

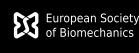
Congress Programme



**8th World Congress
of Biomechanics**
8 - 12 July 2018
Dublin, Ireland

www.wcb2018.com

In conjunction with



Hosted by



| Program Code | Title | Presenting | Decision | Final session | Session Time | Room |
|--------------|---|-----------------------------------|-------------------|---|-----------------------------------|---------------|
| O1565 | Personalised biomechanical modelling for the early intervention of knee osteoarthritis | Thor Besier | Invited Speaker | Human locomotion in diseased/injured populations - osteoarthritis | Thursday 12th July, 08:30 - 10:00 | Auditorium |
| O1566 | Effects of obesity and subsequent intentional weight loss on gait biomechanics in knee OA patients | Stephen P. Messier | Invited Speaker | Human locomotion in diseased/injured populations - osteoarthritis | Thursday 12th July, 08:30 - 10:00 | Auditorium |
| O1567 | Effects of resistance training on gait and functional outcomes in knee osteoarthritis patients | Azadeh Nasserri | Oral Presentation | Human locomotion in diseased/injured populations - osteoarthritis | Thursday 12th July, 08:30 - 10:00 | Auditorium |
| O1569 | Analysis of abnormal cartilage stress distributions in patients with femoroacetabular impingement with subject-specific EMG driven neuromusculoskeletal and finite element models | Vickie Shim | Oral Presentation | Human locomotion in diseased/injured populations - osteoarthritis | Thursday 12th July, 08:30 - 10:00 | Auditorium |
| O1570 | Natural knee tibiofemoral and patellofemoral kinematics during comprehensive activities of daily living | Erin Mannen | Oral Presentation | Human locomotion in diseased/injured populations - osteoarthritis | Thursday 12th July, 08:30 - 10:00 | Auditorium |
| O1571 | Why do some people with Lumbar Disc Degeneration have pain and others do not? An evaluation of kinematic strategy | Janet Deane | Oral Presentation | Human locomotion in diseased/injured populations - osteoarthritis | Thursday 12th July, 08:30 - 10:00 | Auditorium |
| O1572 | Fontan Surgical Planning: Can we Design the Future? | Ajit Yoganathan | Invited Speaker | Congenital heart defects and paediatric cardiology applications 1 | Thursday 12th July, 08:30 - 10:00 | Liffey B |
| O1573 | Human Fetal Hearts with Tetralogy of Fallot has Altered Fluid Mechanical Force Environment from Normal Fetal Hearts | Hadi Wiputra | Oral Presentation | Congenital heart defects and paediatric cardiology applications 1 | Thursday 12th July, 08:30 - 10:00 | Liffey B |
| O1574 | A finite element framework to assess the feasibility of percutaneous procedures in the treatment of right ventricle outflow tract dysfunctions | Francesco Sturla | Oral Presentation | Congenital heart defects and paediatric cardiology applications 1 | Thursday 12th July, 08:30 - 10:00 | Liffey B |
| O1575 | Neonatal 4D Flow MRI for Hemodynamic Assessment of Congenital Heart Disease | Sylvana García-Rodríguez | Oral Presentation | Congenital heart defects and paediatric cardiology applications 1 | Thursday 12th July, 08:30 - 10:00 | Liffey B |
| O1576 | Improved Diagnosis of Pulmonary Artery Stenosis in Congenital Heart Disease Patients using Functional Parameters: An In Vitro Study | Gavin D'Souza | Oral Presentation | Congenital heart defects and paediatric cardiology applications 1 | Thursday 12th July, 08:30 - 10:00 | Liffey B |
| O1577 | Multiscale Computational Fluid-Structure Interaction Investigation of an Injection Jet Shunt for the Fontan Procedure | Kyle Beggs | Oral Presentation | Congenital heart defects and paediatric cardiology applications 1 | Thursday 12th July, 08:30 - 10:00 | Liffey B |
| O1578 | Computational Model for Non-invasive Prediction of Portal Pressure Gradient in Fontan Patients | Elyar Abbasi Bavit, Matthew Doyle | Oral Presentation | Congenital heart defects and paediatric cardiology applications 1 | Thursday 12th July, 08:30 - 10:00 | Liffey B |
| O1579 | Assessment of Growth of Mitral Valves Fabricated from Porcine Small-Intestinal Submucosa in a Nonhuman Primate Model | Brittany Gonzalez | Oral Presentation | Congenital heart defects and paediatric cardiology applications 1 | Thursday 12th July, 08:30 - 10:00 | Liffey B |
| O1580 | Strategies to fulfil a rapid change in direction | Sina David | Invited Speaker | ISB Session 2: Footwear biomechanics | Thursday 12th July, 08:30 - 10:00 | Liffey Hall 1 |
| O1581 | Use of pressure data to evaluate footwear during running | Sharon Dixon | Invited Speaker | ISB Session 2: Footwear biomechanics | Thursday 12th July, 08:30 - 10:00 | Liffey Hall 1 |
| O1582 | Dynamic angular stiffness of the metatarsophalangeal joint increases with running speed | Evan Day | Oral Presentation | ISB Session 2: Footwear biomechanics | Thursday 12th July, 08:30 - 10:00 | Liffey Hall 1 |
| O1583 | Do stiff cycling shoes make you a more efficient cyclist? | Michael Asmussen | Oral Presentation | ISB Session 2: Footwear biomechanics | Thursday 12th July, 08:30 - 10:00 | Liffey Hall 1 |
| O1584 | Influence of footwear on tibial stress magnitudes during running | Hannah Rice | Oral Presentation | ISB Session 2: Footwear biomechanics | Thursday 12th July, 08:30 - 10:00 | Liffey Hall 1 |
| O1585 | Development and evaluation of the Running Shoe Comfort Assessment Tool (RUN-CAT) | John Arnold | Oral Presentation | ISB Session 2: Footwear biomechanics | Thursday 12th July, 08:30 - 10:00 | Liffey Hall 1 |
| O1586 | Interaction of walking slope and shaft stiffness on mechanical work during hiking | Uwe G. Kersting | Oral Presentation | ISB Session 2: Footwear biomechanics | Thursday 12th July, 08:30 - 10:00 | Liffey Hall 1 |
| O1587 | Relationship between Local Flow Conditions and Aneurysm Wall Characteristics | Juan Cebal | Invited Speaker | Cerebral aneurysms 1 | Thursday 12th July, 08:30 - 10:00 | Liffey Hall 2 |
| O1588 | History and Perspective of Cerebral aneurysms and Computational Fluid Dynamics - From a viewpoint of a physician | Masaaki Shojima | Invited Speaker | Cerebral aneurysms 1 | Thursday 12th July, 08:30 - 10:00 | Liffey Hall 2 |
| O1589 | Hemodynamic Parameters as Surrogate Markers for Intracranial Aneurysm Rupture Risk as determined by Wall Enhancement and PHASES Score | Christof Karmonik | Oral Presentation | Cerebral aneurysms 1 | Thursday 12th July, 08:30 - 10:00 | Liffey Hall 2 |
| O1590 | Reproducing qualitative irregularity ratings by means of quantitative shape descriptors in intracranial aneurysms | Norman Juchler | Oral Presentation | Cerebral aneurysms 1 | Thursday 12th July, 08:30 - 10:00 | Liffey Hall 2 |

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| O1591 | The mechanism of wall degeneration and rupture of human intracranial aneurysms | Takanobu Yagi | Oral Presentation | Cerebral aneurysms 1 | Thursday 12th July, 08:30 - 10:00 | Liffey Hall 2 |
| O1592 | A minimum collection of robust metrics that near-exhaustively describe cerebral aneurysm morphology | Suresh Raghavan | Oral Presentation | Cerebral aneurysms 1 | Thursday 12th July, 08:30 - 10:00 | Liffey Hall 2 |
| O1593 | Direct Numerical Simulations of Flow Instabilities Using Aneurisk Cohort | M. Owais Khan | Oral Presentation | Cerebral aneurysms 1 | Thursday 12th July, 08:30 - 10:00 | Liffey Hall 2 |
| O1594 | Fluid mechanics of ureteroscopes | Sarah Waters | Invited Speaker | Modelling of biofluid transport 1 | Thursday 12th July, 08:30 - 10:00 | Liffey MR1 |
| O1595 | Modelisation of blood perfusion into a whole reconstructed adipose tissue vascular network reveals structural and functional heterogeneities | Jules Dichamp | Oral Presentation | Modelling of biofluid transport 1 | Thursday 12th July, 08:30 - 10:00 | Liffey MR1 |
| O1596 | The effect of Chiari malformation and syringomyelia on perivascular flow | Robert Lloyd | Oral Presentation | Modelling of biofluid transport 1 | Thursday 12th July, 08:30 - 10:00 | Liffey MR1 |
| O1597 | Investigation on the interaction between Nanoparticles and pulmonary membrane | Kai Yue, Xiucheng Jin, Jue Tang, Xinxin Zhang | Oral Presentation | Modelling of biofluid transport 1 | Thursday 12th July, 08:30 - 10:00 | Liffey MR1 |
| O1598 | Linking flow conditions in membrane oxygenators to arrangements of multimeric von-Willebrand-factor as indication for coagulation | Clemens Birkenmaier | Oral Presentation | Modelling of biofluid transport 1 | Thursday 12th July, 08:30 - 10:00 | Liffey MR1 |
| O1599 | Transient Effects of NO Production/Diffusion in Microvessels | Konstantinos Giannokostas, Yiannis Dimakopoulos | Oral Presentation | Modelling of biofluid transport 1 | Thursday 12th July, 08:30 - 10:00 | Liffey MR1 |
| O1600 | Blood flow and oxygen transfer in fetoplacental capillary networks | Alexander Erlich | Oral Presentation | Modelling of biofluid transport 1 | Thursday 12th July, 08:30 - 10:00 | Liffey MR1 |
| O1601 | Flow and oxygen transfer in fetoplacental capillary networks A poroelastic model of interstitial fluid transport in the limb with gravity effects | James Baish | Oral Presentation | Modelling of biofluid transport 1 | Thursday 12th July, 08:30 - 10:00 | Liffey MR1 |
| O1602 | Fluid-Structure Interaction Simulation of Heart Valve Dynamics | Wei Sun | Invited Speaker | Fluid-structure interactions in cardiovascular mechanics 1 | Thursday 12th July, 08:30 - 10:00 | Liffey MR2 |
| O1603 | Computational fluid-structure interaction methods and their use in the design of cardiovascular assist devices | Yuri Bazilevs | Invited Speaker | Fluid-structure interactions in cardiovascular mechanics 1 | Thursday 12th July, 08:30 - 10:00 | Liffey MR2 |
| O1604 | Comparison of Hemodynamic and Structural Indices of Ascending Thoracic Aortic Aneurysm as predicted by 2-way FSI, CFD Rigid Wall Simulation and Displacement-Based FEA | Salvatore Pasta | Oral Presentation | Fluid-structure interactions in cardiovascular mechanics 1 | Thursday 12th July, 08:30 - 10:00 | Liffey MR2 |
| O1605 | A new explicit fluid-structure scheme for cardiac valves simulation | Jean-Frédéric Gerbeau | Oral Presentation | Fluid-structure interactions in cardiovascular mechanics 1 | Thursday 12th July, 08:30 - 10:00 | Liffey MR2 |
| O1606 | Fluid-Structure Interaction analysis of a total artificial heart | Giulia Luraghi | Oral Presentation | Fluid-structure interactions in cardiovascular mechanics 1 | Thursday 12th July, 08:30 - 10:00 | Liffey MR2 |
| O1607 | Modelling of a human mitral valve within left ventricle with fluid-structure interaction | Hao Gao | Oral Presentation | Fluid-structure interactions in cardiovascular mechanics 1 | Thursday 12th July, 08:30 - 10:00 | Liffey MR2 |
| O1608 | Image-Based Mechanical Characterization of Large Blood Vessels for Patient-Specific Simulations | Benigno Marco Fanni | Oral Presentation | Fluid-structure interactions in cardiovascular mechanics 1 | Thursday 12th July, 08:30 - 10:00 | Liffey MR2 |
| O1609 | The physiology of fetal membrane weakening and rupture associated with inflammation and bleeding induced premature rupture of fetal membranes, a major cause of preterm birth and infant mortality. | John Moore | Invited Speaker | The biomechanics of pregnancy and parturition | Thursday 12th July, 08:30 - 10:00 | Liffey MR3 |
| O1610 | Personalized biomechanical models of human pregnancy – integrating with clinical care | Kristin Myers | Invited Speaker | The biomechanics of pregnancy and parturition | Thursday 12th July, 08:30 - 10:00 | Liffey MR3 |
| O1611 | Objective measurement of cervix softness during pregnancy in a nonhuman primate model | Timothy Hall | Oral Presentation | The biomechanics of pregnancy and parturition | Thursday 12th July, 08:30 - 10:00 | Liffey MR3 |
| O1612 | BIOMECHANICAL SIMULATIONS OF PREGNANCY USING HUMAN ULTRASOUND DATA: SUPINE VS STANDING ORIENTATIONS | Andrea Westervelt | Oral Presentation | The biomechanics of pregnancy and parturition | Thursday 12th July, 08:30 - 10:00 | Liffey MR3 |
| O1613 | The influence of episiotomy in the functionality of the pelvic floor for different delivery positions | Dulce Oliveira | Oral Presentation | The biomechanics of pregnancy and parturition | Thursday 12th July, 08:30 - 10:00 | Liffey MR3 |
| O1614 | A microengineered human ‘cervix-on-a-chip’ | Jeongyun Seo | Oral Presentation | The biomechanics of pregnancy and parturition | Thursday 12th July, 08:30 - 10:00 | Liffey MR3 |
| O1615 | Multiscale optical imaging of fetal membranes and assessment of preterm birth risk | Kayvan Samimi | Oral Presentation | The biomechanics of pregnancy and parturition | Thursday 12th July, 08:30 - 10:00 | Liffey MR3 |

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| O1616 | Protecting Soft Tissues from Breakdown: Design Concepts for Medical Devices Claiming Pressure Ulcer Prevention | Amit Gefen | Invited Speaker | Medical device - soft tissue interaction | Thursday 12th July, 08:30 - 10:00 | Wicklow Hall 1 |
| O1617 | Tribology of human soft tissue and implications for medical device development | Matt Carre | Invited Speaker | Medical device - soft tissue interaction | Thursday 12th July, 08:30 - 10:00 | Wicklow Hall 1 |
| O1618 | Finite Element Analysis of Respiratory Mask Application: Implications for Tissue Health | Peter Worsley | Oral Presentation | Medical device - soft tissue interaction | Thursday 12th July, 08:30 - 10:00 | Wicklow Hall 1 |
| O1619 | Interface motion between distraction knee brace and the underlying bones: a 3D analysis on osteoarthritic symptomatic subjects using EOS imaging. | Karine Langlois | Oral Presentation | Medical device - soft tissue interaction | Thursday 12th July, 08:30 - 10:00 | Wicklow Hall 1 |
| O1620 | Investigation of the mechanical use conditions of implants in abdominal wall hernia repair | Baptiste Pierrat | Oral Presentation | Medical device - soft tissue interaction | Thursday 12th July, 08:30 - 10:00 | Wicklow Hall 1 |
| O1621 | Investigating the Influence of Localised Planar Skin Strain on Hypodermic Needle Insertion Force using a 3D Printed Apparatus | Nicky Bertollo | Oral Presentation | Medical device - soft tissue interaction | Thursday 12th July, 08:30 - 10:00 | Wicklow Hall 1 |
| O1622 | A Model Relating the Mechanical Properties of Neural Electrode Design and Chronic Neural Immune Response | Roy Lycke | Oral Presentation | Medical device - soft tissue interaction | Thursday 12th July, 08:30 - 10:00 | Wicklow Hall 1 |
| O1623 | New players and concepts in musculoskeletal biomechanics | Elazar Zelzer | Invited Speaker | Biomechanics of musculoskeletal development | Thursday 12th July, 08:30 - 10:00 | Wicklow Hall 2A |
| O1624 | Using in vitro and ex vivo models to study the influence of the mechanical environment on the development of bone and cartilage | Alicia El Haj | Invited Speaker | Biomechanics of musculoskeletal development | Thursday 12th July, 08:30 - 10:00 | Wicklow Hall 2A |
| O1625 | Timing of movement is essential for cavitation and morphogenesis of the developing chick hip joint | Devi L. Bridglal | Oral Presentation | Biomechanics of musculoskeletal development | Thursday 12th July, 08:30 - 10:00 | Wicklow Hall 2A |
| O1626 | Covariate decoupling of intrinsic and extrinsic bone mechanical properties to reveal progenitor cell function | Christopher Kegelman | Oral Presentation | Biomechanics of musculoskeletal development | Thursday 12th July, 08:30 - 10:00 | Wicklow Hall 2A |
| O1627 | Critical timings of fetal mobility for spine and rib development | Aur lie Levillain | Oral Presentation | Biomechanics of musculoskeletal development | Thursday 12th July, 08:30 - 10:00 | Wicklow Hall 2A |
| O1627 | Chondrocyte stiffness increases in tandem with matrix stiffness during development to maintain a constant intracellular strain | Sarah Calve | Oral Presentation | Biomechanics of musculoskeletal development | Thursday 12th July, 08:30 - 10:00 | Wicklow Hall 2A |
| O1628 | Force of Habit? Intrinsic Determinants of Regional and Hierarchical Variation in the Developing Skull | Matthew Ravosa | Oral Presentation | Biomechanics of musculoskeletal development | Thursday 12th July, 08:30 - 10:00 | Wicklow Hall 2A |
| O1630 | The endothelial glycocalyx and PECAM-1 collaborate to induce nitric oxide production in response to shear stress | John Tarbell | Invited Speaker | Cardiovascular cell mechanics and its role in human disease | Thursday 12th July, 08:30 - 10:00 | Wicklow Hall 2B |
| O1631 | Dynamic Interaction Between Vascular Endothelial Cells and Leukocyte During Diapedesis | Juan C. Lasheras | Invited Speaker | Cardiovascular cell mechanics and its role in human disease | Thursday 12th July, 08:30 - 10:00 | Wicklow Hall 2B |
| O1632 | Uniaxially sheared endothelial cells secrete mediators that reduce inflammation and endothelial permeability | Mean Ghim | Oral Presentation | Cardiovascular cell mechanics and its role in human disease | Thursday 12th July, 08:30 - 10:00 | Wicklow Hall 2B |
| O1633 | Dynamics of RBCs with altered mechanical properties in shear flow. Towards a clinical tool for sickle cell disease | Annie Viallat | Oral Presentation | Cardiovascular cell mechanics and its role in human disease | Thursday 12th July, 08:30 - 10:00 | Wicklow Hall 2B |
| O1634 | Vascular smooth muscle cells and multipotent vascular stem cells differ in their response to cyclic tensile strain | Pattie Mathieu | Oral Presentation | Cardiovascular cell mechanics and its role in human disease | Thursday 12th July, 08:30 - 10:00 | Wicklow Hall 2B |
| O1635 | Id1 involved in oscillatory shear stress-mediated lipid uptake in endothelial cells | Guixue Wang | Oral Presentation | Cardiovascular cell mechanics and its role in human disease | Thursday 12th July, 08:30 - 10:00 | Wicklow Hall 2B |
| O1636 | Microfluidic vascular networks for the study of therapeutic protein biodistribution | Giovanni Offeddu | Oral Presentation | Cardiovascular cell mechanics and its role in human disease | Thursday 12th July, 08:30 - 10:00 | Wicklow Hall 2B |
| O1637 | Multi-scale Mechanics in Tendon: Structure-Function Specialisations | Hazel Screen | Invited Speaker | Biomechanics of muscle, tendon and ligament tissue engineering | Thursday 12th July, 08:30 - 10:00 | Ecocem |
| O1638 | Biomaterial and Biomechanical Considerations in Ligament Tissue Engineering | Helen Lu | Invited Speaker | Biomechanics of muscle, tendon and ligament tissue engineering | Thursday 12th July, 08:30 - 10:00 | Ecocem |
| O1639 | Towards engineering the bone-ligament interface using human scale micro-fibrillar scaffolds spatially functionalised with decellularized extracellular matrix | Dinorath Olvera | Oral Presentation | Biomechanics of muscle, tendon and ligament tissue engineering | Thursday 12th July, 08:30 - 10:00 | Ecocem |
| O1640 | Mechanical behaviour of human ACL and PCL insertion sites as function of strain rate and knee flexion angle at the macro-to-nano scale level using SAXS/WAXS techniques | Erica Di Federico | Oral Presentation | Biomechanics of muscle, tendon and ligament tissue engineering | Thursday 12th July, 08:30 - 10:00 | Ecocem |

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| O1641 | Biophysical cues for tenogenic phenotype maintenance, differentiation and trans-differentiation | Diana Gaspar | Oral Presentation | Biomechanics of muscle, tendon and ligament tissue engineering | Thursday 12th July, 08:30 - 10:00 | Ecocem |
| O1642 | Hierarchical electrospun ligament scaffold restores near normal knee biomechanics | Tammy Haut Donahue | Oral Presentation | Biomechanics of muscle, tendon and ligament tissue engineering | Thursday 12th July, 08:30 - 10:00 | Ecocem |
| O1643 | Sequential Growth Factor Supplementation Promotes Matrix Elaboration for Functional Ligament Tissue Engineering | Pen-hsiu Grace Chao | Oral Presentation | Biomechanics of muscle, tendon and ligament tissue engineering | Thursday 12th July, 08:30 - 10:00 | Ecocem |
| O1644 | Toward Subject-Specific Imaging to Improve Diagnosis and Rehabilitation for Shoulder Pathology In Manual Wheelchair Users | Kristin Zhao | Invited Speaker | Rehabilitation methods, tools, and devices for shoulder | Thursday 12th July, 08:30 - 10:00 | Wicklow MR1 |
| O1645 | Rotator cuff tears: using computational modeling as a tool to inform rehabilitation | Meghan Vidt | Invited Speaker | Rehabilitation methods, tools, and devices for shoulder | Thursday 12th July, 08:30 - 10:00 | Wicklow MR1 |
| O1646 | Design and evaluation of a mechanical scapular elevation detection unit | Tunc Akbas | Oral Presentation | Rehabilitation methods, tools, and devices for shoulder | Thursday 12th July, 08:30 - 10:00 | Wicklow MR1 |
| O1647 | Concurrent validity of a newly developed instrumented wheelchair roller ergometer versus an instrumented wheel: preliminary results | Rick de Klerk | Oral Presentation | Rehabilitation methods, tools, and devices for shoulder | Thursday 12th July, 08:30 - 10:00 | Wicklow MR1 |
| O1648 | Quantitative fit analysis of acromion and clavicle plates using acromion fracture 3D anatomical models. | Roopam Dey | Oral Presentation | Rehabilitation methods, tools, and devices for shoulder | Thursday 12th July, 08:30 - 10:00 | Wicklow MR1 |
| O1649 | Shoulder Physiotherapy Exercise Classification and Monitoring: Machine Learning the Inertial Signals from a Smartwatch | Stewart McLachlin | Oral Presentation | Rehabilitation methods, tools, and devices for shoulder | Thursday 12th July, 08:30 - 10:00 | Wicklow MR1 |
| O1650 | Upper limb kinetic characteristics of violin bowing: application of an instrumented bow | Sarah Ward | Oral Presentation | Rehabilitation methods, tools, and devices for shoulder | Thursday 12th July, 08:30 - 10:00 | Wicklow MR1 |
| O1651 | Bacterially produced, tough and extensible nacre-inspired composites | Ewa M. Spiesz | Oral Presentation | Nano- and micro-mechanics of biological tissue, biomimetic and bioinspired materials and systems 2 | Thursday 12th July, 08:30 - 10:00 | Wicklow MR2 |
| O1652 | Collagen fibril tensile properties from the OIM mouse model of osteogenesis imperfecta | Orestis Andriotis | Oral Presentation | Nano- and micro-mechanics of biological tissue, biomimetic and bioinspired materials and systems 2 | Thursday 12th July, 08:30 - 10:00 | Wicklow MR2 |
| O1653 | Heterogeneity of bone cell stiffness quantified by a combined experimental and computational approach | Stefania Marcotti | Oral Presentation | Nano- and micro-mechanics of biological tissue, biomimetic and bioinspired materials and systems 2 | Thursday 12th July, 08:30 - 10:00 | Wicklow MR2 |
| O1654 | Microindentation properties of cold-water corals under future oceanic conditions | Uwe Wolfram | Oral Presentation | Nano- and micro-mechanics of biological tissue, biomimetic and bioinspired materials and systems 2 | Thursday 12th July, 08:30 - 10:00 | Wicklow MR2 |
| O1655 | Nano-mechanics of biomaterials: Elastic modulus determination of amyloid fibril by the Debye-Waller factor measurements. | Naoki Sasaki | Oral Presentation | Nano- and micro-mechanics of biological tissue, biomimetic and bioinspired materials and systems 2 | Thursday 12th July, 08:30 - 10:00 | Wicklow MR2 |
| O1656 | A Tunable Bio-Inspired Micro-Pillared Surface | Karl Johannes | Oral Presentation | Nano- and micro-mechanics of biological tissue, biomimetic and bioinspired materials and systems 2 | Thursday 12th July, 08:30 - 10:00 | Wicklow MR2 |
| O1657 | A Feature-Based Deep Learning Approach for Classification of Protein Networks Using 3D Live Microscopic Data | Pouyan Asgharzadeh | Oral Presentation | Nano- and micro-mechanics of biological tissue, biomimetic and bioinspired materials and systems 2 | Thursday 12th July, 08:30 - 10:00 | Wicklow MR2 |
| O1658 | Effect of radiation-induced damage of trabecular bone tissue evaluated using microindentation | Aikaterina Karali | Oral Presentation | Nano- and micro-mechanics of biological tissue, biomimetic and bioinspired materials and systems 2 | Thursday 12th July, 08:30 - 10:00 | Wicklow MR2 |
| O1659 | The impact of the interaction between annealing temperature and strain on the structural organization of polycarbonate polyurethane. | Audrey Ford | Oral Presentation | Nano- and micro-mechanics of biological tissue, biomimetic and bioinspired materials and systems 2 | Thursday 12th July, 08:30 - 10:00 | Wicklow MR2 |
| O1660 | Engineering Tissue Connectivity via Interface Tissue Engineering | Helen Lu | Invited Speaker | Mechanical issues in interfacial tissue engineering | Thursday 12th July, 08:30 - 10:00 | Wicklow MR4 |
| O1661 | Molecular Mechanics of Mussel Inspired Polymers and Coatings | Phillip Messersmith | Invited Speaker | Mechanical issues in interfacial tissue engineering | Thursday 12th July, 08:30 - 10:00 | Wicklow MR4 |
| O1662 | Development of new methods for implant and tissue bonding and next generation dental bioadhesives | Edward Cozens | Oral Presentation | Mechanical issues in interfacial tissue engineering | Thursday 12th July, 08:30 - 10:00 | Wicklow MR4 |
| O1663 | Osteoblast strain induced by mechanical loading at fracture sites during healing process | Simin Li | Oral Presentation | Mechanical issues in interfacial tissue engineering | Thursday 12th July, 08:30 - 10:00 | Wicklow MR4 |
| O1664 | Titania nanotube arrays and functional biopolymers as interfaces blood-contacting materials | Matt J. Kipper | Oral Presentation | Mechanical issues in interfacial tissue engineering | Thursday 12th July, 08:30 - 10:00 | Wicklow MR4 |
| O1670 | Planetary scale smartphone data reveal relationships between physical activity, environment, and health | Scott Delp | Invited Speaker | Mobile monitoring of biomechanical phenomena 1 | Thursday 12th July, 10:30 - 12:00 | Auditorium |
| O1671 | Why use an accelerometer to monitor mobility 24/7? Evidence from aging and neurological cohorts | Jeffrey Hausdorff | Invited Speaker | Mobile monitoring of biomechanical phenomena 1 | Thursday 12th July, 10:30 - 12:00 | Auditorium |

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| O1672 | Validation of algorithms for IMUs based clinical assessments in the clinic and home environment. | Minh H. Pham, Clint Hansen | Oral Presentation | Mobile monitoring of biomechanical phenomena 1 | Thursday 12th July, 10:30 - 12:00 | Auditorium |
| O1673 | Automatic locomotion: A machine learning approach for bottlenose dolphin locomotion analysis | Ding Zhang | Oral Presentation | Mobile monitoring of biomechanical phenomena 1 | Thursday 12th July, 10:30 - 12:00 | Auditorium |
| O1674 | Gait events estimation using wearable inertial sensors: comparison among 17 algorithms identified from a systematic literature review | Giulia Pacini Panebianco | Oral Presentation | Mobile monitoring of biomechanical phenomena 1 | Thursday 12th July, 10:30 - 12:00 | Auditorium |
| O1675 | Quantifying Upper Extremity Activity in Adults with Traumatic Brachial Plexus Injuries | Christina Webber | Oral Presentation | Mobile monitoring of biomechanical phenomena 1 | Thursday 12th July, 10:30 - 12:00 | Auditorium |
| O1676 | Quantifying sport-related concussion risk using a single wearable sensor | William Johnston | Oral Presentation | Mobile monitoring of biomechanical phenomena 1 | Thursday 12th July, 10:30 - 12:00 | Auditorium |
| O1677 | Comparison of 1D and 3D Computational Models of Pulmonary Artery Hemodynamics in Ventricular Septal Defect Patients | Melody Dong | Oral Presentation | Congenital heart defects and paediatric cardiology applications 2 | Thursday 12th July, 10:30 - 12:00 | Liffey B |
| O1678 | Computational fluid dynamics modeling of Tetralogy of Fallot: Influence of outlet boundary conditions | Leslie Louvelle | Oral Presentation | Congenital heart defects and paediatric cardiology applications 2 | Thursday 12th July, 10:30 - 12:00 | Liffey B |
| O1679 | Statistical Shape Analysis of the Right Ventricular Outflow Tract in Patients with Tetralogy of Fallot | Stephane Couvreur | Oral Presentation | Congenital heart defects and paediatric cardiology applications 2 | Thursday 12th July, 10:30 - 12:00 | Liffey B |
| O1680 | The Effect of Pulsatile Flow on In-Vitro Total CavoPulmonary Connection Hemodynamics | David Rutkowski | Oral Presentation | Congenital heart defects and paediatric cardiology applications 2 | Thursday 12th July, 10:30 - 12:00 | Liffey B |
| O1681 | Progression of Hemodynamic Conditions with Increasing Disease Severity in Pediatric Patients with Pulmonary Arterial Hypertension | Weiguang Yang | Oral Presentation | Congenital heart defects and paediatric cardiology applications 2 | Thursday 12th July, 10:30 - 12:00 | Liffey B |
| O1682 | Hypoplastic Left Heart Syndrome with mBT shunt and induced coarctation: an in vitro study of shunt steal | Richard Figliola | Oral Presentation | Congenital heart defects and paediatric cardiology applications 2 | Thursday 12th July, 10:30 - 12:00 | Liffey B |
| O1683 | Experimental In-Vitro Study of a Patient Specific BT-Shunt Hemodynamics | Hoda Hatoum | Oral Presentation | Congenital heart defects and paediatric cardiology applications 2 | Thursday 12th July, 10:30 - 12:00 | Liffey B |
| O1684 | Pre-surgical planning of complex congenital heart defects – selected clinical cases and pre-operative hemodynamic performance | Mohammad Rezaeimoghaddam | Oral Presentation | Congenital heart defects and paediatric cardiology applications 2 | Thursday 12th July, 10:30 - 12:00 | Liffey B |
| O1685 | Natriuretic peptide receptor C as a contributor to mechanically-induced morbidity in coarctation of the aorta | John LaDisa | Oral Presentation | Congenital heart defects and paediatric cardiology applications 2 | Thursday 12th July, 10:30 - 12:00 | Liffey B |
| O1686 | Computational Modeling to Evaluate Occupant Response and the Potential for Injury in Automotive Crash Scenarios | Duane Cronin | Invited Speaker | Automotive safety biomechanics 1 | Thursday 12th July, 10:30 - 12:00 | Liffey Hall 1 |
| O1687 | Challenges in automobile injury biomechanics and adaptation of traditional biomechanics research tools | Jason Forman | Invited Speaker | Automotive safety biomechanics 1 | Thursday 12th July, 10:30 - 12:00 | Liffey Hall 1 |
| O1688 | Effect of Age on Head and Trunk Kinematics During Low Acceleration Time Extended Evasive Swerving Events | Christine Holt | Oral Presentation | Automotive safety biomechanics 1 | Thursday 12th July, 10:30 - 12:00 | Liffey Hall 1 |
| O1689 | Neck muscle responses for rotated head postures during rear-end impacts | Jason Fice | Oral Presentation | Automotive safety biomechanics 1 | Thursday 12th July, 10:30 - 12:00 | Liffey Hall 1 |
| O1690 | Head and trunk stabilization during manual emergency braking in adults versus children. | Valentina Graci | Oral Presentation | Automotive safety biomechanics 1 | Thursday 12th July, 10:30 - 12:00 | Liffey Hall 1 |
| O1691 | Implementing muscle activity in an open-source female human body model | Christian Kleinbach | Oral Presentation | Automotive safety biomechanics 1 | Thursday 12th July, 10:30 - 12:00 | Liffey Hall 1 |
| O1692 | In vivo human head and upper body responses to lateral imposed accelerations | Baptiste Sandoz, Takahiko Sugiyama | Oral Presentation | Automotive safety biomechanics 1 | Thursday 12th July, 10:30 - 12:00 | Liffey Hall 1 |
| O1693 | Associations between wall pathology and hemodynamics in middle cerebral artery aneurysms | David Steinman | Oral Presentation | Cerebral aneurysms 2 | Thursday 12th July, 10:30 - 12:00 | Liffey Hall 2 |
| O1694 | Role of wall elasticity in intracranial aneurysm rupture predictive factors - a 0D/3D coupled patient-specific approach | Guangyu Zhu | Oral Presentation | Cerebral aneurysms 2 | Thursday 12th July, 10:30 - 12:00 | Liffey Hall 2 |
| O1695 | Comparing Volumetric PIV, CFD, In Vitro and In Vivo PC-MRI Results in Cerebral Aneurysms | Melissa Brindise | Oral Presentation | Cerebral aneurysms 2 | Thursday 12th July, 10:30 - 12:00 | Liffey Hall 2 |
| O1696 | The application of patient-specific boundary conditions to the computational fluid dynamics of human intracranial aneurysms | Alexander Khe | Oral Presentation | Cerebral aneurysms 2 | Thursday 12th July, 10:30 - 12:00 | Liffey Hall 2 |

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| O1697 | An efficient computational framework to analyze the effect of coil distribution on blood flow stagnation in densely coiled cerebral aneurysms | Tomohiro Otani | Oral Presentation | Cerebral aneurysms 2 | Thursday 12th July, 10:30 - 12:00 | Liffey Hall 2 |
| O1698 | Pulsatile flow in 2D cell resolved blood flow simulations of curved vessels with aneurysms | Benjamin Czaja | Oral Presentation | Cerebral aneurysms 2 | Thursday 12th July, 10:30 - 12:00 | Liffey Hall 2 |
| O1699 | Characteristics of Elasticity on Flow Behavior in Middle Cerebral Aneurysm Model | Ryuhei Yamaguchi | Oral Presentation | Cerebral aneurysms 2 | Thursday 12th July, 10:30 - 12:00 | Liffey Hall 2 |
| O1700 | Hemodynamic factors associated with recurrence of coiled intracranial aneurysms: a computational study | Robert Damiano | Oral Presentation | Cerebral aneurysms 2 | Thursday 12th July, 10:30 - 12:00 | Liffey Hall 2 |
| O1701 | Wall stress estimation in cerebral aneurysm via geometric convolutional neural network | Jia Lu | Oral Presentation | Cerebral aneurysms 2 | Thursday 12th July, 10:30 - 12:00 | Liffey Hall 2 |
| O1702 | Modelling the effect of RBC concentration distributions on microhaemodynamics | Joseph Sherwood | Oral Presentation | Modelling of biofluid transport 2 | Thursday 12th July, 10:30 - 12:00 | Liffey MR1 |
| O1703 | Hemodynamic Effects of Venous Valve Anatomy | Dongjune Kim | Oral Presentation | Modelling of biofluid transport 2 | Thursday 12th July, 10:30 - 12:00 | Liffey MR1 |
| O1704 | Mathematical model of fluid status after intravenous fluid infusion | Tilai Rosalina | Oral Presentation | Modelling of biofluid transport 2 | Thursday 12th July, 10:30 - 12:00 | Liffey MR1 |
| O1705 | Morphology of vortices in an elastic curved model artery with torsion under steady and pulsatile inflow conditions | Michael W. Plesniak | Oral Presentation | Modelling of biofluid transport 2 | Thursday 12th July, 10:30 - 12:00 | Liffey MR1 |
| O1706 | Helical flow assessment in coronary arteries in vivo and its instrumental role in suppressing disturbed shear stress features. An exploratory study. | Giuseppe De Nisco | Oral Presentation | Modelling of biofluid transport 2 | Thursday 12th July, 10:30 - 12:00 | Liffey MR1 |
| O1707 | Transition to Turbulent Flow in Heart Valve Prostheses | Hadi Zolfaghari | Oral Presentation | Modelling of biofluid transport 2 | Thursday 12th July, 10:30 - 12:00 | Liffey MR1 |
| O1708 | A Canonical Correlation Analysis on the Relationship between Patient-Specific Clinical Attributes and Computational Fluid Dynamics Features in Pulmonary Hypertension | Senol Piskin | Oral Presentation | Modelling of biofluid transport 2 | Thursday 12th July, 10:30 - 12:00 | Liffey MR1 |
| O1709 | Can morphology or haemodynamic characteristics of vertebrobasilar system be an identifier of hypertension severity? A retrospective study of 43 cases diagnosed with hypertension. | Makoto Ohta | Oral Presentation | Modelling of biofluid transport 2 | Thursday 12th July, 10:30 - 12:00 | Liffey MR1 |
| O1710 | Hemodynamic Performance of Spiral Grafts Using Eulerian and Lagrangian Frameworks | Amir Keshmiri | Oral Presentation | Modelling of biofluid transport 2 | Thursday 12th July, 10:30 - 12:00 | Liffey MR1 |
| O1711 | Fluid-structure interaction in vascular physiopathology: a multiscale computational approach | Michele Marino | Oral Presentation | Fluid-structure interactions in cardiovascular mechanics 2 | Thursday 12th July, 10:30 - 12:00 | Liffey MR2 |
| O1712 | FSI modelling of a patient-specific AVF. A comparison follow-up study on hemodynamical changes | Nicolas Aristokleous | Oral Presentation | Fluid-structure interactions in cardiovascular mechanics 2 | Thursday 12th July, 10:30 - 12:00 | Liffey MR2 |
| O1713 | Numerical evaluation of the atherosclerosis risk in patient specific aortas: influence of healthy, diseased and prosthetic aortic valve | Mauro Malvè | Oral Presentation | Fluid-structure interactions in cardiovascular mechanics 2 | Thursday 12th July, 10:30 - 12:00 | Liffey MR2 |
| O1714 | Effect of Raphe Extent on the Functionality of Bicuspid Aortic Valves: A Computational Study. | Farhad Rikhtegar Nezami | Oral Presentation | Fluid-structure interactions in cardiovascular mechanics 2 | Thursday 12th July, 10:30 - 12:00 | Liffey MR2 |
| O1715 | Impact of left ventricular torsion on flow dynamics: a CFD modeling study using the overset mesh method. | Federico Canè | Oral Presentation | Fluid-structure interactions in cardiovascular mechanics 2 | Thursday 12th July, 10:30 - 12:00 | Liffey MR2 |
| O1716 | A comprehensive parametric study of aortic valve function: why is it the way it is? | Rana Zakerzadeh | Oral Presentation | Fluid-structure interactions in cardiovascular mechanics 2 | Thursday 12th July, 10:30 - 12:00 | Liffey MR2 |
| O1717 | A Multi-Patient 3D CT-based Fluid-Structure Interactions Study Comparing Pressure Difference and Shear Stress on Mitral Valve Leaflets in Hypertrophic Obstructive Cardiomyopathy | Xueying Huang | Oral Presentation | Fluid-structure interactions in cardiovascular mechanics 2 | Thursday 12th July, 10:30 - 12:00 | Liffey MR2 |
| O1718 | Comparing the 'gold standard' fluid-structure interaction vs a novel moving-boundary method in blood flow simulations of aortic dissection | Mirko Bonfanti | Oral Presentation | Fluid-structure interactions in cardiovascular mechanics 2 | Thursday 12th July, 10:30 - 12:00 | Liffey MR2 |
| O1719 | A semi-automated work-flow to perform patient-specific fluid-structure interaction analysis to investigate the mechanics of the mitral valve | Benedetta Biffi | Oral Presentation | Fluid-structure interactions in cardiovascular mechanics 2 | Thursday 12th July, 10:30 - 12:00 | Liffey MR2 |
| O1720 | Preterm birth: a growing global problem that requires a team approach | Helen Feltovich | Invited Speaker | USNCB Global women's health biomechanics | Thursday 12th July, 10:30 - 12:00 | Liffey MR3 |

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| O1721 | Effects of elastase digestion on vaginal wall biaxial mechanical response | Kristin S. Miller | Invited Speaker | USNCB Global women's health biomechanics | Thursday 12th July, 10:30 - 12:00 | Liffey MR3 |
| O1722 | Towards a Patient-Specific Evaluation of Obstetric Complication Risks. | Olivier Mayeur | Oral Presentation | USNCB Global women's health biomechanics | Thursday 12th July, 10:30 - 12:00 | Liffey MR3 |
| O1723 | The influence of connective tissues on birth-related injuries | Megan Routzong | Oral Presentation | USNCB Global women's health biomechanics | Thursday 12th July, 10:30 - 12:00 | Liffey MR3 |
| O1724 | On the In Vivo Visco-Hyperelastic Properties of the Uterine Suspensory Tissue in Women with and without Pelvic Organ Prolapse | Jiajia Luo | Oral Presentation | USNCB Global women's health biomechanics | Thursday 12th July, 10:30 - 12:00 | Liffey MR3 |
| O1725 | Smooth Muscle Basal Contribution to Biaxial Mechanical Response of the Murine Vagina | Gabrielle Clark | Oral Presentation | USNCB Global women's health biomechanics | Thursday 12th July, 10:30 - 12:00 | Liffey MR3 |
| O1726 | Challenges of using male data to predict female injury | Carolyn Roberts | Oral Presentation | USNCB Global women's health biomechanics | Thursday 12th July, 10:30 - 12:00 | Liffey MR3 |
| O1727 | Meniscal mechanics in degenerated joints: A gap in knowledge? Reprogramming cell and ECM physical properties to promote dense connective tissue repair | Lutz Duersele | Invited Speaker | Meniscal mechanics | Thursday 12th July, 10:30 - 12:00 | Wicklow Hall 1 |
| O1728 | Nanostructure and Biomechanics of Fibrocartilage Pericellular Matrix: Roles of Collagen V | Robert Mauck | Invited Speaker | Meniscal mechanics | Thursday 12th July, 10:30 - 12:00 | Wicklow Hall 1 |
| O1729 | High-cycle fatigue testing of bovine meniscus | Lin Han | Oral Presentation | Meniscal mechanics | Thursday 12th July, 10:30 - 12:00 | Wicklow Hall 1 |
| O1730 | Effect of longitudinal tear on the in situ force of the medial meniscus in a porcine model. | Trevor J. Lujan | Oral Presentation | Meniscal mechanics | Thursday 12th July, 10:30 - 12:00 | Wicklow Hall 1 |
| O1731 | Fibrous Rupture in Physiologically Realistic Meniscal Tears: An Ex-Vivo Model | Yuta Tachibana | Oral Presentation | Meniscal mechanics | Thursday 12th July, 10:30 - 12:00 | Wicklow Hall 1 |
| O1732 | Preservation of meniscus function in the context of defects severing circumferential fibers: a functional role of the radial fiber network | Rachel Martin | Oral Presentation | Meniscal mechanics | Thursday 12th July, 10:30 - 12:00 | Wicklow Hall 1 |
| O1733 | Exploring links between tissue loading and motor control at the patellofemoral joint | Sonia Bansal | Oral Presentation | Meniscal mechanics | Thursday 12th July, 10:30 - 12:00 | Wicklow Hall 1 |
| O1734 | Current neuromotor concepts to prevent 1st and 2nd ACL injury in young athletes | Thor Besier | Invited Speaker | Sensorimotor function and neuromechanics of joints | Thursday 12th July, 10:30 - 12:00 | Wicklow Hall 2A |
| O1735 | Engagement of the anterior cruciate ligament relative to the surrounding soft tissues | Timothy E. Hewett | Invited Speaker | Sensorimotor function and neuromechanics of joints | Thursday 12th July, 10:30 - 12:00 | Wicklow Hall 2A |
| O1736 | Assessment of Clinical Deficits in Patients with Cervical Spondylotic Myelopathy- A Novel Quantifiable Testing Protocol | Robert Kent | Oral Presentation | Sensorimotor function and neuromechanics of joints | Thursday 12th July, 10:30 - 12:00 | Wicklow Hall 2A |
| O1737 | Neuro-Muscular Modelling of Rodent for Locomotion Studies | Zachary Smith | Oral Presentation | Sensorimotor function and neuromechanics of joints | Thursday 12th July, 10:30 - 12:00 | Wicklow Hall 2A |
| O1738 | Nonlinear parameter varying identification of time-varying ankle joint neuromechanics | Shravan Tata Ramalingasetty | Oral Presentation | Sensorimotor function and neuromechanics of joints | Thursday 12th July, 10:30 - 12:00 | Wicklow Hall 2A |
| O1739 | The ankle lever-arm changes in response to unstable footwear design features during walking and running | Ehsan Sobhani Tehrani | Oral Presentation | Sensorimotor function and neuromechanics of joints | Thursday 12th July, 10:30 - 12:00 | Wicklow Hall 2A |
| O1740 | Non-Coding Genomic Regulation Identified In Human Cardiomyocytes | Charlotte Apps | Oral Presentation | Sensorimotor function and neuromechanics of joints | Thursday 12th July, 10:30 - 12:00 | Wicklow Hall 2A |
| O1741 | Mechanotransduction through LFA-1/ICAM-1 bonds on arrested neutrophils elicits outside-in signaling via Kindlin-3 and Rack-1 to mediate Ca ²⁺ flux and cell migration | Adam Engler | Invited Speaker | Cardiovascular mechanobiology and molecular mechanisms | Thursday 12th July, 10:30 - 12:00 | Wicklow Hall 2B |
| O1742 | Force generation via β -cardiac myosin, titin, and α -actinin drives cardiac sarcomere assembly from cell-matrix adhesions | Scott Simon | Invited Speaker | Cardiovascular mechanobiology and molecular mechanisms | Thursday 12th July, 10:30 - 12:00 | Wicklow Hall 2B |
| O1743 | Epigenetic modifications and nuclear reorganization during cardiomyocyte differentiation are driven by the mechanical environment | Kehan Zhang | Oral Presentation | Cardiovascular mechanobiology and molecular mechanisms | Thursday 12th July, 10:30 - 12:00 | Wicklow Hall 2B |
| O1744 | Wnt-Fzd- β -catenin regulates endothelial responses to flow | Benjamin Seelbinder | Oral Presentation | Cardiovascular mechanobiology and molecular mechanisms | Thursday 12th July, 10:30 - 12:00 | Wicklow Hall 2B |
| O1745 | MicroRNA-129-1-3p regulates cyclic stretch-induced endothelial progenitor cell differentiation by targeting Runx2 | Christina Warboys | Oral Presentation | Cardiovascular mechanobiology and molecular mechanisms | Thursday 12th July, 10:30 - 12:00 | Wicklow Hall 2B |
| O1746 | Role of Mechanical Tension in Regulating Valvular Endothelial-Interstitial | Yue Han | Oral Presentation | Cardiovascular mechanobiology and molecular mechanisms | Thursday 12th July, 10:30 - 12:00 | Wicklow Hall 2B |
| O1747 | Synthetic human embryology in a dish | Terence Gee | Oral Presentation | Cardiovascular mechanobiology and molecular mechanisms | Thursday 12th July, 10:30 - 12:00 | Wicklow Hall 2B |
| O1748 | | Jianping Fu | Invited Speaker | Biomechanical microengineering of tissue mimics for human disease modelling | Thursday 12th July, 10:30 - 12:00 | Ecocem |

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| O1749 | Biomechanical Responses of Engineered Human Skeletal Muscle Myobundles | George Truskey | Invited Speaker | Biomechanical microengineering of tissue mimics for human disease modelling | Thursday 12th July, 10:30 - 12:00 | Ecocem |
| O1750 | Mechanotransduction-modulated fibrotic microniches reveal the contribution of angiogenesis in liver fibrosis | Yanan Du | Oral Presentation | Biomechanical microengineering of tissue mimics for human disease modelling | Thursday 12th July, 10:30 - 12:00 | Ecocem |
| O1751 | De novo grown 3D microtissues to investigate factors that drive the fibroblast-to-myofibroblast transition and can reverse it | Mario C. Benn | Oral Presentation | Biomechanical microengineering of tissue mimics for human disease modelling | Thursday 12th July, 10:30 - 12:00 | Ecocem |
| O1752 | Can confinement induces malignancy? -towards a high throughput breast cancer model | Minglin Ma | Oral Presentation | Biomechanical microengineering of tissue mimics for human disease modelling | Thursday 12th July, 10:30 - 12:00 | Ecocem |
| O1753 | Using Microengineered Models of the Alveolar-Capillary Barrier to Investigate the Effect of Heterotypic Cell-Cell Interactions on Lung Inflammation during Airway/Alveolar Reopening | Natalia Higuera-Castro | Oral Presentation | Biomechanical microengineering of tissue mimics for human disease modelling | Thursday 12th July, 10:30 - 12:00 | Ecocem |
| O1755 | Biomechanical simulation is an effective means to generate scientific hypotheses and novel insights valuable for hand rehabilitation | Wendy Murray | Invited Speaker | Rehabilitation methods, tools, and devices for hand/wrist | Thursday 12th July, 10:30 - 12:00 | Wicklow MR1 |
| O1756 | Prospects of Soft Robotics for Assisting Hand Rehabilitation Reach and grasp motion recognition for virtual rehabilitation of youth with cerebral palsy: a random forest classification procedure to improve intervention efficacy | Muthu Wijesundara | Invited Speaker | Rehabilitation methods, tools, and devices for hand/wrist | Thursday 12th July, 10:30 - 12:00 | Wicklow MR1 |
| O1757 | Real-time control of bionic limbs via large-scale musculoskeletal models driven by electromyograms | Alexander MacIntosh | Oral Presentation | Rehabilitation methods, tools, and devices for hand/wrist | Thursday 12th July, 10:30 - 12:00 | Wicklow MR1 |
| O1758 | Real-time Motor Unit Drive (MU Drive) for Prosthetic Control | Massimo Sartori, Guillaume Durandau | Oral Presentation | Rehabilitation methods, tools, and devices for hand/wrist | Thursday 12th July, 10:30 - 12:00 | Wicklow MR1 |
| O1759 | A soft and wearable robotic glove for hand rehabilitation with a tendon drive system | Joshua Kline | Oral Presentation | Rehabilitation methods, tools, and devices for hand/wrist | Thursday 12th July, 10:30 - 12:00 | Wicklow MR1 |
| O1760 | Design and prototyping of exoskeleton system for hand rehabilitation | Guangshuai Peng | Oral Presentation | Rehabilitation methods, tools, and devices for hand/wrist | Thursday 12th July, 10:30 - 12:00 | Wicklow MR1 |
| O1761 | Application of dynamic stereo-radiographic imaging: Effects of ACL injury and reconstruction on joint arthrokinematics and implications for osteoarthritis development | Teyfik Demir | Oral Presentation | Rehabilitation methods, tools, and devices for hand/wrist | Thursday 12th July, 10:30 - 12:00 | Wicklow MR1 |
| O1762 | Automatic quantitative assessment for patellofemoral joint within dynamic TT-TG distance of 4D CT data | Scott Tashman | Invited Speaker | Dynamic medical imaging techniques for biomechanics systems 1 | Thursday 12th July, 10:30 - 12:00 | Wicklow MR2 |
| O1763 | Longitudinal investigation of in vivo tibiofemoral kinematics, cartilage contact, and cartilage composition following ACL injury and reconstruction | Hao Chen | Invited Speaker | Dynamic medical imaging techniques for biomechanics systems 1 | Thursday 12th July, 10:30 - 12:00 | Wicklow MR2 |
| O1764 | Triceps surae muscle-subtendon interaction differs between young and older adults | Michael Vignos | Oral Presentation | Dynamic medical imaging techniques for biomechanics systems 1 | Thursday 12th July, 10:30 - 12:00 | Wicklow MR2 |
| O1765 | Functional Imaging of the Skeletal Upper Extremity | Jason Franz | Oral Presentation | Dynamic medical imaging techniques for biomechanics systems 1 | Thursday 12th July, 10:30 - 12:00 | Wicklow MR2 |
| O1766 | Variable subimage size for subpixel image registration | Joseph Crisco | Oral Presentation | Dynamic medical imaging techniques for biomechanics systems 1 | Thursday 12th July, 10:30 - 12:00 | Wicklow MR2 |
| O1767 | Measurement of residual limb deformation and mechanical properties using Digital Image Correlation and Finite Element Analysis | Andrew Taberner | Oral Presentation | Dynamic medical imaging techniques for biomechanics systems 1 | Thursday 12th July, 10:30 - 12:00 | Wicklow MR2 |
| O1768 | Directing cartilage growth in vitro: learning from developmental biology | Dana Solav | Oral Presentation | Dynamic medical imaging techniques for biomechanics systems 1 | Thursday 12th July, 10:30 - 12:00 | Wicklow MR2 |
| O1769 | Cartilage Tissue Engineering Versus Osteochondral Allografts: Challenges and Strategies for Viable Long-Term Solutions | Niamh Nowlan | Invited Speaker | Functional tissue engineering of articular cartilage and fibrocartilage | Thursday 12th July, 10:30 - 12:00 | Wicklow MR4 |
| O1770 | 3D printing of PCL reinforced scaffolds for meniscus tissue engineering | Gerard Ateshian | Invited Speaker | Functional tissue engineering of articular cartilage and fibrocartilage | Thursday 12th July, 10:30 - 12:00 | Wicklow MR4 |
| O1771 | Investigating the role of glycosaminoglycans-ECM interactions in auricular cartilage | Stefan Scheurer | Oral Presentation | Functional tissue engineering of articular cartilage and fibrocartilage | Thursday 12th July, 10:30 - 12:00 | Wicklow MR4 |
| O1772 | Targeted Material Delivery to Damaged Cartilage Surfaces to Direct Stem-Cell Mediated Repair | Kathryn Stok | Oral Presentation | Functional tissue engineering of articular cartilage and fibrocartilage | Thursday 12th July, 10:30 - 12:00 | Wicklow MR4 |
| O1773 | | Jay Patel | Oral Presentation | Functional tissue engineering of articular cartilage and fibrocartilage | Thursday 12th July, 10:30 - 12:00 | Wicklow MR4 |

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| O1774 | Localization of delivery of moderated, near-physiologic levels of active TGF-beta can produce engineered cartilage of improved tissue quality | Michael Albro | Oral Presentation | Functional tissue engineering of articular cartilage and fibrocartilage | Thursday 12th July, 10:30 - 12:00 | Wicklow MR4 |
| O1775 | Decellularized cartilage microparticles in a hyaluronic acid gel as an engineered and chondrogenic construct | Jeanne Barthold | Oral Presentation | Functional tissue engineering of articular cartilage and fibrocartilage | Thursday 12th July, 10:30 - 12:00 | Wicklow MR4 |
| O1780 | Spatiotemporal and Upper Body Variables to Quantify Gait Characteristics in Cerebellar Ataxia. | Ellen Buckley | Oral Presentation | Mobile monitoring of biomechanical phenomena 2 | Thursday 12th July, 14:20 - 15:50 | Auditorium |
| O1781 | It works for you, but does it work for me? Testing validated algorithms with clinical data sets. | Clint Hansen | Oral Presentation | Mobile monitoring of biomechanical phenomena 2 | Thursday 12th July, 14:20 - 15:50 | Auditorium |
| O1782 | A novel Artificial Intelligence – powered mobile platform for home-based rehabilitation | Lucia Moro | Oral Presentation | Mobile monitoring of biomechanical phenomena 2 | Thursday 12th July, 14:20 - 15:50 | Auditorium |
| O1783 | Validation of wearable sensor performance for orientation tracking and evaluation of movement quality of the spine | Kristen Beange | Oral Presentation | Mobile monitoring of biomechanical phenomena 2 | Thursday 12th July, 14:20 - 15:50 | Auditorium |
| O1784 | Accurate calibration of an IMU-driven biomechanical model using electromagnetic digitization | John Cockcroft | Oral Presentation | Mobile monitoring of biomechanical phenomena 2 | Thursday 12th July, 14:20 - 15:50 | Auditorium |
| O1785 | Development of a deep learning based markerless motion capture system | Travis Eliason | Oral Presentation | Mobile monitoring of biomechanical phenomena 2 | Thursday 12th July, 14:20 - 15:50 | Auditorium |
| O1786 | Longitudinal assessment of upper body motion during gait in the early stages of Parkinson's disease | Christopher Buckley | Oral Presentation | Mobile monitoring of biomechanical phenomena 2 | Thursday 12th July, 14:20 - 15:50 | Auditorium |
| O1787 | Autonomous tracking of gait impairments in Parkinson's disease | Bhawna Shiwani | Oral Presentation | Mobile monitoring of biomechanical phenomena 2 | Thursday 12th July, 14:20 - 15:50 | Auditorium |
| O1788 | IMU based foot strike classification in running during an 8x400m interval protocol on the athletics track at critical velocity | Jasper Reenalda | Oral Presentation | Mobile monitoring of biomechanical phenomena 2 | Thursday 12th July, 14:20 - 15:50 | Auditorium |
| O1789 | The history of mechanical circulatory support: game changers and magic moments | Heinrich Schima | Invited Speaker | Mechanical circulatory support | Thursday 12th July, 14:20 - 15:50 | Liffey B |
| O1790 | Mechanical circulatory support: The landscape of our horizon | Francisco A. Arabia | Invited Speaker | Mechanical circulatory support | Thursday 12th July, 14:20 - 15:50 | Liffey B |
| O1791 | Imaging the contraction of mechanically supported ex vivo beating hearts | Louis Fixsen | Oral Presentation | Mechanical circulatory support | Thursday 12th July, 14:20 - 15:50 | Liffey B |
| O1792 | High Shear Induces Platelet-related and Opposite Hemostasis Dysfunction in Assisted Circulation | Zhongjun Wu | Oral Presentation | Mechanical circulatory support | Thursday 12th July, 14:20 - 15:50 | Liffey B |
| O1793 | Mechanical Circulatory Support of Pediatric Patients with New Versatile Dual Pump Configuration | Carson Fox | Oral Presentation | Mechanical circulatory support | Thursday 12th July, 14:20 - 15:50 | Liffey B |
| O1794 | Hemodynamic of the celiac trunk in patients with a continuous-flow left ventricular assist device: in-silico and in-vitro flow analyses | Salvatore Pasta | Oral Presentation | Mechanical circulatory support | Thursday 12th July, 14:20 - 15:50 | Liffey B |
| O1795 | Hemodynamics of the Left Ventricle supported by an apically-inserted Left Ventricular Assist Device: 3D time-resolved velocity measurements in an-vitro model | Nathanael Machicoane | Oral Presentation | Mechanical circulatory support | Thursday 12th July, 14:20 - 15:50 | Liffey B |
| O1796 | Biofidelity Implications for Developing Design Concept of Female Physical Test Device based on Human Body Simulations | I Putu Alit Putra | Oral Presentation | Automotive safety biomechanics 2 | Thursday 12th July, 14:20 - 15:50 | Liffey Hall 1 |
| O1797 | Acceleration of a car passenger during automatic emergency braking | Baptiste Sandoz | Oral Presentation | Automotive safety biomechanics 2 | Thursday 12th July, 14:20 - 15:50 | Liffey Hall 1 |
| O1798 | Analysis of muscle activity during simulated frontal crash, and its influence on kinetic and kinematic parameters | Navaneethakrishna Makaram | Oral Presentation | Automotive safety biomechanics 2 | Thursday 12th July, 14:20 - 15:50 | Liffey Hall 1 |
| O1799 | Measurement of post-mortem human surrogate femur loads using strain gage arrays during full-frontal sled tests | Devon Albert | Oral Presentation | Automotive safety biomechanics 2 | Thursday 12th July, 14:20 - 15:50 | Liffey Hall 1 |
| O1800 | Evaluation of Possibility of Injury Risk by Out of Safety Position of Seat in Autonomous Emergency Braking System Operation | Jisoo Jeong, Dohyung Lim | Oral Presentation | Automotive safety biomechanics 2 | Thursday 12th July, 14:20 - 15:50 | Liffey Hall 1 |
| O1801 | Use of Finite Element Human Body Models in a Standardized Evaluation Protocol for Pedestrian Safety Assessment | William Decker | Oral Presentation | Automotive safety biomechanics 2 | Thursday 12th July, 14:20 - 15:50 | Liffey Hall 1 |
| O1802 | Evaluation of AIS Risk Prediction Capability of M50-OS→O and M50-O Solutions in Precrash Braking Cases | Berkan Guleyupoglu | Oral Presentation | Automotive safety biomechanics 2 | Thursday 12th July, 14:20 - 15:50 | Liffey Hall 1 |
| O1803 | Effects of Varying Vehicle D-ring Position on Pediatric ATD Installed on Booster Child Seats in Simulated Frontal Crashes | Jalaj Maheshwari | Oral Presentation | Automotive safety biomechanics 2 | Thursday 12th July, 14:20 - 15:50 | Liffey Hall 1 |

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| O1804 | Comparative responses of the 6-Year-Old Pediatric Human Body model in Frontal Motor Vehicle Crashes | Aditya Belwadi | Oral Presentation | Automotive safety biomechanics 2 | Thursday 12th July, 14:20 - 15:50 | Liffey Hall 1 |
| O1805 | A new method for non-invasive measurement of arterial wave speed, intensity and reflection | Peter Weinberg | Invited Speaker | Arterial stiffness and disease | Thursday 12th July, 14:20 - 15:50 | Liffey Hall 2 |
| O1806 | Coupling between the micro-structure of the cerebral aneurysm wall and its stiffness and failure properties | Anne Robertson | Invited Speaker | Arterial stiffness and disease | Thursday 12th July, 14:20 - 15:50 | Liffey Hall 2 |
| O1807 | NON-CONTACT LOCAL PULSE WAVE VELOCITY ESTIMATION ON IN-VITRO NECK MODELS | Daniela Tommasin | Oral Presentation | Arterial stiffness and disease | Thursday 12th July, 14:20 - 15:50 | Liffey Hall 2 |
| O1808 | Normal aging induces altered cardiac function, hemodynamics, and central artery stiffness in mice independent of hypertension | Jacopo Ferruzzi | Oral Presentation | Arterial stiffness and disease | Thursday 12th July, 14:20 - 15:50 | Liffey Hall 2 |
| O1809 | Elastin deficiency affects arterial stiffness in aged mice | Jie Hawes | Oral Presentation | Arterial stiffness and disease | Thursday 12th July, 14:20 - 15:50 | Liffey Hall 2 |
| O1810 | Characterization of the Mechanical Behavior and Microstructural Properties of Partially Ligated Common Carotid Arteries from Wild Type Mice | Rudy Gleason | Oral Presentation | Arterial stiffness and disease | Thursday 12th July, 14:20 - 15:50 | Liffey Hall 2 |
| O1811 | A structure-based constitutive model of arterial tissue | Alexander Rachev | Oral Presentation | Arterial stiffness and disease | Thursday 12th July, 14:20 - 15:50 | Liffey Hall 2 |
| O1812 | Biological Propulsion in (and of?) the Ocean | John Dabiri | Invited Speaker | Biolocomotion and flows | Thursday 12th July, 14:20 - 15:50 | Liffey MR1 |
| O1813 | Life in rough terrain—principles of leg control for agile and robustly stable bipedal locomotion among ground birds from quail to ostrich | Monica Daley | Invited Speaker | Biolocomotion and flows | Thursday 12th July, 14:20 - 15:50 | Liffey MR1 |
| O1814 | Biomechanics of flocking flight in swifts and shorebirds | Tyson Hedrick | Oral Presentation | Biolocomotion and flows | Thursday 12th July, 14:20 - 15:50 | Liffey MR1 |
| O1815 | Experimental three-dimensional wake structure from and forces on a simplified caudal fin model | Melissa Green | Oral Presentation | Biolocomotion and flows | Thursday 12th July, 14:20 - 15:50 | Liffey MR1 |
| O1816 | Control of the flexibility of cetacean flukes for high efficiency propulsion | Frank Fish | Oral Presentation | Biolocomotion and flows | Thursday 12th July, 14:20 - 15:50 | Liffey MR1 |
| O1817 | Soft Actuators and Soft Sensors for studying Undulatory Swimming - Soft Robotic Models give insight in Co-Contraction and Body Stiffness Modulation. | Ardian Jusufi | Oral Presentation | Biolocomotion and flows | Thursday 12th July, 14:20 - 15:50 | Liffey MR1 |
| O1819 | Biomechanics of Cough Clearance | Peter Krumpe | Invited Speaker | Airway flows and lung transport 1 | Thursday 12th July, 14:20 - 15:50 | Liffey MR2 |
| O1820 | Superimposed pressure oscillation therapy-acute and chronic asthmatic model responses | Ahmed Al-Jumaily | Invited Speaker | Airway flows and lung transport 1 | Thursday 12th July, 14:20 - 15:50 | Liffey MR2 |
| O1821 | Flow Instabilities in the Upper Airways During Phonation | Lukas Schickhofer | Oral Presentation | Airway flows and lung transport 1 | Thursday 12th July, 14:20 - 15:50 | Liffey MR2 |
| O1822 | Spatiotemporal organization of cilia drives multiscale mucus swirls in model human bronchial epithelium | Etienne Loiseau | Oral Presentation | Airway flows and lung transport 1 | Thursday 12th July, 14:20 - 15:50 | Liffey MR2 |
| O1823 | A new index for characterizing the efficiency of ciliary beating | Bruno Louis | Oral Presentation | Airway flows and lung transport 1 | Thursday 12th July, 14:20 - 15:50 | Liffey MR2 |
| O1824 | Enhancing mucus clearance by cough through repeated pulses | Cahit A. Evrensel | Oral Presentation | Airway flows and lung transport 1 | Thursday 12th July, 14:20 - 15:50 | Liffey MR2 |
| O1826 | Fracture behaviour of soft biological tissues | Edoardo Mazza | Invited Speaker | Integrated approaches for reproductive biomechanics | Thursday 12th July, 14:20 - 15:50 | Liffey MR3 |
| O1827 | Modelling the second stage of labour using statistical shape analysis | Poul M. F. Nielsen | Invited Speaker | Integrated approaches for reproductive biomechanics | Thursday 12th July, 14:20 - 15:50 | Liffey MR3 |
| O1828 | Mechanical Impact of Parturition-Related Strains on Skeletal Sphincteric Muscles. | Pamela Duran | Oral Presentation | Integrated approaches for reproductive biomechanics | Thursday 12th July, 14:20 - 15:50 | Liffey MR3 |
| O1829 | Development of a 3D customizable finite element model of anterior vaginal wall support system | Mark Gordon | Oral Presentation | Integrated approaches for reproductive biomechanics | Thursday 12th July, 14:20 - 15:50 | Liffey MR3 |
| O1830 | Mechanical properties of rat uterosacral ligament | Raffaella De Vita | Oral Presentation | Integrated approaches for reproductive biomechanics | Thursday 12th July, 14:20 - 15:50 | Liffey MR3 |
| O1831 | Age-Associated Changes in the Passive Mechanical Properties of Pelvic Floor Muscles | Lindsey Burnett | Oral Presentation | Integrated approaches for reproductive biomechanics | Thursday 12th July, 14:20 - 15:50 | Liffey MR3 |
| O1832 | Multivariate RQA analysis of bioelectrical activity in sows' reproductive tract | Ewelina Brzozowska | Oral Presentation | Integrated approaches for reproductive biomechanics | Thursday 12th July, 14:20 - 15:50 | Liffey MR3 |
| O1833 | Pre-clinical test of a zirconium nitride multi-layer coated hip stem for patients with metal ion hypersensitivity | Ana Laura Puente Reyna | Oral Presentation | Total joint replacements | Thursday 12th July, 14:20 - 15:50 | Wicklow Hall 1 |
| O1834 | Normalization of the knee morphology using correlation analysis and its consequences for implant design | Malte Asseln | Oral Presentation | Total joint replacements | Thursday 12th July, 14:20 - 15:50 | Wicklow Hall 1 |

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| O1835 | Migration of a short stem hip prosthesis over 5 years – A radiostereometry analysis in 60 patients | Michael Schwarze | Oral Presentation | Total joint replacements | Thursday 12th July, 14:20 - 15:50 | Wicklow Hall 1 |
| O1836 | Doping with iodine-based contrast agent increases polyethylene radiopacity without adversely affecting mechanical properties | Fedra Parnian Zaribaf | Oral Presentation | Total joint replacements | Thursday 12th July, 14:20 - 15:50 | Wicklow Hall 1 |
| O1837 | Representing the effect of variation in soft tissue constraints in experimental simulation of total knee replacements | Helena Johnston | Oral Presentation | Total joint replacements | Thursday 12th July, 14:20 - 15:50 | Wicklow Hall 1 |
| O1838 | A computational model to predict wear in total knee replacements: using multibody dynamics and fluid dynamics | Ehsan Askari | Oral Presentation | Total joint replacements | Thursday 12th July, 14:20 - 15:50 | Wicklow Hall 1 |
| O1839 | The effect of rotational and translational malalignment on a mobile bearing total ankle replacement | Claire Brockett | Oral Presentation | Total joint replacements | Thursday 12th July, 14:20 - 15:50 | Wicklow Hall 1 |
| O1842 | ‘Walking with a giant’: the continuing impact of an exceptional zoologist and biomechanicist | Peter Aerts | Invited Speaker | Biomechanics in nature I: a tribute to Professor R. McNeill Alexander | Thursday 12th July, 14:20 - 15:50 | Wicklow Hall 2A |
| O1843 | Manoeuvre dynamics in flying insects: from take-off to free flight | Florian T Muijres | Invited Speaker | Biomechanics in nature I: a tribute to Professor R. McNeill Alexander | Thursday 12th July, 14:20 - 15:50 | Wicklow Hall 2A |
| O1844 | Flight energetics of dynamic soaring | James Kempton | Oral Presentation | Biomechanics in nature I: a tribute to Professor R. McNeill Alexander | Thursday 12th July, 14:20 - 15:50 | Wicklow Hall 2A |
| O1845 | Last moment wingbeat adjustments during gap negotiation by Harris's hawks | Marco KleinHeerenbrink | Oral Presentation | Biomechanics in nature I: a tribute to Professor R. McNeill Alexander | Thursday 12th July, 14:20 - 15:50 | Wicklow Hall 2A |
| O1846 | Undulation enhances stability, enabling gliding in flying snakes | Shane Ross | Oral Presentation | Biomechanics in nature I: a tribute to Professor R. McNeill Alexander | Thursday 12th July, 14:20 - 15:50 | Wicklow Hall 2A |
| O1847 | Sniffing in a turbulent world | Mimi Koehl | Oral Presentation | Biomechanics in nature I: a tribute to Professor R. McNeill Alexander | Thursday 12th July, 14:20 - 15:50 | Wicklow Hall 2A |
| O1848 | Suction feeding in the carnivorous plant bladderwort (Utricularia) – insights from mathematical models | Ulrike Muller | Oral Presentation | Biomechanics in nature I: a tribute to Professor R. McNeill Alexander | Thursday 12th July, 14:20 - 15:50 | Wicklow Hall 2A |
| O1849 | Microtissue Platforms as Cardiovascular Disease Models | Viola Vogel | Invited Speaker | Cardiovascular cell mechanics, adhesion and mechanotransduction | Thursday 12th July, 14:20 - 15:50 | Wicklow Hall 2B |
| O1850 | Biaxial hysteresis in vascular smooth muscle cells | Patrick Alford | Invited Speaker | Cardiovascular cell mechanics, adhesion and mechanotransduction | Thursday 12th July, 14:20 - 15:50 | Wicklow Hall 2B |
| O1851 | Genome-edited cardiac models reveal that combinatorial genetic interactions can impair mechanotransduction and result in cardiomyopathy | Adam Engler | Oral Presentation | Cardiovascular cell mechanics, adhesion and mechanotransduction | Thursday 12th July, 14:20 - 15:50 | Wicklow Hall 2B |
| O1852 | Alpha-catenin coordinates cytoskeletal attachment to the cardiomyocyte intercalated disc | Chelsea Merkel, Adam Kwiatkowski | Oral Presentation | Cardiovascular cell mechanics, adhesion and mechanotransduction | Thursday 12th July, 14:20 - 15:50 | Wicklow Hall 2B |
| O1853 | The nucleus integrates mechanical feedback through epigenetic modification during cardiomyocyte differentiation | Benjamin Seelbinder | Oral Presentation | Cardiovascular cell mechanics, adhesion and mechanotransduction | Thursday 12th July, 14:20 - 15:50 | Wicklow Hall 2B |
| O1854 | Characterizing Cardiovascular Cell Mechanical Structure Function Relationship | Delphine Dean | Oral Presentation | Cardiovascular cell mechanics, adhesion and mechanotransduction | Thursday 12th July, 14:20 - 15:50 | Wicklow Hall 2B |
| O1855 | Substrate patterning and stiffness affect dynamics of cell spreading, contraction, and myofibril stability in iPSC-cardiomyocytes with hypercontractile myosin mutations. | Alison Schroer | Oral Presentation | Cardiovascular cell mechanics, adhesion and mechanotransduction | Thursday 12th July, 14:20 - 15:50 | Wicklow Hall 2B |
| O1856 | Mechanisms of pelvic organ prolapse development: biomechanics and biochemistry | Margot Damaser | Invited Speaker | Biomechanics of pelvic floor / bladder engineering | Thursday 12th July, 14:20 - 15:50 | Ecocem |
| O1857 | Quo Vadis Female Pelvic Floor Biomechanics? | James Ashton-Miller | Invited Speaker | Biomechanics of pelvic floor / bladder engineering | Thursday 12th July, 14:20 - 15:50 | Ecocem |
| O1858 | Improving urinary catheter safety and tissue engineered urethral scaffolds through an enhanced understanding of human urethral biomechanics | Eoghan Cunnane | Oral Presentation | Biomechanics of pelvic floor / bladder engineering | Thursday 12th July, 14:20 - 15:50 | Ecocem |
| O1859 | Effect of the biomechanical properties of the pelvic floor muscles in the bladder neck hypermobility | Elisabete Silva | Oral Presentation | Biomechanics of pelvic floor / bladder engineering | Thursday 12th July, 14:20 - 15:50 | Ecocem |
| O1860 | Novel instrumented probe for measuring multidimensional load distribution of the vaginal canal | Isabel Sacco | Oral Presentation | Biomechanics of pelvic floor / bladder engineering | Thursday 12th July, 14:20 - 15:50 | Ecocem |

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| O1861 | Mechanical and histological properties of the benign hyperplastic prostate: relationship to the severity of lower urinary tract symptoms and age | Niall Kelly | Oral Presentation | Biomechanics of pelvic floor / bladder engineering | Thursday 12th July, 14:20 - 15:50 | Ecocem |
| O1862 | The importance of time during vaginal childbirth | Renato Natal Jorge | Oral Presentation | Biomechanics of pelvic floor / bladder engineering | Thursday 12th July, 14:20 - 15:50 | Ecocem |
| O1863 | The effects of stiffness of an Ankle Foot Orthosis on gait performance | Jaap Harlaar | Invited Speaker | Rehabilitation methods, tools, and devices for ankle/foot | Thursday 12th July, 14:20 - 15:50 | Wicklow MR1 |
| O1864 | Compact, integrated hydraulic systems for wearable rehabilitation robots | William Durfee | Invited Speaker | Rehabilitation methods, tools, and devices for ankle/foot | Thursday 12th July, 14:20 - 15:50 | Wicklow MR1 |
| O1865 | Data driven design of custom carbon fiber ankle foot orthoses | Jason M. Wilken | Oral Presentation | Rehabilitation methods, tools, and devices for ankle/foot | Thursday 12th July, 14:20 - 15:50 | Wicklow MR1 |
| O1866 | Stabilizing Ability of Different Ankle Orthoses in a Simulated Ankle Inversion Trauma | Emir Benca | Oral Presentation | Rehabilitation methods, tools, and devices for ankle/foot | Thursday 12th July, 14:20 - 15:50 | Wicklow MR1 |
| O1867 | Low-cost AFO orthoses for children with cerebral palsy using additive manufacturing (AM) methods and 3D scanning technologies | Eliane Juvenal, Maria Elizete Kunkel | Oral Presentation | Rehabilitation methods, tools, and devices for ankle/foot | Thursday 12th July, 14:20 - 15:50 | Wicklow MR1 |
| O1868 | Minimum sensor configuration for gait event detection for a portable powered ankle-foot orthosis | Elizabeth Hsiao-Wecksler | Oral Presentation | Rehabilitation methods, tools, and devices for ankle/foot | Thursday 12th July, 14:20 - 15:50 | Wicklow MR1 |
| O1869 | Identification of muscle fatigue in hybrid orthosis: an approach based on artificially activated muscle models | Francisco Romero-Sánchez | Oral Presentation | Rehabilitation methods, tools, and devices for ankle/foot | Thursday 12th July, 14:20 - 15:50 | Wicklow MR1 |
| O1870 | Variation in regional tongue movement during inspiration in Obstructive sleep apnoea population | Fiona Knapman | Oral Presentation | Dynamic medical imaging techniques for biomechanics systems 2 | Thursday 12th July, 14:20 - 15:50 | Wicklow MR2 |
| O1871 | Strain response in human brain substructures during mild neck extension measured by tagged MRI | Andrew Knutsen | Oral Presentation | Dynamic medical imaging techniques for biomechanics systems 2 | Thursday 12th July, 14:20 - 15:50 | Wicklow MR2 |
| O1872 | Characterization of The Natural Biomechanics of The Human Aorta using Dual VENC 4D Flow MRI | Jamie Concannon | Oral Presentation | Dynamic medical imaging techniques for biomechanics systems 2 | Thursday 12th July, 14:20 - 15:50 | Wicklow MR2 |
| O1873 | Apportionment of lumbar intervertebral motion in a standardised flexion and return protocol using fluoroscopy: basic data to improve current spine models | Alexander Breen | Oral Presentation | Dynamic medical imaging techniques for biomechanics systems 2 | Thursday 12th July, 14:20 - 15:50 | Wicklow MR2 |
| O1874 | Comparison of subject-specific exosuit assistance profiles to ultrasound measurements of gastrocnemius fascicle dynamics during human walking | Richard Nuckols | Oral Presentation | Dynamic medical imaging techniques for biomechanics systems 2 | Thursday 12th July, 14:20 - 15:50 | Wicklow MR2 |
| O1875 | How does frontal plane surgical alignment of a total knee replacement influence in vivo kinematics? | David Williams | Oral Presentation | Dynamic medical imaging techniques for biomechanics systems 2 | Thursday 12th July, 14:20 - 15:50 | Wicklow MR2 |
| O1876 | Validation of 4D CT scanning combined with a foot manipulator to measure individual foot bone kinematics | Hannelore Boey | Oral Presentation | Dynamic medical imaging techniques for biomechanics systems 2 | Thursday 12th July, 14:20 - 15:50 | Wicklow MR2 |
| O1877 | Differences in motion analysis modalities: comparing optical motion capture and high-speed bi-planar videoradiography during walking and running. | Sarah Kessler | Oral Presentation | Dynamic medical imaging techniques for biomechanics systems 2 | Thursday 12th July, 14:20 - 15:50 | Wicklow MR2 |
| O1878 | Compensation of experimentally induced soft tissue artefact with a combination of optoelectronic motion analysis system and a 2D ultrasound probe | Stephen Mellon | Oral Presentation | Dynamic medical imaging techniques for biomechanics systems 2 | Thursday 12th July, 14:20 - 15:50 | Wicklow MR2 |
| O1879 | Biologically-engineered tissue tubes for cardiovascular grafts | Robert Tranquillo | Invited Speaker | Biofabrication and bioreactors for functional tissue systems 1 | Thursday 12th July, 14:20 - 15:50 | Wicklow MR4 |
| O1880 | Redefining identity of disease, tissues and cells – a Biofabrication paradigm | Abhay Pandit | Invited Speaker | Biofabrication and bioreactors for functional tissue systems 1 | Thursday 12th July, 14:20 - 15:50 | Wicklow MR4 |
| O1881 | Laser Direct-Write Bioprinting for Fabrication of Customizable Core-Shelled Structures | David Kingsley | Oral Presentation | Biofabrication and bioreactors for functional tissue systems 1 | Thursday 12th July, 14:20 - 15:50 | Wicklow MR4 |
| O1882 | The development of a perfusion device mathematical model to apply varying trans-wall oxygen gradients to venous tissue. | David T. O'Connor | Oral Presentation | Biofabrication and bioreactors for functional tissue systems 1 | Thursday 12th July, 14:20 - 15:50 | Wicklow MR4 |
| O1883 | Cryogenic 3D printing of brain mimicking hydrogels | Zhengchu Tan | Oral Presentation | Biofabrication and bioreactors for functional tissue systems 1 | Thursday 12th July, 14:20 - 15:50 | Wicklow MR4 |
| O1884 | A biaxial culture system for cyclically stretching planar soft tissues | Jin-Jia Hu | Oral Presentation | Biofabrication and bioreactors for functional tissue systems 1 | Thursday 12th July, 14:20 - 15:50 | Wicklow MR4 |

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| O1885 | Ultrasound-guided bioprinting of microgel-encapsulated cells for vascular tissue engineering | Jenna Shapiro | Oral Presentation | Biofabrication and bioreactors for functional tissue systems 1 | Thursday 12th July, 14:20 - 15:50 | Wicklow MR4 |
| O1890 | Knee joint torques and clubhead velocity during the golf swing of young and senior healthy females | Chris Wendt | Oral Presentation | Biomechanics of sports: surfing to soccer | Thursday 12th July, 16:20 - 17:50 | Liffey Hall 1 |
| O1891 | Effects of football player position on metatarsophalangeal joint moment and motion during a resisted sled pushing task | Audrey E. Westbrook | Oral Presentation | Biomechanics of sports: surfing to soccer | Thursday 12th July, 16:20 - 17:50 | Liffey Hall 1 |
| O1892 | Jump height is maintained through modifications in jump strategy during simulated in-season volleyball competition. | L. Ruggiero | Oral Presentation | Biomechanics of sports: surfing to soccer | Thursday 12th July, 16:20 - 17:50 | Liffey Hall 1 |
| O1893 | Dancers with unilateral FHL tendinopathy show signs of overuse during the propulsive phase of sautés | Lindsey Trejo | Oral Presentation | Biomechanics of sports: surfing to soccer | Thursday 12th July, 16:20 - 17:50 | Liffey Hall 1 |
| O1894 | Landing kinetics associated with two variations of surf-like simulated aerial training drills | James R. Forsyth | Oral Presentation | Biomechanics of sports: surfing to soccer | Thursday 12th July, 16:20 - 17:50 | Liffey Hall 1 |
| O1895 | Patellofemoral joint stress in female weightlifters at different squat depths and loads | Linnea Zavala | Oral Presentation | Biomechanics of sports: surfing to soccer | Thursday 12th July, 16:20 - 17:50 | Liffey Hall 1 |
| O1896 | Validity of a method for measuring Force-Velocity Profile during hex-bar jumps. | Marc Klimstra | Oral Presentation | Biomechanics of sports: surfing to soccer | Thursday 12th July, 16:20 - 17:50 | Liffey Hall 1 |
| O1897 | Limit cycle dynamics of the gymnastics longswing | Genevieve Williams | Oral Presentation | Biomechanics of sports: surfing to soccer | Thursday 12th July, 16:20 - 17:50 | Liffey Hall 1 |
| O1899 | Identification of lung tissue mechanics using stereoscopy and optical coherence tomography | Poul M. F. Nielsen | Invited Speaker | Lung biomechanics | Thursday 12th July, 16:20 - 17:50 | Liffey Hall 2 |
| O1900 | Characterisation of blast lung injury through mechanical measurement and volumetric imaging | Hari Arora | Invited Speaker | Lung biomechanics | Thursday 12th July, 16:20 - 17:50 | Liffey Hall 2 |
| O1901 | Multiscale nonlinear mechanics of lung extracellular matrix | Ignasi Jorba | Oral Presentation | Lung biomechanics | Thursday 12th July, 16:20 - 17:50 | Liffey Hall 2 |
| O1902 | Micromechanical constitutive modeling of lung parenchyma: a predictive and efficient approach | Daniel Hurtado | Oral Presentation | Lung biomechanics | Thursday 12th July, 16:20 - 17:50 | Liffey Hall 2 |
| O1903 | Anisotropic deformation of pulmonary acinar tissues for inflation with surface tension effects | Kenichiro Koshiyama | Oral Presentation | Lung biomechanics | Thursday 12th July, 16:20 - 17:50 | Liffey Hall 2 |
| O1904 | A computational model for predicting postural variations in lung tissue deformation and chest wall shape | Luca Parisi | Oral Presentation | Lung biomechanics | Thursday 12th July, 16:20 - 17:50 | Liffey Hall 2 |
| O1905 | Mechanical Characterization of Lung Tissue | Mona Eskandari | Oral Presentation | Lung biomechanics | Thursday 12th July, 16:20 - 17:50 | Liffey Hall 2 |
| O1906 | A deep learning system for consistent automatic disc degeneration grading | Frank Niemeyer | Oral Presentation | Imaging and device biomechanics: Modelling, diagnosis, rehabilitation | Thursday 12th July, 16:20 - 17:50 | Liffey MR1 |
| O1907 | Nonlinear Torsional wave propagation in general coordinates to model biomechanical parameters in soft tissue | Guillermo Rus | Oral Presentation | Imaging and device biomechanics: Modelling, diagnosis, rehabilitation | Thursday 12th July, 16:20 - 17:50 | Liffey MR1 |
| O1908 | Development of detailed CAD models of the human body in military relevant postures: Milhumod study | Berkan Guleyupoglu | Oral Presentation | Imaging and device biomechanics: Modelling, diagnosis, rehabilitation | Thursday 12th July, 16:20 - 17:50 | Liffey MR1 |
| O1909 | Towards a synthetic larynx model generation 2.0 | Stefan Kniesburges | Oral Presentation | Imaging and device biomechanics: Modelling, diagnosis, rehabilitation | Thursday 12th July, 16:20 - 17:50 | Liffey MR1 |
| O1910 | Computational tools for the reliability assessment and the engineering design of procedures and devices in bariatric surgery | Emanuele Luigi Carniel, Chiara Giulia Fontanella | Oral Presentation | Imaging and device biomechanics: Modelling, diagnosis, rehabilitation | Thursday 12th July, 16:20 - 17:50 | Liffey MR1 |
| O1911 | Biomechanical deficits at the hip are improved through neuromuscular training in anterior cruciate ligament reconstructed-athletes | Christopher Nagelli | Oral Presentation | Imaging and device biomechanics: Modelling, diagnosis, rehabilitation | Thursday 12th July, 16:20 - 17:50 | Liffey MR1 |
| O1912 | Impairment in quadriceps rate of torque development as a result of an anterior cruciate ligament tear | Brian Noehren | Oral Presentation | Imaging and device biomechanics: Modelling, diagnosis, rehabilitation | Thursday 12th July, 16:20 - 17:50 | Liffey MR1 |
| O1915 | Analysis of the aero-acoustic sound sources of phonation in a synthetic larynx model | Stefan Kniesburges, Michael Döllinger | Oral Presentation | Airway flows and lung transport 2 | Thursday 12th July, 16:20 - 17:50 | Liffey MR2 |
| O1916 | Calculating Breathing Effort in Neonates with Tracheomalacia using Computational Fluid Dynamics and High-Resolution MRI | Alister Bates | Oral Presentation | Airway flows and lung transport 2 | Thursday 12th July, 16:20 - 17:50 | Liffey MR2 |
| O1917 | Coupling Hyperpolarized 3He MRI with In Silico Models to Predict Aerosol Dosimetry in Asthmatic Subjects | Jessica Oakes | Oral Presentation | Airway flows and lung transport 2 | Thursday 12th July, 16:20 - 17:50 | Liffey MR2 |
| O1918 | Multi-fidelity modeling of ventilation and aerosol in the healthy and diseased lung | Irene Vignon-Clementel | Oral Presentation | Airway flows and lung transport 2 | Thursday 12th July, 16:20 - 17:50 | Liffey MR2 |

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| O1919 | Neonatal CPAP respiratory support: Flow and function of the Infant Flow geometry investigated with computational fluid dynamics. | Thomas Drevhammar | Oral Presentation | Airway flows and lung transport 2 | Thursday 12th July, 16:20 - 17:50 | Liffey MR2 |
| O1920 | A benchmark case for numerical predictions of airflow and regional deposition in the respiratory system | Laura Nicolaou | Oral Presentation | Airway flows and lung transport 2 | Thursday 12th July, 16:20 - 17:50 | Liffey MR2 |
| O1921 | Simulation of fluid-structure interaction using high-order methods with application to sleep disorders | Knut Emil Ringstad | Oral Presentation | Airway flows and lung transport 2 | Thursday 12th July, 16:20 - 17:50 | Liffey MR2 |
| O1922 | Evolution of respiratory flow phenomena with age and implications for inhalation aerosol targeting | Josue Sznitman | Oral Presentation | Airway flows and lung transport 2 | Thursday 12th July, 16:20 - 17:50 | Liffey MR2 |
| O1923 | Propagation and rupture of a surfactant-laden liquid plug in distal airways | Metin Muradoglu | Oral Presentation | Airway flows and lung transport 2 | Thursday 12th July, 16:20 - 17:50 | Liffey MR2 |
| O1924 | Sensing Tissue Microstructure with Shear Waves: Application of MR-Elastography in Oncology for Lesion Characterization and Therapy Follow-up | Ralph Sinkus | Invited Speaker | Multiscale cancer mechanobiology and biomechanics | Thursday 12th July, 16:20 - 17:50 | Liffey MR3 |
| O1925 | Cancer Mechano-pathology: Bringing biomechanics to the clinic | Triantafyllos Stylianopoulos | Invited Speaker | Multiscale cancer mechanobiology and biomechanics | Thursday 12th July, 16:20 - 17:50 | Liffey MR3 |
| O1926 | Guiding tumor invasion: Role of soluble and non-soluble cues in the tumor microenvironment | Youjin Cho | Oral Presentation | Multiscale cancer mechanobiology and biomechanics | Thursday 12th July, 16:20 - 17:50 | Liffey MR3 |
| O1927 | Swelling behavior of solid tumors and implications for cancer therapy | Chrysovalantis Voutouri | Oral Presentation | Multiscale cancer mechanobiology and biomechanics | Thursday 12th July, 16:20 - 17:50 | Liffey MR3 |
| O1928 | Unjamming initiates collective migration to pathologically reshape the breast tumor boundary | Karin Wang | Oral Presentation | Multiscale cancer mechanobiology and biomechanics | Thursday 12th July, 16:20 - 17:50 | Liffey MR3 |
| O1929 | Optimising Drug Delivery Through a Dynamic Multiscale Biomechanical Model of Tumour Growth and Angiogenesis | Vasileios Vavourakis | Oral Presentation | Multiscale cancer mechanobiology and biomechanics | Thursday 12th July, 16:20 - 17:50 | Liffey MR3 |
| O1930 | Can micro and homogenized finite element analysis estimate the strength of human metastatic vertebrae? | Marc Stadelmann | Oral Presentation | Multiscale cancer mechanobiology and biomechanics | Thursday 12th July, 16:20 - 17:50 | Liffey MR3 |
| O1931 | Towards SCI Prevention: Combining Ex Vivo and Human Subject Studies of the Cervical Spine | Peter Cripton | Invited Speaker | Traumatic loading of the spine and/or spinal cord injury | Thursday 12th July, 16:20 - 17:50 | Wicklow Hall 1 |
| O1932 | Painful neck trauma: multiscale biomechanics of injury and dysfunction | Beth A Winkelstein | Invited Speaker | Traumatic loading of the spine and/or spinal cord injury | Thursday 12th July, 16:20 - 17:50 | Wicklow Hall 1 |
| O1933 | Contribution of segmental size, disc height and facet joint variations to cervical spine dynamic response | Jobin John | Oral Presentation | Traumatic loading of the spine and/or spinal cord injury | Thursday 12th July, 16:20 - 17:50 | Wicklow Hall 1 |
| O1934 | Region-specific mechanical behavior of cervical spinal cord gray and white matter under traumatic loading: a finite element study | Henitsoa Rasoanandrianin | Oral Presentation | Traumatic loading of the spine and/or spinal cord injury | Thursday 12th July, 16:20 - 17:50 | Wicklow Hall 1 |
| O1935 | In-vivo versus ex-vivo spinal cord viscoelastic behavior | Nicole Ramo | Oral Presentation | Traumatic loading of the spine and/or spinal cord injury | Thursday 12th July, 16:20 - 17:50 | Wicklow Hall 1 |
| O1936 | The neuronal injury marker ATF3 is more sensitive to shear strain than maximum principal strain for DRG neurons under stretch in collagen gels regardless of collagen alignment | Beth Winkelstein | Oral Presentation | Traumatic loading of the spine and/or spinal cord injury | Thursday 12th July, 16:20 - 17:50 | Wicklow Hall 1 |
| O1937 | Comparison of Dynamic and Rigid Instrumentation Under Sudden Load on Vertebrae Treated With PLIF/TLIF Procedures: An Experimental Study | Teyfik Demir | Oral Presentation | Traumatic loading of the spine and/or spinal cord injury | Thursday 12th July, 16:20 - 17:50 | Wicklow Hall 1 |
| O1938 | Revisiting Alexander's dynamic similarity hypothesis to interpret the effects of body mass and leg posture on bipedal gaits of running birds | Monica Daley | Invited Speaker | Biomechanics in nature II: a tribute to Professor R. McNeill Alexander | Thursday 12th July, 16:20 - 17:50 | Wicklow Hall 2A |
| O1939 | Beyond bouncy gaits: the role of compliance in contractile performance of skeletal muscle | Natalie Holt | Invited Speaker | Biomechanics in nature II: a tribute to Professor R. McNeill Alexander | Thursday 12th July, 16:20 - 17:50 | Wicklow Hall 2A |
| O1940 | The gaits of young children minimize peak power not work. Only 38 years after Alexander, 1980. | Jim Usherwood | Oral Presentation | Biomechanics in nature II: a tribute to Professor R. McNeill Alexander | Thursday 12th July, 16:20 - 17:50 | Wicklow Hall 2A |
| O1941 | Professor Neill Alexander's influence on modelling and optimization of movement and locomotion. | Alberto Minetti | Oral Presentation | Biomechanics in nature II: a tribute to Professor R. McNeill Alexander | Thursday 12th July, 16:20 - 17:50 | Wicklow Hall 2A |
| O1942 | Muscle function varies across locomotor conditions of a bipedal hopping rodent | Craig McGowan | Oral Presentation | Biomechanics in nature II: a tribute to Professor R. McNeill Alexander | Thursday 12th July, 16:20 - 17:50 | Wicklow Hall 2A |
| O1943 | Locomotion of Australia's extinct giant kangaroos inferred from studies of their modern relatives. | Michael Bennett | Oral Presentation | Biomechanics in nature II: a tribute to Professor R. McNeill Alexander | Thursday 12th July, 16:20 - 17:50 | Wicklow Hall 2A |

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| O1944 | Mechanisms of tracheal compression in insects | Jake Socha | Oral Presentation | Biomechanics in nature II: a tribute to Professor R. McNeill Alexander | Thursday 12th July, 16:20 - 17:50 | Wicklow Hall 2A |
| O1945 | Stem cell contributions to the mechanoadaptation of bone: Direct and indirect biophysical regulation Remote controlled activation of stem cell mechanotransduction via magnetic nanoparticles; applications for injectable cell therapies for osteoarthritis and bone repair | David Hoey | Invited Speaker | Mechanical regulation of stem cells | Thursday 12th July, 16:20 - 17:50 | Wicklow Hall 2B |
| O1946 | Correspondence between cellular strains and morphology within the bone fracture callus | Alicia El Haj | Invited Speaker | Mechanical regulation of stem cells | Thursday 12th July, 16:20 - 17:50 | Wicklow Hall 2B |
| O1947 | Controlling cell shape and matrix stiffness within interpenetrating network hydrogels to direct the differentiation of MSCs | Jarred Kaiser | Oral Presentation | Mechanical regulation of stem cells | Thursday 12th July, 16:20 - 17:50 | Wicklow Hall 2B |
| O1948 | Role of the Nuclear LINC Complex in Topography Induced Stem Cell Differentiation | Binulal Sathy | Oral Presentation | Mechanical regulation of stem cells | Thursday 12th July, 16:20 - 17:50 | Wicklow Hall 2B |
| O1949 | TRPV4-mediates oscillatory fluid shear mechanotransduction in mesenchymal stem cells in part via the primary cilium | Daniel Conway | Oral Presentation | Mechanical regulation of stem cells | Thursday 12th July, 16:20 - 17:50 | Wicklow Hall 2B |
| O1950 | Mesenchymal Stem Cell Deformability and Implications for Microvascular Sequestration | Michele Corrigan | Oral Presentation | Mechanical regulation of stem cells | Thursday 12th July, 16:20 - 17:50 | Wicklow Hall 2B |
| O1951 | | Herbert Lipowsky | Oral Presentation | Mechanical regulation of stem cells | Thursday 12th July, 16:20 - 17:50 | Wicklow Hall 2B |
| O1952 | Biomechanical characterisation of paediatric parietal bone in infants with craniosynostosis | Naiara Rodriguez-Florez | Oral Presentation | General tissue engineering | Thursday 12th July, 16:20 - 17:50 | Ecocem |
| O1953 | Poroeleastic properties of model tissue breast gland basement membranes | Gloria Fabris | Oral Presentation | General tissue engineering | Thursday 12th July, 16:20 - 17:50 | Ecocem |
| O1954 | Effect of knot configuration on the mechanical performance of a multifilament surgical suture | Peter Gustafson | Oral Presentation | General tissue engineering | Thursday 12th July, 16:20 - 17:50 | Ecocem |
| O1955 | Development and Cross-Validation of a CT-Compatible Loading Device for Mechanical Testing of Trabecular Bone Specimens | Jonathan Kusins | Oral Presentation | General tissue engineering | Thursday 12th July, 16:20 - 17:50 | Ecocem |
| O1956 | Numerical analysis of the changes in the biomechanical properties of the periodontal ligament after orthodontic treatment | Ludger Keilig | Oral Presentation | General tissue engineering | Thursday 12th July, 16:20 - 17:50 | Ecocem |
| O1957 | Assessment of elastic modulus of children bones by way of nanoindentation | Marie Semaan, Cecile Baron, | Oral Presentation | General tissue engineering | Thursday 12th July, 16:20 - 17:50 | Ecocem |
| O1958 | In silico size effects in cancellous bone | Carl Muscat | Oral Presentation | General tissue engineering | Thursday 12th July, 16:20 - 17:50 | Ecocem |
| O1959 | Remote control of cell signalling using tagged magnetic nanoparticles for neuronal cell differentiation | Michael Rotherham | Oral Presentation | General tissue engineering | Thursday 12th July, 16:20 - 17:50 | Ecocem |
| O1961 | Human-in-the-loop optimization of exoskeleton assistance during walking | Steven H. Collins | Oral Presentation | Rehabilitation methods, tools, and devices for ankle/foot | Thursday 12th July, 16:20 - 17:50 | Wicklow MR1 |
| O1962 | Autonomous multi-joint soft exosuit with online optimization reduces energy cost of loaded walking | Conor Walsh | Oral Presentation | Rehabilitation methods, tools, and devices for ankle/foot | Thursday 12th July, 16:20 - 17:50 | Wicklow MR1 |
| O1963 | Designing passive prosthetic legs that naturally mimic able-bodied kinematics and kinetics | Amos Winter | Oral Presentation | Rehabilitation methods, tools, and devices for ankle/foot | Thursday 12th July, 16:20 - 17:50 | Wicklow MR1 |
| O1964 | Custom-Made Morphological Approximations of The Ankle Articular Surfaces: In-Silico and In-Vitro Experimental Evaluations | Claudio Belvedere | Oral Presentation | Rehabilitation methods, tools, and devices for ankle/foot | Thursday 12th July, 16:20 - 17:50 | Wicklow MR1 |
| O1965 | Computational Biomechanical Models of Foot and Ankle for Foot Support Design | Ming Zhang | Oral Presentation | Rehabilitation methods, tools, and devices for ankle/foot | Thursday 12th July, 16:20 - 17:50 | Wicklow MR1 |
| O1966 | The Effect of Step Width on Subtalar Joint Mechanics during Walking | Jayishni Maharaj | Oral Presentation | Rehabilitation methods, tools, and devices for ankle/foot | Thursday 12th July, 16:20 - 17:50 | Wicklow MR1 |
| O1967 | Compensatory gait strategies due to artificial ankle impairment have an additive interaction | Anahid Ebrahimi | Oral Presentation | Rehabilitation methods, tools, and devices for ankle/foot | Thursday 12th July, 16:20 - 17:50 | Wicklow MR1 |
| O1968 | The loadsol is a valid and reliable device for evaluating force during landing tasks | Robin Queen | Oral Presentation | Rehabilitation methods, tools, and devices for ankle/foot | Thursday 12th July, 16:20 - 17:50 | Wicklow MR1 |
| O1969 | Effects of different offloading insole materials on plantar foot pressure characteristics and perceived plantar comfort during walking | Thanaporn Tunprasert | Oral Presentation | Rehabilitation methods, tools, and devices for ankle/foot | Thursday 12th July, 16:20 - 17:50 | Wicklow MR1 |

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| O1970 | Biomechanical modeling of endovascular aortic aneurysm repair: transfer towards clinical practice | Stéphane Avril | Invited Speaker | Patient-specific biomechanical interaction of cardiovascular devices with surrounding tissues | Thursday 12th July, 16:20 - 17:50 | Wicklow MR2 |
| O1971 | A patient-specific computational tool for preoperative planning of endovascular aortic aneurysm repair | Gilles Soulez | Invited Speaker | Patient-specific biomechanical interaction of cardiovascular devices with surrounding tissues | Thursday 12th July, 16:20 - 17:50 | Wicklow MR2 |
| O1972 | The impact of Thoracic Endovascular Repair on the aortic biomechanics | Michele Conti | Oral Presentation | Patient-specific biomechanical interaction of cardiovascular devices with surrounding tissues | Thursday 12th July, 16:20 - 17:50 | Wicklow MR2 |
| O1973 | Comparison of Experimental and Numerical Results for Dynamics of Human Thoracic Descending Aortas | Eleonora Tubaldi | Oral Presentation | Patient-specific biomechanical interaction of cardiovascular devices with surrounding tissues | Thursday 12th July, 16:20 - 17:50 | Wicklow MR2 |
| O1974 | Importance of blood elastic property in the arterial hemodynamics: a patient-specific numerical study | Sónia I.S. Pinto | Oral Presentation | Patient-specific biomechanical interaction of cardiovascular devices with surrounding tissues | Thursday 12th July, 16:20 - 17:50 | Wicklow MR2 |
| O1975 | Deformation and Flow in Coronary Stenosis Model for Percutaneous Transluminal Coronary Angioplasty | Shunichi Kobayashi | Oral Presentation | Patient-specific biomechanical interaction of cardiovascular devices with surrounding tissues | Thursday 12th July, 16:20 - 17:50 | Wicklow MR2 |
| O1976 | Optimizing the performance of drug-eluting stents: simulations and experiments | Abdul Barakat | Oral Presentation | Patient-specific biomechanical interaction of cardiovascular devices with surrounding tissues | Thursday 12th July, 16:20 - 17:50 | Wicklow MR2 |
| O1977 | The Biomechanics of Sharp Force Injuries | Sarah Hainsworth | Invited Speaker | General musculoskeletal biomechanics | Thursday 12th July, 16:20 - 17:50 | Wicklow MR3 |
| O1978 | Bottom-Up Bone Tissue Mechanics and Fracture: Fundamental Underpinnings to Translation | Deepak Vashishth | Invited Speaker | General musculoskeletal biomechanics | Thursday 12th July, 16:20 - 17:50 | Wicklow MR3 |
| O1979 | Systemic bone changes following fracture in mice | Blaine Christiansen | Invited Speaker | General musculoskeletal biomechanics | Thursday 12th July, 16:20 - 17:50 | Wicklow MR3 |
| O1980 | In Plane Transverse Fracture Analysis of Cortical Bone | Iwona Jasiuk | Oral Presentation | General musculoskeletal biomechanics | Thursday 12th July, 16:20 - 17:50 | Wicklow MR3 |
| O1981 | Microscale lamellar cortical bone mineralization and heterogeneity predict fracture toughness across sex, body composition, and exercise status in rats fed high-fat diet | Chelsea Heveran | Oral Presentation | General musculoskeletal biomechanics | Thursday 12th July, 16:20 - 17:50 | Wicklow MR3 |
| O1982 | Particulate analysis of surgical smoke created during cutting of soft tissues and bone using electrosurgery, ultrasonic cutting and high-speed burrs | Vincent Casey | Oral Presentation | General musculoskeletal biomechanics | Thursday 12th July, 16:20 - 17:50 | Wicklow MR3 |
| O1983 | Energy-saving walking mechanisms in obese adults | Aitor Fernandez | Oral Presentation | General musculoskeletal biomechanics | Thursday 12th July, 16:20 - 17:50 | Wicklow MR3 |
| O1985 | The design and development of a 3D printed millifluidic bioreactor with electrospun scaffold for kidney tissue engineering | Anthony Callanan | Oral Presentation | Biofabrication and bioreactors for functional tissue systems 2 | Thursday 12th July, 16:20 - 17:50 | Wicklow MR4 |
| O1986 | In-bioreactor ultrasonic monitoring of 3D culture human engineered cartilage | Antonio Callejas | Oral Presentation | Biofabrication and bioreactors for functional tissue systems 2 | Thursday 12th July, 16:20 - 17:50 | Wicklow MR4 |
| O1987 | Oxygen levels control in double-compartment vascular culture system: modelling and experimental evaluation | Simona Seminati | Oral Presentation | Biofabrication and bioreactors for functional tissue systems 2 | Thursday 12th July, 16:20 - 17:50 | Wicklow MR4 |
| O1988 | 3D scaffold-culture of Huh-7 cells for hypoxia studies | Suma M.S | Oral Presentation | Biofabrication and bioreactors for functional tissue systems 2 | Thursday 12th July, 16:20 - 17:50 | Wicklow MR4 |
| O1989 | Dynamic compression to initiate chondrogenesis of mesenchymal stem cells in the absence of soluble differentiation factors | Farhad Chariyev-Prinz | Oral Presentation | Biofabrication and bioreactors for functional tissue systems 2 | Thursday 12th July, 16:20 - 17:50 | Wicklow MR4 |
| O1990 | Controlled release of TGFβ2 in a biopolymer based tissue engineered vascular graft | Ehab Tamimi | Oral Presentation | Biofabrication and bioreactors for functional tissue systems 2 | Thursday 12th July, 16:20 - 17:50 | Wicklow MR4 |
| O1991 | The effect of combined bone graft scaffold architecture and mechanical environment on hMSCs differentiation in vitro | Feng Yang | Oral Presentation | Biofabrication and bioreactors for functional tissue systems 2 | Thursday 12th July, 16:20 - 17:50 | Wicklow MR4 |