

Eran Meshorer, Full Professor, The Arthur Gutterman Chair for Stem Cell Research, CV November 2017

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Education:

1999-2003 Ph.D. in Molecular Neuroscience, Hebrew University
1997-1999 M.Sc. in Molecular Microbiology, Hebrew University
1993-1996 B.Sc. in Biology, *magna cum laude*, Hebrew University

Brief Chronology of Employment:

2016- Professor, Department of Genetics & ELSC, Hebrew University
2014-2015 Visiting Professor, Whitehead Institute (MIT) and Broad Institute (Harvard/MIT)
2014- Member, Edmond and Lily Safra Center for Brain Sciences (ELSC)
2011- Associate Professor, Department of Genetics, Hebrew University
2007-2011 Senior Lecturer (Assistant Professor), Department of Genetics, Hebrew University
2004-2007 Post-Doctoral Fellow, National Cancer Institute, NIH, Bethesda, MD
1997-2004 Teaching Assistant, Hebrew University
1994-1996 Research Assistant, Hebrew University

Academic service:

2017- Head, Department of Genetics, The Institute of Life Sciences, Hebrew University
2016-2017 Head, Genetics Department teaching program
2015- Head, Psychobiology program
2015- Head, Etgar program (distinguished students program)
2013-2014 Search committee member, Institute of Life Sciences
2012-2014 SMART Prize (paper of the month award) committee member
2011-2014 Biology undergraduate program consultant

Selected recent awards and honors:

2016 Gold Medal Award from the 1st Faculty of Medicine, Charles University, Prague, Czech Republic
2016 Named the Arthur Gutterman Chair for Stem Cell Research
2015 Vigevani Research Prize, Israel-Italy (with Prof. Giuseppe Testa)
2013 Zelman Cowen Award for Biomedical Research, Hebrew University and University of Sydney
2012 Associate PI, *EpiGeneSys* (EU FP7 consortium)
2012 Hestrin Prize for an outstanding young researcher, Israel Society for Biochemistry and Molecular Biology
2012 Klachky Prize for the advancement of science, Hebrew University
2011 ERC starting grant award
2011 Excellence in teaching award, Life Sciences, Hebrew University
2010 Elkes Award from the National Institute for Psychobiology in Israel
2010 Excellence in teaching award, Woods Hole course on stem cells and regenerative medicine
2010 Associate PI, *EuroSyStem* (EU FP7 consortium)
2009 The Farkash Prize for Life Sciences, Hebrew University
2008 The Joseph H. and Belle R. Braun Senior Lectureship in life sciences, Hebrew University
2008 The Rom prize in genetics, Hebrew University
2007 Alon Fellowship for new faculty from the Israeli Council for Higher Education
2006 Fellows Award (FARE) in recognition of excellence in biomedical research, NIH
2005 *Lilly-Molecular Psychiatry* Award for most original significant research for 2005 (Meshorer et al., 2005)
2004 Golda Meir Fellow, Hebrew University
2003 The Israel Society for Biochemistry and Molecular Biology (ISBMB) Teva national prize for outstanding PhD

Funding (expired)

2015-2017	ERC Proof of Concept (PoC) grant "An antibody microarray for histone modifications" €150,000 (Role: PI)
2011-2016	ERC " <i>ExprES</i> : Chromatin and transcription in ESCs: from single cells to genome-wide views" €1,500,000 (Role: PI)
2012-2016	Israel Science Foundation "Novel non-coding RNAs in embryonic stem cells" \$225,000 (Role: PI)
2012-2016	ISF-Morasha "Mechanism of reprogramming human models for neurodegenerative disorders" \$150,000 (Role: co-PI, with Nissim Benvenisty)
2013-2016	BIKURA ISF personal grant "Reconstructing the Neandertal epigenome" \$150,000 (Role co-PI, with Liran Carmel)
2013-2016	Ministry of Science Tashtiot grant "Israel Center for induced pluripotent stem cell technologies" \$150,000 (Role: co-PI with H. Soreq, N. Benvenisty and B. Reubinoff)
2015-2016	ISF-Broad "Defining a glioblastoma stem cell: from chromatin dynamics to cell conversion" \$100,000 (Role: co-PI, with B. Bernstein)
2011-2015	Human Frontiers Science Program "The birth of the circadian clock" \$300,000 (Role: co-PI, with Aviv Regev and Sebastian Kadener)
2012-2015	Israel-Japan collaboration grant: "Chromatin structure and dynamics in the CNS" \$150,000 (Role: co-PI, with Takumi Takizawa)
2011-2014	DKFZ-MOST "Chromatin and epigenetics in pluripotent and tumor initiating cells" €117,000 (Role: co-PI, with Karsten Rippe)
2011-2013	Israel-Italy collaboration grant: "Senescence of stem cells and Rett Syndrome" \$80,000 (Role: co-PI, with Umberto Galderisi)
2011-2013	Abisch-Frenkel Fund "Genome-wide and single cell alternative splicing in ES cell differentiation" \$90,000 (Role: PI)
2011	ISF equipment: Fluorescence Activated Cell Sorter (FACS) \$150,000 (Role: co-PI, with Nissim Benvenisty and Koby Nahmias)
2009-2013	Nucleosome4D: FP7-PEOPLE, Marie Curie Initial Training Network (ITN) €150,000 (Role: co-PI). The network funds an ER or ESR in each participating lab.
2010-2012	Israel Psychobiology Center "Chromatin-related transcriptional memory in the mammalian brain" \$80,000 (Role: PI)
2010-2012	Israel Cancer Research Foundation "Chromatin in embryonic and cancer stem cells" \$60,000 (Role: PI)
2009-2012	ISF-Morasha "Human pluripotent stem cells for neurodegenerative diseases" \$150,000 (Role: co-PI, with Nissim Benvenisty)
2010-2012	Israel Ministry of Health "Pluripotent stem cells for Machado Joseph Disease" \$85,000 (Role: PI)
2010-2011	The applicative grant of the Hebrew University "Improving reprogramming" \$40,000 (Role: PI)
2009-2012	The Center for Complexity Science "Alternative splicing in ES cell differentiation" (\$150,000; Role: PI). Funding lost due to the collapse of the Horowitz fund
2007-2011	Marie Curie IRG reintegration grant "Live imaging of nuclear dynamics in ES cells" €100,000 (Role: PI)

2007-2010 **Israel Science Foundation** personal grant "Identification of chromatin proteins in ES cells"
\$150,000 (Role: PI)

Funding (active)

2018-2022 **EU Marie Curie ITN network "EpiSyStem"**
€525,000 (Role: Coordinator; PI)

2017-2022 **Israel Science Foundation** "Chromatin regulators of pluripotent stem cell differentiation"
\$500,000 (Role: PI)

2017-2020 **MOST-DKFZ German-Israeli collaboration** "The role of ATRX in glioblastoma"
€117,000 (Role: co-PI, with Karsten Rippe)

2016-2018 **TEVA-NNE** "A drug-screening platform for Huntington's and Fragile-X diseases"
\$200,000 (Role: co-PI, with N. Benvenisty)

2015-2019 **FET-OPEN** "CellViewer: super-resolution systems microscopy to assess pluripotency"
€800,000 (Role: co-PI, with P. Cosma, M. Lakadamyali)

Publications

I. Research articles:

1. Gokhman D, Agranat L, Housman G, Nissim-Rafinia M, Colon MN, Gu H, Ferrando M, Gelabert P, Lipende I, Quillen EE, Meissner A, Stone AC, Pusey AE, Mjunga D, Kandel L, Liebergall M, Prada ME, Vidal JM, Krause J, Yakir B, Pääbo S, Reich D, Fox CL, Marques-Bonet T, **Eran Meshorer*** and Liran Carmel* (2017) Recent Regulatory Changes Shaped the Human Facial and Vocal Anatomy. *bioRxiv* 106955; doi: <https://doi.org/10.1101/106955>. Submitted.
2. Azad GK, Ito K, Sailaja BS, Biran A, Nissim-Rafinia M, Brown DT, Takizawa T and **Eran Meshorer** (2017) PARP1-dependent eviction of the linker histone H1 mediates immediate early gene expression during neuronal activation. *J Cell Biol.*, Accepted.
3. Schlesinger S, Kaffé B, Melcer S, Aguilera JDA, Mundackal DS, Kaplan T and **Meshorer E** (2017) A hyperdynamic H3.3 nucleosome marks promoter regions in pluripotent embryonic stem cells. *Nucleic Acids Res*, Epub ahead of print, doi: 10.1093/nar/gkx817.
4. Raghu Ram EV, Harikumar A, Aaronson Y, Biran A, Sailaja BS, Nissim-Rafinia M, Azad GK, Cohen MM, Park JE, Shivalila CS, Markoulaki S, Sze SK, Jaenisch R and **Meshorer E** (2017) Alternative SET / TAFI promoters regulate embryonic stem cell pluripotency and differentiation. *Stem Cell Reports*, **9**(4):1291-1303.
5. Harikumar A, Raghu Ram EV, Sorek M, Azad GK, Markoulaki S, Sehnalová P, Legartová S, Bártová E, Farkash-Amar S, Jaenisch R, Alon U and **Meshorer E** (2017) An endogenously tagged fluorescent fusion protein library in mouse embryonic stem cells. *Stem Cell Reports*, **9**(4):1304-1314.
6. Torres CM*, Biran A*^S, Burney MJ, Patel H, Henser-Brownhill T, Cohen AS, Li Y, Ben Hamo R, Nye E, Spencer-Dene B, Chakravarty P, Efroni S, Matthews N, Misteli T, **Meshorer E** and Scaffidi P* (2016) The linker histone H1.0 determines epigenetic and functional intratumor heterogeneity. *Science*, **353**(6307):1514.
7. Aaronson Y, Livyatan I, Gokhman D, **Meshorer E** (2016) Systematic identification of gene family regulators in mouse and human embryonic stem cells. *Nucleic Acids Res*, **44**(9):4080-4089
8. Livyatan I, Aaronson Y, Gokhman D, Ashkenazi R and **Meshorer E** (2015) BindDB: an integrated database and webtool platform for "reverse-ChIP" epigenomic analysis. *Cell Stem Cell*, **17**(6):647-648
9. Mattout A, Aaronson Y, Sailaja BS, Raghu Ram EV, Harikumar A, Mallm JP, Sim KH, Nissim-Rafinia M, Supper M, Singh PB, Sze SK, Gasser SM, Rippe K and **Meshorer E** (2015) Heterochromatin Protein 1β (HP1β) has distinct functions and distinct nuclear distribution in pluripotent versus differentiated cells. *Genome Biol.* **16**(1):213-234.
10. Kfir N, Glaich O, Lev-Maor G, Alajem A, Datta A, Sze SK, **Meshorer E*** and Ast G* (2015) SF3B1 association with chromatin determines splicing outcome. *Cell Rep.* **11**(4):618–629
11. Alajem A, Biran A, Harikumar A, Sailaja BS, Aaronson Y, Livyatan I, Nissim-Rafinia M, Sommer AG, Mostoslavsky G, Gerbasi VR, Golden DE, Datta A, Sze SK and **Meshorer E** (2015) Differential Association of Chromatin Proteins Identifies BAF60a/SMARCD1 as a regulator of embryonic stem cell differentiation. *Cell Rep.* **10**(12):2019-2031

12. Moussaieff A, Rouleau M, Kitsberg D, Cohen M, Levy G, Barasch D, Nemirovski A, Shen-Orr S, Laevsky I, Amit M, Bomze D, Elena-Herrmann B, Scherf T, Nissim-Rafinia M, Kempa S, Itskovitz-Eldor J, **Meshorer E**, Aberdam D, Nahmias Y. (2015) Glycolysis-mediated changes in acetyl-CoA and histone acetylation control the early differentiation of embryonic stem cells. *Cell Metab*. **21**(3):392-402
13. Yearim A, Gelfman S, Shayevitch R, Melcer S, Glaich O, Mallm JP, Nissim-Rafinia M, Cohen A, Rippe K, **Meshorer E*** and Ast G* (2015) HP1 is involved in regulating the global impact of DNA methylation on alternative splicing. *Cell Rep*. **10**(7):1122-34.
14. Blumberg A, Sailaja BS, Kundaje A, Levin L, Dadon S, Shmorak S, Shaulian S, **Meshorer E** and Mishmar D (2014) Transcription factors bind negatively-selected sites within human mtDNA genes. *Genome Biol Evol*. **6**(10):2634-46
15. Alvarez-Saavedra M, De Repentigny Y, Lagali P, Ram EV, Yan K, Hashem E, Ivanochko D, Huh M, Doo Y, Mears A, Todd M, Corcoran C, Bassett E, Tokarew N, Kokavec J, Majumder R, Ioshikhes I, Wallace V, Kothary R, **Meshorer E**, Stopka T, Skoultschi A and Picketts D (2014) Snf2h-mediated chromatin organization and histone H1 dynamics governs cerebellar morphogenesis and neural maturation. *Nat Commun*. **5**:4181
16. Bošković A, Eid A, Pontabry J, Ishiuchi T, Spiegelhalter C, Ram EVS, **Meshorer E** and Torres-Padilla ME (2014) Higher chromatin mobility supports totipotency and precedes pluripotency in vivo. *Genes Dev*. **28**(10):1042-7
17. Gokhman D, Lavi E, Prüfer K, Fraga MF, Riancho JA, Kelso J, Pääbo S, **Meshorer E*** and Carmel L* (2014) Reconstructing the DNA methylation maps of the Neandertal and the Denisovan. *Science*. **344**(6183):523-7
18. Schlesinger S, **Meshorer E** and Goff SP (2014) Asynchronous transcriptional silencing of individual retroviral genomes in embryonic cell. *Retrovirology*. **11**(1):31
19. Ben-David U#, Biran A#, Scaffidi P, Herold-Mende C, Boehringer M, **Meshorer E*** and Benvenisty N* (2014) Elimination of undifferentiated cancer cells by pluripotent stem cell inhibitors. *J Mol Cell Biol*. **6**(3):267-9
20. Raviv S, Bharti K, Rencus-Lazar S, Cohen-Tayar Y, Schyr R, Evantal N, **Meshorer E**, Zilberberg A, Grebe R, Rosin-Arbesfeld R, Lauderdale J, Luty G, Arnheiter H and Ashery-Padan R (2014) PAX6 regulates melanogenesis in the retinal pigmented epithelium through feed-forward regulatory interactions with MITF. *PLoS Genet*. **10**(5):e1004360
21. Shahar OD, Kalousi A, Eini L, Fisher B, Weiss A, Darr J, Mazina O, Bramson S, Kupiec M, Eden A, **Meshorer E**, Mazin AV, Brino L, Goldberg M and Soutoglou E (2014) A high-throughput chemical screen with FDA approved drugs reveals that the antihypertensive drug Spironolactone impairs cancer cell survival by inhibiting homology directed repair. *Nucleic Acids Res*. **42**(9):5689-701
22. Bodaker M, **Meshorer E**, Mitrani E and Louzoun Y (2014) Genes related to differentiation are correlated with the gene regulatory network structure. *Bioinformatics*. **30**(3):406-13.
23. Efroni S, Meerzaman D, Schaefer CF, Greenblum S, Soo-Lyu M, Hu Y, Cultraro C, **Meshorer E**, Buetow KH (2013) Systems analysis utilising pathway interactions identifies sonic hedgehog pathway as a primary biomarker and oncogenic target in hepatocellular carcinoma. *IET Syst Biol*. **7**(6):243-51
24. Deng T, Zhu I, Zhang S, Leng F, Cherukuri S, Hansen L, Mariño-Ramírez L, **Meshorer E**, Landsman D and Bustin M (2013) HMGN1 Modulates Nucleosome Occupancy And DNase I Hypersensitivity At The CpG Island Promoters Of Embryonic Stem Cells. *Mol Cell Biol*. **33**(16):3377-89
25. Livyatan I, Harikumar A, Nissim-Rafinia M, Duttagupta R, Gingeras TR and **Meshorer E** (2013) Non-polyadenylated transcription in embryonic stem cells reveals novel non-coding RNA related to pluripotency and differentiation. *Nucleic Acids Res*. **41**(12):6300-15 (cover)
26. Gokhman D, Livyatan I, Sailaja BS, Melcer S and **Meshorer E** (2013) Multi-layered chromatin analysis reveals E2F, SMAD and ZFX as transcriptional regulators of the Histone gene family. *Nat Struct Mol Biol*. **20**(1):119-26
27. Sommer CA, Christodoulou C, Gianotti-Sommer A, Shen SS, Sailaja BS, Hezroni H, **Meshorer E**, Kotton DN and Mostoslavsky G. (2013) Residual Expression of Reprogramming Factors Affects the Transcriptional Program and Epigenetic Signatures of Induced Pluripotent Stem Cells. *PLoS One*. **7**(12):e51711
28. Sailaja BS, Cohen-Carmon D, Zimmerman G, Soreq H and **Meshorer E** (2012) Stress-induced epigenetic transcriptional memory of Acetylcholinesterase by HDAC4. *Proc Natl Acad Sci U S A*. **109**(52):E3687-950
29. Farkash-Amar S, David Y, Polten A, Hezroni H, Eldar Y, **Meshorer E**, Yakhini Z and Simon I (2012) Systematic determination of replication structure highlights interconnections between replication, chromatin structure and nuclear localization. *PLoS One*. **7**(11):e48986

30. Dutta B, Adav SS, Koh CG, Lim SK, **Meshorer E** and Sze SK (2012) Elucidating the temporal dynamics of chromatin-associated protein release upon DNA digestion by quantitative proteomics approach. *J Proteomics*, **75**(17):5493-506
31. Melcer S, Hezroni H, Rand E, Nissim-Rafinia M, Stewart C, Skoultchi A, Bustin M and **Meshorer E** (2012) Histone modifications and lamin A regulate chromatin protein dynamics in early embryonic stem cell differentiation. *Nat Commun*. **3**:910
32. Shahar O, Raghu Ram EVS, Shimshoni E, Hareli S, **Meshorer E*** and Goldberg M* (2012) Live imaging of induced and controlled DNA double-strand break formation reveals extremely low repair by homologous recombination in human cells. *Oncogene*. **31**:3495-504
33. Mattout A[#], Biran A[#] and **Meshorer E** (2011) Global epigenetic changes during somatic cell reprogramming to iPS cells. *J Mol Cell Biol*, **3**:341-50 (cover)
34. Hezroni H, Sailaja BS and **Meshorer E** (2011) Pluripotency-related, VPA-induced genome-wide H3K9 acetylation patterns in embryonic stem cells. *J Biol Chem*, **286**:35977-88
35. Hezroni H, Tzchori I, Davidi A, Mattout A, Biran A, Nissim-Rafinia M, Westphal H and **Meshorer E** (2011) H3K9 histone acetylation predicts pluripotency and reprogramming capacity of ES cells. *Nucleus*, **2**(4):300-309
36. Nissim-Rafinia M and **Meshorer E** (2011) Photobleaching assays (FRAP & FLIP) to visualize chromatin protein dynamics in living embryonic stem cells. *J Vis Exp*, **52**: pii: 2696
37. Schwartz S, **Meshorer E** and Ast G (2009) Chromatin organization marks exon-intron structure. *Nat Struct Mol Biol*. **16**:990-996 (cover)
38. Gaspar-Maia A, Alajem A, Polesso F, Sridharan R, Mason MJ, Heidersbach A, Ramalho-Santos J, McManus MT, Plath K, **Meshorer E**, Ramalho-Santos M (2009) Chd1 regulates open chromatin and pluripotency of embryonic stem cells. *Nature*, **460**: 863-868
39. Efroni S, Duttagupta R, Cheng J, Dehghani H, Hoepfner DJ, Dash C, Bazett-Jones DP, Le Grice S, McKay RDG, Buetow KH, Gingeras TR, Misteli T, **Meshorer E** (2008) Global transcription in pluripotent embryonic stem cells. *Cell Stem Cell*, **2**:437-447
40. **Meshorer E**, Yellajoshula D, George E, Scambler PJ, Brown D and Misteli T (2006) Hyperdynamic plasticity of chromatin proteins in pluripotent embryonic stem cells. *Dev Cell*, **10**:105-116
41. **Meshorer E**, Bryk B, Toiber D, Cohen J, Podoly E, Dori A and Soreq H (2005) SC35 promotes sustainable stress-induced alternative splicing of neuronal acetylcholinesterase mRNA. *Mol. Psych*. **10**:985-997. [Lilly award winner. Cover]
42. **Meshorer E**, Biton I, Ben-Shaul Y, Assaf Y, Soreq H and Cohen Y (2005) Brain diffusion and transport abnormalities under cholinergic imbalance. *FASEB J*. **19**:910-22
43. **Meshorer E**, Toiber D, Zurel D, Sahly I, Dori A, Cagnano E, Schreiber L, Grisaru D, Tronche F and Soreq H (2004) Combinatorial Complexity of 5' Alternative ACHE Transcripts and Protein Products. *J. Biol. Chem*. **279**:29740-29751
44. **Meshorer E**, Erb C, Gazit R, Pavlovsky L, Kaufer D, Friedman A, Glick D, Ben-Arie N and Soreq H (2002) Alternative splicing and neuritic mRNA translocation under long-term neuronal hypersensitivity. *Science*, **295**:508-512
45. Lev-Lehman E, Evron T, Broide RS, **Meshorer E**, Ariel I, Seidman S and Soreq H (2000) Synaptogenesis and myopathy under acetylcholinesterase overexpression. *J. Mol. Neurosci*. **14**:93-105
46. Sigalevich P, **Meshorer E**, Helman Y and Cohen Y (2000) Transition from anaerobic growth conditions of the sulfate reducing bacterium *Desulfovibrio oxyclinae* resulting in flocculation. *Appl. Environ. Microbiol*. **66**:5005-5012

II. Reviews (peer-reviewed)

1. Gokhman D, Meshorer E and Carmel L (2016) Epigenetics: it's getting old. Past meets future in paleoepigenetics. *Trends Ecol Evol*. **31**(4):290-300.
2. Harikumar A and **Meshorer E** (2015) Chromatin remodeling and bivalent histone modifications in embryonic stem cells. *EMBO Rep*. **16**(12):1609-19.
3. Cohen-Carmon D and **Meshorer E** (2012) Polyglutamine (PolyQ) related diseases: the chromatin connection. *Nucleus*. **3**(5):433-41
4. Biran A and **Meshorer E** (2012) Chromatin and genome organization in reprogramming. *Stem Cells*. **30**(9):1793-9

5. Gaspar-Maia A, Alajem A, **Meshorer E** and Ramalho-Santos M (2011) Open chromatin in stem cells and pluripotency. *Nat Rev Mol Cell Biol*, **12**(1):36-47
6. Mattout, A and **Meshorer E** (2010) Chromatin and nuclear architecture in pluripotent embryonic stem cells. *Curr Opin Cell Biol*, **22**:334-341
7. Raghu Ram EVS and **Meshorer E** (2009) Transcriptional competence in pluripotency. *Genes Dev*, **23**:2793-8
8. Efroni, S, Melcer S, Nissim-Rafinia M and **Meshorer E** (2009) Stem cells do play with dice: a statistical physics view of transcription. *Cell Cycle*, **8**:43-48
9. Prokocimer M, Davidovich M, Nissim-Rafinia M, Wiesel-Motiuk N, Bar D, Barkan R, **Meshorer E** and Gruenbaum Y (2009) Nuclear lamins: key regulators of nuclear structure and activities. *J Cell Mol Med*, **13**:1059-1085
10. Takizawa T and **Meshorer E** (2008) Chromatin and nuclear architecture in the central nervous system. *Trends Neurosci*, **31**:343-352
11. **Meshorer E** and Gruenbaum Y (2008) Gone with the Wnt/Notch: stem cells in laminopathies, progeria and aging. *J Cell Biol*, **181**:9-13
12. **Meshorer E** (2008) Imaging chromatin in embryonic stem cells. *StemBook*, doi/10.3824/stembook.1.2.1, <http://www.stembook.org>
13. **Meshorer E** (2007) Chromatin in embryonic stem cell neuronal differentiation. *Histol. Histopathol*, **22**:311-319
14. **Meshorer E** and Soreq H (2006) Virtues and woes of acetylcholinesterase alternative splicing in stress related neuropathology. *Trends Neurosci*, **29**:216-224
15. Stoilov P*, **Meshorer E***, Gencheva M, Glick D, Soreq H and Stamm S (2002) Defects in pre-mRNA processing as causes of and predisposition to diseases. *DNA Cell Biol*, **21**:803-818 [*Equal]
16. **Meshorer E** and Soreq H (2002) Pre-mRNA splicing modulations in senescence. *Aging Cell* **1**:10-16 (Cover)

III. Short reviews, News & Views, and Editorial comments

1. **Meshorer E** (2014) Epigenetics one stem at a time. *Cell Stem Cell*, **14**(6):706-9
2. Livyatan I and **Meshorer E** (2013) SON sheds light on RNA splicing and pluripotency. *Nat Cell Biol*, **15**(10):1139-40.
3. **Meshorer E** (2013) SyStem cell biology: A systems biology approach to pluripotent stem cells. *Systems Biomed*, **1**(1):1-3
4. Livyatan I and **Meshorer E** (2013) The HDAC Interaction network. *Mol Syst Biol*, **9**:671
5. Aaronson Y and **Meshorer E** (2013) Stem cells: Regulation by alternative splicing. *Nature*, **498**:176-7
6. Melcer S and **Meshorer E** (2010) The silence of the LADs: Dynamic genome-lamina interactions during embryonic stem cell differentiation. *Cell Stem Cell*, **6**:495-496.
7. **Meshorer E** and Gruenbaum Y (2009) NURD keeps chromatin young. *Nat Cell Biol*, **11**:1176-7.
8. **Meshorer E** and Gruenbaum Y (2008) Rejuvenating premature aging disease. *Nat Med*, **14**:713-715.
9. **Meshorer E** and Misteli T (2005) Splicing misplaced. *Cell*, **122**:317-318.

IV. Chapters

1. Salts N and **Meshorer E** (2016) Epigenetics in development, differentiation and reprogramming. In: *The Functional Nucleus*. D. Bazett-Jones, G. Dellaire Eds. Springer Publishers, Heidelberg, Germany.
2. Harikumar A and **Meshorer E** (2013) Measuring the dynamics of chromatin proteins during differentiation. *Methods Mol Biol*, **1042**:173-80.
3. Sailaja BS, Takizawa T and **Meshorer E** (2012) Chromatin immunoprecipitation (ChIP) in hippocampal cells and tissues. *Methods Mol Biol*, **809**:353-64.
4. Melcer S and **Meshorer E** (2010) Chromatin plasticity in embryonic stem cells. *Essays Biochem*, **48**(1):245-262
5. **Meshorer E** and Soreq H (2008) mRNA modulations in stress and aging. Handbook of Neurochemistry and Molecular Neurobiology. Volume No. 14: *Developmental and aging changes in the nervous system*. 3rd Ed. Editors: Perez-Polo R and Rossner S. Springer-Verlag: Berlin, Heidelberg, pp.215-243.

6. Soreq H, **Meshorer E**, Cohen O, Yirmiya R, Ginzberg D and Glick D (2004). The molecular neurobiology of acetylcholinesterase variants: from stressful insults to antisense intervention. In: Silman I, Fisher A, Anglister L, Michaelson D and Soreq H (eds.) *Cholinergic Mechanisms*, Martin Dunitz, London, pp.119-124
7. **Meshorer E** and Soreq H (2002) Antisense intervention with cholinergic impairments associated with neurodegenerative disease. In: *Mapping the Progress of Alzheimer's and Parkinson's Disease*. Y Mizuno, A Fisher, I Hanin. Eds. Kluwer Academic/Plenum Publishers, New York, pp. 45-48

V. Books and monographs

1. **Meshorer E** (2009) Long-lasting stress-induced changes in neuronal alternative splicing. VDM Verlag Pub, Germany/UK.
2. **Meshorer E** and Soreq H (2004) Stressed Out: on the molecular biology of stress responses. Van-Leer Institute publishers, Hakibutz Hameuchad, Jerusalem. Hebrew manuscript.

VI. Editorial

1. *Stem Cell Epigenetics* (2017), Elsevier (in preparation). **E. Meshorer** & G. Testa, Editors
2. *The Cell Biology of Stem Cells* (2010), Landes Bioscience. **E. Meshorer** & K. Plath, Editors
3. *Stem Cell Chromatin* (2008), in: Frontiers in Bioscience. **E. Meshorer**, Managing Editor

VII. Correspondence and miscellaneous

1. **Meshorer E**, Herrmann H, Raška I (2011) Nuclear visions enhanced: chromatin structure, organization and dynamics. *EMBO Rep*, 12(8):748-50.
2. **Meshorer E** (2008) Eran Meshorer: getting a chromatin perspective. In: People and Ideas. Interview by Caitlin Sedwick. *J Cell Biol*. **182**: 618-619
3. **Meshorer E**, Biton I, Ben-Shaul Y, Assaf Y, Soreq H and Cohen Y (2006) Comment on: Abnormalities in the pattern of AQP4 immunoreactivity. *FASEB J*. **20**:2425.
4. **Meshorer E** (2006) Iran is sixth, not second, in Middle East publication list. *Nature*. **443**: 271.

Patents:

1. **Meshorer E**, Segev E, Soen Y (2010) Antibody microarray for histone modifications. Provisional
2. **Meshorer E** and Soreq H (2004) Novel AChE variants. Patent No. 161354 (file reference 16925-WO-03) (incl. GenBank accession numbers AY389977-AY389983)
3. **Meshorer E**, Shoham S, Soreq H and Sklan E (2003) System and method for assaying drugs. Patent WO0240994 (incl. GenBank accession numbers AX430850-AX430853)

Selected talks at international conferences:

- July 18 **Chair** and speaker, FEBS Annual meeting, Prague Czech Republic
- Jan 18 EpiGene2Sys Annual Meeting, Munich, Germany
- Nov 17 Invited seminar series, Radboud University, Nijmegen, The Netherlands
- Oct 17 B-Debate: Epigenetic mechanisms in health and disease, Barcelona, Spain
- Oct 17 Invited seminar series, CRG, Barcelona, Spain
- Sep 17 Stem Cell Meeting, Cold Spring Harbor, NY, USA
- Apr 17 Nuclear Architecture & Function, Český Krumlov, Czech Republic - **Keynote**
- Feb 17 UCL/ELSC Neuroscience meeting, University College London, London, UK
- July 16 **Chair** and speaker, The International Congress of Cell Biology, Prague, Czech Republic
- Jun 16 14th ISSCR annual meeting, Boston, MA, USA
- Oct 15 Somatic Cell Reprogramming course and conference, CRG, Barcelona, Spain
- Sep 15 EPIGEN-MiChroNetwork chromatin seminar, Milano, Italy - **Keynote**
- Sep 15 Italian Association for Cell Biology (ABCD) annual congress, Bologna, Italy
- Sep 15 Creating Life in 3D conference, Brno, Czech Republic - **Keynote**

July 15 ISF-Institute de France Chromatin Meeting, Paris, France
 Jan 15 Broad Institute invited seminar series, Cambridge, MA, USA
 Nov 14 Somatic Cell Reprogramming course and conference, CRG, Barcelona, Spain
 July 14 Invited seminar series, CiRA (Center for iPS Cell Research), Kyoto, Japan
 Jun 14 Israel-Broad Institute Cell Observatory Annual meeting, Boston, MA, USA
 May 14 Invited seminar series, Ludwig-Maximilians-Universität (LMU), Munich, Germany
 Apr 14 The Center for Integrative Genomics seminar series, Lausanne University, Switzerland
 Mar 14 Meeting on Chromatin Structure and Function, Moscow, Russia - **Keynote**
 Jan 14 Invited seminar series, Napoli II University, Italy
 Dec 13 EpiGeneSys annual meeting, Cambridge, UK
 Nov 13 Invited seminar series, University of Zurich, Switzerland
 Sep 13 Chromatin Changes in Differentiation and Malignancies, Egmond aan Zee, The Netherlands
 Jun 13 11th ISSCR annual meeting, Boston, MA, USA
 Jun 13 Epigen meeting, Palermo, Italy
 Apr 13 Invited seminar, Nanyang Technical University, Singapore
 Mar 13 DKFZ-Israel annual meeting, Heidelberg, Germany
 Dec 12 IGBMC Seminar Series Invited Speaker, Strasbourg, France
 Oct 12 *Nucleosome4D* annual meeting, Barcelona, Spain
 Oct 12 Chromatin, Confocal Microscopy and Living Cell Studies, Brno, Czech Republic
 Oct 12 Frontiers in Stem Cells & Regeneration, Woods Hole, MA, USA
 Sep 12 Dynamic Organization of Nuclear Function, Cold Spring Harbor Laboratories, USA
 Apr 12 NIH course on 'Stem Cells and Cancer', Howard University, Washington DC, USA
 Dec 11 EuroSyStem neuronal stem cell meeting, Milano, Italy
 Oct 11 Frontiers in Stem Cells & Regeneration, Woods Hole, MA, USA
 Jun 11 EuroSyStem annual meeting, Prague, Czech Republic
 Apr 11 EMBO workshop on Chromatin Structure, Organization and Dynamics, Prague, Czech Republic
 Mar 11 NIH course on 'Cancer Stem Cells'. Howard University, Washington DC, USA
 Nov 10 RESCUES annual meeting, Newcastle, UK
 July 10 3rd International Congress on Stem Cells and Tissue Formation, Dresden, Germany
 Oct 10 Frontiers in Stem Cells & Regeneration, Woods Hole, MA, USA
 Jun 10 8th ISSCR annual meeting, San-Francisco, CA, USA
 May 10 Mechanobiology and stem cells conference, Singapore
 Feb 10 Invited seminar series, UCLA
 Dec 09 Dissection of pluripotent stem cells – Japanese Molecular Biology Society, Yokohama, Japan
 Feb 09 Abcam Stem Cell meeting, Singapore
 Jun 08 6th ISSCR annual meeting, Philadelphia, PA, USA
 Jun 07 Chromatin and Epigenetic Regulation of Transcription, Penn State University
 May 07 EMBO conference on Chromatin and Epigenetics, EMBL Heidelberg, Germany
 Dec 06 Abcam Stem Cell Meeting 2006, Cancun, Mexico
 Nov 06 14th Annual Congress of the European Society for Gene Therapy (ESGT), Athens, Greece
 Oct 06 NIH Research Festival, Bethesda, MD
 July 06 The 15th World Congress of Pharmacology, Beijing, China
 May 06 Center for Excellence in Chromosome Research, Washington DC

July 05 FEBS 30th Congress / IUBMB 9th Conference, Budapest, Hungary
 Mar 05 Days of Mol. Medicine, Stem Cell Biology and Human Disease, Salk Inst., La Jolla
 Dec 04 American Society for Cell Biology, 44th annual meeting, Washington DC

Professional activities, Editorial and Societies:

Editor (with G. Testa), Stem Cell Epigenetics, Elsevier (2018)

Council member, UNESCO's International Cell Research Organization (2017-)

Associate Editor, *Frontiers in Neuroscience* (2013-2015)

Editorial Board Member, *Systems Biomedicine*; *Stem Cell Discovery*

Editor (with K. Plath), *The Cell Biology of Stem Cells*, Landes Bioscience / Springer (2012)

Managing Editor for the on-line encyclopedia *Frontiers in Bioscience*, section on Stem Cell Chromatin (2007-)

Reviewing papers for >50 journals, including: *Science*, *Nature*, *Nat Cell Biol*, *Nat Genet*, *Nat Struct Mol Biol*, *Nat Commun*, *Nat Rev Genet*, *PNAS*, *Cell*, *Dev Cell*, *Cell Stem Cell*, *Cell Rep*, *Stem Cells*, *Stem Cell Rev*, *eLife*, *PLoS Biol*, *PLoS Genet*, *PLoS One*, *Cell Res*, *Genes Dev*, *Aging Cell*, *Mol Syst Biol*, *Exp Cell Res*, *EMBO J*, *EMBO Rep*, *Mol Biol Cell*, *Mol Cell Biol*, *Nucleus*, *Nucleic Acids Res*, *Chromosoma*, *Epigenetics Chromatin*, *Sci Rep*, *J Cell Biol*, *J Cell Sci*, *Dev Biol*, *Front Neurosci*, *Front Mol Neurosci*, *Front Cell Neurosci*, *Genome Biol*, *Genome Med*, Etc..

Reviewing grants: European Research Council ERC advanced grants; EU FP7 programs; MRC (South Africa); AD society (UK), MRC (UK); Wellcome Trust (UK); GENOPAT (France), ANR (France), French National Research Agency, Atip-Avenir (France); Austrian Science Fund (Austria), Czech Science Foundation (Czech Republic), as well as all agencies in Israel.

Member, Israel Society for Microscopy; International Society for Stem Cell Research; Israel Society for Neuroscience; Israel Society for Biochemistry and Molecular Biology (ISBMB); American Society for Biochemistry and Molecular Biology

Board Member, The Israel Genetics Society (2014-); The Israel Stem Cell Society (2016-); The Jerusalem Brain Community (2017-)

Reviewing committee member, European Union FP7, Brussels, 2013; French ANR SVE6 ("genetics, genomics, bioinformatics and system biology"), Paris, 2012; Research Council Romania ("Ideas: Complex Exploratory Research Projects"), Bucharest; International Society for Stem Cell Research; ANR, Paris, 2016, 2017

International meetings organization:

2019 EpiSyStem Annual Meeting, Milano, Italy
 2018 *What Makes un Human* (with A. Mezer & I. Segev), ELSC, Givat Ram, Jerusalem
 2017 *Imaging Chromatin* international mini-symposium, The Institute of Life Sciences, HUJ
 2017 The UK-Israel Stem Cell young researcher conference, Bet-Belgia, Givat Ram, Jerusalem
 2017 The ELSC international meeting for molecular neuroscience: *From generation to degeneration*
 2014 Institute for Advanced Studies–Peking University workshop: '*Design Principles in Cellular Systems*'
 2013 The first Israel-China ISF-NSFC joint workshop on Epigenetics and genetics of human diseases
 2013 Co-organizer (with Y. Dor), the Kornberg 2013 Summer Course on Regenerative Biology (HUJ).
 2012 The Annual Meeting of the *Nucleosome4D* European Consortium (Barcelona, Spain).
 2010 The Annual Meeting of the Israel Live Imaging Forum (ILIF) – organizer and chair (HUJ).

Active lab members:

MSc: Talia Rohrich (GOLD fellowship prize from the Jerusalem Brain Community)

PhD: Naveh Evantal (joint student with Sebastian Kadener)
Arigela Harikumar (Marie Curie Fellowship – *Nucleosome4D*)
Matan Sorek (ICNC / ELSC student, ELSC Excellence Award; Hoffman scholar; Azrieli Fellow)
Binyamin Kaffe (EMET program)
Moria Maman (Levtzion VATAT fellowship)
Walaa Oweis (Neubauer Doctoral Fellowship)
Daniel Batyrev (ELSC student)

Post-docs: Dr. Gajendra Kumar Azad (Lady Davis Fellowship)
Dr. Eitan Segev

Research Associates:
Dr. Malka Nissim-Rafinia (Lab manager)
Dr. Ayelet-Hashahar Cohen (Researcher-Teacher program)
Dr. Sagi Tamir (Researcher-Teacher program)

Administrator: Yael Riback

Alumni: Adva Maimon (MSc: 2008-2010), Benvenisty Lab, Hebrew University
Hadas Hezroni (MSc: 2009-2011; Pollack prize), Ulitsky lab, Weizmann Institute
Dr. Anna Mattout (post-doc: 2008-2011), Susan Gasser lab, FMI, Basel
Dr. Shai Melcer (PhD: 2008-2012), Director, Bio-Jerusalem
Dr. Badi Sri Sailaja (PhD: 2008-2013), Linheng Li lab, Stowers Institute
Dr. Adi Alajem (PhD: 2007-2013), Lab manager, Ram lab, Hebrew University
David Gokhman (MSc: 2010-2011), Carmel lab, Hebrew University
Dr. Raghu Ram (post-doc: 2009-2013), Vermeulen lab, The Netherlands
Yair Aaronson (MSc: 2011-2014), Algotec, Israel
Nuphar Salts (MSc: 2012-2014), MD studies, Tel-Aviv University
Dr. Rachel Schyr (research associate: 2011-2014)
Dr. Divya Mundackal (post-doc: 2014-2015), RIKEN, Japan
Dr. Sharon Schlesinger (post-doc: 2013-2015), PI, Hebrew University
Dr. Dorit Cohen (post-doc: 2011-2015), FutuRx, Ness-Ziona
Dr. Ilana Livyatan (PhD: 2010-2016), Straussman & Segal labs, Weizmann Institute
Alva Biran (PhD: 2011-2017; Pollack prize; Clore Fellow)