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## PERSONAL DETAILS

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**Name:** Shuaiby Mohamed Shuaiby Ragab

**Place and Date of Birth:** Egypt, September 5, 1981

**E-mail:** [shuaiby.mohamed@aun.edu.eg](mailto:shuaiby.mohamed@aun.edu.eg)

[Shuaib\\_eng@yahoo.com](mailto:Shuaib_eng@yahoo.com)

**Mob. :** +2- 010 – 9984 – 9936



**Work Address:** Department of Mechanical Engineering, Faculty of Engineering, Assiut University, Assiut, Egypt, 71516

**ORCID:** <https://orcid.org/0000-0002-9767-1243>

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## RESEARCH INTERESTS

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- Robotics and Automation
- Mechatronics systems design
- Robots and Automated Vehicles Control
- Control System Engineering
- Robust Control
- Nonlinear Control

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## EDUCATION

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**PhD** in Robotics Sep, 2017

Department of Mechanical Engineering, Toyohashi University of Technology, Japan

Thesis: Design and Control of a Redundant Wheeled Drive System for Fail Safe Motion and Energy Saving

**M. Sc.** in Mechatronics Engineering July, 2013

Department of Mechanical Engineering, Assiut University, Egypt

Thesis: Formulation, Modeling and Simulation of the Excitation Propagation in Human Cardiac Tissues Using Finite Element Method

**B. Sc.** in Mechatronics Engineering June, 2005

Department of Mechanical Engineering, Assiut University, Egypt

Commutative Average Grade: 81.2/100 (with honor's degree)

## **POSITIONS HELD**

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Assistant Professor, Assiut University, Egypt	June 2018 – Present
Research Fellow, Toyohashi University of Technology, Japan	Oct 2017 – March 2018
PhD Student, Toyohashi University of Technology, Japan	Oct 2014 – Sep 2017
Assistant Lecturer, Assiut University, Egypt	July 2103 – Sep 2014
Teaching Assistant, Assiut University, Egypt	Jan 2006 – June 2013

## **TEACHING SUMMARY - June 2018- Present**

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### **Teaching the following undergraduate courses**

- Mechatronics System Design
- Automatic Control (1)
- Automatic Control (2)
- Automatic Control in Mechanical Systems
- Introduction to Robotics
- Industrial Process Control
- Engineering Analysis
- Mechatronics laboratories

### **Teaching the following Postgraduate courses**

- Advanced Automatic Control
- Advanced Topic in Mechatronics Engineering
- Robotics

### **Supervision graduation Projects**

- Design and control of a mobile robot for material handling in industrial application
- Palm tree climbing robot
- Mechatronic design of 3D printer and filament extrusion machine
- Trajectory planning for three degrees of freedom robot manipulator
- Mechatronic system design of 3D printed versatile robotic gripper
- Surface mount device high precision pick and place CNC machine

## **PUBLICATIONS**

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### **International Journal Papers**

- Shuaiby Mohamed, "Design and Control of Autonomous Vehicle, ISA Transactions submitted.
- Shuaiby Mohamed, Tobias Rainer Schafle, and Naoki Uchiyama, "Robust control of a redundant wheeled drive system for energy saving and fail safe motion", Advances in Mechanical Engineering, vol. 9, no. 5, pp. 1-16, 2017
- Shuaiby Mohamed, Akinori Yamada, Shigenori Sano, and Naoki. Uchiyama, "Design of a redundant wheeled drive system for energy saving and fail safe motion", Advances in Mechanical Engineering, vol. 8, no. 11, pp. 1-15, 2016
- Shuaiby M. Shuaiby, M. A. Hassan, Abdel-Badie Sharkawy and Abdel-Rasoul M.M.Gad "A finite Element Model for the Electrical Activity in Human Cardiac Tissues", International J. Eco. Heal. Env. Vol. 1, No. 1, pp. 25-33, 2013
- Shuaiby M. Shuaiby, Mohsen. A. Hassan, Moumen El-Melegy, "Modeling and Simulation of The Action Potential In Human Cardiac Tissues Using Finite Element Method", Journal of Communication and computer Engineering, Vol. 2/3, pp. 21-27, 2012

### **International Conference Papers**

- Shuaiby Mohamed, Akinori Yamada, Shigenori Sano, and Naoki Uchiyama, "Simulation study on velocity distribution for energy saving of a redundant wheeled drive system", IEEE/SICE International Symposium on System Integration, pp. 116–120, 2015
- Tobias Rainer Schafle, Shuaiby Mohamed, Naoki Uchiyama and Oliver Sawodny, "Coverage Path Planning for Mobile Robots Using Genetic Algorithm with Energy Optimization", IEEE International Electronics Symposium, pp. 99-104, 2016

## **SCIENTIFIC VISITS**

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- Doosan Heavy Industries & Construction Co., Ltd., Changwon, South Korea, 2019
- Musashi Seimitsu Industry Co., Ltd. Toyohashi-shi, Aichi, Japan, 2016
- Toyota Motor Corporation Aichi Factory, Toyota, Aichi, Japan, 2015
- Aluminum Company of Egypt, Egypt, 2013

## **SCHOLARSHIPS**

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- Postdoc fellowship with Systems Engineering Laboratory, Toyohashi University of Technology, Japan, Oct. 2017
- MEXT scholarship (The Japanese Ministry of Education, Culture, Sports, Science and Technology, Monbukagakusho) for studying PhD, Japan, Oct. 2014 – Sep. 2017

## **RESEARCH GROUPS**

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- Mechatronics Engineering Laboratory, Assiut University, Egypt, 2006 - present
- Systems Engineering Laboratory, Toyohashi University of Technology, Japan, 2015- 2018
- Robotics and Mechatronics Laboratory, Toyohashi University of Technology, Japan, 2014 – 2015

## **COLLABORATION WITH THE INDUSTRY**

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- Development and control system design of cleaning robots, Recycling Centers, Japan
- Design and control of autonomous vehicles for material handling in industrial application, Leoni Wiring Systems, Assiut, Egypt, 2018

## **PROFESSIONAL SERVICE ACTIVATES**

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### **Journal Reviewer**

- Advances in Mechanical Engineering
- ISA Transactions
- International Journal of Engineering and Technology Innovation

### **Reviewer for the following conferences**

- International Conference on Control, Decision and Information Technologies

## **OTHER RESEARCH ACTIVATES AND EXPERIENCE**

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### **Co-supervision graduation Projects (Assiut University Jan 2006 - Sep 2014)**

- Mechatronics Design of Magnetic Levitation System
- Electrical Elevator Control Using PLC
- Mechatronics Design of X-Y-Z Positioning System

- Lab VIEW Control of Inverted Pendulum Analysis Design and Implementation
- Autonomous Collision Avoidance Robot
- Material Handling Using SCARA Robot
- Design and Control of High Speed Two Link Robots
- Mechatronics design of Versatile Robot Gripper

**Assisted in teaching undergraduate courses (Assiut University Jan 2006 - Sep 2014)**

- Automatic Control in Mechanical Systems (MT 421)
- Automatic Control (1) (MT323)
- Mechatronics laboratory (MT321)
- Industrial Process Control (MT433)
- Measuring instruments (MP 328)
- Engineering Drawing (MC 001)
- Measurement and transducers (MT 322)

**ACADEMIC ACTIVITIES**

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- Development of Mechatronics Courses Undergraduate Project (DMCUP), Faculty of Engineering, Assiut University, Egypt
- Development of Mechatronics Laboratory Experiments (DMCUP) project, Faculty of Engineering, Assiut University, Egypt
- International workshop on Mechatronics Education, 2006, Luxor, Egypt
- The Fourth Assiut University International Conference on Mechanical Engineering Advanced Technology for Industrial Production, MEATIP 4, Assiut University, Egypt, December 12-14, 2006
- The Fifth Assiut University International Conference on Mechanical Engineering Advanced Technology for Industrial Production, MEATIP 5, Assiut University, Egypt, March 29-31, 2011

**HONORS AND AWARDS**

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- Certificate of Appreciation for Effective Participation and Whole Activities in the International workshop on Mechatronics Education, Egypt, February 13-14, 2006
- Certificate of Appreciation for effective Participation and Whole Activities in the Fourth Assiut University International Conference on Mechanical Engineering Advanced Technology for Industrial Production, MEATIP 4, Assiut, Egypt, December 12- 14, 2006

- Prof. Dr. Ramadan Mohammad Sadek Award, 2002
- Prof. Dr. Mahmoud Hasan Award, 2003
- Prof. Dr. Fathy Abd Allah Hafiz Award, 2003
- Syndicate of Egyptian Engineers Award for First class Honors, 2007
- Syndicate of Egyptian Engineers Medal for First class Honors, 2007

## **LANGUAGES**

English	Very good
Arabic	Mother tongue

## **PROFESSIONAL MEMBERSHIP**

- IEEE Membership
- IEEE Robotics and Automation Society Membership
- IEEE Control System Society Membership
- IEEE Industrial Electronics Society Membership
- Syndicate of Egyptian Engineers

## **PROGRAMMING**

- MATLAB, FORTRAN, C++ and still learning ROS

## **PERSONAL HOBBIES**

- Running, Football, Table Tennis, and Swimming

## **TRAINING COURSES**

- **Thinking Skills**
- **Effective Communication Skills**
- **Legal Aspects of the Universities**
- **Effective Teaching**
- **Quality Standards in Teaching**
- **University Administration**
- **Essential Research Skills**
- **Conference Organization**

- International Publishing of Research
- Research Team Management

## REFERENCES

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### **Prof. Naoki Uchiyama (Postdoc and PhD supervisor)**

**Address:** Department of Mechanical Engineering, Toyohashi University of Technology  
1-1 Hibarigaoka, Tempaku-cho, Toyohashi, Aichi, 441-8580, Japan

**Phone:** +81 - (0)532 - 44 – 6676

**Personal Page:** <http://www.tut.ac.jp/english/schools/faculty/me/14.htm>

**E-mail:** [uchiyama@tut.jp](mailto:uchiyama@tut.jp)

### **Assoc. Prof. Shigenori Sano (PhD co- supervisor)**

**Address:** Department of Mechanical Engineering, Toyohashi University of Technology  
1-1 Hibarigaoka, Tempaku-cho, Toyohashi, Aichi, 441-8580, Japan

**Phone:** +81 - (0)532 - 44 – 6684

**Personal Page:** <http://www.tut.ac.jp/english/schools/faculty/me/33.html>

**E-mail:** [sano@me.tut.ac.jp](mailto:sano@me.tut.ac.jp)

### **Assoc. Prof. Tatsuhiko Sakaguchi (PhD co- supervisor)**

**Address:** Department of Mechanical Engineering, Toyohashi University of Technology  
1-1 Hibarigaoka, Tempaku-cho, Toyohashi, Aichi, 441-8580, Japan

**Phone:** +81 - (0)532 - 44 – 6652

**Personal Page:** <http://www.tut.ac.jp/english/schools/faculty/me/638.html>

**E-mail:** [sakaguchi@me.tut.ac.jp](mailto:sakaguchi@me.tut.ac.jp)

### **Prof. Ibrahim Mohammed (Former Head Department of Mechanical Engineering)**

**Address:** Department of Mechanical Engineering, Faculty of Engineering, Assiut  
University, Assiut, Egypt, 71516

**Phone:** +2 – 012-0590-9558    +2-088-241-1178

**Personal Page:** [http://www.aun.edu.eg/membercv.php?M\\_ID=685](http://www.aun.edu.eg/membercv.php?M_ID=685)

**E-mail:** [hasa57ibm@yahoo.com](mailto:hasa57ibm@yahoo.com)  
[ibrahim.abdeldaiam@aun.edu.eg](mailto:ibrahim.abdeldaiam@aun.edu.eg)