

FALAH HASAN ABDULSADAH

Research Scholar

Department of Mechanical Engineering/Prosthetics and Orthotics

Aligarh Muslim University, Aligarh (UP), India

Nationality :Iraqi

Email: falahsci@gmail.com

Mob: 07814475662

RESEARCH INTEREST

Design and Manufacturing, Ergonomics, Biomedical Engineering, Materials

- Additive Manufacturing (AM)
- Orthotics and Prosthetics (O&P)
- Rehabilitation/Assistive robotics
- Work related musculoskeletal disorders (WMSDs)
- Human response to vibration
- Product design and ergonomics
- Biomaterials, Biomechanics, Biotribology
- Industrial Engineering, Project Management

EMPLOYMENT/ EXPERIENCE

- **Ph.D** Department of Mechanical Engineering, Aligarh Muslim University, Aligarh (UP), India.

QUALIFICATIONS

PhD from Department of Mechanical Engineering, Aligarh Muslim University (AMU), Aligarh (UP), India.

Ph.D Title: Development of Ankle Foot Orthoses by Additive Manufacturing.

Qualification	Discipline	School/College	Year	%average (100 scale)
Ph.D	Mechanical Engg Manu and Prod	Aligarh Muslim University College of Engineering Aligarh (UP), India	2020	
M.Tech.	Mechanical Engg Manu and Inds	Baghdad University College of Engineering, Iraq	2014	72.194%

B.Tech.	Manufacturing Operations Engg.	AL-Khwarizmi College of Engineering/ Baghdad University, Iraq	2006	67.241%
Secondary school (XII)	Science	Othman Bin Saeed, Iraq	1998	85.428 %

ACADEMIC PROJECTS

- B.Tech. (2006): Design and Manufacturing Scara Robot.
 - M.Tech. (2014): Computer Aided Scheduling Optimization Through Altering Factory.
- P.hD (2020): Development of Ankle Foot Orthoses by Additive Manufacturing.

COURSES AND WORKSHOPS ATTENDED

- Attended two weeks course on “Advanced Robotics” under TEQIP, held at IIT Kanpur, India
- Attended one week course on “Introduction to Robotics” under TEQIP, held at IIT Kanpur, India .
- Attended one week course on “Challenges to Materials in Oil Exploration” Facilitated by the Federation of Aligarh Alumni Associations, North America .
- Attended one day workshop on “Publishing in High Impact Journals”, held at ZHCET, AMU, Aligarh, India.
- Attended one day workshop on “National Instruments Education and Research Seminar” held at Ajay Kumar Garg College of Engineering, Ghaziabad, India.
- Attended one day workshop on “National Instruments Education and Research Seminar” held at Delhi, India.
- Attended one day workshop on “Clean and Green Source of Energy”, held at ZHCET, AMU, Aligarh, India.
- Attended one week workshop on “Trends in Advance and Sustainable Manufacturing Technology, held in Aligarh Muslim University, Aligarh, India.
- Attended one day workshop on “Centre For Disaster Management Studies”, held in Aligarh Muslim University, Aligarh, India.
- Attended two days workshop on “Condition Monitoring of Machines”, held in Aligarh Muslim University, Aligarh, India.
- Attended two days workshop on “Condition Monitoring of Machines”, held in Aligarh Muslim University, Aligarh, India.

- Attended one day workshop on “Introduction to Data Science Using Statistics”, held in Aligarh Muslim University, Aligarh, India.
- Attended one week workshop on “Computational Methods in Engineering Mechanics, held in Aligarh Muslim University, Aligarh, India.
- Attended one week workshop on “Data Analysis Using SPSS, MINTAM & R, held in Aligarh Muslim University, Aligarh, India.
- Attended one day workshop on “Inter- Faith Understanding”, held in Aligarh Muslim University, Aligarh, India.
- Attended one week workshop conducted by Industry Experts on Advances in Automobile Engineering & Electric, Hybrid and Plug-in Hybrid Electric Vehicles held in Aligarh Muslim University, Aligarh, India.
- Attended three days workshop on “Chemo metrics: Application in Chemistry, Nanotechnology and Industry”, held in Aligarh Muslim University, Aligarh, India. Collaboration with Siegwark India Pvt.Ltd.
- Attended one day workshop on “Lab View Application in Mechatronics”, held at Department of Mechanical Engineering, ZHCET, AMU, Aligarh, India.
- One year course in proficiency in English for research scholars from EFL/ESL countries held at AMU, Aligarh, India, 2016-2017.
- Also, after graduating from my PhD, I worked in the Iraqi Ministry of Health \ Department of Rehabilitation of the Disabled \ Jaafar Al-Tayyar Factory for Prosthetic Limbs and orthotics(2021-unttile know).
- lecturer in the department of prosthetics and orthotics university of Karbala / Ministry of Higher Education and Scientific Research to teach topics, such as Biomechanics, Biotribology, Pathology, upper limbs prosthesis, lower limbs prosthesis, upper limbs orthosis, lower limbs orthosis, medical device, rehabilitation science and engineering topics.

INTERNATIONAL CONFERENCES

1. **Falah Hasan Abdulsadah**, Q. Murtaza and S. Bhardwaj “Manufacture, design and structural analysis of a custom ankle foot orthoses on foot drop patients using 3D scanning” in *International Conference on Innovative Product Design & Development*, Faridabad, 2017.
2. **Falah Hasan Abdulsadah**, Q. Murtaza, F. Hasan, S. J. A. Rizvi, Mawlood Maajal Ali and T. Hussain “Additive Manufacturing of Acrylonitrile Butadiene Styrene (ABS) Using Fused

Deposition Modeling (FDM) and Enhancement of Mechanical Properties Using CFRP Composites” in *Advances in Material & Processing Technologies Conference, 2017*.

3. **Falah Hasan Abdulsadah**, Q.Murtuza, F. Hasan and M. Parvez “Vibration Analysis of Custom Ankle Foot Orthosis (AFO) for Drop Foot patient” in *HWWE 2017*.
4. **Falah Hasan Abdulsadah**, Q. Murtuza and M.Varshney “Design and Analysis of a custom Ankle Foot Orthosis (AFO) with Foot Drop Patient” in *HWWE 2017*.
5. **Falah Hasan Abdulsadah**, Q. Murtuza, S. Bhardwaj M. A. Khalaf and I. A. Mohsen “Design and Analysis of Partial Right Foot Chopart Socket Prosthesis” in *HWWE 2017*.
6. **Falah Hasan Abdulsadah**, Qasim Murtaza, Faisal Hasan, Moaid K. Hussain “Improvement in Gait Cycle with Ankle Foot Orthosis” in *HWWE 2018, Kerala* .
7. **Falah Hasan Abdulsadah**, Qasim Murtaza, Faisal Hasan, S. Bhardwaj “Mechanical suitability of carbon fiber based composite for chopart prosthetic socket” in *NFEST 2019, NIT Kurukshetra* .
8. **Falah Hasan Abdulsadah**, F. Hasan, Q. Murtaza, S. Bhardwaj “ Effect of Ankle Foot Orthosis on the Muscle Activity of Drop Foot Patient: A Case Study” *International Journal of Mechanical and Production Engineering Research and development*.
9. Ali Nawaz, **Falah Hasan Abdulsadah**, Q. Murtaza, F. Hasan, Taliv Hussain “Surface Modification of Aluminum Alloy 6063 by Silicon Carbide Powder (Sic) through FSP” in *Advances in Material & Processing Technologies Conference, Chennai,2017*
10. Moid K. Hussain, **Falah Hasan Abdulsadah**, Mawlood Maajal Ali “Half –Maltic Properties of the new $Zr_2 RhB$ inverse Heusler alloy with $CuHg_2 Ti$ -type structure ” in (AIP) *American Institute Physics, Haryana Conference, 2018*.

PUBLICATIONS

1. **Abdulsadah, F. H.**, Murtaza, Q., Hasan, F., Khan, A. A., “Design and manufacture of a custom ankle-foot orthoses using traditional manufacturing and fused deposition modelling,” *Progress in Additive Manufacturing*.
2. **Abdulsadah, F. H.**, Hasan, F., Murtaza, Q., Bhardwaj, S., “Effect of AFO on the muscle activity of drop foot patient: a case study,” *International Journal of Mechanical and Production Engineering Research and Development*, 9(3), pp. 1535-1540, 2019.

3. **Abdulsadah, F. H.**, Murtaza, Q., Hasan, F., and Bhardwaj, S., “Mechanical suitability of carbon fiber based composite for chopart prosthetic socket,” *Journal of Physics: Conference Series*, vol. 1240, 2019. (<https://doi.org/10.1088/1742-6596/1240/1/012154>)
4. **Abdulsadah, F. H.**, Murtaza, Q., Hasan, F., Hussain, M. K., “Improvement in gait cycle with ankle foot orthosis” in *16th International Conference on Ergonomics- HWWE*, 2018, Kerala, India.
5. **Abdulsadah, F. H.**, Murtaza, Q., Bhardwaj, S., Khalaf, M. A., Mohsen I. A., “Design and analysis of partial right foot chopart socket prosthesis,” in *15th International Conference on Ergonomics- HWWE*, 2017, Aligarh, India.
6. **Abdulsadah, F. H.**, Murtaza, Q., Varshney, M., “Design and analysis of a custom ankle foot orthosis (AFO) with foot drop patient,” in *15th International Conference on Ergonomics- HWWE*, 2017, Aligarh, India.
7. **Abdulsadah, F. H.**, Murtaza, Q., Hasan, F., Parvez, M., “Vibration analysis of custom ankle foot orthosis (AFO) for drop foot patient,” in *15th International Conference on Ergonomics- HWWE*, 2017, Aligarh, India.
8. **Abdulsadah, F. H.**, Murtaza, Q., Hasan, F., Rizvi, S. J. A., Ali, M. M., Hussain, T., “Additive manufacturing of acrylonitrile butadiene styrene (ABS) using fused deposition modeling (FDM) and enhancement of mechanical properties using CFRP Composites,” in *Advances in Material & Processing Technologies Conference*, Chennai, India, 2017.
9. **Abdulsadah, F. H.**, Murtaza, Q., Bhardwaj, S., “Manufacture, design and structural analysis of a custom ankle foot orthoses on foot drop patients using 3D scanning,” in *International Conference on Innovative Product Design & Development*, Faridabad, India, 2017.

VOCATIONAL TRAINING

- One month training at Bhagwan Mahaveer Viklang Sahayata (MBVSS), Jaipur, India. (7th February 2019 – 8th March 2019). Has done training in prosthetics and orthotics and gait lab to manufacture artificial limbs and callipers.
- Training of 3D smart scanner system by Six-D marketing solutions PVT LTD New Delhi, India.
- Training in computer integrated manufacturing system (CNC Lathe Machine, CNC Milling Machine, Robot, ASRS, AGV & Interfaces, Aligarh Muslim University, Aligarh, 2016.
- One week training program on “Nature Inspired Optimization Techniques and Research Paper Writing Using LATEX Software” Aligarh Muslim University, Aligarh, 2017.

SOFTWARE AND PROGRAMMING SKILLS

LabVIEW	ANSYS	Solid Works
Autodesk AutoCAD	Autodesk Inventor	HumanCAD
MATLAB	Microsoft Office	SPSS
Autodesk Simulation Mechanical	V.B	

REFERENCES

Prof. Abid Ali Khan

*Professor, Mechanical Engineering Department
Aligarh Muslim University, Aligarh
Email: abidak71@Yahoo.com*

Prof. Qasim Murtaza

*Professor, Mechanical Engineering Department
Delhi Technological University, Delhi
Email: qasimmurtaza@gmail.com*

Dr. Faisal Hasan

*Associate Professor, Mechanical Engineering Department
Aligarh Muslim University, Aligar*

الاسم: فلاح حسن عبد السادة الشمري

العراق | كربلاء | حي العامل المنطقة الاولى

قسم الهندسة الميكانيكية / الأطراف الصناعية وتقويم العظام جامعة عليكرة الإسلامية ، عليكرة (UP) ، الهند

كربلاء | حي العامل المنطقة الاولى

الحالة الاجتماعية | متزوج ولدي طفلتان

اهتمامات الابحاث

التصميم والتصنيع ، بيئة العمل ، الهندسة الطبية الحيوية ، المواد الهندسية والطبية

• التصنيع الإضافي (AM)

• تقويم العظام والأطراف الصناعية (O&P)

• إعادة التأهيل / الروبوتات المساعدة

• الاضطرابات العضلية الهيكلية المرتبطة بالعمل (WMSDs)

• استجابة الإنسان للاهتزازات

• المواد الحيوية ، الميكانيكا الحيوية ، علم احتكاك المفاصل

• الهندسة الصناعية ، إدارة المشاريع

العمل / الخبرة

• دكتوراه قسم الهندسة الميكانيكية/ الأطراف الصناعية وتقويم العظام ، جامعة عليكرة الإسلامية ، عليكرة (UP) ، الهند.

تدريسي كلية الحسين الجامعة للفترة من 2009-2020 .

تدريسي في جامعة وارث الانبياء قسم الطب الحيوي 2020-2021.

اعمل في مركز جعفر الطيار لتأهيل المعاقين ومصنع الاطراف الصناعية والمساند الطبية من 2021 الى الان.

عضو في المنظمة الدولية للاطراف والمساند الصناعية ISPO

