CURRICULUM VITAE

Associate.Prof. Dr. Eng. Magdy Hussein Mourad Mohammad

PhD., Electronics Engineering
France, University of Sciences and Technology of Lille
İnstitute of Electronics Microelectronics and
Nano Technology of the North of France Lille.
Lille France .

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Personal Data:

Place of Birth	Cairo / Egypt
Date of Birth	June 1, 1968
Nationality	Egyptian
Arabic	Mother Tongue
French	Very Good Excellent
English	Very Good Excellent
Turkish	A1
Japanese	Level 1 Kanji
h-index	6

Administrative Duties	**University/city**
Engineering Consultant of the Egyptian Chinese project for the fabrication of Photovoltaic solar cells in South Egypt	2018 All the fabrication steps for manufacture and mass production of Silicon based Photovoltaic solar cells .
Engineering Consultant of the new National Electronics Research in El Nozha El Guedida	Road mapping and suggesting necessary Equipments required for the fabrication and production of micro electronic devices 2017

Education:

Assistant Professor	Karabuk University, Faculty of Electric-Electronic Engineering, Karabuk , 2021- now.
Associate Professor	Cairo University National Institute of Laser Enhanced Sciences Engineering laser Applications Department 2020-2023
Assistant Professor	Cairo University National Institute of Laser Enhanced Sciences Engineering laser Applications Department 2012-2019
Assistant Professor	Malaysia Penang Usm University of Science Malaysia Engineering Physics Department & **Clean Room Nano Opto Electronic Laboratory** MBE 2009-2011

Ph.D.	France, University of Sciences and Technology of Lille İnstitute of Electronics Microelectronics and Nano Technology of the North of France Lille. (IEMNN) Lille France (1996-2000) with three international best paper awards (Ieee-Mtt and Spie and International Laser Conference Saint Petersburg) 1996-2000
M.S	France Grenoble Joseph Fourier University National Polytechnical Institute of Grenoble, Thesis conducted **in Clean Room Lab of Electromagnetiism and Optoelectronics (LEMO)** 1995
M.S.	Egypt Cairo University Faculty of Electonics and Communications Engineering, 1994**.**
B.S.	Egypt Cairo University Faculty of Electonics and Communications Engineering . 1992**.**

Research's Thesis:

Ph.D.	Design & simulation of a new semiconductor laser for dual mode signal generation for millimeter-wave generation, radio over fiber applications and Dense Wave Division Multiplexing (DWDM). ***(Oct 1996- October 2000)*** Institute of Electronics &Microelectronics of the North of France (IEMN) ,The Optoelectronics Dept, University of Sciences and Technology of Lille. Main Supervisor Prof.Dr.Didier Decoster Co. Supervisor Prof.Dr.Jean Pierre Vilcot
M.S.	Fabrication and characterization of an optical coupler on glass thermo-electrically controlled (I Fabricated it in the clean room of the L.E.M.O-E.N.S.E.R.G) ***(Nov 1995- October 1996)*** Main Supervisor : Prof.Dr.Smail Tedjini .

Research Areas:

1- Growth of III-V optoelectronic materials using Radio Frequency Molecular Beam Epitaxy(Rf-Mbe), Metal Organic Chemical Vapor Deposition(Mocvd), Liquid Phase Epitaxy(Lpe).

2- Processing and Fabrication of III-V Optoelectronic devices and Silicon based devices such as : Photodetectors ,Schottky Diodes, Solar Cells, Laser, Mosfet, Mesfet, Hemt .

3- UV Photolitography and Electron Beam Lithography (Karl Zeiss Photolithography and Jeol-Raith Quantum E-Beam Lithography).

4- Simulation via time domain modeling of InGaAsP semiconductor laser for Fabry Perot, Distributed Feedback Laser and Sampled Grating Distributed Feedback Laser to generate Dual Mode laser .

5- Fabrication of Planar Optoelectronic Waveguides passive and active components using Ion Exchange (diffusion) Method .

RESEARCH PROJECTS

- All the Projects Below are personally made initiated suggested and fully achieved by myself except the Mask Aligner manufactured in Cnc Companies under my Supervision .
- Initiation design preparation and manufacture of the First Semiconductor Fabrication Devices in Egypt in Cairo Universişty National Institute of Laser Enhanced Sciences including making ::
- Mask aligner (Full parts manufacture on cnc companies).(Funded by Cairo University İnstitute of Laser) 2013-2016

- Liquid Phase Epitaxy (LPE) Furnace for mono-crystalline epitaxial growth of III-V optoelectronic materials GaAs and its ternaries AlGaAs and İnGaAs . (Funded by Cairo University İnstitute of Laser) (2016)

- Building a setup for the fabrication of a magnetron generator while supervising a Ph.D student on same subject . (Funded by Cairo University İnstitute of Laser)(2015-2017)

- Horizontal Tube Furnace for silicon wafer oxidation and P/N Junction doping Phosphorus and Boron doping . (Funded by Cairo University İnstitute of Laser) 2014

- Full manufacture Rotary Dual Stage Vacuum Pump (Supervision Only manufactured in Cnc and Frisa companies in Egypt) 2013-2018
- building a Full set up of Current Voltage (I-V) measurement interfaced to computer using Arduino (Funded by University of Sciences Malaysia Usm 2010)

- Building a Full setup of ion exchange Diffusion system for planar optical waveguides and filters and Mach Zhender interferometers on Microscopic Glass while supervising a master student (Funded by Usm University of Sciences Malaysia) 2008
- Building an x ray generator sealed tubes sources while supervising a master student on same subject (Funded by University of Sciences Malaysia Usm) 2006

Experience:

Visiting Scientist	Malaysia Penang Usm University of Science Malaysia **Clean Room Nano Opto Electronic Laboratory** MBE (III-V Molecular Beam Epitaxy) Electron Beam Lithography and Photolithography and device Processing . 2006-2008. *Supervisor*: *Prof.Dr. Kamarulazizi Ibrahim*, 2006-2011, **Penang, Malaysia.** *Supervisor*: *Prof.Dr.Zainuriah Hassan* 2006-2011, **Penang, Malaysia.**
Engineering Consultant	Egypt 6th October City Goldi Bahgat Group for R&D for TV display June 2005-November 2005. **Cairo 6th of October city Egypt**
Center of Excellence (Coe) Fellow and Post Doctoral Researcher	Japan Sendai Tohoku Univ the **Clean Room Venture Business Laboratory of Tohoku University** Research Topics: Device fabrication of a micro-electron field emitter display device and Growth and characterization of III-V optoelectronic Devices. 2001-2005. Supervisor: *Prof.Dr. Seiji Samujkawa, Sept 2001- March2004,* **Sendai Japan.** Supervısor : *Prof.Dr. Masayoshi Esashi April 2004 –March 2005,* **Sendai Japan**
Post Doctoral Researcher	Usa Illinois Northwestern University Evanston Illinois USA **The Clean Room of The Center for Quantum Devices III-V** Mocvd –Mbe clean room for III-V for III-V device fabrication Oct 2000- Sept 2001. Supervisor: *Prof.Dr. Manijeh Razeghi* , oct 2000-sept 2001, **Illinois, Usa.**

Publications:

A. Refereed Journal Papers (Listed by SCI):

1) Ahmed Khaled, **Magdy Hussein Mourad**, Ahmed Amr Elsayed, Frédéric Marty,Elyes Nefzaoui, Tarik Bourouina,Yasser M. Sabry, Diaa A. M. Khalil "Absorptivity enhancement of black silicon using electroless Cu plating", SPIE Photonics West 2020, 1-6 February 2020 San Francisco, California,US.

2) Z. Abdel Hamid, H.B. Hassan, Manal A. Hassan, **M. Hussein Mourad**, S. Anwar., Deposition, characterization, performance of cadmium sulfide quantum dots thin films using SILAR technique for quantum dot sensitized solar cell applications. Special Issue, Recent Advances in Materials Science and Engineering II, Key Engineering Materials, Vol 835, March 2020, pp.374-383 .

3) Z. Abdel Hamid, H. B. Hassan, Manal A. Hassan, M. Hussein Mourad, S. Anwar, Effect of cadmium sulfide quantum dots prepared by chemical bath deposition technique on the performance of solar cell. The Egyptian Journal of Chemistry, Volume 62, Issue 9, September 2019, pp. 2-6.

4) FARAG, A. A. M., A. ASHERY, A. H. Zaki, and H. M. Mourad, Structural and electrical performance of epitaxial InP based heterojunctions prepared by liquid phase epitaxy Chinese Journal of Physics, vol. 59 , issue June 2019, pp. 83-91, 2019.

5) Rasha M.Elnoby M. Hussein Mourad Salah L. Hassab Elnaby MaramT.H.Abou Kana , Monocrystalline solar cells performance coated by silver nanoparticles: Effect of NPs sizes from point of view Mie theory . Optics & Laser Technology,Volume 101, May 2018, Pages 208-215

6) A. Ashery, A. H. Zaki, M.Hussein MOURAD, A. M. Azab, and A. A. M. FARAG, Structural and frequency dependencies of a.c. and dielectric characterizations of epitaxial InSb-based heterojunctions Bulletin of Material Science , vol. Vol. 39, , issue No. 4 , pp. 1057-1063, 2016.

7) Gamal M. Nasr, Ashraf S. Abdel Haleem, Anke Klingner, Adel M. Alnozahy, M.Hussein Mourad . Effect of Laser on Carbon nano-tubes /Poly vinyl alcohol Composite used in Microwave Shielding Life Science Journal ,Volume 12 - Number 3, March 25, 2015. life1203

8) Gamal M. Nasr, Ashraf S. Abd El -Haleem, Anke Klingner, Adel M.Alnozahy, M.HusseinMourad "The DC Electrical Properties of Polyvinyl Alcohol/ Multi-Walled Carbon Nanotube Composites. "Journal of Multidisciplinary Engineering Science and Technology (JMEST) ISSN: 3159-0040 Vol. 2 Issue 5, May – 2015.

9) Chuah, L. S., Z. Hassan, C. W. Chin, M.H. Mourad,F. K. Yam, and S. S. Ng**,** "Strong Room Temperature 505 nm Emission from Hexagonal Crack Free InGaN Thin Film on Si(111) Grown by MBE" Composite Interfaces, vol. 18, pp. 37–47, 2011.

10) Chuah, L. S., Z. Hassan, A. B. U. H. HASSAN, and H. M. Mourad , ."p-GaN/n-Si HETEROJUNCTION PHOTODIODES".Surface Review and Letters,, vol. Vol. 15, issue No. 5, pp. 699–703, 2008.

11) Mourad, M. H., K. Totsu, S. Kumagai, S. Samukawa, and M. Esashi "Electron Emission from Indium Tin Oxide/Silicon Monoxide/Gold Structure"Japanese Journal Of Applied Physics, vol. 44, issue 3, pp. 1414-1418, 2005.

12) Magdy Hussein Mourad; Jean-Pierre Vilcot; Didier J. Decoster; Dominique D. Marcenac, "Design and simulation of a two-sectional Fabry-Perot sampled grating distributed Bragg reflector laser for dense wavelength division multiplexing applications",Optical Engineering Journal , Vol.41 (2): 479-483 FEB 2002.

13) M.Hussein Mourad, Vilcot JP, Decoster D, Marcenac, "Design and simulation of a dual mode semiconductor laser using sampled grating DFB Structure" IEE Optoelectronics. Vol.147 (01) : 2000, pp.37-42

Conferences Papers :

1) Keynote invited speaker Icopia 2024 Singapore 21 August
Magdy Hussein Mourad Mohammad, "Self Pulsation and Bistability origin and operating regimes in Semiconductor Lasers" The 12th International Conference on Physics and Its Applications ICOPIA Indonesia 21 August 2024.
2) Invited speaker NEM 2024 Turkiye İğneada / Kırklareli
Magdy Hussein Mourad Mohammad,, Idris Kabalcı.
LIQUID PHASE EPITAXY: THE BEST AND CHEAPEST GROWTH TOOL FOR III-V SEMICONDUCTOR DEVICES THEORETICAL AND EXPERIMENTAL STUDY OF GROWTH KINETICS AND EQUIPMENT MANUFACTURE .
4th International Natural Science, Engineering and Material Technologies Conference Sep 12-14, 2024 - İğneada / Kırklareli
3) Invited speaker Magdy Hussein Mourad Mohammad , Idris Kabalci "Ultrafast operating regimes of semiconductor lasers Bistability and Self-Pulsation . 2nd International Karateknik Science and Technology Conference IKTSC-(21-22) December 2023 Cankiri Turkiye .
4) Workshop Magdy Hussein Mourad Mohammad "Growth and Fabrication of micro and optoelectronic devices workshop" . 2nd International Karateknik Science and Technology Conference IKTSC-(21-22) December 2023 Cankiri Turkiye.
5) M.Hussein Mourad. "The influence of internal quantum loss on the dual modality of III-V Sampled Grating Distributed feedback Laser. " National Institute of Laser Enhanced Sciences (N.I.L.E.S), Engineering Department, Cairo University, Guiza, Egypt, The 9 th International Conference on Laser Applications,Cairo, Egypt - ICLA 9 13-15 November 2016.
6) M.Hussein Mourad . "The stability of Bandwidth Between Nulls (BWBN)beyond a threshold cavity length for Sampled grating distributed Brag Reflector Laser SG-DBR laser" , 1 st international Joint symposium on Product Development and Innovation and Industrial System and Operational Management Pdi-Isom , Ain Shams University School of Engineering 3-5 May 2016.
7) Abidin, M. S. Z., A. M. Hashim, A. A. Aziz, M. R. Hashim, and M. H. M. Mohamed "Gateless-FET Undoped AlGaN/GaN HEMT Structure for Liquid-Phase Sensor" , IEEE, ICSE2010 Proc. 2010, Melaka, Malaysia, vol. ICSE2010, pp. 309-312, 2010
8) Zon Fazlila Mohd Ahir, Abdul Manaf Hashim and Magdy Hussein Mourad Mohammad "Plasma Interactions In a Capacitively Coupled n-AlGaAs/GaAsInterdigitalGated HEMT Device" International Advanced Technology Congress 2009, 3-5 November 2009, Kuala Lumpur, MALAYSIA
http://mjiit.utm.my/research-adme/2009-3/
9) S.C.TEOW, C.W.Shin, Z.Hassan, S.S.Ng, L.S.Shuah, M.HusseinMourad, F.K.Yam, K.Ibrahim "FTIR Spectroscopy And high Resolution X-Ray Diffraction Investigation Of Thin Films Of AlN On Si Substrates By MBE. "ICFMD conference 2008 International Conference on Functional Materials and Devices 2008 (ICFMD-2008).
10) L.S. Chuah*, Z. Hassan, H. Abu Hassan, M. Hussein Mourad, K. Ibrahim. "Series Resistance in Thin Film n-GaN/AlN/n-Si(111) Heterostructure".ISESCO International workshop and conference on NanoTechnology (IWCN 2007) ,12- 15 June 2007 Kuala Lumpur IEEE.
11) F.K.Yam, Z.Hassan, L.S.Chuah, N.Zainal, C.W.chin, S.M.Tahab,M.HusseinMourad. "The growth of III-V nitrides heterostructures on silicon substrate by plasma assisted Molecular Beam epitaxy (MBE). "ICSE(International conference on Semiconductor Electronics IEEE .(29nov-1Dec)2006

12) M.Hussein MOURAD, S.SAMUKAWA. "New Step Tunable Dual Mode Laser"THZ ELECTRONICS 2003 (Sep 24-26), Sendai, JAPAN.
13) M.Hussein MOURAD, S.KUMAGAI, S.SAMUKAWA . "More than 400 times electron emission enhancement at low vacuum and very low accelerating voltage by selecting suitable cathode material . " IVMC (International vacuum Microelectronics Conference) 2003 (July 7-11) Sendai, JAPAN.
14) M.Hussein MOURAD, S.KUMAGAI, S.SAMUKAWA. "Electron emission enhancement by grating the upper metallic gold layer of Al/SiO/Au device. " Japanese Society of Applied Physics conferences (JSAP): 64 th conference of JSAP : Spring 2003
15) M.Hussein MOURAD, S.KUMAGAI, S.SAMUKAWA "Electron emission from AL-Si-SiO-Au devices " (26a-Q-4), p.667. 63rd conference of JSAP (Japanese society of Applied Physics): Fall 2002.
16) **Best Poster Award** M.Hussein MOURAD, J.P.VILCOT, D.DECOSTER , &D.MARCENAC. "New 2 sections FP-SGDBR semiconductor laser for DWDM applications 10th international conference on laser Optics (Saint Petersburg) Russia, June 2000".10th international conference on laser Optics (Saint Petersburg) Russia, June 2000
17) M.Hussein MOURAD, J.P.VILCOT, D.DECOSTER , &D.MARCENAC. "Anomalous Behavior of coupling coefficient effect and spatial carrier density variation inside sampled grating DFB lasers" PHOTONICS WEST 2000 California San Jose (22-28 January 2000)
18) **Best Poster Award** M. Hussein. Mourad, J-P. Vilcot, D. Decoster, Institut d'Electronique et de Micro Electronique du Nord/UMR/CNRS (France); D. Marcenac, British Telecom Labs. (UK). "An Optimal dual mode design having its mode spacing independent on the cavity length variation or cleaving tolerances" EDMO '99: High Performance Electron Devices for Microwaves and Optoelectronic Applications Nov. 24-25, 1999 (King's College London).
19) M.Hussein MOURAD, J.P.VILCOT, D.DECOSTER , &D.MARCENAC. "A new application of sampled grating semiconductor laser for dual mode generation". Semiconductor Laser Workshop Dynamics, at WIAS ,Weierstass Institute for Applied analysis and Stochastics (BERLIN), 9-11 September 1999.
20) M.Hussein MOURAD, J.P.VILCOT, D.DECOSTER , &D.MARCENAC "Dual mode semiconductor Laser design and Optimisation for microwave signal generation-60 GHz" 1999 European Semiconductor Laser Workshop 23-24 September at theEcole Nationale Supérieure de télécommunications TELECOM PARIS.
21) M.Hussein MOURAD,*D.MARCENAC J.P.VILCOT, D.DECOSTER . "A new dual mode semiconductor laser design for Radio over Fibre applications"April the 7th 1999 SIOE conference, Semiconductor Integrated Opto-Electronics at Cardiff University ,United Kingdom(the Wales) .

F. Teaching:	**Courses**	**University**	**Year**
BS	Electronics II(Adv. Electronics)	Karabuk University, Faculty of Electronics Engineering Türkiye	2022-2023
BS	Differential equations	Karabuk University, Faculty of Electronics Engineering Türkiye	2022-2023
BS	Photovoltaic Solar Cell devices and materials	Karabuk University, Faculty of Electronics Engineering Türkiye	2022-2023
MS	Laser Physics I for Engineers	Cairo University National ınstitute of Laser Egypt	2021-2022
MS	Laser Physics II for Engineers	Cairo University National ınstitute of Laser Egypt	2021-2022
MS	Laser spectroscopy (Vibrational and electronic Spectroscopy)	Cairo University National ınstitute of Laser Egypt	2021-2022
MS	Laser Applications in Electrical and Electronic Engineering	Cairo University National ınstitute of Laser Egypt	2020-2021
MS	Optoelectronics	Cairo University National ınstitute of Laser Egypt	2020-2021
MS	Laser Laboratory	Cairo University National ınstitute of Laser Egypt	2020-2021
MS	Applied Projects	Cairo University National ınstitute of Laser Egypt	2019-2020
BS	Semiconductor Microelectronic Devices	Cairo University Faculty of Electronics and Communications Engineering Fayoum branch Egypt	2020-2021
BS	Active & Passive Filters circuits	Cairo University Faculty of Electronics and Communications Engineering Fayoum branch Egypt	2017-2018
BS	Wave Propagation & Antenna theory	Cairo University Faculty of Electronics and Communications	2017-2018

Engineering Fayoum branch Egypt

E. Coordinated PhD and MS Thesis:

Programme	Name-Surname	Title	Date
1. **Ph.D**	Abd ELRAOUF Agam	Thesis Fabrication of a Glass Microwave Magnetron Tube	2014 Thesis Interrupted by student .
		Thesis	
1) MS	Rasha El Nobi	Fabrication and Study of Solar Cell Enhancement Efficiency By Deposition Of Nano silver Layers.	Feb 2017
2) MS	Khaled Al Dorobi	X ray generation using Electron emitter needle under the application of 30 KV high voltage.	2010
3) MS	Mohammad Bukhari	Photodetector fabrication and characterization using electron beam lithography.	2009
4) MS	Mohammad Saad	N-Gan Mesfet fabrication and characterization using electron beam lithography.	2008
5) MS	Moayiad Youssof	Fabrication & Measurement of optical planar waveguide based on glass substrate using ion exchange method for biomedical sensor application	2007
6) MS	Farahiyah Moustafa	Fabrication and Characterrization of Planar Dipole Antenna Schottky Diode for on chip electronic device integration	2007-2009
7) MS	Mazuina Mohammad	Design Fabrication and Characterization of Gallium Nitride Based circular Schottky Diode for Hydrogen sensing	2007-2009
8) MS	Norfarariyanti Parimon	Design Fabrication and Characterization of Gallium Arsenide Based circular Schottky Diode for on chip power detector and rectenna application	2007-2009
9) MS	Zon Fazlila Mohammad Ahir	Design Fabrication and Characterization of Capacitively coupled Gallium arsenide based interdigital gated plasma devices	2007-2009

10) BS	Arwin	Fabrication & Measurement of a MEMS pressure sensor based on silicon technology	2008
11) BS	6 Final year project Students	Fabrication of GaN based Mesfet with photolithography on GaN and on GaAs.	2007
12) MS	2 Final Year Projects Master students Mr.Anwar and Mr.Nazir	Fabrication and measurements of work function measuring tool using :: - 1)Photoelectric effect . -2)Kelvin Probe method.	2006