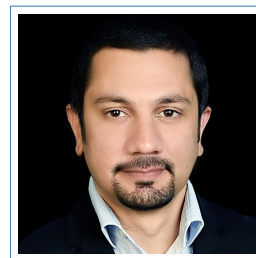


# Ali AlSaibie

Assistant Professor

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## Education

- 2013–2018 **PhD, Mechanical Engineering**, *Georgia Institute of Technology*, Atlanta, GA, USA.  
Mechatronics, Robotics, Control
- 2012–2013 **Master of Science, Mechanical Engineering**, *Georgia Institute of Technology*, Atlanta, GA, USA.
- 2003–2006 **Bachelor of Science, Mechanical Engineering**, *University of Texas at Austin*, Austin, TX, USA.
- 2006 **Minor in Business Administration**, *University of Texas at Austin*, Austin, TX, USA.

## Research Interests

Primary

**Mechatronics, Robotics, Applied Estimation and Control.**

Secondary

**Engineering Education, Sustainable Design.**

## Research Experience

Kuwait University

Sep '22 – present ***Aerodynamic Force Modeling on Drones in Confined Spaces.***

Oct '22 – present ***Slosh Estimation and Control in 3D Motion***, Funding: *KU RS EM01/21*, Co-Investigator, PI: Dr. Abdullah AlShaye, Assistant Professor, Mechanical Engineering Department, Kuwait University.

Georgia Institute of Technology (Graduate Studies)

Jan '15 – Dec '18 ***Mechatronic Design of Micro-Autonomous Underwater Vehicles in Confined Spaces.***

A Model-Based approach to the design and analysis of autonomous micro-underwater vehicles, including hydrodynamic simulation and validation, sim2real dynamic simulation and vision based pose-estimation

Advisor : **Dr. William Singhose**, Professor, Department of Mechanical Engineering, Georgia Institute of Technology ([Web-page](#))

May '14 – Aug '14 ***Monocular Vision-Based Pose Estimation in Confined Spaces.***

Advisor : **Dr. Kamal Youcef-Toumi**, Professor, Department of Mechanical Engineering, Massachusetts Institute of Technology ([Web-page](#))

Jan '14 – May '14 ***Crane-Robot Integration.***

Integrated a two-link robot arm with a dual-hoist crane platform, using Siemens Simotion motion controllers and S7 PLCs, allowing for simultaneous control and trajectory execution of the integrated system.

Advisor : **Dr. William Singhose**, Professor, Department of Mechanical Engineering, Georgia Institute of Technology ([Web-page](#))

May '12 – **Experimental Investigation of Slosh Suppression using Input Shaping.**  
Sep '12

Advisor : **Dr. William Singhose**, Professor, Department of Mechanical Engineering, Georgia Institute of Technology ([Web-page](#))

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## Teaching Experience

Assistant Professor, Kuwait University

2019 – **ME 319 Mechatronics**, S19, S20, S21, S22.

Current <https://alsaibie.github.io/me319/>

**ME 417 Control of Mechanical Systems**, F19, S20, SS20, F20, S21.

<https://alsaibie.github.io/me417/>

**ENG 203 Dynamics**, S19, F19, F20, SS21, F21.

*Summer 2021 Lectures*

**ME 459 Engineering Design (Capstone)**, F21, S22.

**ENG 307 Numerical Methods and Programming for Engineers**, F19.

Graduate Teaching Assistant, Georgia Institute of Technology

2015-2018 **ME 4447/6405 Introduction to Mechatronics**, F15, F16, Lead TA.

**ME 6408 Advanced Mechatronics**, S16, S17, S18, Lead TA.

**ME 6404 Advanced Control Design and Implementation**, F17, TA.

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## Publications

In Conference Proceedings

Jul '14 **Ali AlSaibie, Arto Kivila James Potter, William Singhose**, Fostering Global Collaboration Between Engineering Students Through a Robotic Design Competition, *2014 Hawaii University International Conferences*.

2013 **AlSaibie, Ali and Singhose, William**, Experimental testing of liquid slosh suppression in a suspended container with compound-pendulum dynamics, *2013 9th Asian Control Conference (ASCC)*.

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## Committee Service

External Committees

Oct '21 – **Member, National Standardized Exam Committee**, National Center for Education Development, Kuwait.  
Present

Jun '21 – **Member, Water Heaters Standards Committee**, National Standards Committee, Kuwait.  
Present

Sep '20 – Dec '20 **Member, National Education Strategy Taskforce**, Council of Ministers General Secretariat Kuwait.

University and College Committees

Nov '19 – **Facilitator. Innovation, Design and Manufacturing Center**, College of Engineering and Petroleum, Kuwait University.  
Present

Aug '22 – **Member, University Website Committee**, Kuwait University.  
Nov '22

Nov '20 – **Member, Computer-Based Conversion of Entrance Exam**, Kuwait University.  
May '21

May '20 – **Member, Distant Learning Training Committee**, College of Engineering and Petroleum, Kuwait University.  
Dec '20

Mar '20 – **Member, COVID19 Distant Learning Committee**, *College of Engineering and Petroleum, Kuwait University.*

#### Department Committees

AY 21/22 **Facilitator, ENG201 Introduction to Product Design and Prototyping New Course**, *Mechanical Engineering Department, College of Engineering and Petroleum, Kuwait University.*

AY 21/22 **Facilitator, Capstone Design Year Course**, *Mechanical Engineering Department, College of Engineering and Petroleum, Kuwait University.*

AY 20/21 – **Chair, Dynamics and Control TAG**, *Mechanical Engineering Department, College of Engineering and Petroleum, Kuwait University.*

AY 21/22 **Member, Undergraduate Program Committee**, *Mechanical Engineering Department, College of Engineering and Petroleum, Kuwait University.*

#### Invited Talks & Outreach

Jan '23 **University Guest, Middle School Robotics Class**, *AlBayan Bilingual School, Kuwait.*

Mar '22 **Contributor, Focus Group - Giftedness, Creativity and Innovation**, *Sabah AlAhmad Center for Giftedness and Creativity, Kuwait.*

Sep '20 **Contributor, Focus Group - Education Manifesto Workshop**, *From here we sail initiative, Kuwait.*

#### Industry Experience

Jan '11 – Dec '11 **Mechanical Engineer**, *BP Oman, Muscat, Oman.*

Provision of focal Mechanical Engineering and Project Management support for the operations and maintenance of a new Extended Well Testing facility, bringing forward experiences from past assignments to improve the engineering and project management processes and procedures. Duties entail integrity management of mechanical equipment, management of engineering and construction contractors, execution of in-house projects, preparation of inspection and maintenance strategies and performance of incident investigations.

Aug '08 – **Mechanical Engineer**, *BP Sharjah, Sharjah, UAE.*

Dec '10 Provision of mechanical engineering support for the operations and maintenance of a petroleum processing plant and associated facilities. Duties entail: integrity management of mechanical equipment, design of temporary and permanent repair solutions, machinery troubleshooting, review of contractor design sheets, execution of in-house projects, preparation of inspection and maintenance strategies, performing incident investigations, and executing pipeline inspection campaigns.

Sep '07 – **Management of Change Coordinator**, *BP Algeria, Ain Amenas, Algeria.*

Aug '08 Responsible for the coordination of projects between the engineering team and the EP&C contractor, responsible for maintaining active project management guidelines and procedures, and for training of all users on the process, also involved in specific tasks to attain targeted competencies.

Aug '06 – **Offshore Production Support Engineer**, *BP North Sea, Aberdeen, UK.*

Aug '07 Provision of onshore support for several offshore petroleum processing plants, working closely with the engineering authority and focusing primarily on rotating equipment reliability assessment and performance monitoring

#### Industry Training

2010 **API579-1/ASME FFS-1 Fitness for Service**, *ASME, Houston, TX, 2.3 CEU.*

2009 **Machinery Vibration Analysis II**, *SKF, Dubai, UAE, 5 Day.*

2009 **Machinery Vibration Analysis I**, *SKF, Dubai, UAE, 5 Day.*

2009 **Corrosion Management in Oil and Gas**, *J. M. Campbell, London, UK, 5 Day.*

2008 **Process Piping Design ASME B31.3**, *ASME, Barcelona, Spain, 3.0 CEU.*

2008 **Scheduling and Cost Control**, *ESI, London, UK, 3.0 CEU.*

- 2008 **Electrical Engineering Practices**, *J. M. Campbell*, London, UK, 5 Day.
- 2008 **Project Management Principles and Practices**, *Petroskills*, Dubai, UAE, 5 Day.
- 2008 **Risk and Decision Analysis**, *Petroskills*, 5 Day.
- 2007 **Siemens Gas Turbines Operations and Maintenance**, *Siemens*, London, UK, 5 Day.
- 2007 **Centrifugal Pumps and Compressors**, *Weirs Pumps*, Glasgow, UK, 5 Day.
- 2007 **Pressure Vessel Design**, *BP*, Aberdeen, UK, 5 Day.
- 2007 **Surface Productions Operation**, *Petroskills*, London, UK, 5 Day.
- 2006 **Incident Investigations**, *BP*, Aberdeen, UK, 2 Day.

## Fellowships & Awards

- Jan '12 – Dec '18 **Scholarship** of Kuwait University, Kuwait, Graduate Studies in Mechanical Engineering
- Jan '03 – Aug '06 **Merit Scholarship** of Ministry of Higher Education, Kuwait, Undergraduate Studies in Mechanical Engineering
- Jan '02 – Dec '02 **Scholarship** of Ministry of Higher Education, Kuwait, Undergraduate Studies in Mechanical Engineering

## Skills

All listed skills are illustrated with actual projects

- Programming Languages C, C++, Julia, Python, MATLAB, Javascript
- Programming Frameworks ROS, ROS2, Micro-ROS, PX4, Arduino, STM32Cube, FreeRTOS, PLC, ST/MCC (Siemens Simotion), TensorFlow, OpenCV, Qt, Embedded Linux
- Computer-Aided Design Solidworks, Fusion360, FreeCAD, Altium Designer, EagleCAD, KiCAD, ANSYS CFX, COMSOL Multiphysics
- Manufacturing Additive Manufacturing; Machining: Lathe, Mill, Laser CNC, Waterjet CNC; Woodworking; Resin Molding and Casting; Electronics: THD and SMD assembly and reflow
- Web Technologies Javascript, Drupal CMS, Django, HTML5 and CSS (Bootstrap)

## Position of Responsibility

- Nov '20 – Present **Technical Consultant, Center for Evaluation and Measurement**, VP Academic Affairs, Kuwait University.  
CBT Examinations
- 2014-2016 **Team Leader, Rescubot Student Club**, Georgia Institute of Technology.

## Referees

### Dr. William Singhose

*Professor, Department of Mechanical Engineering*  
Georgia Institute of Technology  
✉ singhose@gatech.edu

### Dr. Kamal Youcef-Toumi

*Professor, Department of Mechanical Engineering*  
Massachusetts Institute of Technology  
✉ youcef@mit.edu

### Dr. Raed Bourisli

*Associate Professor, Department of Mechanical Engineering*  
Kuwait University  
✉ raed.bourisli@ku.edu.kw