2014 Middle East Conference on Biomedical Engineering

(MECBME 2014)

Doha, Qatar
17-20 February 2014

Content List of 2nd Middle East Conference on Biomedical Engineering

Technical Program for Tuesday February 18, 2014

TuP1L	NASHIRA 1
Spherical Nucleic Acid (SNA) Nanostructures: Establishing a New Paradigm in Molecular Diagnostics and Intracellular Gene Regulation (Plenary Session)	
Chair: Fenniri, Hicham	Univ. of Alberta

09:30-11:30	TuP1L.1

Spherical Nucleic Acid (SNA) Nanostructures: Establishing a New Paradigm in Molecular Diagnostics and Intracellular Gene Regulation*.

Mirkin, Chad	NORTHWESTERN Univ.

TuP2L	NASHIRA 1
Gene Therapeutics for Neurodegenerative Diseases (Plenary Session)	
Chair: Tafreshi, Reza	Texas A&M Univ. at Qatar

13:00-13:55	TuP2L.1

Gene Therapeutics for Neurodegenerative Diseases*.

Azzouz, Mimoun	Univ. of Sheffield

TuB1	NASHIRA 1
Biomedical Imaging (I) (Regular Session)	
Chair: KACI, Mohammed	Inst. de Fisica Corp. IFIC - CSIC/UV - Valencia
Co-Chair: Khalifa, Ayman	Helwan Univ.

14:15-14:30	TuB1.2

Ultrasound Image Enhancement Using an Adaptive Anisotropic Diffusion Filter, pp. 1-4.

Toufique, Yassine	Univ. of Mohammed V-Agdale Rabat
Cherkaoui el Moursli, rajaa	Univ. of Mohammed V-Agdale Rabat
MASMOUDI, lhoussaine	Univ. of Mohammed V-Agdale Rabat
El Kharrim, Abderrahman	Mohamed Premier Univ.
KACI, Mohammed	Inst. de Fisica Corp. IFIC - CSIC/UV - Valencia
Allal, soumaya	Sheikh Zaid Hospital rabat

14:30-14:45	TuB1.3

Dual-Energy Computed Tomography versus Magnetic Resonance Imaging for the Assessment of Iron Overload, pp. 5-8.

Ibrahim, El-Sayed	Mayo clinic, Jacksonville, FL
Bowman, Andrew	Mayo Clinic
Khalifa, Ayman	Helwan Univ.

14:45-15:00	TuB1.4

New DCE-MRI Parameters to Quantify the Vascular Changes Induced by Sunitinib Treatment in Renal Carcinoma Tumors, pp. 9-12.

Al-Bashir, Areen	Jordan Univ. of Science and Tech.

15:00-15:15	TuB1.5

The Effects of the Analysis Technique on Hepatic Iron Evaluation Using T2* Mapping with Magnetic Resonance Imaging, pp. 13-16.

Ibrahim, El-Sayed	Mayo clinic, Jacksonville, FL
Khalifa, Ayman	Helwan Univ.
Eldaly, Ahmed	Helwan Univ.
Bowman, Andrew	Mayo Clinic

15:15-15:30	TuB1.6

Accelerating Dynamic MRI by Compressed Sensing Reconstruction from Undersampled K-T Space with Spiral Trajectories, pp. 17-20.

Tolouee, Azar	Ryerson Univ.
Alirezaie, Javad	Ryerson Univ. Univ. of Waterloo
Babyn, Paul	Univ. of Saskatchewan

15:30-15:45	TuB1.7

A Two Layer Texture Modeling Based on Curvelet Transform and Spiculated Lesion Filters for Recognizing Architectural Distortion in Mammograms, pp. 21-24.

Khoubani, Sahar	Amirkabir Univ. of Tech. (Tehran Pol.
Sheikhzadeh Nadjar, Hamid	AMI Semiconductor Canada Company
Fatemizadeh, Emad	Sharif Univ. of Tech.
Mohammadi, Elham	Amirkabir Univ. of Tech.

TuB2	QAMAR 1
Biomedical Circuts, Systems, Instrumentation, and Nano-Medicine (I) (Regular Session)	
Chair: Contreras, Maria F	King Abdullah Univ. of Science and Tech.
Co-Chair: Rickers, Sebastian	Univ. of Duisburg-Essen

14:00-14:15	TuB2.1

A Novel Passive Micromixer with Trapezoidal Blades for High Mixing Efficiency at Low Reynolds Number Flow, pp. 25-28.

Le The, Hai	Vestfold Univ. Coll.
Tran-Minh, Nhut	Vestfold Univ. Coll. NorChip AS
Le-Thanh, Hoa	Vestfold Univ. Coll.
Karlsen, Frank	Oslofjord Res. Vestfold Univ. Coll.

14:15-14:30	TuB2.2

A Study on Mechanical Strength of Pyramid-Shaped Microneedle, pp. 29-32.

Le-Thanh, Hoa	Vestfold Univ. Coll.
Tran-Minh, Nhut	Vestfold Univ. Coll. NorChip AS
Le The, Hai	Vestfold Univ. Coll.
Karlsen, Frank	Oslofjord Res. Vestfold Univ. Coll.

14:30-14:45	TuB2.3

Receiver Coil Parameter Optimization Process for the Efficiency of an Implantable Inductive Power Transfer System, pp. 33-38.

Rickers, Sebastian	Univ. of Duisburg-Essen
Ruiz Navarro, Ignacio	Univ. of Duisburg-Essen
Bruck, Guido H.	Univ. of Duisburg-Essen
Jung, Peter	Univ. of Duisburg-Essen

14:45-15:00	TuB2.4

Design of Low Frequency Analog Low Pass Filter Using Tunable Pseudo Resistors, pp. 39-42.

Neshatvar, Nazanin	American Univ. of Sharjah
Al-Nashash, Hasan	American Univ. of Sharjah
Al Basha, Lutfi	American Univ. of Sharjah

15:00-15:15	TuB2.5

*Autonomous Sensor Dedicated to Force Measurements in Human Knee Implants**

Crescini, Damiano	Univ. of Brescia - DII
Serpelloni, Mauro	Univ. of Brescia - DII
Sardini, Emilio	Univ. of Brescia - DII

15:15-15:30	TuB2.6

Targeted Cancer Cell Death Induced by Low-Frequency Vibration of Biofunctionalized Magnetic Nanowires, pp. 47-50.

Contreras, Maria F	King Abdullah Univ. of Science and Tech.
Ravasi, Timothy	King Abdullah Univ. of Science and Tech.
Kosel, Juergen	King Abdullah Univ. of Science and Tech.

15:30-15:45	TuB2.7

A Low Voltage and Low Power Current-Mode Field Programmable Analog Computational Unit, pp. 51-54.

Al-Absi, Munir	KFUPM

TuB3	QAMAR 2
Biomechanics, Biomaterials, and Tissue Engineering (I) (Regular Session)	
Chair: Al-Jumaily, Ahmed	Auckland Univ. of Tech.
Co-Chair: Nick, Christoph	Univ. of Applied Sciences Aschaffenburg

14:00-14:15	TuB3.1

Gold Nanopillar Microelectrodes on Low Temperature Curing Polyimide for the Interface with Electrogenic Cells, pp. 55-58.

Nick, Christoph	Univ. of Applied Sciences Aschaffenburg

Lippert, Paul	Univ. of Applied Sciences Aschaffenburg
Quednau, Sebastian	Tech. Univ. Darmstadt
Schlaak, Helmut	Tech. Univ. Darmstadt
Thielemann, Christiane	Univ. of Applied Sciences Aschaffenburg

14:15-14:30	TuB3.2

An "off-The Shelf" Synthetic Membrane to Simplify Regeneration of Damaged Corneas, pp. 59-62.

SEFAT, FARSHID	Univ. of Sheffield, Centre for Biomaterials and Tissue Engi
ORTEGA, ILIDA	Univ. of Sheffield, Centre for Biomaterials and Tissue Engi
MCKEAN, ROBERT	The Electrospinning Company Ltd, Oxford
DESHPANDE, PALLAVI	Univ. of Sheffield, Centre for Biomaterials and Tissue Engi
RAMACHANDRAN, CHARANYA	LV Prasad Eye Inst. (LVPEI)
HILL, CHRISTOPHER	Univ. of Sheffield, Department of Biomedical Science
TZOKOV, SVETOMIR	Univ. of Sheffield, Department of Biomedical Science
CLAEYSSENS, FREDERIK	Univ. of Sheffield, Centre for Biomaterials and Tissue Engi
SANGWAN, VIRENDER	LV Prasad Eye Inst. (LVPEI)
RYAN, ANTHONY	Univ. of Sheffield, Department of Chemistry
MACNEIL, SHEILA	Univ. of Sheffield, Centre for Biomaterials and Tissue Engi

14:30-14:45	TuB3.3

Computer Assisted to Determine the Influence of Connector Design and Stress Distribution in Incoris TZI (Zirconia) Fixed Partial Denture, pp. 63-66.

Nassef, Tamer	Misr Univ. for Science and Tech.
khalil, Moustafa	Professor of Biomaterials, Alexandria Univ.
Hussein, Sanaa	Professor of Fixed Prosthodontics, Alexandria Univ.

14:45-15:00	TuB3.4

An Aortic Arch Flow Loop for the Study of Hemodynamic-Induced Endothelial Cell Injury and Inflammation, pp. 67-70.

Alloush, Mhamad M.	American Univ. of Beirut
Oweis, Ghanem F.	American Univ. of Beirut
Nasr, Rihab	American Univ. of Beirut
Zeidan, Asad	American Univ. of Beirut

15:00-15:15	TuB3.5

Beaded Elastic Rods to Simulate the Diffusive Dynamics of Biofilament Deformations, pp. 71-74.

Goyal, Sachin	Univ. of California
Appanasamy, Nitish Ratan	Univ. of California

15:15-15:30	TuB3.6

Improving Relaxant Effect of Contracted Airway Smooth Muscles, pp. 75-78.

Al-Jumaily, Ahmed	Auckland Univ. of Tech.
Mathur, Meha	Auckland Univ. of Tech.

15:30-15:45	TuB3.7

An Iterative Finite Difference Scheme for Buckling of Graphene Beam Subject to Axial Compressive Load, pp. 79-82.

Ghazy, Mohammed	Texas A&M Univ. at Qatar
Elgindi, Mohamed	Texas A&M Univ. at Qatar
Wei, Dongming	Univ. of New Orleans

TuC1	NASHIRA 1
Biomedical Imgaing (II) (Regular Session)	
Chair: Al-Jumaily, Adel	Univ. of Tech. Sydney
Co-Chair: Derraz, Foued	Medical Coll. Lille

16:00-16:15	TuC1.1

Integrating Soft and Hard Threshold Selection Algorithms for Accurate Segmentation of Skin Lesion, pp. 83-86.

Masood, Ammara	Univ. of Tech. Sydney
Al-Jumaily, Adel	Univ. of Tech. Sydney

16:15-16:30	TuC1.2

Edge-Based IVD Segmentation System, pp. 87-90.

Saleh Aboul-Yazeed, Rasha	systems and biomedical engineering dept., faculty of engineering

| sayed ahmed mohamed, abdalla | cairo Univ. |
| El-Bialy, Ahmed M. | Cairo Univ. |

16:30-16:45	TuC1.3

Enhanced Automatic Colon Segmentation for Better Cancer Diagnosis, pp. 91-94.

| Ismail, Marwa | Univ. of Louisville |

16:45-17:00	TuC1.4

*Multiple Sclerosis Lesion Segmentation Using Active Contours and Automatic Outlier Detection**

Derraz, Foued	Medical Coll. Lille
Peyrodie, Laurent	HEI
TALEB-AHMED, abdelmalik	Univ. de Valenciennes et du Hainaut Cambresis
Bousahla, Miloud	Abou Bekr Belkaid Univ.
Hautecoeur, Patrick	Medical Coll. Lille
verclytte, Sebastien	Medical Coll.

17:00-17:15	TuC1.5

Combining Long and Short Axis Myocardial Contours for Accurate Reconstruction of the Left Ventricular Surface, pp. 99-102.

El-Rewaidy, Hossam	Cairo Univ.
Khalifa, Ayman	Helwan Univ.
Fahmy, Ahmed S.	Cairo Univ.

17:15-17:30	TuC1.6

Medical Image Fusion Based on Joint Sparse Method, pp. 103-106.

Vekataraman, Anuyogam	Ryerson Univ.
Alirezaie, Javad	Ryerson Univ. Univ. of Waterloo
Babyn, Paul	Univ. of Saskatchewan
Ahmadian, Alireza	Tehran Univ. of Medical Sciences

17:30-17:45	TuC1.7

Mammograms Enhancement Using Wavelet Transform and Piecewise Linear and Nonlinear Coefficient Mapping, pp. 107-110.

Beheshti, Seyed Mohammadali	Science and Res. branch, Islamic Azad Univ. Tehran, Ir
Ahmadi Noubari, Hossain	1- Univ. of Tehran, and 2- Univ. of British Columbia
Fatemizadeh, Emad	Sharif Univ. of Tech.
Ramze Rezaee, Mahmoud	McKesson
Khalili, Mitra	Breast Cancer Res. Center, Tehran Medical Sciences Univ.

TuC2	QAMAR 1
Biomedical Circuts, Systems, Instrumentation, and Nano-Medicine (II) (Regular Session)	

| Chair: Meza-Cuevas, Mario A. | Hamburg Univ. of Tech. |
| Co-Chair: Poustinchi, Mohammad | McGill Univ. |

16:00-16:15	TuC2.1

A Scalable 64 Channel Neurostimulator Based on a Hybrid Architecture of Current Steering DAC, pp. 111-114.

Meza-Cuevas, Mario A.	Hamburg Univ. of Tech.
Schroeder, Dietmar	Hamburg Univ. of Tech.
Krautschneider, Wolfgang H.	Hamburg Univ. of Tech.

16:15-16:30	TuC2.2

A Phantom for Cadaverless Evaluation of Targeting Systems for Distal Locking of Intramedullary Nails, pp. 115-118.

| Jaber, Fadi | Qatar Univ. |
| Al-Jayyousi, Awni | Amber House |

16:30-16:45	TuC2.3

Towards Technology Localization: Controlling Treadmill Speed Using Heart Rate, pp. 119-122.

Alothmany, Nazeeh	King Abdulaziz Univ.
Mohy AL-Deen, Badr	King Abdulaziz Univ.
Basyouni, Moayad	King Abdulaziz Univ.
Hanbazaza, Abdulrahman	King Abdulaziz Univ.
AL-Ghamdi, Ali	King Abdulaziz Univ.

16:45-17:00	TuC2.4

A Portable 12-Lead ECG Wireless Medical System for Continuous Cardiac-Activity Monitoring, pp. 123-126.

Gaxiola-Sosa, Jesus Efrain	Texas A&M Univ.
Mohsin, Nasreen	Texas A&M Univ. Qatar
PALLIYALI, ABDUL JALEEL	TEXAS A&M Univ. AT QATAR
Tafreshi, Reza	Texas A&M Univ. at Qatar
Entesari, Kamran	Texas A&M Univ.

17:00-17:15	TuC2.5

Visual Aid for Optic Nerve Hypoplasia Patients, pp. 127-130.

Moussa, Hesham	American Uiversity of Sharjah
Al-saboni, Yumna	American Uiversity of Sharjah
Al-Habash, Bilal	American Uiversity of Sharjah
Shehab El Din, Minnatullah	American Uiversity of Sharjah
Al-Nashash, Hasan	American Univ. of Sharjah

17:15-17:30	TuC2.6

The Complete Molecular Real Life Monitoring System for Point-Of-Care Nucleic Acid Diagnosis of Blood and Cancer Disease.

Karlsen, Frank	Univ. Coll. in Vestfold

17:30-17:45	TuC2.7

Low Power CMOS Neurochemical Biosensor Application in an Implantable Intelligent Neurotrophic Factor Delivery Hybrid Microsystem for Parkinson's, pp. 131-134.

Poustinchi, Mohammad	McGill Univ.
Musallam, Sam	McGill Univ.

TuC3	QAMAR 2
Neuro-Engineering (Invited Session)	
Chair: Al-Nashash, Hasan	American Univ. of Sharjah
Co-Chair: Thakor, Nitish	Johns Hopkins Univ.

16:00-16:30	TuC3.1

Brain Machine Interface for Neural Prosthesis: From Peripheral to Cortical.

Thakor, Nitish	Johns Hopkins Univ.

16:30-17:00	TuC3.2

From Cognitive Sciences to Cognitive Engineering and Beyond.

Bezerianos, Anastasios	National Univ. of Singapore

17:00-17:30	TuC3.3

Electrophysiological Assessment of CNS Plasticity and Spinal Cord Injury Therapeutic Strategies.

All, Angelo	Johns Hopkins Univ.

Technical Program for Wednesday February 19, 2014

WeP1L	**NASHIRA 1**
Cybergenetics: The Emerging Science of Feedback Control of Living Cells (Plenary Session)	
Chair: Fenniri, Hicham	Univ. of Alberta

08:30-09:25	WeP1L.1

Cybergenetics: The Emerging Science of Feedback Control of Living Cells*.

Khammash, Mustafa	ETH-Zürich

WeA1	**NASHIRA 1**
Biomedical Imaging (III) (Regular Session)	
Chair: Wahid, Khan A.	Univ. of Saskatchewan
Co-Chair: Peyrat, Jean-Marc	Qatar Science and Tech. Park

09:30-09:45	WeA1.1

A Color Reproduction Method with Image Enhancement for Endoscopic Images, pp. 135-138.

Imtiaz, Mohammad Shamim	Univ. of Saskatchewan
Wahid, Khan A.	Univ. of Saskatchewan

09:45-10:00	WeA1.2

Sparse Bayesian Image Restoration with Linear Operator Uncertainties with Application to EEG Signal Recovery, pp. 139-142.

Chaari, Lotfi	Univ. of Toulouse, IRIT - INP-ENSEEIHT, France
Batatia, Hadj	Univ. of Toulouse - UMR CNRS 5505
Tourneret, Jean-Yves	Univ. of Toulouse

10:00-10:15	WeA1.3

Performance of Optical Flow Tracking Approaches for Cardiac Motion Analysis, pp. 143-146.

Hassanein, Azza	Helwan Univ.
Khalifa, Ayman	Helwan Univ.
Al-Atabany, Walid Ibrahim Ali	Helwan Univ.
El-Wakad, Mohamed Tarek	Faculty of Engineering, Helwan Univ.

10:15-10:30	WeA1.4

Electrical Capacitance Volume Tomography for Human Brain Motion Activity Observation, pp. 147-150.

Taruno, Warsito P.	CTECH Lab.
Ihsan, Muhammad Fathul	CTECH Lab. EdWar Tech.
baidillah, marlin ramadhan	edwar Tech. co.
Tandian, Timothy Alexander	EdWar Tech.
Mahendra, Mahdi	Inst. Teknologi Bandung
Aljohani, Mohammed	King Abdul Aziz Univ.

10:30-10:45	WeA1.5

Development of an Optical Measurement System for Hip Implant Surgery to Evaluate the Leg Length and the Hip Rotation Center, pp. 151-154.

Grunert, Ronny	Fraunhofer Inst. for Machine Tools and Forming Tech.
Kretzschmar, Christian	Fraunhofer Inst. for Machine Tools and Forming Tech.
Rotsch, Christian	Fraunhofer Inst. for Machine Tools and Forming Tech.
Werner, Michael	Fraunhofer Inst. for Machine Tools and Forming Tech.
Prietzel, Torsten	Orthopedic Hospital, Univ. of Leipzig

10:45-11:00	WeA1.6

A Novel System for Scoring of Hormone Receptors in Breast Cancer Histopathology Slides, pp. 155-158.

Khan, Adnan Mujahid	Univ. of Warwick
Fahad ,Mohammed, Aisha	Ministry of Ec. and Trade
Ali Al-Hajri, Shama	Qatar Univ.
marri , Al Shamari, Hajer	Qatar Uniersity
Qidwai, Uvais	Qatar Univ.
Mujeeb, Imaad Bin	Hamad Medical Corp.
Rajpoot, Nasir	Qatar Univ. (Qatar) & Univ. of Warwick

11:00-11:15	WeA1.7

Towards Multi-Modal Image-Guided Tumour Identification in Robot-Assisted Partial Nephrectomy, pp. 159-162.

Hamarneh, Ghassan	Simon Fraser Univ.
Amir-Khalili, Alborz	Univ. of British Columbia
Nosrati, Masoud S.	Simon Fraser Univ.
Figueroa Garcia, Ivan	Univ. of British Columbia
Kawahara, Jeremy	Simon Fraser Univ.
Al-Alao, Osama	Hamad Medical Corp.
Peyrat, Jean-Marc	Qatar Science and Tech. Park
JULIEN, ABI-NAHED	QATAR ROBOTIC SURGERY CENTRE, QATAR SCIENCE & Tech. PARK
AL-ANSARI, ABDULLA	HAMAD MEDICAL Corp.
Abugharbieh, Rafeef	Univ. of British Columbia

WeA2	QAMAR 1
Bioinformatics and System Biology (I) (Regular Session)	
Chair: Serpedin, Erchin	Texas A&M Univ.
Co-Chair: Alanis-Lobato, Gregorio	King Abdullah Univ. of Science and Tech.

09:30-09:45	WeA2.1

Investigating Effects of Copy Number Alterations on Targeted Therapy Response Using a Conditioning-Based Model, pp. 163-166.

Fang-Han, Hsu	Sigma-Aldrich
Serpedin, Erchin	Texas A&M Univ.

09:45-10:00	WeA2.2

Exploring the Genetics Underlying Autoimmune Diseases with Network Analysis and Link Prediction, pp. 167-170.

Alanis-Lobato, Gregorio	King Abdullah Univ. of Science and Tech.
Cannistraci, Carlo V	King Abdullah Univ. of Science and Tech.
Ravasi, Timothy	King Abdullah Univ. of Science and Tech.

10:00-10:15	WeA2.3

Application of a Fuzzy Learning Intervention Approach to a Purine Metabolism Pathway Model, pp. 171-174.

Basha, Nour	Texas A&M Univ. at Qatar
Nounou, Hazem	Texas A&M Univ. at Qatar
Nounou, Mohamed	Texas A&M Univ. at Qatar

10:15-10:30	WeA2.4

Direct Adaptive Disturbance Rejection Control for Sedation and Analgesia, pp. 175-179.

Padmanabhan, Regina	Qatar Univ.
Meskin, Nader	Qatar Univ.
Haddad, Wassim	Georgia Inst. of Tech.

10:30-10:45	WeA2.5

Modulation of Mrna Circadian Transcription Cycle by Micrornas, pp. 180-183.

Ptitsyn, Andrey	Sidra Medical and Res. Center
Ptitsyna, Natalia	Embry-Riddle Aeronautical Univ.
Al-Ali, Rashid	Sidra Medical and Res. Center
AlSaad, Rawan	Sidra Medical and Res. Center

10:45-11:00	WeA2.6

Human MicroRNAs Targeting Hepatitis C Virus, pp. 184-187.

Eid, Fatma Elzahraa	Virginia Tech.
Elmarakeby, Haitham	Virginia Tech.
Heath, Lenwood	Virginia Tech.
Elhefnawi, mahmoud	Assoc. Prof. Mahmoud M. ElHefnawi (Ph.D.) Bioinformatician& Drug

11:00-11:15	WeA2.7

MUSIC: A Hybrid Computing Environment for Burrows-Wheeler Alignment for Massive Amount of Short Read Sequence Data, pp. 188-191.

Gupta, Saurabh	Bio-IT centre, Inst. of Bioinformatics and Applied Biotechno
Choudhury, Sanjoy	Inst. of bioinformatics and applied biotechnology
Panda, Binay	Inst. of Bioinformatics and Applied Biotechnology

WeA3	**QAMAR 2**
Biomedical Systems Modeling (I) (Regular Session)	
Chair: Qamar, Adnan	KAUST
Co-Chair: Wassar, Taoufik	Univ. of Houston

09:30-09:45	WeA3.1

A Model for Ultrasound Contrast Agent in a Phantom Vessel, pp. 192-195.

Qamar, Adnan	KAUST
Samtaney, Ravi	KAUST

09:45-10:00	WeA3.2

Tissue Perfusion in Fluid Therapy, pp. 196-199.

Siam, Jamal	Tel Aviv Univ.
Barnea, Ofer	Tel Aviv Univ.

10:00-10:15	WeA3.3

Neural Wavelet Packet Percentage Energy for Congestive Heart Failure Recognition,*

daqrouq, khaled	king abdulaziz Univ.

10:15-10:30	WeA3.4

Micro-Fibers Shape Effects on Gas Exchange in Total Artificial Lung, pp. 204-207.

Qamar, Adnan	KAUST
Guglani, Aditya	IIT Guwahati
Samtaney, Ravi	KAUST

10:30-10:45	WeA3.5

Heart Assist Devices: Modeling and Diagnostics, pp. 208-211.

Wassar, Taoufik	Univ. of Houston
Franchek, Matthew	Department of Mechanical Engineering, Univ. of Houston
Grigoriadis, Karolos	Univ. of Houston
Benkowski, Cedric	MicroMed Cardiovascular, Inc.
Kadipasaoglu, Mehmet	Texas Heart Inst. at St. Luke's Episcopal Hospital
Parnis, Steven	Texas Heart Inst. at St. Luke's Episcopal Hospital

10:45-11:00	WeA3.6

Effect of Remodeled Tumor-Induced Capillary Network on Interstitial Flow in Cancerous Tissue, pp. 212-215.

sefidgar, Mostafa	Mechanical Engineering Faculty of K. N. Toosi Univ. of Tech.
Raahemifar, Kaamran	Ryerson Univ.
Bazmara, Hossein	Mechanical Engineering Faculty of K. N. Toosi Univ. of Tech.
bazargan, majid	Mechanical Engineering Faculty of K. N. Toosi Univ. of Tech.
mousavi, mojtaba	Mechanical Engineering Faculty of K. N. Toosi Univ. of Tech.
Soltani, Madjid	The Johns Hopkins Univ. and KN Toosi Univ.

11:00-11:15	WeA3.7

Performance Analysis of Mass Transfer of Hollow Fiber Hemodialyser with Ultrafiltration and Varied Dialysate Concentration, pp. 216-219.

Kamali, Marziyeh	Univ. of semnan
hormozi, faramarz	Univ.
karimi, reza	Univ. of shiraz

WeP2L	**NASHIRA 1**
Engineered Nanomaterials for SIRNA Delivery and Gene Silencing (Plenary Session)	
Chair: Tafreshi, Reza	Texas A&M Univ. at Qatar

13:00-13:55	WeP2L.1

Engineered Nanomaterials for SIRNA Delivery and Gene Silencing.

Fenniri, Hicham	Univ. of Alberta

WeB1	**NASHIRA 1**
Biomedical Signal Processing (I) (Regular Session)	
Chair: Begg, Rezaul	Victoria Univ.
Co-Chair: KHODOR, Nadine	Univ. de rennes 1

14:00-14:15	WeB1.1

Automated Classification of Plantar Pressure Asymmetry During Pathological Gait Using Artificial Neural Network, pp. 220-223.

Wafai, Linah	Victoria Univ.
Zayegh, Aladin	Victoria Univ.
Woulfe, John	Coll. of Engineering and Science, Victoria Univ. Melbour
Begg, Rezaul	Victoria Univ.

14:15-14:30	WeB1.2

MFC Peak Based Segmentation for Continuous Arabic Audio Signal, pp. 224-227.

Abdo, Mohamed S.	Minia Univ.
Kandil, Ahmed H.	Cairo Univ.
Fawzy, Sahar Ali	Cairo Univ.

14:30-14:45	WeB1.3

Improving P300 and SCP-Based Brain Computer Interfacing by Spectral Subtraction Denoising, pp. 228-231.

Makary, Meena M.	Cairo Univ.
Kadah, Yasser M.	Cairo Univ.

14:45-15:00	WeB1.4

Accurate Automatic Identification of Slow Wave Sleep Using a Single Electro-Oculogram Channel, pp. 232-235.

ElMessidi, Mohamed	Texas A&M Univ.
Tmar-Ben Hamida, Sana	Texas A&M Univ. at Qatar
Ahmed, Beena	Texas A&M Univ. at Qatar
Penzel, Thomas	Charite Univ. Hospital

15:00-15:15	WeB1.5

New T-Wave Parameters Describing Repolarization Abnormalities Induced by Drug, pp. 236-239.

KHODOR, Nadine	Univ. de rennes 1
Carrault, Guy	Univ. de Rennes 1
l'hostis, philippe	Biotrial Core Lab.
Amoud, Hassan	Lebanese Univ.
Khalil, Mohamad	Lebanese Univ. Doctoral school for sciences andtechnology,
Hernández, Alfredo I	Univ. of Rennes 1 and INSERM U642

15:15-15:30	WeB1.6

Detection of Coupling with Linear and Nonlinear Synchronization Measures for EEG, pp. 240-243.

Bakhshayesh, Hanieh	Flinders Univ.
Fitzgibbon, Sean	Flinders Univ.
Pope, Kenneth	Flinders Univ.

15:30-15:45	WeB1.7

ECG Noise Reduction Using Empirical Mode Decomposition Based on Combination of Instantaneous Half Period and Soft-Thresholding, pp. 244-248.

Samadi, Shamim	Sharif Univ. of Tech.
Shamsollahi, Mohammad Bagher	Sharif Univ. of Tech.

WeB2	QAMAR 1
Neuro-Science, Rehabilitation, and Therapeutic Systems (Regular Session)	
Chair: Al-Jumaily, Adel	Univ. of Tech. Sydney
Co-Chair: Tangutooru, Siva Mahesh	Qatar Univ.

14:00-14:15	WeB2.1

Early Design Considerations for a Thalamic Visual Prosthesis to Treat Blindness Resulting from Glaucoma, pp. 249-252.

Tangutooru, Siva Mahesh	Qatar Univ.
Yoon, Woon Jong	Qatar Univ.
Troy, John	Northwestern Univ.

14:15-14:30	WeB2.2

Influence of Stroke Location on Heart Rate Variability in Robot-Assistive Neurorehabilitation, pp. 253-256.

Jelinek, Herbert Franz	Charles Sturt Univ.
August, Katherine	INI Univ. of Zurich ETH Zurich
Imam, Hasan	Univ. of Melbourne

Khalaf, Kinda	KUSTAR
Koenig, Alexander	Harvard Univ.
Riener, Robert	ETH and Univ. Zurich
Palaniswami, Marimuthu	The Univ. of Melbourne
Khandoker, Ahsan Habib	Khalifa Univ. of Science, Tech. and Res.

14:30-14:45	WeB2.3

An Experimental Study on Redundancy Resolution Scheme of Postural Configuration in Human Arm Reaching with an Elbow Joint Kinematic Constraint, pp. 257-260.

Moon, Hyosang	Texas A&M Univ.
Robson, Nina Patarinsky	California State Univ. Fullerton
Langari, Reza	Texas A&M Univ.
Shin, Sungtae	Texas A&M Univ.

14:45-15:00	WeB2.4

Neuronal Cell Navigation within a Microfluidic Device, pp. 261-264.

Shamloo, Amir	Sharif Univ. of Tech.

15:00-15:15	WeB2.5

Augmented Reality Based Illusion System with Biofeedback, pp. 265-268.

Aung, Yee Mon	Univ. of Tech. Sydney
Al-Jumaily, Adel	Univ. of Tech. Sydney

15:15-15:30	WeB2.6

Adaptive Trajectory Control Based Robotic Rehabilitation Device, pp. 269-272.

Anwar, Tanvir	Univ. of Tech. Sydney
Al Juamily, Adel	Univ. of Tech. Sydney

15:30-15:45	WeB2.7

Swarm-Based Extreme Learning Machine for Finger Movement Recognition, pp. 273-276.

Anam, Khairul	Univ. of Tech. Sydney
Al-Jumaily, Adel	Univ. of Tech. Sydney

WeB3	QAMAR 2

Healthcare Information Systems and E-Health (Regular Session)

Chair: Wahid, Khan A.	Univ. of Saskatchewan
Co-Chair: DAKUA, SARADA	QATAR ROBOTIC SURGERY CENTRE, QATAR SCIENCE & Tech. PARK

14:00-14:15	WeB3.1

A 3G/WiFi-Enabled 6LoWPAN-Based U-Healthcare System for Ubiquitous Real-Time Monitoring and Data Logging, pp. 277-280.

Tabish, Rohan	Qatar Univ.
Ghaleb, Abdulaziz M.	Qatar Univ.
Hussein, Rima	Canadian Univ. of Dubai
Touati, Farid	Qatar Univ.
Ben Mnaouer, Adel	Canadian Univ. of Dubai
Khriji, Lazhar	Sultan Qaboss Univ.
Rasid, Mohd Fadlee A	Univ. Putra Malaysia

14:15-14:30	WeB3.2

Towards a Computational System to Support Clinical Treatment Decisions for Diagnosed Cerebral Aneurysms, pp. 281-284.

DAKUA, SARADA	QATAR ROBOTIC SURGERY CENTRE, QATAR SCIENCE & Tech. PARK
Navkar, Nikhil Vishwas	Qatar Robotic Surgery Center
jabinahed, Julien	QRSC
Groen, Derek	Univ. Coll. London
Bernabeu, Miguel O.	Univ. Coll. London
Saghir, Mazen	Texas A&M Univ. at Qatar
Kamel, Hussein	Hamad Medical Corp.
Al Ansari, Abdulla Ali Asad	Hamad Medical Corp.
Peter, Coveney	Univ. Coll. London

14:30-14:45	WeB3.3

Sleep Ediary: A Mobile Health Application for Insomnia Assessment, pp. 285-288.

Yousaf, Faizan	Texas A&M Univ. at Qatar
Tmar-Ben Hamida, Sana	Texas A&M Univ. at Qatar
Ahmed, Beena	Texas A&M Univ. at Qatar

14:45-15:00	WeB3.4

Clinical Dynamic Decision Support System Based on Temporal Association Rules, pp. 289-292.

| Ben Ayed, Mounir | Faculty of Science of Sfax |
| Kammoun, fatma | Univ. of Sfax, National School of Engineers (ENIS), BP 1173 |

15:00-15:15	WeB3.5

Towards Real-Time Remote Diagnostics of Capsule Endoscopic Images Using Wi-Fi, pp. 293-296.

Shrestha, Ravi	Univ. of Saskatchewan
Wahid, Khan A.	Univ. of Saskatchewan
Khan, Tareq	Univ. of Saskatchewan

15:15-15:30	WeB3.6

Usability Study of Mobile Social Networking System among Saudi Type 2 Diabetes Patients (SANAD), pp. 297-300.

Alanzi, Turki	Kingston Univ. London
Istepanian, Robert	Kingston Univ. London
Philip, Nada	Kingston Univ.

15:30-15:45	WeB3.7

Toward an Integrated E-Health Based on Acquired Healthcare Knowledge, pp. 301-304.

| Nasiri, Sara | Inst. of Knowledge Based Systems and Knowledge Management, U |
| Fathi, Madjid | Inst. of Knowledge Based Systems and Knowledge Management, U |

WeC1	NASHIRA 1
Biomedical Imaging, Signal Processing, and Education (Regular Session)	
Chair: Goenezen, Sevan	Texas A&M Univ.
Co-Chair: Abu-Faraj, Ziad	American Univ. of Science & Tech.

16:00-16:15	WeC1.1

Monte Carlo Simulation of Scatter Effect for Clinical Gamma Camera, pp. 305-308.

| Saikouk, Hind | Lab. de Physique Nucléaire, Faculté des Sciences, Mohamme |
| El Khayati, Naima | Lab. de Physique Nucléaire, Faculté des Sciences, Univ. |

16:15-16:30	WeC1.2

Automatic Shadow Enhancement in Intra Vascular Ultrasound (IVUS) Images, pp. 309-312.

Basij, Maryam	Isfahan Univ.
Taki, Arash	TU Munich, Germany
Yazdchi, Mohammadreza	Isfahan Univ.

16:30-16:45	WeC1.3

Particle Filter-Assisted Positioning Method for Identifying RFID-Tag Implanted in the Organism, pp. 313-316.

Imai, Gen	Nara Inst. of Science and Tech.
matsuda, katsushi	Nara Inst. of Science and Tech.
TAKAHATA, HIROMI	OsakaUniversity
Okada, Minoru	Nara Inst. and Tech.

16:45-17:00	WeC1.4

Elasticity Imaging a Novel Diagnostic Imaging Tool? What Has Been Done and What Needs to Be Done*.

| Goenezen, Sevan | Texas A&M Univ. |

17:00-17:15	WeC1.5

Statistical Processing of Electromyography Examination*.

| Rama Raju, Venkateshwarla | GITAM for Women Engg Coll. Proddatur (Jawaharlal Nehru Tech. Univ. and Nizams Inst. of Medical Sciences |

17:15-17:30	WeC1.6

Biomedical Engineering Education in the Middle East and North Africa, pp. 317-320.

| Abu-Faraj, Ziad | American Univ. of Science & Tech. |

17:30-17:45	WeC1.7

Student Attrition and Retention in a Biomedical Engineering Program – a Case Study*

Imran, Ahmed	Ajman Univ. of Science and Tech.
Nasor, Mohamed	Ajman Univ. of Science and Tech.
Hayati, Fahar	Ajman Univ. of Science & Tech.

WeC2	QAMAR 1

Bioinformatics and Neuroscience (Regular Session)

Chair: ElSayed, Mohamed	Univ. of Michigan
Co-Chair: Sulllivan, Pierre Edward	Univ. of Toronto

16:00-16:15	WeC2.1

Characterization of Bead-Based Reactions and Mechanical Supernatant Dilution in Digital Microfluidic Devices, pp. 325-328.

Schertzer, Michael J	Univ. of Toronto
Blume, Steffen	Univ. of Toronto
Badwi, Alaa	Public Health Agency of Canada
Ben-Mrad, Ridha	Univ. of Toronto
Sulllivan, Pierre Edward	Univ. of Toronto

16:15-16:30	WeC2.2

A Space-Efficient Solution to Find the Maximum Overlap Using a Compressed Suffix Array, pp. 329-333.

Haj Rachid, Maan	Qatar Univ.
Malluhi, Qutaibah	Qatar Univ.
Abouelhoda, Mohamed	Nile Univ.

16:30-16:45	WeC2.3

Cloud-Based Parallel Suffix Array Construction Based on MPI, pp. 334-337.

Abdelhadi, Ahmed	Cairo Univ.
Kandil, Ahmed H.	Cairo Univ.
Abouelhoda, Mohamed	Nile Univ.

16:45-17:00	WeC2.4

Approach for the Evaluation of a KDD Based DSS Visual Representations, pp. 338-341.

Brahmi, Awatef	REGIM
LTIFI, Hela	REGIM
Ben Ayed, Mounir	Faculty of Science of Sfax

17:00-17:15	WeC2.5

Development of in Vitro Model of the Blood-Brain Barrier in Layered Microfluidic Channels*.

ElSayed, Mohamed	Univ. of Michigan

17:15-17:30	WeC2.6

Assembling Functional Biosynthetic Tissues with Induced Pluripotent Stem Cell-Derived Cardiac Progenitor Cells*.

Christoforou, Nicolas	Khalifa Univ.

17:30-17:45	WeC2.7

Improving Measurement of Hip Joint Center Location Using Neural Networks, pp. 342-345.

Abdulrahman, Alaa	Univ. of Arkansas at Little Rock
Iqbal, Kamran	Univ. of Arkansas at Little Rock

WeC3	QAMAR 2

Innovation in Fetal Maternal Exploration (Invited Session)

Chair: Haddad, Naim	UAMS
Co-Chair: Eswaran, Hari	Univ. of Arkansas for Medical Sci

16:00-17:00	WeC3.1

Innovation in Fetal Maternal Exploration: Fetal Magnetoencephalography and Uterine Magnetomyography*.

Eswaran, Hari	Univ. of Arkansas for Medical Sci

Technical Program for Thursday February 20, 2014

ThP1L	NASHIRA 1
Distance Health: a Solution for Dealing with Healthcare Shortages Using Technology (Plenary Session)	
Chair: Tafreshi, Reza	Texas A&M Univ. at Qatar

09:30-10:25	ThP1L.1

Distance Health: A Solution for Dealing with Healthcare Shortages Using Technology.

Lowery, Curtis	Univ. of Arkansas for Medical Sciences

ThA1	NASHIRA 1
Biomedical Signal Processing (II) (Regular Session)	
Chair: Abbasi, Qammer Hussain	Texas A & M at Qatar
Co-Chair: Ghazy, Mohammed	Texas A&M Univ. at Qatar

10:30-10:45	ThA1.1

Analysis between ECG and Respiration Signals in Type II Diabetic Patients in the UAE, pp. 346-348.

Alkhoori, Thuraia	Khalifa Univ.
Alsafar, Habiba	Khalifa Univ.
Khandoker, Ahsan Habib	Khalifa Univ. of Science, Tech. and Res.

10:45-11:00	ThA1.2

Non-Invasive Extraction of Fetal Electrocardiogram Using FAST Independent Component Analysis Technique, pp. 349-352.

Shehada, Dina	Khalifa Univ. of Science, Tech. and Res.
Khandoker, Ahsan Habib	Khalifa Univ. of Science, Tech. and Res.

11:00-11:15	ThA1.3

A Performance Comparison of Hand Motion EMG Classification, pp. 353-356.

Shin, Sungtae	Texas A&M Univ.
Tafreshi, Reza	Texas A&M Univ. at Qatar
Langari, Reza	Texas A&M Univ.

11:15-11:30	ThA1.4

Electrode Reduction Using ICA and PCA in P300 Visual Speller Brain-Computer Interface System, pp. 357-360.

Selim, Abeer	Cairo Univ.
Abdel Wahed, Manal	Cairo Univ.
Kadah, Yasser M.	Cairo Univ.

11:30-11:45	ThA1.5

Newborn Sleep Stage Identification Using Multiscale Entropy, pp. 361-364.

Fraiwan, Luay	Jordan Univ. of Science and Tech.

11:45-12:00	ThA1.6

Numerical Characterisation and Modeling of In-Vivo Radio Communication, pp. 365-367.

Abbasi, Qammer Hussain	Texas A & M at Qatar
Qaraqe, Marwa	Texas A&M Univ.
Serpedin, Erchin	Texas A&M Univ.

12:00-12:15	ThA1.7

Poincare Plot Analysis of Heart Rate Variability in Diabetic Patients in the UAE, pp. 368-370.

Abubaker, Hanin B.	Khalifa Univ. of science, Tech. and Res.
Alsafar, Habiba	Khalifa Univ.
Jelinek, Herbert Franz	Charles Sturt Univ.
Khalaf, Kinda	KUSTAR
Khandoker, Ahsan Habib	Khalifa Univ. of Science, Tech. and Res.

ThA2	QAMAR 1
Biomechanics, Biomaterials, and Tissue Engineering (II) (Regular Session)	
Chair: Garmestani, Hamid	Georgia Inst. of Tech.
Co-Chair: ElSayed, Mohamed	Univ. of Michigan

10:30-10:45	ThA2.1

Toward Quantifying Geometric Microstructural Differences between Primary and Secondary Osteons Via Segmentation, pp. 371-374.

hage, ilige	americain Univ. of beirut
Hamade, Ramsey	American Univ. of Beirut

10:45-11:00	ThA2.2

Biomimetic Engineering of a Fully Bio-Based System in Nanomedicine, pp. 375-378.

Pooyan, Parisa	Georgia Inst. of Tech.
Garmestani, Hamid	Georgia Inst. of Tech.

11:00-11:15	ThA2.3

Effect of Electrospinning Parameters on Nanofiber Diameter Made of Poly (Vinyl Alcohol) As Determined by Atomic Force Microscopy, pp. 379-381.

Aljehani, Abdelmoamen	King Abdulaziz Univ.
Hussaini, Mohammed Abdullah	King Abdulaziz Univ.
Hussain, Mohammad Asif	King Abdulaziz Univ.
Alothmany, Nazeeh	King Abdulaziz Univ.
Aldhaheri, Rabah W.	King Abdulaziz Univ.

11:15-11:30	ThA2.4

Efficient Walking of a Simple Biped with a Torso, pp. 382-384.

AL Yahmedi, Amur Salim	Sultan Qaboos Univ.
Sayari, Muhammed	National School of engineering of Sfax

11:30-11:45	ThA2.5

Development of Targeted Enzyme-Activated Nano-Conjugates for Hepatic Cancer TherapyS.

ElSayed, Mohamed	Univ. of Michigan

11:45-12:00	ThA2.6

Bioabsorbable Magnesium Based Materials for Medical Implants.

Mansoor, Bilal	Texas A&M Univ. at Qatar

12:00-12:15	ThA2.7

The Future of Biomaterials and Biomechanics in the Implantable Medical Device Industry.

Breyen, Mark	Medtronic, Inc.

ThA3	QAMAR 2
Mechanics of Filaments and Biomaterials (Invited Session)	
Chair: RUIMI, Annie	Texas A&M Univ. at Qatar
Co-Chair: Cabibihan, John-John	Qatar Univ.

10:30-10:45	ThA3.1

Simulation Software for Surgical Sutures: Dream or Reality?.

RUIMI, Annie	Texas A&M Univ. at Qatar

10:45-11:00	ThA3.2

Towards a Visualization Framework for Interactive Thread Simulation ?.

Fratarcangeli, Marco	Univ. of Rome Sapienza

11:00-11:15	ThA3.3

String Simulation Using Information Theoretic Algorithms.

Wang, Zhujiang	Texas A&M Univ. Coll. Station

11:15-11:30	ThA3.4

Beaded Elastic Rods to Simulate the Diffusive Dynamics of Bio-Filament Deformations.

Goyal, Sachin	Univ. of California

11:30-11:45	ThA3.5

Design and Development of a Prosthetic Finger with Natural Feel, Movement, and Appearance.

Cabibihan, John-John	Qatar Univ.