

# SAMUEL H. BERMAN

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## EDUCATION

Wesleyan University Bachelor of Arts with majors in Chemistry, Molecular Biology & Biochemistry Certificate in Molecular Biophysics 2010

## RESEARCH

Sloan Kettering Cancer Center, Brennan Group Bioinformatic & genomic investigation of neurological & renal cancers, contributions to The Cancer Genome Atlas including RNAseq characterization of gene rearrangements, & splicing variation in glioblastoma. Cell line and mouse model work to determine single-cell & tumor heterogeneity. Data mining for identification of chimeric antigen receptor candidates. Bioinformatic experimental design & analysis consultation for Human Oncology & Pathogenesis department investigators. 2011 - 2015

Wesleyan University, Beveridge Group Mapped protein free protein energy landscapes by computing hydrogen exchange protection factors via molecular dynamics simulation. Assessed the accuracy of metadynamics enhanced sampling techniques. 2009 - 2011

Wesleyan University, Taylor Group Expression & purification of E. coli dioxygenase enzymes for use in engineered biocatalysis. Established preliminary route for synthesis of glycosyltransferase substrate analogues. 2008

## FELLOWSHIPS, AWARDS & SCHOLARSHIPS

- Scientific Computing and Informatics Award 2010
- Howard Hughes Medical Institute Summer Fellowship 2009
- Scientific Computing and Informatics Award 2009
- Howard Hughes Medical Institute Summer Fellowship 2008
- Wesleyan Scholarship 2007 - 2010
- State of Connecticut Academic Scholarship 2006 - 2010
- Boston University Merit Scholarship 2006 - 2007

## PUBLICATIONS

C.W. Brennan, R.G.W. Verhaak, ...**S.H. Berman** (10/58)... L. Chin. The Somatic Genomic Landscape of Glioblastoma, Cell. 10 Oct. 2013 (Vol. 155, Issue 2, pp. 462-477) [Cited by 245]

- *RNAseq characterization of gene rearrangements & growth factor receptor splicing variation in glioblastoma cases.*

I. Vyazunova, V. Maklakova, **S.H. Berman**, I. Dé. M. Steffen, W. Hong, H. Lincoln, A. Morrissy, M. Taylor, K. Akagi, C.W. Brennan, F. Rodriguez, L. Collier. Sleeping Beauty Mouse Glioma Models Identify Candidate Glioma Genes, PLoS ONE.

- *Determined human mutational prevalence of candidate driver polymorphisms derived from mouse models.*

E. R. Kasthuber, J.T. Huse, **S.H. Berman** (3/12)... C.W. Brennan. Quantitative assessment of intragenic receptor tyrosine kinase deletions in primary glioblastomas: their prevalence and molecular correlates, Acta Neuropathologica. 29 Nov. 2013 (Vol. 127, Issue 5, pp. 747-759) [Cited by 6]

- *Performed RNA junction analysis to determine splicing isoform distributions.*

### Forthcoming:

D. Hambarzumyan, **S.H. Berman**, C.W. Brennan. The Role of Monocytic CX3CR1 in Gliomagenesis. [Submitted]

- *Determined the significance of somatic CX3CR1 & CCL2 mutational prevalence on glioblastoma survival.*

N. Moussazadeh, **S.H. Berman**, C.W. Brennan. Genomic Characterization of Spinal Metastases and Paired Primary Tumors to Identify Patterns of Spinal Tropism and Clonal Evolution. [In Preparation]

- *Creating clonal & subclonal phylogenies via genotype analysis of exome & targeted sequencing.*

N. Moussazadeh, **S.H. Berman**, C.W. Brennan. An Integrative Molecular Analysis of Chordoma. [In Preparation]

- *Analyzing exome and methylation array data for mutually exclusive brachyury SNP genotypic markers & alternate epigenetic profiles.*

R. Juthani, **S.H. Berman**, C.W. Brennan. Proteomics Based Identification of Novel Antigen Targets for the Treatment of Glioblastoma Multiforme Using Chimeric Antigen Receptors. [In Preparation]

- *Mining surfaceome, subcellular localization, & commercial antibody databases for protein targets with combinatorial antigen specificity to be used in the development of a chimeric T-cell receptor for Glioblastoma.*

## PROFESSIONAL EXPERIENCE

- AVANT.org *Founder, Editor-in-chief* - An online journal for advancing critical, cross-disciplinary discourse. Manages an international staff of 10. Featured in The Atlantic, The BBC, The Huffington Post, The Browser, Oxford University's Center for Effective Altruism, syndicated by Rhizome at the New Museum. 2014 - 2015
- Museum of Modern Art PS1 *Curatorial intern* - Assisted in the production of *Warmup*, PS1's summer experimental concert series. 2014
- Boilerroom.tv *Producer & technical manager* - Event organization & operation of broadcast system that streamed to 10's of thousands of live viewers. 2012 - 2014
- Museum of Modern Art PS1 *Installation & technical advisor* - Managed the weekly installation of large-scale temporary sculptures. 2013
- 319 Scholes Gallery *Technical Director* - Managed the installation of new media exhibitions & maintenance of all audio / visual equipment. 2013
- Wesleyan Scientific Computing & Programming Center *Tutor* - Provided open office hours to undergraduates and graduate students requiring assistance with computational laboratory research or computer science coursework. 2010 - 2011
- Wesleyan University Housing *Resident Advisor* - Supervised a house of 25 underclassman. 2009
- Wes Environmental Organizers *Waste Committee Member* - Only student member, worked with facilities to set refuse management agenda. 2007- 2008
- Peer Health Advocates *Wellness Instructor* - Ran student workshops on diet, exercise, drug, & sexual health. 2007
- Wesleyan University Sailing *Instructor* - Taught racing technique to members of the sailing team. 2008 - 2009
- Organic Gardening Club *Vice President* - Set weekly meeting agenda and ran club meetings. 2007

## SKILLS

- Bioinformatics: High throughput sequencing, microarray, copy number, nanostring, & methylation profile analysis.
- Programming languages: R, Python, Perl, bash, HTML, CSS, Javascript, Processing, SuperCollider, MaxMSP
- Synthetic biology techniques: Mouse model, human cell culture, DNA & protein engineering / assaying.
- Biophysical spectroscopy: NMR, UV, IR, Raman, and Circular Dichroism, Mass Spectrometry
- Elementary organic synthesis, biochemical techniques, & electronics design.
- Grant writing, copy editing, digital layout, & generation of publishable figures.

## WRITING

- Egalitarian Economics - Avant.org 2014
- Engineered Ecologies - Avant.org 2014
- Future Organisms - Dazeddigital.com 2013
- Extrapolation Factory - Dazeddigital.com 2013
- Sampling Sonic Culture: MoMA's Cautious Entry Into a World of Noise - Rhizome at the New Museum 2013

## CONFERENCE PRESENTATIONS & TALKS

- The House in the Sky *Assessing possibility & risk when simulating the future. A restaging of conversations held at the Cold War era RAND corporation. Organized by Sascha Pohflepp & Chris Woebken* 2014
- Artists & Brands: Defining Rules of Engagement *Fostering productive & equitable relationships between creative professionals & the brands that increasingly fund their practices. NEW INC, New Museum* 2014
- Digital Wasting Deception *Tracing the spatial & ontological suppression of waste to flawed postdigital mores. A conversation held with Julian Oliver and Stephen Fortune. Transmediale Berlin* 2013
- Anonymonth *Discussing the need for an online platform for pseudo-anonymous exchange. CTM Berlin* 2013
- Mapping the Free Energy Landscape of BPTI *Transition analysis of bovine pancreatic trypsin inhibitor molecular dynamics simulations to determine the topology of local energy wells.* 2012

## CURATION & EXHIBITIONS

• <i>Sonic Research: Psychoacoustics Session I</i>	Co-curator & Producer - MoMA PS1 - An experimental symposium in dialogue, performance, & installation. Co-organized with Charles Eppley.	2015
• <i>Weather Machine</i>	Prototype climate war game with simulated real estate futures market. Created in collaboration with Chris Woebken & Phillip Stearns.	2015
• <i>Variable World: a Symposium on Simulation</i>	Producer & Curator - LEAP Gallery Berlin - critical history & analysis, tracing development & influence of simulation on our perception of the future.	2015
• <i>Inventing Time on Film</i>	Producer - SOHO House - Film program characterizing how post-production tools shape our depiction of time and place. Curated by Danny Snelson & Alex Anthony.	2014
• <i>apexart 2014</i>	Juror - Apexart - Unsolicited Proposal Program	2014
• <i>Life on Film</i>	Scientific Consult - AND Festival - Film series on parallel histories of recording & understanding living organisms. Curated by Stephen Fortune.	2014
• <i>Michel Auder: Video Pieces</i>	Installation & Technical Advisor - Marlborough Gallery	2014
• <i>David Gordon Retrospective</i>	Consult & Media Production - Judson Church	2014
• <i>Art Hack Day</i>	Producer - 319 Scholes - A 24-hour hackathon for art & technology projects.	2013
• <i>Current Sessions: Vol. IV, Issue I.</i>	Guest Curator - The Wild Project	2014
• <i>Evil Media Distribution Center</i>	Contributor - Organized by Matsuko Yokokoji & Graham Harwood	
	• Netherlands Architecture Institute - Rotterdam, Netherlands	2013
	• Transmediale - Berlin, Germany	2013
• <i>February</i>	Set Design & Art Direction - Film by Nick Singer	2011
• <i>Grand Prize</i>	Art direction - Film by Abby Horton	2011
• <i>Blackout</i>	Design & assembly of computer-controlled lighting system - Exhibition by Lindsay Keys	2011
• <i>Self Assembly</i>	Solo exhibition - Zilkha Gallery	2010

## PERFORMANCES

<i>dyad</i>	generative visual and audio score for dance. In collaboration with Sam Silver & Allison Jones.	
	• FIRST LOOK at Gowanus Art & Production	2014
	• CoolNY presented by WHITE WAVE	2014
	• The Current Sessions Vol III, Issue II	2014
<i>ab initio</i>	Live multimedia performance for dance, sound, & projection. In collaboration with Sam Silver & Allison Jones.	
	• Movement Research	2012
	• Collaborations in Dance Festival	2012
	• The Current Sessions Volume II, Issue I	2012