



BIOMAAP 2017

FIRST INTERNATIONAL CONFERENCE ON AD-  
VANCES IN BIO-MATERIALS AND THEIR APPLI-  
CATIONS

31ST AUGUST - 1ST SEPTEMBER 2017

JURY'S INN, CROYDON, UK

# CONFERENCE PROGRAMME DAY 1 31ST AUGUST 2017

08.30 - 08.55 DELEGATE REGISTRATION

08.55 - 09.00 WELCOME ADDRESS: PROF PURNENDU K DAS, ASRANET LTD

09.00 - 09.40 KEYNOTE PAPER: BIOMATERIALS AND NANOTECHNOLOGY FOR IMPROVEMENT OF CANCER THERAPY OUTCOMES

*PROFESSOR JONATHON KNOWLES, UNIVERSITY COLLEGE LONDON, UK*

## SESSION 1

09.40 - 10.00 INVITED PAPER: X-RAY SPECTROSCOPY OF SOME NANOSCALE BIOMATERIALS TOWARD BIO-MEDICAL APPLICATIONS

*PROFESSOR PENG ZHANG, DALHOUSIE UNIVERSITY, CANADA*

10.00 - 10.20 2D/3D CNT-BASED PLATFORMS FOR ENHANCED NEURONAL NETWORK DEVELOPMENT

*MS. ILARIA RAGO, UNIVERSITY OF TRIESTE, ITALY*

10.20 - 10.40 CARBON BASED 3D SCAFFOLDS PROMOTE CELLULAR MIGRATION GUIDING TISSUE-LIKE CELLULAR ASSEMBLING AND FUNCTIONAL RECONNECTION OF SEGREGATED EXPLANTS

*DR. DENIS SCIANI, INTERNATIONAL SCHOOL FOR ADVANCED STUDIES, ITALY*

10.40 - 11.10

## BREAK

11.10 - 11.30 INFLUENCE OF MICRORHEOLOGICAL AND STRUCTURAL PROPERTIES OF HA/COLL CRYOGEL SCAFFOLDS ON 3T3 FIBROBLAST CULTURE

*MRS. JOHANNA ROETHER, KARLSRUHE INSTITUTE OF TECHNOLOGY, GERMANY*

11.30 - 11.50 HOW TO DESIGN BIOCOMPATIBLE Ti-BASED METALLIC GLASSES IN FORM OF SPUTTERING COATINGS WITH HIGH WEAR RESISTANCE FOR IMPLANT APPLICATIONS

*DR. EMILIO FRUTOS TORRES, CZECH TECHNICAL UNIVERSITY IN PRAGUE*

11.50 - 12.10 PROTEIN SELF-ASSEMBLY AT OIL-WATER INTERFACES CONTROLS NANOSCALE MECHANICS, CELL ADHESION AND STEM CELL FATE DECISION

*DR. JULIEN GAUTROT, QUEEN MARY UNIVERSITY OF LONDON, UK*

12.10 - 12.30 ECHINODERM COLLAGEN NETWORKS: MECHANICAL PROPERTIES

*PROFESSOR CATERINA LA PORTA, UNIVERSITY OF MILAN, ITALY*

12.30 - 14.00

## LUNCH

## SESSION 2

14.00 - 14.20 CHARACTERIZATION OF SOLID-SUPPORTED ULTRATHIN FILMS AND MOLECULAR INTERACTIONS USING MP-SPR

*DR. NIKO GRANQVIST, BIONAVIS LTD., FINLAND*

14.20 - 14.40 HYBRID HYDROGELS BASED ON METHACRYLOYL DERIVATIVES OF GELATIN AND MUCIN

*DR. ANDRADA SERAFIM, UNIVERSITY POLITEHNICA OF BUCHAREST, ROMANIA*

14.40 - 15.00 BIOCOMPOSITES BASED ON CUTTLEFISH BONE BIOGENOUS MINERAL FOR BONE TISSUE REGENERATION

*DR. DIANA-MARIA DRAGUSIN, UNIVERSITY POLITEHNICA OF BUCHAREST, ROMANIA*

15.00 - 15.30

## BREAK

15.30 - 15.50 NANOFIBERS BASED OF TITANIUM NANOTUBES AS SCAFFOLDS FOR MAINTENANCE AND DIFFERENTIATION OF ELECTROSTIMULATED NEURAL PC12 CELLS

*DR. YUSSER OLGIN, ANDRÉS BELLO NATIONAL UNIVERSITY, CHILE*

15.50 - 16.10 OSSEOCONDUCTIVE PROPERTIES OF IMPLANTS COATED WITH HIERARCHICALLY POROUS SCAFFOLDS OF CALCIUM CARBONATE BIOCERAMIC

*PROFESSOR SACHIN KHAPLI, NYU, ABU DHABI, UAE*

## AFTERNOON WORKSHOP - SEE PAGE 4

14.00 - 16.00 SURFACE ENGINEERING TO CONTROL BIOLOGICAL-SURFACE INTERACTIONS

*DR PAUL ROACH, LOUGHBOROUGH UNIVERSITY, UK*

1900 CONFERENCE DINNER

CROYDON PARK HOTEL, 7 ALTYRE RD, CROYDON, CR9 5AA



# CONFERENCE PROGRAMME DAY 2 1ST SEPTEMBER 2017

09:00 - 09:40 **KEYNOTE PAPER: ION SUBSTITUTION OF HYDROXYAPATITES - AN APPROACH TO INTRODUCE BIOLOGICAL FUNCTION TO CALCIUM PHOSPHATES**  
*PROFESSOR IAIN GIBSON, UNIVERSITY OF ABERDEEN, UK*

## SESSION 3

09:40 - 10:00 **INNOVATIVE AND ECO-FRIENDLY MARINE COLLAGEN SUBSTRATES FOR TISSUE REGENERATION APPLICATIONS**  
*DR. MICHELA SUGNI, UNIVERSITY OF MILAN, ITALY*

10:00 - 10:20 **BIOFABRICATION OF CONSTRUCTS FOR BONE REGENERATION USING AN ALGINATE DI-ALDEYHDE (ADA) GELATIN (GEL) CROSSLINKED HYDROGEL (ADA-GEL)**  
*PROFESSOR ALDO BOCCACCINI, UNIVERSITY OF ERLANGEN-NUREMBERG, GERMANY*

10:20 - 10:40 **ANALGESIC DRUG RELEASE FROM A CAP BIOMATERIAL: FIRST IN VIVO STUDY USING CATWALK SYSTEM**  
*MS. MANON DUPELCHS, UNIVERSITY OF NANTES, NANTES, FRANCE*

10:40 - 11:10

## BREAK

11:10 - 11:30 **BIOENGINEERING HIERARCHICAL APATITE STRUCTURES FOR DENTAL REGENERATION**  
*MR. SHERIF ELSHARKAWY, QUEEN MARY UNIVERSITY OF LONDON, UK*

11:30 - 11:50 **SURFACE MICROSTRUCTURE STUDY AND EVALUATION OF OSTEOGENIC STEM CELLS DIFFERENTIATION ON BONE APATITE-LIKE COATINGS OBTAINED BY PULSED ELECTRON ABLATION OF A BIOGENIC SOURCE**  
*DR. ALESSANDRO GAMBARDILLA, RIZZOLI ORTHOPAEDIC INSTITUTE, ITALY*

11:50 - 12:10 **TOPOGRAPHICAL AND MECHANICAL CHARACTERIZATION OF BIOMATERIALS BY ATOMIC FORCE MICROSCOPY**  
*DR ALEX WINKEL, JPK INSTRUMENTS LTD, GERMANY*

12:10 - 12:30 **DEVELOPMENT OF BIOACTIVE BIOGLASS SCAFFOLDS COATED WITH IRON-LOADED HYDROXY-APATITE NANOCOMPOSITES AS POTENTIAL BIOMATERIALS FOR BONE TISSUE REPAIR**  
*MARÍA DITTLER, CONICET, ARGENTINA*

12:30 - 1400

## LUNCH

## SESSION 4

14:00 -14:20 **OPTIMIZING THE MATERIAL CHOICE AND THE DESIGN OF A SPINAL IMPLANT**  
*DR. MICHEL MESNARD, UNIVERSITÉ DE BORDEAUX, FRANCE*

14:20 -14:40 **THE POWER OF BESPOKE BIOCOMPATIBLE AND BIODEGRADABLE HYDROGELS**  
*GUILLAUME SAINT-PIERRE, PEPTIGELDESIGN TECHNOLOGIES, UK*

14:40 -15:00 **THE INFLUENCE OF TITANIUM MICROGROOVES ON THE MORPHOLOGY AND ADHESIONS OF OSTEOBLASTS**  
*MS NA GUI, RMIT UNIVERSITY, AUSTRALIA*

15:00 -15:30

## BREAK

15:30 - 15:50 **HEPROCEL - NEW BIODEGRADABLE HEMOSTATIC AGENT FOR SURGERY**  
*DR. R.A. SADYKOV, REPUBLIC SPECIALIZED CENTER OF SURGERY, UZBEKISTAN*

15:50 - 16:10 **STUDY ON THE BEHAVIOR OF STEEL REINFORCED CONCRETE SECTION WITH AFRP TUBES UNDER COMPRESSION**  
*MR ANJANA P, SRM UNIVERSITY, INDIA*

16:10 - 16:30 **FABRICATION AND EVALUATION OF PHEMA-PLLA SEMI-INTERPENETRATING NETWORKS FOR BIOMEDICAL APPLICATIONS**  
*MARCELE PASSOS, STATE UNIVERSITY OF CAMPINAS, BRAZIL*

16:30 - 16:50 **POLYLYSINE-MODIFIED POLYETHYLENIMINE (PEI-PLL) MEDIATED VEGF GENE DELIVERY PROTECTS DOPAMINERGIC NEURONS IN CELL CULTURE AND IN RAT MODELS OF PARKINSON'S DISEASE (PD)**  
*DR. MUHAMMAD SHEIKH, UNIVERSITY OF THE PUNJAB, LAHORE, PAKISTAN*

16:50 **CONFERENCE CLOSES**

# WORKSHOP ON SURFACE ENGINEERING TO CONTROL BIOLOGICAL-

COURSE OVERVIEW

YOU WILL LEARN TO:

COURSE OUTLINE

MATERIAL PROVIDED

INSTRUCTOR





## About Keynote Speakers

DR JONATHAN KNOWLES  
UNIVERSITY COLLEGE LONDON, UNITED KINGDOM



JONATHAN KNOWLES IS PROFESSOR OF BIOMATERIALS SCIENCE AND UNIVERSITY COLLEGE LONDON. HIS WORK FOCUSSES ON A RANGE OF DEGRADABLE MATERIALS, FROM ORGANIC TO IN-ORGANIC AS WELL AS DEVELOPMENT OF SYNTHESIS AND PROCESSING METHODS TO ENHANCE THEIR BIOLOGICAL PROPERTIES. HIS WORK IS FUNDED BY A VARIETY OF FUNDING AGENCIES, INCLUDING EPSRC, EU H2020 AND CHARITIES AS WELL AS INDUSTRIAL PARTNERSHIPS. HE HAS PUBLISHED EXTENSIVELY WITH OVER 300 PAPERS IN PEER REVIEWED JOURNALS AND HAS OVER 12,000 CITATIONS. HE IS A FELLOW OF BOTH THE INSTITUTE OF MATERIALS MINERALS AND MINING AND THE ROYAL SOCIETY OF CHEMISTRY.

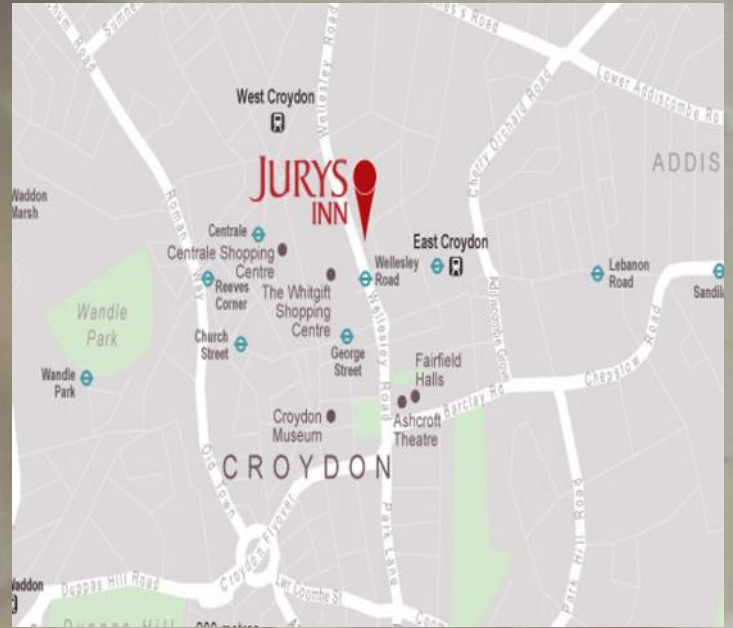
PROFESSOR IAIN GIBSON  
UNIVERSITY OF ABERDEEN, UNITED KINGDOM



IAIN GIBSON IS A PROFESSOR OF BIOMATERIALS AND REGENERATIVE MEDICINE AT THE UNIVERSITY OF ABERDEEN. HIS RESEARCH FOCUSES ON UNDERSTANDING THE EFFECTS OF BIOMATERIAL CHEMISTRY AND SURFACE PHYSICAL PROPERTIES ON CELL AND TISSUE BEHAVIOUR. THIS INCLUDES INORGANIC BIOMATERIALS FOR USE AS SCAFFOLD MATERIALS RELATED TO BONE REPAIR AND SURFACE FUNCTIONALISED AND/OR COATED METALS FOR USE AS MEDICAL DEVICES. HE HAS PUBLISHED OVER 65 PAPERS, WITH OVER 4000 CITATIONS, AND IS A NAMED INVENTOR ON OVER 10 PATENTS. SOME ASPECTS OF HIS RESEARCH HAVE BEEN TRANSLATED FROM ACADEMIA TO INDUSTRY, AND HE IS A FOUNDER AND DIRECTOR OF A MEDICAL DEVICE COMPANY, SIRAKOSS LTD.



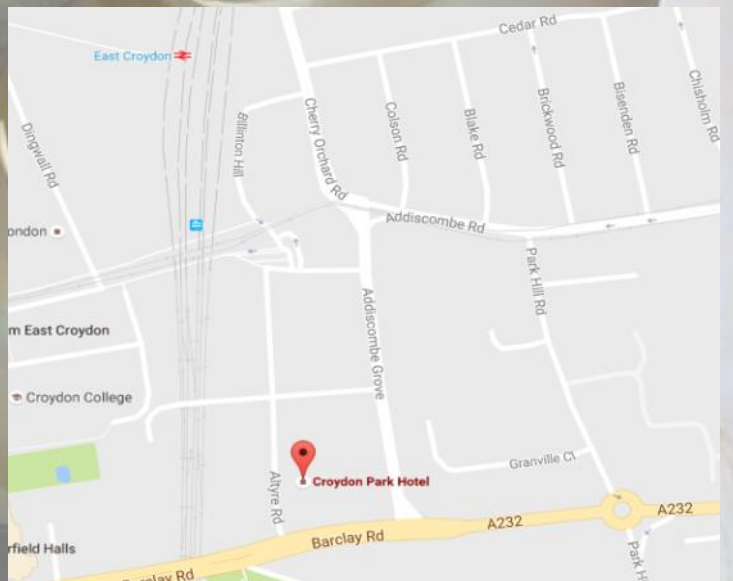
## CONFERENCE VENUE



GUESTS VISITING LONDON FOR BUSINESS OR PLEASURE, THE JURY'S INN CROYDON HOTEL IS PERFECT FOR THOSE NOT WISHING TO BE IN THE HUSTLE AND BUSTLE OF BUSY LONDON, BUT STILL CLOSE BY. THE HOTEL PROPERTY OFFERS CHEAP HOTEL ROOMS AT A CENTRAL LOCATION WITH THE WHITGIFT SHOPPING CENTRE OVER THE ROAD AND EAST CROYDON STATION A SHORT 3-4 MINUTE WALK AWAY. FOR THOSE WANTING TO GO INTO CENTRAL LONDON FOR A LEISURE DAY, OR FOR BUSINESS, EAST CROYDON STATION IS A SHORT 17 MINUTE TRAIN RIDE TO LONDON VICTORIA OR LONDON BRIDGE. HOWEVER, THERE IS PLENTY TO DISCOVER IN CROYDON WITH VARIOUS HERITAGE SITES TO EXPLORE. THE QUEEN'S GARDENS ARE AN EASY 6 MINUTE WALK AND SHIRLEY PARK GOLF COURSE IS A 7 MINUTE DRIVE AWAY.

JURY'S INN HOTEL  
WELLESLEY ROAD,  
CROYDON,  
LONDON  
CR0 9XY

## CONFERENCE DINNER VENUE



OSCARS BRASSERIE OFFERS A MOUTH-WATERING RANGE OF EUROPEAN AND INTERNATIONAL CUISINE PREPARED WITH FRESH AND LOCAL INGREDIENTS BY OUR COSMOPOLITAN LINE UP OF CHEFS. CROYDON PARK HOTEL IS A CENTRALLY LOCATED 4 STAR HOTEL AND JUST A 3 MINUTE WALK TO EAST CROYDON STATION WHERE DIRECT TRAINS WILL TRANSPORT YOU TO THE TWO MAIN STATIONS SERVICING BOTH CENTRAL LONDON AND THE CITY, IN UNDER 15 MINUTES; LONDON VICTORIA OR LONDON BRIDGE.

31ST AUGUST 2017, 19:00

CROYDON PARK HOTEL  
7 ALTRE RD  
CROYDON  
CR9 5AA