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## About

My work often explores simple processes where dynamic systems, situations, and settings are defined through minimal graphic- and text-based scores that can be realized in a variety of ways. To me, everything we experience is computable. Given this digital philosophy, I acknowledge even my most open works as algorithmic; and, while not always apparent on the surface of any given piece, the considerations of computability and epistemology are integral to my practice. I often reconcile epistemological limits with artistic practicality by considering and addressing the limits of computation from a musical and experiential vantage point and by collaborating with other artists, mathematicians, and scientists in order to integrate objects, ideas, and texts from various domains as structural elements in my pieces.

I have performed across the Americas and Europe at venues ranging in size from small basements to large museums to outdoor public spaces (some examples of more well known venues are REDCAT, Los Angeles; the University of Lille, France; the Ostrava Festival of New Music, Czech Republic; the CEAIT Festival, Los Angeles; the Museum of Contemporary Art, Los Angeles; and Museo de Arte Contemporáneo de Santiago, Chile). In 2008, I co-founded and currently co-directs the wulf., a Los Angeles-based organization dedicated to experimental performance and art. As a laboratory and hub for exploring new ideas, the wulf. has become an experiment in alternative communities and economies. Similarly, my work subverts discriminatory conventions and hierarchies by exploring alternative forms of presentation and interaction. I currently live in Los Angeles in the same place where the wulf. primarily organizes and hosts events.

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## Experience

### University of Southern California

BODB and GBDB Lead Developer

Neuroinformatics project connecting large datasets to promote cross-discipline collaborations

- ▶ Helped developed and teach the neuroinformatics track of an AI course; Python/Django

Jan 2014 – present

### Wolfram Research

Research Programmer and Consultant

Signal processing

- ▶ Developing real-time audio/visual system

Jun 2012 – present

### the wulf.

Cofounder and Codirector

A 501(c)(3) non-profit arts organization that presents free experimental music performances

- ▶ Organizing regular public events in experimental arts; grant-writing

Aug 2008 – present

### Wolfram Alpha

Research Programmer

Computational knowledge engine

- ▶ Developed algorithms for parsing music theory related queries; scraped and formatted large music- and sports-related datasets

Apr 2011 – Jun 2012

<p>The Art Institute of California, Hollywood  Instructor  Courses: Logic of Programming, Web Design, Sound Design, Interactive Design</p> <p>🔗 Topics: interactive design, game theory, DAWs, sound design and synthesis, Python, HTML, CSS, history of electronic music</p>	<p>Jun 2010 – Apr 2011</p>
<p>Music Mastermind  Developer and Consultant  Game engine for generating music</p> <p>🔗 Created algorithmic tools for automatic music creation</p>	<p>Jun 2008 – Jul 2009</p>
<p>University of California, Santa Barbara  Teaching Assistant  Courses: Transvergence, Digital Audio Signal Processing</p> <p>🔗 Topics: digital architecture, philosophy of art, sound design and synthesis, composition, history of electronic music, Java, motion detection, immersive environments</p>	<p>Aug 2007 – Apr 2008</p>
<p>University of Virginia, Charlottesville  Teaching Assistant  Courses: Technosonics, Introduction to Music and Computers</p> <p>🔗 Topics: DAWs, sound design and synthesis, composition, history of electronic music</p>	<p>Aug 2006 – May 2007</p>
<p>California Institute of the Arts  Teaching Assistant  Course: Introduction to Electronic Media and Computers</p> <p>🔗 Topics: DAWs, sound design and synthesis, composition, history of electronic music</p>	<p>Aug 2003 – May 2005</p>

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Skills	<p><b>Teaching:</b> Music Composition, DSP, Electronic Music, Music Theory, Programming, Neuroinformatics  <b>Coding:</b> SuperCollider, Python, JavaScript, Lilypond, Java, Mathematica, CSS, HTML, MySQL, NoSQL</p>	
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Education	<p>University of California, Santa Barbara  <input type="checkbox"/> PhD in Media Arts and Technology</p> <p>California Institute of the Arts, Valencia  <input type="checkbox"/> MFA in Music Composition</p> <p>University of Oregon, Eugene  <input type="checkbox"/> BS in Music Technology</p>	<p>Jun 2010</p> <p>May 2005</p> <p>Jun 2003</p>
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## Publications

### From Scratch: Writings in Music Theory

Tenney, J. editors Polansky, L.; Pratt, L.; Wannamaker, R.; and Winter, M. UI Press. 2015.

### On minimal change musical morphologies

Winter, M. Proceedings of the 2014 International Congress on Music and Mathematics. forthcoming.

### Approximating Omega

Winter, M. Carbono (online). volume 7. 2014.

### Chordal and timbral morphologies using Hamiltonian cycles

Akhmedov, A. and Winter, M. Journal of Mathematics and Music. volume 8 (1). pages 1–24. 2014.

### Relativity and scalability with respect to sound and silence

Winter, M. Word Events: Perspectives on Verbal Notation. editors Lely, J. and Saunders, M. Bloomsbury. 2012.

### A few more words about James Tenney: dissonant counterpoint and statistical feedback

Polansky, L.; Barnett, A.; and Winter, M. Journal of Mathematics and Music. volume 5 (2). pages 63–82. 2011.

### Notes on a new economics for a new music

Winter, M. Experimental Music Yearbook (online). volume 2. 2010.

### LiveScore: real-time notation in the music of Harris Wulfson

Barrett, G.D. and Winter, M. Contemporary Music Review. volume 29 (1). pages 55–62. 2010.

### Structural Metrics: an epistemology

Winter, M. Dissertation. 2010.

### James Tenney: Selected Works 1961–1969 (review)

Winter, M. Journal of the Society for American Music. volume 4. pages 531–533. 2010.

### James Tenney biographical entry

Hanson, S.; Streb, C.; Polansky, L.; and Winter, M. Grove Dictionary of American Music. 2009.

### On James Tenney's Arbor Vitae for string quartet

Winter, M. Contemporary Music Review. volume 27 (1). pages 131–150. 2008.

### Mavericks on mavericks: James Tenney's last courses at CalArts

Winter, M. MusikTexte. volume 112. pages 66–69. 2007.

### Automatic Notation Generators

Barrett, G.D.; Winter, M.; and Wulfson, H. Proceedings of the 7th International NIME Conference. pages 346–351. 2007.

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## Talks

### University of Southern California

On James Tenney's Changes for six harps

Oct 2015

### California Institute of the Arts

A few ways to get from one thing to the next

Oct 2015

### Universidad del Claustro de Sor Juana

Noise in the system: reading Claude Shannon

Oct 2015

### Conservatorio de Las Rosas

New music for guitars

Nov 2014

<p><b>Universidad de Buenos Aires</b> Algorithmic Information Theory, Metabiology, Music</p>	Aug 2014
<p><b>Universidad de Chile, Santiago</b> Algorithmic Information Theory, Metabiology, Music</p>	Aug 2014
<p><b>Universidade Federal de Mato Grosso</b> Algorithmic Information Theory, Metabiology, Music</p>	Jul 2014
<p><b>Universidade de São Paulo</b> Shape and Structure: a few good ideas on form and detail</p>	May 2014
<p><b>Escola de Música e Belas Artes do Paraná</b> On community and radicality: a personal survey of dangerous artists and art movements</p>	May 2014
<p><b>University of California, Santa Cruz</b> Several extremely simple ideas</p>	Feb 2014
<p><b>University of California, Santa Barbara</b> Adapting and applying digital signal processing techniques to high-level music information</p>	Jan 2014
<p><b>Workshop for Algorithmic Computer Music at University of California, Santa Cruz</b> A few thoughts on musical structure</p>	Jul 2013
<p><b>Workshop for Algorithmic Computer Music at University of California, Santa Cruz</b> James Tenney's computer music</p>	Jul 2013
<p><b>Dartmouth College</b> Where do you get your data from?</p>	May 2013
<p><b>Dartmouth College</b> The computer in my life</p>	May 2013
<p><b>Wesleyan University</b> My software thinks your software is beautiful: a few words about metabiology, beauty and music</p>	Nov 2011
<p><b>University of California, Santa Cruz</b> A few words on elegance, creativity and beauty</p>	Oct 2011
<p><b>Dartmouth College</b> Three Ideas: 1) sometimes I steal, sometimes I don't, and sometimes I think I am not stealing but actually am; 2) some thoughts on generalizing graphs and mathematical problems from musical ideas; 3) music, structural metrics and algorithmic information theory</p>	Apr 2011
<p><b>Dartmouth College</b> On James Tenney's Changes for six harps</p>	Apr 2011
<p><b>IRCAM</b> On generalizing graphs and mathematical problems from musical ideas</p>	Jan 2011
<p><b>California Institute of the Arts</b> Structural metrics</p>	Apr 2009

Columbia University On James Tenney's Arbor Vitae for string quartet	Feb 2008
State University of New York, Buffalo Lecture on the machine and music	Dec 2006
State University of New York, Binghamton Lecture on infinity	Aug 2005

**Releases**

west coast soundings  
small world  
Edition Wandelweiser Records. CD. 2014.

rounds  
welcome round for larry  
the wulf. records. Vinyl. 2013.

Music of Ostrava Days 2009 Live  
recitation, code, and (perhaps) round  
Ostrava Center for New Music. CD. 2009.

DIY Canons  
Filter IV P.I.X.L. Study No. 1  
Pogus Productions. CD. 2005.

**Works**

A performance history, scores, and recordings are available at  
<[www.unboundedpress.org](http://www.unboundedpress.org)>.  
All scores are also published or forthcoming through Frog Peak at  
<[www.frogpeak.org/fpartists/fpwinter.html](http://www.frogpeak.org/fpartists/fpwinter.html)>.

single track sustaining septet	2015
tergiversate low sustaining trio	
fade and aviary sustained sounds and computer	
to hum and walk voice and electronics	2014
Approximating Omega (redux) variable ensemble	
[__south america__] miscellany speaker and electronics	
a conversation speakers	
necklaces plucked strings	

partition and gate  
sustaining instruments

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chorale and finely tuned resonators  
variable ensemble

2013

order matters  
variable ensemble

to converge (abstract)  
variable ensemble

sca old and map  
variable ensemble

material... for james klopfleisch  
variable ensemble

lv  
variable ensemble

glass economies  
prepared piano, piano, and/or glasses.

economy study (in one dimension)  
prepared piano, piano, and/or glasses.

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copyedit  
variable ensemble

2012

quieting rooms  
installation

delayGraph pre-alpha  
computer

half-normal  
variable ensemble

project reflect refract  
film projector, reflecting and refracting objects, sustaining instruments, and perhaps  
percussion instruments with minimal decay

minor third  
piano

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mass and band  
plucked strings and optional sustaining instruments

2011

minor third abstract  
variable ensemble

slip and stitch  
chimes

lower limit  
variable ensemble

line and cipher  
chimes with variable ensemble

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partition conjugate prime (choir|orchestra|choir + one|two|one) 2010  
variable ensemble

subset canon  
variable ensemble

scene++  
variable ensemble with electronics

before you cure the beast..  
variable ensemble

just above and/or below the waterline...  
variable ensemble

pedal, triangle machine, and (perhaps) coda  
variable ensemble

after eons  
variable ensemble

Approximating Omega  
variable ensemble

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piano machine 2009  
piano

recitation, code, and (perhaps) round  
choir

field and perfect circuit  
variable ensemble

for gregory chaitin  
variable ensemble

for Sol LeWitt  
variable ensemble

gray codes  
variable ensemble

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towards completeness 2008  
variable ensemble

small world  
variable ensemble

dissection and field  
variable ensemble

20 arrows 9 dashes  
variable ensemble

for orin hildestad  
variable ensemble

room and seams  
variable ensemble

seams  
variable ensemble

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resonance i  
variable ensemble

2007

maximum change  
variable ensemble

after a koan  
solo violin

sound.sound  
variable ensemble

many many for james orsher and peter kotik  
variable ensemble

4 James Orsher  
variable ensemble

Vein Transcription  
variable ensemble

Entropic Canon  
variable ensemble

Three  
variable ensemble

Transplanting, 06.11.07-06.16.07 (or Transcription, USA!)  
variable ensemble

a chance happening  
solo piano

cactus for james orsher  
variable ensemble

1 sample, x performers, y seconds  
variable ensemble

4 Ascents for James Tenney  
variable ensemble



Trajectories

variable ensemble

Prime Decomposition

variable ensemble

Intersections I

variable ensemble

Streams I

glissandi and electronics

diy for larry polansky

variable ensemble

three books and a dissertation

variable ensemble

in tone

variable ensemble

random I

variable ensemble

almost every piece

variable ensemble

for cassia streb

variable ensemble

for michael pisaro

variable ensemble

sort I

variable ensemble

nothing...I

variable ensemble

---

A Gaussian Canon

solo piano

2005

Infinity III

variable ensemble

Lecture on Infinity

variable ensemble

a tone for Erik KM Clark

solo violin

A Flourish

variable ensemble

Infinity 2

variable ensemble

Perspectives I  
variable ensemble

Commas  
variable ensemble

a set of pieces with one note  
variable ensemble

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Infinity 1 2004  
variable ensemble

Filter IV - P.I.X.L. Study No. 1  
tam-tam, cellos, cymbals, voices and electronics

Filter III - Transformation Filter  
strings and electronics

Chromatic Study  
variable ensemble

Tri-Dimensional Canon  
variable ensemble

Difference  
2 clarinets

2 Filters  
variable ensemble

Flux  
voice, bassoon, bass, clarinet, didgeridoo, and/or... and 2176 sine tones

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Fission 2003  
flutes, clarinets, trumpet, horn, vibraphones, pianos, and strings

Coincidental Canon  
orchestra

Telo's Crystal  
fixed digital media

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A Meditation for Solo Piano 2002  
solo piano

Beat Canon  
variable ensemble

Density Study No. 2  
fixed digital media

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The Other Self 2001  
fixed digital media