PERSONAL INFORMATION

Surname	Keklikoglou
Name	Ioanna
Date of birth	15.07.1985
Marital status	Married
Number of children	2 (Born in: 2017 and 2019)
e-mail	keklikoglou@uoc.gr and i.keklikoglou@qmul.ac.uk
ORCHID ID	https://orcid.org/0000-0003-1219-6912

EDUCATION

09.2020 – 06.2022: Post Graduate Certificate in academic practice (Teaching Qualification Certificate for academic staff, MSc level), Queen Mary University of London, London, UK

02.2009 – 11.2012: PhD in molecular and cellular biology (Dr. rer. nat.) in the Division of Molecular Genome Analysis at DKFZ-German Cancer Research Center, Ruprecht-Karls University of Heidelberg, Heidelberg, Germany. Thesis title: Identification and Functional Characterization of MicroRNAs Mediating NF-kB Signaling in Human Cancers.

09.2003 – 07.2008: 'Ptychio' in Biology, Aristotle University of Thessaloniki, Greece. Main subject: Molecular Biology, Genetics and Biotechnology. Thesis title: Correlation analysis of the structure and function of TRAF5 and TRAF6 proteins.

RESEARCH/WORKING EXPERIENCE

09.2022 – now: Assistant Professor at the Department of Biology, University of Crete, Heraklion, Greece

10.2022 – now: Honorary Lecturer (Assistant Professor equivalent) at Barts Cancer Institute and the Faculty of Medicine and Dentistry, Queen Mary University of London, London, United Kingdom

10.2019 – 09.2022: Lecturer (Assistant Professor equivalent) at the Faculty of Medicine and Dentistry, Queen Mary University of London, London, United Kingdom

10.2019 – 09.2022: Group Leader at the Centre for Tumour Microenvironment, Barts Cancer Institute, London, United Kingdom

01.2013 – 01.2019: Postdoctoral researcher in the area of Tumour immunology and angiogenesis in the Tumour Microenvironment Laboratory, Swiss Institute for Experimental Cancer Research (ISREC), Swiss Federal Institute of Technology Lausanne (EPFL), Lausanne, Switzerland (in the laboratory of Prof Michele De Palma).

02.2009 – 11.2012: PhD research associate in Molecular and Cellular Biology, Division of Molecular Genome Analysis, German Cancer Research Center (DKFZ), Heidelberg, Germany (in the laboratory of Prof Stefan Wiemann).

03.2007 – 03.2008: Research associate in the Prion Group, Institute of Agrobiotechnology/ Center of Research and Technology Hellas (INA/CERTH), Thessaloniki, Greece (in the laboratory of Prof Theodoros Sklaviadis).

09.2006 – 07.2007: Diploma Thesis in molecular biology and cell signaling, Department of Molecular Biology and Genetics, Aristotle University of Thessaloniki, Greece (in the laboratory of Prof George Mosialos).

BIBLIOMETRICS

1653 citations, h-index 13 (source: Scopus 07.10.2022), 2115 citations, h-index 14 (source: Google Scholar 07.10.2022), total I.F.= 158.96, average I.F. = 10.59, including 14 original research articles (4 first author publications; 3 co-corresponding author publications), 1 commentary article in Nature (News & Views) and 1 book chapter.

PUBLICATIONS

- Martinez-Usatorre A[#], Kadioglu E[#], Cianciaruso C, Guichard A, Torchia B, Nassiri S, **Keklikoglou I**, Schmittnaegel M, Ries CH, Meylan E, and De Palma M (2021). Overcoming microenvironmental resistance to PD-1 blockade in genetically engineered lung cancer models. ***Science Translational Medicine***, Aug 11;13(606):eabd1616**, IF=17.96**

- **Keklikoglou I**[*,#], Cianciaruso C[#], Guc E, Squadrito ML, Spring LM, Tazzyman S, Lambein L, Poissonier A, Ferraro GB, Baer C, Cassara A, Guichard A, Iruela-Arispe ML, Lewis CE, Coussens LM, Bardia A, Jain RK, Pollard JW, and De Palma M* (2019). Chemotherapy elicits pro-metastatic extracellular vesicles in breast cancer models. ***Nature Cell Biology***, 21(2):190-202. **IF=28.82**
  Highlight: Nat Rev Cancer 2019 (doi: 10.1038/s41568-019-0111-2).
  Highlight: F1000Prime (https://f1000.com/prime/734718811).

- **Keklikoglou I**, Kadioglu E, Bissinger S, Langlois B, Bellotti A, Orend G, Ries CH, and De Palma M* (2018). Periostin limits tumor response to VEGFA inhibition. ***Cell Reports***, Volume 22, Issue 10, 2530 – 2540. ***Featured Cover Article,*** **IF=9.423**

- Hughes R, Qian BZ, Rowan C, Muthana M, **Keklikoglou I**, Olson OC, Tazzyman S, Danson S, Addison C, Clemons M, Gonzalez-Angulo AM, Joyce JA, De Palma M, Pollard JW, and Lewis CE* (2015). Perivascular M2 Macrophages Stimulate Tumor Relapse after Chemotherapy. ***Cancer Research***, 75(17):3479-91. **IF=12.7**

- Shukla K*, Sharma AK, Ward A, Will R, Hielscher T, Balwierz A, Breunig C, Münstermann E, König R, **Keklikoglou I**, and Wiemann S* (2015). MicroRNA-30c-2-3p negatively regulates NF-kB signaling and cell cycle progression through downregulation of TRADD and CCNE1 in breast cancer. ***Molecular Oncology***, 9(6):1106-19. **IF=6.574**

- **Keklikoglou I***, Hosaka K, Bender C, Bott A, Koerner C, Mitra D, Will R, Woerner A, Muenstermann E, Wilhelm H, Cao Y, and Wiemann S* (2015). MicroRNA-206 functions as a pleiotropic modulator of cell proliferation, invasion and lymphangiogenesis in pancreatic adenocarcinoma by targeting ANXA2 and KRAS genes. ***Oncogene***, 34(37):4867-78. **IF=9.867**

- **Keklikoglou I**, and De Palma M* (2014). Cancer: Metastasis risk after anti-macrophage therapy. ***Nature***, 6;515(7525):46-7. **IF=42.778**

- Rigamonti N[#], Kadioglu E[#], **Keklikoglou I**, Wyser Rmili C, Leow CC, and De Palma M* (2014). Role of angiopoietin-2 in adaptive tumor resistance to VEGF signaling blockade. ***Cell Reports***, 8(3):696-706. **IF=9.423**

- Garding A[#], Bhattacharya N[#], Claus R, Ruppel M, Tschuch C, Filarsky K, Idler I, Zucknick M, Caudron-Herger M, Oakes C, Fleig V, **Keklikoglou I**, Allegra D, Serra L, Thakurela S, Tiwari V, Weichenhan D, Benner A, Radlwimmer B, Zentgraf H, Wiemann S, Rippe K, Plass C, Döhner H, Lichter P, Stilgenbauer S, and Mertens D* (2013). Epigenetic upregulation of lncRNAs at 13q14.3 in leukemia is linked to the In Cis downregulation of a gene cluster that targets NF-kB. ***PLOS Genetics***, 9(4):e1003373. **IF=5.917**

- Körner C*, **Keklikoglou I**, Bender C, Wörner A, Münstermann E, and Wiemann S* (2013). MicroRNA-31 sensitizes human breast cells to apoptosis by direct targeting of protein kinase C epsilon (PKCepsilon). ***Journal of Biological Chemistry***, 288(12):8750-61. **IF=5.157**

- **Keklikoglou I***, Koerner C, Schmidt C, Zhang JD, Heckmann D, Shavinskaya A, Allgayer H, Gückel B, Fehm T, Schneeweiss A, Sahin Ö, Wiemann S* and Tschulena U (2012). MicroRNA-520/373 family functions as a tumor suppressor in estrogen receptor negative breast cancer by targeting NF-κB and TGF-β signaling pathways. ***Oncogene,*** 31(37):4150-63. **IF=9.867**

- Jurmeister S, Baumann M, Balwierz A, **Keklikoglou I**, Ward A, Uhlmann S, Zhang JD, Wiemann S* and Sahin Ö* (2012). MicroRNA-200c represses migration and invasion of breast cancer cells by targeting actin-regulatory proteins FHOD1 and PPM1F. ***Molecular and Cellular Biology,*** 32(3):633-651. **IF=4.272**

- Zhang JD[#], Koerner C[#], Bechtel S, Bender C, **Keklikoglou I**, Schmidt C, Irsigler A, Ernst U, Sahin O, Wiemann S*, Tschulena U* (2011). Time-resolved human kinome RNAi screen identifies a network regulating mitotic-events as early regulators of cell proliferation. ***PLOS One***, 6(7):e22176 **IF=3.240**

- Gorska K, **Keklikoglou I**, Tschulena U and Winssinger N* (2011). Rapid fluorescence imaging of miRNAs in human cells using template Staudinger reaction. ***Chemical Science***, 2:1969–1975. **IF=9.346**

- Arrizubieta MJ[#], Kanata E[#], **Keklikoglou I**, Papasavva-Stylianou P, Toumazos P, Panagiotidis CH and Sklaviadis T* (2009). Design and validation of a high-throughput assay to detect polymorphisms at codon 146 of the caprine PRNP gene. ***Analytical Biochemistry,*** 393(2):229-33. **IF=2.219**

**** Corresponding author*** ***[#] Equal contribution***

BOOK CHAPTERS

- **Keklikoglou I** and De Palma M (2014). Vascular Modulatory Functions of Macrophages. In: Biswas S., Mantovani A. (eds) Macrophages: Biology and Role in the Pathology of Diseases. Springer, New York.

WEB AND MAGAZINE PUBLICATIONS

- **Keklikoglou I** and Ward A (2014). MIR373 (microRNA 373). Atlas Genet Cytogenet Oncol Haematol. 18(3):174-179.

- **Keklikoglou I** and Koerner C (2013). miRNAs: Regulating signaling in breast cancer. G.I.T. Laboratory Journal Europe, Vol 17 April 3-4/2013, p. 22-23.

CONFERENCES & SEMINARS (ORAL PRESENTATIONS - SELECTED)

02.2021: 'Neoadjuvant chemotherapy elicits a pro-metastatic cascade through EVs', Department Seminar at School of Medicine, University of Nottingham, UK (**Invited speaker**).

01.2020: 'Neoadjuvant chemotherapy elicits a pro-metastatic cascade through EVs', CRUK City of London Centre, Mouse Models Workshop, London, UK (**Invited speaker**).

05.2019: 'Macrophages: Mediators of resistance to anti-cancer therapies', VIB Cancer Institute, Leuven, Belgium (**Invited speaker**).

05.2019: 'Neoadjuvant chemotherapy elicits a pro-metastatic cascade through EVs and monocytes', XXVI Porto Cancer Meeting, Porto, Portugal (**Invited speaker**).

05.2018: 'Neoadjuvant chemotherapy elicits a pro-metastatic cascade through EVs and monocytes', ISEV2018 Annual Meeting, Barcelona, Spain.

11.2017: 'Neoadjuvant chemotherapy elicits a pro-metastatic cascade through EVs and monocytes', 6th Faculty & Staff Retreat of the Lausanne Cancer Research Community 2017, Lausanne, Switzerland.

09.2016: 'Taxanes elicit pro-metastatic exosomes', ISREC-SCCL Symposium 2016: Horizons of Cancer Biology and Therapy, Lausanne, Switzerland.

10.2014: 'Combinatorial targeting of the hallmarks of cancer', Eurocan Platform Summer School in Translational Cancer Research, Algarve, Portugal.

09.2012: 'miRNA Regulation of Signaling Pathways in Breast Cancer', SELECTBIO, RNAi & miRNA part of Genomics Research Europe, Frankfurt, Germany (**Invited speaker**).

11.2011: 'A Genome-wide miRNA screen reveals novel regulators of NF-κB signaling in breast cancer', MicroRNAs & Single Molecule Biology Europe-2011-Meeting, Cambridge, UK (**Invited speaker**).

05.2011: 'A Genome-wide miRNA screen reveals novel regulators of NF-κB signaling in breast cancer', Scientific Retreat DKFZ Research Program B, Kloster Schöntal, Germany.

CONFERENCES (POSTER PRESENTATIONS)

02.2018: **I. Keklikoglou** and M. De Palma, 'Taxanes elicit pro-metastatic exosomes', LS2 annual meeting 2018, Metabolism & Signaling in the life sciences, Lausanne, Switzerland.

11.2016: **I. Keklikoglou** and M. De Palma, 'Taxanes elicit pro-metastatic exosomes'', 5th Faculty & Staff Retreat of the Lausanne Cancer Research Community 2017, Lausanne, Switzerland.

11.2011: **I. Keklikoglou**, DJ Zhang, S. Wiemann and U.Tschulena, "miR-520/373 family functions as a tumor suppressor in ER negative breast cancer", 4th German Israeli Cancer Research School, Kibbutz Kfar Giladi, Israel. **Best Poster Award Winner.**

11.2010: **I. Keklikoglou**, DJ Zhang, C. Schmidt, S. Wiemann and U.Tschulena, "Identification and characterization of factors mediating NF-kB signaling", 5th international MicroRNAs Europe 2010 – Meeting, on MicroRNAs: Biology to Development and Disease, Cambridge, UK. **Best Poster Award Winner.**

11.2010: **I. Keklikoglou**, DJ Zhang, C. Schmidt, S. Wiemann and U.Tschulena, "A Genome-wide miRNA screen identifies novel regulators of NF-kB signaling pathway", 3rd Annual Meeting of NGFN-Plus and NGFN-Transfer, Berlin, Germany.

09.2010: **I. Keklikoglou**, DJ Zhang, C. Schmidt, S. Wiemann and U.Tschulena, "Identification and characterization of factors mediating NF-kB signaling", Systems Genomics 2010, Functional Genomics & Systems Biology towards targeted Therapies, DKFZ, Heidelberg, Germany.

05.2008: Megas C, **Keklikoglou I**, Marinopoulou E and Mosialos G, "Connection between the structure and the function of TRAF6". 30th Conference of Hellenic Society for Biological Sciences in Thessaloniki, Greece.

WORKSHOPS/SEMINARS/COURSES

15.09.2021 – 17.09.2021: **EBMO Laboratory Leadership Online course,** EMBO, Heidelberg, Germany.

11.12.2020 – 13.12.2020: **PPL module for experimental animal work,** Royal Society of Biology, London, UK

11.11.2019 – 13.11.2019: **PIL A-C modules for experimental animal work (species covered: Rat, Mouse),** Royal Society of Biology, London, UK

06.11.2019: **PhD supervision training for new supervisors**, Doctoral College, Queen Mary University of London, London, UK

08.11.2018: **EMBO Research Integrity Workshop**, EPFL, Lausanne, Switzerland

20.01.2014 – 29.01.2014: **FELASA B (RESAL 1/226) Module 1: Introductory Course in Laboratory Animal Science**, Lausanne, Switzerland

08.11.2009 – 13.11.2009: **EMBO Practical Course on High-throughput (HT) Microscopy for Systems Biology**, EMBL, Heidelberg, Germany.

03.03.2008 – 21.03.2008: **From Molecular to Systems Biology and Biocomputing**, School of Electrical and Computer Engineering of Aristotle University of Thessaloniki, Erasmus-Mundus M.Sc. Program.

AWARDS & GRANTS

2022 – 2026: **City of London PhD studentship**, Cancer Research UK (Role: Principal Investigator).

2022 – 2025: **MRC DTP PhD studentship**, Medical Research Council, UK (Role: Principal co-Investigator).

2022 – 2024: **Springboard Award**, Academy of Medical Sciences, UK £100,000 (Role: Principal Investigator).

2021 – 2022: **Royal Society Research Grant**, The Royal Society, UK £20,000 (Role: Principal Investigator).

2020 – 2023: **Cancer Research UK PhD studentship**, Cancer Research UK Charity, £105,981 (Role: Principal Investigator).

2019 – 2022: **Early career researcher award "Rising stars",** Barts Charity, £384,000 (Role: Principal Investigator).

2019: **University Latsis award 2019 (Nomination)**.

2011: **Travel grant** to join the 4th German Israeli Cancer Research School, Kibbutz Kfar Giladi, Israel.

2011: **Best poster award winner** at the 4th German Israeli Cancer Research School, Kibbutz Kfar Giladi, Israel.

2010: **Best poster award winner** at the 5th international MicroRNAs Europe 2010 – Meeting, on MicroRNAs: Biology to Development and Disease, Cambridge, UK.

Assisted with scientific writing of the following grants (granted):

2012: Cooperation Program in Cancer Research of the Deutsches Krebsforschungszentrum (DKFZ) and Israel's Ministry of Science, Technology and Space (MOST) (Project CA153). Supported my PhD.

2012: Swiss Cancer League, Oncosuisse (KFS-3007-08-2012). Supported my Post-doc.

2015: Swiss National Science Foundation (SNF 31003A-165963). Supported my Post-doc.

INDUSTRIAL COLLABORATIONS

- **Roche (DE, CH)** – past collaborator (with Michele De Palma)
- **MedImmune (USA)** – past collaborator (with Michele De Palma)

MEMBERSHIPS & REVIEWING ACTIVITIES

Assisted with peer-reviewing for the following journals: Nature, Cell, Cancer Cell, Nature Cell Biology, Nature Communications, Journal of Clinical Investigation, Oncogene, International Journal of Cancer, Cancer Research, Cancer discovery.
Assisted with scientific reviewing for the Wellcome Trust Investigator Award and the ERC starting grants.

Ad-hoc reviewer for several international peer reviewed journals including Scientific Reports, Journal of Extracellular Vesicles, British Journal of Cancer, International Journal of Cancer, Neoplasia, Tumor Biology, Journal of Biomedical Science, Journal of Clinical Medicine, Cell Biology International, Clinical and Experimental Metastasis, Frontiers in Oncology and Frontiers in Cell and Developmental Biology.

Ad-hoc reviewer of scientific proposals for Czech Science Foundation, Breast Cancer Now, Medical Research Council UK (MRC), Worldwide Cancer Research.

Invited Special Issue Editor for Biomolecules (MDPI) on "The Role of Tumour Microenvironment in Therapeutic Resistance".

Member of:
The European Association for Cancer Research (EACR)
Hellenic Society of Biochemistry and Molecular Biology
International Society for Extracellular Vesicles (ISEV)

TEACHING ACTIVITIES

06.2022– now: Fellow of the Higher Education Academy (FHEA), reference number PR247489

02.2023 – now: Lecturer in BSc Biology program- Developmental biology, Department of Biology, University of Crete, Greece.

09.2022 – now: Lecturer in MSc program- BIO-1404, "Cellular Organization of life", Department of Biology, University of Crete, Greece.

09.2020 – now: Lecturer in MSc Cancer Therapeutics – Biological therapies course, Post-graduate program, School of Medicine and Dentistry, Queen Mary University of London, London, UK.

02.2020 – now: Problem-based Learning Tutor, MBBS Year 1, Brain & Behavior, School of Medicine and Dentistry, Queen Mary University of London, London, UK.

02.2020 – now: Problem-based Learning Tutor, MBBS Year 1, Human Development, School of Medicine and Dentistry, Queen Mary University of London, London, UK.

16 – 18.01.2017: Instructor for the Research Rotation Modules course of the Doctoral Program in Molecular Life sciences, EPFL, Switzerland.

02.2011– 07.2011: Lecturer in the 'Biology for non-Biologists' lecture series, DKFZ, Heidelberg, Germany.

04.2009 and 04.2010: Instructor for the practical course of 'Systems Genomics' for Master Program, Major: Cancer Biology, DKFZ, Faculty of Biosciences, Ruprecht-Karls-University Heidelberg, Germany.

2010 – now: Supervisor/Instructor of 1 postdoc, 3 PhD, 6 M.Sc., 5 B.Sc. students and 2 technicians, including supervision of the theses of 1 M.Sc. student from KU Leuven, Belgium and 1 B.Sc. student from Karolinska Institute, Sweden.

PhD Thesis Supervision:
Ms Ludovica Tarantola, Queen Mary University of London (Thesis supervisor)
Ms Alessandra Perini, Queen Mary University of London (Thesis supervisor)
Ms Yumiko Teigen, Queen Mary University of London (Thesis supervisor)

Member of PhD Advisory Committee:
Ms Samantha George, Queen Mary University of London (Member of Thesis Advisory Committee)
Mr Alberto Rizzo, Queen Mary University of London (Member of Thesis Advisory Committee)
Ms Sarah Harding, King's College London (Member of Thesis Advisory Committee)

PhD Examiner:
Mr James Opzoomer, King's College London (Member of PhD Examination Committee)

MSc Thesis Supervision:
2022 Mr Samuel Crane, Queen Mary University of London (Primary Thesis Supervisor)
2022 Ms Andrea Vinaga, Queen Mary University of London and Paris Saclay University (Primary Thesis Supervisor)
2021 Ms Cise Altinay, Queen Mary University of London (Primary Thesis Supervisor)
2021 Ms Nidhi Desai, Queen Mary University of London (Primary Thesis Supervisor)
2016 Ms Maria Karagianni, KU Leuven and EPFL (Secondary Thesis Supervisor, Day-to-day supervisor)

BSc Thesis Supervision:
2022 Ms Theano Makri, Queen Mary University of London (Primary Thesis Supervisor)
2021 Ms Samiihah Ollee, Queen Mary University of London (Primary Thesis Supervisor)
2021 Ms Eve Simon de la Mortiere, Queen Mary University of London (Primary Thesis Supervisor)
2014 Mr Erik Ferreira, Karolinska Institute and EPFL (Secondary Thesis Supervisor, Day-to-day supervisor)

SCIENTIFIC ACHIEVEMENTS

Group Leader on Tumour Microenvironment and Chemoresistance.

My group focuses on understanding the molecular and cellular mechanisms that mediate resistance to chemotherapy, mainly in breast and ovarian cancer. Using state-of-the art mouse models of cancer, as well as quantitative molecular and cellular approaches, we are interested in dissecting the microenvironmental cues that orchestrate specific tumour responses and metastasis formation after chemotherapy. More specifically, we are interested in understanding how inflammation - and tumour-associated myeloid cells in particular - is linked to chemoresistance, in order to develop new therapeutic approaches for the treatment of metastatic gynecological cancers. Current projects in the lab include:

- Investigating the role of extracellular matrix in myeloid cell recruitment and chemoresistance
- Dissecting the functional role of microtubule stabilization in the secretion of pro-tumoural extracellular vesicles and cellular contractility
- Understanding how chemotherapy and chemotherapy-elicited extracellular vesicles modulate the function of myeloid cells in pre-metastatic niches
- Tumour-associated macrophage evolution during anti-cancer therapies

Post-doctoral researcher on microenvironment-mediated tumour resistance to anti-cancer therapies in breast and pancreatic neuroendocrine tumours.
My main research during my post-doctoral training aimed to unravel the role of cancer cell-derived extracellular vesicles (EVs) in mediating tumour resistance to neoadjuvant chemotherapies. I found that two front-line chemotherapies, taxanes and anthracyclines, induce the release of pro-metastatic EVs by breast cancer cells. Mechanistically, these chemotherapy-elicited EVs enter the blood circulation and are systemically delivered to lung endothelial cells, whereby they trigger a pro-inflammatory response by inducing CCL2 expression in an NF-kB dependent manner. CCL2 recruits Ly6C+CCR2+ monocytes, which facilitate cancer cell extravasation and metastasis formation (**Keklikoglou and De Palma, Nature 2014**). Notably, proteomic analysis of these EVs revealed a class of deregulated molecules, which have been further confirmed in circulating EVs from a cohort of breast cancer patients treated with chemotherapy. These provocative and clinically relevant findings have attracted significant interest from the international scientific community. Importantly, this study, which has been recently published in Nature Cell Biology (**Keklikoglou et al., Nat Cell Biol 2019**), has been highlighted by Nature Reviews in Cancer (doi: 10.1038/s41568-019-0111-2) and F1000Prime (https://f1000.com/prime/734718811). Furthermore, this work has been featured in a lay press article in TheScientist (https://www.the-scientist.com/news-opinion/exosomes-linked-to-cancer-spread-fromchemoresistant-tumors-in-mice-65306). I am thus confident that my previous scientific achievements will trigger further research on the interplay between chemotherapy and metastasis, a phenomenon that has been largely neglected so far both mechanistically and in the clinic. My future research will make continuous efforts to address this issue.
In addition, I have been interested in understanding the molecular mechanism(s) that lead to tumour resistance to anti-angiogenic therapies. In particular, I have demonstrated that extended anti-VEGFA therapy of pancreatic neuroendocrine tumours (PNETs) leads to induction of periostin, a matrix protein, by stromal cells, which in turn recruits pro-tumoural and pro-angiogenic macrophages. The latter play an important role in mediating tumour revascularization in anti-VEGFA treated tumors. In collaboration with Roche (Penzberg), we have used a monoclonal murinized antibody against CSF1R in order to specifically deplete tumour-associated macrophages. Pharmacological elimination of macrophages through CSF1R blockade limited PNET revascularization during anti-VEGFA therapy. These findings are particularly interesting as they may have important translational implications in human pancreatic islet tumours that frequently develop resistance to sunitinib, an approved VEGFA signaling inhibitor. These findings have been recently published in Cell Reports (**Keklikoglou et al., Cell Rep 2018**).

PhD student studying the role of miRNAs in modulating NF-kB signaling in breast and pancreatic cancer.
My PhD thesis was focused on the identification of miRNAs that modulate NF-kB signaling in cancer cell lines. To this end, I performed a large-scale genome-wide miRNA screen using automated platforms. The top miRNA candidates were deeply characterized for their functional role in modulating tumor progression via NF-kB regulation in breast and pancreatic tumour models where NF-kB signaling is known to be constitutively activated and to have a tumour-promoting role, both *in vitro* and *in vivo*. I discovered that miR-373/520 family is a novel NF-kB regulator via direct targeting of RELA and thus a strong modulator of pro-inflammatory gene expression in breast cancer cells. Of note, I showed that miR-373/520 inhibits metastasis formation by targeting both NF-kB and TGF-β signaling pathways, specifically in estrogen receptor negative (ER^-) breast cancer. Remarkably, I further confirmed these findings in a cohort of untreated primary tumours, whereby miR-373/520 expression was reversely correlated with lymph-node metastasis status. Thus, my work identified miR-373/520 family as a novel negative regulator of NF-kB and TGF-β signaling pathways in ER^- breast cancer with a metastasis suppressive function (**Keklikoglou et al., Oncogene 2012**)**.** These findings open new avenues not only for the investigation of the role of miR-373/520 family as a prognostic biomarker, but also provide mechanistic knowledge and rationale for developing new miRNA-based therapeutic strategies to treat metastasis formation by blocking several cancer-promoting signaling pathways at once.
Moreover, I discovered that miR-206, which was also identified in the initial screen as a negative regulator of NF-kB activity, was downregulated in primary human pancreatic ductal adenocarcinoma (PDAC). I found that miR-206 exerts a tumour suppressive function by directly targeting KRAS and ANXA2 oncogenes, thereby blocking cancer cell proliferation and metastasis formation. Notably, dampening of KRAS-induced NF-kB activity by miR-206 reduced the expression and release of pro-inflammatory, pro-angiogenic and pro-lymphangionenic factors and as such inhibited tumour angiogenesis and lymphangiogenesis in mouse models of PDAC, thus leading to a significant delay of tumour growth. This study sheds light onto the role of miR-206 as a pleiotropic modulator of different hallmarks of cancer, and as such raising the intriguing possibility that miR-206 may be an attractive candidate for miRNA-based anti-cancer therapies **(Keklikoglou et al., Oncogene 2015**).

LANGUAGES

English – Oral and written proficiency French – Fair comprehension and speaking skills Greek – Native speaker