

Mahafarin Maralani

Department of Human Genetics

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Education

- 2016-Present, PhD on Oncology and Experimental Surgery.

Department of Medical Oncology, Azienda hospital polyclinic of “Paolo Giaccone”, University of “Degli studi di palermo”, Palermo, Italy.

(PhD Thesis: Liquid Biopsy: A Next Generation Diagnostic And Prognostic Tool In Solid Malignancies)

- 2016-2019, Double title PhD on Medical Science.

Phase I-Early Clinical Trials Unit, Oncology Department, Antwerp University Hospital (UZA) and Centre for Oncological Research (CORE), Antwerp University, Edegem, Belgium.

- 2012-2014 M.Sc. on Molecular Medicine.

Department of Molecular Medicine, Dokuz Eylul University, Izmir, Turkey.

GPA: 3.48 out of 4

(M.Sc. Thesis: Investigation Of Glp-1 receptor Polymorphisms Effects On Obesity)

- 2006-2010 B.S. on Nutrition and Dietetics.

(Holding current professional registration with the appropriate professional regulatory body and have independent prescribing qualification)

Department of Nutrition, Science Faculty, Tabriz Medical University, Tabriz, Iran.

GPA: 16.17 out of 20

(B.S Thesis: An RCT on the influence of low calorie diet on patients with NAFLD)

Professional Experience

- 2018- 2019: **Graduate Student Internship**

Department of Human Genetics, Faculty of Medicine, McGill University and Génome Québec Innovation Centre, Montreal, Canada

- Research: “Prognostic and Predictive Roles Of Liquid Biopsy In Renal Cell Carcinoma”.
- Design and establishment of new research methods and protocols to be applied for the *in vivo* and *in vitro* studies
- Establishment and maintenance of collaborations with other research groups both within and outside of McGill University
- Preparation of internal and external reports as well as scientific manuscripts

- 2016-2018: **Research Assistant**

Phase I-Early Clinical Trials Unit, Oncology Department, Antwerp University Hospital (UZA) and Center for Oncological Research (CORE), Antwerp University;

Department of Medical Oncology, Azienda hospital polyclinic of “Paolo Giaccone”, University of “Degli studi di Palermo”.

- Research: “Potential prognostic and predictive roles of liquid biopsy in colorectal carcinoma; With A Special Focus on Circulating DNA and Exosomes”.
- Perform laboratory experiments including sample preparation, data collection, and experimental design
- Provide advice and help on laboratory operation, equipment acquisition, safety procedures and maintenance.

- 2015-2016: **Manager & Scientist**

Immunology Research Center, Tabriz Medical University, Tabriz, Iran.

- Researches: “Expression profiles of miR-196, miR-132, miR-146a and miR-134 in human colorectal cancer tissues in accordance with their clinical significance: comparison regarding KRAS mutation” & “The different profiling of microRNA-based tissue biopsy and liquid biopsy for colorectal cancer disease screening and detection”
- Management of Biobank generation, patient selection and data collection during the entitled projects
- Review and evaluation of research findings and interpretation of results

- 2014: **Research Scientist**

Tabriz university of medical science

- Contributed in projects to identify novel case reports regarding genetic mutations
 - Research: “A novel TNFRSF1A gene mutation in a patient with Tumour necrosis factor receptor-associated periodic syndrome”.
 - Initiated collaborations involving professors and researchers of Tabriz medical university and Emam Reza hospital
- **2013-2014: Erasmus Exchange Researcher**
Genomic Research Centre of Iuliu Hațieganu University of Medicine and Pharmacy, Cluj-Napoca, Romania.
 - Contributed in ongoing projects on new drug treatments for breast cancer
 - Perform laboratory experiments including sample preparation and data collection
 - Read and edit scientific reports and providing advice on academic writing

Awards and Honors

- **2018-2019: International research contribution award**
20000 € per year (for 18 months)
- **2016-2019: Doctorate Full Scholarship (Competitive Based)**
University of Palermo & University of Antwerp, 15000 € per year
- **2017: Academic Travel Award**
University of Palermo, 250 €
- **2013: Scholarship for Erasmus Exchange Studentship**
600 € per month (for 8 months)
- **2011: Ranked 1st in International Master Entrance Exam**
Dokuz Eylul University Molecular Medicine MSc Program
- **2006: Ranked within the Top 1% in University Entrance Exam**
Among 550,000 Iranian students

Work Experience

- **Mcgill University health centre (MUHC), Royal Victoria Hospital, Montreal, Canada, 2018-2019.** (As an intern researcher)
- **Azienda hospital polyclinic of “Paolo Giaccone”, Palermo, Italy, 2016-2018.** (As a research Scientist)
- **Medical Genetics Department, Dokuz Eylul University, Izmir, Turkey, 2011-2014.** (As a trainer in Molecular Medicine)
- **Research Centre of Functional Genomics, Biomedicine and Translational Medicine, Iuliu Hatieganu University of Medicine and Pharmacy, Cluj Napoca, Romania, 2014.** (As an Erasmus exchange student)
- **Executive Committee of the International Symposium On Updates of Inflammatory Bowel Disease, 20-21 July 2016, Tabriz, Iran.** (As the host Presenter)
- **Executive Committee of the first international congress of IAP’s Iranian division with focus on recent updates in prevention, diagnosis and treatment of breast cancer, 8-10 November 2016, Tabriz, Iran.** (As the host Presenter)
- **Tabriz Medical Science University, Department of Physiology, 2008-2010.** (As an apprentice)
- **Executive Committee of the First International Congress on Updates of Prevention Diagnosis and Treatment of GI Cancers, 15-16 August 2017, Tabriz, Iran.** (As the host Presenter)

Other Research Experiences:

- Molecular Analysis of Human Genetic Diseases (Dokuz Eylul University, Izmir, Turkey, 2013-2014)
- Associate researcher in approved Project entitled “Insulin and leptin among young people” (Tabriz Medical School, Tabriz, Iran, 2010)
- Interviewer in the Project entitled “Leptin, resistin and stress in NAFLD” (Tabriz Medical School, Tabriz, Iran, 2010-2011)
- Co-operator in data analysis and reporting final results in the Project entitled “An RCT on the influence of low calorie diet on patients with NAFLD” (Tabriz Medical School, Tabriz, Iran, 2011)
- Data collector and reporter in cases with novel mutations (Tabriz, Iran, 2015)

Teaching Experiences:

- English Language teacher for IELTS and Academic writing (American Culture Language Schools, Ankara, Turkey, 2015)
- Co-ordinator and Teacher of Biology & Mathematics for Highschool students (Kebria university entrance exam teaching centre, Tabriz, Iran, 2006-2008)

Research Highlights

- Project management: Management of biobank collection and project design regarding basic & translational research
- Human clinical tissue samples: Collecting, processing and storing of cancer tissues, isolating cells for subsequent analysis, DNA & RNA extraction and quantification
- Animal models: Mouse handling and restraint, subcutaneous and intraperitoneal injection, blood collection, euthanasia, cardiac puncture, necropsy, tissue sampling from primary and metastatic organs, survival surgery, orthotopic subrenal capsule (SRC) implantation, patient-derived xenograft (pdx) model
- Cell culture: Cell culture, Co-culture, drug treatment, drug combination, cell viability, invasion, migration, proliferation, colony formation, etc
- Molecular biology: Next generation sequencing (NGS), Digital Droplet PCR (ddPCR), Ultracentrifuge, ELISA, qPCR, Western blot, fluorescent and confocal microscopy, SDS gel electrophoresis, FACS Flow Cytometry, etc

Certifications

Rodent Surgery Certificate

McGill University, medicine school

Animal Models (Module 1, 2 & 3)

McGill University, medicine school

Handling Laboratory Animals Certificate

Tabriz Medicine School

Introduction to Biosafety

McGill University, medicine school

Safe Use of Biological Safety Cabinets

McGill University, medicine school

Workplace Hazardous Materials Information System (W.H.M.I.S.) 2015

McGill University, medicine school

Hazardous Waste Management & Disposal for Laboratory

McGill University, medicine school

Languages

English (Please see below)
Italian (Very Good)
Persian (Native)
Azeri (Native)
Arabic (Good)
French (Basic)
Turkish (Please see below)

Language Certificates:

- International English Language Testing System (ACADEMIC) (8/9) (Test date: 18.06.2016)
- Ankara University, Turkish Language Test (93/100) (Test Date: 15.12.2011).
- International English Language Testing System (ACADEMIC) (7/9) (Test date: 10.01.2015)
- International English Language Testing System (ACADEMIC) (6.5/9) (Test date: 10.07.2010)
- ETS Test Centre, GRE Test (Quantitative: 161/170 and Verbal: 137/170) (Test Date: 19.11.2011).

Publications

Articles:

- 1) **M Maralani**, A Galvano, M Castiglia, N Barraco, L Incorvaia, D Fanale, V Gristina, N Silvestris, V Bazen, A Russo; “Potential prognostic and predictive roles of liquid biopsy in colorectal carcinoma; With A Special Focus on Circulating DNA and Exosomes”. Submitted to Cancers.
- 2) **M Maralani**, B Baradaran , Kh Hajiasgharzadeh, M Peeters; “The role of microRNAs in cancer regulation”. Submitted to Gene.
- 3) **M Maralani**, D Shanebandi, M Asadi, S Hashemzadeh, Kh Hajiasgharzadeh, B Baradaran, M Peeters; “Expression profiles of miR-196, miR-132, miR-146a and miR-134 in human colorectal

cancer tissues in accordance with their clinical significance: comparison regarding KRAS mutation”. Submitted to Cellular Biochemistry.

- 4) **M Maralani**, Kh Hajiasgharzadeh, D Shanehbandi, M Asadi, S Hashemzadeh, B Baradaran, M Peeters; “The different profiling of microRNA-based tissue biopsy and liquid biopsy for colorectal cancer disease screening and detection”. Submitted to Cancer Genetics.
- 5) **M Maralani**, T Cankaya, E Ataman, Y Tokgoz, E Kaytankas, N Arslan, M Jafarlou, A Ulgenalp. “Effects of GLP-1 receptor polymorphisms on adolescent obesity”. Submitted to Journal of Clinical Laboratory Analysis.
- 6) C Gherman, O Braicu, O Zanoaga, V Pileczki, **M Maralani**, F Drigla, C Braicu, L Budisan, P Achimas-Cadariu, I Berindan-Neagoe. “Caffeic acid phenethyl ester activate pro-apoptotic and epithelial-mesenchymal transition related genes in ovarian cancer cells A2780 and A2780cis”. Molecular and Cellular Biochemistry (MCBI), Mol Cell Biochem, 2016; 413:189–198; DOI 10.1007/s11010-015-2652-3.
- 7) M Pucci, P Reclusa, E Durendez, E Jantus, **M Malarani**, S Khan, C Rolfo, S Taverna; “Extracellular vesicles as miRNA nanoshuttles: dual role in tumor progression”. Accepted for publication, Journal of Targeted Oncology.
- 8) V Pileczki, R Cojocneanu-Petric, **M Maralani**, I Berindan Neagoe, R Sandulescu. “MicroRNAs as regulators of apoptosis mechanisms in cancer”. Clujul Medical, 2015; DOI: 10.15386/cjmed-512.
- 9) A Khabazi, **M Maralani**, S Andalib, E Sakhinia. “A novel TNFRSF1A gene mutation in a patient with Tumor necrosis factor receptor-associated periodic syndrome”. Hematol Oncol Stem Cell Ther, 2016; DOI: 10.1016/hemonc.
- 10) M Soltani, M Nemati, **M Maralani**, MA Estiar, S Andalib, Z Fardiazar, E Sakhinia. “Cell-free fetal DNA in amniotic fluid supernatant for prenatal diagnosis”. Journal of Cellular and Molecular Biology. Cell. Mol. Biol. 2016; 62 (4): 14-17.
- 11) M Jafarlou, B Baradaran, TA Saedi, V Jafarlou, D Shanehbandi, **M Maralani**, F Othman. “An overview on the history, applications, advantages, disadvantages and prospects of gene therapy”. Journal of biological regulators and homeostatic agents, 2016; Vol. 30, no. 2; 0393-974X.
- 12) M Pucci, S Taverna, P Reclusa, E Durendez, **M Malarani**, R Alessandro, C Rolfo; “Exosomes in Semen: opportunities as a new tool in cancer diagnosis”. Translational Cancer Research, Volume 6, 1 October 2017, Pages S1331-S1338.
- 13) M Jafarlou, B Baradaran, TA Saedi, V Jafarlou, **M Maralani**, R Nasiri, B Mansoori. “Monoclonal Antibody Production against *Aspergillus Fumigatus* in Ascetic Fluid of Balb/C Mice”. Sch. J. App. Med. Sci., 2015; 3(6A): 2174-2177.

Proceeding Papers:

- 1) **M Maralani**, L Montermini, P Jandaghi, K Glennon, A Paccard, B Meehan, J Rak, Y Riazalhosseini; “Prognostic and Predictive Roles Of Liquid Biopsy In Renal Cell Carcinoma”.
- 2) “From Tumor To Circulation In Packed Form: When Liquid Biopsy Becomes The Pandora’s Box”; **M Maralani**, M Amaravandi, Y Riazalhosseini.
- 3) “Circulating Nucleic Acids – Next-generation Sequencing Strategies and Trends in Clinical Utility”; M Amaravandi*, **M Maralani***, Y Riazalhosseini. (*Authors contributed equally to this work)

Presentation & Posters:

- 1) “TGF- β siRNA therapy enhance doxorubicine antitumoral therapy in triple negative breast cancer model”, Cornelia Braicu, Eve Ponthière, **Mahafarin Maralani**, Roxana Petric, Valentina Pileczki, Gherman Claudia, Ioana Berindan-Neagoe. IOCN, Zilele Institute; OECI General Assembly & Oncology Days, 11-13 June 2014, Cluj-Napoca.
- 2) “Modulation of apoptotic mechanisms in ovarian cells A2780 and A2780 cisplatin resistant cells”, C Gherman, **M Maralani**, F Drigla, O Braicu, I Berindan-Neagoe. IOCN, Zilele Institute; OECI General Assembly & Oncology Days, 11-13 June 2014, Cluj-Napoca.
- 3) “Double knockdown of apoptotic genes and their relationship with other mechanisms involved in tumor cell survival”, V Pileczki, L Pop, C Braicu, **M Maralani**, I Berindan Neagoe. IOCN, Zilele Institute; OECI General Assembly & Oncology Days, 11-13 June 2014, Cluj-Napoca.
- 4) “siRNA therapy improves antitumor effect of doxorubicine in Hs578T, an in vitro model for triple negative breast cancer”, L Budisan, C Braicu, E Ponthière, **M Maralani**, V Pileczki, I Berindan-Neagoe. A Jurj. Poster Session 3: Drug combinations, Abstract code: P3.05, Win symposium, 29-30 June 2015, Paris, France.