

Conference Program

WEDNESDAY, APRIL 12, 2017		<i>Technical Sessions</i>
8.00-18.00	Registration	
9.00	Welcome Opening Session	
9.15	<i>KEYNOTE 1: Challenges for Electronic Systems in Next Generation of Vehicle Electrical Architectures, Joan Fontanilles - LEAR</i> Auditorium	
10.00	Coffee break / Exhibition Opening	
10.30	<i>Session 1: Design for Automotive</i> Auditorium Chair: Mr. Mounir Ghogho <ul style="list-style-type: none"> - 77 GHz Ring Dielectric Resonator Antenna (RDRA) Design for Anti-collision Automotive Radar (<i>M.Aoutoul-UCD</i>) - Design of Advanced Wafer Level Packages and Circuits for 76-81 GHz Automotive Radar (<i>C.Souria-Renault</i>) 	
11.20	Table Top Exhibition visit Lunch	
14.00	<i>Session 2: Embedded Systems</i> Auditorium Chair: Mr. François Bourzeix <ul style="list-style-type: none"> - Computer Numerical Control machine (<i>O.Assiddiki-UM5</i>) - Urban traffic Management and forecasting System for Moroccan cities: MoVITS Project (<i>H.Rezzouqi, R.Haouari- MAScIR</i>) - The Open Source community and its effects on the small businesses (<i>A.Kousta- Nextronic</i>) 	<i>Session 3 (Part1) : Materials Modelling and Simulation</i> Chellah Room Chair: Mr. Abdelillah Benyoussef <ul style="list-style-type: none"> - Electronic and magnetic properties of Strontium M-Type hexaferrite: Theoretical and experimental study (<i>B.Abraime- MAScIR</i>) - Numerical modelling of magnetic refrigeration system: Innovative cooling technology (<i>A.EIBoukili- MAScIR</i>) - Wetting and Layering Transitions in Some Nano-Structure Systems : Monte Carlo Study (<i>S. Aouini- UM5</i>)
15.15	Coffee break / Table Top Exhibition Poster Session	
16.00	<i>Session 2: Embedded Systems</i> Auditorium <ul style="list-style-type: none"> - BLE prototyping for hardware Moroccan and MENA business (<i>A.Fahmi- DerbSellicon</i>) - An Efficient VLSI Architecture of SAD for Motion Estimation in HEVC (<i>A.ElAnsari- FST Fès</i>) - Video Analysis System for Moroccan urban traffic: MoVITS Project (<i>A.EIBouziady- MAScIR</i>) 	<i>Session 3 (Part2) : Materials Modelling and Simulation</i> Chellah Room <ul style="list-style-type: none"> - Magnetic refrigeration: Environmental Friendliness and Low energy consumption (<i>L.Fakhar- UM5</i>) - Preparation and magnetic property analysis of monodisperse CoFe₂O₄ nanoparticles (<i>Z. Mahhouti- MAScIR</i>) - Magneto-caloric effect Gd-Dy thin film and heterostructures (<i>M.Tadout- MAScIR</i>)
17.15	Exhibition Visit and Posters Session	
18.00	Social Program “LE DHOW Restaurant Lounge”	

THURSDAY, APRIL 13, 2017**Technical Sessions**

09.00	KEYNOTE 2: Solution for WLCSP / FOWLP, Reinhard Windemuth- Panasonic Industrial Auditorium	
09.35	Session 4: Packaging Processes Chair: Mrs. Sanae LAHBABI Auditorium <ul style="list-style-type: none"> - Reliability and fatigue-life analysis of consecutive through-glass-vias in a 3D package (<i>A.Benali- UIR</i>) - Smart & easy ways to work with Pick & Place Machine (<i>G.Ribette- Microtest</i>) - Introduction of IMC Analysis for Wirebond Process Improvement (<i>A.Itoralde- STMicroelectronics</i>) 	Session 5 (Part 1): Renewable Energy Chair: Mr. Ali AHAITOUF Chellah Room <ul style="list-style-type: none"> - Solar Battery Charge for PV-Applications (<i>K.EIKamouny- MAScIR</i>) - Performance comparison of a Fresnel Lens with/without Secondary Optical Element for CPV System (<i>S.ElHimer- FST Fès</i>) - Comparative performance study of mc-si, pc-si and a-si photovoltaic modules for use in grid-connected photovoltaic systems in three different Moroccan climatic zones (<i>I.ElHousni- UM5</i>)
10.50	Coffee break Exhibition Visit and Posters Session	
11.45	Session 6: Materials for Assembly Chair: Auditorium <ul style="list-style-type: none"> - Solderability and Reliability Evolution of No-Clean Solder Fluxes For Selective Soldering (<i>J.Cetier-Inventec</i>) - Surfactant usage in sawing and its benefit on NSOP reduction during WB process (<i>Z.Hajji-STMicroelectronics</i>) 	Session 5 (Part 2): Renewable Energy Chellah Room <ul style="list-style-type: none"> - Comparative Study between Four MPPT Algorithms: P&O, IC, LF and NN (<i>O.Setti- EMI</i>) - Experimental study of a PV Grid-connected system installed in Rabat, Morocco (<i>S.Mtougui-UM5</i>) - Design optimization of CMOS second generation current conveyor using metaheuristics (<i>I.Fadloulah- FST Fès</i>)
12.35	Lunch & Exhibition Visit	
14.30	Session 7: Sensing Technologies Auditorium Chair: Mr. Brahim LAKSSIR <ul style="list-style-type: none"> - Using of NIR spectroscopy coupled with Chemometric tools in Agriculture application (<i>R.Rabie- MAScIR</i>) - Electrochemical Sensor Packaging Challenges (<i>E.Ressami- MAScIR</i>) 	
15.20	KEYNOTE 3: Cost Reduction Applied To Electronic Manufacturing, Salim Rabbani- Soliman Conseil Auditorium	
16.00	Best Paper Award End of DEMESYS 2017	

KEYNOTES

KEYNOTE 1: Challenges for Electronic Systems in Next Generation of Vehicle Electrical Architectures



Mr. Joan FONTANILLES - LEAR

Vehicle features are expected to be dramatically changed in coming years: autonomous driving, e-mobility and connectivity are becoming more and more familiar to all automakers and suppliers. Changes are confirmed tangible through the appropriate electrical architecture selection, where suitable technologies converge: electrification, computation, V2X, IOT, etc.

Emissions regulation, battery costs, charging infrastructure and customer acceptance will define the momentum for the massive introduction of electrified cars, so technology has to be ready and full-proof (performance, quality, and cost).

Power electronics is one of the pillars to succeed. Because to provide suitable solutions to our customers is a must, to take advantage of latest state-of-art rapid evolving technologies, so an agile roadmap to define next generation of products is continuously monitored.

This presentation is aimed to analyze the role of power electronics for the electrified vehicle architectures.

Lear is a global leader in automotive electrical distribution systems, one of the four suppliers with global capability in both traditional and high-power electrical power management systems.

KEYNOTE 2: Solution for WLCSP / FOWLP



Mr. Reinhard Windemuth- Panasonic Industrial

Wafer Level Packaging technology is getting more and more important for today's / future packaging solutions. This presentation gives an overview of WLCSP (Wafer Level Chip Size Packaging) and FOWLP (Fan Out Wafer Level Packaging) technologies along with manufacturing solutions provided by industry.

Packaging Solution for WLCSP/FOWLP are such as:

- Plasma Dicing**
- Chip Bonding (Flip-chip)**
- Plasma Cleaning**

Several major mainstream process scenarios of WLCSP and FOWLP processes are described including severe requirements. Then, four of the key technologies such as plasma dicing, plasma cleaning, die bonding / flip-chip bonding, and SMT which are already used / going to be used are explained and discussed.

KEYNOTE 3: Cost Reduction Applied To Electronic Manufacturing



Mr. Salim RABBANI - Soliman Conseil

Cost reduction activities are complex project, in the electronic manufacturing industry. Because of the sensitivity of the components, the required precision, the mix between manual and highly automated and computerized processes, the influence of endogenous and exogenous factors, the approach has to be able to handle a large variety of problematic and roots cause.

The study will propose a new approach and concept, already tested on field, to deploy a competitive Cost Reduction Program in the electronics sectors. It specificity, is to manage as well manual, as highly automated processes, taking in account the human factor as key to the success. This concept is a mix between the World Class Manufacturing and the Lean Manufacturing approach. It's the **Lean World Class Manufacturing System**.

It allows operating on typical Lean problematic, including flow drivers, labor, workforce, and assembly subjects, using JIT (Just In Time) for streaming the flow, as well as TIE (Total Industrial Engineering) by eliminating the waste Muri (Non Ergonomic operations), Mura (Irregular operations), and Muda (7 losses without added value). But also, on pure World Class Manufacturing topics, involving continuous flow, equipment, and which use cost drivers, as TQM (Total Quality Management), and TPM (Total Productive Maintenance).