

ANTONIS KIRMIZIS, PHD

CONTACT DETAILS

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PROFESSIONAL APPOINTMENTS AND FORMAL EDUCATION

2010 – present	University of Cyprus Assistant Professor in Biological Sciences	Nicosia, Cyprus
2004 – 2009	University of Cambridge Post-doctoral Research Fellow.	Cambridge, UK
1999 – 2004	University of Wisconsin-Madison Ph.D in Cellular and Molecular Biology.	Madison, WI, USA
1995 – 1999	Lawrence University Bachelors degree in Biology awarded with <i>Magna cum laude</i> .	Appleton, WI, USA

AWARDS, SCHOLARSHIPS, AND HONORS

2013 Honorary award from President of Cyprus for contribution to research.
2011-2016 ERC-Starting Grantee.
2006-2008 Marie-Curie Intra European Post-doctoral research fellowship.
2005-2006 European Molecular Biology Organization Long-term research fellowship.
2003 British Society of Cell Biology (BSCB) poster award (top prize).
2002 Graduate School Committee Travel Award (University of Wisconsin).
2002 American Association of Cancer Research Scholar-in-Training award.
2000 Scholarship from the Cyprus Brotherhood of Greater Chicago Area.
1999 Phi Sigma award, first prize of academic excellence (Dept of Biology).
1999 Member of the Phi Beta Kappa Honor Society.
1998-1999 Recipient of the Dr Auld Irving scholarship (Lawrence University).
1998-1999 Member of the Mortar Board Student Honor Society (Lawrence University).
1995-1999 Scholarship from the Cyprus Government for undergraduate studies.
1995-1998 Lawrence University international student scholarship.

RESEARCH EXPERIENCE

2009 - present **University of Cyprus** **Cyprus**
Group Leader, Department of Biological Sciences (Epigenetics)
Research projects: Investigating how epigenetic factors such histone modifications and non-coding RNAs regulate gene transcription using both yeast and human cells as model systems.

2004 - 2009 **University of Cambridge** **UK**
Post-doc. Group leader: Prof. Tony Kouzarides, Gurdon Institute
Research projects: Investigating the role of histone arginine methylation in chromatin structure and function. Genome-wide characterization of histone modifications in yeast (*Saccharomyces cerevisiae*).

1999 - 2004 **University of Wisconsin-Madison** **USA**
Graduate student. Supervisor: Dr. Peggy Farnham, Department of Oncology
Research Project: Studying the function of the human protein SUZ12 in transcription and cancer.

1998 - 1999 **Lawrence University** **USA**
Research Assistant. Supervisor: Dr. Elizabeth De Stasio, Department of Biology.
Senior Individualized Research Project: Effect of mutant myosin expression in transgenic lines of *Caenorhabditis elegans*.

TEACHING EXPERIENCE

2010 - present **University of Cyprus** **Cyprus**
Lecturing two undergraduate and a graduate course titled 'BIO451: Epigenetics', 'BIO355: Gene regulation' and 'BIO760: Topics in Genomics and Proteomics', respectively. Designed courses entirely. Each course includes approximately 25 lectures, 5 assignments, one mid-term and one final exam. Teaching of Independent studies BIO780/790 and supervision of Undergraduate independent theses BIO491/492.

2007 - 2009 **University of Cambridge** **UK**
Lecturer in a course 'From Genome to Proteome' offered to final year undergraduate students. Responsibilities included lecturing, supervising students, writing and grading exams.

2002 **University of Wisconsin-Madison** **USA**
Teaching assistant for an Oncology course, 'Introduction to Experimental Oncology'. Led discussion sessions, designed problem sets, and graded exams.

2001 - 2002 **University of Wisconsin-Madison** **USA**
Supervising an undergraduate student during her internship. Guided the student in planning and performing various molecular biology techniques.

PUBLICATIONS

Total citations: 1741 (1073 since 2010)

h-index: 11

i10-index: 11

- Molina-Serrano D, **Kirmizis A**. Calorie restriction breaks an epigenetic barrier to longevity. **Cell cycle**, 16(9):821-822, 2017.
- Kyriakou D, Stavrou E, Demosthenous P, Angelidou G, San Luis B-J, Boone C, Promponas V, **Kirmizis A**. Functional characterization of long intergenic non-coding RNAs through genetic interaction profiling in *Saccharomyces cerevisiae*. **BMC Biology**, 14:106-122, 2016.
- Molina-Serrano D, Schiza V, Demosthenous C, Stavrou E, Oppelt J, Kyriakou D, Liu W, Zisser G, Bergler H, Dang W, **Kirmizis A**. Loss of Nat4 and its associated histone H4 N-terminal acetylation mediates calorie restriction-induced longevity. **EMBO Reports**, 17(12):1829-1843, 2016.
- Pavlou D, **Kirmizis A**. Depletion of the histone N-acetyltransferase Naa40 induces p53-independent apoptosis in colon cancer cells via the mitochondrial pathway. **Apoptosis**, 21(3):298-311, 2016.
- Schiza V, Molina-Serrano D, Kyriakou D, Hadjiantoniou A, **Kirmizis A**. N-alpha-terminal acetylation of histone H4 regulates arginine methylation and ribosomal DNA silencing. **PloS Genetics**, 9:e1003805, 2013.
- Molina-Serrano D, **Kirmizis A**. Beyond the histone tail: Acetylation at the nucleosome dyad commands transcription. **Nucleus**, 4:343-348, 2013.
- Schiza V, Molina-Serrano D, Kyriakou D, Hadjiantoniou A, **Kirmizis A**. Role of histone H4 N-alpha-terminal acetylation in gene silencing. **YEAST**, 30:108-108, 2013.
- Molina-Serrano D, Schiza V, **Kirmizis A**. Cross-talk among epigenetic modifications: lessons from histone arginine methylation. **Biochemical Society Transactions**, 41:751-759, 2013.
- **Kirmizis A**, Santos-Rosa H, Penkett CJ, Singer MA, Green RD, Kouzarides T. Distinct transcriptional outputs associated with mono- and di-methylated histone H3 arginine 2. **Nature Structural & Molecular Biology**, 16: 449-451, 2009.
- Santos-Rosa H, **Kirmizis A**, Nelson C, Bartke T, Saksouk N, Cote J, Kouzarides T. Histone H3 tail clipping regulates gene expression. **Nature Structural & Molecular Biology**, 16: 17-22, 2009.

- **Kirmizis A**, Santos-Rosa H, Penkett CJ, Singer MA, Vermeulen M, Mann M, Bahler J, Green RD, Kouzarides T. Arginine methylation of histone H3R2 controls deposition of H3K4 trimethylation. **Nature**, 449: 928-932, 2007.
- De la Cruz CC, **Kirmizis A**, Simon MD, Isono K, Koseki H, Panning B. The Polycomb Group Protein SUZ12 regulates histone H3 lysine 9 methylation and HP1 alpha distribution. **Chromosome Research**, 15: 299-314, 2007.
- Oberley MO, **Kirmizis A**, Schelman WR, Farnham PJ. Using RNA interference to validate target genes identified by coupling chromatin immunoprecipitation with CpG-island microarrays. In Promoter and CpG Island Microarrays (Nuts and Bolts series). **DNA Press**, 2006.
- Kuzmichev A, Margueron R, Vaquero A, Preissner TS, Scher M, **Kirmizis A**, Quyang X, Brockdorff N, Abate-Shen C, Farnham PJ, Reinberg D. The composition and histone substrates of polycomb repressive group complexes change during cell differentiation. **Proceedings of the National Academy of Sciences USA**, 102(6): 1859-1864, 2005.
- Reinberg D, Chuikov S, Farnham PJ, Karanchentsev D, **Kirmizis A**, Kuzmichev A, Margueron R, Nishioka K, Preissner TS, Sarma K, Abate-Shen C, Steward R, Vaquero A. Steps towards understanding the inheritance of repressive methyl-lysine marks in histones. **Cold Spring Harbor Symposium on Quantitative Biology**, 69: 171-82, 2004.
- **Kirmizis A**, Farnham PJ. Genomic approaches that aid in the identification of transcription factor target genes. **Experimental Biology and Medicine**, 229(8): 705-721, 2004.
- **Kirmizis A**, Bartley SM, Kuzmichev A, Margueron R, Reinberg D, Green R, Farnham PJ. Silencing of human polycomb target genes is associated with methylation of histone H3 Lys 27. **Genes & Development**, 18(13): 1592-1605, 2004.
- **Kirmizis A**, Bartley SM, Farnham PJ. Identification of the Polycomb Group protein SUZ12 as a potential molecular target for human cancer therapy. **Molecular Cancer Therapeutics**, 2:113-121, 2003.

GRANTS AND FUNDING

2011 - 2016	ERC-Starting grant, European Research Council, ChromatinModWeb-No. 260797, €1.5 million. Coordinator
2012 - 2015	Project grant, Cyprus Research Promotion Foundation, Health and Biological Sciences, YGEIA/BIOS/0311(BE)/14, €140,000. Partner.
2011 - 2014	Project grant, Cyprus Research Promotion Foundation, Health and Biological Sciences, YGEIA/BIOS/0609(BE)/09, €140,000. Coordinator.
2010 - 2011	University of Cyprus Start-up Grant, €85,000. Coordinator.

INVITED PRESENTATIONS (2009 - 2017)

- Histone N-terminal acetylation controls calorie-restriction induced longevity. **Chromatin and Epigenetic: from mechanism to function**, Munich, Germany, April 2017.
- Epigenetics of Cancer: from mechanisms to therapeutic targets. **European University International Biomedical Conference**, Nicosia, Cyprus, November 2016.
- The epigenetic enzyme Naa40 controls cancer cell death. **International Symposium on Molecular Medicine**, Athens, Greece, October 2016.
- Epigenetic control of aging in response to calorie restriction. **CSHG International Conference**, Nicosia, Cyprus, October 2016.
- Functional dissection of long non-coding RNAs by systematic genetic analysis. **Helmholtz Zentrum seminar**, Munich, Germany, September 2016.
- The role of histone N-terminal acetylation in gene regulation. **Kouzarides Laboratory Symposium**, Cambridge, UK, January 2016.
- Loss of histone N-terminal acetylation mimics calorie restriction induced longevity. **Epigenetics, Obesity and Metabolism Conference**, Hinxton, UK, October 2015.
- Histone N-terminal acetyltransferase Naa40: an emerging target for cancer therapy. **COST - Epigenetics meeting**, Budapest, Hungary, September 2015.
- The role of histone N-terminal acetyltransferase Nat4 in chromatin and transcription. **EMBO conference on Gene Transcription in Yeast: From regulatory networks to mechanisms**, Sant Feliu de Guixols, Spain, June 2014.
- Histone N-terminal acetylation in chromatin dynamics and transcription. **EMBO course on Nuclear Proteomics**, Kos, Greece, May 2014.
- Identification of novel telomere regulators through systematic genetic screens in yeast. **EMBO conference on Telomeres, Telomerase and Disease**, Brussels, Belgium, April 2014 (*selected presentation from abstracts*).
- The histone N-terminal acetyltransferase Nat4 controls ribosomal DNA silencing and cell-growth. **Barcelona Conference on Epigenetics and Cancer**. Barcelona, Spain, November 2013.
- Gene regulation by epigenetic modifications. **University of Nicosia**, Seminar, Nicosia, Cyprus, November 2013.

- Gene regulation by chromatin modifications: tips from the histone tail tip. **Institute of Genetics and Molecular and Cellular Biology**, Seminar Series, Strasbourg, France, April 2013.
- Mechanisms of histone modification crosstalk. **Annual Symposium: Epigenetic mechanisms in development and disease**, Biochemical Society, Leeds, UK, December 2012.
- The role of Epi-genetics in human disease. **International conference of the Cyprus society of human genetics**, Nicosia, Cyprus, November 2012.
- Regulation of histone arginine methylation by protein N-terminal acetylation. **University of Cyprus**, Basic Research Symposium, June 2011.
- Epigenetic modifications and their function. **University of Nicosia**, Department of Life and Health Sciences, Nicosia, Cyprus, March 2011.
- Recent advances in genome-wide profiling of epigenetic modifications. **International Cancer Omics Meeting**, Ettore Majorana Foundation, Erice, Italy, May 2010.
- Regulation of the p53 tumor suppressor by arginine methylation. **10th Marianna Lordos Cancer Conference**, Larnaca, Cyprus, March 2010.
- Chromatin modifications in transcriptional control. **UCL Cancer Institute** 2nd Annual Conference and Open Day, London, UK, July 2009.
- Mechanisms of Transcriptional Control by Histone Modifications. **Cambridge Research Institute**, Comprehensive Cancer Center Post-doctoral Conference, Cambridge, UK, November 2009.

CONFERENCE ORGANISATION

2016 - Scientific committee member for an international conference of the Cyprus Society of Human Genetics (CSHG), October 14-15, Nicosia, Cyprus.

PARTICIPATION IN BOARDS AND OTHER SOCIETIES

2015 - present Associate Editor - Biochemistry and Cell Biology journal, NRC Research Press, Canada

2015 - present Member of the Cyprus Society of Human Genetics

- 2015 – 2019** Management committee member of Epigenetic Chemical Biology – COST Action CM1406
- 2013 - present** Research grant reviewer: participated as a Panel member in EU-Horizon 2020 Societal Challenges Calls, and remote reviewer for BBSRC (UK) and ANR (France) research funding agencies
- 2009 - present** Ad hoc reviewer in various journals:
Molecular Cell
EMBO Journal
Nature Communications
PLoS Genetics, PLoS ONE
- 2010 - 2016** Associate Member – EpiGeneSys Network of Excellence

PUBLIC ENGAGEMENT

- Epigenetics: One genotype – multiple phenotypes. **High-School Biology Symposium**, Nicosia, Cyprus, February 2017.
- Press release and appearance at news bulletins to describe recent research findings, Nicosia, Cyprus, November 2016.
- Epigenetics and cancer. **ERC=Science²**, Nicosia, Cyprus, December 2016.
- The non-coding genome: not so ‘junk’ after all. **Cyprus Society of Human Genetics - Scientific café**, Nicosia, Cyprus, May 2016.
- What is molecular biology? **Pefkios Georgiades Elementary School**, Nicosia, Cyprus, May 2014.
- Epigenetics: what else do we inherit in addition to our genes? **High-School Biology Symposium**, Nicosia, Cyprus, February 2014.
- ERC funding roadshow, **University of Cyprus**, Nicosia, Cyprus, December 2013.
- Getting into an academic career. **Gurdon Institute Post-doc Society**, Cambridge, UK, December 2012.
- Cancer research: attempts for discovering new therapies. **Ayia Marina Cultural Group**, Nicosia, Cyprus, October 2011.
- Understanding cancer through molecular biology. **Haberdashers Aske’s School seminar**, London, UK, March 2009.

SCIENTIFIC WORKSHOPS

2008 **EMBO Laboratory Management Workshop** **Heidelberg, Germany**
Three-day course which covers topics on leadership and team development skills, including communication (taking into account personality and culture) as well as conflict and problem solving.

2001 **AACR Pathobiology of Cancer Workshop** **Keystone, CO, USA**
One week intensive course on the molecular and histopathologic aspects of human cancer for scientists working in basic cancer research.

ADMINISTRATIVE ACTIVITIES

2012 - present Member of the Cyprus Council for the Recognition of Higher Education Qualifications (KYSATS) within the subject of Natural Sciences.

2011 - present Member of the Department Tenders Committee

2011 - 2015 Member of the Postgraduate Committee at the Department of Biological Sciences

2010 - 2011 Member of the Undergraduate Committee at the Department of Biological Sciences