# CURRICULUM VITAE

***Dr.*** Abdulaziz Mohammed Ali Al-hetar
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**Permanent *Address****:* Communications and Computer Department,
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## ***Academic Qualification:***

- (April-2010 to September-2010) A **Postdoctoral** Research **Fellow** with the Photonic Technology Center (PTC), University Technology Malaysia (UTM), Malaysia
- (July 2007 - Dec 2009) **Doctor of Philosophy (Electrical Engineering)** from University Technology Malaysia (UTM).
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- ((December 2005 - May 2007) **Master in Engineering (Electrical – Electronics and Telecommunications)** (M. Eng.) from University Technology Malaysia (UTM) with a grade of 3.96.
- (1997-2001) **Bachelor of Science in Electrical Engineering with specialization of Electronics and Communication** (B. Eng.) in 2001 from Sana'a University, with an overall grade of 91.07% (First Position in the Class).

## Interested Area:

- Optical Communications
- Wireless Communications

## Courses taught in current and last period

- Optical communication, Electromagnetic waves theory, Advance digital signal processing, Signal and system, Antenna, and Satellite.

## ***Journals Publications:***

1. **Abdulaziz M. Al-hetar**, I. Yulianti, Abu Sahmah M. Supa'at, A.B. Mohammad. Thermo-optic multimode interference switches with air and silicon trenches. Optics Communications 281, pp. 4653–4657, 2008.(**indexed**)

2. **Abdulaziz M. Al-hetar**, Abu Sahmah M. Supa'at, A.B. Mohammad, I. Yulianti. Crosstalk improvement of a thermo-optic polymer waveguide MZI–MMI switch. Optics Communications, *281, pp. 5764-5767, 2008.(***indexed***)*

3. **Abdulaziz M. Al-hetar**, Abu Sahmah M. Supa'at, A.B. Mohammad, I. Yulianti. Multimode Interference Photonic Switches. *Optical Engineering, 47(11), pp. 11201-11206, 2008.(***indexed***)*

4. Z. A. Shamsan, **A. M. Al-Hetar**, and T. A. Rahman "Spectrum Sharing Studies of IMT-Advanced and FWA Services Under Different Clutter Loss and Channel Bandwidths Effects," *Progress In Electromagnetics Research*, PIER(87), 331-344,2008.(**indexed**)

5. **A. M. Al-Hetar**, A. S. M. Supa'at, and A. B. Mohammad. A ridge waveguide for thermo-optic application. *Progress In Electromagnetics Research Letters,* Vol. 6, 1-9, 2009. (**Indexed**)

6. Abu Sahmah M. Supa'at, Sevia M. Idrus, A. B. Mohammad, Ian Yulianti, **Abdulaziz M. Al-Hetar** " Parabolic heater for low crosstalk digital optical switch " Optoelectronics and Advanced Materials – Rapid Communications, Vol. 3, No. (5), PP. 418-423, May 2009. (**indexed**)

7. Ian Yulianti, A.S.M. Supa'at, S.M. Idrus, **Abdulaziz. M Al-hetar**. Cosine Bend-Linear Waveguide Digital Optical Switch with Parabolic Heater. *Optics and Laser Technology, 42, PP.180-185 ,2010*. (**indexed**)

8. **Abdulaziz M. Al-hetar**, Abu Sahmah M. Supa'at, A. B. Mohammad, and Ian Yulianti. Optimize a waveguide for thermooptic application. Journal Optoelectronic and advance materials- Rapid Communication. Vol. 4, No. (2), PP. 125-127, Feb 2010.(**indexed**)

9. **Abdulaziz M. Al-hetar**, Abu Bakar Mohammad, Abu Sahmah M. Supa'at, and Zaid A. Shamsan "MMI-MZI polymer thermo-optic switch with a high refractive index Contrast" IEEE JOURNAL OF LIGHTWAVE TECHNOLOGY, VOL. 29, NO. 2, JANUARY 15, 2011. (DOI: 10.1109/JLT.2010.2098473) (**indexed**)

10. **Abdulaziz M. Al-hetar**, Abu Bakar Mohammad, Abu Sahmah M. Supa'at, Zaid A. Shamsan, and Ian Yulianti "A new structure of MMI polymer thermo-optic switch with a high refractive index contrast" *Progress In Electromagnetics Research B (PIER B)* ***Vol. 24, 103-120, 2010.*** (**indexed**)

11. **Abdulaziz M. Al-hetar**, Abu Bakar Mohammad, Abu Sahmah M. Supa'at, and Zaid A. Shamsan, "Fabrication and Characterization Of Polymer

Thermo-Optic Switch Based On MMI Coupler", Optics Communications 284 (2011) 1181–1185)(DOI: 10.1016/j.optcom.2010.10.025) (**indexed**)

**12.** Z. A. Shamsan, **A. M. Al-Hetar**, and T. A. Rahman "Analytical Bandwidth Overlapping Ratio Model for OFDM-Based IMT-Advanced Sharing with FM Broadcasting Service". ETRI Journal. (Accepted) will be published in April 2011. (**indexed**)

**13.** Redhwan Q. Shaddad , Abu Bakar Mohammad, **Abdulaziz M. Al-hetar** "Performance evaluation for optical backhaul and wireless front-end in Hybrid Optical-Wireless Access Network" , Submit to Journal of Optical Fiber Technology, July 2010 (under review) (**indexed**)

**14.** **Abdulaziz M. Al-hetar**, Abu Sahmah M. Supa'at, A. B. Mohammad, and Ian Yulianti. Bandwidth and Fabrication Tolerance Criterion for Multimode Interference Splitters. Submit to Journal Optoelectronic and advance materials- Rapid Communication. September 2010 (under review) (**indexed**)

**15.** Z. A. Shamsan, T. A. Rahman, and **A. M. Al-Hetar, "**P-to-P Fixed Wireless and Broadcasting Services Coexistence with IMT-A Systems within UHF Band", Submit to International Journal of Electronics, March 2011. (under review) (**indexed**)

## ***Conferences Publications:***

**1.** **Abdulaziz M. Al-hetar**, Abu Sahmah Bin Mohd Supa'at, N. M. Kassim and A. B. Mohammad. Design and optimization of optical power splitter based on multimode interference for 1.55-μm operation. Applied Electromagnetics, 2007. APACE 2007. Asia-Pacific Conference on 4-6 Dec. 2007 Page(s):1 – 4 IEEE CNF, DOI: 10.1109/APACE.2007.4603855

***2.*** **Abdulaziz M. Al-hetar**, Abu Sahmah M. Supa'at, A. B. Mohammad, and I. Yulianti. *Thermo-optic switch based on Multimode Interference*. Semiconductor Electronics, 2008. *Proceeding of International Conference on Semiconductor Electronic*, ICSE2008, Johor. Page(s):245-248 . November 2008, IEEE CNF, DOI: 10.1109/SMELEC.2008.4770324

***3.*** I. Yulianti, A.S.M. Supa'at, S.M. Idrus, A.B. Mohammad, **Abdulaziz. M Al-hetar**. Beam Propagation Modelling of the Digital Response in Cosine *S*-bend Waveguide Branch. *Proceeding of International Conference on Semiconductor Electronic*, ICSE2008, Johor. 378-382. November 2008, IEEE CNF, DOI: 10.1109/SMELEC.2008.4770345

***4.*** I. Yulianti, A.S.M. Supa'at, S.M. Idrus, A.B. Mohammad, **Abdulaziz. M Al-hetar**. Comparison of Optical Parameters Performance of S-bend Branches for Digital Optical Switch Application. *Proceeding of International Conference on Telecommunication* (ICTel 2008), Bandung, Indonesia. 24-28. August 2008.

5. **Abdulaziz M. Al-hetar**, Abu Sahmah M. Supa'at, A. B. Mohammad, and I. Yulianti. Thermal analysis for ridge and buried waveguides with a metal heater. International RF and Microwave Conference, RFM2008 Kuala Lumpur, Malaysia. On 2-4 Dec. 2008 Page(s):169-171 IEEE CNF, DOI: 10.1109/RFM.2008.4897382

6. **Abdulaziz M. Al-hetar**, Abu Sahmah M. Supa'at, A. B. Mohammad, and I. Yulianti. MZI-MMI Switch Based on Thermo-Optic. Proceedings of 2008 Student Conference on Research and Development (SCOReD 2008), Johor, Malaysia, On 26-27 Nov. 2008 Page(s): 24-1 to 24-3 IEEE CNF

7. I. Yulianti, A.S.M. Supa'at, S. M. Idrus, and **Abdulaziz M. Al-hetar**. Modified Cosine S-bend Power Splitter. *Proceedings of 2008 Student Conference on Research and Development* (SCOReD 2008). Johor, Malaysia. 39(1)-39(4). Nov. 2008

8. I. Yulianti, A.S.M. Supa'at, S.M. Idrus, A.B. Mohammad, **Abdulaziz. M Al-hetar**. Crosstalk Reducing Variable Optical attenuator based on Cosine S-bend. *Proceeding of International Conference on Science and Technology Application in Industry and Education* (ICSTIE), Pulau Pinang. 413-419. December 2008.

9. I. Yulianti, A.S.M. Supa'at, S.M. Idrus, A.B. Mohammad, **Abdulaziz. M Al-hetar**. Optimization of Apodization Profiles for Uniform Fiber Bragg Gratings. 2010 Indonesia-Malaysia Microwave-Antennas Conference (IMMAC 2010), Depok, Indonesia June 11-12, 2010.

10. **I.** Yulianti, A.S.M. Supa'at, S.M. Idrus, A.B. Mohammad, **Abdulaziz. M Al-hetar**. Simulation of Apodization Profiles Performances for Unchirped Fiber Bragg Gratings. international conference on Photonics 2010 (ICP 2010)**,** Langkawi, Malaysia**,** July 6-7, 2010, pages: 1 – 5, IEEE CONF . DOI: 10.1109/ICP.2010.5604405

11. Ian Yulianti, Abu Sahmah M. Supa'at, Sevia M. Idrus, **Abdulaziz M. Al-Hetar**, and Farah Diana Mahad. (2010). Optimization of Sine Apodization Profile for Fiber Bragg Grating. *Indonesia-Malaysia Microwave-Antennas Conference (IMMAC2010).* Jakarta, Indonesia.

12. Ian Yulianti, Abu Sahmah M. Supa'at, Sevia M. Idrus, Norazan M. Kassim and **Abdulaziz M. Al-hetar**. (2010). Fiber Bragg Grating Based-pH Sensor. *2010 International Conference on Enabling Science and Nanotechnology (ESciNano)*, 1-3 December 2010, Kuala Lumpur, Malaysia.

13. Ian Yulianti, Abu Sahmah M. Supa'at, Sevia M. Idrus, Muhammad Ridwanto and **Abdulaziz M. Al-hetar**. (2010). Low Loss 1×2 Optical Coupler Based on Cosine S-bend with Segmented Waveguides. *2010 International Conference on Enabling Science and Nanotechnology (ESciNano)*, 1-3 December 2010, Kuala Lumpur, Malaysia.

14. Redhwan Q. Shaddad, Abu Bakar Mohammad, and **Abdulaziz M. Al-Hetar**. Performance Parameter of Hybrid Wireless-optical Broadband-access Network (WOBAN): A Study on the Physical Layer of Optical Backhaul and Wireless Front-end. **The 29th PIERS 2011 in Marrakesh, Morocco**, (March 2011)

**15.** Redhwan Q. Shaddad, Abu Bakar Mohammad, and **Abdulaziz M. Al-Hetar .** Bandwidth Efficient Hybrid Wireless-optical Broadband-access Network (WOBAN) Based on OFDM Transmission. **The 30th PIERS in Suzhou, China, (**September 2011**).**

## Patent

- Thermo-optic multimode interference (MMI) switch (Patent pending)

## ***Previous Experience:***

- ***Teaching Experience***: 1 year, a tutor in Sana'a University, Sana'a, Yemen (2001-2002) in Engineering Faculty, Department of Electrical Engineering.

- ***Teaching Experience***: 3 years, a tutor in Taiz University, Taiz, Yemen (2002-2005) in Engineering Faculty, Department of Communication and Computer.

- ***Working Experience***: 3years, a transmission engineering in Public Telecommunication Corporation (PTC), Sana'a, Yemen (2002-2005).

- ***Reviewer*** for:

    - The Photonic Technology Letters (PTL) at IEEE.
    - The Progress in electromagnetic research, PIER (Journal).
    - The Optical Engineering (Journal) at SPIE.

## ***Courses and Training:***

- Practical training in network from 11 July to 13 August 2001 at computer center, Assute University, Assute, Egypt
- Practical Training Courses in transmission, Switching, and Power from 1/7/2002 to 5/9/2002 at General Telecommunications Institute in Yemen.
- Advanced training in SDH from 3/11/2003 to 7/1/2004 at Huawei Company, Shenzhen**,** China.