

CURRICULUM VITAE

ASPASIA TSEZOU

Professor Medical Genetics

University of Thessaly

Larissa, Greece

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Name: Aspasia Tsezou

Place of birth: Athens

Marital status: Married, 2 children

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UNIVERSITY EDUCATION:

1980 Mc Master University, Dept of Biology, Hamilton, Ontario, Canada (B.Sc)

1991 University of Athens, Medical School, 2nd Dept. of Pediatrics (PhD in Medical Genetics)

POST GRADUATE EDUCATION:

1980 - 1984 Mc Master University Medical Center, Department of Human Genetics, Hamilton, Canada. Participation in diagnostic tests in cytogenetics and in the research e project “Molecular mechanisms in human aneuploidy”

1990 St. Louis Hospital, Department of Hematology, Paris, France. Training in Molecular Biology methodologies.

1993 University of Leuven , Department of Medical Genetics, Leuven, Belgium, training in Molecular Cytogenetics

SCIENTIFIC ACTIVITY:

1992- 2000 Research Associate, University of Athens, 2nd Dept. of Pediatrics, Genetics Unit.

2001- 2007 Assistant Professor in Medical Genetics University of Thessaly, Faculty of Medicine, Dept. of Biology.

2007- 2012 Associate Professor in Medical Genetics, University of Thessaly, Faculty of Medicine, Dept. of Biology.

2012- present Professor in Medical Genetics, University of Thessaly, Faculty of Medicine, Dept. of Biology.

2010- present Director of Cytogenetics and Molecular Genetics Laboratory, University Hospital of Larissa

2013- present Director of Post-graduate Program “Human Genetics- Genetic counseling”, Faculty of Medicine, University of Thessaly.

TEACHING ACTIVITY

1987-2000 Laboratory training to Medical students on Genetics methodologies, at the National and Kapodistrian University of Athens, Laboratory of Cytogenetics, 2nd Dept. of Pediatrics.

2000 Temporary Instructor at the University of Thessaly, Faculty of Medicine. Course “Medical Genetics”.

2011-2013 Major Instructor at the University of Thessaly, Faculty of Medicine of the 1st year course “Biology II”

2001-present Major Instructor at the University of Thessaly, Faculty of Medicine of the 3rd year course “Medical Genetics”.

Teaching in Postgraduate programs:

2004-2010 “Molecular Human Genetics”, in the MSc Program “Clinical applications in Molecular Medicine” of University of Thessaly, Faculty of Medicine

2006-2013 “Genetics of Reproduction” and “Genetic syndromes and reproduction”, in the MSc Program “Biology of Reproduction” of University of Thessaly, Faculty of Medicine,

2013-present “Molecular Genetics I& II” , “Genetic Basis of Monogenetic Disorders & Multifactorial Disorders” and “Laboratory in Molecular Genetics and Cytogenetics I-II”, in the MSc Program “Human Genetics- Genetic counseling ” of University of Thessaly, Faculty of Medicine.

SUPERVISION OF PhD and MASTER THESIS

Have supervised 19 PhD and 43 Masters’ thesis. 3 PhD thesis are on going.

ADMINISTRATIVE TASKS

1996-20016: Member of the Coordination and Evaluation Committee of the M.Sc Program “Biology of Reproduction” at University of Thessaly, Faculty of Medicine

2009: Member of the “Strategic Planning” Committee of University of Thessaly

2007-2010 and **2016-present:** Member of the General Assembly Board of the Hellenic Association of Medical Geneticists

2010- today: Director of the Laboratory of Cytogenetics and Molecular Genetics, at the University Hospital of Larissa, University of Thessaly, Faculty of Medicine

2013- today: Scientific Director and Member of the Evaluation and Financial Committee of M.Sc Program “Human Genetics” at University of Thessaly, Faculty of Medicine

2015: Member of the Committee for the Internal Evaluation of University of Thessaly

2016-2017: Director of the “Basic Sciences” Sector of University of Thessaly, Faculty of Medicine

2017- today: Coordinator of the working group for the health sciences specialty of “Laboratory Genetics” appointed by the Health Council of Ministry of Health

2018-2020: Member of the General Assembly of the National Center for Research and Innovation (ELIDEK) (7/9/2018, No.146206)

COLLABORATIVE RESEARCH PROJECTS

International collaborations

- **2007-today:** Rheumatology Clinic, Hospital Clinico Universitario de Santiago (Dr. Antonio Gonzalez), Santiago de Compostela, Spain on «ADAMST4,5 and BMP5 Single Nucleotide Polymorphisms in osteoarthritis»
- **2007- 2014** Research Center Riken, Centre for Genomic Medicine, Tokyo, Japan (Prof. Shiro Ikegawa) on: «Identification of Novel genes in Osteoarthritis»
- **2008 –2013.** Dipartimento Scienze Biomediche e Biotecnologiche του Νοσοκομείου Ospedale Regionale per le Microcitemie, Cagliari, Italy, (Dr. G. Loudianos) and Oncology Clinic of University of Thessaly (Prof. C. Papandreou) on “The role of promoter ATP7B gene polymorphisms in copper resistance in Wilson Disease patients and Pt resistance in patients with solid tumors”.
- **2009- 2014.** University of Nanjing, Medical School, Laboratory of Musculoskeletal Research (Prof. Jiang Qing), Nanjing, China on «The role of leptin in osteoarthritis and metabolic syndrome»
- **2009-2013:** Imperial College, Dept. of Chemical Engineering (Prof. A. Mantalaris), London, UK on “The Role of Statins & Mechanical Stimulation to Generate Three-Dimensional (3D) Injectable Cellular Constructs in Bioreactors using Human Mesenchymal Stem Cells for Bone Tissue Engineering”
- **2015- 2018:** Wellcome Trust Sanger Institute, Cambridge, UK, Laboratory of Medical Genetics (Prof. E. Zeggini) on “Functional studies in osteoarthritis”.

Multicenter international collaborations

- New University of Lisbon, Portugal, Dept. of Genetics (Prof. J. Rueff), University of Salamanca, Spain, Dept. of Clinical Chemistry (Prof. J. Cassado) on «Effects on human health of nitrates and nitrites in drinking water and nitrosable molecules present in foodstuffs» EU project granted under DGV Agreement No 93202367 05E01
- The John F. Kennedy Institute, Glostrup, Denmark, University Hospital, Uppsala, Sweden, Institute of Human Genetics, Aarhus University, Aarhus, Denmark, Children’s Hospital Pellegrin, Bordeaux, France, on “Non-disjunction studies in trisomy 8”.
- Department of Medical Genetics, the J. F. Kennedy Institut, Glostrup, Denmark, Dept. Molecular Medicine, Clinical Genetics Unit, Karolinska Institute, Stockholm, Sweden, Institute of Human Genetics, University of

Aarhus, Denmark, County Center for Multiply Handicapped Children in Copenhagen, Denmark, Department of Pediatrics, University Hospital of Aarhus, Denmark, Laboratoire de Genetique, Hospital Pasteur, Nice, France, Unite de Genetique, Hospital de Cimiez, France, on "Tetrasomy 18p de novo: parental origin and different mechanisms of formation"

- Participation in the TREAT-OA (Translational Research in Europe Applied Technologies for Osteoarthritis), FP7 Program (2007-2012).

MEMBER OF SCIENTIFIC SOCIETIES

- European Society of Human Genetics
- Hellenic Association of Medical Geneticists
- European Bone and Joint Infections Society
- Orthopedic Research Society
- International Osteoarthritis Research Society (OARSI)

PARTICIPATION IN NATIONAL AND E.U COMMITTEES

2008: Appointed by the Ministry of Education, General Secretariat of Research and Technology as evaluator of research proposals under the "Joint venture of Research and Technology in National Priority Sectors".

2010: Appointed by the Ministry of Education, General Secretariat of Research and Technology as evaluator of the results from the project «EATRIS – European Advanced Translational Research Infrastructure in Medicine) that was performed under the ESFRI- European Strategy Forum for Research Infrastructures) (8760/12.07.10).

SCIENTIFIC EVALUATOR OF NATIONAL AND INTERNATIONAL PROJECTS

National projects

- Evaluator of Educational Project "HERACLITOS", Athens, 2009
- Evaluator of Project "COOPERATION –ESPA", Athens, 2010
- Evaluator of National Research Foundation projects, Athens, 2016

EU projects

- 1) "Quality of Life" and "Energy, Environment and Sustainable Development": "Endocrine Disrupters" 15 – 20 October 2001, Brussels.
- 2) «Quality of Life and Management of Living Resources". « Environment and Health» 25 February – 1 March 2002, Brussels
- 3) " Joint Call IST – NMP 2- Biosensors for Diagnosis and Health" 15-20 November 2004, Brussels
- 4) " IST Call 5-2.5.2» 17- 21 October 2005, Brussels

- 5) Environment-Health 2-July 2007, Brussels
- 6) Environment-Health ,16 March 2009, Brussels
- 7) Environment-Health, 23-15 January 2011, Brussels
- 8) ICT, 9-12 June 2014, Brussels

Evaluator in EU Review Panels

1) FP6-IST 2006-2009

MASCOT: Integrated Microsystem for the Magnetic Isolation and Analysis of Single Circulating Tumor Cells for Oncology Diagnosis and Therapy Follow-Up. 1st review meeting, 16 March 2007, Leuven, Belgium. 2nd review meeting, 11 April 2008, Leuven, Belgium. 3rd review meeting, 16 January 2009, Mainz, Germany

2) FP7- IST 2011-2014

MIRACLE: Magnetic Isolation and Molecular Analysis of Single Circulating and Disseminated Tumor Cells on Chip, 1st review meeting, 13-14 November 2011, Leuven, Belgium.

BRIEF DESCRIPTION OF RESEARCH WORK

The research work can be sectioned as follows:

- 1991–1998: Effects of mutagens on chromosomal instability
- 1998-2000: Genotype – phenotype correlations in chromosomal syndromes and Gilbert syndrome and correlation with other pathological conditions as cholelithiasis, hemoglobinopathies
- 2001-2013: Telomerase expression in carcinogenesis: mechanisms that regulate the expression of the catalytic subunit of telomerase (hTERT).
- 2011-2016: Genetic evaluation of Abdominal Aortic Aneurism
- 2006-present: Genetics and epigenetics in osteoarthritis The past 13 years the main research interest is focused in the investigation of molecular and epigenetic mechanisms involved in the degeneration of articular cartilage in osteoarthritic joints. The research in this field has been a leading one in Greece and at international level. Results on the deregulation of lipid metabolism genes and pathways in osteoarthritis were novel and helped globally in the establishment of a new phenotype in osteoarthritis the “metabolic phenotype”. Recent research interests are focused on the establishment of cellular and/or epigenetic therapies for osteoarthritis treatment, using animal models of the disease.
- 2018- present: Investigation of the role of induced pluripotent stem cells in articular cartilage regeneration in osteoarthritis

FUNDED RESEARCH PROJECTS

Have received the following National and EU grants.

1988: Central Health Council (KESY). Participation in the project “Chromosomal evaluation in children with Acute Lymphoblastic Leukemia (ALL)

1988: Central Health Council (KESY). Participation in the project “Cytogenetic and Immunological study of Myelodysplastic Syndromes

1993: EU project (granted under DGV Agreement No 93202367 05E01). Principal investigator for Greece of the project “Effects on human health of nitrates and nitrites in drinking water and nitrosable molecules present in foodstuffs»

1994: EMPIRIKION Foundation: Participation in the project “Follow-up genetic study in patients with acute leukemia who were cured”

1995: Ministry of Education, General Secretariat of Research and Technology, PENED Project. Participation in the project “Genotyping of Turner Syndrome patients and correlation with phenotype.”

1999: Ministry of Education, General Secretariat of Research and Technology, PYTHAGORAS project. Participation in the project: Evaluation of polymorphisms in COL2A1, COL9A1, ESR1, VDR and IL1B genes, as genetic markers for osteoarthritis development.

2009: Hellenic Society of Orthopedics and Traumatology: Principal investigator of the project “Evaluation of the role of statins in osteoarthritis

2010: Hellenic Society of Orthopedics and Traumatology. Principal investigator of the project “Inhibition of the expression of genes that regulate hypertrophy and calcification in osteoarthritic articular cartilage”

2010-2013: Ministry of Education, General Secretariat of Research and Technology, COOPERATION-ESPA 2007-20013. Principal investigator of the project “Osteoarthritis: integrated systematic analysis for targeted biologic therapy”. Total funding: 800.000 euro

2011: Hellenic Society of Orthopedics and Traumatology. Principal investigator of the project “Epigenetic regulation in osteoarthritis through DNA methylation: novel molecular-therapeutic target”

2016: National Research Foundation (IKY), Excellence Projects. Principal investigator of the project “MicroRNAs as novel biomarkers for early diagnosis and prognosis of musculoskeletal diseases. Funding: 32.400 euro

2017: National Research Foundation (IKY), Excellence Projects. Principal investigator of the project “Role of miR-140 and miR-146 in osteoarthritis”

2018: Ministry of Education, General Secretariat of Research and Technology- EREVNO-DHMIOURGO-KAINOTOMO, ESPA 2014-2010. Principal investigator of the project “Induced pluripotent stem cells for cell therapy of degenerative joint diseases. Total funding: 969.048 euro.

2019: ESPA 2014-20120 EPEAK - Principal investigator of the project "Sirt-1 role in osteoarthritis: functional relationship between lipid metabolism and autophagy". Total funding: 30,000 euro

2019: District of Thessaly. Principal investigator of the project " Genetic predisposition in breast cancer in population of Thessaly". 150/00 euro.

AWARDS

Have received awards for Best Scientific Presentations from the: Hellenic Society of Pediatrics (1995 and 1997), Greek Clinical Oncology Society (1996), Greek Endocrinology Society (1997), Hellenic Society of Orthopedics (2005, 2006, 2007 and 2008) and 2 awards for Best Scientific Presentations from the European Bone and Joint Infection Society (2008 and 2017).

INVITED LECTURES

Have given over 50 invited lectures in Greece, Europe, Cyprus and China.

PUBLICATIONS IN BIOMEDICAL JOURNALS

Publications in peer-reviewed journals: 129

Mean Impact Factor (I.F): 4,015

Citations: Google scholar: **5,008**, Scopus: **3,377**

h index: Google scholar: **38**, Scopus: **30**

i10 index: Google scholar: **94**

International congresses: 85

Chapters in books:2