



# TWESD 2016 *Technical program*

5<sup>th</sup> TUNISIAN WORKSHOP ON EMBEDDED SYSTEMS DESIGN \* MAHDIA - TUNISIA \* MAY 19 - 22

## Thursday May 19, 2016

10:00am - 12:00am Registration

### Lunch Break

02:00pm - 02:30pm Workshop Opening  
02:30pm - 02:45pm Housseem LAHIANI and Slim CHTOUROU (tools setup)

## Workshop Session 1: Energy Aware SoC & WSNs

**Session chair:** Manel BOUJELBEN

03:00pm - 03:20pm Fatma KARRAY : Optimization de l'énergie dans les réseaux de capteurs.  
03:20pm - 03:40pm Manel ELLEUCHI: Energy optimization in Routing and security for Wireless Sensors Networks based on new technologies.  
03:40pm - 04:00pm Raoudha SAIDA: MDE based approach to design a low power sensor node.  
04:00pm - 04:20pm Fida ADOINI: SoC design for EARN project.  
04:20pm - 04:40pm Khoulood BOUAZIZ: Specification and development of an innovative embedded FPGA IP (eFPGA): software configuration flow.  
04:40pm - 05:00pm Wassim JERBI: Balance the energy of nodes in a cluster for Wireless Sensor Networks.

### Prayer Break

## Workshop Session 2: SoC and Real time systems

**Session chair:** Tarek FRIKHA

05:20pm - 05:40pm Agnès GHORBEL: Vers l'optimisation et la parallélisation sur une architecture multiprocesseur hétérogène d'une technique de commande visuelle pour un fauteuil intelligent.  
05:40pm - 06:00pm Nesrine ABID : Architectures reconfigurables pour la détection et la reconnaissance d'objets visuels.  
06:00pm - 06:20pm Hajer SAIDI: Intégration d'un eFPGA dans un SoC à base du processeur ARM.  
06:20pm - 06:40pm Hanen ABBES: Conception et implémentation de la commande MPPT sur des technologies reconfigurables.  
06:40pm - 07:00pm Mariem MAKNI: An analytical performance / area model for hybrid CPU-FPGA architectures.

### Diner

## Friday May 20, 2016

## Workshop Session 3: Signal and Image Processing

**Session chair:** Faten BELLAKHDHAR

08:30am - 08:50am	Ghassen SMAOUI: Development of an algorithm of ECG beat detection for a portable cardiac device.
08:50am - 09:10am	Yousra HADJ HASSEN: Multi shot person Re-identification.
09:10am - 09:30am	Bassem HADJKACEM : Apprentissage en ligne pour la ré-identification de personnes dans les réseaux de caméras.

### Coffee Break

### Hands-on Lab

10:15am - 01:00pm	Advanced Arduino Lab: Slim CHTOUROU
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### Lunch Break

### Workshop Session 4: Analysis of Smart Vehicle

**Session chair:** Ali MANSOURI

03:00pm - 03:20pm	Omar TRIKI: Embedded implementation issues for remotely operating vehicles.
03:20pm - 03:40pm	Mabrouka GMIDEN: Co-simulation system for automotive CAN-bus using STM32 microcontroller.
03:40pm - 04:00pm	Mohamed Hedhi CHABCHOUB: Unité de stockage d'énergie à Super condensateurs pour voiturette de golf.
04:00pm - 04:20pm	Hejra MSADDEK: Optimization of permanent magnet machine for electric vehicle.
04:20pm - 04:40pm	Anis NJEH: 3D FEA for the Design and Control of PMSM for In-Wheel Motor EV Application.
04:40pm - 05:00pm	Hajer MEL: Contribution à l'estimation des performances d'une machine à aimants permanents.

### Prayer Break

### Socio-economic environment : Overview

05:15pm - 06:30pm	Mohamed KHARRAT: Hardware Product Development from R&D to commercialization.
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### Diner

### Social Activity

09:00pm	Bassem HADJKACEM
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Saturday May 21, 2016

### Workshop Session 5: Smart Grid & Design of Electric Motor

**Session chair:** Hafedh TRABELSI

08:30am - 08:50am	Jihed HMAD: Etude d'un MG avec stockage distribué couple au réseau.
08:50am - 09:10am	Sabri RHILI: Conception et modélisation d'un microgrid résidentiel.

### Photovoltaic Overview

09:15am - 10:00am	Emna GADDOUR (Engineer at STEG)
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## Coffee Break

## Hands-on Lab

10:15am - 01:00pm      Android Development Lab: Housseem LAHIANI

## Lunch Break

## Free time

## Diner

## Demos Competition

09:00pm

## Workshop Session 6

08:30am - 08:50am      Kais SIALA : Simulation des expériences NDE par des outils de réalité virtuelle.  
08:50am - 09:10am      Slim CHTOUROU: Design and Implementation of a prototyping platform to simplify electronics and computer science for kids.  
09:10am - 09:30am      Kais JAMOUSI: Rapid prototyping of an Open-source Quadcopter.

## Workshop Session 7: Keynote

09:40am - 10:30am      HDR : Mohamed ABID & Hafedh TRABELSI

## Coffee Break

## Workshop Session 8

10:45am - 11:00am      Projects' progress  
11:05am - 11:30am      Statistics and open discussions  
11:35am - 12:20am      Problems, solutions and challenges, next TWESD planning  
12:20am - 01:00pm      Closing ceremony, awards

## Release of rooms and departure

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