

Friday							
Room: Carton Suite 3							
11:30 - 12:30	Industry Session						
12:30 - 12:45	Welcome						
12:45 - 13:30	Keynote Lecture: <b>Conor Hanley</b> Chair: David Fitzpatrick						
13:30-13:30	Lunch						
14:30 - 14:30	Biomedical Research Medal Chair: David Hoey						
Room: Carton Suite 3							
14:30 - 14:45	EI01 David Nolan <b>The Compressibility of Arterial Tissue and Its Treatment in Solid Mechanics</b>						
14:45 - 15:00	EI02 Adam O'Reilly <b>A Computational Model to Explore the Role of Angiogenic Impairment on Endochondral Ossification during Fracture Healing</b>						
15:00 - 15:15	EI03 Alan J. Ryan <b>Bioengineered Blood Vessels Generated from a Novel Collagen and Elastin Biomaterial</b>						
14:45 - 15:00	EI04 Eoghan Cunnane <b>The Development of an Arterial Plaque Stratification Parameter to Predict Restenotic Responses to Endovascular Treatments</b>						
15:30 - 16:00	Tea / Coffee						
Room: Carton Suite 2			Room: Carton Suite 3		Room: Kildare Suite		
Vascular Biomechanics & Devices I Chair: Eoin O'Ceirbhail			Neural Engineering & Rehabilitation Chair: Madeleine Lowery		Mechanobiology I Chair:		
16:00 - 16:12	VB01	William Arthur Lackington <b>Novel Biomaterial Supports Gliogenesis and Neurogenesis <i>In Vitro</i> - Applications for Peripheral Nerve Tissue Engineering</b>	16:00 - 16:12	NE01	Ilaria Cinelli <b>Thermo-Electrical Equivalents for Simulating the Electro-Mechanical Behavior of Biological Tissue</b>	16:00 - 16:12 MB01	Marie-Noelle Labour <b>Regulation of TGFβ1 Signalling by the Primary Cilium in Mesenchymal Stem Cells</b>
16:12 - 16:24	VB02	Fiona Malone <b>The Evaluation and Characterisation of Thrombin-Induced Mammalian Thrombi Models for the Investigation of Vascular Occlusion in Acute Ischemic Stroke</b>	16:12 - 16:24	NE02	Eleanor Dunn <b>A Computational Model of the Parkinsonian Cortico-Basal Ganglia Network during Deep Brain Stimulation</b>	16:12 - 16:15 MB02	Gillian Johnson <b>Investigate the Expression, Localization and Role of Adenylyl Cyclase 6 in Mesenchymal Stem Cell Osteogenic Differentiation</b>
16:24 - 16:36	VB03	Enda Boland <b>Computer Simulation of the Mechanical Behaviour of Implanted Biodegradable Stents in a Remodelling Artery</b>	16:24 - 16:36	NE03	Lara McManus <b>Increase in Intra-Muscular Coherence after Fatigue in the First Dorsal Interosseous</b>	16:15 - 16:27 MB03	Elena Stavenschi <b>Enhanced Osteogenic Differentiation Of Human Mesenchymal Stem Cells Using A Simple <i>In Vitro</i> Fluid Flow Bioreactor</b>
16:36 - 16:48	VB04	Hilary Barrett <b>On the Effect of the Calcific Content Embedded in Diseased Vascular Tissue: An Experimental Failure Analysis</b>	16:36 - 16:39	NE04	Muthukumaran Thangaramanujam <b>From 3D Gait Analysis to 3D Printing: Leveraging Gait Analysis and Radiology to Design Patient Specific, Anatomically Accurate Lower Limb Prosthesis</b>	16:27 - 16:39 MB04	Michele Corrigan <b>Fluid Flow-Induced Bending of the Primary Cilium Triggers a Distinct Intraciliary Calcium Flux in Mesenchymal Stem Cells</b>
16:48 - 17:00	VB05	Gillian Gunning <b>Fatigue Analysis of Porcine Chordae Tendinae: Determination of the Fatigue Limit and Dynamic Creep</b>	16:39 - 16:51	NE05	Darren Leamy <b>Stroke Effects and Recovery Observed through EEG-Based Brain-Computer Interface Analysis and Connectivity Analysis</b>	16:39 - 16:51 MB05	Alan Irvine <b>Dynamic Compression Has a Magnitude Dependent Affect on Chondrogenesis of MSCs</b>
17:00 - 17:03	VB06	Robert Gaul <b>The Use Of Small Angle Light Scattering For The Characterisation Of Collagen Fibre Orientation In Arteries</b>	16:51 - 17:03	NE06	Clare Davidson <b>Exploration of the Generation and Suppression of Pathological Oscillatory Neural Activity in a Model of Deep Brain Stimulation in Parkinson's Disease</b>	16:51 - 16:54 MB06	Paola Aprile <b>Modulating the Stiffness of 3D Interpenetrating Networks to Direct Mesenchymal Stem Cells Differentiation</b>
			17:03 - 17:06	NE07	Gregory Tierney <b>The Kinematic Thresholds of Concussion Injuries in Elite Rugby Union Players</b>	16:54 - 17:00 MB07	Amy Nash <b>Development of a Novel Bioreactor to Mimic the Effects of Bending during Limb Development</b>
Room: Carton Suite 3							
17:10-17:30	Invited Speaker						
17:30-18:30	Keynote Lecture: <b>Conor Walsh</b> Chair: Eoin O'Ceirbhail						
20:00	Buffet Dinner						

Saturday									
Room: Carton Suite 2			Room: Carton Suite 3				Room: Kildare Suite		
Vascular Biomechanics & Devices II Chair: Patrick McGarry			Tissue Engineering I Chair: Daniel Kelly				Mechanobiology II Chair:		
09:00 - 09:12	VB07	Ala Elhelali Geometrical Characterization of Aortic Aneurysms	09:00 - 09:03	TE01	Jennifer Gansau Injectable Biomimetic Hydrogels for Nucleus Pulposus Regeneration	09:00 - 09:03	MB08	Eoin McEvoy Cardiomyocyte Contractility in the Anisotropic Dynamic Mechanical Environment of the Myocardium	
09:12 - 09:15	VB08	Davide Zazzaroni Characterization of the Micro-Mechanical Behavior of Biodegradable Magnesium	09:03 - 09:06	TE02	David Walsh Synthesis and Formulation of Star Shaped Polypeptides as Non-Viral Vectors to Produce Gene Activated Matrices for Bone Tissue Engineering	09:03 - 09:15	MB09	Claire Shea Spatial Organisation of Bone and Cartilage Differentiation in Mechanically-Stimulated MSC-Seeded Constructs: A Paradigm for Co-ordinated Skeletal Development	
09:15 - 09:27	VB09	Eoin K Fox Development of a Nitric Oxide Releasing Biocompatible Glass for Vascular Applications	09:06 - 09:18	TE03	Amy Lynch Differentiation of Adipose-Derived Stem Cells to Keratocytes <i>In Vitro</i> with Retinoic Acid	09:15 - 09:27	MB10	Thomas A. Metzger The Effects of Osteoporosis on Trabecular Bone Marrow Mechanotransduction: A Multiscale Approach	
09:27 - 09:30	VB10	Orla McGee Computational and Experimental Characterisation of Bioprosthetic Heart Valve Positioning to Enhance Long Term Performance	09:18 - 09:30	TE04	Cai Lloyd-Griffith The Pre-Vascularisation of a Collagen-Chondroitin Sulphate Scaffold Using Human Amniotic Fluid-Derived Stem Cells to Enhance and Stabilise Endothelial Cell-Mediated Vessel Formation	09:27 - 09:30	MB11	Irene Simfia Mechanobiology Based Approaches for Treatment of Osteoporosis	
09:30 - 09:33	VB11	Gareth Boyle Endothelial Cells: Towards Understanding the Role of <i>In Vivo</i> Stresses in Atherosclerosis	09:30 - 09:42	TE05	Conor Moran Biomimetic Osteochondral Defect Repair Scaffold Demonstrates Directed Stem Cell Differentiation in Each Distinct Layer	09:30 - 09:42	MB12	Michael Collins Development of a Novel Laminar Shear System for the Investigation of the Protective Effects of Bovine Serum Albumin on Mammalian Cells during Continuous Suspension Culture	
09:33 - 09:45	VB12	Rudolf Hellmuth Platelet Aggregation and Breakup Model for Simulating Bulk Blood Thrombogenesis	09:42 - 09:54	TE06	Irene Mencia Castaño MiRNA-Activated Scaffolds Enhance Human Mesenchymal Stem Cell Osteogenesis	09:42 - 09:45	MB13	Catherine O'Connor Active Response of Smooth Muscle and Arterial Tissue to Stenting	
09:45 - 09:57	VB13	Jacinta Browne Role of Anatomically Realistic Renal Artery Test Device in the Evaluation of the Usefulness and Accuracy of Microbubble Enhanced Diagnostic Ultrasound for Diagnosing Renal Artery Stenosis	09:54 - 10:06	TE07	Tomas Gonzalez-Fernandez Co-Delivery of Plasmid DNA Encoding for TGF-β3 and BMP2 in a Gene-Activated Alginate Hydrogel Promotes Chondrogenesis and Suppresses Hypertrophy of MSCs	09:45 - 10:57	MB14	Noel Reynolds Investigation of the Passive and Active Contractile Response of Cells to Cyclic Loading	
09:57 - 10:00	VB14	Brian O'Reilly Mechanical Behaviour of Atherosclerotic Plaque	10:06 - 10:18	TE08	Mark Ahearne Fabrication of a Hydrogel from Extracellular Matrix for Corneal Bioengineering	09:57 - 10:00	MB15	Clare Lubov Donaghy Laser Processing of NiTi Orthopaedic Implants for Enhanced Cell Adhesion	
10:00 - 10:12	VB15	Leonard Browne <i>In Vivo</i> Validation of the Numerical Pressure Drop across an Arteriovenous Fistula	10:18 - 10:30			10:00 - 10:03	MB16	Marc A. Fernandez-Yague Cellular Electric Stimulation Mediated by Poled Polyvinylidene fluoride/trifluoroethylene P(VDF-TrFE) and Multi Walled Carbon Nanotubes (MWCNT) Meshes for Bone Regeneration <i>In Vitro</i>	
						10:30:00 - 10:42	MB17	Wejdan Alansary The Role of Primary Cilia for Bone Mechanotransduction during Osteoporosis	
10:30 - 11:00								Tea / Coffee Poster Viewing	

Room: Carton Suite 2			Room: Carton Suite 3			Room: Kildare Suite		
Biomaterials I Chair: Ken Stanton			Tissue Engineering II Chair: Fergal O'Brien			Biosignals & Bioluminescence Chair:		
11:00 - 11:12	BM01	Marie-Noelle Labour The Development of a Self-Mineralizing PolyD,L-Lactic Acid/Calcium Phosphate Electrospun Scaffold for Bone Tissue Regeneration	11:00 - 11:12	TE09	Henrique Almeida Functionalizing Fibrin Hydrogels with Cartilage ECM Microparticles Enhances Chondrogenesis of Human Infrapatellar Fat Pad Stem Cells <i>In Vitro</i> and <i>In Vivo</i>	11:00 - 11:12	BS01	Sinead Morley Velocity Profiles of Breast Cancer Cells and Microparticles in a Square Microchannel Measured by Micro PIV.
11:12 - 11:15	BM02	Kian F. Eichholz Design of a 3-Axis Direct Writing Apparatus for Controlled Deposition of Melt Electrospun Fibres	11:12 - 11:24	TE10	Gráinne Cunniffe Growth Plate Extracellular Matrix-derived Scaffolds Support Osteogenesis of MSCs <i>In Vitro</i> and Accelerate Host-mediated Bone Healing <i>In Vivo</i>	11:12 - 11:24	BS02	Christopher Hayes Biomarkers for Metastatic Colorectal Cancer
11:15 - 11:27	BM03	Christina Payne Development of Hydrogels for Drug Delivery and Tissue Engineering Applications	11:24 - 11:36	TE11	S. Masooma Naqvi Effect of pH Microenvironment on the Differentiation of Bone Marrow-Derived Stem Cells- Implications for Intervertebral Disc Repair Strategies	11:24 - 11:36	BS03	Andrew J Fagan A Simulation Device for Training Radiologists in Breast Diagnostic Ultrasound Imaging
11:27 - 11:39	BM04	Jacob Mealy A Novel Calcium Phosphate/Alumina Scaffold with Optimized Surface Topography for Oro-Maxillo-Facial Bone Tissue Engineering	11:36 - 11:48	TE12	Andrew Cameron Collagen-Based Films for Corneal Repair	11:36 - 11:48	BS04	Bakary Diarra Use of Polyvinyl Alcohol Cryogel for Mimicking Tissue Stiffness in Ultrasound Elastography
11:39 - 11:51	BM05	Renata Nunes Oliveira PVA-Propolis Membranes for Burn Healing Dressings	11:48 - 12:00	TE13	Amos Matsiko Mimicking Endochondral Ossification using Mesenchymal Stem Cells in Combination with Collagen-Based Scaffolds Improves Vascularisation and Repair of Bone Defects	11:48 - 12:00	BS05	Laura Kerr Application of Raman Micro-Spectroscopy to Bladder Cytology
11:51 - 11:54	BM06	Jonathan Acheson Layer by Layer Assembly as a Bottom-Up Nanofabrication Technique for the Manufacture of Multifunctional Engineered Bone Tissue Scaffolds	12:00 - 12:12	TE14	Pramod Kumar Modulation of Corneal Fibroblasts <i>In Vitro</i> Microenvironment Using Tissue Engineering by Self Assembly Approach for Corneal Stroma Tissue Regeneration	12:00 - 12:03	BS06	Sinead Barton Cosmic Ray Removal from Raman Spectra for Improved Classification of Biological Specimen
11:54 - 11:57	BM07	Lisa Davison Sterilisation Challenges for Bioresorbable Medical Devices	12:12 - 12:24	TE15	Feihu Zhao Quantification of Fluid Shear Stress in Commonly Used Tissue Engineering Scaffolds	12:03 - 12:06	BS07	Shu Yu Wu Recovery of Three Dimensional Cellular Morphology Using Brightfield Microscopy as an Aid to Clinical Pathology
11:57 - 12:09	BM08	G.G. de Lima Novel Bioactive Composites Fabricated by Freezing-Thawing Method for Bone Generation Applications	12:24 - 12:36	TE16	Abhigyan Satyam Modulation of <i>In Vitro</i> Microenvironments with Optimum Oxygen Tension and Macromolecular Crowding Accelerate the Production of Extracellular Matrix-Rich Supramolecular Assemblies	12:06 - 12:09	BS08	Laura Sheridan Assessment of the Feeding Habits of Bumblebees using RFID Technology
12:09 - 12:21	BM09	Owen M. Clarkin Beyond Bioglass®: Developing a Bioactive Glass Composite for Soft Tissue Applications	12:36 - 12:39	TE17	Richard O'Connor Generation of Electrospun Yarns as Scaffolds for Tissue Engineered Blood Vessels	12:09 - 12:21	BS09	Martin O'Halloran Microwave Imaging - From Research Bench to Patient Bedside
12:21 - 12:24	BM10	Yuanyuan Chen Reinforced Poly(lactic acid) (PLA)/Halloysite Nanotubes (HNTs) Composite for Use in Biodegradable Coronary Stent				12:21 - 12:24	BS10	Matthew Flood Analysis of Surface Electromyography in Parkinson's Disease Using Time-Frequency and Recurrence Quantification Methods
12:24 - 12:36	BM11	Catalina Vallejo-Giraldo Morphological, Electrochemical and Biological characteristics of Poly(3,4-ethylenedioxythiophene): Poly(styrenesulfonate)(PEDOT-PSS) for Neural Interfaces				12:24 - 12:27	BS11	Laura Kerr Raman Spectroscopic Analysis of Exosome Induced Hypoxia in Breast Cancer Cells
						12:27 - 12:30	BS12	Xin Fan Automated Raman Cytopathology
						12:30 - 12:33	BS13	Joseph Timoney The BeatHealth Project: Considerations When Moving Technology from the Lab to the Wider World
13:00 - 14:00	Lunch							

Room: Carton Suite 3										
14:00 - 15:00		Keynote Lecture: John O'Dea Chair: Madeleine Lowery								
Tea / Coffee Poster Viewing										
15:00 - 15:30		Haughton Lecture: Tim McGloughlin								
15:30 - 16:30		Room: Carton Suite 2			Room: Carton Suite 3			Room: Kildare Suite		
		Biomaterials II Chair:			Tissue Engineering III Chair: David Hoey			Tissue Biomechanics Chair: Aisling Ni Annaidh		
16:30 - 18:30	16:30 - 16:42	BM12	Cathal Kearney Switchable Release of Entrapped Nanoparticles from Alginate Hydrogels	16:30 - 16:33	TE18	Hannah Little Customised Design of Biodegradable Hard Tissue Scaffolds using Additive Manufacturing	16:30 - 16:42	TB01	Eoin Parle Does the Function of an Insect's Leg Determine Its Form? Investigating the Evolutionary Adaptations of Insect Tibia Cuticle	
	16:42 - 16:54	BM13	Rukmani Sridharan The Role of Substrate Stiffness in the MSC-Macrophage Crosstalk	16:33 - 16:36	TE19	Pedro J. Diaz-Payno Development of a Bilayered Decellularized Extracellular Matrix Derived Scaffold for Osteochondral Tissue Engineering	16:42 - 16:54	TB02	Mary B. O'Shea Mechanical Characterization and Material Anisotropy of Ovine Bronchi Tissue	
	16:54 - 17:06	BM14	Ghazal Tadayyon Shape Memory Polymeric Scaffolds in Tendon Regeneration	16:36 - 16:48	TE20	Arlyng Gonzalez-Vazquez In Vitro and In Vivo Role of Extracellular Calcium (Ca <sup>2+</sup> ) and Calcium Sensing Receptor (CaSR) as Enhancer of Bone and Vascular Regeneration	16:54 - 17:06	TB03	David Taylor Buckling in Biomechanics	
	17:06 - 17:18	BM15	Emmet Galvin A Strain-Mediated Corrosion Model for Bioabsorbable Metallic Stents	16:48 - 16:51	TE21	Johnnie Yiu Jo Samuel Chu Development and Modelling of 3D Bioprinted Scaffolds for Orthopaedic Tissue Engineering	17:06 - 17:09	TB04	Alexandra Cullen Toughness and Defect Sensitivity of Eggshell	
	17:18 - 17:30	BM16	Alice Blumlein Thermal Denaturation of Proteins Leading to Protein Gels; Reversible Versus Irreversible Denaturation and Microstructural Properties of the Gels	16:51 - 17:03	TE22	Lu Luo Engineering Tissues that Mimic the Zonal Characteristics of Articular Cartilage Using Decellularized Cartilage Scaffolds Seeded with Infrapatellar Fat Pad Derived Mesenchymal Stem Cells	17:09 - 17:12	TB05	Laxmi Muralidharan A Numerical Model of Ankle Joint	
	17:30 - 17:33	BM17	Iska Schimpf Development and Toxicity Testing of PEGDMA Based Biomaterials	17:03 - 17:15	TE23	Myles Mc Garrigle Osteoblast-Osteocyte Differentiation within a Three Dimensional Matrix Is Determined by Matrix Stiffness and Intercellular Separation	17:12 - 17:24	TB06	David MacManus Micro-Mechanics and Post-Mortem Effects of Murine Brain Tissue at Dynamic Strain Rates	
	17:33 - 17:36	BM18	Derek Macken Xero-Polymer Solubility Enhancement of BSC-Class-2 Drugs	17:15 - 17:27	TE24	Zita McCrea Electrospraying: A Novel Delivery Method for MSC	17:24 - 17:27	TB07	John O'Connor Implant Placement Optimisation during Total Hip Arthroplasty: A Stratified Approach	
	17:36 - 17:48	BM19	Gerard Cooney The Suture Pullout Characteristics of the Porcine Linea Alba	17:27 - 17:30	TE25	Siobhan Coyle Isolation and Characterisation of Mesenchymal Stem Cells	17:27 - 17:39	TB08	Melika Mohammadkhalah The Relationship between Elastic Passive Macro Mechanical Behaviour and Microstructure of Chicken Skeletal Muscle	
	17:48 - 17:51	BM20	Sarah Brady Development of a Novel Hydrogel Filler to Treat Cerebral Aneurysms; Determination of the Influence of Molecular Weight and Alginate Concentration	17:30 - 17:42	TE26	Tatiane Eufrásio da Silva Device Facilitates Cell Migration and Repopulation of Decellularized Arteries in the Radial Direction	17:39 - 17:42	TB09	Connor V Cunnane Correlating Rupture with Distension of the Urethra during the Inflation of a Mismatched Transurethral Catheter Balloon	
	17:51 - 17:54	BM21	Malgorzata Poplawska Evaluation of the Effect of Liposomal Formulation in Local Antibiotic Delivery on the Activity against Pathogen-Related Bone Infections	17:42 - 17:45	TE27	Gavin Burke Developing a Deeper Understanding of the Mechanical Properties of Polyethylene Glycol Dimethacrylate (PEGDMA) Hydrogels for Tissue Engineering Applications	17:42 - 17:54	TB10	Niall P Kelly Correlating Rupture with Distension of the Urethra during the Inflation of a Mismatched Transurethral Catheter Balloon	
	17:54 - 18:06	BM22	Gillian Hendy Optimisation of Electrospinning and Electrospraying Technologies: Spraybase®	17:45 - 17:57	TE28	Fiona Freeman Functionality Testing of Chondrogenically Primed Prevascularised Cellular Aggregates in a Rat Subcutaneous Delivery Model	17:54 - 18:06	TB11	Elizabeth Anne Gallagher Behaviour of Carbon Fibre PEEK Composite Fixation Plates with Drilled and Moulded Screw Holes under Physiological Loading Conditions	
					17:57 - 18:09	TE29	Clive Curley The Effect of Needle Design on Intramyocardial Hydrogel Retention in a Thick Decellularized Matrix	18:06 - 18:09	TB12	Ellen Cahill Engineering Material Considerations for Microneedle Applications in Sensing and Delivery
					18:09 - 18:21	TE30	Simon Carroll Probing the Role of Joint Specific Environmental Cues in Guiding Stem Cell Fate	18:09 - 18:21	TB13	Baptiste Pierrat Regional Variance of the Mechanical Properties of Brain Tissue: Towards Automated 3D Mapping
								18:21 - 18:24	TB14	Donal McDonagh Measurement of the Scoliosis Surgery Correction Forces
20:00		Conference Dinner								