
Name **Abdel-Baset M. A. Ibrahim**

Designation Senior Lecturer

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Faculty of Applied Sciences, Universiti
Teknologi MARA, 40450 Shah Alam,
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Academic Qualifications

Ph.D.	University Sains Malaysia (USM)	2009
M.Sc.	University Malaya (UM)	2000
B.Sc.	AL-Zagazig University, Egypt	1993

Area of Expertise:

Nonlinear Optics, Quantum Optics, Optical Properties of Materials, Interaction of Light with Matter, Waveguide Theory, and Photonics.

Websites

Web of Science Researcher ID F-5102-2011

Google Scholar <http://scholar.google.com.my/citations?user=t9hEXXUAAAAJ> H-Index = 8

Scopus <https://www.scopus.com/authid/detail.uri?authorId=9846108200> Scopus-Index = 7

Publons <https://publons.com/researcher/2780594/abdel-baset-m-a-ibrahim/> Web of Science H-Index = 7

ORCID <https://orcid.org/0000-0002-3053-2177>

Teaching Experience

- Atomic and Molecular Physics- PHY590 (Resource Person)
- Computational Physics-PHY588 (Resource Person)
- Electricity and Magnetism- PHY580
- Optoelectronics- PHY574
- Applied Mathematics.
- Differential Equations

Supervision

Ph.D.

- 1 **Cosupervisor**, Suhadir Samsuddin, 2009910831, Influence of elemental substitution on elastic properties of Manganites and Cobalts by ultrasonic velocity measurement, completed, 2015.
- 2 **Cosupervisor**, Shabani Ismail, 2009744603, Influence of superconducting fluctuation behavior and oxygen ordering on van Hove electron-phonon binding energy in Tl1212 superconductors, completed, 2015.
- 3 **Cosupervisor**, Dzulkhairi Tajudin, 2012447018, Theoretical studies on the relationship between the crystal structure and band gaps of MgO nanostructures, completed, 2019.
- 4 **Main supervisor**, Rafael Julius, 2015610828, Quantum Light in Nonlinear Optical Oscillators, Completed, 2019.
- 5 **Main supervisor**, Azrul Nizam Bin Alias, 2015325449, Theoretical Investigation of Optical bistability in semiconducting materials, Ongoing.

M.Sc.

- 1 **Main supervisor**, Rafael Julius, 2011860178, Quantum Properties of Nonlinear Directional Couplers via Phase Space Representations, Completed, 2014.
- 2 **Main supervisor**, Muhammad Asif Bin Ahmad Khushaini, 2012145149, Optical bistability in ferroelectric material from two-wave mixing, Completed, 2017.
- 3 **Cosupervisor**, Siti Wahidah Binti Nazari, Elastic and dielectric properties of

mixed ionic electronic semiconducting glass in the conductivity anomaly region. completed, 2017.

- 4 **Cosupervisor**, Radhiah Binti Mohd Nor, 2015602576, Investigation on the effect of incorporating Zirconia and Titania on the luminescence of Terbium doped silica glass via experimental and first principle studies, Completed, 2018.
- 5 **Main supervisor**, Mansoor Zahirzai (**International Student**), 2016251114, Quantum properties in Kerr nonlinear directional couplers., completed, 2020.
- 6 **Main supervisor**, Mohd Syafiq Aiman Bin Mohd Hanapi, 2019470446, Quantum properties in Kerr nonlinear couplers based on the analytical method, Ongoing.

Final year Project (FYP)

- 1 **Main supervisor**, Adibah Binti Mohamad Nor, UiTM No. 2008402042, completed, 2012.
- 2 **Main supervisor**, Tunku Puteri Nor Ajeerah, UiTM No. 2009222502, completed, 2012.
- 3 **Main supervisor**, Nur Diyana Binti Izzudin, UiTM No. 2009218252, Completed, 2013
- 4 **Cosupervisor**, Sabrani bin Harman, UiTM No. 2000858348, completed, 2011.
- 5 **Main supervisor**, Asif Khushaini, UiTM No. 2000858348, Completed, 2013.
- 6 **Cosupervisor**, Amira Binti Lockman, IC number 890907-05-5278, completed, 2014.
- 7 **Main supervisor**, Siti Wahidah Binti Nazari, UiTM No. 2011465976, Completed, 2015.
- 8 **Main supervisor**, Nursyzawani Binti Suhail, UiTM No. 2012112717, completed, 2015.
- 9 **Main supervisor**, Tengku Nor Idayu Bt Megat Abdullah, UiTM No. 201242426, Completed, 2015
- 10 **Main supervisor**, Elya Zarif Kautsar Binti Azmi, UiTM No. 2012224498, Completed, 2015.
- 11 **Main supervisor**, Nor Hamizah Binti Mohd Noor, UiTM No. 2012660012, completed, 2015.
- 12 **Main supervisor**, Fathiyatusy Syakirah Putri Binti Ahmad Fadzil, UiTM No. 2012842716, Completed, 2015.
- 13 **Main supervisor**, Akmal bin Jaafar Sidek, UiTM No, 2018226404, Ongoing.
- 14 **Main supervisor**, Siti Nur Atikah Binti Mohammed, UiTM no, 2018226586, Ongoing.
- 15 **Main supervisor**, Noor Izzati Bt Mohd Asri, UiTM no, 2018435492, Ongoing.

Industrial training Supervision

- 1 **Industrial training supervisor**, 4 undergraduate students, September-December 2019

Publications

International Book Chapters

- 5 “Dielectric Waveguides as a Source for Nonclassical Light” Rafael Julius, Abdel-Baset M. A. Ibrahim, and Pankaj K. Choudhury in *Dielectric Materials and Applications*, Nova Science Publishers, 2019, ISBN: 978-1-53615-316-3
- 4 “Morphotropic phase boundary in ferroelectric materials”, Abdel-baset Ibrahim, Rajan Murgan, Mohd Kamil Abd Rahman and Junaidah Osman, in “Ferroelectrics - Physical Effects”, edited by Mickaël Lallart, InTech, Publishing (2011), ISBN 978-953-307-453-5
- 3 “Ferroelectric Optics: Optical bistability in Nonlinear Kerr ferroelectric materials”, Abdel-baset M. A. Ibrahim, Mohd Kamil Abd Rahman, and Junaidah Osman, in “Ferroelectrics” edited by Indrani Coondoo, InTech, Publishing (2010) ISBN 978-953-307-439-9
- 2 “Omniguinding Bragg Fibers: Recent Advances”, Abdel-Baset M.A. Ibrahim, P.K. Choudhury., “Frontiers in Lasers and Electro-Optics Research”, edited by William T. Arkin, NOVA Publishers, (2006) ISBN 13: 9781594547706
- 1 “Quantum Dynamics in the Kerr nonlinear coupler via Phase-Space representation”, B.A Umarov, Abdel-Baset Ibrahim, and MRB Wahiddin in Abdullaev F., Bang O., Sørensen M.P. (eds) *Nonlinearity and Disorder: Theory and Applications*. NATO Science Series (Series II: Mathematics, Physics, and Chemistry), vol 45. Springer, Dordrecht.

Papers in International Journals.

- 34 Progress in quantum electronics research: a bibliometric analysis, A.-B M A Ibrahim, R Julius, P. K. Choudhury, *Journal of Electromagnetic Waves and Applications*, 1-17
- 33 Dielectric surface coated with thin partially-reflecting mirror–A revisit to Fresnel laws, A.-B M. A. Ibrahim, H Eleuch, P. K. Choudhury, MK Abd-Rahman, *Optik* 207, 164423
- 32 Single-and compound-mode squeezing in nonlinear coupler with frequency mismatch, Rafael Julius, Mansoor Zahirzai, Abdel-Baset MA Ibrahim, Hichem Eleuch, Pankaj K Choudhury, *Journal of Electromagnetic Waves and Applications*, 34 (3), 301-315
- 31 Quantum States Generation in Multichannel Directional Coupler with Second-Order Nonlinearity, Rafael Julius, Abdel-Baset M A Ibrahim, Pankaj Kumar Choudhury, and Hichem Eleuch, *OPTIK*, Vol 186, June 2019, Pages 212-220
- 30 Sub-Poissonian Photon squeezing and Entanglement in Optical Chain Second Harmonic Generation, Rafael Julius, Abdel-Baset M. A. Ibrahim, Hichem Eleuch & Pankaj K. Choudhury, *Journal of Modern Optics* 66 (10), 2019, 1129-1138
- 29 Graphene-over-graphite-based metamaterial structure as optical filter in the visible regime, M. A. Baqir, P. K. Choudhury, T. Fatima, A.B. M. A. Ibrahim, *Optik* 180 (2019): 832-839.
- 28 Quantum dynamics of a four-channel Kerr nonlinear directional coupler, R Julius, ABMA Ibrahim, MK Abd-Rahman, PK Choudhury, *Optical Review* 25.5 (2018): 563-570.
- 27 Comparison of experimental and first-principle results of band-gap narrowing of MgO nanostructures and their dependence on crystal structural parameters. Kamarulzaman, N., Mustafa, D. T., Chayed, N. F., Badar, N., Taib, M. F. M., & Ibrahim, A. B. M. A., *Applied Nanoscience*, 1-8. (2018).
- 26 On the nonclassical dynamics of cavity-assisted four-channel nonlinear coupler, Rafael Julius, Abdel-Baset MA Ibrahim, Pankaj Kumar Choudhury, Hichem Eleuch, *Chinese Physics B* 27, no. 11 (2018): 114206.
- 25 Complex-structured liquid crystal clad elliptical guides–the cases of with and without conducting sheath helix loadings, Moghaddas, S., P. K. Choudhury, and Abdel-Baset MA Ibrahim., *Optik-International Journal for Light and Electron Optic*, 158 (2018): 1417-1426.

- 24 First Principles Study on Phonon Energy in SiO₂ Glass with the Incorporation of Al₂O₃, R. M. Nor, S. N. M. Halim, M. F. M. Taib, Abdel-Baset M. A. Ibrahim, M Kamil Abd-Rahman, Solid State Phenomena, Volume 268, Pages 160-164, (2017)
- 23 Quantum Squeezing in Multichannel Nonlinear Coupler: Rafael Julius and Abdel-Baset M. A. Ibrahim, Journal of Computer Science & Computational Mathematics (JCSCM) Volume 7, Issue 4, December 2017 pages 131-136
- 22 TE and TM mode power transmission through liquid crystal clad elliptical guides, S. Moghaddas, P.K. Choudhury, and Abdel-Baset M. A. Ibrahim, Optik-International Journal for Light and Electron Optics, Volume 145, 2017, Pages 113–120.
- 21 Particle Size Dependency of Cubic MgO Towards Its Electronic Structures, a First Principle Study, D. T. Mustaffa, N. Kamarulzaman, N. F. Chayed, N. H. Badar, M. F. M. Taib, and A.-B. M. A. Ibrahim., J. Computational and Theoretical Nanoscience. Vol 14, 2591–2595 (2017)
- 20 On the Optical Bistability of Ferroelectrics via two-wave Mixing: Beyond the slowly varying envelope approximation, Muhammad Asif A. Khushaini¹ and Abdel-Baset M. A. Ibrahim, Optics Communications, Volume 381, 15 December 2016, Pages 384–390.
- 19 Low Loss and Dynamically Tunable Power Splitter Based on Circular-to-Rectangular POF Converter, N. Syafiqah Mohamed-Kassim, Abdel-baset MA Ibrahim, and M. Kamil Abd-Rahman., Journal of Lightwave Technology Vol. 34. Issue 4 (2016): pp. 1306-1312.
- 18 On the Intrinsic Optical Bistability of a Single Kerr Nonlinear Dielectric Layer, Abdel-Baset M. A. Ibrahim, Journal of Applied Physics, J. Appl. Phys. 117, 184101 (2015)
- 17 Elastic moduli and step-like elastic anomalies in Ce-substituted Tl_{0.9}Bi_{0.1}Sr_{1.8}Yb_{0.2}Ca_{1-x}Cd_xCu_{1.99}Fe_{0.01}O_{7-δ} (x = 0-0.20) superconductors, S. Ismail, Abdel-Baset M. A. Ibrahim, and A. K. Yahya, Phase Transitions 88.7 (2015): 692-703.
- 16 Effects of Cd²⁺ substitution on elastic properties and step-like anomalies in Tl_{0.9}Bi_{0.1}Sr_{1.8}Yb_{0.2}Ca_{1-x}Cd_xCu_{1.99}Fe_{0.01}O_{7-δ} superconductors, S Ismail, Abdel-Baset MA Ibrahim, AK Yahya, Journal of Physics and Chemistry of Solids. Volume 81, June 2015, Pages 50–56.

- 15 Transmission characteristics of circular and elliptical helically cladded optical fibers–A comparative analysis.", Ghasemi, Masih, P. K. Choudhury, and Abdel-Baset M. A. Ibrahim. *Optical Fiber Technology*, Volume 21, January 2015, Pages 128–136.
- 14 Quantum state generation in a four-mode Kerr nonlinear directional coupler, Rafael Julius, Abdel-Baset M A Ibrahim, and Mohd S M Deni, *Laser Phys.* 24, 035202 (2014).
- 13 Ultrasonic Anomaly Near the Charge Ordering Transition in Sr-Doped $\text{Nd}_{0.3}\text{La}_{0.2}\text{Ca}_{0.5-x}\text{Sr}_x\text{MnO}_3$ Manganites, S. Shamsuddin · S.N. Supardan, Abdel-Baset M.A. Ibrahim · A.K. Yahya, *Journal of Superconductivity and Novel Magnetism*, Volume 27, Issue 5, pp 1229-1234 (2014)
- 12 Band Gap Energy Studies of Nanostructured ZnO Using the Complementary Techniques of Microscopy, XRD and First Principle Studies, D.T. Mustafa, N. Kamarulzaman, Abdel-Baset M. A. Ibrahim, and M.F. Kasim, *Malaysian Journal of Microscopy Vol.9 pg. 10-12 (2013)*
- 11 On the Maxwell Duffing Approach to Model Photonic Deflection Sensor” Abdelbaset M.A. Ibrahim and P. K. Choudhury, *Photonics Journal, IEEE* 5.4 (2013): 6800812-6800812.
- 10 Effect of Er Substitution on Ultrasonic Anomaly in $\text{Dy}_{0.5-x}\text{Er}_x\text{Ba}_{0.5}\text{CoO}_3$ Cobaltates, S. Shamsuddin, Abdel-Baset M. A. Ibrahim, A. K. Yahya, *Ultrasonics, Vol. 53, Issue 6, Pages 1084–1088 (2013)*
- 9 Dynamics of nonlinear dielectric susceptibility of ferroelectrics near the morphotropic phase boundary", Abdel-Baset MA Ibrahim, Junaidah Osman, J. Modelling and Simulation in Materials Science and Engineering, *Volume 21, Issue3, Page 035008 (2013)*
- 8 Effects of Cr Substitution and Oxygen Reduction on Elastic Anomaly and Ultrasonic Velocity in Charge-Ordered $\text{Nd}_{0.5}\text{Ca}_{0.5}\text{Mn}_{1-x}\text{Cr}_x\text{O}_{3-\delta}$ Ceramics, S. Shamsuddin, Abdel-Baset M. A. Ibrahim, A. K. Yahya, *Ceramics International Volume 39, Suppl 1, Pages S185–S188 (2013)*
- 7 Intrinsic optical bistability in Kerr ferroelectric materials”, Abdel-Baset M. A. Ibrahim, and J. Osman, *The Euro. Phys. J. B.* Vol. 63(2) Page 1434 (2008).
- 6 Optical bistable and multistable response from a ferroelectric Fabry-Perot resonator”, Abdel-Baset M. A. Ibrahim, and J. Osman, *Journal Fizik Malaysia, Vol. 28 Page 99 (2007)*
- 5 Optical Bistability from Ferroelectric Fabry-Perot Interferometer, Abdel-

Baset M. A. Ibrahim, D. R. Tilley, and J. Osman, *Ferroelectrics*, Vol. 355 (1) Page 140 (2007).

- 4 Relative power distributions in omniguinding photonic band-gap fibers" Abdel-Baset M. A. Ibrahim and P. K. Choudhury, *Progress In Electromagnetics Research*, PIER Vol. 72, Page 269 (2007).
- 3 On the analytical investigation of fields and power patterns in coaxial Omniguinding Bragg fibers", Abdel-Baset M. A. Ibrahim, P. K. Choudhury, M. S. Alias, *Optik International Journal for Light and Electron Optics*, Vol. 117 Page 33 (2006).
- 2 Analytical design of photonic band-gap fibers and their dispersion characteristics, Abdel-Baset M. A. Ibrahim, P. K. Choudhury, and M. S. B. Alias, *Optik International Journal for Light and Electron Optics*, Vol. 116, page 169 (2005).
- 1 Squeezing in the Kerr nonlinear coupler via phase-space representation, Abdel-Baset Ibrahim, B. A. Umarov, and MRB Wahiddin, *Phys. Rev A*, Vol. 61, Issue 4, (2000).

[International Conference Proceedings.](#)

- 7 Quantum States in Nonlinear Coupler with Frequency Mismatch., M. Zahirzai, R. Julius, A-BMA Ibrahim, H. Eleuch, and P. K. Choudhury. In *JSAP-OSA Joint Symposia*, p. 21p_E214_3. Optical Society of America, 2019.
- 6 Spectral Features of Vanadium Dioxide-Based Metasurface for Sensing, M.A. Baqir, P. K. Choudhury, and A.-B.M.A. Ibrahim, proceeding of the JSAP-OSA Joint Symposia, p. 18a_E208_3. Optical Society of America-OSA, 2019
- 5 Mixed-Mode Quantum Squeezing in a Chain of Nonlinear Coupled Oscillator, R. Julius, A.-B.M.A. Ibrahim, and P.K. Choudhury, *Proceedings of the 79th JSAP Autumn Meeting 2018* Paper number: 19a-PA5-4
- 4 Exact modeling of the optical bistability in ferroelectrics via two-wave mixing: A system with full nonlinearity., Khushaini, Muhammad Asif A., Abdel-Baset MA Ibrahim, and P. K. Choudhury, *AIP Conference Proceedings*. Vol. 1958. No. 1. AIP Publishing, 2018.
- 3 Theoretical investigations of Li⁺ and Co³⁺ positions for layered LiCoO₂ Lithium-ion battery cathode material using first principle method, DT Mustaffa, N Kamarulzaman, MFM Taib, R Rusdi, A-B M. A. Ibrahim, *AIP Conference Proceedings*, Volume 1877, Issue1(2017), Pages 080005
- 2 Energy Flux Density in a DB Boundary Loaded Uniaxial Anisotropic Chiral Fiber, M.A. Baqir, P.K. Choudhury, Abdel-Baset M. A. Ibrahim, 10th

International Conference on Electrical Engineering/Electronics, Computer, Telecommunications and Information Technology (pp. 1-4). IEEE.

- 1 Squeezing in Four-Mode Kerr Nonlinear Coupler Via Phase Space Representation” R. Julius, A-B. M. A. Ibrahim, M. S. M. Deni, and B. Umarov, American Institute of Physics (AIP) Conference Proceedings, Volume 1557, pp. 169-173 (2013)

Research Grants

- 12 Plasmon induced transparency by combinational hyperbolic metamaterials for energy absorbers and environmental sensors, FRGS/1/2019/STG02/UKM/01/1, **600-IRMI/PBT 5/3 (043/2019)**, Pankaj Kumar Choudhury, Abdel-Baset M. A. Ibrahim, Duration From 01/09/2019 to 31/08/2021, Total RM145000.
- 11 Optical bistability and switching in nonlinear ferroelectric resonator: transverse effects, Project Code **600-IRMI 5/3/GIP (001/2018)**, Project leader Abdel-Baset M. A. Ibrahim, Researchers, Siti Aishah Binti Mohd Toha, Duration From 2018-09-01 to 30-8-2019, Total RM 20,000.
- 10 Micro- and nano-structured metamaterials for energy harvesting applications, Project Code UKM-GUP-2018-157, **UiTM- 600-IRMI-PBT-53 (0102019)**, Pankaj Kumar Choudhury, Abdel-Baset M. A. Ibrahim, Duration 15/11/2018 - 14/11/2020 Total RM 60000.00.
- 9 Elastic Properties Of Electronic-Ionic Transition Region In $x\text{Ag}_2\text{O}-(35-x)[0.5\text{MoO}_3/\text{Fe}_2\text{O}_3-0.5\text{V}_2\text{O}_5]-65\text{TeO}_2$ Glasses, Project code **600-RMI/FRGS 5/3 (55/2014)**, Mohd Isa Bin Mohd Yusof (Head), Ahmad Kamal Yahya, Suraya Binti Ahmad Kamil, Abdel-Baset M. A. Ibrahim, 001-07-2014 - 30-06-2016, Amount RM 69,000.
- 8 Observing The Effect Of The Magnetic Re-Connection On The Structure Of Solar Flares And Coronal Mass Ejections Events Based On Solar Radio Burst Type Ii And Iii, Code **600-RMI/FRGS 5/3 (135/2014)**, Zety Sharizat Binti Hamidi 233835 – Head, Mohd Isa Bin Mohd Yusof, Abdel Baset M. A. Ibrahim, Nur Nafhatun Binti Md Shariff, Duration 01-12-2014 - 30-11-2017, Amount 106,000.
- 7 Low-Temperature Elastic Behaviour Of Cd^{2+} And Ce^{4+} Doped TlBi_{12} Superconductors, **600-RMI/RAGS 5/3 (142/2014)**, Mohd Ashmir Bin Yahya 290629 – Head, Ahmad Kamal Hayati Bin Yahya, Norazila Binti Ibrahim, Abdel Baset M. A. Ibrahim, Duration 01-12-2014 - 30-11-2016, Amount RM 80,000

- 6 Grain boundary insulating layer mechanism in $\text{CaCu}_3\text{Ti}_4\text{O}_{12}$ dielectric ceramic with borate and silica glasses addition, Project Code **600-RMI/ST/FRGS 5/3/Fst (8/2011)**, Mohd Salleh Mohd Deni. (Head), Ahmad Kamal Yahya, Talari Mahesh Kumar, Azlan Bin Zakaria681110106487, Abdel-Baset M. A. Ibrahim, Duration 01 July 2011- 30 Jun 2013, RM 88,000.00.
- 5 Optical Bistability And Multistability From A Ferroelectric Fabry-Pérot Resonators, Project Code **203/PFIZIK/671070 (FRGS-USM)**, Project Leader: Prof. Dr. Junaidah Osman, Abdel-Baset M. A. Ibrahim, Duration 2007-2008 (24 Month), Amount Rm40,000
- 4 Modeling and fabricating of vertical-cavity surface-emitting lasers VCSELs”, **Project R05-0604-o (Telekom R&D)**, M. S. Alias, Abdel-Baset Ibrahim, Photonic Devices Unit: Duration: 2004-2005 (24 months) Amount RM200,000.
- 3 Modeling of ring and doped optical fibers, **Project R03-0560-o (Telekom R&D)**, Dr. Aziz Hassan, Abdel-Baset Ibrahim, Computational modeling & Device unit, Duration 2003 - 2004 (24 months), Amount RM200,000.
- 2 Physical Modeling of optical fiber and GaAs Semiconductor device, **Project IRDD 197 (Telekom R&D SDN BHD)**, Project Leader: Dr. Abdul Aziz Hassan, Abdel-Baset Ibrahim, Mohd Solihi Abdulhadi, Computational Modeling unit, Duration 2000 - 2002 (24 months), Amount RM200,000.
- 1 Quantum Trajectories & Cavity QED laser, **Project IRPA 09-02-03-0337 (UM)**, University of Malaya, Prof. Dr. Mohamad Ridza Bin Wahiuddin, Abdel-Baset Ibrahim, Duration August 1997- June 1999, Amount RM80,00.

Editorial

- 5 **Section editor** (Physics), Scientific Research Journal-SRJ, duration March 2020- Feb 2022, International, Published by UiTM Press.
- 4 **Editor**, Science Letters, duration 30/10/2017 to 31/10/2019, UITM, Shah Alam
- 3 **Editor**, Junior Scientist Communications, duration, 12/11/2019 - 12/11/2021, UITM, Shah Alam
- 2 **Volume Editor**, Proceedings of Extended Abstracts, Colloquium of Chemistry and Environment-CCE 2018, Colloquium date: 19 December 2018, Vol. 2 (2019), Universiti Teknologi MARA, Shah Alam Malaysia., Publication date 11 November 2019, E-ISSN No. 2637-0689
- 1 **Guest Editor**, Proceedings Of The 2018 Applied Sciences Conference-ASC Extended Abstracts, Volume 1 (2018) Part B, (Physics & Industrial Technology), UITM, Shah Alam E-ISSN No. 2637-0689

Conference Participation

Role, Conference Name, Organizer, Venue, Date

- 10 **Participant**, 2020 OSA Lase Congress, Organized by Optical Society of America- OSA, Venue Virtual, 13 October 2020 – 16 October 2020
- 9 **Speaker**, Malaysia-Japan International Conference on Nanoscience, Nanotechnology, and Nanoengineering 2020 (MJIC 2020), Universiti Teknologi MARA (UiTM) with Nagoya Institute of Technology (NITech), and National Institute of Technology Kagawa College (NITKC), organized by UiTM, 28 February to -2nd March 2020
- 8 **Participant and Editor**, Asian Conference of Technology, Science and Innovation- 2019 (ACoTSI 2019), Physics and Materials Symposium (PhyMas 2019), Faculty of Applied Sciences, Universiti Teknologi MARA, Shah Alam, (30-31 October 2019)
- 7 **Poster presenter**, International Conference on Quantum Nonlinear Optics-QNO2018, Title: Optical Phase Bistability in Nonlinear Fabry-Perot Resonator, Sunway Resort Hotel, and Spa, Kuala Lumpur, Malaysia, Feb 2-5, 2018.
- 6 **Scientific Committee**, 2nd Int. Conference on Applied Sciences & Industrial Technology 2018-ICASIT-2018, Swiss-Garden Hotel Melaka, Malaysia 13th - 15th November 2018.
- 5 **Speaker**, 3rd International Conference on the Science and Engineering of Materials 2017 (ICoSEM2017), organized by Faculty of Engineering, University of Malaya, 50603 Kuala Lumpur, Malaysia, Hotel Armada, Kuala Lumpur, Malaysia, 24-25 October 2017
- 4 **Session Chair & Scientific Committee**, Asean Smart Grid Congress 2 (Asgc2), organized by Universiti Teknologi MARA- UiTM, Venue, UiTM, date 8 – 10 November 2016
- 3 **Scientific committee**, ICASIT 2015, International Conference on Applied Sciences & Industrial Technology, organized by Universiti Teknologi MARA-UiTM, Venue Grand Lexis Port Dickson, 24-26 February 2015.
- 2 **Speaker**, National Physics Conference- PERFIK 2006, organized by University of Malaya, Palace of the Golden Horses, Mines Resort City, 43300 Seri Kembangan, Selangor, Malaysia, 6-7 December 2006.

- 1 **Speaker**, International Meeting on Frontiers of Physics (IMFP 2005), organized by University of Malaya, Palace of the Golden Horses, Mines Resort City, 43300 Seri Kembangan, Selangor, Malaysia 25 -29 July 2005

Consultancy and Expertise

Thesis examination

- 5 **Internal Examiner, Ph.D.**, Mohd Sazwan Affendi Bin Rasiman, 2012455506, School of Physics, Faculty of Applied Sciences, UiTM, Shah Alam, 2020
- 4 **Internal Examiner, M.Sc.**, Muhamad Zamir Mohyedin, 2016341985, First-Principles Study Of Thermoelectric Performance Of Ni-Doped Bi₂Se₃ and Ni-Doped Bi₂Te₃ Using Density Functional Theory, School of Physics, Faculty of Applied Sciences, UiTM, Shah Alam, 2019.
- 3 **Internal Examiner, M.Sc.**, Nor Aina Binti Che Manaf, 2011879676 Design of Nano-slot waveguides with enhanced sensitivity and high coupling efficiency, School of Physics, Faculty of Applied Sciences, UiTM, Shah Alam., 2016
- 2 **Internal Examiner, M.Sc.**, Muliana Binti Ismail, 2012901531, Elastic, structural and optical studies of (80-x)TeO₂-BaO-20ZnO and xAg₂O-(35-x)[0.5MoO₃-0.5V₂O₅]-65TeO₂ Tellurite Glasses, School of Physics, Faculty of Applied Sciences, UiTM, Shah Alam., 2015.
- 1 **Internal Examiner, M.Sc.**, Nor Syafiqah Mohamed Kassim, 2008533447, 1xN Symmetrical and Asymmetrical Optical Planer Waveguides, School of Physics, Faculty of Applied Sciences, UiTM, Shah Alam., 2012

Fellowship

- 1 Visiting Research Fellow, Department of Applied Sciences and Mathematics, College of Arts and Sciences, Abu Dhabi University (ADU), from 02/09/2018 to 29/08/2019, and from December 2019 to December 2020.

Reviewing Activities

Journals

- 7 **Journal Quantum Information Processing (QINP)**, Publisher Springer New York, ISSN 15700755, Quartile: Q1
- 6 **Journal Reviewer, Optik** – International Journal for Light and Electron Optics, Publisher: Urban and Fischer (Elsevier), ISSN 0030-4026, Quartile: Q2
- 5 **Journal of Electromagnetic Waves and Applications-JEWA**, Publisher: Taylor & Francis, ISSN: 0920-5071, Online ISSN: 1569-3937, Quartile: Q3
- 4 **Journal, Surface Review and Letters (SRL)**, Publisher World Scientific, ISSN (print): 0218-625X, ISSN (online): 1793-6667, Quartile: Q3
- 3 **Modern Physics Letters B**, Publisher, World Scientific Publishing Co. Pte Ltd, ISSN (print): 0217-9792, ISSN (online): 1793-6578, Quartile: Q3-Q4
- 2 **Journal, Science Letters**, Publisher, Universiti Teknologi MARA (UiTM), 40450 Shah Alam, Selangor, Malaysia, ISSN: 1675-7785
- 1 **Scientific Research Journal- SRJ**, Publisher, Universiti Teknologi MARA (UiTM), 40450, Shah Alam, Selangor, Malaysia, ISSN:1675-7009.

Conferences and Symposiums

- 5 **Reviewer**, Symposium on Frontier Materials and Industrial Applications (SFMIA2019), organized by Universiti Teknologi MARA, Venue: Place, Grand Blue Wave Hotel, Shah Alam, Selangor Malaysia, 29th August 2019.
- 4 **Reviewer**, 2nd Int. Conference on Applied Sciences & Industrial Technology 2018- ICASIT-2018, organized by Universiti Teknologi MARA, Venue: Swiss-Garden Hotel Melaka, Malaysia. Date: 13 - 15 November 2018.
- 3 **Reviewer**, 5th International Symposium on Technology for Sustainability (ISTS2015), Organizer UiTM- Shah Alam, Venue: Science & Technology Complex, Universiti Teknologi Mara, Malaysia, date 4-5 August 2015.

- 2 **Reviewer**, International Conference on Applied Sciences & Industrial Technology **ICASIT 2015**, Organizer UiTM- Shah Alam, Grand Lexis Port Dickson. 24-26 February 2015.
- 1 **Reviewer**, 2nd Advanced Materials Conference (AMC 2014), organized by AMREC SIRIM BHD, venue: Bayview Hotel, Langkawi, Kedah, Malaysia, Date 25–26 November 2014.

Assessor and Evaluator

- 31 **Conversion of MSc to Ph.D.**, Norakma Natasya Binti Md Jahangir Alam, Students No: 2019829228 Principal Supervisor: Dr. Mohamad Fariz bin Mohamad Taib, Faculty of Applied Sciences, UiTM, 19 Oktober 2020
- 30 **M.Sc. Research Proposal Defense- DRP, Committee**, Nur Adlin Sofiya Binti Mohammad Fuad, UiTM ID: 2019813604, supervisor, Dr. Ang Lee sin (UiTM Perlis) 22 June 2020.
- 29 **Ph.D. Pre-Viva examination, Chairperson**, Mohd Sazwan Affendi Bin Rasiman, UiTM ID: 2012455506, Venue: Fakulti Sains Gunaan, Date: 30 December 2019
- 28 **Pre-Viva examination, M.Sc., Chairperson**, Muhammad Haziq Bin Ridzwan, 2016667448, Venue: Fakulti Sains Gunaan, Date: 25 November 2019 (Isnin)
- 27 **Pre-Viva examination, M.Sc.**, Muhammad Noor Syazwan Bin Saimin, 2014584725, Venue: Fakulti Sains Gunaan, Date: 25 November 2019.
- 26 **Pre-Viva examination, M.Sc., Chairperson**, Nurul Hazwani Binti Husien, Student ID 2015271176, Supervisor Dr. Zety Sharizat Binti Hamidi, Venue FSG- UiTM, 28 December 2018
- 25 **Pre-Viva examination, Ph.D.**, Nur Hafiz Bin Hussin, 2013872128, Venue FSG- UiTM, 20 December 2017
- 24 **M.Sc. Progress Monitoring**, Nurulhazwani Binti Husien, 2015271176, Venue FSG- UiTM, 27-28 Feb 2017
- 23 **M.Sc. Progress Monitoring**, Nur Najwa Alyani Binti Mohd Nabil, 2015614396, Venue FSG- UiTM, 27-28 Feb 2017

- 22 **M.Sc. Progress Monitoring**, Siti Nur Umairah Bt Sabri, 2015468138, Venue FSG- UiTM, 27-28 Feb 2017
- 21 **M.Sc. Postgraduate Presentation**, Committee, *Research Methodology* Course- FSG710, Master By Course In Food Technology, Faculty Of Applied Sciences, Uitm, Shah Alam, 27-28 December 2016.
- 20 **M.Sc. Research Proposal Defense- DRP, Chairperson**, Nor Hidayah Binti Zainol, Uitm ID: 2015603516, Faculty Of Applied Sciences, Uitm, Shah Alam, 14 June 2016.
- 19 **M.Sc. Research Proposal Defense- DRP, Chairperson**, Siti Nur Umairah Bt Sabri, Uitm ID: 2015468138, Faculty Of Applied Sciences, Uitm, Shah Alam, 14 June 2016
- 18 **M.Sc. Research Proposal Defense- DRP, Chairperson**, Nur Najwa Alyani Binti Mohd Nabil, Uitm ID: 2015614396, Faculty Of Applied Sciences, Uitm, Shah Alam, 7 April 2016.
- 17 **Pre-Viva examination, Ph.D.**, Muhammad Adib Akram Bin, UiTM ID: 2012575803, Faculty Of Applied Sciences, Uitm, Shah Alam, Date 25 August 2015
- 16 **Pre-Viva examination, Ph.D.**, Nor Aina Binti Che Manaf, Uitm ID: 20111879676, Faculty Of Applied Sciences, Uitm, Shah Alam, 25 August 2015.
- 15 **M.Sc. Research Proposal Defense- DRP**, Muhammad Noor Syazwan Bin Saimin, Uitm ID: 2014584725, Faculty Of Applied Sciences, Uitm, Shah Alam, 1 July 2015.
- 14 **M.Sc. Research Proposal Defense- DRP**, Aizzuddeen Bin Mustafa, 2013231628, Faculty Of Applied Sciences, Uitm, Shah Alam, 13 FEB 2014
- 13 **Ph.D. Research Proposal Defense- DRP**, Azrin Bin Aris, 2012589849
Faculty Of Applied Sciences, Uitm, Shah Alam, 13 FEB 2014 (Thursday)
- 12 **Ph.D. Research Proposal Defense- DRP**, Robaiah Hj Mamat, 2012663348, Faculty Of Applied Sciences, Uitm, Shah Alam, 16 MAY 2013.
- 11 **Ph.D. Research Proposal Defense- DRP**, Mohammad Hafifi Bin Abdul Hadi, 2012633316, Faculty Of Applied Sciences, Uitm, Shah Alam, 20 Feb. 2013

- 10 **Ph.D. Research Proposal Defense- DRP**, Nur Azura Binti Che Mahmud, 2012273486, Faculty Of Applied Sciences, Uitm, Shah Alam 20 Feb. 2013.
- 9 **Ph.D. Research Proposal Defense- DRP**, Noor Syuhaida Binti Ibrahim, 2012858186, Faculty Of Applied Sciences, Uitm, Shah Alam, 20 Feb. 2013.
- 8 **Pre-Viva examination, M.Sc.**, Mohd Ruzaleh Bin Nurdik, 2008792225, Faculty Of Applied Sciences, Uitm, Shah Alam, 9 Jan 2013
- 7 **Pre-Viva examination, M.Sc.**, Nor Jannah Muhamad, 2008533447, Faculty Of Applied Sciences, Uitm, Shah Alam, 2 FEB 2012.
- 6 **Pre-Viva examination, M.Sc.**, Nor Syafiqah Bt Mohamed Kassim, 2008533447, Faculty of Applied Sciences, Uitm, Shah Alam, 29 FEB. 2012
- 5 **Ph.D. Research Proposal Defense- DRP**, Noor Nazurah Binti Mohammad Yatim, 201186689, Faculty Of Applied Sciences, Uitm, Shah Alam, 21 June 2012.
- 4 **Ph.D. Research Proposal Defense- DRP**, Sufri Bin Othman, 2011359527, Faculty Of Applied Sciences, Uitm, Shah Alam, 21 June 2012
- 3 **Ph.D. Research Proposal Defense- DRP**, Wan Mohd Azwady Bin Wan Ahamad, 2011977499, Faculty Of Applied Sciences, Uitm, Shah Alam, 2 July 2012.
- 2 **Ph.D. progress monitoring**, Muhamad Umair Bin Mohamad, 2010327155 Faculty Of Applied Sciences, Uitm, Shah Alam, 13 December 2012.
- 1 **Ph.D. progress monitoring**, Muhamad Kamil Bin Yaakob, 2010350696, Faculty Of Applied Sciences, Uitm, Shah Alam, 13 December 2012.

Innovations, Entrepreneurship, Commercialization.

Innovation awards

1. **Gold Medal**, Parallel Algorithm of Phase-Space Representation for Studying Quantum Dynamics in Optical Devices, *1st International Malaysia-Indonesia-Thailand Symposium on Innovation and Creativity (IMIT SIC-2017)*, Universiti Teknologi Mara Perlis Branch, Arau Campus, Malaysia, 26th-27th July 2017.
2. **Silver Medal**, *Quantum multichannel coupler for application beyond classical limit* International, Summit on Professionalism, Research and Education (INSPIREd 2019) Ipoh UiTM Perak 17-19 September 2019

Entrepreneurship Project Involvement

1. **Scientific Committee & Reviewer**, 2nd Int. Conference on Applied Sciences & Industrial Technology 2018-ICASIT-2018, Swiss-Garden Hotel Melaka, Malaysia, 13th - 15th November 2018, **Income Generated RM 173,195.08**
2. **Session Chair, Scientific Committee, and Reviewer**, Asean Smart Grid Congress-2 (ASGC2-2016), 40450, Faculty of Applied Sciences, Universiti Teknologi MARA, Shah Alam, Selangor, MALAYSIA. 8 – 10 November 2016, **Income Generated RM 155,836.33**
3. **Scientific committee and reviewer**. International Conference on Applied Sciences & Industrial Technology, ICASIT 2015, Grand Lexis Port Dickson, Malaysia, 24-26 February 2015, **Income Generated RM 336,130.00**

Teaching and Learning Innovation

Module Creation, Atomic and Molecular Physics- PHY590: School of physics and material studies, FSG- UiTM Faculty of applied Sciences-(FSG)-UiTM, 2014. Designing and preparing a new and complete Physics course with all requirements. This includes learning outcomes, course content, teaching methods resources, assessment, monitoring, and review.

Services and Administration

Committee membership -UiTM

- 5 **FYP4CONFPROC, Head**, Faculty of Applied Sciences, UiTM, Shah Alam, 500-FSG (PT 23/3) from 01/06/2020 to 31/05/2022.
- 4 **MyRA Committee, member**, Faculty of Applied Sciences (FSG), UiTM, June 2017-Feb-2021
- 3 **Curriculum review committee, member**, Pure physics program (AS203) Faculty of Applied Sciences (FSG), UiTM, **2016 – 2018**
- 2 **Student Development Committee**, Member, Faculty of Applied Sciences (FSG) UiTM May - 2012 till 2014
- 1 **Industrial Network for Research and Development**, Member, Faculty of Applied Sciences (FSG) UiTM, 2011-2013

Resource Person

- 2 **Computational Physics**, Course ID: 18423, Code: PHY588, MQF Level: 6- Bachelor's Degree SLT: 125 Hours, Faculty of Applied Sciences (FSG) UiTM, 2016-Present.
- 1 **Atomic and Molecular Physics**, Course Code: PHY590, Course ID: 18424 MQF Level: 6 - Bachelor's Degree, SLT: 125 Hours Faculty of Applied Sciences (FSG) UiTM from 2016 – present.

Professional memberships

- 1 **Optical Society of America- OSA, member**. Membership No:1028523 6/2011-present
- 2 **Optical Society of Korea, member**, Membership No: 1028523 June 2011-June 2012
- 3 **Egyptian Board of Scientific professionals, Life member**, Membership No: **39076**, Since 1993-present
- 4 **Malaysia Board of Technologists (MBOT), Graduate Technologist**, Life Member, membership number Gt17120125, since Dec-2017

Contribution to Student Development

- 1 **Academic Advisor**, Every Semester

Academic Awards and Recognitions

- 5 **GOT-Graduate on Time, Ph.D.** Grandaunt- Rafael Julius-2019
UiTM, senate 2019
- 4 **Outstanding Reviewer**, Elsevier, 2018.
- 3 **Publishing incentive award Myra-2018**, Faculty applied Sciences,
UiTM, 2017.
- 2 **Publishing incentive award Myra-2017**, Faculty applied Sciences,
UiTM, 2017.
- 1 **Hadiah Sanjungan-2007**, publication category, Universiti Sains
Malaysia-USM, 11800, Gelugor, Penang.

Academic Leadership and Collaborations

Head, Photonics and Materials Research Group, Research initiative group- RIG, Frontier Materials & Industrial Application (FMIA), Universiti Teknologi MARA, 40450 Shah Alam, Selangor, Malaysia

Academic collaboration, International, Prof. Dr. Hichem Eleuch, Affiliation, Abu Dhabi University, Abu Dhabi, United Arab Emirates. and Institute for Quantum Science and Engineering, Texas A&M University, College Station, Texas 77843, USA, Date, 2018-Now.

Academic collaboration, National, Prof. Dr. Pankaj Kumar Choudhury, Institute of Microengineering and Nanoelectronics (IMEN), Universiti Kebangsaan Malaysia, Bangi, Selangor, Malaysia, since 2003 till present

Academic collaboration, National, Assoc. Prof Dr. Bakhram Umarov Phone Department of Computational and Theoretical Sciences, Kulliyah of Science, International Islamic University Malaysia (IIUM), Kuantan Campus, Jalan Istana, Bandar Indera Mahkota 25200, Kuantan, Pahang, Malaysia 1998 till present

Center for Superconducting & Magnetic Novel Oxides (CSM-NOX), Internal, Universiti Teknologi MARA, Shah Alam, Selangor, Malaysia Prof Dr Ahmad Kamal Yahya, 2010 till present

SaniiChem Resources Sdn Bhd, Prof Junaidah Osman, Pusat Inkubator SIRIM, Bandar Baru Salak Tinggi, 43900, Sepang, Selangor, 2005 till present.

Employment History

Senior lecturer, Faculty of Applied Sciences, Universiti Teknologi MARA (UiTM), 40450 Shah Alam, Selangor, Malaysia, May 2010 - Present

Ph.D. candidate & Research officer, School of Physics, University Science Malaysia, 11800, Penang, Malaysia, Sep 2005 - Aug 2009

Research officer, Telekom R & D Sdn Bhd, a subsidiary of Telekom Malaysia Berhad, TM Innovation Centre, Lingkaran Teknokrat Timur, 63000 Cyberjaya, Selangor, Malaysia. May 2000 – Sep 2005

Master Student, Teaching Assistant, Research Assistant, Institute of Mathematical Sciences, and Faculty of Engineering, University Malaya, August/1997 - May 2000