

Prof. Rui L. Reis



Professor **Rui L. Reis**, PhD, DSc, Hon. Causa MD, FBSE, FTERM, member of NAE, FAIMBE, FEAMBES, is the Vice-President for Research and Innovation of University of Minho, Portugal, Director of the 3B's Research Group and of the ICVS/3B's Associate Laboratory of UMinho. He is also the CEO of the European Institute of Excellence on Tissue Engineering and Regenerative Medicine, the Coordinator of the Discoveries Centre for Regenerative and Precision Medicine, the Global President of the Tissue Engineering and Regenerative Medicine International Society (TERMIS) and the Editor-in-chief of the Journal of Tissue Engineering and Regenerative Medicine (Wiley). He is a recognized World expert, with more 1075 published works listed on ISI Web of Knowledge with an h index of 80 (1030 and h=86 in Scopus and 1730 and h=102 in Google Scholar), being also an inventor of around 60 patents. Accordingly to the later source his work has been cited more than 43500 times. He has been awarded many important international prizes, including among several others different innovation awards, the Jean Leray and George Winter Awards (ESB), the Clemson Award (SFB) and TERMIS-EU Awards for contributions to the literature, and recently (2018) the UNESCO- International Life Sciences Award and the AF Harvey Engineering Research Prize. He is the PI of projects with a budget totalizing more than 45 million Euros.

PRL1: Overview of TERMIS and natural origin materials for TERM
September 5 (Wed), 2018 9:45 - 10:30

Prof. Yoshiki Sawa



Dr. **Yoshiki Sawa** is the Professor at Department of Cardiovascular Surgery, Osaka University Graduate School of Medicine and the Advisor to CiRA (Center for iPS cell Research and Application) at Kyoto University. His research activities include heart transplantation, artificial organs, gene and regenerative therapies. His dedication to the research led to receive numerous awards and honors, such as Japan Biomaterial Association Award, Scientific Technology Award sponsored by Minister of Education, Culture, Sports, Science and Technology, Minister of Health, Labor and Welfare award. He is also the President of Japanese Society of Regenerative Medicine. He earned a medical degree from Osaka University Medical School in 1980 and joined the First Department of Surgery, Osaka University School of Medicine. In 1989, he earned Humboldt scholarship to pursue further education in both the departments of cardiovascular physiology and cardiac surgery at the Max-Planck Institute in Germany. After returning to Japan, he became Chief surgeon at the Department of Cardiovascular Surgery in 2004, Professor and Chief at the Department of Cardiovascular Surgery, the Director at Medical Center for Translational Research at Osaka University Hospital in 2006. He was appointed to the Dean at Osaka University Graduate School of Medicine from 2015 - March 2017.

PRL2: Overview of JSRM and frontier RM in cardiovascular area
September 5 (Wed), 2018 10:30 - 11:15

Dr. Masayo Takahashi



Masayo Takahashi M.D., Ph.D. is Project Leader of the Laboratory for Retinal Regeneration at RIKEN. She received her M.D. from Kyoto University in 1986, and her Ph.D. in Medicine at the same institution in 1992. After serving as an assistant professor in the Department of Ophthalmology, Kyoto University Hospital, she moved to the Salk Institute in 1995, where she first learned of the potential of stem cells as a tool for retinal therapy. She returned to the same hospital in 1997, and since 2001 has served as an associate professor at the Translational Research Center. She joined RIKEN as a team leader of the retinal regeneration team in 2006. Her team started Pilot clinical study of autologous iPS cell-derived RPE cell sheets for exudative aged-related macular degeneration (AMD) in 2013. The first RPE cell sheet graft transplanted in Sep. 2014. In 2017, the team started using allogeneic iPS cells suspension in the clinical study. Her clinical specialty is retinal disease—macular diseases and retinal hereditary diseases in particular. Her aim is to gain a better understanding of these diseases at a fundamental level and develop retinal regeneration therapies.

PLL1: Cell therapy using iPS cells
September 4 (Tue), 2018 17:00 - 17:45



Dr. Sai-Kiang Lim



Dr **Sai-Kiang Lim** graduated with a B.Sc (Hons) from NUS, a PhD from SUNY at Buffalo and did post-doctoral training at Columbia University. She led independent research groups at NUMI, NUS (1996-2001), Genome Institute of Singapore, A*STAR (2002-2007) and then Institute of Medical Biology, A*STAR (2007-present). Her current research interest is on the small 50-200 nm Mesenchymal Stem Cell (MSC) extracellular vesicles (EVs) with specific emphasis on their therapeutic applications in animal models of diseases, and characterizing the physical and biochemical properties of the different types of small MSC EVs and their biogenesis. Her lab recently identified 3 types of small MSC EVs; each has an unique permutation of lipids, proteins and RNA. The functions of these different EVs are currently under investigation.

PLL2: Exosome: the Next Generation MSC Therapy

September 5 (Wed), 2018 11:15 - 12:00

Prof. Gordana Vunjak-Novakovic



Gordana Vunjak-Novakovic is University Professor, the highest academic rank at Columbia University reserved for only a few active faculty out of 4,000, as the first engineer in history of Columbia to receive this highest distinction. She is also the Mikati Foundation Professor of Biomedical Engineering and Medical Sciences, faculty in the Irving Comprehensive Cancer Center and in Center for Human Development, and director of the Laboratory for Stem Cells and Tissue Engineering. The focus of her research is on engineering functional human tissues for regenerative medicine and studies of development and disease. With almost 40,000 citations and $h=114$, she is one of the most highly cited individuals of all times in all disciplines. With her students, Dr Vunjak-Novakovic has 87 licensed, issued and pending patents and has founded four biotech companies. She is a frequent advisor to government and industry (including the NIBIB Council and the Board of the National Laboratory at the International Space Station). Among her many distinctions, Dr Vunjak-Novakovic is a member of the Academia Europaea, American Association for the Advancement of Science, American Institute of Medical and Biological Engineering, National Academy of Engineering, National Academy of Medicine, and National Academy of Inventors.

PLL3: Frontiers of human organs-on-a-chip technology

September 6 (Thu), 2018 9:20 - 10:05

Dr. Yu-Chen Hu



Dr. Yu-Chen Hu's research interests include vaccine development, gene therapy, tissue engineering, cancer therapy and synthetic biology. Dr. Hu's lab has developed the enterovirus 71 (EV71) vaccine based on virus-like particle technology and also paves a new avenue to the use of baculovirus as a novel vector for regenerative medicine and cancer therapy. Dr. Hu has also employed emerging CRISPR technology and synthetic biology for the metabolic engineering of microorganisms for production of bio-derived chemicals. Dr. Hu has won the Asia Research Award, Outstanding Research Award (Ministry of Science and Technology, 2006, 2014), BEST Biochemical Engineering Achievement Award, Wu Ta-You Memorial Award, Outstanding Academia-Industry Research Award and Outstanding Young Investigator Award in Taiwan. He is a fellow of American Institute for Medical and Biological Engineering (AIMBE), Program Chair of the Tissue Engineering International & Regenerative Medicine Society-Asia Pacific (TERMIS-AP) 2016 meeting, Conference Chair of Asian Congress of Biotechnology (ACB meeting 2019) and the Vice President of Biotechnology and Biochemical Engineering Society of Taiwan. He currently serves as the associated editor of Current Gene Therapy, deputy editor of Journal of Taiwan Institute of Chemical Engineers, and Coordinator of Chemical Engineering Division, Ministry of Science and Technology.

PLL4: Delivery of Anabolic Genes, miRNA and CRISPR Systems for Stem Cell Fate Modulation and Tissue Regeneration

September 6 (Thu), 2018 10:05 - 10:50



Prof. Philippe Menasché



Dr Philippe Menasché is currently a clinical cardiac surgeon at the Hôpital Européen Georges Pompidou, Professor of Thoracic and Cardiovascular Surgery at the University of Paris Descartes, and co-leader of an INSERM (National Institute of Health and Medical Research) team devoted to cell therapy of cardiovascular diseases. The group has a long-standing interest in stem cells for the treatment of heart failure and has therefore developed small and large animal (including nonhuman primate) models of myocardial infarction and dilated cardiomyopathy. While the initial research has focused, both experimentally and clinically, on the transplantation of skeletal myoblasts, it has then moved towards the combination of cardiac progenitors derived from human embryonic stem cells (ESC) with a tissue engineering-based construct. The first-in-man trial testing this cell-loaded patch and primarily focused on feasibility and safety has now been successfully completed. In parallel, mechanistic studies have unravelled the predominant role of paracrine signalling and its mediation by cell-secreted extracellular vesicles. Consequently, the group is now shifting its research towards a-cellular cell therapy based on the exclusive use of these extracellular vesicles (isolated from pluripotent stem cell-derived cardiac progenitor cells) with the objective of further streamlining the clinical translatability of this myocardial repair strategy.

PLL5: Clinical Cell Therapy of Heart Failure

September 6 (Thu), 2018 10:50 - 11:35

Dr. Juergen Knoblich



Juergen Knoblich is heading the Institute of Molecular Biotechnology in Vienna. He is a developmental neuroscientist studying human brain development and psychiatric disorders. His group has developed a method for growing human brain tissue in the lab. They can recapitulate human embryonic brain development during the first trimester and analyze the developmental defects leading to neurological disorders.

PLL6: Cerebral organoids: Modelling human brain development and tumorigenesis in stem cell derived 3D culture

September 6 (Thu), 2018 13:45 - 14:30

Prof. Antonios G. Mikos



Antonios G. Mikos is the Louis Calder Professor of Bioengineering and Chemical and Biomolecular Engineering at Rice University. His research focuses on the synthesis, processing, and evaluation of new biomaterials for use as scaffolds for tissue engineering, as carriers for controlled drug delivery, as non-viral vectors for gene therapy, and as platforms for modeling disease. His work has led to the development of novel orthopaedic, dental, cardiovascular, neurologic, and ophthalmologic biomaterials. He is the author of over 580 publications and the inventor of 29 patents. He is organizer of the continuing education course *Advances in Tissue Engineering* offered annually at Rice University since 1993.

Mikos is a Member of the National Academy of Engineering, the National Academy of Medicine, the National Academy of Inventors, and the Academy of Athens. He has been recognized by various awards including the *Lifetime Achievement Award* of the Tissue Engineering and Regenerative Medicine International Society-Americas, the *Founders Award* of the Society For Biomaterials, and the *Robert A. Pritzker Distinguished Lecturer Award* of the Biomedical Engineering Society. He is a founding editor and editor-in-chief of the journal *Tissue Engineering*, and Past-President of the Tissue Engineering and Regenerative Medicine International Society-Americas and the Society For Biomaterials.

PLL7: Biomaterials For Tissue Engineering And Regenerative Medicine

September 7 (Fri), 2018 8:00 - 8:45



