer thickness on the photocurrent in metal-semiconductor-metal detectors," in *Electronics, Circuits and Systems, 2003. ICECS 2003. Proceedings of the 2003 10th IEEE International Conference on*, IEEE, vol. 2, Dec. 2003, pp. 762–765.

23 M. A. El-Ela, J. M. Noras, and A. A. Telba, "Desynchronizer circuit in sdh system using digital pll," in *Electronics, Circuits and Systems, 2003. ICECS 2003. Proceedings of the 2003 10th IEEE International Conference on*, IEEE, vol. 2, Dec. 2003, pp. 679–682.

24 M. A. El-Ela and A. A. E.-T. Telba, "Pulse width multiplier circuit with application to digital phase measurements," in *Radio Science Conference, 1999. NRSC '99. Proceedings of the Sixteenth National*, IEEE, Feb. 1999, pp. C1/1–7.

Books and Chapters

1 *Jitter and Phase-Noise in High-Speed Frequency Synthesizer Using PLL*. Springer, 2018, pp. 281–288. DOI: 10.1007/978-981-13-0746-1_21.

2 *Modeling and Simulation of High-Speed PLL Based Frequency Synthesizer for RFID Applications*. Imperial College, London, Jun. 2015. DOI: 10.1142/9789813142725_0023.

3 *DC Motor Speed Control Using FPGA*. Imperial College, London, Jul. 2014, vol. 6, Special Edition of the World Congress on Engineering and Computer Science 2014.

4 American Institute of Physics-API, *Experimental Investigation of Low-Jitter and Wide-Band Dual Cascaded PLL System*. San Francisco, CA, USA, Oct. 2010, vol. 6, Special Edition of the World Congress on Engineering and Computer Science 2010.

Skills

Languages	Strong reading, writing and speaking competencies for English, and Arabic.
Engineering Tools	SPICE Orcad, Micro Cap, MAGIC, VHDL, Xilinx ISE 14.2, ALTERA, IRSIM, MENTOR MODELSIM, MULTISIM.
Coding	C++, Python, MATLAB, SIMULINK, LaTeX
Misc.	Academic research, teaching, training, consultation, LaTeX typesetting and publishing.

Miscellaneous Experience

Section Chair

Section Chair in imperial collage London 2012 in International Conference of Electrical and Electronics Engineering the World Congress on Engineering (WCE 2012)

Section Chair in Imperial collage London 2013 in International Conference of Electrical and Electronics Engineering the World Congress on Engineering (WCE 2013)

Miscellaneous Experience (continued)

Section Chair in Imperial collage London 2014 in International Conference of Electrical and Electronics Engineering the World Congress on Engineering (WCE 2014)

Section Chair in Imperial collage London 2015 in International Conference of Electrical and Electronics Engineering the World Congress on Engineering (WCE 2015)

Section Chair in University of Berkley 2016 in International World Congress on Engineering and Computer Science 2016 (San Francisco, USA, 19-21 October, 2016) University of Berkley

Section Chair in Imperial collage London 2017 in International Conference of Electrical and Electronics Engineering the World Congress on Engineering (WCE 2017)

Section Chair in Imperial collage London 2018 in International Conference of Electrical and Electronics Engineering the World Congress on Engineering (WCE 2018)

Awards and Achievements

Best research in PhD student at the University of Bradford (2006).

Included in Top 2000 Intellectuals of the century by IBC, U.K. (2011).

Included in Top 100 Engineers for the year 2011 by IBC, England.

Best Paper Award at the International Conference of Electrical and Electronics Engineering (2017, 2018).

Memberships

Senior Member of IEEE.

Senior Member of IAENG.

Egyptian Engineering Syndicate

Saudi Engineering Syndicate