

CURRICULUM VITAE

Hamid Mansoor Hussein Ghaithan
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EDUCATION

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| Sep 2011 – Aug 2015 | <p>M.S., Laser Physics, College of Science, King Saud University, Riyadh, Saudi Arabia, 2015.</p> <ul style="list-style-type: none"> • Overall GPA: 4.74/5, Excellent, ranked the first. • <i>Research Advisor:</i> Dr Abdullah Al-dwayyan, Professor. • <i>Thesis Title:</i> <i>Electron lifetime in dye-sensitized solar cell by laser-induced photocurrent decay.</i> |
| Sep 2003 – Jun 2007 | <p>B.S., Physics, College of Education, Sanaa University, Sanaa, Yemen, 2007.</p> <ul style="list-style-type: none"> • Overall GPA: 92.87%, Excellent with Honors, ranked the first. • <i>Graduation Project:</i> <i>ZnO nanowires dye sensitized solar cells.</i> |
| Sept 2001 – June 2003 | <p>Training courses in electronic engineering, College of Engineer, Diyala University, Diyala, Iraq, 2002.</p> |

EXPERIENCES & TRAINING

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| Current Position
Sep 2015 – Present | <p>Researcher, Physics & Astronomy Department, College of Science, King Saud University, Riyadh, Saudi Arabia.</p> <ul style="list-style-type: none"> • Lab Researcher: Photonics lab at King Saud University, King Abdullah Institute for NANO Technology. <ul style="list-style-type: none"> ○ “Electronic Structure and Optical Property Analysis of CsPbX₃ (X = Br, Cl, I)” by Density Functional Theory (Wien2K Package). ○ Theoretical and Experimental Design of New Perovskite-Based Coherent Light Emitters. • Academic courses: Physics 104 exercises for Bachelor level. • Lab Courses: Physics lab (103,145,104 and 101 PHYS) Bachelor Level laboratory. <ul style="list-style-type: none"> ▪ Evaluate student performance, including grading exams, quizzes, assignments, and papers in the lab. ▪ Maintain weekly office hours to communicate in person with students as needed. |
| Sep 2012 – Jun 2015 | <p>Graduate Project Assistant, ACHIEVE, Riyadh, Saudi Arabia</p> <ul style="list-style-type: none"> • Project I: <i>A new technique for the measurement of electron time constants in solar cells.</i> <ul style="list-style-type: none"> ▪ Fabrication and testing of electronic and optical Nano-devices, including solar cells (Dye-sensitized and Perovskite solar cell), and their behavior in the environment. ▪ Fabrication of thin films using Atomic Layer Deposition (ALD) technique. ▪ Building the stepped laser-induced Photocurrent/Photovoltage decay technique to measure the electron dynamics in a variety of solar cells. • Project II: <i>ZnO nanowires solar cells</i> <ul style="list-style-type: none"> ○ Fabrication and testing nanowire dye-sensitized solar cells, and their behavior in the environment. • Submitted Project III: Enhancement of Photo physical and Optoelectronic properties of PFO/MDMO-PPV/MEH-PPV)/(SiO₂/TiO₂) Nanocomposite Thin Films for unique Performance White Organic Light Emitting Diode. |
| Sept 2008 – Jan 2011 | <p>Teaching Assistant, Physics Department, College of Education, Sanaa University, Sanaa, Yemen.
 Duties included teaching in the following courses:</p> <ul style="list-style-type: none"> ▪ Laser physics ▪ Optics ▪ Applied Mechanics ▪ Electromagnetic theory ▪ Wave and Oscillation |

- Heat and Thermodynamics
- Physics labs

JOURNAL PUBLICATIONS

- [1] **Hamid M. Ghaithan**, Saif M. Qaid, Mahmoud Hezam, Muhemmad B. Siddique, Idriss M. Bedja, Abdullah S. Aldwayyan, "Invoking the frequency dependence in square modulated light intensity techniques for the measurement of electron time constants in dye sensitized solar cells" SPIE Vol. 9556 955604 (2015).
- [2] **Hamid M. Ghaithan**, Saif M. H Qaid, Mahmoud Hezam, Joselito P. Labis, Mohammad Alduraibi, Idriss M. Bedja, A. S. Aldwayyan, "Laser induced photocurrent and photovoltage transient measurements of dye-sensitized solar cells based on TiO₂ nanosheets and TiO₂ nanoparticles", Electrochimica Acta 212 (2016) 992–997.
- [3] Vadivel Masilamani, **Hamid M. Ghaithan**, Mamduh J. Aljaafreh, Abdullah Ahmed, Reem al Thagafi, Saradh Parasad and Mohamad S. Alsalli, "Using a spectrofluorometer for resonance Raman spectra of organic molecules", Hindawi, Journal of Spectroscopy, (2017), doi.org/10.1155/2017/4289830.
- [4] Saif M.H. Qaid, Mukhtar Hussain, Mahmoud Hezam, M.A. Majeed Khan, Hamad Albrithen, **Hamid M. Ghaithan**, Abdullah S. Aldwayyan, "Structural and Optical Investigation of Brookite TiO₂ Thin Films Grown by Atomic Layer Deposition on Si (111) Substrates", Applied Surface Science Journal, submitted.
- [5] Shahid M. Ramay, Asif Mahmood, **Hamid M. Ghaithan**, Nasser S. Al-Zayed, Adnan Aslam, Abdullah Murtaza, Nisar Ahmed, Saadat A. Siddiqi, Murtaza Saleem, "Magnetron sputtered Dy₂O₃ with Cr and Cu content for enhanced antireflective thin films", Journal of Rare Earths, submitted.
- [6] Anees A. Ansari, Aslam Khan, Joselito P. Labis, Manawwer Alam, M. Aslam Manthrammel, Maqusood Ahamed, Mohd Javed Akhtar, Ali Aldalbahi, **Hamid Ghaithan**, "Mesoporous multi-silica layer-coated Y₂O₃:Eu core-shell nanoparticles: Synthesis, luminescent properties and cytotoxicity evaluation", Materials Science and Engineering C 96 (2019) 365-373.

CONFERENCES

- [1] **Hamid M. Ghaithan**, Saif M. Qaid, Mahmoud Hezam, Muhemmad B. Siddique, Idriss M. Bedja, Abdullah S. Aldwayyan. "Invoking the frequency dependence in square modulated light intensity techniques for the measurement of electron time constants in dye sensitized solar cells, " Society of Photo-optical Instrumentation Engineers (SPIE), San Diego Convention Center, California, USA, August 2015.
- [2] **Hamid M. Ghaithan**, Saif M. Qaid, Mahmoud Hezam, Muhemmad B. Siddique, Idriss M. Bedja, Abdullah S. Aldwayyan. "Laser induced photocurrent and photovoltage transient measurements of dye-sensitized solar cells based on TiO₂ nanosheets and TiO₂ nanoparticles," Hybrid and Organic Photovoltaic Conference (HOPV15), Rome, Italy, May 2015.
- [3] **Hamid M. Ghaithan**, Saif M. Qaid, Mahmoud Hezam, Muhemmad B. Siddique, Idriss M. Bedja, Abdullah S. Aldwayyan. "Small Amplitude Square Modulated Light Intensity Techniques for Dye-sensitized Solar Cells: Invoking the Frequency Dependence," • Saudi Physical Society, Atomic, Molecular and Optical Physics (AMOP), Al-Jouf University Campus, Saudi Arabia, March 31- April 1 2015.
- [4] The fourth Saudi International Nanotechnology Conference (SINC), Attend the conference, King Fahad University, Dhahran, Saudi Arabia, 25-27 October 2016.

RESEARCH INTERESTS

Primary Research Interests	Secondary Research Interests
<ul style="list-style-type: none"> • Density Functional Theory (WIEN2k Package) • Condensed Matter Physics • Solar Cells • Thin films fabrication by Atomic Layer Deposition 	<ul style="list-style-type: none"> • Theoretical and Experimental Design of New Perovskite-Based Coherent Light Emitters. • Molecular Spectroscopy

TEACHING INTERESTS

<ul style="list-style-type: none"> • Laser Physics and application • Optics • Wave and Oscillations • Heat and Thermodynamics • Physics lab courses 	<ul style="list-style-type: none"> • Classical Mechanics • Electromagnetic Theory • Material Engineering • Quantum mechanics
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WORKSHOPS AND COURSES ATTENDED

- The Physics laboratory training workshop, Sanaa University, March, 2008.
- Matlab workshop, KSU, 48 hours, May 2014.
- Photoshop workshop, KSU, 48 hours, May 2014.
- Citation and scientific documentation of references: The Saudi Digital Library, Riyadh, KSU, 24 hrs, Apr 2016.
- Microsoft Excel 2016, Deanship e-Training & Communications, King Saud University March 2018.
- Scanning Electron Microscope (SEM): King Abdullah Institute for Nanotechnology, Riyadh, Saudi Arabia, 12-15 March 2018.
- Atomic Force Microscopy (AFM): King Abdullah Institute for Nanotechnology, Riyadh, Saudi Arabia, 17-19 March 2018.
- Introduction of Computer and Network, Deanship e-Training & Communications, King Saud University, Nov 2018.

COMPUTER SKILLS

- Density Functional Theory (DFT), WIEN2k package.
- Linux System.
- VESTA and Jmol.
- Origin lab, Data analysis and graphing software.
- LABVIEW (beginner).
- MATLAB (beginner).
- Programming Language: Visual Basic and C++.
- Microsoft Office: MS Office.

AWARDS AND HONOR

- Graduate Student Award for Excellence in Research, King Saud University, Riyadh, 2017.
- Award for being ranked the first among the graduate students in the Department of Physics & Astronomy, King Saud University, Saudi Arabia, 2015.
- MSc. Scholarship (Free seat) from King Saud University (KSU), Saudi Arabia, 2011.
- MSc. Scholarship (Fellowship) from Amran University, Yemen, 2011.
- Award from the president of Yemen for being ranked the first among the undergraduate students in College of education, Sanaa University, Yemen, 2008.
- Award from the dean of the college for being ranked the first among the undergraduate students in Department of Physics, Sanaa University, Yemen, 2007.

PROFESSIONAL ACTIVITIES AND SERVICES

- Serving the student community (Undergraduate, High school, Primary), teaching physics, chemistry and mathematics, (2007-present)
- Coordinator of student trips at Amran University (2008-2011).
- Representative Physics students (2003-2007).

REFERENCES

- **Vadivel Masilamani**, Distinguished Prof. Laser Physics, KSU Research Chair in Laser Diagnosis of Cancers, Professor, King Saud University, Riyadh, Saudi Arabia.
Phone: 00966563405408
Email: masila123@gmail.com
- **Abdullah Aldwayyan**, Professor, Physics & Astronomy Department, King Saud University, Riyadh, Saudi Arabia.
Email: dwayyan@ksu.edu.sa
- **Idriss Bedja**, Associate Professor, Nano Photonics Lab., CRC, Optometry Dept., College of Applied Medical Sciences, King Saud University, Riyadh, Saudi Arabia
Email: bedja@ksu.edu.sa