Curriculum Vita

10-2018

Lee Chow, Professor
Department of Physics
University of Central Florida
Orlando, Florida – 32816-2385
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Primary email: Lee.Chow@ucf.edu
Secondary email: chowucf@gmail.com

Education

1968 - 1972	B.S., Physics, National Central University, Taiwan, ROC.
1975 - 1981	Ph.D., Physics, Clark University, Worcester, MA, USA Doctoral Dissertation:" Experimental Studies of Cross-Over in the dynamic Critical Exponent z in Fe and Ni, using Perturbed Angular Correlation." Thesis Advisor: Prof. Chris Hohenemser.

Positions Since Ph.D.

1980 - 1982	Research Associate, Physics, University of North Carolina, Chapel Hill, NC
1982 – 1983	Visiting Assistant Professor, Physics, UNC, Chapel Hill, NC
1983 - 1988	Assistant Professor, Physics, University of Central Florida, Orlando.
1988 - 1998	Associate Professor, Physics, University of Central Florida, Orlando.
1998 - present	Professor, Physics, University of Central Florida, Orlando, Florida.
2000 - 2009	Associate Chair, Physics Department, University of Central Florida.
2008 – 2012	Joint appointment in Mechanical, Materials & Aerospace Engineering, UCF.
2012 – present	Joint appointment in Material Science & Engineering, UCF.

Teaching Related Awards and Achievements

- **NSF Undergraduate Laboratory Improvement Award**, 1991-1993.
- **University of Central Florida**, **Teaching Incentive Award**, **1994-1995, 2005-2006**.
- **Distinguish Service Award from Lake Highland Preparatory School for mentoring Chris Yen's Science Project, 2003.**

Thesis Supervised

Undergraduate Honor Thesis

David Fisher, Honor Program - B.S. in Physics, July 1986.
Thesis Title: "Spectral Weight function in Neutron Scattering".
Iain Penny, Honor Program - B.S. in Physics, July 1989.
Thesis Title: "Optical Fibinacci layers".

Master of Science Thesis supervised

Xin Zhao, M.S. in Physics, July 1991.

Thesis Title: "Pressure and Temperature dependence of the Cd hyperfine fields in Nickel".
Alan Horner, M.S. in Physics, July 1992.
Thesis Title: "Chemical Vapor deposition of Diamond thin films on a silicon substrate in a microwave plasma".
Michael Steffancin, M.S. in Physics, Dec. 1992.
Thesis Title: "Mossbauer studies of iron-nickel alloys".
Asoka Peiris, M.S. in Physics, Dec. 1994.
Thesis Title: "Pressure and Temperature dependence of Hyperfine fields in Iron-Nickel alloys".
Thomas Kimble, M.S. in MMAE Aug. 2000.
Thesis Title: "Evaluation of Impurity and Defect in Novel Scintillators: LSO and YLSO"
Perry Heard, M.S. in Physics. May, 2000
Thesis Title: "Diffusion-limited-aggregation in a multi-component system"
Clay Inman, MS in Physics, Aug. 2000.
Thesis Title: "Mossbauer Student of $LaMnO_3$ Compounds"
Peng Zhang, M.S. in Physics, Dec. 2001.
Thesis Title: "Diffusion Profiles of Chromium and Vanadium ions implanted into (100) single-crystalline Silicon".

Ph.D. Dissertation supervised.

Isaiah O. Oladeji, Ph.D. in Physics, May, 1999.
Thesis title: "Chemical Bath Deposition of II-VI compounds and their applications"

Stephen Kleckley, Ph.D. in Physics, Aug. 1999.
Thesis Title: "Synthesis of Novel Carbon Materials and their applications"

Chai Guangyu, Ph.D. in Physics, December 2004.
Thesis title: "Electron Field Emission Properties of Single Carbon Nanotube"

Fatma Salman, Ph.D. in Physics, Aug. 2007.
Thesis title: "Experimental Study of Profiles of implanted Species in Semiconductor Materials Using Secondary Mass Spectrometry".

Hani Khallaf, Ph.D. in Physics, Dec. 2009.
Dissertation Title: "Chemical bath deposition of II-VI semiconductor thin films for Photovoltaic applications"

Yauheni Rudzevich, Ph.D. in Physics, Aug. 2014.
Dissertation Title: Research topics: "Translocation of nanoparticles and ion transistors using nanopipettes"

Yuqing Lin, Ph.D. in Physics, Aug. 2015.
Research topics: "Resistive pulse studies of Vesicles and Liposomes"

Research Recognition

Inaugural member of UCF Scroll and Quill Society. March 2016.
(Recognition Program for Outstanding Achievement in Research and Creative Activities at UCF)
Inaugural member of UCF Chapter of National Academy of Inventors. Nov. 8, 2016.
(To advance the culture of Innovation at UCF)

US PATENTS ISSUED

1. "Method for growing a diamond thin film on a substrate" Inventor: Lee Chow. US Patent No. **5,240,749** (1993).
2. "Hot-filament CVD growth of fullerenes" US Patent No. **5,510,098** (1996)
3. "Carbon Nanotube with an outer graphitic layer: Process and Applications". US Patent No. **6,582,673** (2003).
4. "Electrochemical deposition of carbon nanoparticles from organic solution". US patent No. **6,758,957 B1**, (July 2004).
5. "Fabrication of nano-scale temperature sensors and heaters", US Patent No. **6,905,736 B1**, (June 2005).
6. "Fabrication of nano-scale temperature sensors and heaters, part II", US Patent No. **7,009,487 B1**, (March 7, 2006).
7. "Carbon nanotube with an outer graphitic layer: Process and Applications, Part II", US Patent No. **7,011,884 B1**, (March 14, 2006).
8. "Electrochemical Deposition of Carbon Nanoparticles from organic Solutions, Part II". D. Zhou, L. Chow, and E. Anoshkina. Filed Oct. 31, 2003. Allowed 7-15-2008. Issued **Sept. 9, 2008**. **US Patent # 7,422,667.**
9. "Carbon nanotube collimator", Filed on March 9th, 2007. Inventors: L. Chow, G. Chai, and T. Schenkel. **US Patent# 7,750,297**. Issued 7-06-2010.
10. "Method to attach carbon nanotube probe to scanning probe microscopy tips". Inventors: L. Chow and G.Y. Chai. **US Patent # 7,847,207**. Issued on Dec. 7, 2010.
11. "A multiwall carbon nanotube field emitter fabricated by FIB", Inventors: L. Chow and G.Y Chai. **US Patent #7,879,308.** Issued on Feb. 1st, 2011.
12. "Fabrication of ZnO Nanorod-based Hydrogen Gas Sensor", Inventors: L. Chow, O. Lupan, and G. Chai. **US # 8,263,002**. Issued Sept. 11, 2012.

PUBLICATIONS IN REFEREED JOURNALS (Last 5 years)

Web of Science: Citations, **5053**, h-index: **39**.
Google Scholar: Citations, **7096**, since 2013: **4486**, h-index: **43**, i10-index: **97**.
Scopus, Citations, **5033**, Readers: **3221**, Total Views: **151k**, h-index: **38**. ID: 57201387383.
ResearchGate, Citations, **5216**, Total reads : **18,845**, RG Score: **39.80**, h-index: **36**.
Mendeley, Citations, **2868**, Total Views; **25,235**.

131. "About Ge(Mn) dilute magnetic semiconductor", A. Portavoce, S. Bertaina, O. Abbes, L. Chow, V. Le Thanh. **Material Letters,** 119, 68-70 (2014). (Citation: 1)
132. "Sensing nanoparticles and liposomes using resistive pulse method", Y. Rudzevich, Y. Lin, A. Wearne, A. Ordonez, O. Lupan, and L. Chow. **Colloids and Surfaces A, 448,** 9-15 (2014). [Citation: **5**].
133. "Anomallous off-state drain leakage current in GaN/AlGaN HEMTs with dual optical excitation", A. Das, D. H. Ko, L. B. Chang, R. M. Lin, and L. Chow. **Electron Device Letter, 35,** 820, (2014).
134. "Highly sensitive Palladium Oxide Thin Film Extended Gate FET as pH Sensors", A. Das, D. H. Ko, C. H. Chen, F. C. Chu, L. B. Chang, and L. Chow, **Sensors & Actuators B, 205**, 199-205 (2014). (Citation: **35**)
135. "Synthesis and gas sensor applications of Nanostructured ZnO grown at low temperatures", O. Lupan, Th. Pauporte, and L. Chow. **Turkish J. of Physics**, **38**, 399-419 (2014). Invited Review Article.
136. "Nanoporous Ge thin film production combining Ge sputtering and dopant implantation", J. Perrin Toinin, A. Portavoce, K. Hoummada, M. Texier, M. Bertoglio, S. Bernardini, M. Abbarchi, and L. Chow. **Beilstein Journal of Nanotechnology**, **6**, 336-342 (2015). (Citation: **3**).
137. "Mn Diffusion and Reactive Diffusion in Ge: Spintronic Application", A. POrtavoce, O. Abbes, S. Bertaina, Y. Rudzevich, L. Chow, V. L. Thanh, C. Girardeaux, and L. Michez. **Defect and Diffusion**

Forum, 363, 56-61 (2015).

138. "Improving Efficiency of Multicrystalline Silicon and CIGS Solar Cells by Incorporating Metal Nanoparticles", M. –J. Jeng, Z.Y. Chen, Y.L. Xiao, L.B. Chang, J.P. Ao, Y. Sun, E. Popko, W. Jacak, & L. Chow. **Materials**, 2015, 8, 6761-6771; doi:10.3390/ma8105337. (Citation: **5**).
139. "Integration of Individual TiO_2 nanotube on the chip: Nanodevice for hydrogen sensing", M. Enachi, O. Lupan, T. Braniste, A. Sarua, L. Chow, Y. K. Mishra, D. Gedamu, R. Adelung, and I. Tiginyanu, **Phys. Status Solidi, RRL 9**, 171-174 (2015). DOI 10.1002/pssr.201409562. (Citation: **22**)
140. "Formation of Germanium Oxide Microcrystals on the Surface of Te-implanted Ge", J. Perrin-Toinin, Y. Rudzevich, K. Hoummada, M. Texier, S. Bernardini, A. Portavoce, and L. Chow. **Nuclear Instrumentation & Method in Physics Research B**, **365**, 252-255 (2015). http://dx.doi.org/10.1016/j.nimb.2015.07.069.
141. "Te implantation in Ge (001) for n-type doping applications", J. Perrin Toinin, A. Portavoce, K. Hoummada, M. Texier, M. Bertoglio, S. Bernardini, and L. Chow. **Materials Science in Semiconductor Processing, 42**, 215-218 (2016). DOI:10.1016/j.mssp.2015.07.082.
142. "Silver-doped Zinc Oxode Single Nanowire Multifunctional Nanosensor with a Significant Enhancement in Response", O. Lupan, V. Cretu, V. Postica, M. Ahmadi, B. Roldan-Cuenya, L. Chow, I. Tiginyanu, B. Viana, T. Pauporte, and R. Adelung. **Sensors and Actuators B: Chemical**, **223**, 893-903 (2016). http://dx.doi.org/10.1016/j.snb.2015.10.002. (Citation: **61**).
143. "Atomic Transport in Nano-crystalline Thin Films", A. Poetavoce, K. Hoummada, and L. Chow. **Defect and Diffusion Forum**, Vol. **367**, 140-148 (2016).
144. "Synthesis, characterization, and DFT studies of Zn-doped CuO nanocrystals", V. Cretu, V. Postica, A. K. Mishra, M. Hoppe, I. Tiginyanu, Y. K. Mishra, L. Chow, Nora H. de Leeuw, R. Adelung, and O. Lupan**. J. Mater. Chem. A**, **Vol. 4**, 6527-65-39 (2016). [Citation: 46].
145. "Phosphor-free GaN white quantum dot light emitting diode", Y. Li, L. Chang, H. Chen, C. Yen, K. W. Pan, B. R. Huang, W. Y. Kuo, L. Chow, D. Zhou, K. Y. Sam, E. Popko. **Materials, 10** 432 (2017).
146. "Pd-Ge contact fabrication on Se-doped Ge", M. Descoins, J. Perrin Toinin, K. Hoummada, M. Bertoglio, R. Ma, L. Chow, D. Narducci, and A. Portavoce. **Scripta Materialia, 139** 104-107 (2017).
147. "UV radiation and CH_4 gas detection with a single ZnO:Pd nanowire", O. Lupan, R. Adelung, V. Postica, N. Ababii, L. Chow, B. Viana, and T. Pauporte. **Proc. of SPIE** Vol. 10105, 1Y (2017).
148. "Transition voltage of AlGaN/GaN heterostructure MSM varactor with two-dimensional electron gas", J. Osvald, G. Vanko, L. Chow, N.C. Chen, L.B. Chang. **Microelectronics Reliability**, **78**, 243-247 (2017).
149. "Functionalized ZnO/Pd Nanowires for Nanosensors", O. Lupan, V. Postica, R. Adelung, F. Labat, I. Ciofini, U. Schürmann, L. Kienle, L. Chow, B. Viana, and Th. Pauport. **Physica Status Solidi, RRL 12**, 1700321 (2018). (DOI: 10.1002/pssr.201700321)
150. "Detectors based on Pd-doped and PdO-functionalized ZnO nanostructures", V. Postica, O. Lupan, N. Ababii, M. Hoppe, R. Adelung, L. Chow, V. Sontea, P. Aschehoug, B. Viana, Th. Pauporté, **Proc. Of SPIE** Vol. **10533**, 2T (2018).
151. "PdGe contact fabrication on Ga-doped Ge:Influence of implantation-mediated defects", T. Luo, J. Perrin Toinin, M. Descoins, K. Hoummada, M. Bertoglio, L. Chow, D. Narducci and A. Portavoce1, **Scripta Materialia, 150,** 66-69 (2018).
152. "RGB-Stack Light Emitting Diode Modules with Transparent Glass Circuit Board and Oil Encapsulation", Y-C Li, Y-H Chang, Preetpal Singh, Liann-Be Chang *, D-H Yeh, T-Y Chao, S-Y Jian, Y-C Li, C-M Tan, C-S Lai, Lee Chow, S-P Ying, **Materials, 11**, 65 (2018).
153. "Al-doped ZnO Nanowires by Electrochemical Deposition", Th. Pauporté, O. Lupan, V. Postica, M. Hoppe, Lee Chow, R. Adelung. **Physica Status Solidi,** A 170824 (2018).
154. "Effect of pH on the size of Liposomes", Y. Lin, Y. Rudzevich, A. Wearne, O. Lupan, and L. Chow. To be submitted.
155. "Electronic and Magnetic properties of Mn-ion implanted Silicon", C. W. Pao, W. F. Pong, D. C. Ling, R. Vanfleet, L. Chow, A. Misiuk. To be submitted.

156. "Development of Gated Capillary Ion Transistor", Y. Rudzevich, Y. Lin, O. Lupan, and L. Chow. To be submitted.
157. "Superconductivity of MBE grown 2D Al films", Su, Dinesh, Liang, et al. To be submitted.

BOOK CHAPTERS

1. "Fullerenes and polymers produced in the CVD method"
   L. Chow, S. Kleckley, H. Wang, I. Oladeji, P. Buseck, T. Dale, T. Solouki, A. Marshall.
   in ACS Symposium Series **681**, **"*Synthesis and Characterization of Advanced of Materials*".**
   Ed. by M. A. Serio, D. M. Gruen, and R. Malhotra. 51-60 (1998).

2 "Focused ion beam fabrication of individual carbon nanotube devices", L. Chow and G. Chai. In "**Ion-Beam-Based Nanofabrication"**, edited by D, ILA, J. Baglin, N. Kishimoto, and P. K. Chu. 221-230 (2008). MRS Symposium Proceedings, Vol. **1020**.

3 "First Principles Hartree-Fock Cluster Study of Very Dilute Transition Metal and Rare Earth Ion Systems in Silicon", R. H. Pink, S. R. Badu, A. Dubey, R. H. Scheicher, J. Jeong, S. R. Byahut, L. Chow, M. B. Huang, and T. P. Das. In AIP Conference Proceedings **1003**, "**Magnetic Materials**", Ed. By A. Ghoshray and B. Bandyopadhyay. AIP (2008). ISBN 978-0-7354-0522-6.

4 "Nanostructures of Metal Oxides", I. M. Tiginyanu, O. Lupan, V. V. Ursaki, L. Chow, and M. Enachi. in "**Comprehensive Semiconductor Science and Technology"**, Ed. P. Bhattachaya, R. Formuri, and H. Kamimura. (2011), Chapter 3.11, pages 396-479. **Elsevier Publishing.** Doi: 10.1016/B978-0-44-453153-7.00105-x. ISBN 9780-4445-31438.

5 "Focused ion beam fabrication of CNT and ZnO nanodevices", G. Chai, O. Lupan, and L. Chow. Book Chapter in "**Nanofabrication using focused ion and electron beams: Principles and Applications**". Russell P, Utke I, and Moshkalev S (eds.), ISBN 13:9780-1997-34214. **Oxford University Press**. (2012).

6 "ZnO nanoscale hydrogen sensors", O. Lupan and L. Chow. Book Chapter in "**Nano-scale sensors**", ed. By S. Li, J. Wu, Z. Wang, and Y. Jiang . ISBN 978-319-02772-2. **Vol. 19 of Springer Lecture** Springer, Switzerland (2013), pp. 119-152. DOI 10.1007/978-3-319-02772-2_5.

FULL PAPER PUBLISHED IN CONFERENCE PROCEEDINGS (Last 5 years)

53. "Performance of Dye-Sentisized solar cell based on tortuors open cell TiO_2 foam-like film", I. O. Oladeji, C. H. Cheng, M. J. Jeng, L. B. Chang, and L. Chow. Intrenational Symposium on the Next-Generation Electronics, Taoyuan, Taiwan, May 7-10 2014.
54. "Formation of GeO microcrystals in Ion-Implanted Ge", Jacques P. Toinin, Y. Rudzevich, K. Hoummada, M. Texier, S. Bernardini, Alain Portavoce, and L. Chow, IBMM-2014, Leuven, Belgium, Sept. 14-19, 2014.
55. "Selenium redistribution after implantation in Germanium", J. Perrin Toinin, A. Portavoce, K. Hoummada, M. Texier, L. Chow, M. Bertoglio, S. Bernardini. DIMAT-2014, Munster, Germany, Aug. 17-22, 2014.
56. "Mn diffusion and reactive diffusion in Ge: spintronic applications", A. Portavoce, O. Abbes, S. Bertaina, Y. Rudzevich, L. Chow, V. Le Thanh, C. Girardeaux, and L. Michez. DIMAT-2014, Munster, Germany, Aug. 17-22, 2014.
57. "Controlling the properties of electrodeposited ZnO nanowire arrays for light emitting diode, photodetector and gas sensor applications", T. Pauportéa, O. Lupan, B. Vianaa , L. Chow, and M.

Tchernycheva. Proc. of SPIE, Vol. 8987, page 8987 1R. doi: 10.1117/12.2039839.

58. "Single Nanowire Nanosensors: A case study of the effects of metal doping on ZnO", O. Lupan, L. Chow, T. Pauporte, B. Viana, R. Adelung. IFMBE Proceedings, Vol. 55, 113-116 (2016).
59. "Evanecent Raman Spectroscopy of Bio-assembles with Gallium Nitride Waveguide structuae", A. Schulte, S. Borges, L. Chow, W. S. Chen, S.-F. Huang, M.-J. Jeng, L.-B. Chang. BPS18, 62nd Annual Meeting, Biophysical Society. San Francisco, CA, Feb. 17-21, 2018.

ABSTRACTS PRESENTED AT SCIENTIFIC MEETINGS (Last 5 years)

167. I. O. Oladeji, C. H. Cheng, M. J. Jeng, L. B. Chang, H. Abouelkhair, and L. Chow. "Performance of Dye-Sentisized solar cell based on tortuors open cell TiO_2 foam-like film", The 3rd International Symposium on the Next Generation Electronics, TaoYuan, Taiwan, May 7-10, 2014.
168. J. Perrin Toinin, Y. Rudzevich, K. Hoummada, M. Texier, S. Bernardini, A. Portavoce, and L. Chow, "Formation of germanium oxide microcrystals on the surface of Te-implanted Ge", The 19th International Conference on Ion Beam Modification of materials (IBMM2014), Leuven, Belgium, Sept. 13-19, 2014.
169. Atanu Das, Danny Ko, Liann-Be Chang, Ray-Ming Lin, and L. Chow, "Superficial Molybdenum Oxide (MoO) -Molybdenum (Mo) Extended Gate EFTs as pH Sensor", International Electronic Devices and Material Symposium, Nov. 2014, Hualien, Taiwan.
170. O. Lupan, L. Chow, Th. Pauporte, B. Viana, and R. Adelung, "Single nanowire nanosensors: A case study of the effect of metal doping in ZnO", 3rd. International Conference on Nanotechnology and Biomedical Engineering, Moldova, Vol. 55, 2014.
171. O. Lupan, R. Adelung, V. Postica, N. Ababii, L. Chow, B. Viana, T. Pauporté, "UV radiation and CH4 gas detection with a single ZnO:Pd nanowire", SPIE 2016.
172. G. M. Su, C. S. Chang, C. C. Yeh, Y. T. Fan, S. D. Lin, U. Bashir, L. Chow and Chi-Te Liang, "Transport in ultra-thin Aluminum nanofilms grown by molecular beam epitaxy", Taiwan Physics Society Annual Meeting, Taipei, TW, Jan. 20-22, (2018).
173. A. Schulte, S. Borges, L. Chow, W. S. Chen, S. F. Huang, M. J. Jeng, L. B. Chang. "Evanescent Raman Spectroscopy of Bio-Assemblies with Gallium Nitride Waveguide Structures". BPS18, Biophysical Society 62nd Annual Meeting, Feb. 17-21 (2018). San Francisco, CA.

SERVICES

Department level

Associate Chair, **August 2000-June 2009**.
Undergraduate Coordinator, **2000-2009**.
IE coordinator, BS program. **1996-2007**.
Annual Evaluation Procedure and Standard Committee**, 2005-2006**.
Tenure and Promotion Committee, 1993-1995, **2003-2005, (Chair), 2007-2009, (Chair), 2009-present.**

College Level

CAS Advising Council, **2004 – 2009**.
COS, Curriculum Committee, **2009**.
COS, Budget advisory committee, **2009**.
COS, Tenure & Promotion Committee, **1999-2001, 2003-2005, 2010-2011, 2014-2016.**

COS TIP award selection committee, **1995-1996, 2006-2007, 2014-2015.**
CAS Equity Committee, **1995**.

University Level

Pre-Health Professions Advisory Council (**2004-2014**)
CAS Dean's five-year review committee, (**2001**).
AMPAC Executive Committee, **1997 - 2000**.

State Level

Florida Department of Education, Division of Universities and Colleges
Physical Sciences Common (CIP) Pre-requisite Discipline Committee, **2004-present.**

Outside Services

Editorial board of International Journals

Journal of Engineering Science, member of the editorial board.
Thai Journal of Nanoscience and Nanotechnology, member of the International Editorial Board.

Review International Science Projects

Hong Kong Research Grant Council. Reviewed two research proposals for RGC. (2012).
Chilean Science and Technology Commission (CONICYT). Reviewed a research proposal for CONICYT. (2013).
Natural Science Foundation of China/Hong Kong Research Grant Council. Reviewed a joint research proposal for NSFC/RGC. (2013).
Chilean Science and Technology Commission (CONICYT). Reviewed a major proposal for CONICYT. (March 2015).

Review proposals for the following agencies

National Science Foundation (SBIR panel review, 1998, 2002- 2005**, 2007-2008**)
Kentucky Science and Engineering Foundation (KSEF-974-RDE-008) (2005)
Department of Defense (DEPSCoR program, 1999)
State of Idaho, Board of Higher Education (1997)
State of Florida, Florida Center of Excellence in Teaching. (1998).

Review manuscripts for the following journals

Advanced Materials
Advanced Functional Materials
Physical Review Letters (LT7521, LT5683, LC6536, LB7119)
Physical Reviews (BT7344)
Physica Scripta
Journal of Optical Society of America A
Journal of Applied Physics
Journal of Electrochemical Society
Journal of Electronic Materials (#4829)

Journal of materials Science (#JMSC125)
Applied Surface Sciences (#08801).
Acta Materialia (#106-04)
American Journal of Physics
Europhysics Letters (G9402)
Thin Solid Films (Numerous times)
Chemical Engineering Communications (244-00)
Material Research Bulletin (MRB#2015)
Materials Science in Semiconductor Processing (P-15, P-37).
Canadian Journal of Physics, (#00188)
Hyperfine Interactions (#P-23, #P-35)
47th Conference on Magnetism & Magnetic Materials (HS-4)
Vacuum. (CdS deposition technique-2004)
Materials Chemistry and Physics (MS# MCP-6954-2006)
IEEE International Nano-Electronics Conference
AIP Journal of Renwable and Sustainable Energy.
Photonic Technology Letters
The Iraqi Journal of Applied Physics
Physica Solidi Status a
Chemical Physics Letter