

PERSONAL INFORMATION

WALTER ARANCIO


My main research interest concerns the molecular aspects that underlie the processes of human development and aging, and their effects on oncogenic transformation.

I study the mutual influences between [1] repeated sequences (LINE-1, ALU, et cetera), [2] ncRNAs (circular RNAs, Chromatin associated RNAs, et cetera), [3] nuclear lamins, with particular emphasis on Hutchinson Gilford Progeria Syndrome (HGPS), [4] chromatin remodeling, nuclear architecture and epigenetic modifications, [5] functional cell states (identity, stemness and senescence), [6] stem cell and cancer microenvironment, [7] endocrine function, [8] microbiota and environmental stress. The final aim of my studies is to identify, in the context of personalized medicine, diagnostic and prognostic biomarkers, preferably from liquid biopsies, and specific therapeutic targets for cancer and aging related diseases.

QUANTO RICHIESTO DAL BANDO:

- diploma di laurea magistrale: **POSSEDUTO**. Riferirsi al CV per dettagli. Possesso di titolo di studio superiore: **Dottorato di ricerca**.
- documentata esperienza lavorativa nell'ambito della gestione ed elaborazione di dati sanitari: **POSSEDUTA**. Riferirsi al CV per dettagli. NB: 6 anni di assegno di ricerca presso il policlinico universitario di Palermo. Gestione ed elaborazione dei dati sanitari svolta come si può evincere dalla produzione scientifica (vedi *) anche come "corresponding author" (vedi**).

WORK EXPERIENCE

20 th May 2019 – 3 rd June 2019	Tutoring for graduate students. University of Palermo, School of Medicine
7 th June 2016 – 6 th June 2018	Postdoc position in "Tumor microenvironment related changes as new tools for early detection and assessment of high risk disease" . University of Palermo, University Hospital. ProSaMI.
March 2016 – February 2017	Lecturer of 'Applications of Molecular Biology'. University of Palermo.
June 2015 – July 2016	Lecturer of 'Molecular Biology' University of Palermo.
October 2014 – February 2016	Lecturer of 'Microbiology' . University of Palermo, branch of Trapani .
14 th May 2014 – 6 th June 2014	Lecturer in 'Functional Genomics 2: CNV analysis in Pathology'. University of Palermo. STEBICEF department.
January 2012 – January 2016	Postdoc position in "Study of the visceral adipose function and insulin sensitivity in endocrine disorders characterized by increased cardiometabolic risk" . University of Palermo. DIBIMIS department.
June 2011 – January 2012	Fellowship on "Genetic, immunohistochemical and molecular biology study of the stem cell compartment of the gastro-intestinal mucosa" . University hospital of Palermo.
March 2011 – February 2012	Lecturer of 'Genetics'

June 2009 – August 2009

University hospital of Palermo, branch of Caltanissetta.

Collaborator on a “ Study of urban indoor / outdoor volatile hydrocarbons and its impact on respiratory health”

CNR of Palermo, IBIM .

September 2008 – January 2011

Technology transfer.

Industrial Liaison Office of the University of Palermo and Notarbartolo & Gervasi.

EDUCATION AND TRAINING

16 th -17 th January 2018	Linux shell scripting for high-throughput biological data processing on supercomputers ELIXIR-IIB, CINECA, Rome, Italy	N/A
27 th -29 th September 2017	Best practices for RNA-Seq data analysis ELIXIR-IIB, Campus of Fisciano, Salerno University, Italy	N/A
3 rd May 2017	Nanopore Community Workshop 2017 Nanopore Conference “London Calling 2017”	N/A
2 nd March 2017	Qiagen NGS Day University of Catania	N/A
21 th July 2016	QuantStudio™ 3D Digital PCR System Training course. University of Palermo, PROSAMI	N/A
24 th -28 th June 2013	Animal Genomics and Bioinformatics University of Palermo.	N/A
11 th -15 th 25 th -29 th May; 11 th November 2009	The application of the methodology of analysis and evaluation of patents Agency for the Diffusion of the Technologies for Innovation, Presidency of Ministers Council	89/100
18 th April 2008	PhD in Experimental Oncobiology University of Palermo	N/A
18 th July 2002	Master Degree in Biological Sciences, Molecular Biology University of Palermo	110/110 cum laude

PERSONAL SKILLS

Mother tongue(s)	ITALIAN				
Other language(s)					
	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	C2	B2	C1	C1

Job-related skills

My methodological expertise resides in: **bioinformatics** (also **metagenomics** and **nanopore sequencing**), cellular biology, molecular biology; histochemistry, biochemistry, genetics (*D. melanogaster*), and microbiology.

ADDITIONAL INFORMATION

Congress oral contributions:

- **A novel pipeline of analysis revealed a significant downregulation of transcription from human repetitive sequences in a Parkinson's disease model.**. V meeting congiunto IBIM-CNR/STEBICEF. Italy. 2018.
- **A novel approach to the molecular analysis of deletions: the CeRNA model**. SMART Lab 2017. Italy. 2017.
- **Anaplastic large T cell lymphoma (ALCL) is characterized by high expression of P-selectin glycoprotein ligand 1 (PSGL-1) that positively correlates with CD30 expression and TCR signaling pathway.** 7th Congress SIAPEC-IAP. Italy. 2016.
- **Anaplastic Thyroid Carcinoma: a ceRNA analysis pointed to a crosstalk between SOX2, TP53 and microRNA biogenesis.** STEBICEF. University of Palermo. Italy. 2014.
- **Novel molecular targets for the therapy of type II diabetes.** III Regional Congress of the Italian Society of Internal Medicine, section of Sicily. Italy. 2013.
- **A Bioinformatics Analysis of Lamin A Regulatory Network: a Perspective on Epigenetic Involvement in Hutchinson-Gilford Progeria Syndrome.** Fifth SENS Conference. UK. 2011.
- **Role of the ATP-dependent chromatin remodeller ISWI in the control of cell cycle and differentiation.** FISV 11th Annual Congress. Italy. 2009.
- **Possible Novel RNA-Mediated Transcriptional Activation Mechanism, called "RNA memory" Involved in Cell Identity.** SENS Fourth Conference, Cambridge, UK. 2009.
- **A dominant modifier screen for suppressors of ISWI function.** 8th International conference on Drosophila heterochromatin. Italy. 2007.

Scientific papers:

- ***Natriuretic peptide system expression in murine and human submandibular salivary glands: a study of the spatial localisation of ANB, BNP, CNP and their receptors.** A Ahmed, et al. J Mol Hist.
- **Assessment and characterization of the bacterial community structure in advanced activated sludge systems.** P Cinà, et al. Bioresource technology 282, 254-261
- ****Progerin expression induces a significant downregulation of transcription from human repetitive sequences in iPSC-derived dopaminergic neurons.** W Arancio. GeroScience 41 (1), 39-49
- ***Serum miRNAs in women affected by hyperandrogenic polycystic ovary syndrome: the potential role of miR-155 as a biomarker for monitoring the estroprogestinic treatment.** W Arancio, et al. Gynecological Endocrinology 34 (8), 704-708
- ***Targeted next generation sequencing of breast implant-associated anaplastic large cell lymphoma reveals mutations in JAK/STAT signalling pathway genes, TP53 and DNMT3A.** A Di Napoli, et al. British journal of haematology 180 (5), 741
- ****Real-time detection of BRAF V600E mutation from archival hairy cell leukemia FFPE tissue by nanopore sequencing.** D Vacca, et al. Molecular biology reports 45 (1), 1-7
- ***Donor age and long-term culture do not negatively influence the stem potential of limbal fibroblast-like stem cells.** L Tomasello, et al. Stem cell research & therapy 7 (1), 83
- **Trans-reactivation: a new epigenetic phenomenon underlying transcriptional reactivation of silenced genes.** W Arancio et al. PLoS genetics 11 (8), e1005444
- ***A ceRNA approach may unveil unexpected contributors to deletion syndromes, the model of 5q-syndrome.** W Arancio et al. Oncoscience 2 (10), 872
- ***Hutchinson Gilford Progeria Syndrome: A Therapeutic Approach via Adenoviral Delivery of CRISPR/cas Genome Editing System.** W Arancio et al. Journal of Genetic Syndromes & Gene Therapy 6 (1), 1
- ***Anaplastic thyroid carcinoma: a ceRNA analysis pointed to a crosstalk between SOX2, TP53, and microRNA biogenesis.** W Arancio et al. International journal of endocrinology 2015
- ***Identification of Novel Wsf1 Mutations in a Sicilian Child with Wolfram Syndrome.** G Pizzolanti et al. Journal of Genetic Syndromes & Gene Therapy 5 (5), 1
- **Competing endogenous RNA and interactome bioinformatic analyses on human telomerase.** W Arancio et al. Rejuvenation research 17 (2), 161-167
- **Epigenetic involvement in Hutchinson-Gilford progeria syndrome: a mini-review.** W Arancio et al. Gerontology 60 (3), 197-203
- **A ceRNA analysis on LMNA gene focusing on the Hutchinson-Gilford progeria syndrome.** W Arancio et al. Journal of clinical bioinformatics 3 (1), 2
- ***Multiple pluripotent stem cell markers in human anaplastic thyroid cancer: the putative upstream role of SOX2.** V Carina, et al. Thyroid 23 (7), 829-837
- **CeRNA bioinformatic analysis on human telomerase.** W Arancio et al. Rejuvenation Research, 6-6
- **A novel antiviral approach.** W Arancio. Medical hypotheses 79 (3), 396-399
- **A bioinformatics analysis of lamin-a regulatory network: a perspective on epigenetic involvement in Hutchinson-Gilford progeria syndrome.** W Arancio. Rejuvenation research 15 (2), 123-127
- ***Hypoxia inducible factor-1 alpha expression is increased in infected positive HPV16 DNA oral squamous cell carcinoma and positively associated with HPV16 E7 oncoprotein.** V Rodolico et al. Infectious agents and cancer 6 (1), 18
- **The nucleosome remodeling factor ISWI functionally interacts with an evolutionarily conserved network of cellular factors.** W Arancio et al. Genetics 185 (1), 129-140
- **RNA memory model: a RNA-mediated transcriptional activation mechanism involved in cell identity.** W Arancio. Rejuvenation research 13 (2-3), 365-372
- **Genetic identification of a network of factors that functionally interact with the nucleosome remodeling ATPase ISWI.** G Burgio et al. PLoS genetics 4 (6), e1000089
- **Tissue Versus Liquid Biopsy: Opposite or Complementary?** In: Liquid Biopsy in Cancer Patients, pp.41-49. Walter Arancio et al. Doi:10.1007/978-3-319-55661-1_4.
- **Progeria: Model organisms** In: Encyclopedia of Gerontology and Population Aging. Walter Arancio. Doi: 10.1007/978-3-319-69892-2.
- **Progeria: Humans** In: Encyclopedia of Gerontology and Population Aging. Walter Arancio. Doi: 10.1007/978-3-319-69892-2.
- **Metodo in vitro per l'arricchimento in sequenze genomiche bersaglio mediante sistema CRISPR-Cas (In vitro method for enrichment of target genomic sequences through the CRISPR-Cas system).** Arancio et al. 102017000067084, 16.06.2017, Italy (Pending).

Book Chapters

Patent(s)

I declare that what is stated in this document is true.

Autorizzo al trattamento dei miei dati personali ai sensi del D. L. 30 giugno 2003 n. 196.

Autorizzazione al trattamento dei dati personali in base all'art. 13 del D. Lgs. 196/2003 e all'art. 13 del Regolamento UE 2016/679 relativo alla protezione delle persone fisiche con riguardo al trattamento dei dati personali.

Sono consapevole della responsabilità penale prevista, dall'art. 76 del DPR 445/2000, per le ipotesi di falsità in atti e dichiarazioni mendaci ivi indicate.

Il sottoscritto rilascia il presente Curriculum Vitae sotto forma di Dichiarazione Sostitutiva di Atto Notorio ai sensi dell'art. 47 del D.P.R. 445/2000, consapevole che chiunque rilasci dichiarazioni mendaci, formi atti falsi o ne faccia uso è punito ai sensi del codice penale e delle leggi speciali in materia. Inoltre, il sottoscritto autorizza al trattamento dei dati personali, secondo quanto previsto dalla Legge 675/96 del 31 dicembre 1996 e ss. modifiche ed integrazioni.

Walter Arancio PhD

