ZEIN MERSINI BESHARAT
Curriculum Vitae

Rome
26/06/2023

Part I – General Information

Full Name	Zein Mersini Besharat
E-mail	zeinmersini.besharat@uniroma1.it
Spoken Languages	Italian, English, Greek, Arabic, German, French

Part II – Education

Type	Year	Institution	Notes (Degree, Experience,…)
University graduation	2013	National Technical University of Athens	Degree of Electrical and Computer Engineering, Master of Engineering Communications with a focus on Biomedicine
PhD	2016	Sapienza University of Rome	PhD in Molecular Medicine with Honours

National Scientific Qualification

National Scientific Qualification	2020	Italian Ministry of Education, University and Research	Awarded the National Scientific Qualification for Associate Professor for the SC 06/A2, SSD MED/04 of the Call 2018-2020, validity: 31/05/2021 - 31/05/2032

Part III – Appointments

IIIA – Academic Appointments

PhD student

Start	End	Institution	Position
2013	2016	Sapienza University of Rome	PhD student at the PhD School in Molecular Medicine

Post-doc Researcher

Start	End	Institution	Position
2017	2018	Department of Experimental Medicine, Sapienza University of Rome	Post-doc Researcher at the Laboratory of Oncogenomics
2018	2020	Department of Medical Sciences,	Post-doc Researcher

		Diabetology and Metabolic Diseases UOC, Siena University Hospital, Siena	

RTD A researcher

Start	End	Institution	Position
2020	present	Department of Experimental Medicine, Sapienza University of Rome	RTD A Researcher

IIIB – Other Appointments

Start	End	Institution	Position
2017	present	Italian Ministry of Education, University and Research	Member of Expert Peer Reviewers for Italian Scientific Evaluation (REPRISE)
2013	present	Sapienza University of Rome	Participation in Italian research groups: Sapienza University (Dept. of Oncological Radiological Sciences and Pathological Anatomy, Dept. of Pharmaceutical Chemistry and Technologies, Dept. of Molecular Medicine, Dept. of Translational and Precision Medicine, Dept. of Anatomical-Histological Sciences, Medical-Legal of the Locomotor Apparatus), Bambin Gesù Pediatric Hospital, University of Siena, University of Pisa, Biogem Scarl "Gaetano Salvatore" Institute of Genetic Research, Federico II University of Naples, National Research Council - CNR, "Foro Italico" University, IRCCS Foundation National Institute of Tumors Center of Excellence ENETS Milan, University of Tor Vergata, A. Gemelli University Hospital Catholic University of the Sacred Heart Rome, IRCCS Neuromed Pozzilli, Center for Life NanoScience@Sapienza Italian Institute of Technology, IRCCS Santa Lucia Foundation, Campus Bio-Medico University, University of Calabria, University of "G. d'Annunzio" Chieti Pescara
2013	present	Sapienza University of Rome	Participation in International research groups: University of Amsterdam, Charité University Medicine Berlin, The University of Queensland, Herston Australia, Medical University of Vienna Austria, Charles University Prague Czech Republic, Université de Paris Paris France, University of Antwerp Antwerp Belgium, The Children's Memorial Health Institute Warsaw Poland, Brigham and Women's Hospital Boston (MA) USA, UCL Queen Square Institute of Neurology

			London UK, Hopp Children's Cancer Center Heidelberg (KiTZ) Germany, Heidelberg University Germany, Institut de Neurophysiopathologie, Aix-Marseille Université, CNRS, Marseille, France, Botucatu Medical School, São Paulo State University (UNESP), Botucatu SP Brazil, University of Granada Spain, University of Miami (FL) USA, Karolinska Institutet Stockolm Sweden, David H. Koch Institute for Integrative Cancer Research MIT Cambridge (MA) USA, University of Bern Switzerland

Part IV – Teaching experience

Year	Institution	Lecture/Course
2020-present	Sapienza University of Rome	Faculty member of PhD Program in Network Oncology and Precision Medicine - 36th (aa 2020/2021), 37th cycle (aa 2021/2022), 38th cycle (aa 2022/2023)

Year	Institution	Lecture/Course
2020-present	Sapienza University of Rome	Course Coordinator of Research Methodology, Course A Health Professions of Technical Sciences (diagnostic)
2020-present	Sapienza University of Rome	Professor of General Pathology (MED/04, 1 CFU), Course of Research Methodology, Course A Health Professions of Technical Sciences (diagnostic)
2020-present	Sapienza University of Rome	Professor of Health Statistics (MED/01, 1 CFU), Course of Research Methodology, Course A Health Professions of Technical Sciences (diagnostic)
2022-present	Sapienza University of Rome	Professor of General Pathology (MED/04, 1 CFU), Course of Cellular and Molecular Basis of Life, Course A Imaging and Radiotherapy techniques
2020-2022	Sapienza University of Rome	Professor of Genetics (MED/03, 1 CFU), Course of Cellular and Molecular Basis of Life, Course A Imaging and Radiotherapy techniques
2019-2022	Sapienza University of Rome	Professor of English V - Evidence Based Medicine (L-LIN/12, 1 CFU), Course A Medical School
2018-2020	Sapienza University of Rome	Professor of English in Biotechnology (4 CFU), Biotechnology Degree
2018-2019	Sapienza University of Rome	Professor of English III - Evidence Based Medicine (L-LIN/12, 1 CFU), Course D Medical School

Orientation activities for students

Year	Institution	Orientation activities
2022-2023	Sapienza University of Rome	Tutor in the PCTO (Percorsi per le Competenze Trasversali e l'Orientamento) project "Introduction to the scientific method in the biomedical field", code 88480
2021-2022	Sapienza University of Rome	Responsible and tutor in the PCTO (Percorsi per le Competenze Trasversali e l'Orientamento) project "Introduction to the scientific method in the biomedical field", code 63754
2020-2021	Sapienza University of Rome	Tutor in the PCTO (Percorsi per le Competenze Trasversali e l'Orientamento) project "Introduction to the scientific method in the biomedical field", code 40696

Year	Institution	Tutoring activities for university students
2020-present	Sapienza University of Rome	Tutoring students: Bioinformatics Course, Sapienza University of Rome, 2 degree holders and 2 students in progress

Year	Institution	Tutoring activities for PhD students
2021-present	Sapienza University of Rome	Tutoring PhD students: PhD Network Oncology and Precision Medicine, 37th cycle, Sapienza University of Rome, 1 student in progress

Part V - Society memberships, Awards and Honors

Awards and Honors

Year	Title
01/12/2021	Winner of Minerva Research award III Edition for research on the role of microRNAs in cancer, Foundation Roma Sapienza
26/11/2021	Winner of Post-doctoral Fellowship Fondazione Umberto Veronesi year 2022
2018-2020	Post-doc fellowship research on the evaluation of microRNAs as biomarkers of response to therapy and tolerability of hypoglycemic drugs
2017-2018	Post-doc fellowship awarded for the Fondazione Roma Project "Non communicable diseases in the elderly: Circulating microRNAs and long non-coding RNA as novel biomarkers of response to therapy in metabolic diseases"
2013-2016	Three year scholarship for the completion of PhD in Molecular Medicine, Sapienza University of Rome

Society memberships

Year	Title
2013-present	Member of research group "Molecular Oncology A. Gulino", Sapienza University of Rome
2019-2020	Member of the European Association for Cancer Research (EACR), Member ID EACR27439

International Scientific Boards

Year	Title

2018-present	International Scientific Board Member as Referee of International Scientific Journals (BMC Cancer, Cancer Management and Research, OncoTargets and Therapy, International Journal of Molecular Sciences, Biomedicines, Journal of Translational Medicine, Biomedicine & Pharmacotherapy)
2014-present	International Scientific Board Member of the European SIOP-LGG preclinical working group (International Society of Pediatric Oncology)
2019-2020	International Scientific Board Member as Guest Editor of Special Issue "Molecular Biomarkers in Cancer and Metabolic Disease" in the International Journal of Molecular Sciences IF 6.208
2019-2020	International Scientific Board Member as Guest Editor of Special Issue "Signalling pathways in Metabolic Diseases and Cancer" in Cancers IF 6.575
2020-2022	International Scientific Board Member as Guest Editor of Special Issue "Molecular Biomarkers in Cancer and Metabolic Disease 2.0" in the International Journal of Molecular Sciences IF 6.208
2022-present	International Scientific Board Member as Guest Editor of Research Topic "Circulating Biomarkers in Cancer: Towards Personalized Precision Medicine" in Frontiers in Cell and Developmental Biology IF 6.081

Bioinformatic omics molecular data analyses – National workshops and courses

Year	Title
2017	"Training Course on Best practices for RNA-Seq data analysis", ELIXIR-IIB Training, University of Salerno, Italy
2016	"Medical statistics" workshop, Sapienza University of Rome, Italy
2016	"An introductory course to RNA-seq", MBC, Via Nizza 52, Torino, Italy
2015	"High Throughput Sequencing data analysis - HTS BeMM 2015", Sapienza University of Rome, Italy
2014	"2nd Bioinformatics introductory Course", Perugia, Italy

International Courses and Research activities in omics data analyses

Year	Title
2019	Research collaboration on microRNA-seq data analyses with German Cancer Research Center, Heidelberg, Germany
2015	"Advanced training course for the use of R2 molecular platform" Academic Medical Center, University of Amsterdam
2014	"Practical introduction in RNA-seq Bioinformatics", Leipzig, Germany
2014	"miRNA detection", Leipzig, Germany
2014	"Promoter analysis using Genomatix", Munich, Germany
2014	"NGS data analysis training using Genomatix", Munich, Germany

Oral presentation in international workshops and congresses

Year	Title
2023	International workshop "Non-coding RNAs as emerging biomarkers for human diseases: new insights and analytical strategies", 3 July 2023, University of Trento
2019	International LifeTime Conference, 7-8 Novembre 2019, Montpelliere

Part VI - Funding Information [grants as PI-principal investigator or I-investigator]

PI- Principal Investigator / co-PI

Year	Title	Program	Grant value
2023	Dissecting Androgen and Estrogen Receptor functions in skeletal muscle: in vitro and in vivo models (D.A.Re.) Prot. 2022MSE59K	Progetti di ricerca di Rilevante Interesse Nazionale – Bando PRIN 2022, Duration: 2 years co-PI: Zein Mersini Besharat	
2020	Evaluation of circulating microRNAs in medulloblastoma as prognostic biomarkers	Sapienza University Research Grants, Duration: 1 year, Principal Investigator: Zein Mersini Besharat	

I- Investigator

Year	Title	Program	Grant value
2022	High Content Analysis Platform for multiplex in depth characterisation of healthy and diseased cells and tissues	Sapienza University Research Grants, Duration: 3 years year, PI: Prof. Elisabetta Ferretti, Investigator: Zein Mersini Besharat	
2022	ERAP1 at the crossroad of targeted therapies and immunotherapies in Hedgehog-dependent medulloblastoma	Sapienza University Research Grants, Duration: 3 years year, PI: Prof. Lucia Di Marcotullio, Investigator: Zein Mersini Besharat	
2021	Targeting Reductive Stress-GDF15 Axis in Colorectal Cancer	Sapienza University Research Grants, Duration: 3 years year, PI: Prof. Gianluca Canettieri, Investigator: Zein Mersini Besharat	
2016	Circulating microRNAs and DNA (cfDNA) as novel biomarkers for diagnostic, prognostic and therapeutic use in Medullary Thyroid Carcinoma	Call AIFA 2016, Agenzia Italiana del Farmaco, Duration: 3 years year, PI: Prof. Elisabetta Ferretti, Investigator: Zein Mersini Besharat	

Part VII – Research Activities

Keywords	Brief Description
Bioinformatics analyses using omics tools	Development of large scale approaches for big data analysis from different omics platforms -next generation sequencing and assays- and in different contexts
Circulating biomarkers	Analysis and discovery of circulating biomarkers (e.g. microRNAs and cfDNA) in cancer and metabolic diseases
Molecular oncology	Characterization of the molecular events involved in tumorigenesis mainly focusing on solid tumors and deregulated pathways
Hedgehog/Gli signaling pathway	Analysis of dysregulated mechanisms of the Hedgehog/Gli signaling pathway involved in neoplastic diseases
Oncosuppressor and oncogenes	Identification of novel molecules as oncosuppressor or oncogenes

microRNA and Epigenetic regulation	Identification of epigenetic networks including microRNAs and long non-coding RNAs in tumors and metabolic diseases
Metabolic diseases	Obesity and diabetes mellitus
Tumors and cancer treatments	Medulloblastoma, neuroblastoma, gliomas, lung, colorectal, thyroid cancers, melanoma and immunotherapy

Part VIII – Summary of Scientific Achievements

Product type	Number	Data Base	Start	End
Papers [international]	44	Scopus	2014	2023
Papers [national]	-	-	-	-
Books [scientific]	1	Scopus	2014	2023
Books [teaching]	-	-	-	-

Total Impact factor	IF publication year: 248.839; IF 2021: 273.01
Total Citations	774 (Scopus)
Average Citations per Product	17.59 (Scopus)
Hirsch (H) index	17 (Scopus)
Normalized H index*	1.89

*H index divided by the academic seniority.

Part IX– Selected Publications

List of the publications selected for the evaluation. For each publication report title, authors, reference data, journal IF (if applicable), citations, press/media release (if any).

List of 12 publications selected for the evaluation in the last 8 years

Bold first author and **bold underlined** last or corresponding author.
First author: 7 publications
Last author: 2 publications

1) **Besharat ZM**, Trocchianesi S, Verrienti A, Ciampi R, Cantara S, Romei C, Sabato C, Noviello TMR, Po A, Citarella A, Caruso FP, Panariello I, Gianno F, Carpino G, Gaudio E, Chiacchiarini M, Masuelli L, Sponziello M, Pecce V, Ramone T, Maino F, Dotta F, Ceccarelli M, Pezzullo L, Durante C, Castagna MG, Elisei R, Ferretti E. Circulating miR-26b-5p and miR-451a as diagnostic biomarkers in medullary thyroid carcinoma patients. Journal of Endocrinological Investigation. 2023 Jun 7. doi: 10.1007/s40618-023-02115-2. IF anno pubblicazione: 5.467; IF 2021: 5.467. Citations: 0

2) Pecoraro M, Catanzaro G, Conte F, Besharat ZM, Messina E, Laschena L, Trocchianesi S, Splendiani E, Sciarra A, Catalano C, Paci P, Ferretti E, Panebianco V. Prospective Validation Study of a Novel Integrated Pathway Based on Clinical Features, Magnetic Resonance Imaging Biomarkers, and MicroRNAs for Early Detection of Prostate Cancer. European

Urology Oncology. 2023 Jun 1. doi: 10.1016/j.euo.2023.05.008. IF anno pubblicazione: 8.512; IF 2021: 8.512. Citations: 0

3) Sabato C., Noviello T.M., Covre A., Coral S., Caruso F.P., Besharat Z.M., Splendiani E., Masuelli L., Battistelli C., Vacca A., Catanzaro G., Po A., Anichini A., Maio M., Ceccarelli M., Di Giacomo A.M., Ferretti E. A novel microRNA signature for the detection of melanoma by liquid biopsy. Journal of Translational Medicine. 2022 Dec;20(1):1-4. doi: 10.1186/s12967-022-03668-1. IF anno pubblicazione: 8.400; IF 2021: 8.400. Citations: 5

4) **Catanzaro G.*, Besharat Z.M.*,** Carai A., Jäger N., Splendiani E., Colin C., Po A., Chiacchiarini M., Citarella A., Gianno F., Cacchione A., Miele E., Diomedi Camassei F., Gessi M., Massimi L., Locatelli F., Jones D.T.W., Figarella-Branger D., Pfister S.M., Mastronuzzi A., Giangaspero F., Ferretti E. MiR-1248: a new prognostic biomarker able to identify supratentorial hemispheric pediatric low-grade gliomas patients associated with progression. Biomark Res. 2022 Jun 17;10(1):44. doi: 10.1186/s40364-022-00389-x. ***(co-senior authorsip)**. IF anno pubblicazione: 8.663; IF 2021: 8.663. Citations: 1

5) **Grieco G.E.*, Besharat Z.M.*,** Licata G., Fignani D., Brusco N., Nigi L., Formichi C., Po A., Sabato C., Dardano A., Natali A., Dotta F., Sebastiani G., Ferretti E. Circulating microRNAs as clinically useful biomarkers for Type 2 Diabetes Mellitus: miRNomics from bench to bedside. Translational Research. 2022 Mar 27. doi: 10.1016/j.trsl.2022.03.008. ***(co-senior authorsip)**. IF anno pubblicazione: 10.171; IF 2021: 10.171. Citations: 6

6) Campolo F., Catanzaro G., Venneri M.A., Ferretti E., **Besharat Z.M**. MicroRNA loaded edible nanoparticles: an emerging personalized therapeutic approach for the treatment of obesity and metabolic disorders. Theranostics. 2022;12(6):2631. doi:10.7150/thno.71399. IF anno pubblicazione: 11.600; IF 2021: 11.600. Citations: 2

7) Pelullo M., Nardozza F., Zema S., Quaranta R., Nicoletti C., Besharat Z.M., Felli M.P., Cerbelli B., d'Amati G., Palermo R., Capalbo C., Talora C., Di Marcotullio L., Giannini G., Checquolo S., Screpanti I., Bellavia D. Kras/ADAM17-dependent Jag1-ICD reverse signalling sustains colorectal cancer progression and chemoresistance. Cancer research. 2019 Jan 1:canres-0145. doi: 10.1158/0008-5472.CAN-19-0145. IF anno pubblicazione: 9.727; IF 2021: 13.312. Citations:

8) **Besharat Z.M.**, Sabato C., Po A., Gianno F., Abballe L., Napolitano M., Miele E., Giangaspero F., Vacca A., Catanzaro G. and Ferretti E., 2018. Low Expression of miR-466f-3p Sustains Epithelial to Mesenchymal Transition in Sonic Hedgehog Medulloblastoma Stem Cells Through Vegfa-Nrp2 Signaling Pathway. Frontiers in Pharmacology. 9. doi: 10.3389/fphar.2018.01281. IF anno pubblicazione: 3.845; IF 2021: 5.988. Citations: 20

9) Po A., Abballe L., Sabato C., Gianno F., Chiacchiarini M., Catanzaro G., De Smaele E., Giangaspero F., Ferretti E., Miele E., **Besharat Z.M**. Sonic Hedgehog Medulloblastoma Cancer Stem Cells Mirnome and Transcriptome Highlight Novel Functional Networks. Int. J. Mol. Sci. 2018, 19, 2326. doi: 10.3390/ijms19082326. IF anno pubblicazione: 4.183; IF 2021: 6.208. Citations: 14

10) **Catanzaro G.*, Besharat Z.M.***, Chiacchiarini M., Abballe L., Sabato C., Vacca A., Borgiani P., Dotta F., Tesauro M., Po A., Ferretti E. Circulating MicroRNAs in Elderly Type 2 Diabetic Patients. International Journal of Endocrinology. vol. 2018, Article ID 6872635,

11 pages, 2018. doi:10.1155/2018/6872635. ***(co-senior authorsip)**. IF anno pubblicazione: 2.287; IF 2021: 2.803. Citations: 26

11) **Besharat Z.M.**, Abballe L., Cicconardi F., Bhutkar A., Grassi L., Le Pera L., Moretti M., Chinappi M., D'Andrea D., Mastronuzzi A., Ianari A., Vacca A., De Smaele E., Locatelli F., Po A., Miele E., Ferretti E. Foxm1 controls a pro-stemness microrna network in neural stem cells. Scientific Reports 2018;8:3523. doi: 10.1038/s41598-018-21876-y. IF anno pubblicazione: 4.011; IF 2021: 4.996. Citations: 27

12) **Catanzaro G.*, Besharat Z. M.***, Garg N., Ronci M., Pieroni L., Miele E., Mastronuzzi A., Carai A., Alfano V., Po A., Screpanti I., Locatelli F., Urbani A. & Ferretti E. 2016. Micrornas-Proteomic Networks Characterizing Human Medulloblastoma-Slcs., Stem Cells International, 2016, E2683042. ***(co-senior authorsip)**. IF anno pubblicazione: 3.540; IF 2021: 5.131. Citations: 9