CURRICULUM VITAE

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Education

1994 Ph.D. – Stanford University, Biological Sciences.
Title of thesis: Evolutionary Models for Recombination and Learning: Analytical and Computational Approaches.
Name of advisor: Prof. Marcus W. Feldman.
1974-1976 – Weitzman Institute, Rehovot, Israel, Physics.
1972-1974 – The Technion, Haifa, Israel, Physics.

Awards

2014	Fellow AAAS
2009	In association with the 150th anniversary of Darwin's paper on *The Origin of Species*, Nature identified my paper on "*Evolutionary capacitance as a general feature of complex gene networks*", as one of **15 evolutionary gems of the decade.**
2009	The Ellison Medical Foundation: Senior Scholar in Aging (Project: The role of epigenetic mechanisms in aging: an evolutionary systems biology approach).
1994	Stanford University: Samuel Karlin Prize in Mathematical Evolutionary Theory.

Professional Employment and Appointments

2022 - Present	Professor and Inaugural Director, Institute for Advanced Study in the Life Sciences, Albert Einstein College of Medicine (NY).
Feb. 2022 – Sep. 2022	Visiting Professor Santa Fe Institute (half a sabbatical) (NM)
2008 - Present	Professor and Founding Chairman, Department of Systems and Computational Biology, Albert Einstein College of Medicine (NY).
2007 - Present	Professor, Department of Neuroscience, Albert Einstein College of Medicine (NY).
2004 - Present	Professor, Departments of Pathology, Albert Einstein College of Medicine (NY).
2000 - 2004	Founder and Director, Center for Integrative Research in Science and the Humanities, Stanford University (CA)

1997 - 2004	Founder and Co-Director (with Prof. Marcus W. Feldman), Center for Computational Genetics and Biological Modeling, Stanford University (CA)
1992 - 1997	Founding Member, Group Leader, Evolutionary Biology and Adaptive Algorithms, Interval Research Corporation (CA)
1985 - 1992	Artificial Intelligence Center and Robotics Lab, Stanford Research Institute (CA).
1982 - 1985	Group Leader, Neural Networks and Image Processing, Elco Robotics (Israel).
1979 - 1982	Group Leader, Medical Information Analysis, M.G. Electronics (Weizmann Research Park, Israel).

External Professional Activities and Advisory Committees

2013	NCI, Provocative questions panel.
2010	Advisor to NIGMS program director Richard Anderson on Systems Biology,
2009 – 2019	International Scientific Committee, Frontiers in Life Sciences, University of Paris-2.
2009	Advisory committee to the NIA on *Systems Biology in Aging Research*
2008	Advisory committee to the NSF on Theoretical Biology.
2004 - 2006	Co-Chair, Series of three conferences sponsored by the Gulbenkian Foundation on: Challenges to Dominant Modes of Knowledge: (a) Determinism, (b) Reductionism, (c) Dualism.
2000 - 2004	Member, Scientific Advisory Board, Equator Technologies Inc., Campbell, CA.
2002 - 2004	Member, Advisory Board, Santiago Ventures, Atherton, CA.
1998 - 2003	Member, board of directors - Mid-Peninsula Jewish Community Day School, Palo Alto, CA.
1993	Committee and organizing committee *IEEE international conference on Neural Network and Fuzzy Logic*. Chairman of the video proceedings and session on evolution and computational paradigms. San Francisco, CA.
1985 – Present	Member, Santa Fe Institute, Santa Fe, NM

Editorial Activities

1. Associate Editor, *ComPlexUs*: Modeling and Understanding Functional Interaction in *Life Sciences* and *Systems Biology*.
2. Manuscript review for (partial list)
    a. *Science*
    b. *Nature*
    c. *PNAS*
    d. *PLoS Biology, PLoS Computational Biology*
    e. *mBio, mSysBio*

Significant professional consulting

2000 - 2002	Magnolia Broadband - Adaptive Algorithm design
1998 - 2000	Interval Research - Dynamical Algorithm design

Membership in professional/scientific societies

AAAS, American Association for the Advancement of Science.
The Society for the Study of Evolution.

Courses taught (past and present)

1. Mathematical Techniques in Systems Biology - Albert Einstein College of Medicine
2. Introduction to Systems Biology - Albert Einstein College of Medicine
3. Systems Biology Seminar - Albert Einstein College of Medicine
4. Bioinformatics - Albert Einstein College of Medicine
5. Gene Expression - Albert Einstein College of Medicine
6. Theoretical Population Genetics, Graduate Seminar - Stanford University
7. Developmental Biology, upper-level course - Stanford University
8. Complex Systems Summer School - Santa Fe Institute
9. Science and Philosophy/Religion, cross-listed between Biological Sciences and Religious Studies - Stanford University.

Awarded patents

1. Naimark M, **Bergman, A.**, Weil, E., Moresco I, Faita, B, 2004, **Alerting users to items of current interest.** United States Patent No. 6,757,682, awarded June 29 2004.
2. Naimark M, **Bergman A.**, Weil E., Moresco I, Faita, B, 2004, **Normalizing a measure of the level if current interest of an item accessible via a network.** United States Patent No. 6,721,744, awarded April 13 2004.
3. Naimark M, **Bergman A.,** Weil E., Moresco I, Faita B, 2003, **Quantifying the level of interest on an item of current interest.** United States Patent No. 6,556,989, awarded April 29 2003.
4. **Bergman A.**, 1984, **An optical height measuring system for operation in a noisy environment.** Patent No. 71948 Israel.

Past Research Grants (partial list)

2025-2026 Institute for Advanced Study in the Life Sciences, Sloan Foundation $50,000 (PI) (administered by Bard College)
2025-2026 Institute for Advanced Study in the Life Sciences, MacArthur Foundation $50,000 (PI) (administered by Bard College)
2012-2018 "Systems Biology Analysis of In Vivo Impact Substance Abuse on HIV Infection" NIH, Co-PI: Harris Goldstein (R01-DA033788)
2011-2018 "In Vivo Multiphoton Based Imaging of Complex Cancer Cell Behavior" NIH, Co-PI with Vladislav Verkhusha and John Condeelis (RO1-CA164468-01)
2009-2013 "The Role of Epigenetic Mechanisms in Aging: An Evolutionary Systems Biology Approach" PI (The Ellison Medical Foundation; AG-SS-2235) $1,000,000
2007-2013 "A Systems Methodology for the Biology of Aging" PI (R01-AG028872-01A1)
2003-2004 Benhamou Family Foundation, Continuing gift for the Center for Integrative Research in Science and the Humanities, $35,000. (PI)
2002-2003 The Rockefeller Foundation, Culture & Creativity Program, $100,000 per year. (PI)
2002-2003 Program for Jewish Studies, Stanford University, funding for the Center for Integrative Research in Science and the Humanities, $25,000. (PI)
2002-2003 Presidential Funds, Stanford University, funding for the Center for Integrative Research in Science and the Humanities, $50,000. (PI)
2002-2003 Computer Science Department, Stanford University, $25,000, unrestricted fund. (PI)

2001-2002 Computer Science Department, Stanford University, $25,000, unrestricted fund. (PI)
2001-2002 Presidential Funds, Stanford University, matching founding fund for the Center for Integrative Research in Science and the Humanities, up to $25,000. (PI)
2001-2003 Benhamou Family Foundation, Founding gift for the Center for Integrative Research in Science and the Humanities, $140,000. (PI)
2000-2004 Rockefeller Foundation $250,000
1997-2004 Paul Allen Charitable Foundation. Founding gift for the Center for Computational Genetics and Biological Modeling. $2,850,000 (Co-PI)
1992-1995 NASA - A Model of Vestibular Adaptation, Stanford University Department of Biological Sciences, $300,000 (PI)
1989-1991 AFOSR - Evolutionary Approach to Designing Neural Networks, Stanford Research Institute. $200,000. (Co-PI)
1989 Gas Research Institute - Gas and Oil Log Interpretation using Adaptive Systems, Stanford Research Institute. $50,000. (PI)
1988-1992 Fujitsu AI Lab - Study of Neural Networks, Genetic Algorithms and Complex Systems for Computer System Applications, Stanford Research Institute, $300,000. (PI)
1987-1988 US-Postal Service - The Use Neural Networks for Address-Block Ranking Stanford Research Institute, $100,000. (Co-PI)

Scientific Publications

1. Yehonata Sella, and **Bergman A.**, (2025) Robustness Revisited: On the Neutral Evolution of Centrality and Localization, *PNAS,* doi.org/10.1073/pnas.2421006122
2. Daniel F. Q. Smith, **Bergman A.**, and Arturo Casadevall, (2025), The Dynamics of *Cryptococcus neoformans* infection in *Galleria mellonella. mSphere* 0:e00190-25 http://doi.org/10.1128/msphere.00190-25.
3. Takeishi S, Marchand T, Koba WR, Borger DK, Xu C, Guha C, **Bergman A**, Frenette PS, Gritsman K, Steidl U. Haematopoietic stem cell numbers are not solely determined by niche availability. bioRxiv [Preprint]. 2023 Oct 29:2023.10.28.564559. doi:10.1101/2023.10.28.564559. PMID: 37961493; PMCID: PMC10634881. (Accepted to *Nature*)
4. Emily Schwenger, Sriram Sundaravel, Hiroki Goto,Yoshiaki Chinen, Oliver Bohorquez, Jacob Stauber, Jiahao Chen, Daqian Sun, Amit Verma, **Bergman A.***, Ulrich Steidl*, (2025) The Role of Adaptive Immunity in the Pre-leukemic to Leukemic Transition: p53 as a Paradigm (in preparation)
5. Mariana Andrawus, Gil Ben David, Ivana Terziyska, Lital Sharvit, **Bergman A.**, Nir Barzilai, Srilakshmi M Raj, Diddahally R Govindaraju, Gil Atzmon (2024) Genome integrity as a potential index of longevity in Ashkenazi Centenarian's families. *Geroscience*, 2024 May 9. doi: 10.1007/s11357-024-01178-0. Online ahead of print.
6. Yehonatan Sella, Nichole A Broderick, Kaitlin M. Stouffer, Deborah L McEwan, Frederick M. Ausubel, Arturo Casadevall and **Bergman A.,** (2024) Preliminary evidence for chaotic signatures in host-microbe interactions. *mSystems* doi**:** https://doi.org/10.1128/msystems.01110-23
7. Lambros M, Sella Y, **Bergman A** (2023) Phenotypic pliancy and the breakdown of epigenetic polycomb mechanisms. *PLoS Comput Biol* 19(2): e1010889.
8. Dragotakes, Q, et al. Bet-hedging antimicrobial strategies in macrophage phagosome acidification drive the dynamics of Cryptococcus neoformans intracellular escape mechanisms. *PLoS Pathog*. 2022 Jul 11; 18(7):e1010697. doi: 10.1371/journal.ppat.1010697.

9. Senefeld, JW, et al. Access to and Safety of COVID-19 convalescent plasma in the United States Expanded Access Program: A national registry study. *PLoS Med*. 2021 Dec 20; 18(12):e1003872. doi: 10.1371/journal.pmed.1003872.
10. Lambros M, Pechuan X, Biro D, Ye K, **Bergman A**. Emerging adaptive strategies under temperature fluctuations in a laboratory evolution experiment of Escherichia coli. *Frontiers in Microbiology*. 2021 Oct 22; 12:724982. doi: 10.3389/fmicb.2021.724982.
11. Longchamps RJ, et al. Genetic Analysis of mitochondrial DNA copy number and associated traits identifies loci implicated in nucleotide metabolism, platelet activation, and megakaryocyte proliferation, and reveals a causal association of mitochondrial function with mortality. *bioRxiv* 2021.01.25.428086; doi: https://doi.org/10.1101/2021.01.25.428086
12. Fels JM, Khan S, Forster R, Skalina K, Sirichand S, Fox A, **Bergman A**, et al. Genomic surveillance of SARS-CoV-2 in the Bronx enables clinical and epidemiological inference. Preprint. *medRxiv*. 2021;2021.02.08.21250641. Published 2021 Feb 10. doi:10.1101/2021.02.08.21250641
13. **Bergman A**, Sella Y, Agre P, Casadevall A. Oscillations in U.S. COVID-19 Incidence and Mortality Data Reflect Diagnostic and Reporting Factors. *mSystems*. July 2020, 5 (4) e00544-20; doi: 10.1128/mSystems.00544-20
14. Wheat JC, Sella Y, Willcockson M, Skoultchi AI, **Bergman A**, Singer RH, Steidl U. Single-molecule imaging of transcription dynamics in somatic stem cells. *Nature*. 2020 Jun 24. doi: 10.1038/s41586-020-2432-4.
15. Dragotakes Q, Stouffer KM, Fu MS, Sella Y, Youn C, Yoon OI, De Leon-Rodriguez CM, Freji JB, **Bergman A,** Casadevall A. Macrophages use a bet-hedging strategy for antimicrobial activity in phagolysosomal acidification. *J Clin Invest*. 2020 Jun 8:133938. doi: 10.1172/JCI133938.
16. Milano CR, Holloway JK, Zhang Y, Jin B, Smith C, **Bergman A**, Edelmann W, Cohen PE. Mutation of the ATPase Domain of MutS Homolog-5 (MSH5) Reveals a Requirement for a Functional MutSγ Complex for All Crossovers in Mammalian Meiosis. *G3: GENES, GENOMES, GENETICS.* June 1, 2019 vol. 9 no**.** 6 1839-1850; https://doi.org/10.1534/g3.119.400074
17. Pechuan X, Biro D, Lambros M, **Bergman A**. Evolutionary contingency's impact on laboratory evolution of Escherichia coli under fluctuating environments. *bioRxiv*. Posted April 05, 2019. doi: https://doi.org/10.1101/598995
18. Biro D, Pechuan X, Lambros M, **Bergman A**. The Process Pathway Model of bacterial growth. *bioRxiv*. Posted February 19, 2019. doi: https://doi.org/10.1101/553982
19. Dragotakes Q, Stouffer K, Fu MS, Leon-Rodriguez CM, Freij JB, **Bergman A**, Casadevall A. Chance is an important element in phagolysosomal acidification that favors the macrophage. *bioRxiv*. Posted November 15, 2018. doi: https://doi.org/10.1101/470617
20. Pechuan X, Puzio R, **Bergman A**. The evolutionary dynamics of metabolic protocells. *PLoS Comput Biol.* 2018; 14(7):e1006265. Published 2018 Jul 20. doi:10.1371/journal.pcbi.1006265
21. Pourfarhangi KE, **Bergman A**, Gligorijevic B., ECM cross-linking regulates invadopodia dynamics. *Biophysical J.* 2018 Mar 27;114(6):1455-1466. doi: 10.1016/j.bpj.2018.01.027.
22. Barban N, et al. Genome-wide analysis identifies 12 loci influencing human reproductive behavior. *Nature Genetics.* 2016 Dec;48(12):1462-1472. doi: 10.1038/ng.3698. Epub 2016 Oct 31.
23. Arendt D, Musser J, Baker C, **Bergman A**, Cepko CL, Erwin D, Pavlicev M, Schlosser G, Widder S, Laubichler M, Wagner G. The origin and evolution of cell types. *Nature Reviews Genetics*. 17, 744-757 (2016). DOI: 10.1038/nrg.2016.127
24. Khan JA, Mendelson A, Kunisaki Y, Birbrair A, Kou Y, Estapé AA, Pinho S, Ciero P, Nakahara F, Ma'ayan A, **Bergman A**, Merad M, Frenette PS. Fetal liver hematopoietic stem

cell niches associate with portal vessels. *Science*. 8 January 2016: **351** (6269), 176-180. Published online 3 December 2015 [DOI:10.1126/science.aad0084]

25. **Bergman A**, Gligorijevic B. Niche construction game cancer cells play. *Eur. Phys. J. Plus*. (2015) 130: 203. DOI 10.1140/epjp/i2015-15203-5.
26. Ben-Dayan M, MacCarthy T, Schlecht N, Belbin T, Childs G, Smith R, Prystowsky M, **Bergman A**. Cancer as the Disintegration of Robustness: Population-Level Variance in Gene Expression Identifies Key Differences Between Tobacco- and HPV-Associated Oropharyngeal Carcinogenesis. *Arch Pathol Lab Med.* 2015 Jul 1. [Epub ahead of print]
27. Smith, C, Puzio R, **Bergman A**. Hierarchical Network Structure Promotes Dynamical Robustness. *arXiv* preprint arXiv:1412.0709v2 [q-bio.PE] 16 Jun 2015
28. Smith C, Pechuan X, Puzio R, Biro D, **Bergman A**. Potential unsatisfiability of cyclic constraints on stochastic biological networks biases selection toward hierarchical architectures. *J. R. Soc. Interface*. 2015 12 20150179; DOI: 10.1098/rsif.2015.0179. Published 3 June 2015
29. Wei L, Chahwan R, Wang S, Wang X, Pham PT, Goodman MF, **Bergman A**, Scharff MD, MacCarthy T. Overlapping hotspots in CDRs are critical sites for V region diversification. *Proc Natl Acad Sci U S A.* 2015 Feb 2. pii: 201500788.
30. Bolt KM, **Bergman A**. Systems Biology of Aging. *Adv Exp Med Biol.* 2015;847:163-78. doi: 10.1007/978-1-4939-2404-2_8. In: Longevity Genes: A Blueprint for Aging.
31. Gligorijevic B, **Bergman A**, Condeelis J. Multiparametric Classification Links Tumor Microenvironments with Tumor Cell Phenotype. *PLoS Biol.* 2014 12(11): e1001995.
32. Bruns I, Lucas D, Pinho S, Ahmed J, Lambert MP, Kunisaki Y, Scheiermann C, Schiff L, Poncz M, **Bergman A**, Frenette PS. Megakaryocytes regulate hematopoietic stem cell quiescience via Cxcl4 secretion. *Nat Med.* 2014 Oct 19. [Epub ahead of print]
33. Gershoni M, Levin L, Ovadia O, Toiw Y, Shani N, Dadon S, Barzilai N, **Bergman A**, Atzmon G, Wainstein J, Tsur A, Nijtmans L, Glaser B, Mishmar D. Disrupting mitochondrial-nuclear coevolution affects OXPHOS complex I integrity and impacts human health. Genome Biol Evol. 2014 Sep 22;6(10):2665-80. doi: 10.1093/gbe/evu208.
34. Vacic V, Ozelius LJ, Clark LN, Bar-Shira A, Gana-Weisz M, Gurevich T, et al. Genome-wide mapping of identical-by-descent segments in an Ashkenazi Parkinson disease cohort identifies associated haplotypes. *Hum Mol Genet.* 2014 Sep 1;23(17):4693-702. doi: 10.1093/hmg/ddu158. Epub 2014 May 19.
35. **Bergman A**, Condeelis JS, Gligorijevic B. Invadopodia in context. *Cell Adh Migr*. 2014 Mar 6;8(3).
36. Gombar S, Maccarthy T, **Bergman A**. Epigenetics decouples mutational from environmental robustness. Did it also facilitate multicellularity? *PLoS Comput Biol.* 2014 Mar;10(3):e1003450.
37. Chang ALS, Atzmon G, **Bergman A**, Brugmann S, Atwood SX, Chang HY, et al. Identification of genes promoting skin youthfulness by genome-wide association study. *J Invest Dermatol.* 2014 Mar;134(3):651–7.
38. Garcia-Solache MA, Izquierdo-Garcia D, Smith C, **Bergman A**, Casadevall A. Fungal virulence in a lepidopteran model is an emergent property with deterministic features. *MBio.* 2013 Jan;4(3):e00100–13.

39. Pujato M, MacCarthy T, Fiser A, **Bergman A**. The underlying molecular and network level mechanisms in the evolution of robustness in gene regulatory networks. Aitchison JD, editor. *PLoS Comput Biol.* 2013 Jan;9(1):e1002865.
40. Chow A, Huggins M, Ahmed J, Hashimoto D, Lucas D, Kunisaki Y, et al. $CD169^{+}$ macrophages provide a niche promoting erythropoiesis under homeostasis and stress. *Nat Med.* 2013 Apr;19(4):429–36.
41. Cordero RJB, **Bergman A**, Casadevall A. Temporal behavior of capsule enlargement by Cryptococcus neoformans. *Eukaryot Cell*. 2013 Oct;12(10):1383–8.
42. Chow S-K, Smith C, MacCarthy T, Pohl MA, **Bergman A**, Casadevall A. Disease-enhancing antibodies improve the efficacy of bacterial toxin-neutralizing antibodies. *Cell Host Microbe*. 2013 Apr 17;13(4):417–28.
43. Kunisaki Y, Bruns I, Scheiermann C, Ahmed J, Pinho S, Zhang D, et al. Arteriolar niches maintain haematopoietic stem cell quiescence. *Nature.* 2013 Oct 31;502(7473):637–43.
44. Bouklas T, Pechuan X, Goldman DL, Edelman B, **Bergman A**, Fries BC. Old Cryptococcus neoformans cells contribute to virulence in chronic cryptococcosis. *MBio.* 2013 Jan;4(4).
45. van Oers JMM, Edwards Y, Chahwan R, Zhang W, Smith C, Pechuan X, et al. The MutSβ complex is a modulator of p53-driven tumorigenesis through its functions in both DNA double-strand break repair and mismatch repair. *Oncogene.* 2014 Jul 24;33(30):3939-46. doi: 10.1038/onc.2013.365. Epub 2013 Sep 9.
46. Kenny EE, Pe'er I, Karban A, Ozelius L, Mitchell AA, Ng SM, et al. A genome-wide scan of Ashkenazi Jewish Crohn's disease suggests novel susceptibility loci. Abecasis GR, editor. *PLoS Genet.* 2012 Jan;8(3):e1002559.
47. Wontakal SN, Guo X, Smith C, MacCarthy T, Bresnick EH, **Bergman A**, et al. A core erythroid transcriptional network is repressed by a master regulator of myelo-lymphoid differentiation. *Proc Natl Acad Sci U S A.* 2012 Mar 6;109(10):3832–7.
48. Huffman DM, Deelen J, Ye K, **Bergman A**, Slagboom EP, Barzilai N, et al. Distinguishing between longevity and buffered-deleterious genotypes for exceptional human longevity: the case of the MTP gene. *J Gerontol A Biol Sci Med Sci.* 2012 Nov;67(11):1153–60.
49. Mirina A, Atzmon G, Ye K, **Bergman A**. Gene size matters. *PLoS One.* 2012 Jan;7(11):e49093.
50. Hou C, Bolt K, **Bergman A**. A general life history theory for effects of caloric restriction on health maintenance. *BMC Syst Biol.* BioMed Central Ltd; 2011 Jan;5(1):78.
51. Hou C, Bolt KM, **Bergman A**. A general model for ontogenetic growth under food restriction. *Proc Biol Sci.* 2011 Oct 7;278(1720):2881–90.
52. Hou C, Bolt KM, **Bergman A**. Energetic basis of correlation between catch-up growth, health maintenance, and aging. *J Gerontol A Biol Sci Med Sci.* 2011 Jun;66(6):627–38.
53. Baughn LB, Kalis SL, MacCarthy T, Wei L, Fan M, **Bergman A**, et al. Recombinase-mediated cassette exchange as a novel method to study somatic hypermutation in Ramos cells. *MBio.* 2011 Jan;2(5).
54. Abrajano JJ, Qureshi IA, Gokhan S, Molero AE, Zheng D, **Bergman A**, et al. Corepressor for element-1-silencing transcription factor preferentially mediates gene networks underlying neural stem cell fate decisions. *Proc Natl Acad Sci U S A.* 2010 Sep 21;107(38):16685–90.

55. **Bergman A**, Casadevall A. Mammalian endothermy optimally restricts fungi and metabolic costs. *MBio.* 2010 Jan;1(5). DOI.10.1128/mBio.00212-10
56. Barzilai N, Gabriely I, Atzmon G, Suh Y, Rothenberg D, **Bergman A**. Genetic studies reveal the role of the endocrine and metabolic systems in aging. *J Clin Endocrinol Metab*. 2010 Oct;95(10):4493–500.
57. Atzmon G, Cho M, Cawthon RM, Budagov T, Katz M, Yang X, et al. Evolution in health and medicine Sackler colloquium: Genetic variation in human telomerase is associated with telomere length in Ashkenazi centenarians. *Proc Natl Acad Sci U S A.* 2010 Jan 26;107 Suppl:1710–7.
58. Abrajano JJ, Qureshi IA, Gokhan S, Zheng D, **Bergman A**, Mehler MF. Differential deployment of REST and CoREST promotes glial subtype specification and oligodendrocyte lineage maturation. *PLoS One.* 2009 Jan;4(11):e7665.
59. West GB, **Bergman A**. Toward a systems biology framework for understanding aging and health span. *J Gerontol A Biol Sci Med Sci.* 2009 Feb;64(2):205–8.
60. Maccarthy T, Roa S, Scharff MD, **Bergman A**. SHMTool: a webserver for comparative analysis of somatic hypermutation datasets. DNA Repair (Amst). 2009 Jan 1;8(1):137–41.
61. MacCarthy T, Kalis SL, Roa S, Pham P, Goodman MF, Scharff MD, et al. V-region mutation in vitro, in vivo, and in silico reveal the importance of the enzymatic properties of AID and the sequence environment. *Proc Natl Acad Sci U S A.* 2009 May 26;106(21):8629–34.
62. Sebastiani P, Montano M, Puca A, Solovieff N, Kojima T, Wang MC, et al. RNA editing genes associated with extreme old age in humans and with lifespan in C. elegans. *PLoS One.* 2009 Jan 1;4(12):e8210.
63. Abrajano JJ, Qureshi IA, Gokhan S, Zheng D, **Bergman A**, Mehler MF. REST and CoREST modulate neuronal subtype specification, maturation and maintenance. *PLoS One.* 2009 Jan;4(12):e7936.
64. Roa S, Avdievich E, Peled JU, Maccarthy T, Werling U, Kuang FL, et al. Ubiquitylated PCNA plays a role in somatic hypermutation and class-switch recombination and is required for meiotic progression. *Proc Natl Acad Sci U S A.* 2008 Oct 21;105(42):16248–53.
65. Belbin TJ, Schlecht NF, Smith RV, Adrien LR, Kawachi N, Brandwein-Gensler M, et al. Site-specific molecular signatures predict aggressive disease in HNSCC. *Head Neck Pathol.* 2008 Dec;2(4):243–56.
66. Martin GM, **Bergman A**, Barzilai N. Genetic determinants of human health span and life span: progress and new opportunities. *PLoS Genet.* 2007 Jul;3(7):e125.
67. MacCarthy T, **Bergman A**. The limits of subfunctionalization. *BMC Evol Biol.* 2007 Jan;7(1):213.
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69. Siegal ML, Promislow DEL, **Bergman A**. Functional and evolutionary inference in gene networks: does topology matter? *Genetica.* 2007 Jan;129(1):83–103.
70. MacCarthy T, **Bergman A**. Coevolution of robustness, epistasis, and recombination favors asexual reproduction. *Proc Natl Acad Sci U S A.* 2007 Jul 31;104(31):12801–6.

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72. Atzmon G, Rincon M, Schechter CB, Shuldiner AR, Lipton RB, **Bergman A**, et al. Lipoprotein genotype and conserved pathway for exceptional longevity in humans. *PLoS Biol.* 2006 Apr;4(4):e113.
73. Siegal ML, **Bergman A**. Canalization, pp. 235-251 in *Evolutionary Genetics: Concepts and Case Studies*, Fox CW and Wolf JB, eds. New York: Oxford University Press. 2006.
74. Masel J, **Bergman A**. The evolution of the evolvability properties of the yeast prion [PSI+]. *Evolution.* 2003 Jul;57(7):1498–512.
75. Pereira HM, **Bergman A**, Roughgarden J. Socially stable territories: the negotiation of space by interacting foragers. *Am Nat.* 2003 Jan;161(1):143–52.
76. **Bergman A**, Siegal ML. Evolutionary capacitance as a general feature of complex gene networks. *Nature.* 2003 Jul 31;424(6948):549–52.
77. **Bergman A**, Tennenholtz M. Episodic Learning: Towards the Emergences of Partial Cooperation. *Complexus.* 2003;1(3):112–6.
78. **Bergman A**, Feldman MW. On the Population Genetics of Punctuation, pp. 81–100 in Evolutionary Dynamics: Exploring the Interplay of Selection, Accident, Neutrality and Function (Santa Fe Institute Studies in the Sciences of Complexity). Jim Crutchfield and Peter Schuster, eds. Oxford University Press. 2003.
79. Siegal ML, **Bergman A**. Waddington's canalization revisited: developmental stability and *Evolution. Proc Natl Acad Sci U S A.* 2002 Aug 6;99(16):10528–32.
80. **Bergman A**, Tennenholtz M. On the Natural Selection of Market Choice. *Auton Agent Multi Agent Syst.* 2002;5(4):387–95.
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83. Maciej FB, **Bergman A**. Co-infectious micro-parasites in an invertebrate host populations: A dynamics systems approach. *CCGBM.* 2002;
84. Karlin S, **Bergman A**, Gentles AJ. Genomics. Annotation of the Drosophila genome. *Nature.* 2001 May;411(6835):259–60.
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