

DR. MOHAMMAD AMMAD UDDIN

Ph.D. ENSTA, Bretagne, France, CCNA, CCAI, PMI, www.ut.edu.sa/web/u200989, www.dr-ammad.net

Dedicated and competent Director with over 15 years career experience of administration and teaching in public and private sector environments to both children and adults. Highly adept in database management strategic planning, team building and leadership. Possesses excellent organizational and communicational skills.



Contact Information

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Sensor Networks and Cellular Systems (SNCS) Research Centre (741), University of Tabuk, Saudi Arabia
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Skills

- Budget & Cost Control
- Program Development
- Event Planning
- Team Building & Leadership
- Promoting & Advertising
- Office Administration & Management
- Strategic Planning
- Database Management
- Project design and development
- Teaching and Training

Projects

- Smart Agriculture
- Red Sea Water Quality Monitoring
- Event Planning
- Autistic child Monitoring & Rehabilitation
- Hajj Management System
- Drone Autonomous Flight System

Experience

University of Tabuk
Kingdom of Saudi Arabia
Lecturer
July 2017

ENSTA, Bretagne, France
PhD Scholar
December 2017
September 2013

King Saud University
Kingdom of Saudi Arabia
Lecturer
February 2012
August 2008

Electronic Government
Directorate, Pakistan
Project Manager
August 2018
July 2007

COMSATS University
Pakistan
Lecturer
July 2002

Director Wireless Lab at Sensor Networks and Cellular System (SNCS) Research Centre University of Tabuk.
Established Wireless Lab for Underwater and over the surface Wireless Sensor Network communication and successfully completed many professional projects in these labs. Taught many courses at graduate and undergraduate level

Program Coordinator
Worked as PhD scholar and program coordinator. Scheduled seminars and presentations, collected reports and arranged defence/viva committees for graduating students.

Lab Coordinator
Taught many courses to under graduation and graduation students and Developed research labs including OMNet++, Matlab and Robotics for graduate and undergraduate students.

Project Manager for Automation of Ministry of Health
Successfully provided following ERP applications for Ministry of Health: Finance & budgeting, human resource & payroll, procurement management system, inventory management, project management.

Lecturer
Taught different courses at undergraduate level and assisting head of department computer science in scheduling student classes and exams.

Education

Ph.D.
University of Western
Brittany, Brest, France
December 2017

MS
COMSATS University
Islamabad
August 2006

MCS
Bahria, University
Islamabad
February 2013

Doctor of Philosophy (Computer Engineering)
Successfully completed Ph.D. from France reputed institution with excellent grades as full time student in the field of Digital Communication from department of Computer Engineering under supervision of Prof. Ali Mansour.

Master of Science
Completed MS from COMSATS University under supervision of Prof. Mahboob yasin.

Master of Computer Science
Successfully completed MCS in the field of software engineering

Certificates

- CCNA Industrial Certification (ID No CSC011740313)
- Project Management from SysComp Pakistan
- Cisco Certified Network Associate (CCNA) from COMSATS Pakistan
- Cisco Certified Academy Instructor (CCAI) from COMSATS Pakistan

Established Labs

We have developed two well equipped research labs at University of Tabuk to provide our students with modern research facilities

- **UAV and Wireless Sensor Lab:** Established a state of the art lab to conduct research at emerging technologies. UAVs have gained a lot of attention in recent years. Their use nowadays is not limited to defence. Rather, civilian applications have taken advantage of the advances scored in the defence sector. One can find very successful applications in such areas as forest, ocean, environment, and weather monitoring; topography; rescue and safety; and farming. Lately, suggestions on the use of UAVs have included airplane inspection. The success of UAVs is due to their versatility. They can be very small, carry a customizable payload, and may not necessarily require take-off or landing strips. Considering the utility and harnessing of UAV in every field we decided to develop a well-equipped UAV lab for our students to conduct their research and development projects.
- **Underwater and Over the Surface Sensor Lab:** KSA is one of the largest country to produce gasoline oil. Most of the gasoline oil is transported through pile line that are installed under water at sea bed. We develop this lab to provide student a facility to conduct researches to monitor water quality and detect any pipeline leakage to preserve underwater wild life in that region.

National Level Funded Projects

Developed many projects (Autistic child monitoring, Hajj management and smart irrigation for agriculture) for Tabuk University. All of the projects are delivered in time within budget and scope by keeping employee's motivation and timely resolving the conflicts. Currently working on smart agriculture, red sea monitoring and smart antenna project as Project Director. Many projects are proposed to Government of Saudi Arabia, Ministry of Education and King Abdullah University of Science and Technology, including fish pond monitoring in red sea, Water intake management for water desalination plant and underwater pipeline monitoring Projects.

Responsibilities

- Feasibility study
- Proposal Writing
- Fund acquisition
- Human resource hiring and Management
- Budgeting and Task scheduling
- Project development by monitoring and control all project phases

Prominent Funded Projects Developed or Progressing Successfully

- **Autistic Child Monitoring:** To rehabilitate the special children having Autism to bring them towards normal life. The project is completed in different stages through Feasibility study, proposal writing, funds acquisition, research and design, prototype development and now finally the MOU has signed with Chinese company to develop commercial product. The next stage is to test these devices with autistic patient and fix the problems if exists. The final tested version will be provide to the Autism clinics and special education institutes for daily use.
- **Smart Agriculture:** To optimal dispense the appropriate amount of water for optimal crop quantity and quality. Tabuk is an agriculture site of Saudi Arabia, crops are mostly grown in large circular and dispersed fields. Monitoring and manageability of these fields scattered in a huge geographical area is a challenging task. We initiated this project to use wireless sensors network and UAVs to cope with this issue. We have completed the research and design of this system and have developed a proof of concept that is submitted to Ministry of Agriculture and large agriculture companies like Astra and Tadco for acceptance and funding to enhance its functionality.
- **AWSM for Air, Water and Soil Monitor:** A system for monitoring the quality of air, water, and soil for the preservation of the fish habitat in the red sea. Two prototypes systems are designed and developed in underwater lab, one is mobile catamaran to traverse a specific area in sea to find any abnormality and other is fixed Buoy to anchor at a certain point to monitor the area in soundings.
- **ARCHD for Hajj:** A comprehensive system of systems for haji's crowd management. Five to seven million people are performing Hajj every year, we have developed a RFID based prototype system to manages this crowd.

Proposed National Level Funded Projects.

- **Desalination Plant Water Intake Management System:**

Student Projects

Supervised many student project at graduation and under graduation level.

- **Automatic Watering System for Home Plants:**
- **Water Quality Monitoring System for Fish Pounds:**
- **Visual Light Communication (LiFi):**
- **Smart Traffic Lights**
- **Smart Street Light Systems**



Subject Taught

Taught many student project at graduation and under graduation level.

- Digital Logic Design (CEN-211)
- Advance Programing (CSC-405)
- Visual Programming (CSC-401)
- Computer Organization and Assembly Language (CSC-210)

Publications

● Patent

- 1- S. Saleh, H. Abdulaziz, and **M. Ammad-uddin**, "Dynamic Probability based Admission Control Policy for Distributed Video on Demand System" Patent NO : US20140053219 A1

● Book Chapters

- 2- E.-H. Aggoune, M. Alwakeel, S. S.Mohammed, and **M. Ammad-uddin**, "Wireless Sensor Networks with Dynamic Nodes for Water and Crop Health Management," in in *Sensor Networks for Sustainable Development*, 2014.
- 3- D. M. Barakah and **M. Ammad-uddin**, "Virtual Doctor: A WBAN Based Architecture for Healthcare Service," in in *Handbook of Medical and Healthcare Technologies*, B. Furht and A. Agarwal, Eds. New York, NY: Springer New York, pp. 371–399, 2013.

● Journal

- 4- **M. Ammad-uddin**, A. Mansour, D. Le Jeune, M. Ayaz, and el-H. M. Aggoune, "UAV-Assisted Dynamic Clustering of Wireless Sensor Networks for Crop Health Monitoring," *Sensors*, vol. 18, no. 2, p. 555, Feb. 2018. (Impact Factor 2.677)
- 5- M. Ayaz, **M. Ammad-uddin**, I. Baig , el –H. Aggoune. "Wireless Sensor's Civil Applications, Prototypes and Integration Possibilities: A Review," *IEEE J. Sensors*, vol. 18, no. 1, pp. 4–30, Nov. 2017. (Impact Factor 2.5)
- 6- S. S. Alwakeel and **M. Ammad-uddin**, "A Soft Computing System for Resource Management of Femtocell Networks," *Int. J. Soft Comput. Softw. Eng. [JSCSE]*, vol. 3, no. 3, 2013.
- 7- S. S. Alwakeel and M. Ammad-Uddin, "Class Based and Shared Resources Access Control for Distributed Video-on-Demand System," *Int. J. Comput. Theory Eng.*, vol. 5, no. 4, pp. 641–644, 2013.
- 8- S. Saleh, H. Abdulaziz, and **M. Ammad-uddin**, "Bayesian based Admission Control (BAC) Policy for Distributed video-on-demand system," *Information-An Int. Interdiscip. J.*, vol. 15, no. August, pp. 3603–3610, 2012.

● Conference

- 9- **M. Ammad-uddin**, D. Le Jeune, A. Mansour, el-H. Aggoune, "Direction of Arrival of Narrowband Signals Based on Virtual Phased Antennas," 23rd Asia-Pacific Conference on Communications, APCC, Perth, Australia, 11-13 December, 2017.
- 10- **M. Ammad-uddin**, A. Mansour, D. Le Jeune, el-H. Aggoune. "Agriculture Internet of Things: AG-IOT". 27th International Telecommunication Networks and Applications Conference (ITNAC), Melbourne, Australia, 22-24 November, 2017.
- 11- **M. Ammad-uddin**, M. Ayaz, A. Mansour, and D. Le Jeune, "Wireless Sensors for Modern Agriculture in KSA: A survey," in 7th International Conference on Computer Science and Information Technology (CSIT) Amman, Jordan, 13-15 July, 2016.
- 12- **M. Ammad-uddin**, A. Mansour, D. Le Jeune, E. H. M. Aggoune, and M. Ayaz, "UAV Routing Protocol for Crop Health Management," in 24th European Signal Processing Conference (EUSIPCO), Budapest, Hungary, 29 August-2 September, 2016.
- 13- S. S. Alwakeel, M. A. Alhussein, and **M. Ammad-uddin**, "Performance analysis of centralized, distributed and hybrid demand load control architecture for smart power grid," in IEEE International Conference on Electro-Information Technology , South Dakota, USA, 9-11 May, 2013.
- 14- S. S. Alwakeel, H. A. Altwajry, and **M. Ammad-uddin**, "Class Based P- persistent Scheme for Smart Grid Load Balancing," in IEEE Electrical Power and Energy Conference, Canada, 10-12 Octobar, 2012.
- 15- D. M. Barakah and **M. Ammad-uddin**, "A Survey of Challenges and Applications of Wireless Body Area Network (WBAN) and Role of a Virtual Doctor Server in Existing Architecture," 3rd International Conference on Intelligent Systems Modelling and Simulation, Kota Kinabalu, Malaysia, 8-10 Febuary, 2012.

Reference

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