

Biophysics and Biomedical
Engineering student association

FACULDADE DE CIÊNCIAS DA UNIVERSIDADE DE LISBOA
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Institute of Biophysics and
Biomedical Engineering

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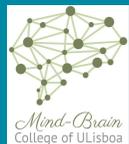
Free Entrance

FCT

Fundação para a Ciência e a Tecnologia
MINISTÉRIO DA CIÊNCIA, TECNOLOGIA E ENSINO SUPERIOR



ORDEM
DOS ENGENHEIROS
REGIÃO SUL

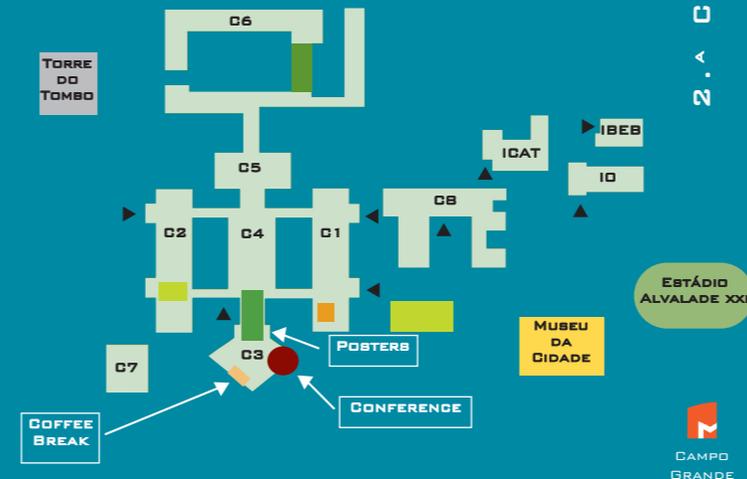


LISBOA
CÂMARA MUNICIPAL



PROGRAM

- 9H00 - 9H20 WELCOME SESSION
- 9H20 - 10H00 NUNO SANTOS
- 10H00 - 10H40 THOMAS PFEFFER
- 10H40 - 11H20 *COFFEE BREAK + POSTER SESSION*
- 11H20 - 11H50 BEST ABSTRACT
- 11H50 - 13H00 FORUM "X ANNIVERSARY OF MIEBB - WHERE ARE WE NOW?"
- 13H00 - 14H00 *LUNCH BREAK*
- 14H00 - 14H30 INÊS PALMA (BEST ALUMNI)
- 14H30 - 15H10 LUCÍLIO CORDERO-GRANDE
- 15H10 - 15H50 FREDERICO MUÑOZ
- 15H50 - 16H20 *COFFEE BREAK*
- 16H20 - 16H30 BEST POSTER ANNOUNCEMENT
- 16H30 - 17H10 PAULO MARTINS
- 17H10 - 17H30 BREAK
- 17H30 - 18H30 WORKSHOP: IBM & WATSON



2.ª CIRCULAR

CAMPO GRANDE

The University of Lisbon

9 **WBME**
WORKSHOP ON
BIOMEDICAL
ENGINEERING

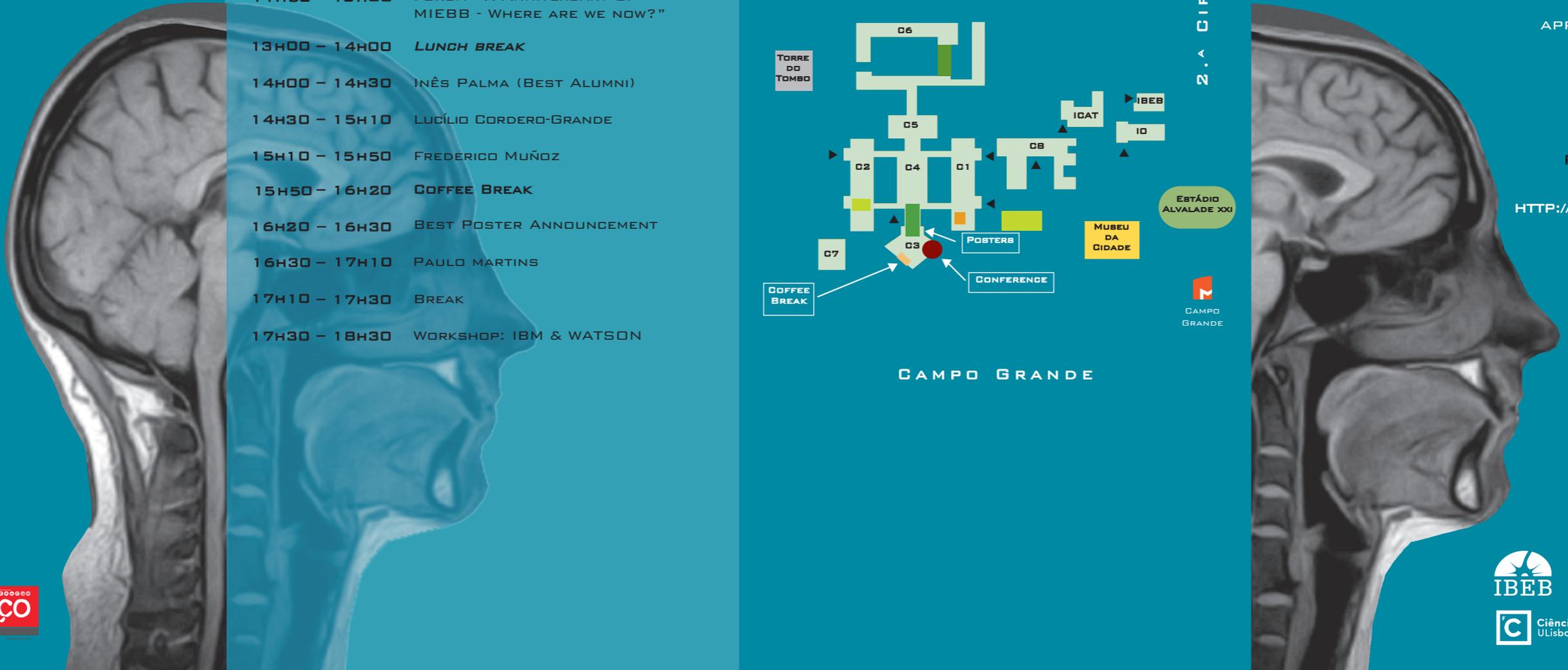
APRIL 8TH 2017

FACULTY
OF SCIENCES
ROOM G3.2.14

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Faculdade de Ciências
UNIVERSIDADE DE LISBOA
DEPARTAMENTO DE FÍSICA



THE MAIN OBJECTIVE OF THIS ANNUAL WORKSHOP IS TO EXPOSE STUDENTS, ENGINEERS, SCIENTISTS AND THE GENERAL COMMUNITY TO RECENT DEVELOPMENTS IN BIOMEDICAL ENGINEERING THAT TOOK PLACE IN SOME OF THE MOST RESPECTED INTERNATIONAL RESEARCH CENTERS AND UNIVERSITIES. DUE TO THE GREAT VARIETY OF THIS AREA'S SUBJECTS, EACH YEAR ONLY A FEW WILL BE CONTEMPLATED. IN 2017 WE DECIDED TO TACKLE RADIOTHERAPY, MAGNETIC RESONANCE IMAGING, BIOMEMBRANES, COGNITIVE NEUROSCIENCE AND ARTIFICIAL INTELLIGENCE. THIS 9TH EDITION OF THE WBME WILL ALSO INCLUDE A SESSION ABOUT THE INVESTIGATION WORK OF A STUDENT SELECTED BY CONTEST, AND LIKE LAST YEAR, A POSTER SESSION WILL TAKE PLACE AT THIS EDITION, WHICH WILL ALLOW YOU TO GET IN TOUCH WITH THE LATEST ADVANCES IN BIOMEDICAL ENGINEERING FROM THE NATIONAL ACADEMIA. TAKING INTO CONSIDERATION THE X ANNIVERSARY OF THE INTEGRATED MASTERS IN BIOPHYSICS AND BIOMEDICAL ENGINEERING, THIS EDITIONS WILL FEATURE A SECTION IN WHICH ALUMNI WILL PRESENT THEIR PATH AND WORK IN AND AFTER THE COURSE. FURTHERMORE, THERE WILL ALSO BE A PRIZE FOR THE BEST ABSTRACT SUBMITTED. WE HOPE THIS EVENT WILL STIMULATE NATIONAL AND FOREIGN STUDENTS TO CONTACT DIRECTLY WITH RESEARCHERS FROM SOME OF THE BEST UNIVERSITIES IN THE WORLD AND LEARN ABOUT THEIR EXPERIENCE ABROAD. IN THIS WAY WE MAY CONTRIBUTE TO OPEN NEW OPPORTUNITIES FOR RESEARCH AND COLLABORATION IN THIS FASCINATING AREA THAT IS GIVING A MAJOR CONTRIBUTION TO THE GREAT TRANSFORMATIONS WHICH ARE TAKING PLACE IN MODERN MEDICINE AND HEALTHCARE. WE HOPE YOU ENJOY YOUR DAY, ON BEHALF OF THE ORGANISATION.

NUNO SANTOS

"ATOMIC FORCE MICROSCOPY AS A NANOTOOL FOR CARDIOVASCULAR RISK EVALUATION"

NUNO SANTOS BECAME A BIOCHEMIST AT FACULDADE DE CIÊNCIAS DA UNIVERSIDADE DE LISBOA. NUNO SANTOS HAS WORKED AS A RESEARCHER IN THE DEPARTMENT OF CHEMICAL AND NUCLEAR ENGINEERING AT THE UNIVERSITY OF CALIFORNIA, SANTA BARBARA, USA. SINCE 2008, HE IS THE LEADER OF BIOMEMBRANES & NANOMEDICINE LAB AT INSTITUTO DE MEDICINA MOLECULAR (IMM) WHERE THE RESEARCH FOCUS IS ON BIOCHEMICAL AND BIOPHYSICAL PROCESSES OCCURRING AT THE LEVEL OF THE MEMBRANES OF HUMAN CELLS, AS WELL AS OF THEIR VIRAL AND BACTERIAL PATHOGENS. HE IS ALSO AN ASSOCIATIVE PROFESSOR AT FACULDADE DE MEDICINA DA UNIVERSIDADE DE LISBOA. SINCE 2001, NUNO HAS BEEN AWARDED WITH SEVERAL PRIZES WITH HIS RESEARCH AND PRESENTATIONS.

LUCÍLIO CORDERO-GRANDE

"INTEGRATIVE COMPUTATIONAL MAGNETIC RESONANCE IMAGING: LINKING SENSING AND ANALYSIS"

LUCÍLIO CORDERO-GRANDE RECEIVED THE TELECOMMUNICATIONS ENGINEERING, POSTGRADUATE CERTIFICATE IN EDUCATION, AND PH.D. DEGREES FROM THE UNIVERSITY OF VALLADOLID, VALLADOLID, SPAIN, IN 2005, 2009, AND 2012, RESPECTIVELY. HE WAS A RESEARCH ASSOCIATE AT THE LABORATORY OF IMAGE PROCESSING (LPI) OF THE UNIVERSIDAD DE VALLADOLID FROM 2005 TO 2013. SINCE THEN, HE IS A RESEARCH ASSOCIATE AT THE CENTRE FOR THE DEVELOPING BRAIN AND DEPARTMENT OF BIOMEDICAL ENGINEERING, KING'S COLLEGE LONDON. DURING HIS RESEARCH CAREER HE HAS MADE CONTRIBUTIONS IN DIFFERENT METHODOLOGIES OF MEDICAL IMAGE ANALYSIS SUCH AS RECONSTRUCTION, SEGMENTATION, REGISTRATION, INTERPOLATION, SIMULATION, FOURIER AND WAVELET MODELS. HE IS CURRENTLY PLAYING AN ACTIVE ROLE IN DEPLOYING THE ADVANCED IMAGE RECONSTRUCTION TECHNIQUES BEING USED IN THE DEVELOPING HUMAN CONNECTOME PROJECT, A SCIENTIFIC EFFORT TO ELUCIDATE THE BRAIN FUNCTION AND STRUCTURE EVOLUTION DURING EARLY LIFE.

THOMAS PFEFFER

"NEUROMODULATION OF TEMPORAL AND SPATIAL CORRELATIONS OF INTRINSIC CORTICAL ACTIVITY"

THOMAS PFEFFER STUDIED BRAIN AND COGNITIVE SCIENCES AT THE UNIVERSITY OF AMSTERDAM, THE NETHERLANDS, AND PSYCHOLOGY AT THE UNIVERSITY OF VIENNA, AUSTRIA AND THE UNIVERSITY OF MAGDEBURG, GERMANY. HIS RESEARCH IS ABOUT THE ROLE OF NEUROTRANSMITTERS IN SETTING UP, MAINTAINING AND ORCHESTRATING THE SPATIOTEMPORAL STRUCTURE OF SPONTANEOUS ACTIVITY IN THE ABSENCE AND PRESENCE OF STIMULUS. THOMAS HAS WORKED AS RESEARCH ASSISTANT AT THE INSITUTE OF COGNITIVE NEUROLOGY AND DEMENTIA RESEARCH AND THE INSTITUTE FOR BIOLOGICAL PSYCHOLOGY AT THE UNIVERSITY OF MAGDEBURG, GERMANY. BEFORE HIS PHD HE WAS ALSO ENROLLED IN SEVERAL STUDY PROGRAMMES SUCH AS MEDIA DESIGN, MATHEMATICS AND FINE ARTS. SINCE 2012, THOMAS HAS RECEIVED SOME AWARDS, FOR INSTANCE TWO GLAXOSMITHKLINE TRAVEL GRANT.

PAULO MARTINS

"INTEGRATIVE COMPUTATIONAL MAGNETIC RESONANCE IMAGING: LINKING SENSING AND ANALYSIS"

DR. PAULO MARTINS IS PRESENTLY DEVELOPING A NOVEL PROMPT GAMMA SPECTROSCOPE FOR PROTONS, HELIUM AND CARBON IONS, USING CeBr3 SCINTILLATION DETECTORS. HE HAS WIDE EXPERIENCE WITH RADIATION DETECTORS (E.G., PET, PROMPT-GAMMA IMAGING, SPARK CHAMBER) AND CONTRIBUTED SIGNIFICANTLY FOR THE DEVELOPMENT OF RPC-PET TECHNOLOGY AT LIP. HE HAS ALSO WORKED FOR THE ATLAS EXPERIMENT AT CERN AND FOR THE EUROPEAN PATENT OFFICE – EPO, THE HAGUE. HE IS CURRENTLY DEVELOPING HIS WORK BOTH AT THE GERMAN CANCER RESEARCH CENTER – DKFZ, HEIDELBERG AND THE NATIONAL CENTER FOR RADIATION RESEARCH IN ONCOLOGY – ONCORAY, DRESDEN. THE DKFZ PROFITS FROM THE CLOSE COLLABORATION WITH THE HEIDELBERG ION-BEAM THERAPY CENTER – HIT, WHICH WAS THE EUROPE'S FIRST COMBINED TREATMENT FACILITY USING PROTONS AND HEAVY IONS FOR RADIATION THERAPY. THE UNIVERSITY PROTON CENTER AT DRESDEN COOPERATES INTENSIVELY WITH DKFZ AND HIT WITHIN THE PARTICLE THERAPY TOPIC GIVING PARTICULAR EMPHASIS TO HIGHPRECISION RADIOTHERAPY APPROACHES.

FREDERICO MUÑOZ

"IBM & WATSON"

FREDERICO MUÑOZ IS AN IBM CHIEF ARCHITECT WITH A WIDE AND VARIED EXPERIENCE IN TERMS OF SOLUTION DESIGN, ENTERPRISE ARCHITECTURE AND PROGRAMMING; HE IS A MEMBER OF THE IBM TECHNICAL EXPERT COUNCIL FOR SPAIN, PORTUGAL, ISRAEL AND GREECE. IN RECENT YEARS FREDERICO HAS BEEN MORE DIRECTLY INVOLVED IN PROJECTS AROUND SUCH AREAS AS SMARTER CITIES, THE INTERNET OF THINGS AND THE COGNITIVE AND ANALYTICS DOMAINS.

INÊS PALMA

"INTRODUCING AFFECTIVE RESEARCH TO BCI GAMES"

INÊS PALMA CRUZ OBTAIN HER MASTER'S DEGREE IN BIOMEDICAL ENGINEERING AND BIOPHYSICS EARLIER THIS YEAR FROM THE UNIVERSITY OF LISBON. SHE IS CURRENTLY A JUNIOR ANALYST IN INVESTQUEST. OVER THE LAST MONTHS, INES HAS WORKED WITH BRAIN-COMPUTER INTERFACE SYSTEMS, AND PARTICIPATED IN THE DEVELOPMENT OF A GAME CONTROLLED WITH STEADY-STATE VISUALLY EVOKED POTENTIAL.