

**SUPEREGO SUITS:  
Bespoke Neuroscience For Identity Enhancement**

**proposal for an art project at the  
LACMA Art + Technology Lab**

**by Jonathon Keats  
February 2015**

artist contact:



*Name of Project:*

**SUPEREGO SUITS:  
Bespoke Neuroscience For Identity Enhancement**

*List 3 words that describe your proposal:*

neuroscience; identity; fashion

*One sentence description of the work for which you are seeking support:*

Superego suits apply neuroscience to clothing design in order to modulate self image, exploring how garments enriched with sensors and robotics can enhance, diminish or alter the identity of the wearer.

*Full description of the proposed project:*

Visit any corporate boardroom or attend a cocktail party and you'll see people dressed for success. Naturally their clothing is intended to impress others, conveying wealth or power, but dressing for success is at least as much about boosting the ego of the wearer. A power suit enhances self-confidence, and self-confidence is far more impressive than Savile Row tailoring or haute couture. So why would anyone entrust their sense of self to an old-fashioned needle and thread when they could primp their ego with neuroscience?

At the LACMA Art + Technology Lab, I propose to prototype the world's first superego suits, neuroscientifically tailored to make the wearer identify more strongly with him- or herself. Superego suits will be based on recent breakthroughs in proprioception at leading research centers including Goethe-Universität and EPFL, where neuroscientists have discovered that the sense of self derives from the mind perceiving activity of internal organs like the heart and lungs. Building on these insights, I'll make suits that intensify those internal signals so that the mind identifies more strongly with the body, and body with mind, and self-perception is thereby amplified. In addition, my garments will incorporate new neuroscientific research in embodied cognition from Florida State University: Superego suits will enhance wearers' sensation of free will with positive feedback loops that augment the feeling of personal autonomy.

Designed for both women and men, each of the superego suits will be engineered in a different way, exploring different approaches to ego tailoring by experimenting with the

latest developments in medical sensors, wearable computing, and human-robot collaborative systems. They will draw equally on the history of clothing, drawing on LACMA's extensive costume collection, a selection of which will be structurally analyzed using X-radiography and CT scanning.

What will superego suits do specifically? One will amplify heartbeat via a robotic exoskeleton incorporated into the fabric. Another will augment the sensation of breathing, sending the signal directly to the brain through magnetic stimulation. Eyewear will react to the fovea, jewelry to the pulse, and watches to circadian rhythms, suggesting new functionality for wearables that might also make them more seamlessly integrate with the wearer.

But ego enhancement is only the half of it. Computer controls will allow all parameters to be adjusted such that the wearer can diminish the sensation of personal autonomy, or try on the self-perception of a companion or enemy. In other words, these garments will also be equipped to instill modesty and empathy.

In terms of public exhibition, working prototype suits will be shown on mannequins – in some cases incorporating robotic movement – contextualized by historical costumes from LACMA's collection that serve as structural inspiration. Following several months of testing in open workshops, the prototype suits will be modeled both in live public performances and in short videos posted online. (In both cases, data gleaned from sensors on the models' bodies will be open source and fully visualized.) And to personally engage all LACMA visitors in the future of ego enhancement, I'll build an interactive superego engine where anybody can try on some of the effects without having to get undressed.

*Please include a bio of the principal artist or collective who will be responsible for this project:*

Acclaimed as a "poet of ideas" by *The New Yorker* and a "multimedia philosopher-prophet" by *The Atlantic*, Jonathon Keats is an experimental philosopher, artist, and writer based in San Francisco and Northern Italy. His conceptually-driven interdisciplinary projects explore all aspects of society through science and technology. In recent years, he has opened a photosynthetic restaurant serving gourmet sunlight to plants at the Crocker Art Museum; exhibited extraterrestrial abstract artwork decoded from Arecibo Observatory radiotelescope data at the Judah L. Magnes Museum; applied quantum mechanics to banking – coaxing money into a quantum superposition to be shared by everyone – at Rockefeller Center; and attempted to genetically engineer God in collaboration with scientists at the UC Berkeley. Upcoming projects include the installation of a camera he has designed to take a continuous thousand-year-long exposure at the Arizona State University Art Museum, and the launch of his Neanderthal Design Studio at ZERO1 in San Jose. Exhibited internationally, Keats's projects have been documented by PBS, Reuters, and the BBC World Service, garnering favorable attention in periodicals ranging from *Science* to *Flash Art* to *The Economist*. His latest

book, *Forged: Why Fakes Are the Great Art of Our Age*, was published last year by Oxford University Press, which will also publish his forthcoming book on the legacy of Buckminster Fuller. He is represented by Modernism Gallery in San Francisco and by Baang+Burne in New York.

#### Select Media Coverage of Previous Art Projects:

Microbial Associates / *The San Francisco Chronicle* (2014)

<http://www.sfgate.com/bayarea/article/Breaking-the-mold-S-F-artist-says-bacteria-make-5830567.php>

The Century Camera Project / *Next City* (2014)

<http://nextcity.org/daily/entry/hidden-cameras-in-berlin-record-100-years-of-urban-development>

Spacetime Industries / *The Atlantic* (2013)

<http://www.theatlantic.com/entertainment/archive/2013/10/controlling-the-space-time-continuum-with-art/280354/>

The Quantum Bank / *Hyperallergic* (2013)

<http://hyperallergic.com/73297/what-happens-when-you-cross-banking-with-physics/>

The Epigenetic Cloning Agency / *Nature* (2012)

<http://blogs.nature.com/news/2012/10/epigenetics-inspires-philosophical-experiments.html>

The Microbial Academy of Sciences / *Wired* (2012)

<http://www.wired.com/underwire/2012/01/keats-microbial-academy/>

The Photosynthetic Restaurant / *The Wall Street Journal* (2011)

<http://blogs.wsj.com/ideas-market/2011/04/29/tree-huggers-put-your-love-to-the-test/>

The First Copernican Art Exposition / *Science* (2011)

<http://www.sciencemag.org/content/334/6054/295.summary>

Quantum Entanglements / *Leonardo* (2011)

[http://www.mitpressjournals.org/doi/abs/10.1162/LEON\\_a\\_00640](http://www.mitpressjournals.org/doi/abs/10.1162/LEON_a_00640)

The Local Air & Space Administration / *ArtInfo* (2010)

<http://www.blouinartinfo.com/news/story/278298/how-artist-jonathon-keats-tapped-moon-water-before-nasa>

Travel Documentaries for Plants / *The New Yorker* (2010)

[http://www.newyorker.com/talk/2010/03/15/100315ta\\_talk\\_gopnik](http://www.newyorker.com/talk/2010/03/15/100315ta_talk_gopnik)

Universes Unlimited / *New Scientist* (2008)

<http://www.newscientist.com/blogs/shortsharpscience/2008/10/the-makeyourownuniverse-kit.html>

The Atheon / *Wired* (2008)

<http://www.wired.com/wiredscience/2008/09/can-science-rep/>

OuijaVote / *Gizmodo* (2007)

<http://gizmodo.com/315167/ouijavote-2008-opens-door-to-paranormal-democracy-arguably-better-than-diebold>

Pornography for Plants / *Reuters* (2007)

<http://www.reuters.com/article/2007/09/07/us-plants-porn-idUSN0720247820070907>

Agrifolk Art / *Outside* (2007)

<http://www.outsideonline.com/outdoor-adventure/The-School-of-Sap.html>

The First Intergalactic Art Exposition / *The San Francisco Chronicle* (2006)

<http://www.sfgate.com/bayarea/article/BERKELEY-Art-and-Slinkies-reach-for-the-sky-2491895.php>

Speculations / *KALW Radio* (2006)

[http://www.prx.org/pieces/15573-speculations-real-estate-meets-string-theory/floating\\_piece](http://www.prx.org/pieces/15573-speculations-real-estate-meets-string-theory/floating_piece)

The God Project / *KQED TV* (2004)

<http://www.kqed.org/arts/programs/spark/profile.jsp?essid=4504>

Brain Trust / *BBC World Service* (2003)

[http://news.bbc.co.uk/2/hi/uk\\_news/magazine/3217423.stm](http://news.bbc.co.uk/2/hi/uk_news/magazine/3217423.stm)

The Law of Identity / *Legal Affairs* (2002)

[http://www.legalaffairs.org/issues/March-April-2003/scene\\_marapr03\\_slater.msp](http://www.legalaffairs.org/issues/March-April-2003/scene_marapr03_slater.msp)

Multi-Project *SciArt in America* interview (2006-2014)

<http://read.uberflip.com/i/253207/30>

Multi-Project *Space.com* Gallery (2006-2012)

<http://www.space.com/14649-jonathon-keats-space-art-photos.html>

For additional information, please see the CV at the end of this application.

*Please describe the artistic or creative merit of the proposed project:*

Superego Suits is an open-ended exploration of our relationship with technology and our understanding of ourselves through neuroscience. Undertaken with engineers, this exploration will be technologically cutting-edge. Undertaken at a museum in reach of the public, the project will become a sort of collective thought experiment in which the rigorous research and development process provokes broader cultural, political, and philosophical questions.

The questions evoked by superego suits are intimately personal, yet the answers we reach have implications for society as a whole. The suits will urge people to consider themselves as neuroscientifically-defined entities and to consider their personalities as manifestations of technology. Some people will find these premises to be comforting, while others will be disturbed. The resulting dialogue will help us all to anticipate future developments – which are likely only to become more encompassing – and to explore the implications before they're a foregone conclusion.

Beyond the philosophical foundations of this project, there are significant art historical precedents: not only the rich history of costume design but also in the provocative garments of the Futurists and Dadaists and the mannequins created for the 1938 Exposition Internationale du Surréalisme. While people need not know this history to fully experience my superego suits, my presentation of the suits will be informed by these groundbreaking crossovers between art and fashion, and the historical precedents will potentially stimulate the interest of LACMA visitors who are not technologically oriented.

At the crux of my superego suits is the creative interplay of seriousness and absurdity. They will take real science and technology to an extreme state where nothing can be taken for granted and everything is up for discussion.

*Why do you consider this project to be a meaningful exploration of emerging technology?*

To more effectively augment reality, wearable computing will need to collect increasingly intimate data about the wearer and deliver output with ever more subtlety. Engaging cutting-edge neuroscience, superego suits will explore novel approaches to human-computer interaction that will have applications well beyond ego enhancement.

In terms of data collection, superego suits will monitor bodily functions that involuntarily express the wearer's mood, attitude and comfort level. All of these will be useful inputs

for future wearables, informing both the form and content of output. (For instance, if the wearable were directing you through an unfamiliar city, the route and specificity of directions could be continuously adjusted according to your internal state, assuaging your confusion before you even knew you were confused.)

In terms of output, the data that wearables can deliver is currently limited by display technology, and displays are rapidly shrinking. Superego suits will open entirely new channels of communication via bodily feedback loops. In other words, information can be delivered to the wearer through subtle modulation of breathing and heartbeat. (To return to the above example, the wearer's heart could be made to race slightly faster when he or she was going the right direction, so that the wearer would experience external guidance internalized as anticipation.)

One other significant way in which superego suits engage emerging technology is in the realm of virtual reality, where experiences are made increasingly immersive through equipment such as Oculus Rift. Superego suits will explore other channels of simulated experience. They might even be plugged into virtual reality systems directly, providing wearers with fully embodied immersion.

Naturally superego suits also stand to benefit greatly from emerging technologies, including the miniaturization of medical sensors and advances in human-robot collaborative systems.

*In what ways does your project inspire dialogue about the issues at hand, including the relationship between technology and culture?*

Reductionism is the new black. With the cultural apotheosis of neuroscience, society has come to believe that the mind is mechanistic and personality is in the synapses. Neither affirming nor contradicting these assumptions, superego suits will outfit people with the means to directly engage reductionist thinking, and to investigate the extent to which the neuroscientific worldview fits their personal experience.

In addition, superego suits will facilitate a cultural investigation of technology, both present and future, exploring the extent to which we are willing to identify with smart clothing and wearables. As we augment our minds and bodies with form-fitting electronics and robotics, we take on many of the attributes of cyborgs, but with the critical difference that we never undergo invasive surgery. Most of us give scant thought to the implications of putting on a Fitbit or SmartWatch. In theory all our technological enhancements are removable and reversible. The question is whether they change us psychologically. By tapping into the qualities that make us most ourselves, superego suits will make us confront the narrowing distinction between ourselves and our technologies. Both the positive and negative qualities of becoming a cyborg will be made palpable.

Of course, superego suits are also poised to inspire a dialogue about identity itself, especially in a time when technology has made identity increasingly fluid and

multidimensional. Games and social networks allow us to modulate our identity and even try on alternate identities in the virtual world. Superego suits bring that ability into the physical world, reflecting back on what it means to be so malleable in virtual realities.

*Please describe your proposed plan for public engagement. What opportunities do you foresee to share prototypes, demonstrations and process with the public?*

Superego Suits will engage the public through exhibition, performance and interactive workshops.

In one of LACMA's special exhibitions spaces, I'll exhibit mannequins wearing superego suit prototypes, incorporating automated robotics. The suits will be shown together with mannequins wearing costumes from the LACMA collection that inspired the neuroscientific tailoring. There will also be an interactive superego engine where people will directly experience the effects of ego enhancement and superego swapping.

This installation will be an amalgam of showroom and laboratory. Over a period of several months, the prototypes will be retooled in full public view based on data collected from visitors who try out components at monthly superego workshops. This cyclical improvement will culminate in an outdoor fashion show as well as data-overlaid fashion video for online viewing.

*What data will your project produce that may be of interest to other artists, technologists, or arts organizations?*

While superego suits will be developed and presented in an artistic context – where they will encourage dialogue about technology and neuroscience – the electronics and robotics will be broadly applicable to future smart clothing and wearable computing. Since all of my own work will be open source, and models and prototypes will be accessible to anyone who visits LACMA in person or online, technologists will be free to apply the technologies to real-world applications.

Most obviously, technologists might bring superego suits to market, or at least incorporate some of the feedback systems into garments that would boost confidence, empathy, or any of the other personal qualities that superego suits engage. The potential for such feedback systems ranges from consumer goods to medical equipment.

In addition, modes of data input and output in superego suits can provide developers with new channels for making wearables more responsive and more communicative. Data collected from superego suit testing can inform interface design regardless of what the wearable does.

This data may also be useful to multimedia artists, especially those engaged in virtual reality and gaming. Superego suits will provide new modes of interactivity with virtual environments both in terms of tuning environments to the user and in terms of providing more immersive experiences. Moreover, since superego suits will be wearable, they may provide inspiration for artists working in augmented reality.

*Please list any other sources of funding for this project, including in-kind support, and, if applicable, any conditions related to that funding or support:*

I do not have any outside sources of funding or commitments for in-kind support at this time. However I have been in touch with researchers on the neuroscience of proprioception including Olaf Blanke at EPFL, and I expect to informally consult with them as the project progresses.

*Total amount requested:* [REDACTED]

*Detailed project budget:*







Artist Stipend (4+ Months Time Over 1 Year):	[REDACTED]
Artist Travel Expenses (from San Francisco):	[REDACTED]
Studio Space in Santa Monica (4 Weeks):	In Kind
Materials and Robotics for Superego Suits:	[REDACTED] + In Kind*
Materials for Interactive Superego Engine:	[REDACTED] + In Kind*
Software for Superego Suits:	In Kind
Construction of Superego Suit Prototypes:	In Kind
Museum Installation:	In Kind
Loan of Historical Costumes for Exhibition:	In Kind
X-radiography and CT Scanning of Costumes:	In Kind**
Mannequins:	In Kind
Fashion Show Production:	[REDACTED] + In Kind
Fashion Show Broadside Printing:	[REDACTED]
Fashion Video and Data Viz Production:	[REDACTED] + In Kind
Facilities for Workshops at LACMA:	In Kind

\* Budget items marked with an asterisk are roughly estimated since the research and development process will greatly impact the form that the technology takes.

\*\* Budget items marked with a double asterisk may be eliminated if in-kind support is not available.



*Implementation plan:*

Phase 1: Literature Review and Research	January	
Phase 2: Superego Suit and Superego Engine R&D LACMA Costume Collection Scanning	March	
Phase 3: Superego Suit Installation at LACMA	July	
Phase 4: Superego Suit Workshops Superego Suit Modification	July-September	
Phase 5: Superego Suit Fashion Show at LACMA	September	
Phase 6: Superego Suit Fashion Show Video / Data Viz	November	

## JONATHON KEATS

1971            Born, New York, NY

### EDUCATION

1994            BA, Philosophy and Interdisciplinary (Fine Arts/English)  
*Summa Cum Laude*, Amherst College, Amherst, MA

### EXHIBITIONS & PROJECTS

2015            *New Work*  
                  Modernism Gallery, San Francisco, CA  
*Neanderthal Design Studio*  
                  Zero1, San Jose, CA  
*Photographing Deep Time*  
                  Mead Art Museum, Amherst College, Amherst, MA  
*The Millennium Camera*  
                  Arizona State University Art Museum, Tempe, AZ

2014            *The Century Camera Project*  
                  Team Titanic Gallery, Berlin, Germany  
*Microbial Associates*  
                  Modernism Gallery, San Francisco, CA

2013            *The Quantum Bank*  
                  Engineer's Office, New York, NY  
*Chemistries*  
                  Team Titanic Gallery, Berlin, Germany  
*Spacetime Industries*  
                  Modernism Gallery, San Francisco, CA

2012            *The Center for Epigenetic Cloning*  
                  AC Institute, New York, NY  
*The Epigenetic Cloning Agency*  
                  Modernism Gallery, San Francisco, CA  
*Seductions*  
                  Team Titanic Gallery, Berlin, Germany  
*The Electrochemical Currency Exchange Company*  
                  Engineer's Office, New York, NY  
                  Miching Malicho, Hong Kong  
*Strange Skies*  
                  Serial Box Productions, Columbia, MO  
*The Microbial Academy of Sciences*  
                  San Francisco Arts Commission, San Francisco, CA

- 2011 *The Photosynthetic Restaurant*  
The Crocker Art Museum, Sacramento, CA  
*Quantum Entanglements*  
AC Institute, New York, NY  
*The First Copernican Art Exposition*  
Modernism Gallery, San Francisco, CA
- 2010 *Pornography for God*  
Louis V. E.S.P., Brooklyn, NY  
*Mars Has Arrived*  
Modernism Gallery, San Francisco, CA  
*Space Race*  
Chico State University Art Gallery, Chico, CA  
*Strange Skies*  
AC Institute, New York, NY
- 2009 *The First Bank of Antimatter*  
Modernism Gallery, San Francisco, CA  
*The Mandeville Pastoral / Cinema Botanica*  
Montana State University, Bozeman, MT
- 2008 *Universes Unlimited*  
Modernism Gallery, San Francisco, CA  
*The Atheon*  
The Judah L. Magnes Museum, Berkeley, CA  
*The Honeybee Ballet*  
Yerba Buena Center for the Arts, San Francisco, CA
- 2007 *Miracle Works*  
Modernism Gallery, San Francisco, CA  
*OuijaVote 2008*  
Berkeley Art Museum, Berkeley, CA  
*Red Dot*  
R.T. Hansen Gallery, Berlin, Germany  
*Cinema Botanica*  
1078 Gallery, Chico, CA
- 2006 *Speculations*  
Modernism Gallery, San Francisco, CA  
*Apian Ballet*  
California State University, Chico, CA  
*Agrifolk Art in America*  
Soho Myriad Gallery, Atlanta, GA  
*The First Intergalactic Art Exposition*  
The Judah L. Magnes Museum, Berkeley, CA

- 2005 *Bureau of Standards*  
Modernism Gallery, San Francisco, CA
- 2004 *The God Project*  
Modernism Gallery, San Francisco, CA
- 2003 *Brain Trust*  
Modernism Gallery, San Francisco, CA
- 2002 *1,001 Concertos For Tuning Forks & Audience*  
Modernism Gallery, San Francisco, CA  
*Every Entity Is Identical To Itself*  
Berkeley Arts Festival, Berkeley, CA  
*242 Anonymous Self Portraits by Jonathon Keats*  
San Francisco Arts Commission, San Francisco, CA
- 2001 *Untitled [From an Edition of 99,999]*  
Refusalon Gallery, San Francisco, CA
- 2000 *Twenty Four Hour Cogito*  
Refusalon Gallery, San Francisco, CA

#### SELECTED GROUP EXHIBITIONS

- 2015 *Emerge Festival [Century Camera]*  
Arizona State University, Tempe, AZ
- 2014 *Action at a Distance [Quantum Marriage]*  
Naughton Gallery at Queen's University, Belfast, Ireland  
*Money Is the New Identity [Selfie Money]*  
Digital Money Forum, London, England  
*Currency as Space [The Quantum Bank]*  
HDLU Gallery, Zagreb, Croatia  
*Dream Exchange*  
The Concept Bank, Amsterdam, The Netherlands  
*Metabolic Sculpture*  
The Unnoticed Art Festival, The Netherlands
- 2013 *Ducks in a Row [Vegetarian Option]*  
Refusalon, San Francisco, CA  
*Hot Air Festival [Copernican Music]*  
Conservatory of Music, San Francisco, CA
- 2012 *Brains: the Mind as Matter [Selections from Brain Trust]*  
Wellcome Collection, London, England  
*Sounds Like Silence [My Cage (Silence for Cellphone)]*  
Hartware MedienKunstVerein, Dortmund, Germany

- Vast and Undetectable [Celestial Observatories for Cyanobacteria]*  
 San Francisco Arts Commission, San Francisco, CA  
*Encounters with Quantum [Quantum Entanglements]*  
 Crane Arts, Philadelphia, PA  
*NanoArt 2012 [Nanoscale Image Of 1 Pixel At 100,000x Magnification]*  
 NanoArt21.org
- 2011
- Out of Order Seder [Free Will Placebo]*  
 Contemporary Jewish Museum, San Francisco, CA  
*Adama [TV Dinner for Plants]*  
 PaRDeS, Mirano, Italy  
*Your Private Iceberg [Creek Music]*  
 Akademie Schloss Solitude, Stuttgart, Germany  
*Behind Closed Doors [Field Recording of One Euro Inflating]*  
 Stian [Con]temporary Art Gallery, Hörby, Sweden  
*Chance [Retempered Clavier]*  
 SOMArts, San Francisco, CA  
*Serial Box Video Festival [Strange Skies]*  
 University of Missouri, Columbus, MO  
*Let It End Like This [Anticipatory Reliquary]*  
 Apex Art, New York, NY
- 2010
- Spectre [LASA Miami]*  
 Miami Art Fair, Miami, FL  
*Correspondences [Evolving Faith]*  
 Yaffo23, Jerusalem, Israel  
*Radical L@TE [Strange Skies]*  
 The Berkeley Art Museum, Berkeley, CA  
*Anthropogenesis [Honeybee Ballet]*  
 Visual Arts Center, The University of Texas, Austin, TX  
*Cinema Botanica*  
 The Hammer Museum, Los Angeles, CA  
*Cinema Ten78 [Strange Skies]*  
 1078 Gallery Film Festival, Chico, CA  
*Searching For God [Selections from the God Project]*  
 The Kuhn Fine Arts Gallery, Ohio State University, Marion, OH  
*NanoArt 2010 [Self Portrait of Approximately 100 Trillion Carbon...]*  
 NanoArt21, Los Angeles, CA
- 2009
- Writing Exhibitions [Experience Exchange]*  
 The Stanley Picker Gallery, Kingston University, UK  
*Arse Elektronika [Cinema Botanica]*  
 Arse Elektronika Festival, San Francisco, CA  
*Impossible Exchange [Off Location]*  
 Frieze Art Fair, New York, NY  
*Virtual Mercury Shuttle [To Woo a Computer]*

- Eventi Collaterali, Biennale Arte 53, Venice, Italy  
*The End of Something [Field Recording of One Dollar Deflating]*  
 Volume Projects, London, UK  
*Ex Ungue Leonem [Global Focus]*  
 Ampersand International Arts, San Francisco, CA
- 2008 *Bay Area Now [Honeybee Ballet]*  
 Yerba Buena Center for the Arts, San Francisco, CA  
*SubZero [Cinema Botanica]*  
 01SJ, Zero1, San Jose, CA
- 2007 *Rip.Mix.Burn.BAM.PFA [OuijaVote 2008]*  
 Berkeley Art Museum, Berkeley, CA  
*Short & Fast [Cinema Insecta]*  
 PixelPops Digital Art Festival, Orkney Islands, UK  
*Assumed Identities [selections from The God Project]*  
 College of New Jersey, Ewing, NJ  
*Humane Slaughter Acts Performance Festival [Vov the Whore]*  
 Slaughterhousespace, Healdsburg, CA  
*Lost & Found. Again?! [Kaulsdorf Nacht]*  
 Kaulsdorf II, Berlin, Germany  
*Distinctions in Drawing [selections from Agrifolk Art in America]*  
 1078 Gallery, Chico, CA  
*Mad Science [study for Cinema Botanica]*  
 PLAYSPACE, California College for the Arts, San Francisco, CA  
*The Insurrection Internationale [MyCage (Silence for Cellphone)]*  
 Version Art Festival, Chicago, IL  
*Propaganda 3.0 [Untitled (Propaganda)]*  
 Start Gallery (Traveling), San Francisco, CA  
*Geospacial Mashup*  
 Cafe du Nord, San Francisco, CA  
*Do It Yourself With Others [What Hath Morse Wrought?]*  
 HTTP Gallery, London, England  
*Invitation au Voyage [selections from The First Intergalactic Art Expo.]*  
 Modernism Gallery, San Francisco, CA  
*Bring Your Own Art [Judgement, Suspended]*  
 Triple Base Gallery, San Francisco, CA
- 2006 *Reconsidered Materials [Jonathon Keats (Experimental Control)]*  
 The Exploratorium, San Francisco, CA
- 2005 *Propaganda 2.0 [Olfactory Paintings (Red, White, Blue)]*  
 Blue Cube, San Francisco, CA  
*Driven to Abstraction [Olfactory Paintings (Red, Blue, Yellow)]*  
 Blue Tangerine, San Francisco, CA  
*Painted Rooms [100-Year Camera]*

- Hotel des Arts, San Francisco, CA  
*New Work [The Clouds (Cyanotypes)]*  
 Google Corporate Headquarters, San Jose, CA  
*Artsfest 2005 [Blind Faith (Braille Color Wheels)]*  
 The Design Center, San Francisco, CA  
*The Music and Reading Series [Air Paintings]*  
 Happy Ending, New York, NY
- 2004      *United Net-Works*  
 Southern Exposure Gallery, San Francisco, CA
- 2003      *Night Moves [One Day (Cyanotype)]*  
 New Langton Arts, San Francisco, CA
- 2002      *Post Postcard 6*  
 Southern Exposure Gallery, San Francisco, CA
- 2001      *Instant Gratification [selections from Untitled (From an Edition)]*  
 Refusalon Gallery, San Francisco, CA  
*Recent Work*  
 Austrotel Contemporary Art Fair, Austria

#### COMMISSIONS

- 2015      *The Millennium Camera*  
 Mead Art Museum, Amherst College, Amherst MA
- 2014      *Timescape*  
 Djerassi Resident Artists' Program, Woodside, CA  
*Elements of Euclid*  
 Walls360, Las Vegas, NV
- 2012      *Textbooks for Bacteria*  
 Opium Magazine, New York, NY  
*Poems for the Universe*  
 Zyzzyva, San Francisco, CA
- 2010      *The Century Camera*  
 GOOD Magazine, New York, NY
- 2009      *The Longest Story Ever Told*  
 Opium Magazine, New York, NY
- 2007      *My Cage (Silence for Cellphone)*  
 StartMobile.net, San Francisco, CA
- 2006      *Agrifolk Art in America*  
 Andrew Dietz, Atlanta, GA

2005        *Extraterrestrial Wallpaper*  
                  StartMobile.net, San Francisco, CA  
                  *100-Year Camera*  
                  Hotel des Arts, San Francisco, CA

#### GRANTS AND HONORS

2014        Second Prize, The Future of Money Design Award

2013        Featured Video, YouTube Geek Week

2012        Third Prize, NanoArt 2012

2010        Sophie Brody Medal, American Library Association

2009        Library Laureate, San Francisco Public Library  
                  GOOD 100, *GOOD Magazine*  
                  Prixxx Arse Elektronika, Arse Elektronika Festival  
                  Prize for General Fiction, San Francisco Book Festival

2008        Grant, UC Berkeley Chancellor's Community Partnership Fund

#### FELLOWSHIPS

2014        Djerassi Foundation, Woodside, CA  
                  Diekman Fellowship

2010        Yaddo, Saratoga, NY

2008        Yaddo, Saratoga, NY

2007        Ucross Foundation, Clearmont, WY

2006        MacNamara Foundation, Westport Island, ME

2004        MacDowell Colony, Peterborough, NH

2003        Yaddo, Saratoga, NY

2002        Ucross Foundation, Clearmont, WY

2000        The Poetry Center at The University of Arizona, Tucson, AZ



## VISITING ARTISTSHIPS

2014	Amherst College
2010	College of the Redwoods
2009	Montana State University, Bozeman
2006	California State University, Chico

## GUEST LECTURES

2015	LASER/Leonardo, UC Berkeley Long Now Foundation Mead Art Museum, Amherst College
2014	LASER/Leonardo, Stanford University Art+Technology Lab, The Los Angeles County Museum of Art
2013	Mead Art Museum, Amherst College
2012	Litquake Festival
2010	Art Department, College of the Redwoods
2009	Piemonte Share Festival, Museo Regionale di Scienze Naturali Department of Art, Montana State University Art & Ideas Series, San Francisco Jewish Community Center Contemporary Jewish Museum Opium Live, Litquake Festival
2008	Art Department, UC Santa Cruz
2007	Berkeley Art Museum San Jose Institute for Contemporary Art Department of Art, California State University, Chico Litquake Festival, The San Francisco Public Library Department of New Genres, San Francisco Art Institute
2006	Department of Art, California State University, Chico Art, Technology, and Culture Colloquium, UC Berkeley Program in Technocultural Studies, UC Davis Litquake Festival, The San Francisco Public Library The Judah L. Magnes Museum The Philosophical Club of San Francisco

- 2005 Art, Design + Technology Series, San Francisco Art Institute  
YLEM Forum, The Exploratorium
- 2004 Department of Neurology, UC San Francisco
- 2002 School of Fashion, Academy of Art University
- 2001 MFA Program, San Francisco State University  
Department of Graphic Communications, City College of San Francisco

## BOOKS

- 2015 *You Belong to the Universe: The Meaning of Buckminster Fuller* (Nonfict)  
Oxford University Press, New York, NY  
*David Simpson* (Monograph / Contributor)  
Modernism Books, San Francisco, CA  
*Sam Tchakalian: Paintings* (Monograph / Contributor)  
Modernism Books, San Francisco, CA  
*John Register* (Anthology / Contributor)  
Modernism Books, San Francisco, CA
- 2014 *Diaspora* (Fiction Anthology / Contributor)  
Wayne State University Press, Detroit, MI
- 2013 *Forged: Why Fakes are the Great Art of Our Age* (Nonfiction)  
Oxford University Press, New York, NY
- 2012 *The Art of Mel Ramos* (Monograph / Contributor)  
Crocker Art Museum, Sacramento, CA
- 2011 *The Photosynthetic Restaurant* (Artist's Book)  
Crocker Art Museum, Berkeley, CA  
*Nelleke Beltjens: Immense* (Catalogue / Contributor)  
Global Art Affairs, New York, NY
- 2010 *Virtual Words* (Nonfiction)  
Oxford University Press, New York, NY  
*My Mother She Killed Me* (Fiction Anthology / Contributor)  
Penguin Books, New York, NY  
*Elena Dorfman* (Catalogue / Contributor)  
Modernism Gallery, San Francisco, CA  
*Patti Oleon* (Catalogue / Contributor)  
Modernism Gallery, San Francisco, CA  
*Alef the Idiot* (Artist's Book)  
Modernism Books, San Francisco, CA

Judah L. Magnes Museum, Berkeley, CA

- 2009      *The Book of the Unknown* (Fiction)  
Random House, New York, NY  
*Zayin the Profane* (Artist's Book)  
Modernism Books, San Francisco, CA  
Judah L. Magnes Museum, Berkeley, CA
- 2008      *Yod the Inhuman* (Artist's Book)  
Modernism Books, San Francisco, CA  
Judah L. Magnes Museum, Berkeley, CA  
*Sherie Franssen* (Catalogue / Contributor)  
Dolby-Chadwick Gallery, San Francisco, CA
- 2007      *Control+Alt+Delete* (Nonfiction)  
Lyons Press, Guilford, CT  
*The Best American Science Writing 2007* (Nonfiction / Contributor)  
Ecco/HarperCollins, New York, NY  
*Naomie Kremer: On Paper* (Monograph / Contributor)  
Modernism Books, San Francisco, CA  
*Marshall Crossman* (Catalogue / Contributor)  
Dolby-Chadwick Gallery, San Francisco, CA
- 2006      *Lighter Than Vanity* (Novel)  
Eksmo Publishing, Moscow, Russia
- 2005      *Driven to Abstraction* (Catalogue / Contributor)  
Blue Tangerine Gallery, San Francisco, CA
- 2004      *Annals of the Int'l Association for Divine Taxonomy* (Artist's Book)  
Modernism Books, San Francisco, CA  
*Modernism: Twenty-Five Years* (Catalogue / Contributor)  
Modernism Books, San Francisco, CA
- 2003      *Ninth November Night* (Catalogue / Contributor)  
The Museum of Tolerance, Los Angeles, CA
- 2000      *The Salon.com Reader's Guide to Contemporary Authors* (Contributor)  
Penguin Books, New York, NY
- 1999      *The Pathology of Lies* (Novel)  
Warner Books, New York, NY  
Ullstein Verlag, Berlin, Germany  
Cheak-Se-Sang, Seoul, Korea  
Eksmo Publishing, Moscow, Russia

## CRITIC'S COLUMNS

Art, *Forbes.com*, 2012 -  
Language, *Wired Magazine*, 2005 -  
Art, *San Francisco Magazine*, 1998 - 2013  
Culture, *ArtWeek*, 2003 - 2009  
Books *The San Francisco Examiner*, 2002-2003  
Books, *The San Francisco Chronicle*, 2001-2002  
Books, *One Magazine*, 2000-2001

## CONTRIBUTING WRITER/EDITOR

Correspondent, *Wired Magazine*, 2004 -  
Correspondent, *Art & Antiques*, 2007 -  
Reviewer, *New Scientist Magazine*, 2010 -  
Contributing Editor, *Art + Auction*, 2005 -  
Contributing Writer, *Robb Report Watch Collector*, 2007 -  
Contributing Editor, *ForbesLife*, 2011 -  
Contributing Editor, *San Francisco Magazine*, 1998 -  
Editor-at-Large, Martin Muller Books, 2011 -

## CONTRIBUTOR (ESSAYS / ARTICLES)

*The Washington Post*, *The Boston Globe*, *The Christian Science Monitor*,  
*The New York Times*, *The San Francisco Chronicle*, *The San Francisco Examiner*,  
*Prospect*, *Popular Science*, *Nautilus*, *Discover*, *GQ*,  
*Salon.com*, *Nerve.com*, *ARTnews*, *Art in America*, *Rhizome News*,  
*Zyzzuya*, *Opium*, etc.

## FILMOGRAPHY / THEATROGRAPHY

- |      |   |
|------|---|
| 2016 | Wright, Jamie, <i>Speculations: A Documentary</i> (in progress)   |
| 2013 | Fowler, Jonathan and Elizabeth Rodd, <i>The Curious Amateur</i> , Big Think, New York, NY                                   |
| 2010 | Luka, Stiven, <i>Aw Keats, Keats Motherfucker!</i> , Incubator Arts Project, St. Mark's Church, New York, NY, September 2-4 |
| 2008 | Michelson, Molly, <i>Science in Action: Jonathon Keats</i> , The California Academy of Sciences, San Francisco, CA          |
| 2007 | Moore, David, <i>The Agrifolk Movement: A Documentary</i> , Eyekiss Films,  |

- Atlanta, GA  
Giannattasio, Michael, *Apian Ballet: A Documentary*
- 2006 Pierce, Benjamin, *The First Intergalactic Art Exposition: A Documentary*,  
The Judah L. Magnes Museum, Berkeley, CA
- 2005 Rinehart, Mark, *Spark: Jonathon Keats*, KQED-TV (PBS)
- 2004 Lundahl, Paul, *The God Project: A Documentary*, eMotion Studios,  
Sausalito, CA

## BIBLIOGRAPHY

- 2000-15 500+ Articles, Interviews and Reviews Available On Request  
Sources include: BBC World Service, Reuters, PBS, NPR, FOX, AFP, DPA, IAN, CBC, ABC, RAI, *The New Yorker*, *The Atlantic*, *The Economist*, *New Philosopher*, *Good*, *Mother Jones*, *Science*, *Nature*, *Discover*, *Physics World*, *The Scientist*, *New Scientist*, *Scientific American*, *Discovery News*, *Wired*, *Fast Company*, *CNET*, *Yahoo News*, *The Wall Street Journal*, *The Washington Post*, *USA Today*, *The San Francisco Chronicle*, *The Toronto Star*, *The Forward*, *The Telegraph*, *The Financial Times*, *The Independent*, *NRC*, *FlashArt*, *Hyperallergic*, *ArtAsiaPacific*, *Sculpture*, *SciArt in America*, *ArtsJournal*, *Art & Antiques*, *ArtInfo*, *ArtNet*, *Motherboard*, *Gizmodo*, *Live Science*, *Space.com*, *PSFK*, *The Rumpus*, *io9*, etc.

## SELECTED PUBLIC COLLECTIONS

The Judah L. Magnes Museum, Berkeley, CA  
The Berkeley Art Museum, Berkeley, CA  
The Arizona State University Art Museum, Tempe, AZ  
The Mead Art Museum, Amherst College, Amherst, MA  
The Contemporary Jewish Museum, San Francisco, CA  
Hartware MedienKunstVerein, Dortmund, Germany  
Amherst College, Amherst, MA  
The Djerassi Foundation, Woodside, CA  
The Corporation of Yaddo, Saratoga, NY  
The MacDowell Colony, Peterborough, NH  
The MacNamara Foundation, Westport Island, ME