

ARASH DAVARI SEREJ

MOLECULAR GENETICIST

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VIA GIULOTTO 28, PAVIA, ITALY
IRANIAN, 24 DEC 1989, SINGLE



MY OBJECTIVE

I am an ambitious biologist who is always fascinated by evolutionary processes. Analytical and logical thinker with precise hands in laboratory experiments. My interdisciplinary research spans applying computational approaches to connect the dots and get the better understanding of evolutionary developmental biology.

WWW.ARASHDAVARI.IT

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EDUCATION

- 2014-2017 | **M.SC. IN MOLECULAR GENETICS**
University of Pavia, Pavia, Italy.
Computational Biology Lab, Institute of Molecular Genetics (IGM), CNR, Pavia, Italy.
- 2008-2013 | **B.SC. IN BIOLOGY**
University of Tabriz, Tabriz, Iran.
- 2004-2008 | **DIPLOMA IN SCIENCES**
National Organization for Development of Exceptional Talents (NODET), Maragheh, Iran.

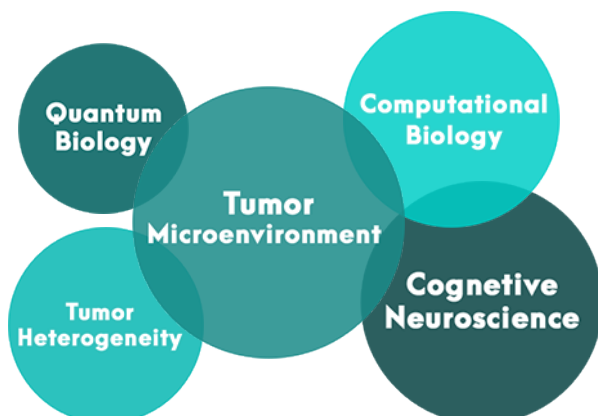


EXPERIMENTS

- INTERNSHIP IN ELECTRON MICROSCOPY LAB.**
University of Pavia, Pavia, Italy.
Feb 2014 - Jan 2015
PROJECT TITLE: Study of gene regulation and ultra-structural co-localisation of Ca^{2+} on the nucleus and chromatin condensation.
- RESEARCH ASSISTANT IN NANO-BIOMATERIAL LAB.**
Research Center for Pharmaceutical Nanotechnology, Tabriz, Iran.
Sep 2012 - Jun 2013
PROJECT TITLE: Anti-cancer activity of compounds isolated from Papaver orientale.
- RESEARCH ASSISTANT IN BIO-PHARMACEUTICALS LAB.**
Tabriz Medical Sciences University, Tabriz, Iran.
Sep 2010 - Jun 2012
PROJECT TITLE 1: Anti-bacterial efficacy of Silver-crosslinked hydrogel nano-composite on E. faecalis in root canal infection.
PROJECT TITLE 2: Anti-bacterial effect of burned egg yolk oil.



RESEARCH INTERESTS



SKILLS

- MOLECULAR AND CELLULAR BIOLOGY**
Sanger sequencing, PCR, qPCR, RNA extraction, cDNA synthesis, Western blot, Immunohistochemistry, Gel electrophoresis, HeLa Cell culture.
- MICROSCOPY**
Utilization of Fluorescent Microscopy and TEM (Positive and Negative DNA and RNA staining, FISH, Photo-conversion, Heavy Metal Staining, Microtome).
- COMPUTER SKILLS**
R-Studio, Matlab, LaTeX, HTML5, CSS3, WordPress. Adobe Photoshop, Illustrator, After effect.

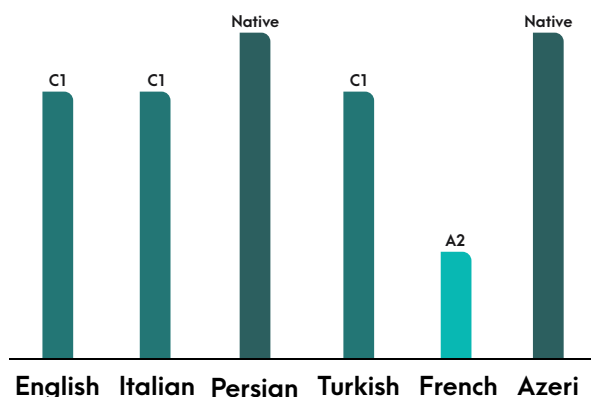


TRAINSHIPS

- COMPUTATIONAL NEUROSCIENCE: NEURONAL DYNAMICS OF COGNITION (ONLINE COURSE)**
Mar 2018 EPFLx (edX)
Course Code: BIO465.2x
Tutor: Prof. Wolfram Gerstner
- STATISTICS AND R (ONLINE COURSE)**
Feb 2017 HarvardX (edX)
Course Code: PH525.1x
Tutor: Prof. Rafael Irizarry
- PROCESS MINING: DATA SCIENCE IN ACTION (ONLINE)**
Jan 2017 Eindhoven Uni. of Technology (coursera)
Tutor: Prof. Wil van der Aalst
- ROYAN INTERNATIONAL SUMMER SCHOOL**
Jul 2012 Royan Institute, Tehran, Iran
Title of the course: Developmental Biology and Stem Cells



LANGUAGES



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HONORS & AWARDS

- BEST INTERNATIONAL STUDENT FELLOWSHIPS FUNDED BY CARIPLO FOUNDATION - 4000 EUR**
Oct 2013
University of Pavia, Pavia, Italy.
- AWARDED A RESEARCH GRANT AS THE BEST STUDENT IN NODET'S YOUNG RESEARCHERS COMPETITION IN BIOLOGY. - 2000 EUR**
Dec 2008
National Organization for Development of Exceptional Talents, Tehran, Iran.
- SELECTED PROJECT FOR NATIONAL AWARD, STUDY ON ANTI-BACTERIAL EFFECT OF BURNED EGG YOLK OIL.**
July 2008
National Young Kharazmi Awards, Tehran, Iran.
- HONORED PROJECT OF NODET'S YOUNG RESEARCHERS COMPETITION, STUDY ON TREATMENT OF GALLSTONES.**
Dec 2007
National Organization for Development of Exceptional Talents, Tehran, Iran.



SELECTED ADMINISTRATIVE

- FOUNDER AND THE PRESIDENT OF ASSOCIATION**
Mar 2018 - Present
Association of International relations of Iran and Italy.
- REPRESENTATIVE OF THE CENTER OF INTERNATIONAL DEVELOPMENT OF IRAN'S SISTER CITIES IN ITALY**
Oct 2015 - 2017
- DEAN OF STUDENT RESEARCH COMMITTEE**
Oct 2010 - Sept 2012
Nanotechnology Scientific Association of Tabriz University, Iran.
- EDITOR OF INTERFACULTY MAGAZINE OF ENZYME**
Oct 2009 - Sep 2010
Biology Scientific Association of Tabriz University, Iran.
- MEMBER OF THE CENTRAL COUNCIL AND DEAN OF STUDENT RESEARCH COMMITTEE**
Oct 2009 - Sep 2010
Biology Scientific Association of Tabriz University, Iran.



PUBLICATION

- Antibacterial efficacy of silver-crosslinked hydrogel nanocomposite versus sodium hypochlorite and chlorhexidine on *Enterococcus faecalis* for use in root canal infection.
Nov 2014, 3(11): 2316-2332
Int. Journal of Biology, Pharmacy and Allied Sciences



HOBBIES

- CALLIGRAPHY
- ORIGAMI
- UKULELE
- READING
- SPEED CUBING
- DARTS
- SWIMMING
- MOVIES



THESIS SUMMARY

- Tumor Heterogeneity and Microenvironment, A Computational Model for Evolutionary Dynamics of Cancer.**

Supervisor: Prof. Robert A. Gatenby,
Chairman of Radiology and Integrated Mathematical Oncology, H. Lee Moffitt Cancer Center, Tampa, Florida, US

In this study, we addressed the evolutionary dynamics in carcinogenesis that promote aerobic glycolysis in the malignant phenotype and examine the potential role of abnormal glucose metabolism in the formation of tumor cells. Successive rounds of adaptation, competition, and selection lead to increasingly less cooperative and more harmful cells. We developed, upon a previously built and experimentally confirmed model, a new hybrid multi-scale computational model of tumor development. Concentrations of the microenvironment's elements are calculated based on a Partial Differential Equations (PDEs), performed in MATLAB software. This thesis introduces a new mathematical approach, which would provide a cell-to-cell tracking system, as well as, clustering them considering various criteria such as phenotype, metabolic profile, origin of mutations, etc.

25 March 2018
Pavia - Italy

