

## Curriculum Vitae

Name: Blumberg Amit

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### Academic education:

2015: CSAMA 2015 course - Statistics and Computing in Genome Data Science.

Bressanone, Italy, 2015

2014: short term training in the department of genetics in Stanford University (CA, USA) under supervision of Dr. Anshul Kundaje.

2012-2016: PhD student in the department of Life Sciences, Ben-Gurion University of the Negev. Supervisor: Prof. Dan Mishmar.

2010-2012: MSc student in the department of Life Sciences, Ben-Gurion University of the Negev. Supervisor: Prof. Dan Mishmar.

2004-2010: BSc student in the Department of Natural Sciences, the Open University of Israel.

2000-2003: Teaching certification in Bible and Talmud, Herzog College of Education.

### Research experience:

2017-present Post-doctoral researcher; Simon center for Quantitative Biology, Cold spring Harbor Laboratory (CSHL), Cold Spring Harbor, NY. Supervisor: Prof Adam Siepel.

November 1<sup>st</sup> 2016 – 2017. Visiting scientist; Simon center for Quantitative Biology, Cold spring Harbor Laboratory (CSHL), Cold Spring Harbor, NY. Supervisor: Prof Adam Siepel.

2010-2016 Graduate student; department of Life Sciences, Ben-Gurion University of the Negev. Beer Sheva, Israel. Supervisor: Prof. Dan Mishmar.

### Academic teaching:

2010- 2016: Teaching assistant in the course ' Basic Genetics' (2<sup>nd</sup> year undergraduate students)

2010- 2016: Teaching assistant in the course 'The Cell – Laboratory' (1<sup>st</sup> year undergraduate students)

### Pre-academic education

1997-1998, 2000-2008: Talmudic, Rabbanut and Jewish philosophy studies, Yesivat Hesder Yerucham.

### Community teaching experience:

2004 – 2014: Board member of the Charity Fund in Yerucham, Israel.  
2008-2010: Teaching in 'Be'lvav-Shalem' high school, Yerucham. including training for BAGRUT exams.  
2007-2010: Establishment and management project of seminars and talks to soldiers.  
2006 – Editor of 'Meisharim' – The journal of Yeshivat Hesder Yerucham  
2001-2005: Teaching and management of educational project in ORT Yerucham,

Military service:

1997-2000: Soldier and team commander, Paratrooper Brigade, Israel Defense Force.

Awards and Scholarships:

2016: Conference travel award for PhD students, by the Ministry of Science, Technology and Space  
2015: Travel fellowship from the CSAMA 2015 Statistics and Computing in Genome Data Science (Bressanone ITALY, June 2015)  
2014: Prof. Rahamimoff Travel Grant for Young Scientists of the US-Israel Binational Science Foundation (BSF) for short term training at Stanford University (CA, USA)  
2013-2016: Harbour Foundation scholarship for excellent PhD students (for 4 years).  
2010-2012: Scholarship for research students, The Faculty of Natural Sciences, Ben Gurion University.

Presentations in scientific conferences:

- 'The Evolving Concept of Mitochondria: From Symbiotic Origins to Therapeutic Opportunities', CSHL, USA 2018. ((Poster presentation)
- 'Systems Biology: Global Regulation of Gene Expression genome' CSHL, USA 2018. (Poster presentation)
- 'Identifying the sequence determinants of enhancer RNA stability', SCQB, Bioinformatics & Computational Biology Seminar, CSHL, USA 2018. (**Invited talk**)
- CSHL In-House Symposium XXXI, CSHL, USA 2017. (Poster presentation)
- 'Mechanisms of Eukaryotic Transcription', CSHL, USA 2017. (Poster presentation)
- Mitochondria and Chloroplast Gordon Research Conference: Evolution, Biogenesis and Quality Control of Organelles of Endosymbiotic Origin. Vermont, USA, 2016. (poster presentation)
- 'Novel NGS-based approach to analyze mtDNA transcription initiation: a quantitative insight into diverse tissues and organisms', Center of Evolutionary Genomics and Medicine, Be'er Sheva, Israel (**Invited talk**)
- 'Systems Biology: Global Regulation of Gene Expression genome', CSHL, USA 2016. (Poster presentation)

- The annual meeting of The Genetic Society of Israel. Huji, Jerusalem, Israel. 2016 (Poster presentation)
- "Investigating the complexity of mtDNA transcriptional regulation" in the CSAMA 2015 course - Statistics and Computing in Genome Data Science. Bressanone, Italy, 2015 (**oral presentation**)
- Mitochondria: function and dysfunction conference. Ein-Gedi, Israel 2015 (poster presentation)
- Mitochondria and Chloroplast Gordon Research Conference : Biology and Physiology of Energy Converting Organelles. Barga, Italy, 2014. (poster presentation)
- "The complexity of mtDNA transcriptional regulation" in the 2nd student conference in Genetic, Genomics and Evolution. Weizmann institute, Rehovot, Israel, 2013 (**oral presentation**)
- Israel Bioinformatics Conference, BGU, Israel 2013. (Poster presentation)
- 'The biology of the genome' CSHL, USA 2013. (Poster presentation)
- Anglo-Israeli mitochondrial focused workshop. Weizmann Institute. Rehovot, Israel 2013. (Poster presentation)
- The annual meeting of The Genetic Society of Israel. Technion, Haifa, Israel. 2013(Poster presentation)
- The 1st Graduate Students' Conference in Genetics, Genomics and Evolution. BGU, Beer Sheva, Israel. 2012. (Poster presentation).

#### Scientific Publications:

1. Marom S, Blumberg A, Kundaje A, Mishmar D. mtDNA Chromatin-like Organization is Gradually Established During Mammalian Embryogenesis. *iScience*. 2019; (in press)
2. Blumberg A, Danko CG, Kundaje A, Mishmar D. A common pattern of DNase I footprinting throughout the human mtDNA unveils clues for a chromatin-like organization. *Genome research*. 2018;28(8):1158–68.
3. Barshad G, Blumberg A, Cohen T, Mishmar D. Human primitive brain displays negative mitochondrial-nuclear expression correlation of respiratory genes. *Genome research*. 2018; 28: 952-967
4. Blumberg A, Rice EJ, Kundaje A, Danko CG, Mishmar D. Initiation of mtDNA transcription is followed by pausing, and diverges across human cell types and during evolution. *Genome research*. 2017; 27: 362-373
5. Bar-Yaacov D, Frumkin I, Yashiro Y, Chujo T, Ishigami Y, Chemla Y, et al. Mitochondrial 16S rRNA is methylated by tRNA methyltransferase TRMT61B in all vertebrates. *PLoS biology*. 2016;14(9):e1002557.

6. A. Blumberg GB D Mishmar. Mitochondrial and Nuclear Genome Coevolution. In: Encyclopedia of Evolutionary Biology. Oxford: Academic Press.; 2016. p. 19–26.
7. Levin L, Blumberg A, Barshad G, Mishmar D. Mito-nuclear co-evolution: the positive and negative sides of functional ancient mutations. *Frontiers in genetics*. 2014;5:448.
8. Blumberg A, Sri Sailaja B, Kundaje A, Levin L, Dadon S, Shmorak S, et al. Transcription factors bind negatively selected sites within human mtDNA genes. *Genome biology and evolution*. 2014;6(10):2634–46.
9. Bar-Yaacov D, Blumberg A, Mishmar D. Mitochondrial-nuclear co-evolution and its effects on OXPHOS activity and regulation. *Biochimica et Biophysica Acta (BBA)-Gene Regulatory Mechanisms*. 2012;1819(9–10):1107–11.