

13.00pm-13.15pm	Opening Remarks: Dr. Kevin O'Kelly, Conference Chair <i>Tara Suite 1</i>	
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<i>Tara Suite 1</i>	Engineers Ireland Biomedical Research Medal 2010 Chairperson: Prof. Fergal O'Brien	
13.15 pm - 13.30 pm	Cunniffe, G. <i>et al.</i> : Gene activated collagen-nanohydroxyapatite composite scaffolds for bone tissue Regeneration	EI-1
13.30 pm - 13.45 pm	Early, M. & Kelly, D.J.: An investigation into the high rates of restenosis in peripheral arteries following stenting	EI-2
13.45 pm - 14.00 pm	Moerman, K. <i>et al.</i> : Non-invasive determination of the mechanical properties of living human soft tissue	EI-3
14.00 pm - 14.15 pm	Ormsby, M. <i>et al.</i> : Augmentation of PMMA based Bone Cement Using Carbon Nanotubes	EI-4

<i>Tara Suite 1</i>	Keynote Address
14.15 pm - 15.00 pm	Prof. Rose Anne Kenny

Session 1	Musculoskeletal I	
<i>Tara Suite 1</i>	Chairperson: Prof. Clive Lee	
15.30 pm - 16.00 pm	Dr. David FitzPatrick: Knee Implant design-Lessons learnt	
16.00 pm - 16.15 pm	Davis L. <i>et al.</i> : Modulatory elements of mechanical performance of naturally extracellular matrix materials	MSI-1
16.15 pm - 16.30 pm	Nowlan N. <i>et al.</i> : Smaller, Weaker and Less Stiff Bones Evolve from Changes in Subsistence strategy	MSI-2
16.30 pm - 16.45 pm	Hermann, S. & Reilly, R.: The use of recurrence plots and recurrence quantification analysis in detecting behaviour related to seat interface pressure	MSI-3

Session 7	Musculoskeletal II	
<i>Tara Suite 1</i>	Chairperson: Prof. Peter McHugh	
09.00 am - 09.15 am	Feerick E. <i>et al.</i> : Computational modelling of Four Methods for proximal humeral fracture Reduction	MSII-1
09.15 am - 09.30 am	Mauer P. <i>et al.</i> : Simulation of Microcracks in Cortical Bone	MSII-2
09.30 am - 09.45 am	Mulcahy L. <i>et al.</i> : Microdamage in bone: release of rankl and opg is dependant on microinjury size	MSII-3
09.45 am - 10.00 am	Comiskey D. <i>et al.</i> : Compressive Principal strains drive the spatial formation of bone healing tissues	MSII-4
10.00 am - 10.15 am	Presbitero G. <i>et al.</i> : Microdamage in Bone: Effects of osteoporosis and BMD	MSII-5

<b>S e s s i o n 9</b>	<b>Musculoskeletal III</b>	
<b>T a r a S u i t e 1</b>	<b>Chairperson: Prof. David FitzPatrick</b>	
1 1 . 4 5 a m - 1 2 . 0 0 p m	Nowlan N. <i>et al.</i> : Effect of Abnormal Limb Musculature on Skeletal Development	MSIII-1
1 2 . 0 0 p m - 1 2 . 1 5 p m	Tyndyk M. & Lyons, A.: Development of a standardised protocol for clinical assessment of the upper limb kinematics	MSIII-2
1 2 . 1 5 p m - 1 2 . 3 0 p m	Teeling B. <i>et al.</i> : Application of universal design principles to the design of domestic appliances	MSIII-3
1 2 . 3 0 p m - 1 2 . 4 5 p m	Roche E. <i>et al.</i> : A Kinematically accurate orthopaedic design tool	MSIII-4
1 2 . 4 5 p m - 1 3 . 0 0 p m	Kavanagh E. <i>et al.</i> : Biomechanical responses of the mandible bone: a series of studies	MSIII-5

<b>S e s s i o n 1 2</b>	<b>Musculoskeletal IV</b>	
<b>T a r a S u i t e 1</b>	<b>Chairperson: Dr. Pat McGarry</b>	
1 6 . 4 5 p m - 1 7 . 0 0 p m	Donegan M. <i>et al.</i> : Determination of the effect of surface properties on protein adhesion under flow conditions	MSIV-1
1 7 . 0 0 p m - 1 7 . 1 5 p m	Dooley C. <i>et al.</i> : Ruptured Cell Processes Across Cracks in Bone: a Possible Cellular Transducer?	MSIV-2
1 7 . 1 5 p m - 1 7 . 3 0 p m	Dowling E. <i>et al.</i> : The effect of stress fibre remodelling in single chondrocytes under shear: A computational and experimental investigation	MSIV-3
1 7 . 3 0 p m - 1 7 . 4 5 p m	O'Hara R. <i>et al.</i> : Development of a minimally invasive solution for the treatment of spinal burst fractures	MSIV-4

<b>Session 2</b>	<b>Cardiovascular I</b>	
<b>G u t t e n b e r g</b>	<b>Chairperson: Dr. Bruce Murphy</b>	
1 5 . 3 0 p m - 1 5 . 4 5 p m	Doyle B. <i>et al.</i> : Experimental and numerical assessment of the rupture locations in patient-specific abdominal aortic aneurysms	CVI-1
1 5 . 4 5 p m - 1 6 . 0 0 p m	Fahy P. <i>et al.</i> : Anatomical variations and the effects on collateral flows within the circle of Willis	CVI-2
1 6 . 0 0 p m - 1 6 . 1 5 p m	Stefanov F. <i>et al.</i> : Pulsatile effects on stent grafts in the abdominal aorta	CVI-3
1 6 . 1 5 p m - 1 6 . 3 0 p m	Meaney C. <i>et al.</i> : Cell seeded 3D scaffolds and shear stress bioreactors as tools for the study of vascular cellular physiology in vitro	CVI-4
1 6 . 3 0 p m - 1 6 . 4 5 p m	Flamini V. <i>et al.</i> : In vivo determination of aortic tissue mechanical properties using magnetic resonance imaging (MRI): A feasibility study	CVI-5

<b>Session 5</b>	<b>Cardiovascular II</b>	
<b>Guttenberg</b>	<b>Chairperson: Dr. Michael Walsh</b>	
16.45 p m - 17.00 p m	Mardinoglu A. <i>et al.</i> : Validation of implant assisted magnetic drug targeting modelling	CVII-1
17.00 p m - 17.15 p m	Bellofiore & Quinlan: Microscale flow structures measured downstream of a mechanical heart valve	CVII-2
17.15 p m - 17.30 p m	Boyle C.J. <i>et al.</i> : Inflammation response intensity affects differences between stents	CVII-3
17.30 p m - 17.45 p m	Murphy and Boyle: A multi-variable analysis of transient near-wall haemodynamics in a stented coronary artery	CVII-4
17.45 p m - 18.00 p m	Tierney A. <i>et al.</i> : Abdominal aortic aneurysms examination using acoustic radiation force impulse imaging	CVII-5
18.00 p m - 18.15 p m	Broderick S. <i>et al.</i> : Photogrammetry: A Possible 3D image reconstruction alternative	CVII-6

<b>Session 10</b>	<b>Cardiovascular III</b>	
<b>Graham Bell</b>	<b>Chairperson: Prof. Tim McGloughlin</b>	
11.45 a m - 12.00 p m	Maher E. <i>et al.</i> : A constitutive model to describe plasticity in human atherosclerotic plaque	CVIII-1
12.00 p m - 12.15 p m	Cloonan A.J. <i>et al.</i> : Electrospun scaffolds for cardiovascular tissue engineering	CVIII-2
12.15 p m - 12.30 p m	Creane A. <i>et al.</i> : Finite element modelling of diseased carotid bifurcations; potential clinical indicator of plaque vulnerability	CVIII-3
12.30 p m - 12.45 p m	O'Donnell M.R. <i>et al.</i> : Finite element analysis of an end-to-side synthetic graft/artery anastomosis	CVIII-4
12.45 p m - 13.00 p m	Denny W. <i>et al.</i> : Drug eluting stents-modelling the physics of mass transport in the arterial wall	CVIII-5

<b>Session 6</b>	<b>Regenerative / Tissue Engineering I</b>	
<b>Graham Bell</b>	<b>Chairperson: Dr. Paula Murphy</b>	
16.45 p m - 17.00 p m	McGarry, P.: Understanding the active response of cells to cyclic stretching	RTEI-1
17.00 p m - 17.15 p m	Nagel, T. & Kelly, D.J.: Mechano-regulation of mesenchymal stem cell differentiation and collagen organisation during skeletal tissue regeneration	RTEI-2
17.15 p m - 17.30 p m	Weafer, P. <i>et al.</i> : Investigation of single cell mechanosensitivity using combined confocal-atomic force microscopy	RTEI-3
17.30 p m - 17.45 p m	Xue, F. <i>et al.</i> : Does age influence the mechanoresponsiveness of mesenchymal stem cells (mscS)? - a computational approach	RTEI-4
17.45 p m - 18.00 p m	Khayeri, H, <i>et al.</i> : Individual Mechano-sensitivity in tissue differentiation simulations captures observed <i>in vivo</i> inter-specimen variability	RTEI-5
18.00 p m - 18.15 p m	Haug M. <i>et al.</i> : The effect of loading on chondrogenesis at different stages of stem cell differentiation	RTEI-6

<b>Session 8</b>	<b>Regenerative / Tissue Engineering II</b>	
<b><i>Guttenberg</i></b>	<b>Chairperson: Prof. Fergal O'Brien</b>	
09.00 a m - 09.15 a m	Vinardell, T. <i>et al</i> : Functional Properties of Cartilaginous Tissues Generated from Mesenchymal Stem Cells Isolated from Different Tissue Sources	RTEII-1
09.15 a m - 09.30 a m	Meyer, E. <i>et al</i> : Low Oxygen Tension is a more potent regulator of Chondrogenic Differentiation than Dynamic Compression	RTEII-2
09.30 a m - 09.45 a m	Partap, S. <i>et al</i> : Restoring Mechanosensitivity using short and long term rest periods during Bioreactor Culture	RTEII-3
09.45 a m - 10.00 a m	Lyons F. <i>et al</i> : Cell-free Collagen-based Scaffolds Enhance Healing Over MSC-seeded Tissue Engineered Constructs	RTEII-4
10.00 a m - 10.15 a m	Gannon A. & Kelly, D.J.: Spatial Variations in the Depth Dependent Properties of Porcine Osteochondral Tissue -Implications for Tissue Engineering	RTEII-5

<b>Session 11</b>	<b>Regenerative / Tissue Engineering III</b>	
<b><i>Guttenberg</i></b>	<b>Chairperson: Prof. Veronica Campbell</b>	
11.45 a m - 12.00 p m	Thorpe S. <i>et al</i> : Dynamic compression post cytokine induced differentiation augments Mesenchymal stem cell chondrogenesis	RTEIII-1
12.00 p m - 12.15 p m	McKayed K. <i>et al</i> : The effect of age on Mesenchymal stem cell mechanoresponsiveness during strain induced differentiation	RTEIII-2
12.15 p m - 12.30 p m	Buckley C. <i>et al</i> : Infrapatellar Fat Pad Derived Mesenchymal stem cells Exhibit Superior Chondrogenesis Compared to Chondrocytes in a Low Oxygen Tension Environment	RTEIII-3
12.30 p m - 12.45 p m	Sheehy E. <i>et al</i> : Rotational culture differentially regulates chondrogenesis of bone marrow derived MSCs and chondrocytes	RTEIII-4
12.45 p m - 13.00 p m	McCafferty M. <i>et al</i> : Microarray Based Gene Expression Analysis of Human Mesenchymal Stem Cells Over Increasing Passage Number	RTEIII-5

<b>Session 3</b>	<b>Neural Engineering I Clinical</b>	
<b><i>Graham Bell</i></b>	<b>Chairperson: Professor Richard Reilly</b>	
15.30 p m - 15.50 p m	Bradley, D. <i>et al</i> : Temporal Discrimination Threshold as an Endophenotype in Adult Onset Primary Torsion Dystonia	NE-1
15.50 p m - 16.10 p m	Whelan, R. <i>et al</i> : Genes, Brains, and Neuroimaging: How EEG and MRI can inform the genetics of neurological disorders	NE-2
16.10 p m - 16.30 p m	D'Arcy, S. <i>et al</i> : Technology for remote assessment of cognitive function of the elderly	NE-3
16.30 p m - 16.45 p m	Discussion	

<b>Session 14</b>	<b>Neural Engineering II</b>	<b>Computational</b>	
<b>Graham Bell</b>	<b>Chairperson: Professor Richard Reilly</b>		
16.45 p m - 17.15 p m	<b>Session Keynote: Dr Rosalyn Moran</b> Dynamic Causal Modelling of neural oscillations in health and disease		NE-4
17.15 p m - 17.45 p m	Lalor, E. <i>et al.</i> : Visual processing deficits in schizophrenia: not all impulse responses are created equal		NE-5
17.45 p m - 18.00 p m	Discussion		

<b>Session 4</b>	<b>Biomaterials I</b>		
<b>Tara Suite 1</b>	<b>Chairperson: Dr. Ken Stanton</b>		
16.45 p m - 17.00 p m	Brown O. <i>et al.</i> : Dissolution Experiments simulating osteoclast resorption of bioceramics		BMI-1
17.00 p m - 17.15 p m	McGrath, E.& Stanton K.: Crystal Growth in precipitated calcium phosphates		BMI-2
17.15 p m - 17.30 p m	Barry, J.N. <i>et al.</i> : Effect of processing conditions on Hydroxyapatite Coatings produced using the CoBLASTTM technique		BMI-3
17.30 p m - 17.45 p m	Byrne, G.D <i>et al.</i> : Effect of processing conditions on Hydroxyapatite coatings produced using the CoBLASTTM technique		BMI-4
17.45 p m - 18.00 p m	Payraudeau N. & O'Kelly K.U.: Scale Effects in nanoindentation fracture of brittle ceramics arising from crack-microstructure interactions		BMI-5
18.00 p m - 18.15 p m	Carroll, R. <i>et al.</i> : The relationship between elastic and plastic energy and acoustic emission		BMI-6

<b>Session 13</b>	<b>Biomaterials II</b>		
<b>Guttenberg</b>	<b>Chairperson: Dr Biqiong Chen</b>		
16.45 p m - 17.00 p m	Murphy, CM & O'Brien F.: Larger pores increase osteogenesis in tissue engineered collagen-glycosaminoglycan scaffolds		BMII-1
17.00 p m - 17.15 p m	Ryan, E <i>et al.</i> : Finite element implementation of a constitutive behaviour for shape memory polymers		BMII-2
17.15 p m - 17.30 p m	Gleeson J. <i>et al.</i> : <i>In vivo</i> comparison of novel collagen-based composite scaffolds for bone tissue repair in rabbit radius model		BMII-3
17.30 p m - 17.45 p m	Liu, S and Chen, B.: Preparation and Characterisation of Chitosan-matrix Composite Foams		BMII-4
17.45 p m - 18.00 p m	Flynn, C. <i>et al.</i> : the Surface Modification of Biomedically relevant Polymers using atmospheric Pressure Cielectric Barrier Discharge in Various Gases		BMII-5

	<b>Commented Posters I</b>	
<b>Tara Suite 1</b>	<b>Chairperson: Dr. Shona D'Arcy</b>	
Birmingham E.	A mechanical characterisation of Bone Marrow: A microenvironment for Mscs	PSI - 1
Callanan A.	The Regulation of remodeling genes in endothelial cell seeded tubular UBM scaffolds in static and flow conditions	PSI - 2
Crotty D.	Magnetic Fields Effect on Development of Osteoblast Progenitors: High Content Screening Approach	PSI - 3
McFadden T.	Enhancing the Vasculogenic Potential of Mesenchymal Stem Cells within a collagen-GAG Scaffold using Desferrioximine	PSI - 4
Grogan J.	Computational and Experimental Analysis of the Physical performance of Biodegradable Metallic Stents	PSI - 5
Hayden O.	Heart Directed Targeting of microRNA using Liposome Microbubbles and Ultrasonic Delivery to Reduce Cardiomyocyte Hypertrophy and the Onset of Heart Failure	PSI - 6
Lynch A.	A method for evaluating the effect of carotid angioplasty and stenting on cerebral perfusion	PSI - 7
Mulvihill J.	An Investigation into Carotid Angioplasty Consequences	PSI - 8
Sheridan S.	Creating Vascular constructs from decellularized porcine Aorta using novel micro-injection techniques	PSI - 9
Elliott J.	Transverse pedestrian motion as a reconstruction factor in vehicle-pedestrian collisions	PSI -10
Hellen M.	The use of gait/motion analysis for identification of causes and treatment of motor and gait deficiencies in people with spina bifida (myelomeningocele/mmc)	PSI -11
Kiiski H.	A high-density ERP study reveals latency, amplitude, and topographical differences in multiple sclerosis patients versus controls	PSI -12
Nor Amalina B.	the three dimensional techniques for advance diagnosis of scoliosis	PSI -13
O'Brien D.	The Effect of Diabetes Mellitus on foot biomechanics and Gait Kinematics: foot ulcer prevention strategies	PSI -14
O'Kane C.	Estimation of 3D shape in the patellofemoral joint using Statistical Shape MODELS and 2d data	PSI -15
O'Neill F.	Biomechanical Comparison of the Dynamic Hip An Evaluation of the Dependence of Dynamic Hip Screw (DHS) Fixation Properties on Bone Density	PSI -16
Sykes A.	The identification of the hip joint centre of rotation and its restoration during hip replacement surgery	PSI -17
Varley P.	Multidimensional modeling of fracture in bone using finite element analysis	PSI - 18

	<b>Commented Posters II</b>	
<b>Tara Suite 1</b>	<b>Chairperson: Dr. Shona D'Arcy</b>	
Cunningham S.	Carbon Dioxide Detection and absorption In Closed circuit rebreathers	PSII - 1
Donoghue M.	The effect of wrist postures on electrodiagnostic testing of the median nerve	PSII- 2
Nolan H.	Automated artefact detection for high-density EEG	PSII - 3
Power A.	Responses extracted using the novel auditory-evoked spread spectrum analysis (AESPA) are not modulated by attention.	PSII - 4
Rapcan V.	Speech analysis as a monitoring tool for schizophrenia	PSII - 5
Sobolewski R.	The effects of aging on multimodal integration: A high density EEG study	PSII - 6
Chah E.	Automatic spike sorting algorithm based on Fast fourier transform	PSII - 7
Claro T.	A potential drug target in the treatment of osteomyelitis	PSII - 8

Davis N.	Are baseline urinary bladder volumes maintainable after interposition grafting with xenogenic urinary bladder matrix (ubm)?	PSII - 9
Fee K.	Development of marine derived biomaterials for bone tissue engineering applications	PSII - 10
Millar J.	Cell mediated bioresorption of calcium phosphate bone substitutes	PSII - 11
Mooney R.	Decellurisation platform for processing biological derived biomaterials	PSII - 12
Newe C.	Development of HA/B-TCP scaffolds for bone tissue engineering	PSII - 13
Odie K.	Flow through the oesophagogastric junction during gastroesophageal Reflux - Multiphase CFD Modelling	PSII - 14
Tierney E.	Osteoinductive smart scaffolds for bone tissue engineering	PSII - 15
Matsiko A.	Characterization of collagen-based scaffolds as 3-D matrices for cell-mediated chondrogenesis	PSII - 16
O'Toole J.	Source Location of cracks in bone using acoustic emission	PSII - 17
Burke T.	Frequency response as a tool to assess damage within bone structure	PSII - 18

