

# Nasim George Alnu'man

Alfuhis-Jordan  
P.O.Box 10151  
Code 11151 Alashrafieh  
Mobile: 0 777 809309  
Telephone: +962 6 4729101  
E-Mail [nasim.alnuman@gu.edu.jo](mailto:nasim.alnuman@gu.edu.jo)  
[nasim\\_numan@yahoo.com](mailto:nasim_numan@yahoo.com)



## Personal Information

- Date / Place of Birth: 4 June 1978 / Amman, Jordan
- Gender: Male
- Nationality / Citizenship: Jordanian
- Marital status: Single

## Education

1.2006 – 5.2010                      Technische Universität Darmstadt                      Darmstadt, Germany

- Ph. D. Student at the Department of System Reliability and Machine Acoustics, Technische Universität Darmstadt
- Research interest: Advanced multibody simulation of the human gait, Adaptive Systems, Prosthesis.
- Dissertation: Advanced Simulation of an Adaptive Lower Limb Prosthesis. Pub. Online: <http://tuprints.ulb.tu-darmstadt.de/2149/>

9.2001 – 2.2004                      University of Jordan                      Amman, Jordan

- M. Sc. Degree in Mechanical Engineering.
- Graduate Average: 3.32/4.0 Rating: Very Good.
- Thesis: Thermal Contact Conductance of Elastically Deforming Flat Rough Surfaces Using Fractal Geometry.

9.1996 – 2.2001                      University of Jordan                      Amman, Jordan

- B. Sc. Degree in Mechanical Engineering.
- Graduate Average: 3.38/4.0 Rating: Very Good.
- Graduation Project: Force-Motion Programming for Spring Loaded Mechanisms.
- Different projects in Machine Design, Dynamics of Machinery, Plumping, and Manufacturing Process.
- Training in Royal Jordanian Airline. (Including Departments of Service engineering, Ground Support, Engine overhaul, and Components shops).

1995 / 1996    Secondary Education    National Patriarchal College                      Amman, Jordan

- General Secondary Education Certificate Examination 1996 – Scientific Stream
- Percentage Average: 94.8%

## Work Experience

9.2010 - Present                      German-Jordanian University                      Amman, Jordan

Assistant professor at the department of applied medical engineering. Teaching and research activities in biomedical engineering (Some taught courses: Numerical Analysis for Biomedical engineering, Biomechanics, Biomaterials, Biomedical Signal and Image Processing, Prosthetics and Orthotics).

Research activities and Interests: Prosthetics and Orthotics, Digital Imaging Based Gait Analysis System, Noise Induced Hearing Loss, Energy Harvesting from Human Power.

5.2004 - 6.2005                      Getzner Werkstoffe                      Amman, Jordan

Technical Engineer: Noise and Vibration Isolation. Vibration Isolation of machinery using polyurethane Materials. Also Structure and Air born sound isolation using different polyurethane and fiberglass materials. The work include design and installation.

8.2002 - 5.2004                      Light Industry Company                      Amman, Jordan

Production and Maintenance Engineer: Manufacturing of car's radiators using copper and its alloys.

10.2001 - 7.2002                      Q.A. Engineering Company                      Amman, Jordan

Design and Manufacturing Engineer: the work include designing and manufacturing of steel structures and machines (Pipe works, Cyclones, Cranes and End carriage, Belt conveyers, Grinder sieves).

## Professional Qualifications and Certified Workshops

02.2012                      British Council and Rolls Royce                      Amman, Jordan

Judge for the School Competition „Big Science Challenge: Water and Energy“ sponsored by Rolls Royce and the British Council.

03.2011    The institute of Physics (UK)/El Hassan Science City (JOR)    Amman, Jordan

Intensive workshop on ‘Entrepreneurship for Scientists and Engineers in Jordan’ includes introduction to the process of innovation, generation and protection of intellectual property, technology transfer and commercialization of inventions.

03.2010    Deutsches Institute für Betriebswirtschaft (dib) GmbH    Darmstadt, Germany

Seminar Serien on ‘Neu in der Führungsrolle: die eigene Fähigkeit gezielt einsetzen und „Anfängerfehler“ vermeiden’ .

07.2009    Fraunhofer Institute (LBF)/ TU Darmstadt - SzM    Darmstadt, Germany

Workshop and seminar on ‘Betriebsfestigkeit – Bauteilauslegung unter Schwingbeanspruch mit konstanten und variablen Amplituden‘

## Scholarships

7.2005- 9.2009                      KAAD                      Darmstadt, Germany

KAAD (Katholischer Akademischer Ausländer – Dienst) Scholarship for living expenses along

the period of my PhD study in Germany.

### Funded Projects and research activities

7.2011- 9.2011 Faculty for Factory (FFF) Amman, Jordan

Market and Feasibility-Study of Manufacturing Artificial Limbs and their Components (Prosthetics) in Jordan.

7.2013- 9.2013 Guest Visit Darmstadt, Germany

A Research stay in Germany in contact with TU Darmstadt, this summer a research visit to Germany is organized in the period (20.06 – 20.09.2013). The research is about developing a numerical model of the human being for use in evaluating the efficiency of modular adaptive prosthetic limbs

### Papers and Publications

- Abuzeid O. M., **Alnuman N.**, “Thermal contact conductance of Elastically Deforming Nominally Flat Surfaces using Fractal Geometry”, Industrial Lubrication and Tribology, **to appear in**, Vol. 65 (6), 2013.
- **Alnuman, N.:** “Advanced Simulation of an Adaptive Lower Limb Prosthesis”, TU Darmstadt [Dissertation], (2010) Online: <http://tuprints.ulb.tu-darmstadt.de/2149/>

### Publication in Progress

- **Alnuman N.**, “Evaluation of the Hazards of loud music in Parties (wedding) on the hearing of DJ and hotel workers in Jordan”, (**in progress**).

### Presentations and Seminars

- Alnuman Nasim, “Simulation’s Role in the design of adaptive lower limb prosthesis”, was presented in the Sixth Rehab Science Day at the University of Jordan, Amman, 2012.
- Alnuman, Nasim, “ Prosthetics, New Horizons ”, was presented in The ministry of Health, Al-Basheer Hospital, Amman, March, 2013.
- Alnuman, Nasim, “ Advances in Prosthetics and Orthotics”, Al-Hussein society: Jordan center for training and Inclusion, Amman, March, 2013.

### Sample Students’ projects supervised

- Automated prostate cancer diagnostic utilizing the fractal geometry and spectrum as a signature
- Design and verification of an EEG controlled tailor made hand prosthetic.
- Design of a solid state cooling system for the human limbs combined with vibration based message system for reducing muscle cramps effects
- Design of a lower limb artificial foot with movable ankle joint for walking on inclined surfaces (up and down hill)
- Evaluation of the hazards of sounds/noise on the worker in Jordanian factories, and the

hearing impairment (hearing loss) related to them.

- Developing an image processing based sign language recognition algorithm and program
- Automated heart diseases diagnostic program based on Auscultation (heart sounds)

#### **Academic Services**

- Preparation and developing Biomechanics Lab Manual.
- Preparation of Medical Signal and Image Processing Lab Manuals.
- Tenders preparation for Biomechanics and Biomaterials Labs
- Tenders preparation for Medical Signal and Image Processing Labs
- Library committee member for the academic year 2010/2011
- Faculty council member for the year 2010/2011
- Advisory for 2009 students

#### **Student Activities and Community services**

- Building models of the human body for vision impaired children for Royal Blind Academy in cooperation with the vision rehabilitation program at the GJU.
- Consultation for the student's club SoBiom (Society of Biomimetics). Academic year 2012/2013.

#### **Affiliations**

03.2001- present                      Jordanian Engineers Association                      Amman, Jordan

#### **Computer skills**

Multibody simulation (Simulation Programmes SIMPack and ADAMS), FEM simulation (Ansys), Matlab, Autocad (2D, 3D), ForTran, Integration of FEM and MBS

#### **Languages**

Arabic (fluently)  
English (very good)  
German (very good)

#### **Hobbies**

Reading , Cycling, Hiking

#### **References**

Available upon Request