



ALKMINI ANASTASIADI (BSc, MSc, PhD)

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[Researchgate](#), [Scopus](#), [Google Scholar](#), [Web of Science](#)

## Biologist

**Subject:** Cellular Biology and Biochemistry of Blood / Transfusion Medicine

## Education

- **2019-2022:** PhD thesis entitled: “Physiological characteristics and effects of transfused red blood cells as a function of donor and recipient variability». Division of Cell Biology and Biophysics, Department of Biology, School of Medicine, National and Kapodistrian University of Athens (NKUA).
- **2016-2019:** Interdepartmental MSc “Applications of Biology in Medicine”, Departments of Biology and Medicine, NKUA.
- **2012-2016:** BSc, Department of Biology, NKUA.

## Work Experience

### Research Experience

- **October 2023 – September 2026:** Principal Investigator (PI) of a research grant “EHA Topic-in-Focus Junior Research Grant 2023”, funded by the European Hematology Association (EHA).
- **March 2023 – March 2025:** Participation in the experiments (member of the main research team) of a research program “MEDICUS” funded by the University of Patras. PI: Assistant Professor, Dr. Vassilis Tzounakas.
- **2020-2022:** Biologist, PhD candidate with participation in the experiments of a research program in the form of a fellowship by the State Scholarships Foundation. Research Fellow: Dr. Vassilis Tzounakas (Supervisor: Associate Professor, Dr. Marianna Antonelou).
- **2018-2021:** Research associate (member of the main research team as an MSc and a PhD student) of a research grant funded by HFRI. PI: Dr. Vassilis Tzounakas.

### Teaching Experience

- **BSc Programs**
  - **February 2023 – today:** Lecturer at the BSc (Hons) Biomedical Sciences Programme of the Metropolitan College of Greece, teaching the subjects of “Haematology and Transfusion” and “Cellular Biochemistry”, co-teaching the laboratory part of the subject “Human Disease and Clinical Practice”, and supervising two students during the writing of a research proposal in the context of the Subject “Science Research and Career Development” and two students during their thesis project in the context of the subject “ Research Project and Career Enhancement Portfolio”.
- **MSc Programs**
  - **February 2023 – today:** Co-teaching of the courses “Modern Diagnostics in Hematology” and “Red Blood Cell Pathophysiology – Transfusion Therapy and Proteomics” of the MSc program “Biomedical Methods and Technology in Diagnosis” of the University of West Attica as an external collaborator.

- **March 2023 – June 2023:** Co-teaching of the course “Genetics of infertility” of the interdepartmental MSc program “Applications of Biomedical Technology in Infertility - Male and Female Factor” of the University of West Attica as an external collaborator.

## Published Work – Participation in Congresses

**Total number of publications:** 20

**Number of citations:** 191 (Scholar), 154 (Scopus)

**h-index:** 8 (Scholar), 7 (Scopus)

**Participation in national/international congresses:** 17/13

### Original Research Articles in International Peer-Reviewed Scientific Journals

1. Giannaki A, Georgatzakou HT, Fortis SP, **Anastasiadi AT**, Pavlou EG, Nomikou EG, Drandaki MP, Kotsiafti A, Xydaki A, Fountzoula C, Papageorgiou EG, Tzounakas VL, Kriebardis AG. Stratification of  $\beta S\beta+$  compound heterozygotes based on L-glutamine administration and RDW: Focusing on disease severity. *Antioxidants* 2023, 12(11), 1982; 10.3390/antiox12111982
2. **Anastasiadi AT**, Stamoulis K, Papageorgiou EG, Lelli V, Rinalducci S, Papassideri IS, Kriebardis AG, Antonelou MH, Tzounakas VL. The time-course linkage between hemolysis, redox, and metabolic parameters during red blood cell storage with or without uric acid and ascorbic acid supplementation. *Frontiers in Aging* 4:1161565; 10.3389/fragi.2023.1161565
3. Tzounakas VL, **Anastasiadi AT**, Arvaniti V-Z, Lelli V, Fanelli G, Paronis EC, Apostolidou AC, Balafas EG, Kostomitsopoulos NG, Papageorgiou EG, Papassideri IS, Stamoulis K, Kriebardis AG, Rinalducci S, Antonelou MH. Supplementation with uric and ascorbic acid protects stored red blood cells through enhancement of non-enzymatic antioxidant activity and metabolic rewiring. *Redox Biology* 57 (2022) 102477, 10.1016/j.redox.2022.102477
4. **Anastasiadi AT**<sup>§</sup>, Tzounakas VL, Dzieciatkowska M, Papageorgiou EG, Papassideri IS, Stamoulis K, D’Alessandro A, Kriebardis AG, Antonelou MH<sup>§</sup>. Innate Variability in Physiological and Omics Aspects of the Beta Thalassemia Trait-Specific Donor Variation Effects. *Frontiers in Physiology* 2022, 13:907444; 10.3389/fphys.2022.907444 <sup>§</sup>**equal corresponding authors**
5. Tzounakas VL, **Anastasiadi AT**, Karadimas DG, Velentzas AD, Anastasopoulou VI, Papageorgiou EG, Stamoulis K, Papassideri IS, Kriebardis AG, Antonelou MH. Early and Late-Phase 24h Responses of Stored Red Blood Cells to Recipient-Mimicking Conditions. *Frontiers in Physiology* 2022, 13:907497 10.3389/fphys.2022.907497
6. **Anastasiadi AT**, Arvaniti V-Z, Paronis EC, Kostomitsopoulos NG, Stamoulis K, Papassideri IS, D’Alessandro A, Kriebardis AG, Tzounakas VL, Antonelou MH. Corpuscular Fragility and Metabolic Aspects of Freshly Drawn Beta-Thalassemia Minor RBCs Impact Their Physiology and Performance Post Transfusion: A Triangular Correlation Analysis In Vitro and In Vivo. *Biomedicines* 2022 10, 530. <https://doi.org/10.3390/biomedicines10030530>
7. Tzounakas VL, **Anastasiadi AT**, Lekka ME, Papageorgiou EG, Stamoulis K, Papassideri IS, Kriebardis AG, Antonelou MH. Deciphering the Relationship Between Free and Vesicular Hemoglobin in Stored Red Blood Cell Units. *Frontiers in Physiology* 2022 13:840995. doi: 10.3389/fphys.2022.840995
8. Tzounakas VL, Dzieciatkowska M, **Anastasiadi AT**, Karadimas DG, Vergaki A, Siourounis P, Stamoulis K, Papassideri IS, Kriebardis AG, D’Alessandro A, Antonelou MH. Red cell proteasome modulation by storage, redox metabolism and transfusion. *Blood Transfusion* 2022 20: 27-39 DOI 10.2450/2020.0179-20
9. Tzounakas VL\*, **Anastasiadi AT\***, Stefanoni D, Cendali F, Bertolone L, Gamboni F, Dzieciatkowska M, Rousakis P, Vergaki A, Soulakis V, Tsitsilonis OE, Stamoulis K, Papassideri IS, Kriebardis AG, D’Alessandro A, Antonelou MH. Beta-thalassemia minor is a beneficial determinant of red blood storage lesion. *Haematologica* 2022 107(1):112-125 <https://doi.org/10.3324/haematol.2020.273946> \***equal first authors**

10. **Anastasiadi AT**, Paronis EC, Arvaniti V-Z, Velentzas AD, Apostolidou AC, Balafas EG, Dzieciatkowska M, Kostomitsopoulos NG, Stamoulis K, Papassideri IS, D'Alessandro A, Kriebardis AG, Antonelou MH, Tzounakas VL. The post-storage performance of RBCs from beta-thalassemia trait donors is related to their storability profile. *International Journal of Molecular Sciences* 2021 22, 12281. <https://doi.org/10.3390/ijms222212281>
11. **Anastasiadi AT\***, Tzounakas VL\*, Arvaniti V-Z, Dzieciatkowska M, Stamoulis K, Lekka ME, Papassideri IS, D'Alessandro A, Kriebardis AG and Antonelou MH. Red blood cell proteasome in beta-thalassemia trait: topology, activity, and networking in blood bank conditions. *Membranes* 2021, 11(9), 716; <https://doi.org/10.3390/membranes11090716> **\*equal first authors**
12. Tzounakas VL, **Anastasiadi AT**, Valsami SI, Stamoulis KE, Papageorgiou EG, Politou M, Papassideri IS, Kriebardis AG, Antonelou MH. Osmotic hemolysis is a donor-specific feature of red blood cells under various storage conditions and genetic backgrounds. *Transfusion* 2021 61:2538–2544. DOI: 10.1111/trf.16558
13. Tzounakas VL, Stamoulis KE, **Anastasiadi AT**, Papassideri IS, Kriebardis AG, Rinalducci S, Antonelou MH. Leukoreduction makes a difference: a pair proteomics study of extracellular vesicles in red blood cell units. *Transfusion and Apheresis Science* 2021, 103166, <https://doi.org/10.1016/j.transci.2021.103166>.
14. Tzounakas VL\*, **Anastasiadi AT\***, Dzieciatkowska M, Karadimas DG, Stamoulis K, Papassideri IS, Hansen KC, D'Alessandro A, Kriebardis AG, Antonelou MH. Proteome of stored RBC membrane and vesicles from heterozygous beta thalassemia donors. *International Journal of Molecular Sciences* 2021, 22, 3369. <https://doi.org/10.3390/ijms22073369> **\*equal first authors.**
15. Tzounakas VL\*, **Anastasiadi AT\***, Drossos PV, Karadimas DG, Valsami SI, Stamoulis KE, Papassideri IS, Politou M, Antonelou MH, Kriebardis AG. Sex-related aspects of the red blood cell storage lesion. *Blood Transfusion* 2021 May;19(3):224-236. doi: 10.2450/2020.0141-20. **\*equal first authors.**
16. Tzounakas VL, Karadimas DG, **Anastasiadi AT**, Georgatzakou HT, Kazepidou E, Moschovas D, Velentzas AD, Kriebardis AG, Zafeiropoulos NE, Avgeropoulos A, Lekka M, Stamoulis KE, Papassideri IS, Antonelou MH. Donor-specific individuality of red blood cell performance during storage is partly a function of serum uric acid levels. *Transfusion*. 2018 Jan;58(1):34-40. doi: 10.1111/trf.14379.
17. Tzounakas VL, **Anastasiadi AT**, Karadimas DG, Zeqo RA, Georgatzakou HT, Pappa OD, Papatzitze OA, Stamoulis KE, Papassideri IS, Antonelou MH, Kriebardis AG. Temperature-dependent haemolytic propensity of CPDA-1 stored erythrocytes versus whole blood – Red cell fragility as a donor's signature on blood units. *Blood Transfusion* 2017 Sep;15(5):447-455. doi: 10.2450/2017.0332-16.

### Review Articles in International Peer-Reviewed Scientific Journals

18. Trifylli EM, Kriebardis AG, Koustas A, Papadopoulos N, Vasileiadi S, Fortis SP, Tzounakas VL, **Anastasiadi AT**, Sarantis P, Papageorgiou EG, Tsagarakis A, Aloizos G, Manolakopoulos S, Deutsch M. The arising role of extracellular vesicles in Cholangiocarcinoma: a rundown of the current knowledge regarding diagnostic and therapeutic approaches. *International Journal of Molecular Sciences*, 2023 24(21), 15563; doi: 10.3390/ijms242115563
19. D'Alessandro A, **Anastasiadi AT**, Tzounakas VL, Nemkov T, Reisz JA, Kriebardis AG, Zimring JC, Spitalnik SL, Busch MP. Red Blood Cell Metabolism In Vivo and In Vitro. *Metabolites* 2023, 13, 793; 10.3390/metabo13070793
20. **Anastasiadi AT\***, Tzounakas VL\*, Kriebardis AG, Stamoulis KE, Seghatchian J and, Antonelou MH. When I need you most: frozen red blood cells for transfusion. *Transfusion and Apheresis Science*, 2020 Jun;59(3):102786. doi: 10.1016/j.transci.2020.102786. **\*equal first authors.**

### Peer-Reviewer in International Scientific Journals

- Review Editor in the journal *Frontiers in Medicine* (IF: 3,9), Section: Hematology
- Peer-reviewing of 46 scientific articles
  - Journals: Antioxidants (IF: 7.0), Nutrients (IF: 5.9), Bioengineered (IF: 4.9), Cancers (IF: 5.2), International Journal of Molecular Sciences (IF: 5.6), Biomolecules (IF: 5.5), Scientific Reports (IF: 4.6), Journal of Clinical

Medicine (IF: 3.9), Membranes (IF: 4.2), BMC Genomics (IF: 4.4), Healthcare (IF: 2.8) Children (IF: 2.4), Thalassemia Reports, Hemato, Hematology Reports, Journal of Pharmaceutical Research International, Asian Hematology Research Journal, Archives of Hematology Case Reports & Reviews, Journal of Advances in Medicine and Medical Research, Pathophysiology

## Guest Editor in International Journals

- Special Issue: «[Blood Cells and Redox Homeostasis in Health and Disease](#)»
  - Journal: Antioxidants (IF: 7.0)
  - Role: Guest Editor Assistant (Guest Editor: Dr Angelo D'Alessandro)

## **Distinctions - Awards**

### **2023:**

- Personal invitation to participate in a Special Issue of the Frontiers in Aging journal entitled “Rising Stars in Aging, Metabolism and Redox Biology”.

### **2022:**

- Plenary award, 33<sup>rd</sup> Hellenic Hematological Congress
- Personal invitation to participate in a Special Issue of the Frontiers in Physiology journal (IF: 4,755) entitled “Rising stars in red blood cell physiology: 2022”.

### **2021:**

- Best Poster presentation award, 31<sup>st</sup> Regional Congress of the International Society of Blood Transfusion (ISBT In Focus - Virtual).

### **2018:**

- Best Poster presentation award, 29<sup>th</sup> Hellenic Hematological Congress