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ResearchGate ([www.researchgate.net/profile/H\\_Almarshad?acceptedAuthorUid=2145956744](http://www.researchgate.net/profile/H_Almarshad?acceptedAuthorUid=2145956744))

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### Education:

2008 Doctor of Philosophy in Biomedical Engineering, University of Connecticut, Storrs, USA

2001 Master of Science in Biomedical Engineering, University of Connecticut, Storrs, USA

1992 Bachelor of Science in Biomedical Technology, King Saud University, Riyadh, KSA

### Work Experience and positions held:

#### **I- at Jouf University**

- **Associate Professor** of Biomedical Technology, as of Sep 2018 – until now
- **Assistant Professor**, appointed as of 2008 – Aug 2018
- **Fulbright Fellow**, for the academic year 2017/2018 where I demonstrated mutual educational and cultural exchange program at US university. As an exchange visiting research scholar performed research at The University of Connecticut, Storrs, CT, USA. The program offered the opportunity to expand my academic and professional experience, and participated to work on advanced research area of tumor cells imaging and analysis using advanced Electron Microscopy techniques including Focused Ion Beam SEM.
- **Vice Dean, College of Applied Medical Science** at Al Jouf University, appointed as of 2014 – 2017.
- **General Supervisor, Health Colleges** at Al Jouf University (JU), 2009-2013
- Founding Member and Coordinator of Al Jouf University **Institutional Bioethics Committee**, 2012-2017
- **College's Coordinator**, The College of Science at Al Jouf University, Summer - 2017
- **College's Coordinator**, The College of Applied Medical Sciences and Health Colleges at Aljouf University, Jul-Sep 2008

#### **II- at King Faisal Specialist Hospital and Research Center KFSH & RC**

- **Biomedical Engineer** at King Faisal Specialist Hospital and Research Center **KFSH & RC**, Riyadh, Saudi Arabia

1994-2008 King Faisal Specialist Hospital and Research Center, Riyadh

Assisted in many biomedical technology management, supervising, training, research and development projects at King Faisal Specialist Hospital & Research Centre, Riyadh, Saudi Arabia.

1996-1999 King Faisal specialist Hospital and Research Center, Riyadh

Member of Continuous Quality Improvement CQI Committee, Biomedical Engineering Department

1995-1999 King Faisal specialist Hospital and Research Center, Riyadh

Member of Capital Equipment Assessment and Acquisition Committee, Biomedical Engineering Department.

- **Intern-Biomed Engineer, Texas Children Hospital TCH, Houston, TX, USA**

1995-1996 Texas Children's Hospital, Houston, TX, USA

Six months On-Site Technical and Managerial Training at Biomedical Engineering Departments at Texas Children Hospital and Texas Medical Center.

-**Scholar, 2000-2008**

#### **III- at The University of Connecticut / Baystate Health Systems**

#### **- Graduate Assistant TA**

2002-2003 University of Connecticut, Storrs, CT, USA

Conducting and publishing medical and biological researches on the area of visual neurosensory and compound eye mapping. Proctoring and teaching assistance at the University of Connecticut Long Distance Learning Classes

#### **-Clinical Engineering Intern, Springfield, MA, USA**

1999-2001 University of Connecticut, Storrs, CT, USA, in conjunction with Baystate Health Systems, Springfield, MA, USA

Participated as an intern at the Clinical Engineering Department on many biomedical technology management programs including; monthly preventive maintenance scheduling, technician productivity analysis, work compliance supervision program, equipment upgrades, technology assessment and evaluation, BHS's institution safety education program and many other related programs.

#### **IV- King Khalid University Hospital, Riyadh**

##### **- Intern- Biomedical Engineering**

1992-1993 King Khalid University Hospital, Riyadh, Saudi Arabia

Full-Year Internship at hospital's departments on each of the four main biomedical engineering disciplines: Radiology, Electro-Physiology, Bio-Mechanical, and Medical Laboratory.

#### **Assessment and examiners' activities:**

- **SCFHS** , Member of Biomedical Technology Assessment Committee, 2018-2019
- **King Prize Award**, Reviewer of the Custodian of the Two Holy Mosques Prize in the area of science, technology and innovation, 2019.
- **SFDA** , Member of Bio-Products Assessment Committee, 2019

#### **Teaching: (List of taught courses)**

- Health Care Professions and Systems CHSE 241 Juf University, College of Applied Medical Sciences, 2018, 2019, 2020
- Health Care Professions and Systems CHSL 241 Al Juf University, College of Health Sciences, 2011, 2012
- Research Study CLS 452, Al Juf Univ., College of Applied Medical Sciences, 2009, 2010, 2013, 2014 , 2015, 2016, 2018
- Electron Microscopy, CLS 324, Aljuf Univ., College of Applied Medical Sciences, 2009 , 2014, 2015, 2016
- Automated Methods of Analysis (Instrumental Analysis), CLS 332, Aljuf University, College of Applied Medical Sciences, 2009, 2011, 2013, 2014 , 2015, 2016, 2018, 2019, 2020
- Technology in Clinical Chemistry, CLS 243, Aljuf University, College of Health Sciences, 2010, 2011
- Ethics in Health Care Profession, CHSL 234 Aljuf University, College of Health Sciences, 2011, 2012

#### **Research grants and peer review activities:**

##### **Grants:**

- Juf University:
  - o 150K SAR, 1430 (Blood Viscosity Project)
  - o 100K SAR, 1434 (Anemia Project)
  - o 48K SAR, 1435 (Kidney and Gall Stones Project)

- 41K SAR 1439 (Nanoparticles project)
- 43K SAR 1440 (Diabetes Tech project)
- Fulbright:
  - 112K SAR 2017-2018 (Exchange Visiting Research Scholar program)

**Peer review activities:**

- KACST (grants' review), KSU (book's review), AJPP (journal papers' review), JAB (journal papers' review)....

**Selected publications and conference proceedings:**

1. Almarri B., and Almarshad H., "Advancing Research in Brain Imaging and Analysis (ARABIA)", HIMSS Saudi Conference 2018. (2018), Riyadh, Saudi Arabia
2. Almarshad, H. A., Badawy, S. M., & Alsharari, A. F. (2018). Structural characterization of gallbladder stones using energy dispersive x-ray spectroscopy (EDS) and x-ray diffraction (XRD). Combinatorial chemistry & high throughput screening.
3. Almarshad H., Madhavan M., and Hoshino K., "Focused Ion Beam-based Milling, Imaging and Analysis of 3D Tumor Spheroids", The 40th International Conference of the IEEE Engineering in Medicine and Biology Society. (2018), Honolulu, HI, USA.
4. Almarshad H., Madhavan M., and Hoshino K., "Electron Microscopy Imaging and Analysis of 3D Tumor Model", The 40th International Conference of the IEEE Engineering in Medicine and Biology Society. (2018), Honolulu, HI, USA.
5. Hassan Almarshad and Abdalkareem Alsharari, Imaging and Microanalysis of Kidney Stones by Energy Dispersive X-Ray Spectroscopy of Al Jawf Region in Saudi Arabia: In Conjunction with X-ray diffraction (XRD) Study, Journal of Medical Imaging and Health Informatics (JMIHI), ISSN: 2156-7018, American Scientific Publishers, Accepted on 14-12-2017
6. Almarshad H., Hemoglobin A1C as an Indicator of the Accuracy of Blood Glucose Measurement: Comparative Study of Three Technologies Used for Blood Glucose Measurements, Journal of Advances in Biotechnology, 6(3), 919-923, 2017.
7. Almarshad, H. and Khan, M., Investigating the Capacity of Pt Nanoparticles' Diffusion on Three Compounds: EDS Approach Towards Biomedical Applications, Al Jouf University Science and Engineering Journal (2017).
8. Almarshad, H., and Elderderly, A., Blood Alterations Associated with IP Injection of Platinum and Titanium Nanoparticles, 13th International Conference and Exhibition on Nanomedicine and Pharmaceutical Nanotechnology, 2017.
9. Almarshad, H. "Chemical composition analysis of biliary stone by the use of energy dispersive X-ray spectroscopy (EDS)." HPB 18 (2016): e489.
10. Almarshad, H., and Elderderly, A., "Oral Administration of Ginger Rhizome Extract Protects Against Side Effects of Azathioprine on Erythropoiesis". International Journal for Pharmaceutical Research Scholars, 4(4), 38-42, (2015).
11. Almarshad, Hassan A., and Fathelrahman M. Hassan. "Alterations in Blood Coagulation and Viscosity Among Young Male Cigarette Smokers of Al-Jouf Region in Saudi Arabia." Clinical and Applied Thrombosis/Hemostasis (2014): 1076029614561319.
12. Almarshad H., The Electrophysiology of Optic Lobes to Assess Visual Photosensitivity: The Compound Eye as a Model, J. Med. Imaging Health Inf. 1, 256-261 (2011).
13. Almarshad H., "Effect of ginger rhizome extract on lymphocytopenic guinea pig with azathioprine", African Journal of Pharmacy and Pharmacology, 8(41), pp. 1066-1070, 8 November, (2014).

14. Almarshad H., "Evaluation of Five Systems and Two Methods for Invasive and Minimally Invasive Blood Glucose Measurements", Proceedings of the 36th International Conference of the IEEE Engineering in Medicine and Biology Society. (2014).
15. Bakheet M., and Almarshad H., "Improving effect of zinc supplementation on pituitary gonadotropins secretion in smokers", African Journal of Pharmacy and Pharmacology, 8(3), pp. 81-86, (2014).
16. Almarshad H., and Hassan F. "The Hemorheological properties of blood among Saudi male Smokers in Sakaka city, Aljouf, Saudi Arabia", Middle East Journal of Family Medicine, P: 14-17, (2012).
17. Almarshad H., and Mahasneh S., "Application of quality standards and academic accreditation in Health Colleges at Al-Jouf University", The Saudi International Medical Education Conference SIMEC, (2012).
18. Almarshad H., and Misbah, S., "Health programs evaluation based on NCAAA at Al Jouf University", The Saudi International Medical Education Conference SIMEC, (2012).
19. Almarshad H. A., "Assessing the Photosensitivity of the Compound Eye in Firefly Photuris sp\_an Electrophysiological Approach", IEEE Xplore, MECBME'11, (2011).
20. Al Marshad H., University of Connecticut, A method for compound eye mapping: Dimensions and regional variations in firefly (Coleoptera: Lampyridae) compound eye, ProQuest, 2008.
21. Marshad, H.A., A. Corless, J. Copeland and A. Moiseff, "A method for measuring the surface features of the firefly (Lampyridae) compound eye." J. Entomol. Sci. 43(3): 279-290, GA, USA, 2008.
22. Marshad, H.A. and Moiseff, A , "Structure and Function of the Compound Eye in Photinus carolinus Firefly (Lampyridae): Regional Variation and Visual Performance ", Proceedings of the 31st Canadian Medical and Biological Engineering Conference, Montreal, CANADA, 2008
23. Al Marshad, H.A. Lee, K.F. Enderle, J.D. "Induced Pain Inhibition System (IPIS): A New Technique to Manipulate Experimental Pain on Human Subject", Proceedings of the IEEE 27<sup>th</sup> Annual Northeast Bioengineering Conference, Storrs, USA, 2001

#### Conferences, workshops and academic and professional trainings:

2018-Jul (17-21)	<i>The 40th Conference of the IEEE society of Engineering in Medicine and Biology, EMBC , Honolulu, HI, USA</i>
2018-Jul (17)	<i>Writing a Patent Application for Biomedical Technologies, workshop, EMBC , Honolulu, HI, USA</i>
2018-Jul (17-21)	<i>Energy-Based Cancer Interventions: Basic Science, Clinical Application, and Technology Translation, 2018, EMBC , Honolulu, HI, USA</i>
2017-Nov	<i>The Entrepreneurship and Innovation in the New South, Huntsville, AL, USA</i>
2015-Nov (15-18)	<i>Development of Diabetes Research Projects: Causes, Management and Complications Workshop , MDRC , MUHCRI , Aljouf University, Sakaka, S.A.</i>
2015-Sep (14-18)	<i>The Complete Course on Leadership , ANDERSON HR, 14 - 18 Sep 2015, Barcelona , Spain</i>
2014-Dec (7-11)	<i>Ethics Teachers Training Course (ETTC) organized by UNESCO at Sultan Qaboos University held in Muscat, Oman.</i>
2014-Oct (5-10)	<i>Excellence Journey of Universities in the 21st Century Leadership Program for Academic Executives, SAHARA GROUP , Istanbul/Turkey</i>
2014- Jun (8-10)	<i>Managerial Creativity, IPA, Riyadh</i>

2014-Apr (9-10)	1st International Symposium " <i>Advances in the Management of Diabetes and its Complications</i> ", Aljouf University, Sakaka, S.A.
2014	<i>Training course for members of the local bioethics committees</i> , NCBE-KACST, Aljouf University, Sakaka, S.A.
2014	<i>Scanning Electron microscopy SEM-EDS training</i> , Jeol-AlQussabi, JU/CAMS/EM laboratory, Aljouf University, Sakaka, S.A.
2013	<i>Bioethics Forum</i> , local bioethics committee at Al Jouf university in conjunction with National Committee of Bioethics NCBE-KACST and KFSH&RC, Aljouf University, Sakaka, S.A.
2013	<i>Second Meeting of the local committees for research ethics</i> , NCBE, KACST, Riyadh
2012-Nov (12-16)	<i>Ethics Teachers Training Course (ETTC)</i> organized by UNESCO at the Vilnius University, Vilnius, Lithuania.
2012-Jun (18-21)	<i>Knowledge Management for Higher Education</i> , America's Future, Morgantown, WV, USA.
2012-Jun (25-27)	<i>Integrated Sustainability Planning Institute</i> , Academic Impressions, Atlanta, GA.
2012-Apr (22-26)	<i>The Saudi International Medical Education Conference</i> , Riyadh, Saudi Arabia.
2012-Feb (7-8)	<i>Establishing Data Analysis and Reporting System Based on NCAAA Requirement</i> , British Council, Aljouf University, Sakaka, S.A.
2011-Oct (18-22)	<i>The 43rd Asia-Pacific Academic Consortium on Public Health (APACPH)</i> Conference in Seoul, Korea.
2011- Dec (4-6)	<i>Effectiveness of Manager in Work Groups</i> , IPA, Jeddah, S.A.
2011-Mar (30)	<i>Science and Technology Workshop</i> , KACST, Riyadh, S.A.
2011-Mar (12-14)	<i>Saudi Conference for Colleges of Health Sciences: Facing Challenges and Setting Directions</i> , Riyadh, S.A.
2010-May (10-11)	<i>Bologna Process workshop</i> , Ministry Of Higher Education, Riyadh, S.A.
2010-Apr (12-15)	<i>The 4th. Medical Devices Scientific Forum</i> held in synchronization with the Saudi Health Care Exhibition 2010, Riyadh, S.A.
2010-Feb (11-14)	International Exhibition and Conference On Higher Education, Riyadh
2010-Jan (11-12)	<i>The 4th. Meeting Of Saudi Universities On Scientific Research</i> , Hail, S.A.
2009-Oct (12-14)	<i>Quality Assurance and Accreditation Workshop</i> , Joint program University of Pittsburgh-Taibah University, Al-Madinah Al-Munawwarah, S.A.
2009-Oct (7)	<i>Bioethics workshop</i> , National Committee of Biological & Medical Ethics, KACST, Riyadh, S.A.
2009-May	<i>Learning management system (LMS)</i> , National Center for E-Learning and Distance Learning, Riyadh, S.A.
2009-3-(23-25)	<i>Academic leadership under a change</i> , Imam University-Aljouf University, Aljouf University, Sakaka, S.A.
2009-3-(28-30)	<i>Strategic planning in academic institutions</i> , Imam University-Aljouf University, Aljouf University, Sakaka, S.A.
2009-Feb	<i>Transmission Electron microscopy TEM</i> , operational training, AlQussabi, JU/COS/EM laboratory, Aljouf University, Sakaka, S.A.
1998	<i>Management Training</i> at the Institute of Public Administration (IPA), Riyadh, KSA
1995/1996	<i>Managerial Training</i> at Texas Medical Center / Texas Children Hospital, Houston, TX, USA
1995/1996	<i>Technical Training</i> at Texas Medical Center / Biomedical Engineering Department, Houston, TX, USA

### *Provided Technical Trainings:*

- “Scanning Electron Microscopy SEM-JEOL-JSM-6510: Imaging and Microanalysis”, CAMS, at Aljouf University, Sakaka, 2016.
- “Virtual Electron Microscopy: A suitable way for students teaching and learning”, CAMS, at Aljouf University, Sakaka, 2016.
- “Local Committee of Bioethics at JU”, NCBE-KACST, at Al Jouf university , Sakaka, 2014
- “Bioethics for Students’ Researchers”, Aljouf University, provided to students participating in Scientific Conf. of Higher Education, Students’ Affairs, Aljouf University , 2013
- “Effect of Smoking in Blood Rheology”, provided in Smoking-Drugs Awareness Program, Students’ Affairs, Aljouf University, 2013
- “E-Learning in Classes, JUSUR Learning Management System, provided to faculty at Health Science College, Aljouf, Saudi Arabia, 2012
- “WebEx as a Tool for Long Distance Teaching and Meetings, provided to faculty at Health Science College, Aljouf, Saudi Arabia, 2012
- “e-Communication System for College Administration, provided to employees at Health Science College, Aljouf, Saudi Arabia, 2012
- “Bloodborne Pathogens and Infection Control”, safety education program provided to departmental group at Baystate Health Systems BHS, Springfield, MA, USA, 2000
- “Equipment Safety at BHS ”, safety education program provided to departmental group at Baystate Health Systems BHS, Springfield, MA, USA 1999.
- “Blood Coagulation Analyzers”, Presentation and Cross Training for KFSH & RC Biomedical Staff, Riyadh, KSA, 1997.
- “Hematology Analyzers”, Presented in KFSH & RC as a cross training for Biomedical Engineering Staff, Riyadh, KSA, 1994.

### *Research, teaching and profession promotion interests:*

- Health and Technology
- Research and Development of Biotechnologies
- Medical research
- Precision Medicine
- Biomedical devices / Healthcare standards
- Micro/Nano analysis
- Analytical systems
- Nanomedicine
- Flow and blood rheology
- Diabetes technology
- Surface Characterization by Spectroscopy and Microscopy
- Chemical analysis
- Electron Microscopy (TEM,SEM, AFM, STM, FIB ..)
- Biomaterials, Tissue Engineering
- Computational Neuroscience
- Optical Systems And Imaging
- Bioengineering, Bioinstrumentation , Analytical Measurements

### *Skills:*

Leadership, Teaching, Research, Nanotechnology, Electron Microscopy, Micro and Nano analysis, Spectroscopy, Cell Analysis, Neuroengineering, Imaging, Bioethics , e-learning interactive



environments, LMS, webx, LabVIEW, Matlab, Simulink, Signal Processing, Signal Interface, Data Acquisition and Generation, Data Analysis, SPSS, SigmaPlot, Graphpad, as well as many other statistical and engineering applications.

*Professional Memberships:*

- IEEE Engineering in Medicine and Biology (EMB)
- Canadian Medical and Biological Engineering Society (CMBES)
- Saudi Scientific Society for Biomedical Engineering (SSSBE)

*References:*

1. Kazunori Hoshino, Ph.D.  
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Biomedical Engineering Department  
University of Connecticut  
Storrs, Connecticut  
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2. Fathelrahman Mahdi Gameel, Ph.D.  
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