

CURRICULUM VITAE



الأسم : أ.د/ أحمد حمود علي بكري

تاريخ الميلاد: ١٣٧٦/٧/١ هـ

العنوان الحالي : كلية العلوم

جامعة الملك عبدالعزيز

ص.ب. ٨٠٢٠٣

جده ٢١٥٨٩

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الشهادات العلمية :

الشهادة	التخصص	جهة الحصول
بكالوريوس	فيزياء عامه	جامعة الملك سعود (الترتيب الأول في القسم)
ماجستير	فيزياء نظريه نوويه	جامعة أريزونا + جامعة الملك عبدالعزيز
دبلوم عالي	فيزياء تحليليه	جامعة ويلز- المملكه المتحده
دكتوراه	فيزياء الليزر	جامعة ويلز- المملكه المتحده

الوظائف السابقة: معيد / قسم الفيزياء / كلية العلوم / جامعة الملك سعود
معيد / قسم الفيزياء / كلية العلوم / جامعة الملك عبدالعزيز
محاضر / قسم الفيزياء / كلية العلوم / جامعة الملك عبدالعزيز
أستاذ مساعد / قسم الفيزياء / كلية العلوم / جامعة الملك عبدالعزيز
أستاذ مشارك / قسم الفيزياء / كلية العلوم / جامعة الملك عبدالعزيز

الوظيفة الحالية: أستاذ فيزياء الليزر / قسم الفيزياء / كلية العلوم / جامعة الملك عبدالعزيز

مهام داخلية Activities

(أ) - جامعة الملك عبدالعزيز:

عضو اللجنة الدائمة الرئيسيه للأجهزه والمعامل والمختبرات منذ عام ١٤٢٠ هـ

(ب) - كلية العلوم :

- ١- رئيس لجنة الإجهزه والمعامل والمختبرات منذ عام ١٤٢٠ هـ
- ٢- عضو لجنة تطوير التعليم الجامعي ١٤٢٢ هـ - ١٤٢٤ هـ
- ٣- عضو لجنة الأيزو والإعتماد الأكاديمي ١٤٢٤ هـ - ١٤٢٦ هـ

(ج) - قسم الفيزياء :

- ١- رئيس مجموعة تطبيقات أشعة الليزر
- ٢- عضو لجنة الدراسات العليا
- ٣- عضو لجنة التعاقد
- ٤- منسق فيزياء ١١٠ (١٤٢٩ هـ - ١٤٣١ هـ)
- ٥- منسق فيزياء ١٠١ (١٤١٧ هـ - ١٤٢٧ هـ)
- ٦- منسق معامل فيزياء ٢١٨ (١٤١٤ هـ - ١٤١٧ هـ)

Other Activities مشاركات خارجية

- ١- عضو الجمعية الفيزيائية السعودية
 - ٢- عضو جمعية البيئة السعودية
 - ٣- محاضر غير متفرغ في كلية الدفاع الجوي (١٤١٧هـ - ١٤١٨هـ)
 - ٤- عضو الجمعية الأمريكية للتجمع الفيزيائي (APS) Member of the American Physical Society
 - ٥- عضو الجمعية الأمريكية للبصريات (OSA) Member of the Optical Society of America
 - ٦- عضو تجمع الهندسيات الكهربائية والإلكترونية (IEEE) Member of the Electrical and Electronic Engineers
 - ٧- مدير المدارس المتوسطة السعودية في بريطانيا والسعودية الابتدائية في سوانزي (١٤١٠هـ - ١٤١٢هـ)
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PUBLICATIONS المنشورات العلمية

1. "Autofluorescence Spectroscopy in Cancer Detection and Diagnosis" , M.A.N. Razvi, **Ahmed Bakry**, S. M. Afzal, , Jaudah Al-Maghrabi, Saad Al-Muhayawi, Y.F. AL-Hadeethi, , A. Saeed , Mallika Priya, and S. Manjunath, and K.K.Mahato. Submitted to Photomedicine and Laser Surgery.
2. "Physicochemical and Nonlinear Optical Properties of Novel Environmentally Benign Heterocyclic Azomethine Dyes: Experimental and Theoretical Studies", S. M. Afzal, M. A. N. Razvi, Salman A. Khan, Osman I. Osman, **Ahmed H. Bakry**, Abdullah M. Asiri submitted to PLOS ONE.
3. Mohammad-Ali Miri, Mohammad-Amin Eftekhari, Margarida Facao, Ayman F. Abouraddy, Ahmed Bakry, M.A.N. Razvi , Ahmed Alshahrie , and Demetrios N. Christodoulides, " Scattering properties of PT-symmetric objects", submitted to Journal of Optics(2016).
4. Ahmed El Halawany, Sha He, Hossein Hodaie, **Ahmed Bakry**, M.A.N. Razvi, Ahmed Alshahrie, Demetrios N. Christodoulides, Adah Almutairi, Mercedeh Khajavikhan, ' Enhanced UV Upconversion Emission Using Plasmonic Nanocavities", submitted to Optics Express (2016).
5. Nicholas S. Nye, Ahmed El Halawany, **Ahmed Bakry**, M.A.N. Razvi, Ahmed Alshahrie, Mercedeh Khajavikhan, Demetrios N. Christodoulides, " Passive PT-symmetric metasurfaces with directional field scattering characteristics", accepted for publication in IEEE Photonics (2016).
6. S. M. Afzal , Abdullah M. Asiri , M. A. N. Razvi , **Ahmed H. Bakry**, Salman A. Khan , Mohie E. M. Zayed" Synthesis, Spectrofluorometric Studies, micellization and non Linear Optical Properties of Blue Emitting Quinoline (AMQC) Dye", J. Fluorescence (2016), 26, 559-566.
7. Moustafa Ahmed, **Ahmed Bakry**, " Modulation performance of semiconductor laser coupled with an ultra-short external cavity", Optics Communications 360 (2016) 52–60.
8. Moustafa Ahmed, **Ahmed Bakry**, Hamed Dalir and Fumio Koyama, " Application of Strong Slow-Light Feedback to Boost the Modulation Bandwidth of VCSELs Beyond 70 GHz", CLEO:2015 © OSA 2015
9. Hideaki Yamakawa, Takahiro Sakaguchi, Moustafa Ahmed, **Ahmed Bakry**, and Fumio Koyama, " Spatial-mode multiplexer/demultiplexer based on tapered hollow waveguide with lateral optical confinement", Japanese Journal of Applied Physics 54, 120302 (2015)
10. Salman A. Khan, M.A.N. Razvi, **Ahmed H. Bakry**, S.M. Afzal, Abdullah M. Asiri, Samy A. El-Daly " Microwave assisted synthesis, spectroscopic studies and non linear optical properties of bis-chromophores" , Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 137 (2015) 1100–1105.
11. M. Ahmed, **A. Bakry** and S.W.Z. Mahmoud, " Noise performance of high-speed radio over fiber links employing vertical-cavity surface-emitting lasers", Journal of Modern Optics, 2015 Vol. 62, No. 9, 712–721
12. M. Nakahama, X. Gu, T. Sakaguchi, A. Matsutani, M. Ahmed, **A. Bakry**, and F. Koyama " Sub-gigahertz beam switching of vertical-cavity surface-emitting Laser with transverse coupled cavity" , Applied Physics Letters 107, 071105 (2015).
13. Moustafa Ahmed , **Ahmed Bakry**, Mohamed S. Alghamdi and Fumio Koyama" Modeling of noise and distortion associated with ultra-high-speed modulation of VCSEL with slow-light feedback", Int. J. Numer. Model. (2015).
14. Moustafa Ahmed, **Ahmed Bakry**, Safwat W. Z. Mahmoud" Influence of Chirp of High-Speed Laser Diodes and Fiber Dispersion on Performance of Non Amplified 40-Gbps Optical Fiber Links", International Journal of Mathematical, Computational, Physical and Quantum Engineering Vol:9 No:1, 2015.
15. Moustafa Ahmed, **Ahmed Bakry**, Fumio Koyama" Application of Strong Optical Feedback to Enhance the Modulation Bandwidth of Semiconductor Lasers to the Millimeter-Wave Band", International Journal of Mathematical, Computational, Physical and Quantum Engineering Vol:9 No:1, 2015
16. Shanting Hu, Moustafa Ahmed, **Ahmed Bakry**, and Fumio Koyama "Low chirp and high-speed operation of transverse coupled cavity VCSEL", Japanese Journal of Applied Physics 54, 090304 (2015).
17. Xiaodong Gu, Masanori Nakahama, Akihiro Matsutani, Moustafa Ahmed, **Ahmed Bakry**, and Fumio Koyama "850nm transverse-coupled-cavity vertical-cavity surface-emitting laser with direct modulation bandwidth of over 30GHz", Applied Physics Express 8, 082702 (2015).

18. Moustafa Ahmed, **Ahmed Bakry**, Mohamed S. Alghamdi, Hamed Dalir, and Fumio Koyama "Enhancing the modulation bandwidth of VCSELs to the millimeter-waveband using strong transverse slow-light feedback", OPTICS EXPRESS, Vol. 23, No. 12 (2015).
19. Salman A. Khan , M.A.N. Razvi, **A.H. Bakry**, S.M. Afzal, Abdullah M. Asiri, Samy A. El-Daly . "Synthesis, Spectroscopic studies and non linear optical properties of bis-chromophores. Submitted to Dyes & Pigments, 2014
20. M.A.N. Razvi, **Ahmed H. Bakry**, S.M. Afzal, Salman A Khan, Abdullah M. Asiri . " Synthesis, characterization and determination of third-order optical nonlinearity by cw z-scan technique of novel thiobarbituric acid derivative dyes". Materials Letters 144 (2015) 131–134.
21. Moustafa Ahmed, **Ahmed Bakry**, Hamed Dalir and Fumio Koyama " Application of Strong Slow-Light Feedback to Boost the Modulation Bandwidth of VCSELs Beyond 70 GHz", CLEO:2015 © OSA 2015
22. **A.H. Bakry** and M. Ahmed, "Stabilizing optical feedback-induced chaos by sinusoidal modulation beyond the relaxation frequency in semiconductor lasers," Journal of Experimental and Theoretical Physics, vol.146, pp. 675-684(2014).
23. **Ahmed Bakry** and Moustafa Ahmed "Multimode analysis of relative intensity noise associated with intensity modulation of semiconductor lasers", Journal of Modern Optics, Vol. 61, No. 16, 1309–1317 (2014).
24. Hamed Dalir, Moustafa Ahmed, **Ahmed Bakry**, and Fumio Koyama, " Compact electro-absorption modulator integrated with vertical-cavity surface-emitting laser for highly efficient millimeter-wave modulation", Applied Physics Letters **105**, 081113 (2014)
25. Salman A. Khan , M.A.N. Razvi , **Ahmed H. Bakry**, S.M. Afzal, Abdullah M. Asiri , Samy A. El-Daly a "Microwave assisted synthesis, spectroscopic studies and non linear optical properties of bis-chromophores", Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy. 137 (2015) 1100–1105.
26. **Ahmed Bakry** ,"Modeling of Millimeter-wave Modulation Characteristics of Semiconductor Lasers under Strong Optical Feedback", The Scientific World Journal. vol.2014, 728458, Oct. 2014.
27. M. Ahmed , **A.Bakry**, S.W.Mahmoud "Noise performance of high speed radio over fiber links employing vertical cavity surface emitting lasers," Journal of Modern Optics. vol. 62, No. 9, 712–721(2015).
28. K. Nakamura, A.Matsutani, M. Ahmed, **A. Bakry** and F. Koyama, "Slow-light Bragg reflector waveguide array for two-dimensional beam steering," Japanese Journal of Applied Physics, vol.53, 53, no.3, 038001, Jan. 2014.
29. X.Gu, M. Nakahama, M. Ahmed, **A.Bakry** and F. Koyama, "Beam-steering in Hollow ZrO₂/SiO₂ DBR Waveguides for 1D RGB Imaging," Japanese Journal of Applied Physics, vol.53, no.3, 030302, Jan. 2014.
30. M.Ahmed and **A.Bakry**, "Mode-competition noise associated with Microwave modulation of multimode semiconductor lasers," Physics of Wave Phenomena, 2014, in press.
31. A. Fuchida, A. Matsutani, M. Ahmed, **A. Bakry** and F. Koyama, "Low-polarization dependent thermo-optic phase-shift in slow light Bragg reflector waveguide for beam steering and optical switching," Japanese Journal of Applied Physics, vol. 53, 010306 (2014).
32. S. Mochizuki, X. Gu, A. Matsutani, M. Ahmed, **A. Bakry**, and F. Koyama, "Generation of vortex beam using Bragg reflector waveguide," Applied Physics Express, vol. 7, 022502 (3pp), 2014.
33. M. Nakahama, H. Sano, S. Inoue, T.Sakaguchi, A.Matsutani, M. Ahmed, **A. Bakry** and F. Koyama, "Wavelength tuning and controlled temperature dependence in vertical-cavity surface-emitting lasers with a thermally and electrostatically actuated cantilever structure," Japanese Journal of Applied Physics, vol. 53, 010303 (2014).
34. H. Dalir, A. Matsutani, M. Ahmed, **A. Bakry**, and F. Koyama, "High frequency modulation of transverse-coupled-cavity VCSELs for radio over fiber applications," IEEE Photonics Technology Letters, vol. 26, pp. 281-283, 2014.
35. F. T. Albeladi, M. Ahmed and **A. Bakry**, "Performance Evaluation of 40 Gb/s Directly-Modulated Optical Fiber Communication Systems," Proceedings of the 2013 Saudi International Conference on Electronics, Communications and Photonics Conference (SIECPC), pp. 1-6, 2013. DOI: [10.1109/SIECPC.2013.6550757](https://doi.org/10.1109/SIECPC.2013.6550757)
36. M. Ahmed and **A. Bakry**, "Mode Dynamics and Noise in Modulated Semiconductor Lasers with Strong Gain Suppression," Proceedings of the 2013 Saudi International Conference on Electronics, Communications and Photonics Conference (SIECPC), pp. 1-6, 2013. DOI: [10.1109/SIECPC.2013.6550743](https://doi.org/10.1109/SIECPC.2013.6550743)
37. **A. Bakry** and M. Ahmed, "Influence of sinusoidal modulation on mode competition and signal distortion in multimode InGaAsP lasers," Optics and laser Technology, vol. 50, pp. 134-140, 2013.
38. M. Ahmed, **A. Bakry**, R. Altuwirqi, M. S. Alghamdi and F. Koyama, "Intensity noise in ultra-high frequency modulated semiconductor laser with strong feedback and its influence on noise figure of RoF links," Journal of Electro-optical Society Rapid Publication, vol. 8, 13064(6pp), 2013.

39. M. Ahmed, **A. Bakry**, R. Altuwirqi, M. S. Alghamdi, and F. Koyama, "Enhancing Modulation Bandwidth of Semiconductor Lasers beyond 50 GHz by Strong Optical Feedback for Use in Millimeter-Wave Radio over Fiber Links," Japanese Journal of Applied Physics, vol. 53, 124103, 2013.
 40. M. Ahmed, **A. Bakry** and F. T. Albelady, "Digital Modulation Characteristics of High-Speed Semiconductor Laser for Use in Optical Communication Systems," Arabian Journal of Science and Engineering, DOI 10.1007/s13369-014-1120-9, 2014,
 41. **A.H.Bakry**, M.A.N.Razvi (2009), Detection of heavy (toxic) metals in water samples by Laser induced breakdown spectroscopy (LIBS), Analytical Chemistry, 8(2) [202-208] .
 42. M. A. Gondal, T. Hussain, Z. H. Yamani and **A.H. Bakry**, Determination of Elemental Composition in Iron Slag Waste Using Laser Induced Breakdown Spectroscopy , 3rd Science Conference, King Saud University, 2007.
 43. **A.H. Bakry** (2007), Determination of Different Metals in Steel Waste Samples Using Laser Induced Breakdown Spectroscopy, Pakistan Journal of Analytical and Environmental Chemistry, 8(1).
 44. MOHAMMED. A. GONDAL, TALIB HUSSAIN, ZULFIQAR AHMED and **AHMED.H. BAKRY** (2007), Detection of contaminants in ore samples using laser-induced breakdown Spectroscopy, J. Environmental Science and Health, Part A(2007) 42, 879-887.
 45. M. A. Gondal, , T. Hussain, Z. H. Yamani and **A.H. Bakry**, Study of hazardous metals in Iron Slag Waste Using Laser Induced Breakdown Spectroscopy, J. Environmental Science and Health Part A(2007) 42, 767-775.
 46. **A.Bakry** . Spectroscopic Analysis of Marble Samples using Laser Induced Breakdown Spectroscopy , Asian Journal of Spectroscopy , Vol.11,No.1 : 51-59(2007)
 47. M. Rafi, Fayyazuddin , **A. Bakry** , and N. Al-Senany (2001). On the Prediction of α_e and $\omega_e\chi_e$ from a three-parameter diatomic potential ,Asian Journal of Spectroscopy , 2 : 83-88 ..
 48. M. Rafi, **A. Bakry** , N. Al-Senany and Fayyazuddin (2000). A New Four-Parameter Potential Function for Stable Diatomic Molecules , Indian J. Phys. 74B (6) 485 – 488 .
 49. M. Rafi, R. AL-Tuwirqi, **A. Bakry**, A. Al-Ghamdi and I. A. Khan (2000) . New absorption bands of the $A\ ^1\Sigma^+ - X\ ^1\Sigma^+$ system of NaH molecule , Indian J. Phys. 74B : 1-6.
 50. R. AL-Tuwirqi, **A. Bakry**, M. Rafi and Fayyazuddin (1998) `The calculation of potential curve of the $A\ ^1\Sigma^+$ state of ^7LiH from experimental data, Indian J. Phys. 72B(1): 87-91.
 51. R. AL-Tuwirqi, **A. Bakry**, M. Rafi and Fayyazuddin (1997). The Rydberg-Klein-Rees Potential Energy Curve of the $A\ ^1\Sigma^+$ state of NaH, J. Phys. B: At. Mol. Opt Phys. 30: 2033-2037.
 52. Fayyazuddin, M. Rafi, R. Reem AL-Tuwirqi and **A. Bakry** (1996). A New Five-Parameter Diatomic Potential, J. Phys. II France 6:1125-1132.
 53. H. H. Telle, J. Gao, Z. T. Salim, **A. H. Bakry**, B. H. Huo (1995) Photodissociation of LiI and KI in molecular beams: Detection of product metal atoms using RIMS.(1995).7th International Symposium on Resonance Ionization Spectroscopy and Its Applications (RIS-94) BERNKASTEL-KUES, GERMANY.
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المؤتمرات العلمية Conferences

1. "Physic Skills" – Gryganoch, Wales – United Kingdom, 10-15 Jan, 1992
2. 2nd International Conference On Lasers & Applications: *Advances in Science, Medicine and Technology*, Cairo, 16 – 19 Sept. 1996 .
3. 1st GCC Association conference of Plastic Surgeons (Applications on Lasers) ,Jeddah 1-3 Nov, 1999.
4. The Saudi Physical Society first Annual Meeting – King Khalid University – Abha, 2004.
5. CLEO/Europe-EQEC 2005 , Munich, Germany , 12—17 Jun, 2005.
6. 14th International Laser Physics Workshop, Kyoto, Japan , 4—8 July, 2005.
7. The Second Science Conference – King Abdul Aziz University ,2005.
8. Workshop to Implement King Abdullah Bin Abdul Aziz Plan for Higher Education , 2005.
9. Quality Assurance in Physics Department in the Kingdom of Saudi Arabia – Umm Al-Qura University ,2006.
10. The Saudi Physical Society Second Annual Meeting – Umm Al-Qura University ,2006
11. 3rd Science Conference, King Saud University, 2007
12. 4th Science Conference on the Environment and Natural Resources, Taiz, Yemen, 14-16 May 2008
13. CLEO/Europe-EQEC 2014 , San Jose, California, USA, 05—09 May, 2014

Supervisor, Examiner, and Reviewer of more than 25 MSc and PhD Theses.

محكم للمجلات العلمية التالية Reviewer for the following Journals

1. Laser Focus World
2. Laser Engineering
3. Laser and Optics in Engineering,
4. Asian Journal of Spectroscopy

المشاريع البحثية المدعمة من داخل وخارج الجامعة Funded Projects

(أ) مشاريع بحثية كبيرة بالتعاون مع :

University of Central Florida(USA) & Tokyo Institute of Technology(JAPAN)

1. Main Investigator of the project “Super-high resolution beam steering for optical sensing, imaging and optical signal processing,” funded by the Deanship of Scientific Research (DSR), King Abdulaziz University, under grant No. (23/34/RG), 2013.
2. Main Investigator of the project “Ultra-high speed semiconductor laser with external optical feedback for use in radio-over-fiber based high-capacity wireless local area networks, funded by the Deanship of Scientific Research (DSR), King Abdulaziz University, under grant No. (8/130/1433/HiCi), 2013.
3. Member of the project “Diagnosis of Cancer by Laser Induced Auto-fluorescence Spectroscopy”, funded by KACST under grant No. (11-BIO1985-3)2014
4. Main Investigator of the project “Ultra-high speed VCSELs for use in millimeter-waves radio-over-fiber based high-capacity wireless local area networks,” funded by the Deanship of Scientific Research (DSR), King Abdulaziz University, under grant No. (20-130-35-RG), 2014.
5. Main Investigator of the project “Engineering the spectral response of upconversion nanoparticles using plasmonic nanostructures,” funded by the Deanship of Scientific Research (DSR), King Abdulaziz University, under grant No. (66-130-35-HiCi), 2015.
6. Main Investigator of the project “Ultra-high speed VCSELs for use in millimeter-waves radio-over-fiber based high-capacity wireless local area networks,” funded by the Deanship of Scientific Research (DSR), King Abdulaziz University, under grant No. (20-130-35-RG), 2015.

(ب) مشاريع بحثية صغيرة:

- ٤ مشاريع مدعومة من قبل سابق
- ٣ مشاريع مدعومة من مدينة الملك عبدالعزيز
- ٦ مشاريع سنوية مدعومة من عمادة البحث العلمي

تدريس المواد التالية :

Physical Optics. Laser spectroscopy (Post-graduate). Lasers. Electromagnetic Theory. General Physics. Physics Lab. (Post-graduate). Special Topics in Laser Molecular Spectroscopy (Post-graduate).	ضوء فيزيائي طيف الليزر (ماجستير) الليزرات النظرية الكهرومغناطيسية فيزياء عامه معمل فيزياء (دراسات عليا) موضوعات خاصة في الأطياف الليزرية الجزيئية (دراسات عليا)
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Research Experiences الخبرات البحثية

- 1- Noise in semiconductor lasers.
 - 2- Analog and digital modulation of semiconductor lasers.
 - 3- Performance evaluation of analog and digital optical fiber communication systems.
 - 4- Construction and designing of N₂ laser to pump dye lasers and using it to study the molecular spectrum of some diatomic molecules.
 - 5- Construction and designing of a 24watt cw-CO₂ laser.
 - 6- Setting up resonance ionization mass spectroscopy lab.
 - 7- Modifying dye lasers systems.
 - 8- Setting up laser induced breakdown spectroscopy lab.
-

موقعى على بوابة الأبحاث العالمية:

https://www.researchgate.net/profile/Ahmed_Bakry8/publications