



## CURRICULUM VITAE

### A. Personal Particulars

<i>Family Name</i>	<i>Thahab</i>
<i>Given Name</i>	<i>S. M.</i>
<i>Date of Birth</i>	<i>15-7-1973</i>
<i>Place of Birth</i>	<i>Thi-Qair/ IRAQ</i>
<i>Nationality</i>	<i>IRAQ</i>
<i>Passport No.</i>	<i>G1857325</i>
<i>Sex</i>	<i>Male</i>
<i>Marital Status</i>	<i>Married</i>
<i>Religion</i>	<i>Muslim</i>
<i>Current Address</i>	<i>Electronics and communications Department            College of Engineering            University of Kufa            Najaf            IRAQ            E-MAIL : <a href="mailto:sabah.alabboodi@uokufa.edu.iq">sabah.alabboodi@uokufa.edu.iq</a>            Alternative EMAIL : <a href="mailto:dr.sabahmt@gmail.com">dr.sabahmt@gmail.com</a>            H/P:009647703996492</i>

### **B. Qualifications:**

#### **Academic and Professional Qualifications**

<b>Academic and Professional Qualifications</b>			
<b>INSTITUTIONS</b>	<b>YEARS ATTENDED</b>	<b>FIELD OF STUDY</b>	<b>CERTIFICATE OBTAINED</b>
Althaura Secondary School/ Baghdad/ IRAQ	1988-1991	Scientific Section	Baccalaureate
University of Mustansiriyah/ Baghdad/ IRAQ	1991-1995	General Physics	B.Sc.
University of Mustansiriyah Baghdad/ IRAQ	1998-2001	Physics /Laser	M.Sc.
Universiti Sains Malaysia/ Penang /MALAYSIA	2005 –2009	Semiconductor Physics/ Laser diode	Ph.D
Universiti Sains Malaysia/ Penang /MALAYSIA	2009-2010	Post-Doc. Fellow	PDF

<b>LANGUAGES</b>	
ARABIC	Mother Tongue
ENGLISH	Passing the Proficiency Examination Required for Higher Studies in Iraq (GOOD) IN 1995
MALAY(MALAYSIA)	Passing the Proficiency Examination Required for Higher Studies in Malaysia(GOOD) IN 2005

### **C. Working Experience and Current Main Research Field**

<b>WORK EXPERIENCE</b>		
<b>EMPLOYER</b>	<b>PERIOD (FROM-TO)</b>	<b>WORK DETAILS</b>
Mustansiriyah University /IRAQ	1997-2000	Manger of Laser Lab
Alnahrian (Saddam) University /IRAQ	2000-2001	Giving Lectures in the Laser Lab
Higher Polytechnic Institute in Alkhoms/LIBYA	2001-2003	Giving Lectures in General Physics Like: Laser, Solid State,Mathematics, Electricity, and Computer Languages
Universiti Sains Malaysia / MALAYSIA	2005- 2010	Designer of optoelectronics devices (lasers and LED) and transistors in NOR Lab. One of MBE Crystal Growth team
University of Kufa /College of Engineering /Materials Engineering Department /IRAQ	2010 present	Lecturer (Nanotechnology field ) Semiconductors and its applications

### **(ii) Topics of your Master and Ph.D Thesis**

Ph.D thesis title ( Design and Performance of Laser Structures Based on Group III-Nitrides"

<b>Activates(2010)</b>		
First conference for physics /Kufa university /IRAQ	6-7/10/2010	Conference invitation committee
First conference on Science /University of Wasit/IRAQ	28-29/11/2010	Invited speaker(water pollution treatments using nanotechnology )
Nanotechnology and Advance Materials Research Center /University of Technology/IRAQ	23-25 /11/2010	Attended first training course on Atomic Force Microscope (AFM) instrument.
Nanotechnology and Advanced Materials Research Center /University of Technology /IRAQ	12/12/2010	Invited speaker(Nanotechnology : simple and advance techniques)
Materials Engineering Department /College of Engineering /University of KUFA/IRAQ	28-31/11/2010	Attended first training course on Atomic absorption spectrophotometer instrument.
College of mathematics and computers/University of KUFA/IRAQ	28/12/2010	Invited speaker(Nanotechnology : quantum computer )

## **D. Teaching & Supervision:**

### **I. Teaching**

Giving Lecturers in (Nanotechnology filed, nano composite ,nano materials , Nanoparticles , Nano fluid, Fabrication of nanomaterials like( sol-gel,CVD, PVD, Laser ablation.PLD,...ect ) semiconductor and its applications/)( Post. and under students) Materials engineering departments /Kufa university

### **II. Supervision (Locally)**

<b>Student name</b>	<b>academic degree</b>	<b>year</b>	<b>State us</b>	<b>Project title</b>
Salah M.salah	MSc.	2013	Completed	Study of CdZnS thin films prepared by SPR.....
Ali salman	MSc.	2013	Completed	Ag nano particles prepared by laser ablation in different media
Aenas	MSc.	2014	Completed	
Asmaa ali	Ph.D	2014	Completed	Effect of TiO <sub>2</sub> andAg nanoparticles in nanofluide properties
Aabas deun	Ph.D	2015	Completed	Ag nanopartilces/polymer for LT die attach mechanical properties

### **Supervision (international )**

<b>Student name</b>	<b>academic degree</b>	<b>year</b>	<b>State us</b>	<b>Project title</b>
Gh. Alahyarizadeh (IRAN)	Ph.D ( Malaysia)	2010	completed	Simulation of violet InGaN Multiple Quantum Wells (MQWs) laser diode

## **E. Commendation and Academic Leadership:**

*Director of Nanotechnology and Advanced Materials Research Unit since (2012 –present) ( University of Kufa./IRAQ)*

## **F. HIGHLIGHTS OF QUALIFICATIONS**

- Highly inquisitive, creative and resourceful.
- Excellent skills in communication and collaboration
- Skilled in all phases of semiconductor technology.
- Good working knowledge of nanotechnology research.
- Excited by the challenge of research and experimentation.

## **G. MY OCCUPATION: PHYSICIST**

### **Description**

1. Studies the structure and physical properties of matter and the relationships and interactions of matter and energy in order to develop and improve materials, products, industrial and other processes.
2. It performs experiments to discover and develop industrial, medical, military and other practical applications of the laws and theories of physics.
3. It applies mathematical techniques to express and analysis observations and to formulate conclusions, and relate conclusions to known laws of physics, or propose new hypotheses to explain them.
4. Prepares or supervises the preparation of scientific papers and reports.
5. It may supervise and coordinate the work of technical officers.
6. It may specialize in one of a number of fields such as semiconductor growth methods such as (MBE), laser diode design and fabrications, detector, transistors.

## **H. Research and publications:**

### **I. Published papers 2006**

1. "Effects of metal work function and operating temperatures on the electrical properties of contacts to n-type GaN"  
2006 IEEE International Conference on Semiconductor Electronics Proceedings, 815-819 (2006)  
**S. M. Thahab**, H. Abu Hassan, Z. Hassan,
2. "Simulation of InGaN multiple quantum wells (MQWs) light emitting diodes"  
2006 IEEE International Conference on Semiconductor Electronics Proceedings, 1034-1037 (2006)  
**S. M. Thahab**, H. Abu Hassan, Z. Hassan,
3. "The growth of III-V nitrides heterostructure on Si substrate by plasma-assisted molecular beam epitaxy"  
2006 IEEE International Conference on Semiconductor Electronics Proceedings, 928-932 (2006)  
F. K. Yam, Z. Hassan, L. S. Chuah, N. Zainal, C. W. Chin, **S. M. Thahab**, M. Hussein,
4. "Optical performance of InGaN/AlGaIn double heterostructure light emitting diodes"  
IEEE Proceedings of the 6<sup>th</sup> International Conference on Numerical Simulation of Optoelectronic Devices, 13-14 (2006)  
**S. M. Thahab**, H. Abu Hassan, Z. Hassan,
5. "Optical Performance of InGaN/AlGaIn Double heterostructure Light Emitting Diodes "  
IEEE Proceedings of 6th International Conference on Numerical Simulation of Optoelectronic Devices, 13-14(2006), Singapore.  
**S. M. Thahab**, H. Abu Hassan, Z. Hassan

6. "Simulation of InGaN Multiple Quantum Wells (MQWs) Light Emitting Diodes (LEDs)"  
2006 IEEE International Conference on Semiconductor Electronics Proceedings, 1034-1037(2006), Kuala Lumpur /MALAYSIA.  
**S. M. Thahab**, H. Abu Hassan, Z. Hassan "
7. "Effects of Metal Work Function and Operating Temperatures on the Electrical Properties of Contacts to n-type GaN"  
Proceedings of the 2006 IEEE International on Semiconductor Electronics (ICSE2006), 815-819,(2006), Kuala Lumpur /MALAYSIA.  
**S. M. Thahab**, H. Abu Hassan, Z. Hassan
8. "The Growth of III-V Nitrides Heterostructure on Si Substrate by Plasma-Assisted Molecular Beam Epitaxy"  
2006 IEEE International on Semiconductor Electronics Proceeding (ICSE2006)1034-1037, Kuala Lumpur /MALAYSIA(2006).  
F.K. Yam, Z. Hassan, L. S. Chuah, N. Zainal, C.W. Chin, **S. M. Thahab**, M. Hussein "
9. "Simulation of GaN-based junction field effect transistor (JFET)",  
"European Workshop on III-Nitride Semiconductor Materials and Devices . September 17, Greece, (2006).  
**S. M. Thahab**, H. Abu Hassan, Z. Hassan
10. "Effects of Al<sub>0.15</sub>Ga<sub>0.85</sub>N Interlayer on the Electrical Properties of Contacts on n-type GaN"  
Proceedings of The Findings of The Young Researchers on Applied Science Conference (CAS 2006), 13Jun.2006, Kuala Lumpur /MALAYSIA  
. **S. M. Thahab**, H. Abu Hassan, Z. Hassan.

### **Published papers 2007**

11. "Performance and optical characteristic of InGaN MQWs laser diodes"  
Optics Express, 15 (5), 2380-2390 (2007)  
**S. M. Thahab**, H. Abu Hassan, Z. Hassan,
12. "Performance and Optical Characteristic of InGaN MQWs Laser Diodes"  
J.of Optics Express 15(5), pp.2380-2390 (2007).  
**S. M. Thahab**, H. Abu Hassan, Z. Hassan
13. "Influence of Thick n-AlGaIn Contact Layer on The Performance of InGaIn Laser With Diode Modulation –Doped Strain-Layer Superlattices"  
J.Solid State Science and Technology Letters,14(2)(Suppl.),72(2007).  
**S. M. Thahab**, H. Abu Hassan, Z. Hassan ""
14. "The Performance of InGaIn Laser Diodes Consists of a Separate Confinement Heterostructure with a Multiple Quantum Well Active Region"  
J.Solid State Science and Technology Letters,14(2)(Suppl.),71(2007).pp. 130-138  
**S. M. Thahab**, H. Abu Hassan, Z. Hassan, ""
15. "Al<sub>0.15</sub>Ga<sub>0.85</sub>N/GaN Heterostructure Field Effect Transistors (HFET) Device Structure Optimization and Thermal Effects"  
Malaysia-Japan International Symposium on Advanced Technology 2007 ( MJISAT 2007 ), 12th -15th November, Kuala Lumpur /MALAYSIA,(2007).  
**S. M. Thahab**, H. Abu Hassan, Z. Hassan
16. "InGaIn Double Heterostructure (DH) Laser Diode Performance and Optimization"

Malaysia-Japan International Symposium on Advanced Technology 2007 ( MJISAT 2007 ), 12th -15th November, Kuala Lumpur /MALAYSIA,(2007).

**S. M. Thahab**, H. Abu Hassan, Z. Hassan

17. "High quality Al<sub>0.09</sub>Ga<sub>0.91</sub>N on Si(111) by RF-MBE and its application to MSM photodiode"  
Proceeding of the ICMAT 2007 : Materials for Advanced Sensor and Detectors, 1-8(2007)-on CD.  
L.S.Chuah, Z.Hassan, H.Abu Hassan, F.K.Yam, **S.M.Thahab**, C.W.Chin, N.M.Ahmed

18. "Ridge Geometry InGaN Multi Quantum Well Structure Laser Diode ""  
PERFIK 2007 National Conference 2007 , 26-28 Dec.2007 , Kuala Terengganu, Malaysia, (2007).  
**S. M. Thahab**, H. Abu Hassan, Z. Hassan

### **Published papers 2008**

19. "Large Area GaN Metal Semiconductor Metal (MSM) Photodiode Using a Thin Low Temperature GaN cap Layer "  
Journal of Nonlinear Optical Physics and Materials, Volume 17, Issue 01, pp. 59-69 (2008).  
; Hassan, Z.; Abu Hassan, H.; Chin, C. W.; **Thahab, S. M.** Chuah, L. S.

20. "Quantum Well Number Effect and Characterization of InGaN/GaN Laser Diode"  
The OSA Topical conference on Nanophotonics, Nanjing, CHINA , May 26-29 (2008).  
**S. M. Thahab**, H. Abu Hassan, Z. Hassan "".

21. "Improvement of Carrier Confinement Using AlGaIn/GaN Multiquantum Barrier Layers in InGaIn Laser Diode"  
The OSA Topical conference on Nanophotonics, Nanjing, CHINA , May 26-29 (2008).  
**S. M. Thahab**, H. Abu Hassan, Z. Hassan

22. "The Effects of Strained Single Qunatum Well on The Performance of InGaIn Laser Diodes"  
2nd international conference on functional material and devices 2008 (ICFMD2008), KL/ MALAYSIA( JUN. 2008)  
**S. M. Thahab**, H. Abu Hassan, Z. Hassan

23. "Influences of AlGaIn/GaN Strained Layer Superlattices on The Performance of InGaIn DQWs Laser Diodes "  
2nd international conference on functional material and devices 2008 (ICFMD2008), KL/ MALAYSIA( JUN. 2008).  
**S. M. Thahab**, H. Abu Hassan, Z. Hassan

24. "BARRIER HEIGHT ENHANCED GaN SCHOTTKY DIODES USING A THIN AlN SURFACE LAYER"  
International Journal of Modern Physics B Vol. 22, No. 29 (2008) 5167{5173  
L. S. CHUAH, Z. HASSAN, H. ABU HASSAN, F. K. YAM, C. W. CHIN and **S. M. THAHAB**

25. "Effect of Varying Quantum Well Thickness onthe Performance of InGaIn /GaIn Single Quantum Well"  
Laser Diode AIP conference Proceeding, 1017,149-153(2008).  
**S. M. Thahab**, H. Abu Hassan, Z. Hassan""

### **Published papers 2009**

26. "Performance of InGaIn/GaN laser diode based on quaternary alloys stopper and superlattice layers"  
World Academy of Science, Engineering and Technology, 55, 11-15 (2009)  
**S. M. Thahab**, H. Abu Hassan, Z. Hassan,

27. "InGaN/GaN laser diode characterization and quantum well number effect"  
CHINESE OPTICS LETTERS / Vol. 7, No. 3 / March 10, 2009 pp.226-230  
**S. M. Thahab**, H. Abu Hassan, Z. Hassan"

28. "InAlGaIn quaternary multi-quantum wells UV laser diode performance and characterization"  
World Academy of Science, Engineering and Technology, 55, 352-355 (2009)  
**S. M. Thahab**, H. Abu Hassan, Z. Hassan

29. "High Al-content Al<sub>x</sub>Ga<sub>1-x</sub>N epilayers grown on Si substrate by plasma-assisted molecular beam epitaxy "  
Journal of Alloys and Compounds, Volume 487, Issues 1-2, 13 November 2009, Pages 24-27  
A.S.H. Hussein, **S.M. Thahab**, Z. Hassan, C.W. Chin, H. Abu Hassan, S.S. Ng

### **Published papers 2010**

30. "The electrical properties of ZnO MSM Photodetector with Pt Contact Electrodes on PPC Plastic"  
Journal of Electron Devices, Vol. 7, 2010, pp. 225-229  
Nidhal. N. Jandowa, Kamarul Azizi Ibrahim , Haslan Abu Hassan **Sabah M. Thahab** Osama S Hamad

31. "ELECTRICAL PROPERTIES OF AlGaIn/GaN HETEROSTRUCTURE FIELD-EFFECT TRANSISTORS (HFETs) WITH AND WITHOUT Mg-DOPED CARRIER CONFINEMENT LAYER"  
*International Journal of Nanoscience* Vol. 9, No. 4 (2010) 263–267  
**S. M. THAHAB** ,A. Sh. HUSSEIN Z. HASSAN and H. ABU HASSAN

32. "PA-MBE growth and characterization of high Si-doped AlGaIn on Si(111) substrate"  
*Optoelectronics and Advanced Materials – Rapid Communications*, 4 (1), 59-62 (2010)  
**A. Sh. Hussein, Z. Hassan, S. S. Ng, S. M. Thahab, C. W. Chin, H. Abu Hassan**

33. "The influence of geometrical structure of AlInGaIn double quantum well (DQWs) UV diode laser on its performance and operating parameters"  
*AIP Conference Proceedings*, 1250, 117-120 (2010)  
**A. J. Ghazai, S. M. Thahab, H. Abu Hassan, Z. Hassan**

34. "Characterization of AlGaIn/GaN heterostructure field effect transistors (HFETs) with variable thickness channel and substrate type"  
*AIP Conference Proceedings* 1250, 81-84 (2010)  
A. Sh. Hussein, Z. Hassan, H. Abu Hassan, **S. M. Thahab**

35. "Characteristics of ZnO MSM UV photodetector with Ni contact electrodes on poly propylene carbonate (PPC) plastic substrate "  
*Current Applied Physics*, Volume 10, Issue 6, November 2010, Pages 1452-1455  
N.N. Jandow, F.K. Yam, **S.M. Thahab**, H. Abu Hassan, K. Ibrahim

36. "The characteristics of ZnO deposited on PPC plastic substrate"  
*Materials Letters*, Volume 64, Issue 21, 15 November 2010, Pages 2366-2368  
N.N. Jandow, F.K. Yam, **S.M. Thahab**, K. Ibrahim, H. Abu Hassan

### **Published papers 2011**

37. "Growth and Characterization of High-quality GaN Nanowires on PZnO and PGaN by Thermal  
*Journal of Nanomaterials* (2011) , In Press, Corrected Proof Evaporation "

L. Shekari, H. Abu Hassan, **S. M. Thahab**, Z. Hassan

38. "Quaternary ultraviolet AlInGaN MQW laser diode performance using quaternary AlInGaN electron blocking layer" *OPTICS EXPRESS* / Vol. 19, No. 10 9 May 2011 pp. 9246-9254

A. J. Ghazai, **S. M. Thahab**, H. Abu Hassan, and Z. Hassan

39. "A study of the operating parameters and barrier thickness of Al<sub>0.08</sub>In<sub>0.08</sub>Ga<sub>0.84</sub>N/Al<sub>x</sub>In<sub>y</sub>Ga<sub>1-x-y</sub>N double quantum well laser diodes "

SCIENCE CHINA Technological Sciences, Vol.54 No.1: p. 1–5 January 2011

A. J. GHAZAI, **S. M. THAHAB**, H. ABU HASSAN & Z. HASSAN

40. "Effect of Al mole fraction on structural and electrical properties of Al<sub>x</sub>Ga<sub>1-x</sub>N/GaN heterostructures grown by plasma-assisted molecular beam epitaxy"

Applied Surface Science, Volume 257, Issue 9, 15 February 2011, Pages 4159-4164

A. SH. Hussein, Z. Hassan, **S.M. Thahab**, S.S. Ng, H. Abu Hassan, C.W. Chin

41. "Structural, optical and electrical properties of undoped and Si-doped Al<sub>x</sub>Ga<sub>1-x</sub>N thin films on Si (1 1 1) substrate grown by PA-MBE"

*Physica B: Condensed Matter*, Volume 406, Issues 6-7, 15 March 2011, Pages 1267-1271

**A.SH. Hussein, Z. Hassan, S.M. Thahab, Abu Hassan, M.A. Abid, C.W. Chin**

42. "The effects of quantum wells number and the built-in polarization on the performance of quaternary AlInGaN UV laser diode "

*Optik - International Journal for Light and Electron Optics*, In Press, Corrected Proof, Available online 27 August 2011

**A.J. Ghazai, S.M. Thahab, H. Abu Hassan, Z. Hassan**

43. PREPARATION AND STRUCTURAL CHARACTERIZATIONS OF ZnO NANOCOLUMNS GROWN ON POROUS SILICON/SILICON (PS/ Si (111)) BY THERMAL EVAPORATION

Optoelectronics and Advanced Materials – RAPID COMMUNICATIONS

Vol. 5, No. 10, October 2011,

p. 1107 – 1110

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**S.M. Thahab**

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### **Published papers 2012**

44- S. M. thahab, *et al.* "Comparative Study Of The Performance Characteristics Of Green In Gan Sqw Laser Diodes With Ternary Algan And Quaternary Alin Gan Electron Blocking Layer."; Digest Journal of Nanomaterials and Biostructures vol.7, no.4, 2012.

45- S. M. thahab ,*et al.*; "Study On Influence Of Cavity Length On The Electrical Properties Of Deep Violet In Gandouble Quantum Well Lasers."; International Conference on Electrical,Electronics and Biomedical Engineering(ICEEBE),2012.

46- S. M. thahab ,*et al.*; "Performance Enhancement Of Deep Violet Indium Gallium Nitride Double Quantum Well Lasers Using Delta Barrier Close To Electron Blocking Layer."; Journal of Nanophotonics (SPIE),2012.

47- S. M. thahab ,*et al.* ; "Growth And Analysis Of Gan Nanowire On Pzno By Different-Gas Flow." ; Applied surface science,2012.



48- S. M. thahab, *et al*; "characterization parameters of (InGaN/InGaN) quantum well laser diode 53"; (ISBN (intech)978-953-51-0549-7) , Book : (Semiconductor laser diode technology and applications).

49- S. M. thahab ,*et al*. "Effects of cavity length on optical characteristics of deep violet InGaN DQW lasers " *Advanced Materials Research Vol. 626 (2013) pp 605-609*

© (2013) Trans Tech Publications, Switzerland doi:10.4028/www.scientific.net/AMR.626.605

50- S. M. thahab , *et al*. "Characterization of GaN nanowires grown on p-Si, p-ZnO and p-GaN on Si(111) substrates by thermal evaporation" AIP Conf. Proc. 1454, 256 (2012); doi: 10.1063/1.4730734

51- S. M. thahab , *et al*. "Fabrication of GaN nanowires on porous GaN substrate by thermal evaporation" *Materials Science in Semiconductor Processing* 1369-8001/\$ -see frontmatter & 2012 Elsevier Ltd. All rights reserved. <http://dx.doi.org/10.1016/j.mssp.2012.06.008>

52- S. M. thahab , *et al*. "The effects of quantum wells number and the built-in polarization on the performance of quaternary AlInGaN UV laser diode" *Optik* 123 (2012) 856– 859

### **Published papers 2014**

53- **S.M. Thahab** , Adel H. Omran Alkhatat , Salah M. Saleh "The optical properties of Cd<sub>x</sub>Zn<sub>1-x</sub>S thin films on glass substrate prepared by spray pyrolysis method" *Optik - International Journal for Light and Electron Optics* , Volume 125, Issue 18, September 2014, Pages 5112–5115.

54 **S.M. Thahab** 'Adel H. Omran Alkhatat' , Salah M. Saleh " Influence of substrate type on the structural, optical and electrical properties of Cd<sub>x</sub>Zn<sub>1-x</sub>S MSM thin films prepared by Spray Pyrolysis method" *J. Materials Science in Semiconductor Processing* Volume 26, October 2014, Pages 49–54

55. Gh. Alahyarizadeh Z. Hassan, **S.M. Thahab**, F.K. Yam<sup>a</sup> " Improvement of performance characteristics of deep violet InGaN DQW lasers using a strip DQW active region" *Optik - International Journal for Light and Electron Optics* , Volume 125, Issue 17, September 2014, Pages 4911–4915

<http://ars.els-cdn.com/content/image/1-s2.0-S0030402614X00136-cov150h.gif> class="toprightlogo" /%3e

56. Gh. Alahyarizadeh<sup>a</sup> , Z. Hassan<sup>a</sup>, **S.M. Thahab**<sup>b</sup>, F.K. Yam<sup>a</sup>, A.J. Ghazai<sup>a</sup> "Performance characteristics of deep violet InGaN DQW laser diodes with InGaN/GaN superlattice waveguide layers " ***Optik - International Journal for Light and Electron Optics*** **Volume 125, Issue 1**, January 2014, Pages 341–344.

### **Published papers 2016**

57. S.M. Thahab , Adel H. Omran Alkhatat , Inass Abdulah Zgair , "Influences of post-annealing temperature on the structural and electrical properties of mixed oxides (CuFeO<sub>2</sub> and CuFe<sub>2</sub>O<sub>4</sub>) thin films prepared by spray pyrolysis technique" " *J. Materials Science in Semiconductor Processing* , Volume 41, January 2016, Pages 436–440.

58. Adel H. Omran Alkhayatt , Sabah M. Thahab , ,Inass Abdulah Zgair, "Structure, surface morphology and optical properties of post-annealed delafossite CuFeO<sub>2</sub> thin films" Optik - International Journal for Light and Electron Optics. Volume 127, Issue 8, April 2016, Pages 3745–3749

## **II. Published Books**

**1. "Simulation of InGaN Blue Laser Diode"(2011)**

ISBN:978-3-8443-0101-4

LAMBERT Academic Publishing

Author: SABAH THAHAB

**2. Chapter in Book ( Laser diode)**

Chapter title (**Characterization Parameters of (InGaN/InGaN) and (InGaN/GaN) Quantum Well Laser Diode**)2011 ISBN 979-953-307-326-1.

INTECH (OPEN SCIENCE ) INPRESS

Author : Sabah M. Thahab