Khaled Boulbrachene

Personal Information

Nationality: Algerian
Date of birth: 24/02/1994
Gender: Male
Marital Status: Single

Contact Information

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Languages

Arabic: Native proficiency
English: Professional working proficiency
German: Intermediate proficiency (B1 Level)

Research Interests

Computational Fluid Dynamics, Fluid Structure Interaction, Finite Elements, Numerical analysis

Education

Technical University of Munich, Munich, Germany
M.Sc., Computational Mechanics, January 2020
Master thesis: *"Implementation of an Immersed Boundary Method for a fourth-order Finite Volume Scheme"*.
Graduating GPA: 1.6/1.0

Sultan Qaboos University, Muscat, Oman
B.Eng., Mechanical Engineering, June 2016
Bachelor thesis: *"Design and fabrication of an experimental setup to investigate fatigue failure in drilling pipes"*.
Graduating GPA: 3.7/4.0

Work Experience

Work Student, Munich, Germany 06.2019 – Present
Quality assurance team, Mecuris GmbH
Quality assurance of 3-D printed prosthetic feet by means of Finite Element simulations, Meta-models of Optimal Prognosis (MOP) and optimization.

Student Assistant, Munich, Germany 11.2018 – 04.2019
Chair of Structural Mechanics – Technical University of Munich
Development of a Wavelet Transform online interactive application.

Research Assistant, Duha, Qatar 03.2017 – 05.2017
Qatar University
Mathematical modelling to numerically analyze the impact of lateral and torsional vibrations on horizontal drill pipes.

Research Assistant, Muscat, Oman 10.2016 – 12.2016
Sultan Qaboos University
Numerical analysis to evaluate the effective properties of smart composite materials.

Training and Workshops

Ferienakademie, Sarntal, South Tyrol, Italy 09.2018
Summer School
Topic presented: Space-time Discretization Technique as a Methodology for Multiscale Mechanical Simulations.

TU Bergakademie Freiberg, Freiberg, Germany 07.2015 – 08.2015
Summer Training
Modeling of accommodation coefficient measurement device (ACM) using SolidWorks software.

Projects

Please refer to this website for more details on the projects.

Immersed Boundary pisoFoam Solver 07.2019

CFD Analysis of the JPMorgan Chase Tower. 03.2019

Implementation of Finite Cell Method in Commercial Finite Element Software (ABAQUS). 11.2018

Implementation of Trimmed Isogeometric Analysis for Membrane Structures. 08.2018

Computer Skills

CAD: SolidWorks
FE: Ansys, Abaqus
Programming languages: C++, Python, Matlab, LaTeX

Publications

1. Jamil Abdo, Edris Hassan, **Khaled Boulbrachene** and Jan Kwak "Modeling and Experimental Investigations of Drill Pipe Failure" *ASME 2017 International Mechanical Engineering Congress and Exposition, November 2017, Tampa, Florida, USA*

2. Jamil Abdo, Edris Hassan, **Khaled Boulbrachene** and Jan Kwak "Drillstring failure-Identifications, Modelling and Experimental Characterization" *ASME Journal of Risk and Uncertainty in Engineering Part B. Accepted for publication, Sep. 2018*