

ICAMEM2010 TECHNICAL PROGRAM

Saturday, 18/12/2010			Sunday, 19/12/2010			Monday, 20/12/2010														
8:00	Registration		07:00	Breakfast		07:00	Breakfast													
9:30	Keynote Lecture 1		08:30	Keynote Lecture 4-1	Keynote Lecture 4-2	08:30	Keynote Lecture 7													
10:00	Keynote Lecture 2		09:00	S41	S42	S43	S44	S45	S46	09:00	Keynote Lecture 8									
10:30	Coffee Break		10:20	Coffee Break		09:30	Keynote Lecture 9-1	Keynote Lecture 9-2		10:00	Coffee Break									
11:00	S11	S12	S13	S14	S15	S16	11:20	S51	S52	S53	S54	S55	S56	10:30	S81	S82	S83	S84	S85	S86
12:20	Lunch		13:00	Lunch		12:30	Closing													
14:00	Keynote Lecture 3		14:30	Keynote Lecture 6-1	Keynote Lecture 6-2	12:50	Lunch													
14:30	S21	S22	S23	S24	S25	S26	15:00	S61	S62	S63	S64	S65	S66							
16:30	Coffee Break and Poster Session		16:40	Coffee Break and Poster Session																
17:10	Official Opening by Professor Refaat CHAABOUNI Secretary of State for Scientific Research		17:20	S71	S72	S73	S74	S75	S76											
17:40	S31	S32	S33	S34	S35	S36	19:00	Dinner												
19:00																				
20:00	Conference Dinner animated by Musical Group Ettarab El-Arabi																			

APME: Applied Mechanics
DESM: Design and Manufacturing
FLME: Fluid Mechanics
MATE: Materials
SYSD: System Dynamics
THSC: Thermal Sciences
NSF Workshop and Smart Structures
Biomechanics Special Session
Model Reduction Special Session

Detailed Technical Program (Keynote and Oral Presentations)

Saturday, December 18, 2010

Session	Title	Paper Ref.	Chair, Co-Chair / Authors	Country
Saturday 09:30AM	Keynote Lecture 1		Sami EL-BORGI	
10:00AM	Nonlinear phenomena in MEMS and NEMS-a micro-sensor for measuring minute gas and biological masses	keynote1	A H NAYFEH	USA
10:00AM	Keynote Lecture 2		Aref MAALEJ	
10:30AM	Multi-physics modeling and sensitivity analysis of nonlinear systems	keynote2	M R HAJJ	USA
S11	Contact Mechanics (APME)		Yvon CHEVALIER / Sami EL-BORGI	
Saturday 11:00AM	Analysis of a column friction connection using high strength bolts	APME44	M LIMAM, M VELJKOVIC	Sweden
12:20PM	Study of spur gear contact stress, using asymptotic numerical method combined with finite element method	APME48	F CHAOUACHI, A ZGHAL	Tunisia
	Partial slip contact problem in a graded half plane	APME35	S BAROUDI, I KALLEL-KAMOUN, R ELLOUMI-KALLEL, S EL-BORGI	Tunisia
	An axisymmetric contact problem of a graded coating bonded to a homogenous substrate	APME38	A GOUISSEM, S EL-BORGI	Tunisia
S12	Experimental (FLME)		Slim KADDECHE / Mohamed ASBIK	
Saturday 11:00AM	Reynolds number effect on the flow structure in a baffled vessel stirred by a rushton turbine	FLME04	A KAFFEL G BOUZGARROU, Z DRISS, MS ABID	Tunisia
12:20PM	Effect of the seeding concentration on the piv measurements applied to a stirred vessel	FLME08	G BOUZGARROU, A KAFFEL, Z DRISS, M S ABID	Tunisia
	Analysis of hydraulic pipeline rupture due to resonance phenomenon	FLME44	S ELAOU, K ROUABEH, E HADJ-TAIEB, C SCHMITT, G PLUVINAGE	Tunisia
	Effects of streamlined design of a high-speed coach on fuel economy and the environment	FLME55	C HO KIM, K MAN LEE, D WON KIM	Korea
S13	Porous media (THSC)		Philippe NARDIN / Abdelmoneim AYADI	
Saturday 11:00AM	Study of the periodical heating in a porous media	THSC03	D E AMEZIANI, K BOUHADEF, R BENNACER, A BOUSRI	Algeria
12:20PM	Experimental and numerical studies of the absorption kinetics of three wood species	THSC16	A KHOUYA, A DRAOUI, B ZEGHMATI, N BENOUDA	Morocco
	Modeling of heat and moisture transfers with stress-strain formation during convective air drying of deformable media	THSC38	D MIHOUBI, A BELLAGI	Tunisia
	The routes to chaos in the cavity filled with porous medium.	THSC02	S AKLOUCHE -BENOUAGUEF, K BOUHADEF B ZEGHMATI	Algeria
S14	Metallurgy I (MATE)		Maher DAMMAK / Chedly BRADAI	
Saturday 11:00AM	Simulation the deformation behavior of the steel high strenght with pilot hot rolling mill and torsion test	MATE22	DJ BERDJANE, F LEMBOUB, M L FARES	Algeria
12:20PM	Development of advanced β -titanium alloys	MATE23	B ZAHRA, C SIEMERS, J RÖSLER, P ROKICKI, K SAKSL	Germany
	Microstructure characterization and tensile properties of direct squeeze cast and gravity die cast 2017A wrought al alloy	MATE75	S SOUISSI, M BEN AMAR C BRADAI	Tunisia
	Quenching a hot cylinder with water jet impinging	MATE39	I BEN NACEUR, M KCHAOU, H KSIBI	Tunisia
S15	NSF Workshop and Smart Structures		Nizar LAJNAF / Daniele INAUDI	
Saturday 11:00AM	Modeling and Nonlinear Dynamics of a Piezoelectric Energy Harvester based on Parametric Excitations	SYSD25	A ABDELKEFI, AH NAYFEH, MR HAJJ	USA
12:20PM	Mathematical modeling of an Active-Fiber Composite energy harvester with interdigitated electrodes	SYSD27	A JEMAI, F NAJAR, M CHAFRA, Z OUNAIES	Tunisia
	Confinement of vibrations in variable-geometry nonlinear flexible beam	SYSD19	W GAFSI, S CHOURA, S EL-BORGI	Tunisia
	Shape influence on the performance of beam-based piezoelectric energy harvesters	SYSD26	S BEN AYED, F NAJAR, A ABDELKEFI	Tunisia
S16	Composites I (APME)		Radhouane MASMOUDI / Riadh ELLEUCH	
Saturday 11:00AM	The effect of maleic anhydride-grafted polypropylene (PPMA) on the interfacial adhesion properties of olive husk flour filled polypropylene composites	MATE61	A BOUKERROU, H DJIDJELLI, S KRIM, CH IHAMOUCHE	Algeria
12:20PM	Size effect on tensile stress of dry unidirectional carbon fibers sheets	MATE52	O BENJEDDOU, O LIMAM, M BEN OUEZDOU	Tunisia
	Design optimization of frp-composite poles under cantilever flexural loads	MATE50	S METICHE, R MASMOUDI	Canada
	Processing and characterization of two and three-phase polymer based nanocomposites for energy storage applications	MATE83	E HELAL, Z OUNAIES, A MEDDEB	Tunisia
	The effect of maleated coupling agent on the mechanical and thermal properties of HDPE/olive husk flour composite	MATE43	H DJIDJELLI, A BOUKERROU, C IHAMOUCHE, S KRIM	Algeria
Saturday 14:00AM	Keynote Lecture 3		Zoubeir LAFHAJ	
14:30AM	Challenges for Developing Cognitive, Adaptive Infrastructure Systems	keynote3	C R FARRAR	USA
S21	Computational modeling in mechanics (APME)		Fakhreddine DAMMAK / Abdelkader KRICHEN	
Saturday 14:30PM	Prediction of TGV rail fatigue under wheel load: part I	APME53	J ZGHAL, B GALLALI, F CHAOUACHI	Tunisia
16:30PM	Distributed force reconstruction for a localized impact on an elastic rectangular plate	APME28	F EL KHANNOUSSI, A HAJRAOUI, A KHAMLICH, A LIMAM, E JACQUELIN	Morocco
	Sldt: a new approach to speed up monte-carlo simulations	APME29	A NOTIN, J L DULONG, N GAYTON, P VILLON, M LEMAIRE	France
	Thinning and ironing in hole-flanging process	APME09	A KACEM, M JMAL, A KRICHEN	Tunisia
	Influence of geometrical imperfections on displacement states around the mushroom rivet	MATE74	G SLAWINSKI T NIEZGODA E SZYMCZYK	Poland
	Characteristics mechanics effect on the elastic behavior of a smooth bearing	APME02	N BENDAOU, M KADA, A YOUCEFI	Algeria
S22	Special Session: Model Reduction (APME & FLME)		Éric MARKIEWICZ / Amine AMMAR	
Saturday 14:30PM	Review of some model reduction techniques	APME01	A AMMAR, F CHINESTA	France
16:30PM	On the reduction of microstructure-based simulation of composites	APME17	E PRULIERE, A AMMAR, F. CHINESTA	France
	Deterministic kinetic theory approach of colloidal suspensions of structureless particles	APME30	G MAITREJEAN, A AMMAR, F CHINESTA	France
	Proper general decomposition (pgd) to solve 2d transfert equations	FLME48	A DUMON C ALLERY, A AMMAR	France
	Coupled polynomial chaos expansion and component mode synthesis methods for dynamic analysis of stochastic structures	APME58	D SARRSI, L AZRAR	Morocco
S23	Experimental heat & mass transfer (THSC)		Rchid SAID / Mounir BACCAR	
Saturday	Optical investigation of combustion instability mechanisms of non-premixed flame in an optically vertical tube by using light cell	THSC31	S A FARHAT, M K AL-TALEB	Libya
	Thermal properties estimation of rubber under industrial conditions	THSC35	Z CHEHEB, A SARDA, P MOUSSEAU R DETERRE, D COUEDEL	France

14:30PM 16:30PM	Experimental analysis of convective boiling pressure loss in channel provided with metallic foam brazed on the walls	THSC36	B MADANI, F TOPIN, L TADRIST	Algeria
	An experimental study on the acoustic excited impinging inverse diffusion flames - part I: outline of flame appearance and heat transfer characteristics	THSC39	K J KANG, J Y PARK, K M LEE, D W KIM, J S KIM	Korea
S24 Saturday 14:30PM 16:30PM	Cement Based Materials (MATE)		Karim CHATTI / Zoubeir LAFHAJ	
	Experimental study of cement based sediments as a roadbed material	MATE09	W DONGXING, N ABRIAK, R ZENTAR, X WEIYA	France
	Axial behavior of frp confined concrete columns	MATE16	H MOHAMED, R MASMOUDI	Canada
	Mechanical testing of hollow cores to determine elastic parameters of anisotropic rocks using the CSIRO HI cell – application of the tournemire argillite	MATE65	A BEN OUANAS, Y GUNZBURGER, F LAHAIE, J P PIGUET, J D BARNICHON	France
	Thermal and mechanical load effects on the flexural behavior of one-way concrete slab reinforced with fibre reinforced polymer (FRP) bars	MATE56	H BELLAKEHAL, R MASMOUDI, A ZAIDI, M BOUHICHA	Algeria
	Development of repair materials based on geopolymers determined for application in chemically aggressive surroundings	MATE36	A DUFKA	Czech republic
	Mechanical and thermal behavior of a roller compacted concrete (RCC) for the realization of a dam	MATE84	M BEN JDIDIA, M KHEMAKHEM	Tunisia
S25 Saturday 14:30PM 16:30PM	NSF Workshop and Smart Structures		Venkatesh KODUR / Ayeche BENJEDDOU	
	Some Approaches for Fault Detection in Monitoring Sensors	WK01	S F MASRI	USA
	Fiber optic SHM systems	WK07	D INAUDI	USA
	Dense Distributed Sensor and Actuator Networks - Lessons from Nature	WK02	A SWARTZ	USA
	System and Damage Identification Studies of Large/Full-Scale Structural Specimens Subjected to Seismic Testing	WK05	J CONTE	USA
S26 Saturday 14:30PM 16:30PM	System Dynamics (SYSD)		Samir GERGES / Aref MAALEJ	
	Characterization of the aerodynamic response of the golland wing near Hopf bifurcation	SYSD22	AH NAYFEH, M GHOMMEM MR HAJJ	USA
	Influence of reliability models on maximum seismic response. Part B : numerical aspects	SYSD13	M HAMMOUTENE, B TILIOUINE	Algeria
	Influence of reliability models on maximum seismic response. Part A : analytical aspects	SYSD14	B TILIOUINE, M HAMMOUTENE	Algeria
	Recent advances in numerical simulation to predict interior noise for full vehicle applications	SYSD31	S FRIKHA	France
	Dynamic model of vibration-impact machining by ultrasonic tool with intermediate striker	SYSD08	I VAGAPOV, M GANIEV	Russia
	Optimum study of power-train mounting system based on energy decoupling	SYSD06	Z YONG, O JIAN, Y E CHUAN	China
S31 Saturday 17:40PM 19:00PM	Damage and Fracture (APME)		Tadeusz Niezgoda / Sami EL-BORGI	
	A data discrepancy based formulation for damage identification in euler-bernoulli beams	APME05	L LI, F GHRIB, P WILBUR	Canada
	Continuum damage mechanics of the lithosphere depending on strain-rate, temperature, and water content.	APME51	A KARRECH K REGENAUER-LIEB T POULET	USA
	Numerical analysis of the dynamic fracture based on the variational approach	APME37	H HENTATI, R ABDELMOULA, A MAALEJ	Tunisia
S32 Saturday 17:40PM 19:00PM	Computational Methods in Mechanics (APME)		Lahcen AZRAR / Fakhreddine DAMMAK	
	Investigation of retraction and expansion in countersinking process	APME08	I JALLOULI, H MOSBAH, K SAI, A KRICHEN	Tunisia
	Dynamic buckling of thin shells : evaluation of criteria	APME42	M DJERMANE D ZAOU I F HAMMADI B LABBACI	Algeria
	Buckling analysis of laminated composite plate with delaminations using the enhanced assumed strain solid shell element	APME36	A HAJLAOUI, I KALLEL-KAMOUN, A JARRAYA F DAMMAK	Tunisia
	A mesh size problem in the simulation of the hyper velocity impacts	APME52	A MORKA	Poland
S33 Saturday 17:40PM 19:00PM	Metallurgy II (MATE)		Khaled ELLEUCH / Tarek BOURAOUI	
	Precipitation mechanism in cu-al-ni shape memory alloy	MATE30	M BOUABDALLAH, H CHENITI G BENALIA BAGUENANE, S M CHENTOUF	Algeria
	Effect of aluminum content on structure and magnetic properties for (Fe65Co35)1-xAlx nanocrystalline alloy synthesized by mechanical alloying process	MATE48	A HADDED, M ZERGOU, M AZZAZ	Algeria
	Ni and fe based alloy foams for high-end combustion applications	MATE24	R POSS, A S DREHER, B KLOEDEN, G WALTHER, T BUETTNER	Germany
	Fatigue fracture expertise of a train engine crankshaft	MATE29	A KTARI N HADDAR, H F AYEDI	Tunisia
S34 Saturday 17:40PM 19:00PM	Composites II (MATE)		Yvon CHEVALIER / Mondher ZIDI	
	Creep behavior of hdpe/wood particle composites	MATE25	H BOUAFIF, A KOUBAA, P PERRE, A CLOUTIER	Canada
	Micromechanical modeling of the tensile strength of wood-polymer composites	MATE02	S MIGNEAULT, A KOUBAA, F ERCHIQUI, A CHAALA, K ENGLUND, M P WOLCOTT	Canada
	Health monitoring of the damage of laminate embedded with piezoelectric sensor by acoustic emission	MATE15	S MASMOUDI, A EL MAHI, R EL GUERJOUMA, S TURKI	France
	Influence of loading rates on morphology and mechanical properties of PLA/Clay nanocomposites	MATE35	M KACI, L ZAIDI, S BRUZAUD, A BOURMAUD, P MEDERIC, Y GOHENS	Algeria
S35 Saturday 17:40PM 19:00PM	NSF Workshop and Smart Structures		Brian WYBRECHT / Karim CHATTI	
	Forced vibration analyses of a Piezoelectric/elastic/viscoelastic/piezoelectric structures	APME57	F ABDOUN, L AZRAR, E M DAYAB	Morocco
	Dynamic study of a capacitive MEMS switch with double clamped-clamped microbeams	SYSD30	H SAMAALI, F NAJAR, S CHOURA, AH NAYFEH, M MASMOUDI	Tunisia
	An embedded crack in functionally graded magneto-electroelastic infinite medium	APME39	M REKIK, S EL-BORGI, Z OUNAIES	Tunisia
	Numerical study of actuation capabilities of shape memory alloys hybrid composites	APME66	O LTAIEF, Y CHEMISKY, DC LAGOUDAS	Tunisia, USA
S36 Saturday 17:40PM 19:00PM	Flow (FLME)		Mohamed ASBIK / Said TURKI	
	Stability of a falling liquid film	FLME01	A LAOUAR, E MEZAACHE, B ZEGHMATI	Algeria
	A numerical study of flow structures around a cubic bluff body using large eddy simulation	FLME11	S A SISALAH, E FILALI	Algeria
	Numerical prediction of passive control on flow around a square cylinder using porous media	FLME23	L BOUAZIZI, A BEN MOUSSA, S TURKI	Tunisia
Sunday, December 19, 2010				
Sunday 8:30AM 9:00AM	Keynote Lecture 4.1		Ayeche BENJEDDOU	
	Bayesian Ockham Razor for Assessing System Models using Sensor Data	keynote4.1	J BECK	USA
	Keynote Lecture 4.2		Ali ZGHAL	

8:30AM 9:00AM	Multi-physics Modeling of Geothermal Energy Harvesting in Sedimentary Aquifers	keynote4.2	K REGENAUER-LIEB	Australia
S41 Sunday 9:00AM 10:20AM	S S: Biomechanics I (APME) External identification of the body segment parameters Prediction of bone mechanical properties from physiologic data by neural network computation Virtual human thorax model reconstruction: from medical imaging to finite element model	APME07 APME10 APME31	Tomasz LEKSZYCKI / Hichem SMAOUI T MONNET, C VALLEE, P LACOUTURE H KHATERCHI, A CHAMEKH, R HAMBALI H BEL HADJ SALAH O MAYEUR, F CHAARI, R DELILLE, H GUILLEMOT, P DRAZETIC	France Tunisia France
S42 Sunday 9:00AM 10:20AM	CAD and Tolerancing (DESM) Automatic copying of sculptured surfaces from 3d regular cloud of points Three dimensional method of manufacturing tolerances analysis applied to a cylinder head of car engine Management of geometrical and dimensional uncertainties between subsets using interface gauges (templates) Toward the optimization of the finishing operation of sculptured surfaces defined by 3d irregular cloud of points	DESM02 DESM11 DESM12 DESM03	Wassila BOUZID / Panagiotis KYRATSIS Z TCHANTCHANE, M BEY A MEZGHANI, A BELLACICCO, A RIVIERE, J LOUATI, M HADDAR M ELBAHRI, A DESROCHERS, J LOUATI, M HADDAR M BEY, F Z MAHMOUDI, F BAYADA	Algeria Tunisia Tunisia Algeria
S43 Sunday 9:00AM 10:20AM	Cavity and combustion (FLME) Evolution model of passive scalar from the emission point source Numerical model to simulate cavitating flow Effect of initial conditions on scalar mixing in round jets	FLME29 FLME34 FLME50	Kamel HALOUANI / Abdellatif MASLOUHI H MOHAMMED H KANFOUDI, H LAMLOUMI, R ZGOLLI A BENAÏSSA, B POLLACK, S BENAÏSSA	Morocco Tunisia Canada
S44 Sunday 9:00AM 10:20AM	Polymers (Materials) Thermal aging effect on mechanical properties of thermoplastic polyurethane Materials based on biopolymers of maize: stoichiometric interpretation of starch-glycerol-water interaction Mechanical behaviour of machined polyethylene filaments Thermoelectric power of a bio-composite polymer for electrical energy generation	MATE01 MATE21 MATE32 MATE05	Hechmi BEN DALI / Abdelkader KRICHEN A BOUBAKRI, N HADDAR, K ELLEUCH F AYADI, P DOLE M KADDECHE, S RAHEB, N KIAS, K CHAOUI Z ANTAR, J F FELLER, H NOEL, P GLOUANNEC, K ELLEUCH	Tunisia France Algeria France
S45 Sunday 9:00AM 10:20AM	System Dynamics and Vibroacoustic Dynamic behavior of multi-span highway bridge deck under moving vehicle Operational modal analysis of dynamic structures Analysis of randomly vibrating systems using smooth decomposition	DESM19 SYS11 SYS32	Lotfi HAMMAMI / Chafik KARRA A REZAIGUIA, N OUELAA M MILADI, M S ABBES, A AKROUT, T FAKHFAKH, M HADDAR S. BELLIZI, S. SAMPAIO, , , , , ,	Algeria Tunisia France
S46 Sunday 9:00AM 10:20AM	Modelling (FLME) Modelling water hammer by finite volume methode Effect of lubrication and addendum modification on the windage power loss of a spur gear set Determination of hydrogen permeation properties of polymers by means of numerical study and experimental validation Modeling of nitrate leaching in a column of the unsaturated soils	FLME51 DESM05 FLME59 FLME02	Abdellatif MASLOUHI / Ezzeddine HADJ TAIEB M LOUATI, L HADJ TAIEB, E HADJ TAIEB M BEN ROMDHANE, F CHAARI, M AJMI, T FAKHFAKH, M HADDAR P NARDIN, J BAYLE D CHAPELLE D PERREUX A MASLOUHI, M IBNOUSSINA	Tunisia Tunisia France Morocco
Sunday 10:50AM 11:20AM	Keynote Lecture 5.1 Selected problems of modeling in bone biomechanics	keynote5.1	Hichem SMAOUI T LEKSZYCKI	Poland
10:50AM 11:20AM	Keynote Lecture 5.2 Unsteady simulation of confined bluff-body multiphase turbulent flow: Energy generation	keynote5.2	Belkacem ZEGHMATI M CHRIGUI, A SADIKI, A ZGHAL	Germany
S51 Sunday 11:20AM 13:00PM	S S: Biomechanics II (APME) Effect of vertical loads on trunk stiffness Investigation and modeling of bone fracture healing State of the art and current limits of musculoskeletal models Mechanical response under pull-out loading of the stainless steel post/HDPE cylinder fixation with interference fit	APME41 APME63 APME61 MATE51	Éric MARKIEWICZ / Hichem SMAOUI S MEHREZ, H SMAOUI, M L TANAKA, F Z BEN SALAH, K P GRANATA P KRAKOWIAN, T LEKSZYCKI L CHEZE, F MOISSENET R DUMAS K GAMMOUDI, M KHARRAT, M DAMMAK, R ABDELMOULA, S RAMTANI	Tunisia Poland France Tunisia
S52 Sunday 11:20AM 13:00PM	Integrated Design (DESM) Redesign propositions for electrical and electronic equipment for the optimization of their end-of-life treatment concerning the environment Development of a brake-by-wire system Automatic disassembly approach for mechanical products Behavioral analysis and multi-criteria optimization of mechatronic systems based on genetic algorithm and bond graphs Probabilistic analysis : a fatigue problem of the upper arm of a vehicle suspension system	DESM01 DESM09 DESM15 APME32 DESM18	Ali ZGHAL / Kamel MEHDI A KATSAMAKI, N BILALIS M ZGOUL, B ZIADEH, R AL-DIRINI, O ABDEEN L ISSAOUI, N AIFAOU, B LOUHICHI A BENAMARA E AMARA, F MILED H MRAD A SAOUDI M BOUAZARA	Greece Jordan Tunisia Tunisia Canada
S53 Sunday 11:20AM 13:00PM	Rheology (MATE) Rheological properties of dilute suspension of short glass fibers reinforced high density polyethylene (SGF- HDPE) Experimental and numerical study on magnetorheological elastomers behavior in magnetic field Extrusion of clay pastes with high concentrations - application to ceramics Rheological behaviour of algerian crude oil in the presence of water Identifying non-linear HMA behavior from uniaxial creep and dynamic modulus test results	MATE64 MATE45 MATE76 MATE80 MATE18	Amine AMMAR / Mansour BELHADRI D KRAIEM, A AYADI, CH BRADAI T NIEZGODA, D MIEDZINSKA, G SLAWINSKI, A BOCZKOWSKA M BELHADRI N BOUDJENANE A KHALDI A SIRAT M M BENZIANE, M BENAÏCHA, M BELHADRI, M DOUANI S KATICHA, G FLINTSCH, A LOULIZI	Tunisia Poland Algeria Algeria USA
S54 Sunday 11:20AM 13:00PM	Surface and Coating (MATE) On the improvement of surface hardness and microstructure properties by ball burnishing process Evaluation of the behavior of thermal barrier coating on nickel base alloy The effect of silver addition on the reaction fe-zn in hot dip galvanizing Thick and hard anodic oxide layers formed on aluminium in mixed tartaric/sulphuric acid bath Optimising residual stress profile induced by laser shock peening using doe technique	MATE34 MATE49 MATE17 MATE11 MATE63	Ahmed BEN CHEIKHLARBI / Khaled ELLEUCH F GHARBI, S SGHAIER, T BENAMEUR, K J AL-FADHALAH M A ALAGALI, A A FREFER J BEN NASR, C BRADAI, F HALOUANI W BENSALAH, K ELLEUCH, M FEKI H F AYEDI, M WERY M FRIJA, R FATHALLAH, CH BOURAOUI, R BEN SGHAIER	Tunisia Libya Tunisia Tunisia Tunisia
S55 Sunday 11:20AM 13:00PM	Simulation 1 (FLME) Numerical simulation of transient flow in trapezoidal open channel Cfd analysis of turbulent flow in baffled stirred vessel, with mrf model Three dimensional numerical wave generation in viscous fluid Laminar flow in closed stirred tanks by double helical ribbons	FLME05 FLME06 FLME13 FLME22	Khelifa MAALEL / Ezzeddine HADJ TAIEB A TRIKI, E HADJ-TAIEB M AMMAR, W CHTOUROU, Z DRISS, M S ABID Z HAFSIA M NAJEH H LAMLOUMI M BEN HAJ K MAALEL Z DRISS, G BOUZGARROU, H KCHAOU, M S ABID	Tunisia Tunisia Tunisia Tunisia

	A priori a numerical simulation of compressible turbulence flows using the ssg model	FLME42	H KHLIFI, S MASSOUSSI, T LILU	Tunisia
S56 Sunday 11:20AM 13:00PM	Wind energy and Water desalination (THSC)		Mohamed ABAAB / Aref MAALEJ	
	Modeling and optimization of a wind energizing system	THSC15	W ZGHAL, G KANTCHEV, H KCHAOU	Tunisia
	An investigation on wind park project in borj-cedria area, Tunisia	THSC33	A W DAHMOUNI, M M OUESLATI M BEN SALAH, C KERKENI, F ASKRI S BEN NASRALLAH	Tunisia
	Availability modeling of a production line of reverse osmosis water desalination plant	THSC01	A KHADHRAOUI, S BAHRI, H BEN BACHA	Tunisia
	Energy regeneration influence of a solar still high performance	THSC23	H M ANDRIANANTENAINA, B ZEGHMATI, R BERTIN	Madagascar
	Experimental validation of a water solar collector used in humidification–dehumidification solar desalination unit	THSC10	K ZHANI, A MAALEJ, H BEN BACHA	Tunisia
Sunday 14:30PM 15:00PM	Keynote Lecture 6.1		Ali H NAYFEH	
	Dynamic Sensor Data Fusion: Developments for Structural and Mechanical Systems using Dual State Parameter Estimation Techniques	keynote6.1	A SMYTH	USA
14:30PM 15:00PM	Keynote Lecture 6.2		Salaheddine FRIKHA	
	Wind analysis and design of flexible structures via CFD/FSI	keynote6.2	E HAUG	Germany
S61 Sunday 15:00PM 16:40PM	Two-phase-flow (FLME)		Muhammed Ramzi HAJJ / Vladimir ALESHIN	
	Numerical prediction of diffusion coefficient of a concentration in a microporous medium	FLME46	K DAOUD, A TOUBANE, S M SEGHIR	Algeria
	Numerical Simulation of Boiling Two-phase Flow in Bubble Pump Tube By Two-fluid Model	FLME60	A BENHMIDENE, B CHAOUACHI, S GABSI	Tunisia
	Visualization of multiphase displacement in porous media	FLME43	H DJEBOURI, S ZOUAOUI, K MOHAMMEDI, A AIT AIDER	Algeria
	Impact of carbon dioxide sequestration on global warming	FLME52	M GHOMMEM, M R HAJJ, I K PURI	USA
	Modeling of gas-liquid flows in branched trunklines	FLME54	V SELEZNEV S PRYALOV	Russia
S62 Sunday 15:00PM 16:40PM	Manufacturing (DESM)		Ali ZGHAL / Zoubeir BOUAZIZ	
	Analysis of parametric influence on drilling using cad based simulation and design of experiments	DESM06	P KYRATIS, A ANTONIADIS	Greece
	Modeling and simulation of high speed milling centers dynamics	DESM07	B MSADDEK, Z BOUAZIZ, M BAILI, G DESSEIN	Tunisia
	Modeling of roughness parameters during turning of peek cf30 by tin coated cutting tools using artificial intelligence	DESM10	I HANAFI, A KHAMLICI, FM CABRERA, E M ⁸ BEAMUD GONZÁLEZ, P J. NUÑEZ LÓPEZ, A JABBOURI	Morocco
	Prediction of cutting force including thrust and tangential damping in peripheral milling process	DESM17	K MEHDI A ZGHAL	Tunisia
	Chip segmentation effect on cutting forces variation	DESM08	S BELHADI, L BOULANOUAR, M A YALLESE, K BOUACHA, N KRIBES	Algeria
S63 Sunday 15:00PM 16:40PM	Rehology I (FLME)		Nadia EL KISSI / Amine AMMAR	
	Simple modelling of impregnation in pultrusion process of thermoplastic composites	APME26	S KOUBAA, C BURTON, S LE CORRE, A POITOU	France
	Effect of wall roughness and concentration of clay on erosion in the hole erosion test	FLME47	B KISSI, L EL BAKKALI, A KHAMLICI, M PARRON VERA, M D RUBIO CINTAS, P DUBUJET	Morocco
	Recirculating and non-stationary regimes behind a cylinder in viscoplastic fluids	FLME24	S MOSSAZ, P JAY, A MAGNIN	France
	Influence of geometry mixing on rigid zones of viscoplastic fluid	FLME40	B CHOUCHEA AYADI, M BACCAR	Tunisia
S64 Sunday 15:00PM 16:40PM	Tribology I (APME & MATE)		Guy MONTEIL / Mohamed KHARRAT	
	Application of taguchi method for maximizing pullout force of linkage pivot obtained by crimping process	APME40	J BEN SALAH, M HBAIEB, A KACEM, A KRICHEN	Tunisia
	Pressure and temperature dependent static friction model for an elastomer cap liner based on experiments	APME50	A LAJMI H CHAMPLIAUD VN LE	Canada
	Morphological, mechanical and tribological characterizations of a brake lining material	MATE73	M BAKLOUTI, R ELLEUCH, A L CRISTOL, D NAJJAR, Y DESPLANQUES	Tunisia
	Tribological behavior of steel/polymer contact: analysis of contact pressure and sliding speed effect	MATE77	I SMAOUI, S RHAËIM M KHARRAT, M DAMMAK	Tunisia
S65 Sunday 15:00PM 16:40PM	NSF Workshop and Smart Structures		Andrew SWARTZ / Joel CONTE	
	Biomimetic Marco and Micro-scale Flow Sensors	WK04	A FLATAU	USA
	Toward realistic piezoelectric sensor response modeling, simulation and benchmarking	WK10	A BENJEDDOU	France
	High Density, Self-Sustained Sensing Systems for Usage Monitoring of Mechanical Structures	WK08	N LAJNEF	USA
	Need for Sensing Technologies for Mitigating Fire Hazard in Built Infrastructure	WK03	V KODUR	USA
	Sensing Needs for Enhanced Long-term Performance Monitoring of Pavement Structures	WK09	K CHATTI	USA
S66 Sunday 15:00PM 16:40PM	Solar energy (THSC)		Belkacem ZEGHMATI / Lakhdar KAIROUANI	
	Numerical investigation of double-diffusive natural convection flows in a salinity gradient solar pond	THSC20	R BOUDHIAF, A BEN MOUSSA, M BACCAR	Tunisia
	Modeling and simulation of air conditioning system by solar energy	THSC29	K RABHI, CH ALI, H BEN BACHA	Tunisia
	Modeling, simulation and experimental of a solar air heater in algiers (Algeria)	THSC05	N BANAOUA, B ZEGHMATI, A KHOUYA	Algeria
	Design, instrumentation and performance characterization of a parabolic dish collector system	THSC53	H BENTAHER, K ZHANI, M ZAÏRI, K ZARZOOM, N AYADI	Tunisia
S71 Sunday 17:20AM 19:00AM	Heat (FLME)		Ezeddine SEDIKI / Mounir BACCAR	
	Instability of swirling flows in a cylindrical container with co-/counter rotating end disks under a vertical temperature gradient and axial magnetic field	FLME30	M BRAHIM, R BESSAÏH	Algeria
	Real gas radiation effects on reverse flow	FLME32	S TRABELSI, E SEDIKI, W LAKHAL, M MOUSSA	Tunisia
	Solution of incompressible and nonhomogeneous navier-stokes equations by a spectral method	FLME49	B DI PIERRO M ABID	France
	Effects of viscous dissipation and fluid axial heat conduction on heat transfer for non-newtonian fluids in a porous annular duct	FLME17	R NEBBALI, K BOUHADEF	Algeria
S72 Sunday 17:20AM 19:00AM	Corrosion and NDTs (MATE)		Mabrouk BOUABDALLAH / Foued EL HALOUANI	
	Effect of heat treatment on corrosion resistance of low carbon steel in soil environment	MATE38	S BRICK CHAOUICHE A LOUNIS G NEZZAL	Algeria
	Effect of fluoride added artificial saliva solution on orthodontic wires : astudy on surface characterization	MATE40	H İ ÜNAL, Ş H ATAPEK	Turkey
	Study of corrosion of stainless steel coating elaborated by arc thermal spraying	MATE59	M LARIBI, D DJEZIRI, B ZAÏD, H YOUSFI, D TREHEUX	Algeria
	Relation between the hardness and the pulsed eddy current in the materials characterisation	MATE47	M ZERGOUG, N BOUCHEROU	Algeria
	automatic detection of welding defects using radiography with a neural approach	MATE82	N BEN YAHIA, T BELHADJ S BRAG A ZGHAL	Tunisia

S73 Sunday 17:20AM 19:00AM	Rehology II (FLME)		Amine AMMAR / Nadia EL KISSI	
	Effect of a radial flow in upstream region of capillary die on triggering and evolution of a pdms gross melt fracture	FLME39	M KETATA, S ELGASRI A AYADI	Tunisia
	Numerical simulation of the constraints fields in a die of a bidimensional extrudeuse	FLME57	K SBISSI, A MEZGHANNI, M BOUAZIZ	Tunisia
	Evaluation of constitutive equations using fieldwise measurements for a linear polydisperse entangled polymer melt	FLME18	R VALETTE, G BOUKELLAL, A DURIN, J F AGASSANT	France
	Inertio-visco-elastic coupling on a lamellar phase	MATE68	Y AUFFRET, D C D ROUX, N EL KISSI, F CATON, D E DUNSTAN, I PIGNOT-PAINTRAND, Y NISHIYAMA, C ROCHAS,	France
S74 Sunday 17:20AM 19:00AM	Tribology II (MATE)		Yannick DESPLANQUES / Maher DAMMAK	
	A wear study on high chromium alloy cast iron under dry sliding condition	MATE13	Ş H ATAPEK, Ş POLAT	Turkey
	On the abrasive wear of polymer coating – impact of hygrothermal aging	MATE33	N GUERMAZI, K ELLEUCH, H F AYEDI	Tunisia
	Experimental study of friction stir welding of polyethylene	MATE70	K HAMROUNI, M A REZGUI, M AYADI, A CHEROUAT A ZGHAL	Tunisia
	Microstructure, friction and wear analysis of pmma based composites with solid lubricant	MATE72	B BEN DIFALLAH, M KHARRAT, M DAMMAK, G MONTEIL	Tunisia
	Ballistic impact behaviour of a tempered bainitic steel against 7.62 mm armor piercing projectile	MATE20	Ş H ATAPEK, Ş KARAGÖZ	Turkey
S75 Sunday 17:20AM 19:00AM	Control (SYSD)		Sami MASRI / Nabil BEN KAHLA	
	A new criterion for the stabilization diagram used with stochastic subspace identification methods: an application to an aircraft skelton	SYSD10	E MRABET, M ABDELGHANI, N BEN KAHLA	Tunisia
	Active tendon control of a cable stayed bridge during the construction phase	SYSD16	M H EL OUNI, N BEN KAHLA	Tunisia
	Discrete rotor design optimization	SYSD33	I M'LAHOUI, N BEN GUEDRIA, H SMAOUI	Tunisia
	Wireless sensor networks for industrial monitoring	SYSD21	G DIB, L MHAMDI L UDPA, N LAJNEF T KHAN JW HONG S UDPA, J PADIYAR K BALASUBRAMANIAM	USA
	Q-Learning Based Mobile robot behaviors Coordination	SYSD24	L KHRIJI, F TOUATI K BENHMED A AL-YAHMEDI	Oman
S76 Sunday 17:20AM 19:00AM	Numerical method and simulation (THSC)		Hbib SAMMOUDA / Nabil KCHAOU	
	Solution of the graetz - brinkman problem by integral transform technique	THSC11	M MECILIA, E MEZAACHE, B ZEGHMATI	Algeria
	Effects of the chemical kinetic representation on freely propagating turbulent flame study	THSC52	R ENNETTA, R SAID	Tunisia
	Numerical study of the flow and heat transfer inside an enclosure having a partially active wall	THSC48	M GUESTAL, M KADJA	Algeria
	A method of refrigeration system with CO2 in subcritical mode	THSC17	R NEBBALI	Algeria
	Three-dimensional numerical simulation for intake process in a diesel engine converted to duel carburetion gasoline-natural gas	THSC09	M A JEMNI, G KANTCHEV, M S ABID	Tunisia
	Numerical simulation of heat transfer in 4-pass fire -tube boiler	THSC26	A RAHMANI T BOUCHAMI	Algeria
Monday, December 20, 2010				
Monday 8:30AM 9:00AM	Keynote Lecture 7		Nabil BEN KAHLA	
	Wavelet-Chaos-Neural Network Models for Vibration Control and Health Monitoring of Large Irregular Structures	keynote7	H ADELI	USA
9:00AM 9:30AM	Keynote Lecture 8		Jim BECK	
	Noise Source Identification Using Beamforming Technique	keynote8	S N Y GERGES, W FONCESCA	Brazil
9:30AM 10:00AM	Keynote Lecture 9.1		Karim CHATTI	
	A survey of longitudinal vibrations of heterogeneous and anisotropic rods dispersion of elastic and viscoelastic waves	keynote9.1	Y CHEVALIER, T VINH,	France
9:30AM 10:00AM	Keynote Lecture 9.2		Mouldi CHRIGUI	
	On-line measurement of ultrasonic velocity and attenuation at elevated temperatures	keynote9.2	V RAJENDRAN, K SAKTHIPANDI, P KULANDAIVEL, T JAYAKUMAR, PALANICHAMY P, B RAJ	India
S81 Monday 10:30AM 12:30AM	Computational modeling in materials (MATE & APME)		Tobias NAUMANN / Ali ZGHAL	
	A finite element numerical tool for fe-based sma structural analysis considering martensitic transformation and plastic sliding	MATE10	W KHALIL, A MIKOLAJCZAK C BOUBY, T BEN ZINEB	France
	Analysing the effect of phasing on thermomechanical fatigue by using finite element post-processing	MATE41	Z ACHGAF, A KHAMLICHI, L EL BAKKALI, F M CABRERA	Morocco
	Modelling the load and temperature dependent long term behavior of polymers	MATE42	M STOMMEL, N TOBIAS	Germany
	Numerical modeling of quasi-static crush behavior of aluminum honeycomb under multi-axial loads	APME64	R TOUNSI, B ZOUARI, F CHAARI, F DAMMAK, E MARKIEWICZ	Tunisia
	On the yielding of heat generating tungsten/copper functionally graded cylinder via Tresca's criterion	APME59	A OZTURK, M GULGEC	Turkey
S82 Monday 10:30AM 12:30AM	Multi-scale and Homogenisation (MATE & APME)		Zoubeir LAFHAJ / Yvon CHEVALIER	
	Inhomogeneities of semicrystalline thermoplastics in structure simulations	MATE44	M STOMMEL, J M KAISER	Germany
	Mechanical behavior of thermoplastic cork filler composites: modeling and experiments	MATE55	F BEN ABDALLAH, M CHAFRA, R BEN CHEIKH	Tunisia
	Evaluation of dilute inclusion model by finite element method: application to the cement paste	APME47	I YOUSFI S MAALEJ, Z LAFHAJ	France
	Micro-scale modeling of carbon-fiber reinforced thermoplastic materials	APME46	A GHERISSI, F ABBASSI, A ZGHAL, S MISTOU, J ALEXIS	Tunisia
	Viscoelastic Prony series numerical identification of unidirectional and woven ALFA/PPMA composites	APME54	M CHAFRA, S HELAILI	Tunisia
	Impact of the fibers model on the structures reinforced by composite -frp-	APME18	B KERBOUA, F METALSI, ABDELGHAFOUR BOURDIM, M KOTBI, E ADDABEDIA	Algeria
	Viscoelastic Homogenization of a Perforated Honeycomb Sandwich Structure	APME60	O BOUGHANMI, M CHAFRA	Tunisia
S83 Monday 10:30AM 12:30AM	Simulation 2 (FLME)		Vladimir ALESHIN / Belkacem ZEGHMATI	
	Numerical investigation of internal turbulent flow generated by an anchor impeller	FLME19	S KARRAY, Z DRISS, H KCHAOU, M S ABID	Tunisia
	Laminar forced convection submicron particles scrubbing in non isolated wet venturi scrubber	FLME31	S W IGO, D J BATHIEBO, B ZEGHMATI X CHESNEAU	Burkina Faso
	Effect of turbulence on the performance of journal bearing	FLME33	L DAMMAK E HADI-TAIEB	Tunisia
	Numerical investigation of the effects of rod on flow around two cylinders in tandem at low reynolds numbers	FLME27	M LAAROUISSI M DJEBBI	Tunisia

	3-D numerical simulations of particle dynamics in a poststenotic blood vessel region within the scope of ultrasound thrombolysis treatment	FLME61	M DHAHBA, M BEN CHIEKH, A JEMNI , JC BERA	Tunisia
	Modeling of natural gas distribution discrepancy	FLME26	V SELEZNEV	Russia
S84 Monday 10:30AM 12:30AM	Multiphysics problems (THSC)		Kamel HALOUANI / Hassan ABBASSI	
	Modeling of biochar gasification in downdraft gasifier: effect of gasifying agent	THSC19	M A MASMOUDI, M SAHRAOUI, N GRIoui, K HALOUANI	Tunisia
	Feasibility study of direct carbon fuel cell design and construction at laboratory scale	THSC18	ELLEUCH A A BOUSSETTA, K HALOUANI	Tunisia
	Stabilized finite element formulation applied to the kinematic ponomarenko dynamo problem.	THSC51	R TOUIHRI, A SOULAIMANI, F PLUNIAN	Tunisia
	Poiseuille-benard channel flow under a magnetic field	THSC34	B EL BEKRI, H ABBASSI	Tunisia
	Effects of superheat condition on the evaporating extended meniscus in a horizontal microchannel flat tube	THSC41	E FLILHI, H EL MGHARI, H BOUSHABA, M ASBIK, A KHMOU	Morocco
	Modelization of combined radiative and conductive heat transfer in an isotropic scattering participating medium	THSC43	R CHAABANE, F ASKRI S BEN NASRALLAH	Tunisia
S85 Monday 10:30AM 12:30AM	System Dynamics and Vibroacoustic (SYSDD)		Rchid NASRI / lotfi HAMMAMI	
	Contact pressure for earmuff comfort	SYSDD34	SY GERGES	Brazil
	Numerical homogenization and experimental validation of a composite plate using modal analysis	APME55	M A PEREZ, L GIL, F HAMMAMI, M NEIFAR, M CHAFRA	Spain
	Free vibration analysis of partially supported rectangular plates	SYSDD07	H NAHVI, M KARIMI DARANI	Iran
	Investigations of the influence of some key parameters on the fundamental frequencies of concrete bridges	SYSDD09	M OUANANI, B TILIOUINE	Algeria
	Study of the aeroelastic loads of a composite blade	SYSDD04	A CHELLIL, A NOUR S LECHEB	Algeria
	Continuous elements for acoustic waves	SYSDD23	MA KHADIMALLAH, J B CASIMIR, M CHAFRA H SMAOUI	Tunisia
S86 Monday 10:30AM 12:30AM	NSF Workshop and Smart Structures		Sami F MASRI / Venkatesh KODUR	
	Bending-torsion vibrations for piezoelectric energy harvesting using unimorph cantilever beam	SYSDD28	A ABDELKEFI AH NAYFEH, F NAJAR, S BEN AYED	Tunisia
	Possible explanation of discrepancy in flexoelectric coefficient 12 f for barium titanate: surface piezoelectric layers	APME43	M GHARBI, P SHARMA	USA
	Electro-elastic overall properties of piezoelectric composites by multiple sites self-consistent model structures	APME56	N FAKRI, L AZRAR	Morocco
	Mechanical tuning of piezoelectric energy harvesters for temperature compensation	APME49	M RHIMI, N LAJNAF	USA