

Biographical Sketch

Name: Antonis Giannakakis

Title: Ph.D.

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Assistant Professor Computational Molecular Biology, Democritus University of Thrace - Faculty of Health Sciences - Department of Molecular Biology & Genetics.

Degrees Awarded

Ph.D., 02/2008, Democritus University of Thrace (Greece), Department of Molecular Biology & Genetics

M.Sc., 12/2002, University of Birmingham (U.K.), Immunology

B.Sc., 07/2001, University of Cardiff (U.K.), Genetics

Research interests: Long non-coding RNAs (lncRNAs) in the cellular core stress response, system-level RNA biology, stress-specific and disease-specific RNA biomarkers, genome evolution vs. adaptation.

Positions Held

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| 2017-2018 | Research Associate
The DIANA-Lab, Pasteur Institute, Athens |
| 2016-2018 | Research Associate
Choremeio Research Center of First Pediatric Unit of "Agia Sofia" Children's Hospital. Chrousos' & Charmandari's, Laboratory of Medical and Translational Research in Endocrinology |
| 2009-2016 | Senior post-doctoral Research Fellow
Bioinformatics Institute, A-Star Research Agency, Singapore |
| 2005-2007 | PhD Research Fellow
Center for Research on Reproduction and Women's Health, Dpt. of Obstetrics and Gynecology, University of Pennsylvania Medical Center, Philadelphia, U.S.A. |
| 2002-2007 | Ph.D. in Molecular Biology and Genetics
Democritus University of Thrace, Alexandroupolis, Greece |

Publications

1. **A. Giannakakis**, N. Mourtzi, A. Sertedaki, T. Siahaidou, G. Chrousos, "Identification of lncRNAs in exosomes isolated from breastmilk of preterm vs full-term labor mothers". *In preparation*, 2019.
2. N. Perdikopanis, **A. Giannakakis**, I. Kavakiotis and A. Hatzigeorgiou, "D-sORF: Accurate recognition of small coding ORFs ab initio". *In preparation*, 2019.
3. **A. Giannakakis**, G.S. Ow, O. Grinchuk, A. V. Ivshina, and I. V. Kurochkin, "Promoter-associated antisense lncRNAs function in cellular DNA damage response," *In preparation*, 2019.
4. T. Wongsurawat, C.C. Woo, **A. Giannakakis**, X.Y. Lin, E.S.H. Cheow, C.N. Lee, M. Richards, S.K. Sze, I. Nookaew, V.A. Kuznetsov, and V. Sorokin, "Distinctive molecular signature and activated signaling pathways in aortic smooth muscle cells of patients with myocardial infarction," *Atherosclerosis*, 2018.
5. **A. Giannakakis**, J. Zhang, P. Jenjaroenpun, S. Nama, N. Zainolabidin, M. Y. Aau, A. A. Yarmishyn, C. Vaz, A. V. Ivshina, O. V. Grinchuk, M. Voorhoeve, L. A. Vardy, P. Sampath, V. A. Kuznetsov, I. V. Kurochkin and E. Guccione, "Contrasting expression patterns of coding and noncoding parts of the human genome upon oxidative stress," *Sci. Rep.*, pp. 1–16, 2015. [\[L\]](#) [\[SEP\]](#)
6. A. Karapetsas, **A. Giannakakis**, D. Dangaj, E. Lanitis, S. Kynigopoulos, M. Lambropoulou, J.L. Tanyi, A. Galanis, S. Kakolyris, G. Trypsianis, G. Coukos, and R. Sandaltzopoulos, "Over-expression of *GPC6* and *TMEM132D* in early stage ovarian cancer correlates with CD8+ T-lymphocyte infiltration and increased patient survival." *BioMed Research International*, vol. 2015, pp. 1-9, 2015. [\[L\]](#) [\[SEP\]](#)
7. **A. Giannakakis**, A. Karapetsas, D. Dangaj, E. Lanitis, J. Tanyi, G. Coukos, and R. Sandaltzopoulos, "Overexpression of SMARCE1 is associated with CD8+ T-cell infiltration in early stage ovarian cancer," *Int. J. Biochem. Cell Biol.*, vol. 53, pp. 389–398, 2014.
8. E. Beillard, S. C. Ong, **A. Giannakakis**, E. Guccione, L. A. Vardy, and P. M. Voorhoeve, "miR- Sens -a retroviral dual-luciferase reporter to detect microRNA activity in primary cells.," *RNA*, vol. 18, no. 5, pp. 1091–1100, 2012.
9. A. Karapetsas, **A. Giannakakis**, M. Pavlaki, M. Panayiotidis, R. Sandaltzopoulos, and A. Galanis, "Biochemical and molecular analysis of the interaction between ERK2 MAP kinase and hypoxia inducible factor-1 α ," *Int. J. Biochem. Cell Biol.*, vol. 43, no. 11, pp. 1582–1590, 2011. [\[L\]](#) [\[SEP\]](#)
10. A. Galanis, A. Pappa, **A. Giannakakis**, E. Lanitis, D. Dangaj, and R. Sandaltzopoulos, "Reactive oxygen species and HIF-1 signalling in cancer.,"

Cancer Lett., vol. 266, no. 1, pp. 12–20, 2008. [L]
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11. L. Zhang, S. Volinia, T. Bonome, G. A. Calin, J. Greshock, N. Yang, C.-G. Liu, **A. Giannakakis**, P. Alexiou, K. Hasegawa, C. N. Johnstone, M. S. Megraw, S. Adams, H. Lassus, J. Huang, S. Kaur, S. Liang, P. Sethupathy, A. Leminen, V. A. Simossis, R. Sandaltzopoulos, Y. Naomoto, D. Katsaros, P. A. Gimotty, A. DeMichele, Q. Huang, R. Bützow, A. K. Rustgi, B. L. Weber, M. J. Birrer, A. G. Hatzigeorgiou, C. M. Croce, and G. Coukos, “Genomic and epigenetic alterations deregulate microRNA expression in human epithelial ovarian cancer.” *Proc. Natl. Acad. Sci. U.S.A.*, vol. 105, no. 19, pp. 7004–7009, 2008.
12. **A. Giannakakis**, R. Sandaltzopoulos, J. Greshock, S. Liang, J. Huang, K. Hasegawa, C. Li, A. O'Brien-Jenkins, D. Katsaros, B. L. Weber, C. Simon, G. Coukos, and L. Zhang, “miR-210 links hypoxia with cell cycle regulation and is deleted in human epithelial ovarian cancer.” *Cancer Biol. Ther.*, vol. 7, no. 2, pp. 255–264, 2008. [L]
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13. N. Yang, J. Huang, J. Greshock, S. Liang, A. Barchetti, K. Hasegawa, S. Kim, **A. Giannakakis**, C. Li, A. O'Brien-Jenkins, D. Katsaros, R. Bützow, G. Coukos, and L. Zhang, “Transcriptional regulation of PIK3CA oncogene by NF-kappaB in ovarian cancer microenvironment.” *PLoS ONE*, vol. 3, no. 3, p. e1758, 2008.
14. L. Zhang, J. Huang, N. Yang, J. Greshock, S. Liang, K. Hasegawa, **A. Giannakakis**, N. Poulos, A. O'Brien-Jenkins, D. Katsaros, R. Bützow, B. L. Weber, and G. Coukos, “Integrative genomic [L]
[SEP] analysis of phosphatidylinositol 3'-kinase family identifies PIK3R3 as a potential therapeutic target in epithelial ovarian cancer.” *Clin. Cancer Res.*, vol. 13, no. 18, pp. 5314–5321, 2007.
15. **A. Giannakakis**, G. Coukos, A. Hatzigeorgiou, R. Sandaltzopoulos, and L. Zhang, “miRNA genetic alterations in human cancers.” *Expert Opin Biol Ther*, vol. 7, no. 9, pp. 1375–1386, 2007.
16. L. Zhang, J. Huang, N. Yang, J. Greshock, M. S. Megraw, **A. Giannakakis**, S. Liang, T. L. Naylor, A. Barchetti, M. R. Ward, G. Yao, A. Medina, A. O'Brien-Jenkins, D. Katsaros, A. Hatzigeorgiou, P. A. Gimotty, B. L. Weber, and G. Coukos, “microRNAs exhibit high frequency genomic alterations in human cancer.” *Proc. Natl. Acad. Sci. U.S.A.*, vol. 103, no. 24, pp. 9136–9141, 2006.
17. L. Zhang, J. Huang, N. Yang, S. Liang, A. Barchetti, **A. Giannakakis**, M. G. Cadungog, A. O'Brien-Jenkins, M. Massobrio, K. F. Roby, D. Katsaros, P. Gimotty, R. Bützow, B. L. Weber, and G. Coukos, “Integrative genomic analysis of protein kinase C (PKC) family identifies PKC ϵ as a biomarker and potential oncogene in ovarian carcinoma.” *Cancer Res.*, vol. 66, no. 9, pp. 4627–4635, 2006.

Past Fellowships / Grant Awards

From 05/2013 to 05/2016: Full research grant on “Identification and Functional Validation of Novel Non-Coding RNAs as Regulators of the Cellular Stress Response to Oncogenic Insults”, A-STAR, Singapore, JCO Career Development Award (CDA). As a co-investigator, I managed a multi-disciplinary project involving laboratory from three Institutes of A-star (Bioinformatics Institute, Institute of Cellular and Molecular Biology and Institute of Medical Biology) in Singapore. Budget: 750,000 Singapore Dollars.

From 01/2003 to 01/2006: Identification of differentially expressed genes in ovarian tumors ("Heraclitus"), Democritus University of Thrace (Alexandroupolis, Greece), Dr. Raphael Sandaltzopoulos, Greek Ministry of Education, Lifelong Learning and Religious Affairs.

Conferences

1. Perdikopanis N., **Giannakakis A.**, Kavakiotis I. And Hatzigeorgiou A. (2018). D-sORF: Accurate recognition of small coding ORFs *ab initio*. ECCB 2018 – 17th European Conference on Computational Biology, Athens, Greece
2. Tan A., Low D.H.P., **Giannakakis A.**, Kuznetsov V., Ferrari C., Guccione E. and Bertolotti A. (2014). Upregulation of chromatin modifying genes in exhausted T cells from chronic HBV patients. EASL: The International Liver Congress™ 2014, London, UK
3. **Giannakakis A.**, Guccione E., Kurochkin, I., Voorhoeve, M., Zainolabidin, N., Low, D (2012) “Identification and Functional Validation of Novel Non-coding RNAs as Regulators of the Cellular Stress Response to Oncogenic Insults” Keystone Symposia Non-Coding RNAs. Snowbird, Utah U.S.A. (**Invited Speaker**)
4. Zhang Lin., Volinia S., Bonome T., Calin G.A., Yang N., Atlamazoglou V., Liu CG., **Giannakakis A.**, Greshock J., Weber B., Birrer M., Hatzigeorgiou A., Croce C. and Coukos G. (2008) “miRNome integrative analysis in ovarian cancer” AACR International Conference: Molecular Diagnostics in Cancer Therapeutic Development, Philadelphia, PA. U.S.A.
5. **Giannakakis A.**, Sandaltzopoulos R. M., Galanis A., Coukos G. and Zhang L. (2007). Mir-210 is a regulator of gene expression under hypoxia and is deleted in human epithelial ovarian cancer. 59th Meeting of Hellenic Society of Biochemistry and Molecular Biology, Athens, Greece.

6. **Giannakakis A.**, L. E., Dangaj D., Galanis A. and Sandaltzopoulos R.M. (2007). Functional genomics for the identification of genes involved in the recruitment of lymphocytes in ovarian tumours. 29th Scientific Conference of Hellenic Association for Biological Sciences, Kavala.
7. **Giannakakis A.**, Sandaltzopoulos R. M., Zhang L., Huang J. and Coukos G. (2006). Analysis of miRNA expression profile in human ovarian cancer. 58th Meeting of Hellenic Society of Biochemistry and Molecular Biology, Patra.
8. Lalor P. F., **Giannakakis A.**, Curnow J., Buckley C. D. and Adams D. H., "Human hepatic myofibroblasts produce chemokines and adhesion molecules which promote the retention of lymphocytes during liver injury and fibrosis," *Hepatology*, vol. 38, no. 0, pp. 781 EP –, 2003.