THE 2015 AGEING SUMMIT

ABSTRACTS

10th-12th February London, UK

EuroSciCon®
This event will look at current scientific research and thinking regarding the ageing process. With discussions ranging from discovery of biomarkers and assay development to the immunology of ageing, this event promises to be packed with discussion and debate and is an ideal opportunity to discover what is new in the field.

This event has CPD accreditation
Table of Contents

Day 1, Session 1: Cellular Level Research ........................................................................................................... 6
Invited Speakers Abstracts ....................................................................................................................................... 6
The extracellular metabolome in senescence and oral cancer .............................................................................. 6
Chronic Inflammation, Proteases and Extracellular Matrix Degradation in Extrinsic Aging ............................... 6
Age-related Changes in Mitochondria Complex-I Activity in Brain: PET Study with [18F]BCP-EF in Monkey ........ 6
Hormones and Aging ............................................................................................................................................. 6
Longevity and beta-2 microglobulin ....................................................................................................................... 6
Ageing induced defects of the thermosensor plasma membrane can downregulate the expression of stress protein molecular chaperones ............................................................ 7
Immune cells: their part in brain ageing .................................................................................................................. 7
Oral Presentation Abstracts .................................................................................................................................. 7
PROTECTION AGAINST AGE-RELATED HEARING LOSS BY OVER-EXPRESSION OF X-LINKED INHIBITOR OF APOPTOSIS PROTEIN IN C57BL/6J MICE ........................................................................... 7
RAISING AWARENESS OF AGEING AND DENTAL CARE .................................................................................. 8
PHOSPHODIESTERASE 1 REGULATION IS A KEY MECHANISM IN VASCULAR AGEING ...................................... 8
AGING, CHRONIC KIDNEY DISEASE AND HOME SUPPORT: AN EXPLORATORY STUDY ................................ 9
AGING RELATION OF INDICES, RESPONSIBLE FOR BRAIN FUNCTIONING ..................................................... 9
Poster Presentation Abstracts ............................................................................................................................... 10
ALTERATION OF HIPPOCAMPAL MICROGLIA DURING THE ASYMMPTOMATIC STAGE OF ALZHEIMER’S DISEASE .................................................................................................................. 10
REVERSAL OF REPLICATIVE SENESCENCE IN PRIMARY HUMAN ADULT FIBROBLASTS ................................. 11
ALTERED EXPRESSION OF PATTERN RECOGNITION RECEPTORS AFTER CARDIAC SURGERY NECESSITATING CARDIOPULMONARY BYPASS: IMPLICATIONS FOR POST-OPERATIVE INFLAMMATION AND DIFFERENCES WITH AGE ............................................................................................................. 11
GENDER- AND REGION-DEPENDENT CHANGES OF REDOX BIOMARKERS IN THE BRAIN OF SUCCESSFULLY AGING LOU/C RATS. 12

Day 1, Session 2: Slowing down progression, Rejuvenation and Self Repair ....................................................... 12
Invited Speakers Abstracts ....................................................................................................................................... 12
Can we currently slow down the progression of Alzheimer’s disease? ............................................................... 12
Mild cognitive impairment ...................................................................................................................................... 13
Nutritional Interventions in Ageing: Lessons from Rhesus Monkeys ................................................................. 13
Extrinsic versus Intrinsic mechanisms of stem cell aging and rejuvenation ..................................................... 13
Oral Presentation Abstracts .................................................................................................................................. 13
TELOMERE LOOPING: A NEW PARADIGM FOR THE REGULATION OF GENE EXPRESSION WITH PROGRESSIVE TELOMERE SHORTENING .................................................................................................. 13
DIETARY RESTRICTION IMPROVES VASODILATOR DYSFUNCTION CAUSED BY ACCELERATED VASCULAR AGING DUE TO GENOMIC INSTABILITY ............................................................... 14
Poster Presentation Abstracts ............................................................................................................................... 14
MODIFIED PROGRESSION OF ARTERIAL STIFFNESS WITH AGING BY ATHEROSCLEROSIS RISK FACTORS ........ 14
AGING MODULATES VITAMIN C TRANSPORTER EXPRESSION PATTERNS IN THE KIDNEY ............................ 15
EFFECTS OF SELECTED MEDICINAL HERBS ON DEMENTIA AND OSTEOPOROSIS ........................................ 15
Day 3: Expression and Pathology

Invited Speakers Abstracts

The ‘hidden’ Epidemic of Adult Alzheimer & Neurological deaths in the USA and 20 Western countries 19890-2010: A Controlled Study

Day 2, Session 2: Biomarkers

The role of the telomerase protein TERT in brain ageing and neurodegeneration

Expression of phosphorylated H2AX histone in the aging mouse brain and its relation with slowly cycling neurons

Genetics of Healthy Ageing: What do genes tell us about Ageing Better?

Oral Presentation Abstracts

THE SUPPLY AND DEMAND OF PROGENITOR CELLS GOVERNS ORGAN MASS LOSS IN AGEING HUMANS AND THEIR AGE-SPECIFIC CANCER INCIDENCE RATES

CONDUCTING FOCUS GROUPS WITH COMMUNITY DWELING OLDER ADULTS: A PROCESS PAPER

AGING SHIFTS BDNF PATHWAY TO DYSFUNCTION FOR REGENERATION OF MYOCARDIAL INFARCTION

ALZHEIMER’S RISK VARIANT PICALM AND ALTERATIONS IN BRAIN FUNCTION DURING AGING

MEN BORN IN 1913 FOLLOWED TO AGE 100 YEARS

PORTUGUESE RETIREES’ PERCEPTIONS ABOUT THEIR TRANSITION TO RETIREMENT

Poster Presentation Abstracts

RESTORATION OF PULMONARY FUNCTIONS IN AGED ANIMAL BY ELIMINATING SENESCENT CELLS

VASCULAR REACTIVITY INDUCED BY COGNITIVE TASKS IN PATIENTS WITH VASCULAR ENCEPHALOPATHY

OMEGA-3 FATTY ACID STATUS INFLUENCES THE PROTECTIVE EFFECT OF B VITAMIN TREATMENT ON COGNITIVE DECLINE

MEASURING HEALTH INEQUALITIES IN THE CONTEXT OF MULTIPLE CHRONIC DISEASES

Day 2, Session 1: Genetic and Epigenetic regulation

Declining Stress Responses as a Contributing Factor to Ageing

Biocomplexity, chaos, and fractality in the search of biomarkers of aging and pathology

Oral Presentation Abstracts

IMMUNOSENESCENCE-RELATED GENE ZIZIMIN2 IS ASSOCIATED WITH SPLENIC MARGINAL ZONE B CELL LOCALIZATION

INTERNET USE AND PHYSICAL ACTIVITY CAN IMPROVE QUALITY OF LIFE AMONG OLDER ADULTS: RESULTS FROM THE ENGLISH LONGITUDINAL STUDY OF AGEING

HOW DO COUPLES ADJUST THEMSELVES TO RETIREMENT?

LONG TELOMERIC PROTECT VESSELS FROM DIABETES MELLITUS

AGE-RELATED DECREASE IN BROWN ADIPOSE TISSUE AND ITS POTENTIAL METABOLIC COMPLICATIONS

NATURAL ANTIOXIDANTS; A KEY TOWARDS HEALTHY AGEING

Poster Presentation Abstracts

LYMPHOCYTE SUBSETS IN AGEING - DATA FROM TWO LARGE ITALIAN COHORTS

LOW-INTENSITY INTERMITTENT WALKING EXERCISE REDUCES POSTPRANDIAL HYPOTENSION IN OLDER PEOPLE

THE CALPAIN-CALPASTATIN SYSTEM IN HUMAN LYMPHOCYTE AGEING

Day 3: Expression and Pathology

Invited Speakers Abstracts

The ‘hidden’ Epidemic of Adult Alzheimer & Neurological deaths in the USA and 20 Western countries 19890-2010: A Controlled Study

The Long and Winding Road of Arterial Aging: A Journey from Evolution to Dysfunction

Targeting age-related hearing loss

The Ageing Eye: A delicate metabolic balancing act
Healthy Ageing through technoculture ................................................................. 29
Towards a greater cortical control of balance with advancing age ................................................. 29
Role of tele-technology in 21st Century NHS ............................................................................. 29
Human Ageing at the Individual Level is a Unique Experience and Chronic Degenerative Diseases are Variants of that Ageing Process ............................................................................................................. 29
RCSI developing healthcare leaders who make a difference worldwide ........................................ 29

Oral Presentation Abstracts ............................................................................................................ 29
“QUICK-AND-DIRTY” METHODS FOR ASSESSING ADIPOSITY IN OLDER ADULTS: WHAT IS BEST? .......................................................... 30
WHOLE BLOOD GENE EXPRESSION ASSOCIATIONS WITH MUSCLE STRENGTH IN HUMANS .......................................................... 30
AGEING, FRAILTY AND CHRONIC OBSTRUCTIVE PULMONARY DISEASE ........................................................................................................ 30
THE ROLE OF AGE-RELATED CHANGES IN BODY COMPOSITION ON BODY MASS INDEX: A PILOT INVESTIGATION ........................................ 31
A CONSERVED TRANSCRIPTIONAL SIGNATURE OF DELAYED AGEING AND REDUCED DISEASE VULNERABILITY IS PARTIALLY MEDIATED BY SIRT3 ........................................................................................................ 31
ABILITY ASSESSMENT OF THE ELDERS TO MANAGE THEIR OWN MEDICATION: A FIRST STEP FOR THE EMPOWERMENT OF THE GERIATRIC POPULATION .......................................................................................... 32
SAFETY AND EFFECTIVENESS OF NEW SURGICAL TECHNIQUE TO PREVENT CONTRALATERAL HIP FRACTURE ...................................................................................................................... 33
AGEING AT THE 21 CENTURY LIFE AND SOCIAL SCIENCES RESEARCH ........................................................................................................ 33
BODY FAT OR LEAN MASS – WHICH IS MORE IMPORTANT FOR AN AGEING POPULATION? ...................................................................................................................... 33

Poster Presentation Abstracts ............................................................................................................ 34
THE SUPERIORITY OF GERIATRICIAN DOCTORS TO ESTIMATE AGE OF OLDER ADULTS: A STUDY ON THE EFFECT OF THE PROFESSIONAL EXPOSURE ON THE PERCEPTION OF AGE ........................................................................................................ 34
PREDICTIVE UTILITY OF BODY COMPOSITION ASSESSMENTS ACROSS AGE GROUPS .......................................................................................... 34
LONELINESS IN MIDDLE-LATE AND OLD AGE ............................................................................. 34
FAMILIES’ EXPECTATIONS ON ICT AND AAL ROLE IN CAREGIVING OF OLD ADULTS ........................................................................................................ 35
THE DECREASE OF THE “TOOL EFFECT” WITH AGE: EVIDENCE OF AN INSUFFICIENT UPDATING OF THE BODY-SHEMA IN THE ELDERLY .......................................................................................... 35
ASSESSMENT OF VERBAL EPISODIC MEMORY: Standardization Of A NEW memory TEST WITH SELF-INITIATED ITEM (MAI TEST) ........................................................................................................ 36
NEURAL CORRELATES OF WORKING MEMORY IN ADVANCED AGING: AN FMRI STUDY ........................................................................................................ 36
The role of the telomerase protein TERT in brain ageing and neurodegeneration  

**Dr. Gabriele Saretzki**, Lecturer in Ageing Research, Institute for Ageing and Health, Newcastle upon Tyne, UK  

Although telomerase is best known for its telomeric function, its protein component TERT (telomerase reverse transcriptase) has additional non-telomeric functions like the protection of mitochondria. We found increased mitochondrial TERT in neurons of Alzheimer’s disease brains and demonstrate a mutual exclusion of neurons with tau pathology and those expressing TERT protein. As a model of tau pathology we expressed tau in cultivated neurons with and without telomerase and found that neurons lacking TERT protein displayed higher levels of mitochondrial ROS and more peroxidised lipids than wild type neurons. We conclude that mitochondrial TERT might have a protective function in neurons.

Expression of phosphorylated H2AX histone in the aging mouse brain and its relation with slowly cycling neurons  

**Professor Adalberto Merighi**, Dipartimento di Scienze Veterinarie, GRUGLIASCO (Torino), Italy  

Phosphorylation of the histone H2AX is an early response to DNA damage and a marker of aging. γH2AX appears in foci within interkinetic/apoptotic nuclei and mitotic chromosomes from development to senescence. Immunoreactivity is mainly detected in neurogenetic areas, but also in the adult and senescent cerebral cortex. γH2AX in neurogenetic areas is temporally and functionally related to proliferation and apoptosis of neuronal precursors (type C transit amplifying cells in SVZ and granule cell precursors in cerebellum). In senescent SVZ cells, displaying an extremely long cell cycle and slow proliferation rate, H2AX phosphorylation is primarily related to DNA repair.

Genetics of Healthy Ageing: What do genes tell us about Ageing Better?  

**Dr Irene Maeve Reg**, Queens University Belfast and Belfast City Hospital, Belfast, Ireland  

This session will explore how genetic and life-style profiles from nonagenarians may help our understanding about malleable factors which can contribute to longer lifespan accompanied by healthspan. Genetic, immunological, cardiovascular and nutritional factors contributing to good quality ageing will be presented with evidence from the nonagenarian BELFAST cohort together with early results from the GeHA study of European nonagenarian siblings and insights from the nonagenarian siblings themselves about factors involved in their good quality longevity.