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Curriculum Vitae

Personal information

Name / Surname **Eleni Anastasiadou**

Education and training

2004 B.Sc. Degree in Biology, Sapienza University, Rome, Italy

2009 Ph.D. Sapienza University Rome, Italy

2014 Specialization in Microbiology and Virology, Sapienza University Rome, Italy

2019 Abilitazione scientifica nazionale a professore universitario di seconda fascia settore concorsuale **06/A2 patologia generale e patologia clinica,** quadrimestre 1.
Valido dal 10/05/2019 al 10/05/2025 (art. 16, comma 1, Legge 240/10)

Abilitazione scientifica nazionale a professore universitario di seconda fascia settore concorsuale **06/N1 scienze delle professioni sanitarie e delle tecnologie mediche applicate,** quadrimestre 2.
Valido dal 06/09/2019 al 06/09/2025 (art. 16, comma 1, Legge 240/10).

Research experience

2018-2019 Senior Research Associate (Assegnista di ricerca), Laboratory of cellular biotecnology, P.I. Cinzia Marchese, Department of Experimental Medicine**, Sapienza University,** Rome. Project: Role of non-coding RNAs in cancer and regenerative medicine. (1/10/2018-30/09/2019)

2014-2018 Senior Research Associate, Institute for RNA Medicine, Department of Pathology, P.I. Frank Slack, **BIDMC/Harvard Medical School, Boston, USA**. Project: Role of miRNAs in cancer.

2010-2014 Research Associate (Assegnista di ricerca), Laboratory of Virology,
P.I. Alberto Faggioni Department of Experimental Medicine, **Sapienza University**, Rome. Project: Regulation of Epstein-Barr virus latency in B cell lymphomas of varied differentiation stages and the role of miRNAs.

2009-2010 Fellowship "BORSE ARIAUDIO" Laboratory of Virology, P.I. Alberto Faggioni
Department of Experimental Medicine, **Sapienza University**, Rome.
Project: Cellular microRNA regulation by Epstein-Barr virus encoded genes in diffuse large B cell lymphoma

2005-2006 Visiting Ph.D. student, Laboratory of Molecular Carcinogenesis, Dr. Paul Wade, **NIEHS, Research Triangle Park, North Carolina, USA.** Project: Molecular Mechanisms of Epstein-Barr virus latency in plasmacytoid cells.

Teaching experience

2019 **Seminar presentation** for 2nd year MD students of Degree Course in Medicine and Surgery "F" - International Medical School, Sapienza University. Seminar title: The dark side of the genome lightens up new ways to fight cancer. Organizer/Coordinator: Prof. Lucia Stefanini

2018 **Course Instructor for Post-Docs**, Faculty, or Staff, Division of Medical Sciences, assignment teaching for Nanocourse Spring 2018: Non-coding RNA and Cancer. **Harvard Medical School, Boston, USA**(https://nanosandothercourses.hms.harvard.edu/node/438)

2012-2013	**Docent and coordinator** of laboratory exercises for the course: Quantitative evaluation of microRNAs and experimental and diagnostic approaches based on microRNAs. Masters II level. Organizer/coordinator: Prof. Guido Antonelli, Sapienza University, Rome
Funding	
2009-2010	Responsible for research project, Cellular microRNA regulation by Epstein-Barr virus encoded genes in diffuse large B cell lymphoma. Teresa Ariaudo fellowship by Istituto Pasteur, Rome
2011-2013	Co-investigator, PRIN 2009. • 2009YFL2EK_002 Responsabile: TRIVEDI Pankaj Titolo: "Interazione tra virus di Epstein-Barr e cellula ospite: Regolazione dei micro-RNA cellulari da parte di proteine virali."
2015-2018	Co-investigator, Translational Research program on identification of personalized tumor vaccines and involvement of miRNA in regulation of MUC1, funded by NIH, PI:Avigan, BIDMC and Dana Farber Harvard Cancer Center, Harvard Medical School, Boston, USA.
2015-2017	Co-Principal Investigator, miRagen Therapeutics Inc. Boulder, Colorado, USA. (http://www.miragen.com/), Tumor suppressive effect of a compound MRG-106, an inhibitor of miR-155, in mouse models. PI- Slack, Co-PI Anastasiadou.
Scientific society memberships	Member of the American Association for Cancer Research (AACR), Member ID 31358 Member of the Società Italiana Ricerca Traslazionale e Professioni Sanitarie–SIRTEPS
Patent	Joint patent Harvard Medical School-La Sapienza University. Title: RNA aided Immunotherapeutics: miRNA and anti-immune checkpoint strategies to treat Epstein-Barr virus associated cancers. Inventors: **Eleni Anastasiadou** (Harvard), Frank Slack (Harvard), Pankaj Trivedi (Sapienza). US Provisional 62/678,728 del 31/05/2018 ***(https://www.uniroma1.it/en/brevetto/us-provisional-62678728)***
Editorial board	Associate Editorial Board member of MicroRNA journal, Bentham publications, from August 2017 till present. (https://benthamscience.com/journals/microrna/editorial-board/)
Reviewer for journals	Reviewer for papers submitted to: Journal of Virology, Oncogene, International Journal of Cancer, International Journal of Molecular Sciences, Cell Cycle, Cells, MiRNA journal, Future Virology, Scientific Reports.
Media Coverage	A New Therapeutic Strategy for Cancer The research project coordinated by **Sapienza** in collaboration with the Beth Israel Deaconess Medical Centre (BIDMC) of the **Harvard Medical School**, opens a new therapeutic approach to the treatment of tumours caused by infections. ***(https://www.uniroma1.it/en/notizia/new-therapeutic-strategy-cancer; https://tg24.sky.it/salute-e-benessere/2018/07/12/tumori-terapia-sistema-immunitario.html)***
Personal skills	
Mother tongue	Greek
Other languages	Italian, English

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
Italian, English	C2	C2	C2	C2	C2

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user
Common European Framework of Reference for Languages

Communication skills	Good communication skills gained through my experience in teaching at Sapienza University in Molecular Virology master courses and several seminars at Department of Experimental Medicine, Rome, Ludwig Cancer Center and Institute for RNA Medicine at Harvard medical School, Boston. I have also participated in international conferences on miRNA and cancer, with oral and poster presentations.
Organizational / managerial skills	Over the years, I have trained and supervised undergraduate and graduate students at Sapienza University and at BIDMC Cancer Center, Harvard, towards completion of their research projects. I have excellent skills of organization and management of research projects in collaboration with both national and international research groups.
Job-related skills	Excellent skills in Molecular Biology techniques, in vitro: molecular cloning, q-PCR, transfections and transductions of DNA and RNA in human and mice derived cancer cell lines. Excellent skills in *in vivo* studies (mice): handling mice colonies, genotyping, subcutaneous, intravenous and intraorbital injections, tumor xenografts measurements.
Digital skills	office suite (word processor, spread sheet, presentation software) photo editing software gained while preparing scientific articles (Word, Excel, Power Point), Adobe (Photoshop, Indesign, Illustrator, Reader). Analysis of noncoding RNAs expression in human samples by using data available tools on line: Targetscan, RNA22 v2 microRNA target detection. TANRIC: an open-access resource for interactive exploration of lncRNAs in cancer. Circbase, for exploration of circular RNAs datasets. cBioPortal for cancer genomics analysis.

Conferences with oral, poster and abstract presentation:

-Abstract presentation "EBV at the crossroads in MS pathogenesis: Possible role of pDC in persistent viral infection in the central nervous system", at AINI (Associazione Italiana Neuroimmunologia) conference, Naples, Italy. 08/10/2008 -11/10/2008

-Participation and poster presentation at Tri-Society Annual Conference 2009 of the Society for Leukocyte Biology, International Cytokine Society, & International Society for Interferon and Cytokine Research Cellular and Cytokine Interactions in Health and Disease (Cytokines 2009) 18-21 October 2009 • Lisbon, Portugal, Published in Cytokine Volume 48, Issues 1–2, October–November 2009, Pages 98-99. 18/10/2009-21/10/2009.

-Participation, presentation and round-table discussion: Cytokines and Interferons: From the Bench to the Bedside 9th Joint Meeting of International Cytokine Society and International Society for Interferon and Cytokine Research 9-12 October 2011 • Florence, Italy, "Plasmacytoid Dendritic Cells are infected by Epstein Barr virus and induces TLR dependent type I IFN production" Cytokine Volume 56, Issue 1, October 2011, Page 106 09/10/2011 -12/10/2011

-Abstract, poster presentation and round table discussion: Differential regulation of mir-21 and miR-146a by Epstein-Barr virus encoded EBNA2. Keystone Symposium, Noncoding RNAs in development and Cancer, Vancouver, Canada. 20/01/2013 -25/01/2013.

-Oral Presentation, RNA Days National Symposium, Department of Biology and Biotechnology, Sapienza University, Rome. Organizer-Prof. Irene Bozzoni. "Epstein-Barr virus alters phenotype of terminally differentiated B cells through miR-21 upregulation". 12/09/2013-13/09/2013.

-Oral presentation, Epstein-Barr virus infection increases miR-21 in multiple myeloma cells at a Mini symposium on microRNA in health and diseases, 27th September 2013, organizers, Prof. Pankaj Trivedi and Prof. Alberto Faggioni, Department of Experimental Medicine, Sapienza University, Rome, Italy. 27/09/2013 -27/09/2013

-Participation and Poster presentation entitled “Epstein-Barr Virus Alters Phenotype of Multiple Myeloma Cells Through Upregulation of miR-21”, at Italian Pathology and Translational Medicine Society (SIPMET) YOUNG SCIENTISTS MEETING, Rome, October 23rd-24th, 2013.

-Oral Presentation at Ludwig Cancer Center symposium at Harvard Medical School: Title: MicroRNA based tools for understanding and combating drug resistance in cancer. Harvard Medical School, Boston, USA.13/03/2015 -13/03/2015.

-Nominated and Invited participant at Aspen Cancer Conference 2015, Colorado, USA. Presentation title: Role of oncogenic microRNAs in diffuse large B cell lymphoma.12/07/2015-15/07/2015.

-Oral presentation at Ludwig Cancer center symposium, Harvard Medical School. Title: MicroRNA immuno-modulation of PD-L1 in cancer, Boston, USA. 09/11/2015

-Oral presentation at Ludwig Cancer center symposium, Harvard Medical School. Title: MicroRNA immuno-modulation of PD-L1 in cancer, Boston, USA. 09/11/2015.

-Participation and presentation at the American Society of Hematology conference, San Diego, USA, 3-6 December 2016, MUC1-C Inhibition Leads to Decrease in PD-L1 Levels Via up-Regulation of Micro RNAs. Blood, 128(22), 2871, 03/12/2016-06/12/2016.

-Participation, poster presentation and round table discussion: MUC1C regulates PDL1 expression in acute myeloid leukemia, via downregulation of miRNAs. Second AACR Conference on Hematologic Malignancies: Translating Discoveries to Novel Therapies; May 6-9, 2017; Boston, MA. 06/05/2017-09/05/2017.

-Oral Presentation: Ludwig Cancer center symposium at Harvard Medical School. Title: MicroRNA immuno-modulation of PD-L1 in hematological malignancies. 05/06/2017.

-Abstract, poster presentation and round table discussion, Epstein-Barr virus encoded EBNA2 alters immune checkpoint PD-L1 expression by downregulating miR-34a in B cell lymphomas. American Association for Cancer Research special conference on Tumor Immunology and Immunotherapy, Boston, USA. 01/10/2017-04/10/2017.

-Keystone Symposium on Noncoding RNAs: form, function, physiology. Keystone, Colorado, Abstract, poster presentation and round-table discussion. 25/02/2018-01/03/2018.

Workshop organization

"Non-coding RNA and Immuno-Oncology Mini-Symposium and Workshop**",** Beth Israel Deaconess Medical Center, **Harvard Medical School,** 29th March 2018. CLS 421, BIDMC; Organizers: Drs. Frank J Slack and Eleni Anastasiadou, 29/03/2018.

Publications

1. Mavrikaki M, Pantano L, Potter DN, Rogers-Grazado MA, **Anastasiadou E**, et al; Sex-dependent changes in miRNA expression in the bed nucleus of the stria terminalis following stress. ***Front. Mol. Neurosci.,*** 2019 Oct https://doi.org/10.3389/fnmol.2019.00236
2. Mavrikaki M, **Anastasiadou E,** et al; Overexpression of miR-9 in the Nucleus Accumbens Increases Oxycodone Self-Administration. ***Int J Neuropsychopharmacol***. 2019 Jun 3;22(6):383-393. PMID: 30989210.
3. Nahas MR, Stroopinsky D, Rosenblatt J, Cole L, Pyzer AR, **Anastasiadou E,** et al; Hypomethylating agent alters the immune microenvironment in acute myeloid leukaemia (AML) and enhances the immunogenicity of a dendritic cell/AML vaccine. ***Br J Haematol***. 2019 May;185(4):679-690. PMID: 30828801.
4. Raparelli V, Proietti M, Romiti GF, Lenzi A, Basili S. The Sex-Specific Detrimental Effect of Diabetes and Gender-Related Factors on Pre-admission Medication Adherence Among Patients Hospitalized for Ischemic Heart Disease: Insights From EVA Study. ***Front Endocrinol (Lausanne).*** 2019;10:107. PubMed PMID: 30858826
5. Ayoubian H, Ludwig N, Fehlmann T, Menegatti J, Gröger L, **Anastasiadou E,** et al; Epstein-Barr Virus Infection of Cell Lines Derived from Diffuse Large B-Cell Lymphomas Alters MicroRNA Loading of the Ago2 Complex. ***J Virol.*** 2019 Feb 1;93(3). PMID: 30429351.
6. **Anastasiadou E**, et al; Epstein-Barr virus-encoded EBNA2 alters immune checkpoint PD-L1 expression by downregulating miR-34a in B-cell lymphomas. ***Leukemia.*** 2019 Jan;33(1):132-147. PMID: 29946193.
7. Raparelli V, Proietti M, Lenzi A, Basili S. Sex and Gender Differences in Ischemic Heart Disease: Endocrine Vascular Disease Approach (EVA) Study Design. ***J Cardiovasc Transl Res.*** 2018 Dec 3;PMID: 30511337.
8. Trivedi P, Slack FJ, **Anastasiadou E.** Epstein-Barr virus: From kisses to cancer, an ingenious immune evader. **Oncotarget.** 2018 Nov 23;9(92):36411-36412. PMID: 30559926;
9. Di Marco M, Ramassone A, Pagotto S, **Anastasiadou E**, et al; MicroRNAs in Autoimmunity and Hematological Malignancies **Int J Mol Sci.** 2018 Oct 12;19(10). PMID: 30322050

Publications

10. **Anastasiadou E**, Faggioni A, Trivedi P, Slack FJ. The Nefarious Nexus of Noncoding RNAs in Cancer. **Int J Mol Sci**. 2018 Jul 17;19(7). Review. PMID: 30018188.
11. Stroopinsky D, Rajabi H, Nahas M, Rosenblatt J, Rahimian M, Pyzer A, Tagde A, Kharbanda A, Jain S, Kufe T, Leaf RK, **Anastasiadou E**, et al; MUC1-C drives myeloid leukaemogenesis and resistance to treatment by a survivin-mediated mechanism. **J Cell Mol Med.** 2018 May 15; PMID: 29761849.
12. Etna MP, Sinigaglia A, Grassi A, Giacomini E, Romagnoli A, Pardini M, Severa M, Cruciani M, Rizzo F, **Anastasiadou E,** et al; Mycobacterium tuberculosis-induced miR-155 subverts autophagy by targeting ATG3 in human dendritic cells. **PLoS Pathog.** 2018 Jan;14(1):e1006790. PMID: 29300789.
13. **Anastasiadou E**, Jacob LS, Slack FJ. Non-coding RNA networks in cancer. **Nat Rev Cancer.** 2018 Jan;18(1):5-18. doi: 10.1038/nrc.2017.99. Epub 2017 Nov 24. Review. PMID: 29170536;
14. Pyzer AR, Stroopinsky D, Rosenblatt J, **Anastasiadou E**, et al; MUC1 inhibition leads to decrease in PD-L1 levels via upregulation of miRNAs. **Leukemia.** 2017 Dec;31(12):2780-2790. PMID: 28555079
15. Chiara M, Manzari C, Lionetti C, Mechelli R, **Anastasiadou E,** et al;. Geographic Population Structure in Epstein-Barr Virus Revealed by Comparative Genomics. **Genome Biol Evol.** 2016 Dec 14;8(11):3284-3291. PMID: 27635051.
16. Adams BD, **Anastasiadou E**, Esteller M, He L, Slack FJ. The Inescapable Influence of Noncoding RNAs in Cancer. **Cancer Res.** 2015 Dec 15;75(24):5206-10. PMID: 26567137.
17. Veroni C, Marnetto F, Granieri L, Bertolotto A, Ballerini C, Repice AM, Schirru L, Coghe G, Cocco E, **Anastasiadou E**, Puopolo M, Aloisi F. Immune and Epstein-Barr virus gene expression in cerebrospinal fluid and peripheral blood mononuclear cells from patients with relapsing-remitting multiple sclerosis. **J Neuroinflammation**. 2015 Jul 14;12:132 PMID: 26169064
18. **Anastasiadou E**, et al; Epstein-Barr virus infection induces miR-21 in terminally differentiated malignant B cells. **Int J Cancer.** 2015 Sep 15;137(6):1491-7. PMID: 25704079.
19. **Anastasiadou E**, Slack FJ. Cancer. Malicious exosomes. **Science.** 2014 Dec 19;346(6216):1459-60. PMID: 25525233.
20. Di Napoli A, Al-Jadiri MF, Talerico C, Duranti E, Pilozzi E, Trivedi P**, Anastasiadou E**, et al; Epstein-Barr virus (EBV) positive classical Hodgkin lymphoma of Iraqi children: an immunophenotypic and molecular characterization of Hodgkin/Reed-Sternberg cells. **Pediatr Blood Cancer.** 2013 Dec;60(12):2068-72. PMID: 24000236.
21. Severa M, Giacomini E, Gafa V, **Anastasiadou E**, et al; EBV stimulates TLR- and autophagy-dependent pathways and impairs maturation in plasmacytoid dendritic cells: implications for viral immune escape. **Eur J Immunol**. 2013 Jan;43(1):147-58. PubMed PMID: 22996354.
22. Rosato P, **Anastasiadou E**, et al. Differential regulation of miR-21 and miR-146a by Epstein-Barr virus-encoded EBNA2. **Leukemia**. 2012 Nov;26(11):2343-52. PMID: 22614176.
23. **Anastasiadou E**, et al; Epstein-Barr virus encoded LMP1 downregulates TCL1 oncogene through miR-29b. **Oncogene.** 2010 Mar 4;29(9):1316-28. PMID: 19966860.
24. **Anastasiadou E**, et al; Epstein-Barr virus infection leads to partial phenotypic reversion of terminally differentiated malignant B cells. **Cancer Lett.** 2009 Nov 1;284(2):165-74. PubMed PMID: 19481340.
25. Boccellato F, **Anastasiadou E**, et al; EBNA2 interferes with the germinal center phenotype by downregulating BCL6 and TCL1 in non-Hodgkin's lymphoma cells. **J Virol.** 2007 Mar;81(5):2274-82. PMID: 17151114;
26. **Anastasiadou E,** et al; Epigenetic mechanisms do not control viral latency III in primary effusion lymphoma cells infected with a recombinant Epstein-Barr virus. **Leukemia.** 2005 Oct;19(10):1854-6. doi: 10.1038/sj.leu.2403895. PubMed PMID: 16079894.
27. Trivedi P, Takazawa K, Zompetta C, Cuomo L, **Anastasiadou E**, et al; Infection of HHV-8+ primary effusion lymphoma cells with a recombinant Epstein-Barr virus leads to restricted EBV latency, altered phenotype, and increased tumorigenicity without affecting TCL1 expression. **Blood.** 2004 Jan 1;103(1):313-6. PMID: 12969959.

Rome, 13-11-2019