



**QUEEN'S
UNIVERSITY
BELFAST**

Poster abstract: Discovering Bioactive Compounds For Bone Growth: The Osteogenicity Of Marine Organism-derived Extracts

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UK SOCIETY FOR BIOMATERIALS

14th ANNUAL CONFERENCE and POSTGRADUATE DAY
25th and 26th June 2015.

UKSB 2015 Annual Conference Sponsors:



CONFERENCE PROGRAMME 2015

Day 1 – Thursday 25th June 2015

8.30 am – 9.30 am Registration (Tea/Coffee on arrival)

9.30 am – 9.40 am Welcome note and opening remarks

9.40 – 10.20 **Session 1 – Presidents Prize**

(Prof. Serena Best, University of Cambridge)

10.20 am – 11.10 am **Session 2**

Time	Presentation
10.20 – 10.40	PHYSIOLOGICALLY RELEVANT BIOENGINEERED TISSUE EQUIVALENTS INVITED TALK – PROF SHOWAN N. NAZHAT (MCGILL UNIVERSITY, CANADA)
10.40 – 10.55	ENHANCEMENT OF MINERALIZED HYDROGELS FOR BONE REGENERATION WITH POLYPHENOL-RICH SEAWEED-DERIVED DIETARY SUPPLEMENT SEANOL®: EFFECTS ON MINERALIZATION, ANTIOXIDANT PROPERTIES AND CYTOCOMPATIBILITY DR. TIMOTHY E.L. DOUGLAS (GHENT UNIVERSITY, BELGIUM)
10.55 – 11.10	DEVELOPMENT OF INJECTABLE BIOMATERIALS FOR USE IN NOVEL ADDITIVE LAYER MANUFACTURED IMPLANTS DR. SOPHIE C. COX (UNIVERSITY OF BIRMINGHAM)

11.10 am – 11.30 am Coffee/Tea and Poster Setting Up Time (No Judging)

11.30 am – 1.00 pm

Session 3

Time	Presentation
11.30 – 11.45	HYDROXYAPATITE/SILK FIBROIN COMPOSITE AS A CARRIER FOR MESENCHYMAL STEM CELLS RENATO B. ELEOTERIO (FEDERAL UNIVERSITY OF VICOSA)
11.45 – 12.00	MACHINE LEARNING TECHNIQUES INFORMING SURFACE ENGINEERING FOR IN VITRO NEURAL STEM CELL CONTROL GEORGE JOSEPH (KEELE UNIVERSITY)
12.00 – 12.15	CHANNELED POLYSACCHARIDE HYDROGELS AS TISSUE ENGINEERING SUBSTRATES SAM MOXON (UNIVERSITY OF HUDDERSFIELD)
12.15 – 12.30	DEVELOPMENT OF CARDIAC PATCHES USING MEDIUM CHAIN LENGTH POLYHYDROXYALKANOATES PRACHI DUBEY (UNIVERSITY OF WESTMINSTER)
12.30 – 12.45	DEVELOPING MECHANICALLY-OPTIMIZED & HIGHLY POROUS POLYURETHANE-HYDROXYAPATITE CONSTRUCTS FOR BONE TISSUE ENGINEERING GIFTY TETTEH (UNIVERSITY OF SHEFFIELD)
12.45 – 1.00	BIOSURFACE INDUCED PROTEIN MANIPULATION FOR THE MEASUREMENT OF DYNAMIC PLATELET FUNCTION IN BIODIAGNOSTIC APPLICATIONS DAVID BISHOP (ULSTER UNIVERSITY)

1.00 pm – 1.45 pm

Sandwich Lunch and Poster Viewing (Judging)

1.45 pm – 2.15 pm

Session 4 – Larry Hench Young Investigators Award

Dr. Jennifer Paxton (University of Edinburgh)

Time	Presentation
2.15 – 2.20	HISTOLOGICAL ASSESSMENT OF THE COLLAGEN FIBRE ARCHITECTURE IN DECELLULARISED PORCINE CORONARY ARTERIES: APPLICATION IN SMALL DIAMETER VASCULAR TISSUE ENGINEERING DR. KRISHNA KUMAR SANKARAN (DUBLIN CITY UNIVERSITY)
2.20 – 2.25	TANTALUM IN SOFT TISSUE RE-ATTACHMENT SURGERY: SYSTEMATIC REVIEW EDWARD GEE (ROYAL PRESTON HOSPITAL)
2.25 – 2.30	DETERMINATION OF THE CHARGE INTERACTION WINDOW OF POLYELECTROLYTE COMPLEXES NAWAR AL-ZEBARI (UNIVERSITY OF CAMBRIDGE)
2.30 – 2.35	THE IN VITRO CYTOCOMPATIBILITY OF CHITOSAN-ALGINATE-BIOGLASS® COMPOSITE SCAFFOLDS ANDREW P. HURT (UNIVERSITY OF GREENWICH)
2.35 – 2.40	EFFECT OF HYDRATION ON THE MECHANICAL BEHAVIOUR OF NANOCOMPOSITE-COATED POROUS BONE SCAFFOLD MATERIALS JONATHAN ACHESON (QUEEN'S UNIVERSITY BELFAST)
2.40 – 2.45	PHYSICAL SUBSTRATE FACTORS AND NGF AFFECT OUTGROWTH RESPONSE IN INDIVIDUAL NEURONS DOAA KREDI (UNIVERSITY OF GLASGOW)
2.45 – 2.50	FUNCTIONALISATION OF HYDROXYAPATITE SURFACES USING A COVALENTLY COUPLED HEPARIN-BINDING PEPTIDE JOSS ATKINSON (UNIVERSITY OF SHEFFIELD)
2.50 – 2.55	MAINTENANCE OF MESENCHYMAL STEM CELL PHENOTYPE AND ENHANCEMENT OF EXTRACELLULAR MATRIX DEPOSITION USING MACROMOLECULAR CROWDING AND LOW OXYGEN TENSION DIANA GASPAR (NATIONAL UNIVERSITY OF IRELAND, GALWAY)
2.55 – 3.00	MESENCHYMAL STEM CELL RESPONSE TO TITANIA NANOTOPOGRAPHY COMBINED WITH AMORPHOUS CALCIUM PHOSPHATE. ROBERT MCLISTER (ULSTER UNIVERSITY)
3.00 – 3.05	PHENOTYPIC CHANGES IN RAT SMOOTH MUSCLE CELLS EXPOSED TO VARYING AMPLITUDES OF CYCLIC EQUIBIAXIAL TENSILE STRAIN PATTIE MATHIEU (DUBLIN CITY UNIVERSITY)

3.40 pm – 5.20 pm

Session 6

Time	Presentation
3.40 – 4.00	INVITED TALK – DR. VICTORIA KEARNS (UNIVERSITY OF LIVERPOOL)
4.00 – 4.15	MACROMOLECULAR CROWDING IN CORNEAL FIBROBLASTS CULTURE ACCELERATES THE PRODUCTION OF EXTRACELLULAR MATRIX-RICH SUPRAMOLECULAR ASSEMBLIES PRAMOD KUMAR (NATIONAL UNIVERSITY OF IRELAND GALWAY)
4.15 – 4.30	CHLORHEXIDINE RELEASE FROM NANOFUNCTIONALISED GLASS IONOMER CEMENTS CONTAINING CHLORHEXIDINE-HEXAMETAPHOSHATE NANOPARTICLES CANDICE BELLIS (UNIVERSITY OF BRISTOL)
4.30 – 4.45	FORMULATION OF CALCIUM PYROPHSPHATE ERIK HUGHES (UNIVERSITY OF BIRMINGHAM)
4.45 – 5.00	SKELETAL MUSCLE ENGINEERING WITH CELLULOSE NANOWHISKERS NAA-DEI NIKOI (UNIVERSITY OF MANCHESTER)
5.00 – 5.15	CHARACTERIZATION OF A BIOACTIVE GLASS-BASED CEMENT FOR BONE GRAFT APPLICATIONS ALTAIR CONTRERAS (UNIVERSITY OF SHEFFIELD)
5.15 – 5.30	THE PROPERTIES OF NOVEL SUBSTITUTED BOROSILICATE BIOACTIVE GLASSES JOÃO FERNANDES (UNIVERSITY OF MINHO)

5.30 – 5.45

UKSB AGM

7.00 pm

Coaches depart for UKSB dinner from Belfast City Centre

7.15 pm

Arrive at the SS Nomadic, Belfast (Drinks Reception)

8.00 pm

UKSB Conference Dinner (SS Nomadic Belfast)

10.45 pm

Coaches return to Belfast City Centre

Day 2 – Friday 26th June 2015

8.45 am – 10.20 am

Session 7

Time	Presentation
8.45 – 9.05	EXTRACELLULAR MATRIX ANALOGUES FOR REGENERATIVE MEDICINE APPLICATIONS INVITED TALK – PROF MATTEO SANTIN (UNIVERSITY OF BRIGHTON)
9.05 – 9.20	NOVEL HYDROLYTICALLY STABLE BIOACTIVE GLASS COMPOSITES FOR SOFT TISSUE APPLICATIONS OWEN M. CLARKIN (DUBLIN CITY UNIVERSITY)
9.20 – 9.35	BIODEGRADABLE SCL-PHA COMPOSITE SCAFFOLDS FOR BONE TISSUE ENGINEERING CHRISTY THOMAS (UNIVERSITY OF WESTMINSTER)
9.35 – 9.50	CYTOCOMPATIBILITY OF NOVEL BOROPHOSPHATE GLASSES CHENKAI ZHU (UNIVERSITY OF NOTTINGHAM)
9.50 – 10.05	COMPUTATIONAL AND EXPERIMENTAL STUDY OF THE EFFECT OF CERAMIC DISSOLUTION ON BIOCOMPOSITES DEGRADATION ISMAEL MORENO-GOMEZ (UNIVERSITY OF CAMBRIDGE)
10.05 – 10.20	INVESTIGATING THE SURFACE ROUGHNESS OF THERMO-PRESSED POLYETHERETHERKETONE (PEEK) AS A DENTURE BASE MATERIAL SAJA MUHSIN (UNIVERSITY OF SHEFFIELD)
10.20 – 10.40	CONTROLLING BIOACTIVE RELEASE OF ADDITIVES FROM BIORESORBABLE POLYMERS' INVITED TALK – PROF. FRASER BUCHANAN (QUEEN'S UNIVERSITY BELFAST)

10.40 am – 11.10 am

Coffee/Tea and Poster Viewing (Rapid Fire Poster and General Poster Judging)

11.10 am – 12.40 pm

Session 8

Time	Presentation
11.10 – 11.30	INVITED TALK – PROF. CHRISTOPHER MITCHELL (ULSTER UNIVERSITY)
11.35 – 11.40	ANTIMICROBIAL PROPERTIES OF A NOVEL HYDROGEL BANDAGE LENS MATERIAL ANDREW GALLAGHER (UNIVERSITY OF LIVERPOOL)
11.40 – 11.55	MODULATION OF CELL MICROENVIRONMENTS WITH OXYGEN TENSION AND MACROMOLECULAR CROWDING: A MULTIFACTORIAL APPROACH TOWARDS IN VITRO ORGANOGENESIS ABHIGYAN SATYAM (NATIONAL UNIVERSITY OF IRELAND, GALWAY)
11.55 – 12.10	BI-LAYERED VASCULAR GRAFT INCORPORATING NOVEL ELECTROSPUN YARNS RICHARD O'CONNOR (DUBLIN CITY UNIVERSITY)
12.10 – 12.25	MODIFICATION OF TITANIUM SURFACE WITH ANTIMICROBIAL PEPTIDES ZUZANNA TRZCIŃSKA (UNIVERSITY OF BIRMINGHAM)
12.25 – 12.40	ANTIMICROBIAL AND TOXICOLOGICAL STUDIES OF NOVEL CHLORHEXIDINE-BASED NANOPARTICLES FOR COATING MEDICAL DEVICES HELENA J GRADY (UNIVERSITY OF BRISTOL)
12.40 – 12.55	EFFICIENT ALIGNMENT OF PRIMARY CNS NEURITES TOWARDS FABRICATING A NEURONAL NETWORK IN VITRO MODEL DR. MUNYARADZI KAMUDZANDU (KEELE UNIVERSITY)

12.55 pm – 1.40 pm

Sandwich Lunch

1.40 pm – 2.20 pm

Session 9 – Alan Wilson Memorial Lecture

Prof. Jonathon Knowles (University College London)

2.20 pm – 3.20 pm

Session 10

Time	Presentation
2.20 – 2.35	CHEMICALLY MODIFIED GELS FOR LOCALISED DELIVERY AND RETENTION OF DRUGS IN MUSCULOSKELETAL INJURY SITES DR. RICHARD L. WILLIAMS (UNIVERSITY OF BIRMINGHAM)
9.05 – 9.20	ALENDRONATE SELF-ASSEMBLYING MONOLAYERS: TOWARDS FUNCTIONAL IMPLANTS DR. LUIS ROJO (KING'S COLLEGE LONDON)
2.50 – 3.05	TISSUE REGENERATING NATURAL POLYMERS FROM BACTERIA DR. I.ROY (UNIVERSITY OF WESTMINSTER)
3.05 – 3.20	POLY (ETHYLENE GLYCOL) CO-FUNCTIONALIZED GOLD NANOPARTICLES FOR DRUG DELIVERY AND RADIOTHERAPY DR. DORIAN DIXON (ULSTER UNIVERSITY)

3.20 pm Prize Giving and Closing remarks