

Schedule for 24th Southern Biomedical Engineering Conference April 18 – 20, 2008

Friday 18 April, 2008	
6:00 pm	<i>Registration</i> (Conquistador Lounge – Union Building)
7:00 pm	<i>Conference Reception</i> (Conquistador Lounge – Union Building)

Saturday 19 April, 2008				Sunday, 20 April 2008					
7:00 am	<i>Breakfast</i> Tomas Rivera Conference Center			<i>Breakfast</i> Tomas Rivera Conference Center					
8:00 am	<i>Welcome</i> Richard Schoephoerster Tomas Rivera Conference Center								
8:10 am	Keynote Speech 1 Paolo Bonato Tomas Rivera Conference Center			Keynote Speech 4 Larry Murr Tomas Rivera Conference Center					
8:15 am									
8:55 am	S1 Barry Room			S2 Elkins Room		S3 Wiggins Room			
9:15 am				S13 Barry Room		S14 Elkins Room		S15 Wiggins Room	
10:30am	<i>Tea/Coffee Break - Exhibits</i> Tomas Rivera Conference Center			<i>Tea/Coffee Break - Exhibits</i> Tomas Rivera Conference Center					
10:30am	S4 Barry Room			S5 Elkins Room		S6 Wiggins Room			
10:45am				S16 Barry Room		S17 Elkins Room		S18 Wiggins Room	
12:00pm	<i>Lunch</i> Tomas Rivera Conference Center (Steering Committee Meeting – Barry Room)			Sponsors: <ul style="list-style-type: none"> • National Science Foundation • Office of UTEP President • College of Engineering UTEP • Department of Electrical and Computer Engineering UTEP • Simpleware Innovation - UK Exhibitors: <ul style="list-style-type: none"> • Cleveland Medical Devices • Bose EletroForce Test Instruments Keynote Speech: 40 minutes in duration Including Q&A.					
1:00 pm	Keynote Speech 2 Ryan Wicker Tomas Rivera Conference Center								
1:40 pm	S7 Barry Room						S8 Elkins Room		S9 Wiggins Room
2:00 pm							<i>Tea/Coffee Break - Exhibits</i> Tomas Rivera Conference Center		
3:00 pm	S10 Barry Room						S11 Elkins Room		S12 Wiggins Room
3:30 pm							Visit to 3D Innovation LAB Ryan Wicker Engineering Annex Building		
4:00 pm	<i>Conference Dinner</i> El Paso Natural Gas Conference Center <i>UTEP Steel Drum Pandemonium</i> Welcome - UTEP President Diana Natalicio Keynote Speech 3 Subrata Saha								
5:00 pm									
5:15 pm	<i>Conference Dinner</i> El Paso Natural Gas Conference Center <i>UTEP Steel Drum Pandemonium</i> Welcome - UTEP President Diana Natalicio Keynote Speech 3 Subrata Saha								
6:00 pm									
7:00 pm	<i>Conference Dinner</i> El Paso Natural Gas Conference Center <i>UTEP Steel Drum Pandemonium</i> Welcome - UTEP President Diana Natalicio Keynote Speech 3 Subrata Saha								

Session 1, Bioelectric Track, Saturday 19 April, 2008

Time	Authors	Paper Title	Session Chair Behbehani UTA/ UTSWMC at Dallas
9:15 am	Behbehani, Rao, Watenpaugh, Smith (UTA/UTSWMC)	Quantitative modeling of sympathetic nerve activity resulting from apnea	
9:30 am	Estrada, Nazeran, Behbehani, Burk, Lucas (UTEP, UTA/UTSWMC)	Correlation dimension analysis of simultaneous EEG and ECG signals for automated sleep stage classification	
9:45 am	Al-Abed, Behbehani, Manry, Burk, Lucas (UTA/UTSWMC)	A wavelet analysis of heart rate variability for detection of sleep disordered breathing	
10:00 am	Ebrahimi, Mikaili, Estrada, Nazeran (Shahed, UTEP)	Computer-aided sleep staging from EEG signals using wavelet packet coefficients and neural networks	
10:15 am	Al-Abed, Behbehani, Manry, Burk, Lucas (UTA/UTSWMC)	A time-frequency technique for detection of sleep disordered breathing using nocturnal ECG	

Session 4, Bioelectric Track, Saturday 19 April, 2008

Time	Authors	Paper Title	Session Chair McGoron FIU
10:45 am	McGoron, Wang, Erickson, Goryawala (FIU)	Quantitative comparison of two gating schemes in lung PET: simulation with computer phantom	
11:00 am	Zhu, Yadav, Patel, Godavarty (FIU)	Functional brain mapping of joint attention skills using diffuse optical imaging	
11:15 am	Roy (UTPA) <i>Withdrawn</i>	Fluorescence-enhanced optical tomography in frequency-domain	
11:30 am	McGoron, Fernandez-Fernandez (FIU)	Applications of ICG and IR-820: stability of optical properties versus hyperthermia properties	
11:45 am	Ge, Zhu, Regalado, Godavarty (FIU)	Hand-held probe based ICCD optical imaging system towards breast cancer diagnosis	

Session 7, Bioelectric Track, Saturday 19 April, 2008

Time	Authors	Paper Title	Session Chair von-Borries UTEP
2:00 pm	Potes, Miosso, von Borries, Pierluissi (UTEP)	Comparison of assessments of muscle fatigue from estimated time-frequency distributions of EMG signals	
2:15 pm	Joshi, Barreto (FIU)	Real-time measurement of pupil diameter for quantitative monitoring of the autonomic nervous system	
2:30 pm	Gao, Barreto, Adjouadi (FIU)	Adaptive interference cancelling removal of pupillary light reflex contributions in pupil diameter variations	
2:45 pm	Ebrahimi, Mikaili, Estrada, Nazeran (Shahed, UTEP)	Feature extraction and classification of sleep stages from EEG signals using advanced DSP techniques	

Session 10, Bioelectric Track, Saturday 19 April, 2008

Time	Authors	Paper Title	Session Chair Pierluissi UTEP
4:00 pm	Morales, Pierluissi (UTEP)	Implementation of the moving dipole model of the human heart in reconstruction of measured precordial leads	
4:15 pm	Serrano (NMSU)	Curriculum development in responsible conduct in research (RCR)	
4:30 pm	McGowan, Shkolnikov, Sala, Ray (Exponent Inc)	Diffuse electrical injury: a questionable phenomenon	
4:45 pm	Ceron-Vasquez, Pierluissi, Sarkodie-Gyan, Yañez Suarez (UTEP, Mexico)	Estimation of starting points in steady state acoustic reflectometry to determine the shape of a cavity	

Session 2, Biomechanics Track, Saturday 19 April, 2008

Time	Authors	Paper Title	
9:15 am	DiAngelo, Roberson, Kelly (UT Memphis) Karahalios (NOI Chicago)	Load sharing properties of unidirectional and bidirectional multilevel dynamic translational anterior cervical plates	Session Chair DiAngelo UT Memphis
9:30 am	Kelly, Shen, Schwab, Arlet, DiAngelo (UT Memphis)	Biomechanical testing of a novel four-rod technique for lumbo-pelvic reconstruction	
9:45 am	Antoci Jr, Parvizi, Adams, Antoci, Shapiro, Freeman (JMC)	Ultrasound speeds fracture healing by increased COX-2, MMP-13, and osteopontin expression	
10:00 am	Ibarra-Mejía, Chow-Salas, López-Jiménez (Mexico)	Musculoskeletal pain and backpack weight in elementary school children in Juarez, Mexico	
10:15 am	Sander, Zufelt, Kelly, DiAngelo (UT Memphis)	Kinematic demands of nucleus arthroplasty technology	

Session 5, Biomechanics Track, Saturday 19 April, 2008

Time	Authors	Paper Title	
10:45 am	Antoci Jr, Voor, Roberts, Antoci (JMC)	The adequate wire tension during external fixation	Session Chair Antoci JMC
11:00 am	Mitgang, Hayes, Gendelman, Frumberg, Saha (SUNY)	Effect of drill holes on the bending strength of long bones	
11:15 am	Wu, Arcaute, Wicker, Tseng (UTEP)	Cardiovascular system models with dip-coating process using Taguchi design for quality assurance	
11:30 am	Zufelt, Sander, Kelly, Denis DiAngelo (UT Memphis)	A kinematics based testing protocol for studying lumbar disc dynamics	
11:45 am	Antoci Jr, Voor, Roberts, Antoci (JMC)	Sagittal stiffness of proximal tibia external fixation and transfixion wire positioning within the bone	

Session 8, Biomechanics Track, Saturday 19 April, 2008

Time	Authors	Paper Title	
2:00 pm	Claiborne, Schoephoerster (FIU, UTEP)	Development of a novel catheter deliverable artificial aortic heart valve prosthesis and delivery system	Session Chair Vossoughi Biomed Research Foundation
2:15 pm	Kelly, Glaser, DiAngelo (UT Memphis)	Biomechanical comparison of a novel C1 posterior locking plate with the harms technique for C1 - C2 fixation	
2:30 pm	Gallocher, Pinchuk, Schoephoerster (FIU, UTEP)	Effect of leaflet anisotropy, coaptation curvature, and stent flexibility on heart valve stress and durability	
2:45 pm	Haugh, Schoephoerster (FIU, UTEP)	The influence of anastomosis angle and linear taper on an arteriovenous graft for hemodialysis	

Session 11, Biomechanics Track, Saturday 19 April, 2008

Time	Authors	Paper Title	
4:00 pm	Antoci Jr, Antoci (JMC)	A simple new hybrid external fixator	Session Chair Kelly UT Memphis
4:15 pm	DiAngelo, Sander, Zufelt, Kelly (UT Memphis)	Comparison of compliant and non-compliant nucleus arthroplasty devices	
4:30 pm	Antoci Jr, Ono, Raney, Antoci (JMC)	Deformity correction in children via distraction osteogenesis	
4:45 pm	DiAngelo, Zufelt, Sander, Kelly, Sin, Foley (UT Memphis)	Low endurance testing of a novel spinous process spacer under coupled loading conditions	

Session 3, Biomaterials Track, Saturday 19 April, 2008

Time	Authors	Paper Title	Session Chair Eberhart UTA/ UTSWMC at Dallas
9:15 am	Welch, Eberhart, Chuong UTSWM at Dallas/UTA	Influence of thermal annealing on the mechanical characteristics of a resorbable PLLA stent	
9:30 am	Wang, Gallocher, Datye, Schoepfoerster (FIU, UTEP)	Biocompatibility evaluation of composite polymeric materials using a novel rat abdominal aorta model	
9:45 am	Talamas, Malcolm Cooke UTEP	The effect of PRP on rat marrow stromal cells seeded on three dimensional scaffolds	
10:00 am	Tosun, McFetridge (OU)	Characterization of SWNT composites for tissue engineering applications	
10:15 am	Connie Gomez, Shokoufandeh (UTEP, Drexel)	Minimizing tissue scaffold using Steiner trees	

Session 6, Biomaterials Track, Saturday 19 April, 2008

Time	Authors	Paper Title	Session Chair Cooke UTEP
10:45 am	Castro, Cooke (UTEP)	Calcium phosphate coating of three-dimensional titanium scaffolds via alkali heat treatment	
11:00 am	Goktas, Pierre, Abe, Dmytryk, McFetridge (OU)	Development of the human umbilical vein as a scaffold for the regeneration of diseased periodontal tissue	
11:15 am	Balani, Chen, Tercero, Crumpler, Dahotre, Agarwal (FIU)	Biocompatibility and tribology of plasma sprayed hydroxyapatite-carbon nanotube coating	
11:30 am	Zhang, Crumpler (FIU)	Blood-brain barrier <i>in vitro</i> model: a tissue engineering approach	
11:45 am	Villegas, McFetridge (OU)	Convective flow decellularization for the preparation of 3D <i>ex-vivo</i> scaffolds	

Session 9, Biomaterials Track, Saturday 19 April, 2008

Time	Authors	Paper Title	Session Chair Stafford UTEP
2:00 pm	Camacho, Stafford (UTEP)	Failure analysis on retrieved ultra-high-molecular weight polyethylene tibial components	
2:15 pm	Iyer, Duraiswamy, Villar, Ramirez, McGoron, Schoepfoerster (FIU, UTEP)	Hemocompatibility characterization of polymers for use in intravascular applications	
2:30 pm	Rodriguez, McClendon, Crouzier, McFetridge (OU)	Development of the human umbilical artery (HUA) as a three dimensional scaffold for vascular reconstruction	
2:45 pm	Choi, Lee, Choi, Jung, Ha, Wicker (UTEP)	3D PPF micro-scaffold fabrication using DMD-based maskless projection microstereolithography	

Session 12, Biomaterials Track, Saturday 19 April, 2008

Time	Authors	Paper Title	Session Chair Serrano NMSU
4:00 pm	Gutierrez, Serrano (NMSU)	Assessing the effects of quantum dot exposure on cultured cell lines	
4:15 pm	Antoci Jr, Adams, Parvizi, Antoci, Shapiro, Hickok (JMC)	Vancomycin-engineered implants promote bone cell proliferation and differentiation	
4:30 pm	Tillit, Martinez, Ramnath, Medovaya, Christie (FIU)	Hemodynamics of sickle cell anemia with varying parameters	
4:45 pm	Prabhulkar, Alwarappan, Li (FIU)	Needle-like implantable nanosensor for the detection of tumor biomarkers	

Session 13, Bioelectric Track, Sunday 20 April, 2008

Time	Authors	Paper Title	Session Chair Nava UTEP
9:15 am	Goldman, Menendez, Diong, Nazeran (UTEP, TCU, AACEP)	Impulse oscillometry sensitively measures long and short acting bronchodilator in asthmatic children	
9:30 am	Nazeran, Nava, Maduko, Meraz, Diong, Goldman (UTEP, TCU)	Enhancing the automated diagnostic capabilities of impulse oscillometry in asthmatic children	
9:45 am	Nava, Nazeran, Maduko, Meraz, Sarkodie-Gyan, Goldman (UTEP)	A co-active neuro-fuzzy inference system for classification of asthma	
10:00 am	Meraz, Nazeran, Diong ² , Nava, Goldman (UTEP, TCU)	Modeling human respiratory impedance in normative children 5 to 17 years old	
10:15 am	Meraz, Nazeran, Diong ² , Nava, Goldman (UTEP, TCU)	Modeling human respiratory impedance in Hispanic asthmatic children 5 to 17 years old	

Session 16, Bioelectric Track, Sunday 20 April, 2008

Time	Authors	Paper Title	Session Chair Gonzalez UTEP
10:45 am	Sosa, Gonzalez (UTEP)	Personnel tracking system using a bluetooth-based epidemic protocol	
11:00 am	Yao, Yang, Wu, Tseng (UTEP)	Low-power transceiver and coding for wireless endoscopy	
11:15 am	Biswas, Ferreira-Pinto, Macdonald (UTEP)	Design of a prototype for a novel rehabilitative device for speech through multimodal biomedical feedback & control	
11:30 am	Freudenthal, Gonzalez (UTEP)	An anti-entropy protocol suitable for managing data deletion in an epidemic data transmission system	
11:45 am	Yao, Yang, Wu, Tseng (UTEP)	Improvement of RFID impedance sensor for GERD detection	

Session 14, Biomechanics Track, Sunday 20 April, 2008

Time	Authors	Paper Title	Session Chair Sarkodie-Gyan UTEP
9:15 am	Yu, Nava, Brower, Sarkodie-Gyan (UTEP, TTHSC)	Design and validation of a fuzzy expert system for neurorehabilitation: A case study	
9:30 am	Kanagala, Ceberio, Sarkodie-Gyan, Kreinovich, Araiza (UTEP)	Identification of human gait in neuro-rehabilitation: towards efficient algorithms	
9:45 am	MacDonald, Spiers, Brower, Sarkodie-Gyan (UTEP, TTHSC)	Towards real-time fuzzy inferential gait phase detection using lower-limb kinematic data	
10:00 am	Trejo, Acuna, Valtierra, Villagrana, MacDonald, Sarkodie-Gyan (UTEP)	Mechanical design of an automated gait rehabilitation machine	
10:15 am	Contreras Jr, Avor, Sarkodi-Gyan (UTEP)	Development of a nonuniform rod sensor for a magnetic levitating microcantilever	

Session 17, Biomechanics Track, Sunday 20 April, 2008

Time	Authors	Paper Title	Session Chair Patwardhan UK Lexington
10:45 am	Agarwal, Patwardhan (UK Lexington)	Role of restitution in mechanism of electrical instability in the heart	
11:00 am	Carrillo-Rubiu, Lomeli-Rivas, San Juan-Rivas, Arias-Vázquez (Mexico)	Vo _{2max} on treadmill stress test in training physicians from the Mexico National Institute of Rehabilitation (NIR)	
11:15 am	Antoci Jr, Adams, Shapiro, Antoci, Parvizi (JMC)	Simple reproducible rat implant associated infection	
11:30 am	Tseng, Yao, Aleti, Devaram (UTEP)	Clinical engineering: applying a machine learning approach to tumor malignancy prediction	

Session 15, Biomaterials Track, Sunday 20 April, 2008

Time	Authors	Paper Title	Session Chair Roberts JMC
9:15 am	Antoci Jr, Voor, Roberts, Antoci (JMC)	Transfixion wires biomechanical characteristics	
9:30 am	Antoci Jr, Voor, Roberts, Antoci (JMC)	Is there a biomechanical difference between commercially available hybrid external fixators?	
9:45 am	Gaytan, Lopez, Murr, Martinez, Hernandez, Martinez, Martinez (UTEP)	Microstructures and mechanical properties of electron beam-rapid manufactured Ti-6Al-4V biomedical prototypes compared to wrought Ti-6Al-4V	
10:00 am	Murr, Ramirez (UTEP)	Metallographic analysis of tungsten and tungsten alloys following implantation in rat muscle	
10:15	Martinez, Murr, Gaytan, Lopez, Rodela, Hernandez, Martinez (UTEP)	Comparison of microstructure and mechanical behavior of Ti-6Al-4V for biomedical applications produced by rapid-layer-based manufacturing	

Session 18, Biomaterials Track, Sunday 20 April, 2008

Time	Authors	Paper Title	Session Chair Parvizi JMC
10:45 am	Antoci Jr, Adams, Hickok, Antoci, Shapiro, Parvizi (JMC)	Nanoscale vancomycin-engineered implants inhibits bone infection	
11:00 am	Korshunov, Saha (SUNY, Downstate)	Effects of the addition of antibiotic on the compressive strength of bone cement	
11:15 am	Antoci Jr, Parvizi, Adams, Antoci, Shapiro, Hickok (JMC)	Permanently tethered vancomycin shows no antibiotic resistance	
11:30 am	Antoci Jr, Phillips, Krackow, Antoci (JMC)	A new option for treatment of periprosthetic infections after total knee arthroplasty	
11:45 am	Bruley Synthesizer Inc. & (UMBC)	Protein C for clot prevention surgery ensuring normal tissue oxygenation	