

CURRICULUM VITAE

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EDUCATION

1980: B.Sc.in Biology, Columbia University (New York).
1985: B.Sc. in Biology, University of Athens
1994: PhD in Biology, University of Athens.

EDUCATION AWARDS/SCHOLARSHIPS

1976-1980: UFT Scholarship for my undergraduate studies at Columbia University.
Regents Scholarship for my undergraduate studies at Columbia University.
1986-1990: Scholarship from the NCSR “DEMOKRITOS” for my graduate thesis work at the Institute of Biology.
1995-1999: Post doctoral fellowship from the NCSR, “DEMOKRITOS” for post doctoral work at the Institute of Biology.

RESEARCH INTERESTS

Our research interests are focused on studying the functional role of the chromatin histone subtypes and their epigenetic modifications, mainly acetylation, methylation and phosphorylation, in biological processes. The current, ongoing, research projects of the lab is the investigation of the above in ageing cell systems, during apoptosis, in the mammalian biological clock and in psychotic disorders. We are also studying the

histone subtypes and their epigenetic modifications in cancer cell types after the induction of apoptosis with histone deacetylase inhibitors. (see our group's website for an extended overview).

RESEARCH TRAINING/POSITIONS HELD

1980

Diplome thesis work for my B.Sc. at Columbia University in the Molecular Biology Laboratory, Department of Biology, Columbia University under the supervision of Dr. Squires. The work involved training in numerous techniques involved in the isolation of restriction enzymes from *E. Coli*.

1985

Laboratory assistant under the supervision of Prof. Th. Pataryas at the Biology Department of the University of Athens. The research project involved the isolation and characterization of the histone variants from the three developmental stages of *Drosophila melanogaster*.

1986

Doctoral thesis work at the Institute of Biology, NCSR, "DEMOKRITOS", under the supervision of Dr. K.E. Sekeri-Pataryas. The work involved the characterization of the histone variant synthetic profile of exponentially growing, as well as S and G2 phase synchronized, cancer cell populations under the influence of the bisalkylating agent, chlorambucil. Title of thesis: "Effect of chlorambucil on the histone biosynthesis of the cancer cell line, HEp-2".

1994-1999

Post doctoral fellow in the Laboratory of Histone Biochemistry and Ageing of Dr. K.E. Sekeri-Pataryas in the Institute of Biology, NCSR, "DEMOKRITOS". The research project involved the functional role of the histone nuclear proteins of chromatin during the *in vitro* aging of human diploid fibroblasts.

1999-2004

Research Assistant in the Laboratory of Histone Biochemistry and Ageing of Dr. K.E. Sekeri-Pataryas in the Institute of Biology, NCSR "DEMOKRITOS". The research work focused the role of the linker histone H1.0 and histone acetylation during ageing and apoptosis.

2005-2010

Research Scientist and Supervisor of the Laboratory of Nuclear Proteins and Chromatin Function, Institute of Biology, NCSR, “DEMOKRITOS”.

2011-

Senior Researcher and Supervisor of the Laboratory of Nuclear Proteins and Chromatin Function, Institute of Biosciences and Applications, NCSR, “DEMOKRITOS”.

SCIENTIFIC ACTIVITIES

- Member of the Panhellenic Society for Biological Sciences.
- Member of the Hellenic Congress for Biochemistry and Molecular Biology.
- Member of the Organizing Committee of the 4th International Conference on Basic Biology and the Clinical Impact of Immunosenescence in Europe (2003).
- Invited Co-Editor in the March Issue of *Experimental Gerontology* (2004).
- Referee for articles published in international journals and books.
- Invited speaker at international and national conferences
- Member of the Education Committee of the Institute of Biology, NCSR “DEMOKRITOS”.
- Member of the Examination Committee for the selection of new graduate students at the Institute of Biology to be given Scholarships from NCSR “DEMOKRITOS” for the 4-year term of their thesis work.
- Member of the Internal Committee of the Institute of Biology for the selection of post doctoral fellows for funded research projects.
- Member of the Review Board for the evaluation of nationally funded research projects.

EDUCATIONAL ACTIVITIES

- Supervisor of the PhD thesis work of Yiannis Ninios (3-year fellowship from the Reinforcement Programme of Human Research Manpower” (PENED No. 03ED322) and co-financed by National and Community Funds (25% from the Greek Ministry of Development-General Secretariat of Research and Technology and 75% from E.U.-European Social Fund). Title of thesis work:

“Study of the induction of apoptosis in cancer cells with histone deacetylase inhibitors”. Completed and received his PhD degree November, 2009 from the Dept. of Biological Chemistry, School of Medicine, University of Athens.

- Supervisor of the PhD thesis work of Paraskevi Salpea (4-year scholarship from NCSR “DEMOKRITOS”). Title of thesis work: “Study of the role of histone acetylation and methylation in chromatin remodeling during aging”. Completed and received her PhD degree December, 2011 from the Dept. of Biological Chemistry, School of Medicine, University of Athens.
- Supervisor of the PhD thesis work of Marios Xydous (4-year scholarship from NCSR “DEMOKRITOS”). Title of thesis work: “The effect of histone acetylation methylation in the regulation of the biological clock”. Completed and received his PhD thesis July 2012 from the Dept. of Biological Chemistry, School of Medicine, University of Athens.
- Supervisor of the Masters’ research thesis work of Elena Kostopoulou. Title of thesis work: “Histone modifications and regulation of the circadian clock in neuroblastoma and fibroblast cell cultures”. Completed and received her MSc from the Dept. of Pathological Anatomy, School of Medicine, Athens University in October, 2012.
- Supervisor of undergraduate diploma thesis work of Niki Varouxli (Dept. of Biology, University of Athens). Title of thesis work: “Study of the effect of histone deacetylase inhibitors in the induction of the H1 linker histone subtype, H1.0 in human leukemic cell lines”. Completed in 2006.
- Supervisor of undergraduate diploma thesis work of Paraskevi Salpea (Dept. of Biology, University of Athens). Title of thesis work: “The effect of the histone deacetylase inhibitor, trichostatin A, in the leukemic cancer cell line, MOLT-4”. Completed in 2004.
- Lectures within the framework of the Masters’ Degree Program: “Applications of Biology in Medicine” of the course “Cell Cultures – Tissue Cultures” (Dept. of Biology and School of Medicine, University of Athens). Title of lectures: “The cell cycle: Checkpoints and their function in the normal physiology of the

cell” (1998-2013).

- Summer school course (1997, NCSR, “DEMOKRITOS”) on “The cell cycle”.
- Summer school courses (2005-2012, NCSR, “DEMOKRITOS”) on “Histone subtypes and their post translational modifications: Fundamental factors for chromatin reorganization during aging and apoptosis”.
- Lectures within the framework of the graduate course (Institute of Biology, NCSR, “DEMOKRITOS”) “Structure and Function of Chromatin”.
- Member of the Internal Advisory and Evaluation Committee (Institute of Biology, NCSR, “DEMOKRITOS”) for the progress of the PhD thesis work of 5 graduate students (graduate students with scholarships, Institute of Biology, NCSR, “DEMOKRITOS”).

FUNDED PROJECTS/PROGRAMS

- Project funded by the National Drug Organization of Greece. Title of program: “The effect of cytotoxic agents in cancer cell lines (1991-1994, Dr. K.E. Sekeri-Pataryas, coordinator).
- Member of the Concerted Action Thematic Network: Immunology and Aging in Europe (1999-2003, ImAginE, QLK6-CT-1999-02031).
- Ministry of Development-General Secretariat of Research and Technology – Greece – France Bilateral Collaboration (2003-2006, code AP:7044/03). Title of program: “Signalling by acetylation of proteins in T-lymphocytes and leukemic cells”.
- Joint research program with the Neurobiology Research Institute, funded by the Theodor Theohari Cozzika Foundation and the General Secretariat of Research and Technology (1996-2000, co-funded project 96 SYN 182). Title of program: Nuclear proteins and chromatin structure of peripheral blood lymphocytes of patients with bipolar disorder”.
- Joint research project with the Neurobiology Research Institute funded by the Theodor Theohari Cozzika Foundation, entitled “Nuclear proteins and chromatin structure of peripheral blood lymphocytes of patients with bipolar disorder and schizophrenia

(1994-1996; 2000-2003).

- Joint research project with the Neurobiology Research Institute funded by the Theodor Theohari Cozzika Foundation, entitled “Nuclear proteins and chromatin structure of neutrophils and lymphocytes from patients with schizophrenia (2008-)”.
- Program funded by the “Reinforcement Programme of Human Research Manpower” (PENED No. 03ED322), co-financed by National and Community Funds (25% from the Greek Ministry of Development-General Secretariat of Research and Technology and 75% from E.U.-European Social Fund). Title of program: “Study of the mechanisms of action of anticancer compounds in cellular apoptosis and their effectiveness as chemotherapeutic agents” (2006-2009).

PUBLICATIONS

1. Sourlingas, T.G., Aleporou-Marinou, V., Pataryas, T.A. and K.E. Sekeri-Pataryas. Influence of chlorambucil, a bifunctional alkylating agent, on the histone variant biosynthesis of HEP-2 cells. *Bioch. Bioph. Acta*, 1092: 298-303, 1991.
2. Aleporou-Marinou, V., Photopoulou, A., Sourlingas, T.G., Carine Ostvold, A., Pataryas, T.A. and K.E. Sekeri-Pataryas. The effect of chlorambucil on the biosynthesis of the HMG and histone H1 chromosomal proteins of HEP-2 cells. *Biochem. Mol. Biol. Intern.* 36: 439-449, 1995.
3. Sourlingas, T.G. and K.E. Sekeri-Pataryas. Aphidicolin large-scale synchronization of rapidly dividing cell monolayers and the analysis of total histone and histone variant biosynthesis during the S and G2 phases of HEP-2 cell cycle. *Anal. Biochem.* 234: 104-107, 1996.
4. Varvarigou, A.D., Archimandritis, S.C., Sekeri-Pataryas, K.E., Sourlingas, T.G., Sivolapenko, G. and E. Chiotelis. Radiochemical and radioimmunological data of ⁹⁹Tc^m-anti-CEA labelled by two diverse methods. *Nuclear Med. Comm.* 17: 80-88, 1996.
5. Sourlingas, T.G. and K.E. Sekeri-Pataryas. S and G2 phase histone biosynthesis of HEP-2 cells under the influence of the bisalkylating agent, chlorambucil. *Biochem. Mol. Biol. Intern.* 42: 1103-1114, 1997.
6. Sourlingas, T.G., Issidorides, M.R., Havaki, S., Trikkas, G. and K.E.

- Sekeri-Pataryas. Peripheral blood lymphocytes of bipolar affective patients have a histone synthetic profile indicative of an active cell state. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, 22: 81-96, 1998.
7. Sourlingas, T.G., Steger, M., Grubeck-Loebenstien, B., Tsapali, D.S. and K.E. Sekeri-Pataryas. T-lymphocyte long term cultures have a constant histone variant pattern during aging. *Exp. Gerontology*, 34(1): 59-67, 1999.
 8. Zotos, T., Marinos, E., Sekeri-Pataryas, K.E. and T.G. Sourlingas. A morphological study of the effects of chlorambucil during the S and G2 phases of the cell cycle of synchronized HEP-2 cancer cell populations using computerized morphometry. *Micron*, 31: 741-754, 2000.
 9. Tsapali, D.S., Sekeri-Pataryas, K.E., and T.G. Sourlingas. Study of the linker histone variant, H1o, during the *in vitro* ageing of human diploid fibroblasts. *Ann. NY Acad. Sci.*, 90B: 336-341, 2000.
 10. Tsapali, D.S., Sekeri-Pataryas, K.E., Prombona, A. and T.G. Sourlingas. mRNA levels of the linker histone variant, H1o, in mitotically active human diploid fibroblasts as a function of the phases of the cell cycle and cumulative population doublings. *Mech. Ageing Dev.* 121 (1-3): 101-112, 2000.
 11. Tsapali, D.S., Sekeri-Pataryas, K.E. and T.G. Sourlingas. mRNA levels of the differentiation-associated linker histone variant, H1 zero in mitotically active and postmitotic senescent human diploid fibroblast cell populations *Exp. Gerontol.*, 36: 1649-1661, 2001.
 12. Sourlingas, T.G., Tsapali, D.S., Kaldis, A.D. and K.E. Sekeri-Pataryas. Histone deacetylase inhibitors induce apoptosis in peripheral blood lymphocytes along with histone H4 acetylation and the expression of the linker histone variant, H1o. *Eur. J. Cell Biol.*, 80: 726-732, 2001.
 13. Sourlingas, T.G., Kypreou, K.P. and K.E. Sekeri-Pataryas. The effect of the histone deacetylase inhibitor, trichostatin A., on total histone synthesis, H1o synthesis and histone H4 acetylation in peripheral blood lymphocytes increase as a function of increasing age: a model study. *Exp. Gerontol.*, 37: 341-348, 2002.

14. Gonos, E.S., Agrafiotis, D., Dontas, A.S., Efthimiopoulos, S., Galaris, D., Karamanos, N.K., Kletsas, D., Kolettas, E., Panayotou, G., Sekeri-Pataryas, K.E., Simoes, D., Sourlingas, T.G., Stathakos, D., Stratigos, A.J., Tavernarakis, N., Trougakos, I.P. and D.H. Vynios. Ageing research in Greece. *Exp. Gerontol.*, 37(6): 735-747, 2002.
15. Varvarigou, A.D., Scopinaro, Leontiadis, L., Corleto, V., Schillaci, O., De Vincentis, G., Sourlingas, T.G., Sekeri-Pataryas, K.E., Evangelatos, G.P., Leonti, A., Datseris, J., Xanthopoulos, S., Delle Fave, G., and S.C. Archimandritis. Synthesis, chemical, radiochemical and radiobiological evaluation of a new ^{99m}Tc-labelled bombesin-like peptide. *Cancer Biotherapy and Radiopharmaceuticals*, 17(3): 317-325, 2002 .
16. Scopinaro, F., Varvarigou, A.D., Ussof, W., DeVincentis, G., Archimandritis, S.C., Sourlingas, T.G., Evangelatos, G.P. and J. Datseris. Technetium-99m labeled bombesin like peptide: Preliminary report on breast cancer uptake. *Cancer Biotherapy and Radiopharmaceuticals*, 17(3): 327-334, 2002.
17. Sourlingas T.G. and K.E. Sekeri-Pataryas. Linker histone H1o gene expression during ageing and after the effect of histone deacetylase inhibitors in human diploid fibroblasts and T-lymphocytes. *Adv. Cell Ageing Gerontol.*, 13: 227-238, 2003.
18. Sourlingas, T.G., Issidorides, M.R., Alevizos, B., Kontaxakis, V.P., Chrysanthou-Piterou, M., Livaniou, E., Karpouza, A. and K.E. Sekeri-Pataryas. Lymphocytes from bipolar and schizophrenic patients share common biochemical markers related to histone synthesis and histone cell membrane localization characteristic of an activated state. *Psychiatry Res.*, 118: 55-67, 2003.
19. Kypreou, K.P., Sourlingas, T.G. and K.E. Sekeri-Pataryas. Age-dependent response of lymphocytes in the induction of the linker histone variant, H1o and histone H4 acetylation after treatment with the histone deacetylase inhibitor, trichostatin A. *Exp. Gerontol.*, 39(4): 469-479, 2004.
20. Wagner, W.M., Ouyang, Q. Sekeri-Pataryas, K., Sourlingas, T.G. and G. Pawelec. Basic biology and clinical impact of immunosenescence. *Biogerontology*, 5(1): 63-66, 2004.

21. Pawelec, G., Sekeri-Pataryas, K.E. and T. Sournalingas. Experimental Gerontology: Preface. *Exp. Gerontol.* 39 (4): 459-460, 2004.
22. [Sekeri-Pataryas, K.E. and T.G. Sournalingas.](#) The differentiation-associated linker histone, H1.0, during the in vitro aging and senescence of human diploid fibroblasts. *Ann. N Y Acad. Sci.* 1100: 361-367, 2007.
23. [Sournalingas, T.G.](#), Kypreou, K.P., Topakas, G.N. Karchilaki, I.N., Stavropoulou-Giokas, C. and K.E. Sekeri-Pataryas. Effect of the histone deacetylase inhibitor trichostatin A in human peripheral blood lymphocytes as a function of donor age. *Ann. NY Acad. Sci.*, 1119: 64-71, 2007.
24. Happel, N., Doenecke, D., Sekeri-Pataryas, K.E. and [T.G. Sournalingas.](#) H1 Histone subtype constitution and phosphorylation state of the ageing cell system of human peripheral blood lymphocytes. *Exp. Gerontol.*, 43: 184-199, 2008.
25. Kassi, E., [Sournalingas, T.G.](#), Spiliotaki, M., Papoutsis, Z., Pratsinis, H., Aligiannis, N., and P. Moutsatsou. Ursolic acid triggers apoptosis and downregulates bcl-2 downregulation in MCF-7 breast cancer cells. *Cancer Invest.*, 27(7): 723-733, 2009.
26. Ninios, Y.P., Sekeri-Pataryas, K.E. and T. G. Sournalingas. Differential sensitivity of human leukemic cell lines to the histone deacetylase inhibitor, trichostatin A. *Leuk. Res.*, 34(6): 786-792. doi: 10.1016/j.leukres.2009.09.004, 2009.
27. Ninios, Y.P., Sekeri-Pataryas, K.E. and T.G. Sournalingas. Histone H1 subtype preferences of DFF40 and possible nuclear localization of DFF40/45 in normal and trichostatin A-treated NB4 leukemic cells. *Apoptosis*, 15(2): 128-138, 2010. DOI 10.1007/s10495-009-0418-7.
28. Repouskou, A., Sournalingas, T.G., Sekeri-Pataryas, K.E. and A. Prombona. The circadian expression of c-Myc is modulated by the histone deacetylase inhibitor trichostatin A in synchronized murine neuroblastoma cells. *Chronobiology Int.*, 27(4): 722-741, 2010.
29. Xydous, M., Sekeri-Pataryas, K.E., Prombona, A. and T.G. Sournalingas. Nicotinamide treatment reduces the levels of histone H3K4 trimethylation in the promoter of the *mper1* circadian clock

gene and blocks the ability of dexamethasone to induce the acute response. *BBA-Gene Reg. Mech.* 1819: 877-884, 2012.

30. Salpea, P., Russanova, V.R., Hirai, T.H., Sourlingas, T.G., Sekeripataryas, K.E., Romero, R., Epstein, J. and B.H. Howard. Postnatal development- and age-related changes in DNA-methylation patterns in the human genome. *Nucleic Acids Res.* 40 (14): 6477-6494, 2012.

Invited book chapter author:

Sourlingas, T.G. The functionally discrete biological roles of the H1 linker histone subtypes. In "Histones: Structure and Function" (Chang-Hui Shen, ed.), chapter 1, Nova Publishers, Inc., New York, 2011.

Abstracts in International Conferences/Meetings: 38

Abstracts in National Conferences/Meetings: 22

Publications in Greek journals: 2