

## CURRICULUM VITAE

### PERSONAL INFORMATION

Surname: **Zavridou**

Name: **Martha**

Date of Birth: 27/08/1984

Place of Birth: Katerini, Greece

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### EDUCATION

**01/2015-03/2019 PhD Thesis**

**National and Kapodistrian University of Athens**

Department of Chemistry

Analysis of Circulating Tumor Cells Laboratory (<http://en.actc-lab.chem.uoa.gr>)

**PhD Dissertation**

“Liquid Biopsy: Development and clinical evaluation of novel non-invasive molecular diagnostics methods for cancer patients monitoring”

Grade: 10 (Excellent)

**Supervisor:** Evi S. Lianidou, Ph.D.

Professor of Analytical Chemistry-Clinical Chemistry

**10/2012-12/2014 MSc in Clinical Biochemistry and Molecular Diagnostics**

**National and Kapodistrian University of Athens**

Department of Biology

**Master Thesis**

“Study of circulating microRNAs in plasma of cancer patients”

**Supervisor:** Evi S. Lianidou, Ph.D.

Professor of Analytical Chemistry-Clinical Chemistry

**03/2010 BSc in Chemistry**

**Aristotle University of Thessaloniki**

Department of Chemistry

**Thesis**

“Monitoring the presence of arsenic in groundwater of Pieria, North Greece”

**Supervisor:** Dimitra Voutsas, Ph.D.

Professor of Environmental Chemistry

## SCIENTIFIC EXPERIENCE

- 04/2019-today** Postdoctoral researcher, Research Fellow in Analysis of Circulating Tumor Cells Lab (<http://www.actc-lab.chem.uoa.gr/>), Lab of Analytical Chemistry, Department of Chemistry, University of Athens, Greece.  
**Research program:** CANCER blood-scan, “Liquid Biopsy: development, validation and clinical evaluation of novel molecular diagnostic assays for tumor biomarkers in peripheral blood”  
This research program was funded by the European Union and Greek national funds through the Operational Program Competitiveness, Entrepreneurship and Innovation, under the call RESEARCH–CREATE–INNOVATE, grant number: T1RCI-02935  
**PI:** Evi Lianidou, Professor of Analytical Chemistry – Clinical Chemistry, Dept. of Chemistry, University of Athens
- 09/2018-02/2019** Doctoral dissertation in Analysis of Circulating Tumor Cells Lab (<http://www.actc-lab.chem.uoa.gr/>), Lab of Analytical Chemistry, Department of Chemistry, University of Athens, Greece.  
**Research program:** “Liquid Biopsy as a tool for the early detection of clinical recurrence of non-small cell lung cancer patients and the evaluation of tumor heterogeneity”  
This researched program was funded from the Hellenic Foundation for Research and Innovation (HFRI) and the General Secretariat for Research and Technology (GSRT)  
**PI:** Athina Markou, PhD, Postdoctoral researcher, Lab of Analytical Chemistry, Dept. of Chemistry, University of Athens
- 12/2015-02/2017** Doctoral dissertation in Analysis of Circulating Tumor Cells Lab (<http://www.actc-lab.chem.uoa.gr/>), Lab of Analytical Chemistry, Department of Chemistry, University of Athens, Greece.  
**Research program:** Cancer ID-IMI Innovative Medicine Initiative, with project title «Cancer treatment and monitoring through identification of circulating tumor cells and tumor related nucleic acids in blood» (<http://www.cancer-id.eu/>).  
**PI:** Evi Lianidou, Professor of Analytical Chemistry – Clinical Chemistry, Dept. of Chemistry, University of Athens
- 09/2015 - today** Employee in ACTC Lab, performing analyses for the detection of micrometastasis in breast cancer patients using RT-qPCR for biomarker CK-19
- 09/2013-12/2014** MSc in Clinical Biochemistry and Molecular Diagnostics in Analysis of Circulating Tumor Cells lab, Lab of Analytical Chemistry, Dept. of Chemistry, University of Athens, Greece.  
**Supervisor:** Evi Lianidou, Professor of Analytical Chemistry – Clinical Chemistry, Dept. of Chemistry, University of Athens
- 10/2011-06/2012** Voluntary practice in “Hôpital Emile Muller”, Department of Microbiology and Molecular Biology, Mulhouse, France  
**Study:** “Detection of viruses by polymerase chain reaction (PCR) in Molecular Biology”

## **SKILLS- MOLECULAR TECHNIQUES**

- Isolation of circulating tumor cells (CTCs) from peripheral blood using immunomagnetic enrichment
- Isolation of CTCs using size-based enrichment (Parsortix, Angle)
- microRNAs isolation and detection from tissues, plasma and CTCs samples
- Exosomes isolation from plasma
- RNA and DNA extraction from tissues, CTCs and plasma
- Sodium Bisulfite DNA treatment (DNA conversion)
- Real-time PCR (Cobas z480, LightCycler Technology, Roche)
- Methylation Specific PCR(MSP)
- Droplet digital PCR (ddPCR)
- ISO 15189:2012 experience

## **PUBLICATIONS**

### **A) Research Articles**

1. **Zavridou M**, Strati A, Bournakis E, Smilkou S, Tserpeli V, Lianidou E. Prognostic Significance of Gene Expression and DNA Methylation Markers in Circulating Tumor Cells and Paired Plasma Derived Exosomes in Metastatic Castration Resistant Prostate Cancer. *Cancers (Basel)*.2021 Feb 13(4); 780. **(IF: 6.126)**
2. Strati A\*, **Zavridou M**, Economopoulou P, Gkolfinopoulos S, Psyrris A, and Lianidou E\*. Development and analytical validation of a Reverse Transcription Droplet Digital PCR (RT-ddPCR) assay for PD-L1 transcripts in Circulating Tumor Cells. *Clin Chem* 2021 Jan 9; hvaa321. **(IF: 7.292)**
3. Markou A, Tzanikou E, Strati A, **Zavridou M**, Mastoraki S, Bournakis E, Lianidou E. PIM-1 Is Overexpressed at a High Frequency in Circulating Tumor Cells from Metastatic Castration-Resistant Prostate Cancer Patients. *Cancers (Basel)*. 2020 May 8; 12(5):1188. **(IF: 6.126)**
4. **Zavridou M**, Mastoraki S, Strati A, Koutsodontis G, Klinakis A, Psyrris A, Lianidou E. Direct comparison of size-dependent versus EpCAM-dependent CTC enrichment at the gene expression and DNA methylation level in head and neck squamous cell carcinoma. *Sci Rep*. 2020 Apr 16;10(1):6551 **(IF: 3.998)**
5. Strati A†, **Zavridou M**†, Bournakis E, Mastoraki S, Lianidou E. Expression pattern of Androgen Receptor, AR-V7 and AR-567es in Circulating Tumor Cells and paired plasma-derived extracellular vesicles in metastatic castration resistant prostate cancer. *Analyst*. 2019 Nov 4;144(22):6671-6680 (†equal contribution)
6. **M. Zavridou**, S. Mastoraki, A. Strati, E. Tzanikou, M. Chimonidou, E. Lianidou. Evaluation of Preanalytical Conditions and Implementation of Quality Control Steps for Reliable Gene Expression and DNA Methylation Analyses in Liquid Biopsies. *Clin Chem*. 2018 Oct;64(10):1522-1533 **(IF: 8.636)**
7. A. Strati, G. Koutsodontis, G. Papaxoinis, I. Angelidis, **M. Zavridou**, P. Economopoulou, I. Kotsantis, M. Avgeris, M. Mazel, C. Perisanidis, C. Sasaki, C.Alix-Panabières, E. Lianidou<sup>+</sup>, A. Psyrris<sup>+</sup>. Prognostic significance of PD-L1 expression on circulating tumor cells in patients with head and neck squamous cell carcinoma. *Annals Of Oncology*, 2017 Aug;28(8):1923-1933 **(IF: 9.269)**
8. Markou A †, **Zavridou M** †, Sourvinou I, Yousef G, Kounelis S, Malamos N, Georgoulis V, Lianidou E. Direct Comparison of Metastasis-Related miRNAs Expression Levels in Circulating Tumor Cells,

Corresponding Plasma, and Primary Tumors of Breast Cancer Patients. Clin Chem. 2016 Jul;62(7):1002-11. (IF: 7.911) (†equal contribution)

## **B) Reviews**

1. L. Giannopoulou, **M. Zavridou**, S. Kasimir-Bauer, E.S. Lianidou. Liquid Biopsy in ovarian cancer: recent advances on circulating miRNAs and exosomes. Transl Res 2019 Mar;205:77-91, Review (IF: 4.880)
2. Athina Markou, **Martha Zavridou**, Evi S Lianidou. miRNA-21 as a novel therapeutic target in lung cancer. Lung Cancer: Targets and Therapy 2016;7 19–27 Review (IF: 3.958)
3. Markou A, **Zavridou M**, Lianidou ES, MicroRNA signatures as clinical biomarkers in lung cancer, Dovepress, 2015 May; 5:35-45, Review

## **POSTER**

1. Markou A, Tzanikou E, Strati A, **Zavridou M**, Mastoraki S, Bournakis E, Lianidou E. PIM-1 expression in Circulating Tumor Cells from Metastatic Castration-Resistant Prostate Cancer Patients. **Advances in Circulating Tumour Cells (ACTC): Liquid Biopsy: Latest Advances and Future Challenges, October 2019, Corfu, Greece**
2. Areti Strati, **Martha Zavridou**, Evangelos Bournakis, Sophia Mastoraki and Evi S. Lianidou. Expression pattern of androgen receptor (*AR*), splice variant 7 (*AR-V7*) and splice variant 567 (*AR-567*) in circulating tumor cells and paired plasma-derived exosomes in metastatic castration resistant prostate cancer. **AACR Annual Meeting**, Atlanta convention center, Georgia, USA, March 29 - Apr 3, 2019, Cancer Res July 1 2019 79 (13 Supplement) 2290-2290; DOI:10.1158/1538-7445.SABCS18-2290
3. **Martha Zavridou**, Sophia Mastoraki, Areti Strati, George Koutsodontis, Apostolos Klinakis, Amanda Psyrris, Evi Lianidou. Molecular characterization of circulating tumor cells in head and neck squamous cell carcinoma: Direct comparison of a label-independent size-based microfluidic device with EpCAM-based CTC enrichment, **AACR Annual Meeting** March 29-April 3, 2019, Atlanta, Georgia, USA
4. A.Ntzifa, **M.Zavridou**, P.Pollakis, G.Bardi, V.Georgoulas, A.Kotsakis, E.Lianidou Combination of a label independent CTC enrichment platform with fluorescence in situ hybridization for the molecular characterization of CTCs in non-small cell lung cancer patients, **AACR Annual Meeting** April 14-19, 2018, Chicago, Illinois, USA
5. **Martha Zavridou**, Areti Strati, Evi Lianidou. Evaluation of preanalytical conditions for gene expression studies in CTCs. **11th ISMRC**, May 3-5, 2018, Montpellier, France
6. **Martha Zavridou**, Areti Strati, George Koutsodontis, Amanda Psyrris, Evi Lianidou. Gene expression analysis of circulating tumor cells in patients with head and neck squamous cell carcinoma; directed comparison of CTC-enrichment based on the EpCAM-independent PARSORTIX microfluidic device with EpCAM-based CTC isolation. **11th ISMRC**, May 3-5, 2018, Montpellier, France
7. Areti Strati, **Martha Zavridou**, Ilias Angelidis, Evangelos Bournakis, Vasilis Georgoulas, Evi Lianidou. Development, analytical and clinical validation of a novel multiplex RT-qPCR assay for the simultaneous

- quantification of four AR splice variants (*AR-FL*, *AR-V7*, *AR-567es* and *AR-total*) in circulating tumor cells of mCRPC patients. **11th ISMRC**, May 3-5, 2018, Montpellier, France
8. A.Ntzifa, **M.Zavridou**, P.Pollakis, G.Bardi, V.Georgoulas, A.Kotsakis, E.Lianidou Fluorescence in situ hybridization analysis in CTCs of non-small cell lung cancer patients isolated with the PARSORTIX platform. **11th ISMRC**, May 3-5, 2018, Montpellier, France
  9. **Martha Zavridou**, Areti Strati, Evi S. Lianidou. Evaluation of preanalytical conditions for studying gene expression in CTCs » **Advances in Circulating Tumour Cells (ACTC) from Basic Research to Clinical Practice, October 4-7 /2017, Rhodes, Greece**
  10. **Martha Zavridou**, Areti Strati, George Koutsodontis, Amanda Psyri, Evi Lianidou. PD-L1 and CK-19 gene expression in CTCs isolated with an epitope-independent enrichment microfluidic device in comparison to EpCAM-based CTC isolation in patients with head and neck squamous cell carcinoma **Advances in Circulating Tumour Cells (ACTC) from Basic Research to Clinical Practice, October 4-7 /2017, Rhodes, Greece**
  11. **Martha Zavridou**, Areti Strati, George Koutsodontis, Amanda Psyri, Evi Lianidou. RT-qPCR gene expression analysis of CTCs isolated through an epitope-independent enrichment microfluidic device in patients with head and neck squamous cell carcinoma. **AACR Annual Meeting** April 1-5, 2017, Washington, D.C., USA
  12. **Martha Zavridou**, Areti Strati, Nikos Malamos, Vassilis Georgoulas, Evi Lianidou. PD-L1 expressing circulating tumor cells (CTCs) in patients with breast cancer. **AACR Annual Meeting**, April 16-20, 2016 New Orleans
  13. Areti Strati, **Martha Zavridou**, Galatea Kallergi, Eleni Politaki, Tobias Gorges, Andra Kuske , Anna-Lena Bohnen, George Koutsodontis, Amanda Psyri, Klaus Lucke, Vasilis Georgoulas, Klaus Pantel, Evi S. Lianidou. Molecular characterization of in-vivo isolated EpCAM-positive circulating tumor cells in breast cancer. **10th ISMRC: Liquid Biopsy in Cancer Diagnostics and Treatment**, March 19-21 2016 in Hamburg, Germany and **AACR**, April 16-20, 2016, New Orleans
  14. Markou A., **Zavridou M.**, Sourvinou I., Malamos N., Georgoulas V., Lianidou E. «Detection and Clinical evaluation of miRNAs in CTC, plasma and primary tissues of metastatic breast cancer patients» **Advances in Circulating Tumour Cells (ACTC) from Basic Research to Clinical Practice, October 8-11/2014, Crete, Greece.**
  15. Markou A., **Zavridou M.**, Sourvinou I., Malamos N., Georgoulas V., Lianidou E. «Expression of metastasis-related miRNAs in EpCAM-positive CTC fraction, in corresponding plasma and FFPEs of breast cancer patients» **AACR 2015**

### **ORAL PRESENTATIONS**

1. Zavridou M. “Methodology of Circulating Tumor Cells Detection”. **Masterclass on Tumor Biomarkers, September 2020, Athens, Greece**
2. Zavridou M. “Challenges for the isolation of CTCs”. **Masterclass on Tumor Biomarkers, October 2019, Athens, Greece**
3. **Zavridou M.** “Circulating Biomarkers (CTCs and ctDNA)”. **Yearly update of advances in medical oncology 2018, October 2019, Athens, Greece**

4. Zavridou M. “Methodologies for the enumeration, isolation and enrichment of circulating tumor cells”. **1<sup>st</sup> Liquid Biopsy Meeting “Liquid Biopsy: Latest advances, potentials and perspectives in modern oncology ” May 2019, Athens, Greece**
5. **Zavridou M.** “Quality control and pre-analytical conditions for reliable gene expression studies in circulating tumor cells”. **4th General Assembly Meeting, May 2, 2018, Montpellier, France**
6. Markou A., **Zavridou M.**, Sourvinou I., Malamos N., Georgoulas V., Lianidou E. “Detection and Clinical evaluation of miRNAs in CTC, plasma and primary tissues of metastatic breast cancer patients”. **12<sup>th</sup> Conference of Clinical Chemistry. November 7-8/2014, Athens, Greece.**

### **SCHOLARSHIP**

- **24 months scholarship** through the operational program “Human Resources Development, Education and Lifelong Learning” in the context of the project “Strengthening Postdoctoral Researchers-2<sup>nd</sup> Part”, implemented by the **State Scholarships Foundation (IKY), 10/2019**  
**Title** “Liquid Biopsy: Molecular characterization and clinical evaluation of circulating tumor cells and exosomes in head and neck squamous cell carcinoma patients”  
**Score:** 1<sup>st</sup> Reviewer 93.8%, 2<sup>nd</sup> Reviewer 85.5%

### **MEMBERSHIPS**

- Hellenic Society of Liquid Biopsy, Member, 03/2018-today
- American Association for Cancer Research (AACR), Associate member, 02/2016-today
- Greek Society of Clinical Chemistry- Clinical Biochemistry, 2015- today
- Association of Greek Chemists, 2011-today

### **LANGUAGES**

Native Language: Greek

Other Languages: English, Level: B2

French, Level: B2 ( Diplôme d'études en langue française, DELF B2)

### **ATTENDANCE OF CONFERENCES & SEMINARS (Selected)**

- Masterclass on Tumor Biomarkers, September 2020, Athens, Greece
- 1<sup>st</sup> Liquid Biopsy Meeting « Liquid Biopsy: Latest advances, potentials and perspectives in modern oncology» May 2019, Athens, Greece
- Athens Conference on Advances in Chemistry (ACAC), November 2018, Athens, Greece
- 11th ISMRC International Symposium on Minimal Residual Cancer: Liquid Biopsy in Cancer Diagnostics and Treatment, May 2018, Montpellier, France
- 109th AACR Annual Meeting, April 2018, Chicago IL, USA
- Advances in Circulating Tumour Cells (ACTC) from Basic Research to Clinical Practice, October 2017, Rhodes, Greece
- 108<sup>th</sup> AACR Annual Meeting April 1-5, 2017, Washington, D.C., USA
- Best of San Antonio Breast Cancer Symposium (BSABCS), January 2017, Athens, Greece

- 15th Symposium on New Molecules in Cancer Therapeutics, Athens, Greece
- Masterclass on Immuno-Oncology, June 2016, Athens, Greece
- Masterclass on Tumor Biomarkers, May 2016, Athens, Greece
- 107<sup>th</sup> AACR Annual Meeting, April 2016, New Orleans, Louisiana, USA
- 10th ISMRC International Symposium on Minimal Residual Cancer: Liquid Biopsy in Cancer Diagnostics and Treatment, March 2016, Hamburg, Germany
- 14th Symposium on New Molecules in Cancer Therapeutics, December 2015, Athens, Greece
- Advances in cancer immunology and immunotherapy, October 2015, Athens, Greece
- Masterclass on Immuno Oncology, June 2015, Athens, Greece
- Masterclass on Tumor Biomarkers, June 2015, Athens, Greece
- 12<sup>nd</sup> National Congress of Clinical Chemistry, November 2014, Athens, Greece
- 2<sup>nd</sup> International Symposium on Advances in Circulating Tumor Cells (ACTC), October 2014, Crete, Greece (<http://www.actc-lab.chem.uoa.gr>)
- INsPiRE International Workshop on: Oncogenic Pathways and Antitumor Responses, April 2014, Athens, Greece
- 64<sup>th</sup> Congress of the Hellenic Society of Biochemistry and Molecular Biology, December 2013, Athens, Greece
- 12<sup>th</sup> Symposium on New Molecules in Cancer Therapeutics, October 2013, Athens, Greece
- 2<sup>th</sup> Forum «Bioscience and Cancer: From prevention to treatment», October 2013, Athens, Greece
- Progress in Combination therapy of Cancer using novel immunomodulators, Hellenic Pasteur Institute, November 2012, Athens, Greece
- Meeting « Real Time Polymerase Chain Reaction», Life Technologies SAS, May 2012, Strasbourg, France

## **REFERENCES**

**Evi S. Lianidou.** Professor of Analytical Chemistry-Clinical Chemistry, Laboratory of Analytical Chemistry, Analysis of circulating Tumor Cells (ACTC)Lab, Dept of Chemistry, University of Athens, Greece, email: [evilianidou@gmail.com](mailto:evilianidou@gmail.com)

**Amanda Psyrris.** Associate Professor, Section of Medical Oncology, Second Department of Internal Medicine, National and Kapodistrian University of Athens, Attikon University Hospital, Athens, Greece, email: [psyrris237@yahoo.com](mailto:psyrris237@yahoo.com)