## Contents

### Synthesis

**14/15 Annual Report**

<table>
<thead>
<tr>
<th>Page</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Modern Alchemy</td>
</tr>
<tr>
<td>5</td>
<td>Message from Sha Xin Wei</td>
</tr>
<tr>
<td>7</td>
<td>Vision, Mission, and Impact</td>
</tr>
<tr>
<td>8</td>
<td>Infrastructure</td>
</tr>
<tr>
<td>9</td>
<td>Research, Funding, Engagement</td>
</tr>
<tr>
<td>10</td>
<td>People</td>
</tr>
<tr>
<td>11</td>
<td>Affiliates</td>
</tr>
<tr>
<td>13</td>
<td>Research</td>
</tr>
<tr>
<td>14</td>
<td>Featured Projects</td>
</tr>
<tr>
<td>15</td>
<td>Disciplinary Fusion</td>
</tr>
<tr>
<td>16</td>
<td>Research Streams</td>
</tr>
<tr>
<td>18</td>
<td>Ecology of Practices Research Network</td>
</tr>
<tr>
<td>19</td>
<td>Calendar of Events</td>
</tr>
<tr>
<td>21</td>
<td>Visitors &amp; Visits</td>
</tr>
</tbody>
</table>
New fields of study open up if we turn an unbiased attention to science before its fragmentation into physics, biology, psychology and philosophy, and to techne before its fragmentation into arts and engineering.

Modern Alchemy

_The Story of Synthesis_

The familiar form of science which has come to dominate our present era emerged from alchemical practices in the 17th century. Along the way it introduced a rift with long-lasting consequences. The Newtonian description of the world as a mechanical system with direct transmission of force by physical contact became the basis of the new mode of inquiry. Any phenomenon that could not be expressed in the manner of such mechanical laws fell into disregard.

Newton was both the first modern scientist and the last alchemist. His work on mechanics provided science with its model practice; ever since then physics has sought universal mechanical explanations. Gravitation, which Newton introduced as a universal law, was deemed ‘occult’ by his contemporaries because it invoked action at a distance and did not fit mechanical explanation. To this day gravity remains a challenge for science.

The reductive mechanistic approach disregards local knowledge and its fertile twining with the material world into rich, affective practices. Privileging the mechanical over organic relations and phenomena has produced a disregard for natural and cultural habitats, which eventually impoverishes even the most privileged societies.

In recent years the limits of reductive science have become apparent: its innovative potential is increasingly exhausted and the value of its kind of progress is questioned. We begin to see the boundaries between these ‘two cultures’ as more permeable.

The supposed dichotomy between man and animal, the supposed passivity of plants, and the supposed inertness of matter are increasingly recognized as biases, not facts. These biases can be dismantled with fertile results. Extending questions of consciousness to animal and vegetable life, for instance, has recently revealed complex supporting interactions among plants and their ecosystems.

New fields of study open up if we turn an unbiased attention to science before its fragmentation into physics, biology, psychology and philosophy, and to techne before its fragmentation into arts and engineering. We build a scientific practice that returns to, and benefits from, _a modern_ modes of inquiry and draws on the fullness of _a modern_ intuition. However, to do more than merely setting the clock back, the new science we propose draws power from a new humanities – the practices of making meaning.
Poiesis, the art of creation, precedes theory-building, and theory-building precedes methodology, because methodology repeats a process that no longer generates knowledge. Therefore the arts and humanities play a central role in creating fresh knowledge. But how can engineers and humanists learn more effectively from artists other than beholding their singular products, and vice-versa?

Poiesis, the art of creation, precedes theory-building, and theory-building precedes methodology.

Alchemy was the art of transmuting bodies and substances, the quick and the dead, the inert becoming vital, accidentals and essences becoming quintessences. Five centuries ago, alchemy was a practical and magical art, concerned with bodies and materials that are always suffused with ethical, vital and material power. Under the prism of the Enlightenment, such practices split into the practical (e.g. engineering or medicine), the scientific, and the art of the imaginary. Our work fuses these arts together again to transmute the material of social relations.

Synthesis provides a place for experimentally inventing and fusing fresh practices of understanding how the world works with fresh practices of making meaning. The motto “Art all the way down” implies that we cannot do business as usual by simply identically reproducing ourselves: our apprentices will learn but differ from the professions under which we were trained. We create stronger alloys of the know-hows and know-thats we have inherited from the past 500 years of knowledge creation. This is the basis for our choice of themes and affiliates. Transdisciplinary research is more than merely sitting an engineer and an artist and a philosopher in a room; it means transforming each discipline’s own ways of doing things, with care.

Transdisciplinary research is more than merely sitting an engineer, an artist and a philosopher in a room; it means transforming each discipline’s own ways of doing things, with care.
A year after running under full sail with a great crew of adventurous makers and thinkers from all quarters, it's a pleasure to present you with the Synthesis Center's first Annual Report. With the help of mentors and colleagues from the Topological Media Lab in Montreal, the Center for New Music and Technology in Berkeley and research centers in sister universities, we can point with pride to a suite of experiments, events, and technoscientific products with conceptual edge and imagination.

Thanks to strategic investment from the Provost and President of Arizona State University, we're welcoming a new generation of talented students working with courageous artists and scholars who, having mastered their home areas of practice and theory, are sailing out into deeper, open waters. We invite you to join us.
SYNTHESIS / who we are
Building an ecology of practices for imagining and making the worlds we inhabit.

Mission

Computer-driven media now circulate and activate images, sound and objects at densities greater than human limits of comprehension. We face the limits of effectively managing the technologies that activate our everyday world. Our challenge is how to build and inhabit environments that leverage the power of emerging technologies for shelter, sociality and play.

We pursue our mission by developing new practices for imagining and creating worlds that do not burden but enliven experience. We design technologies and techniques for animating environments that are richer but not more complicated, by asking how can we create worlds that we would want to live in?

Impact

In the 21st Century technology is omnipresent and deeply entwined in our daily lives. We study the human experience of technology so that we can impact its design, adoption, and incorporation into different aspects of our daily lives. The practical impacts of this research are myriad and can apply to any sector powered by technology including:

- Health care innovation
- Architecture and industrial design
- Science and engineering
- Policy and communication
- Arts and culture
- Economy and society

We research how to use technology to enrich our world without complicating it.
What is Synthesis?

The Synthesis Center is a place—a social construct designed to redistribute the intellectual, economic, and social energy of different disciplines to create fresh knowledge. Like any place it is built out of:

1. a physical space where people can gather, work, and communicate with each other
2. a group of people who live and work together in accordance with shared goals
3. the capacity to support the conversations and work of its members

Our place functions like a wheel spinning on an axis. We provide the axis to transfer the energy of our participants, and the grease to keep the wheel spinning true. To spin the wheel our participants provide energy in the form of external funding, time, special technology, work.
Research and Funding

How do we function?

Synthesis functions by providing the capacity to blend disciplinary work. It does this by first creating and maintaining an ethos of working practices that all researchers will share regardless of their training. This ethos is created and maintained by a core staff of professional transdisciplinarians who work transversally across projects, curate results, and mediate insights among all participants. This staff is supported by the energies of our collaborators and in return they facilitate the synthesis of fresh knowledge and know-how.

Engagement

What do we hope to accomplish?

We produce new knowledge about how people, technology, society articulate creatively and expressively in the 21st century. By balancing uneven external forces such as funding, institutional, and disciplinary power, we give researchers and apprentices the time and space they need to not just juxtapose their habits but to fuse and create fresh knowledge, fresh tactics, techniques, technology, _techn_. How? by experimentation, the variation of experience that transforms the phenomenon, the apparatus, the method and the experimentalist in the course of the experiment. We synthesize a fresh technicity blending a _scienza nuova_ with _ars nova_.

People

Staff

Sha Xin Wei
Director

Chris Roberts
Research Director

Julian Stein
Media Environment Lead

Brandon Mechtley
Complex Systems Lead

Dehla Hannah
Research Curator: Atmosphere

Kristi Garboushian
Communications Coordinator

Christian Montoro
Graphic Designer

Affiliate Faculty

Todd Ingalls
Associate Research Professor and Assistant Director | Arts, Media + Engineering

Pavan Turaga
Assistant Professor | Arts, Media + Engineering | Electrical, Computer, and Energy Engineering

Christian Ziegler
Assistant Professor | Arts, Media + Engineering

Garth Paine
Associate Professor | Arts, Media + Engineering | Music

Byron Lahey
Arts, Media + Engineering

Jessica Rajko
Assistant Professor | School of Film, Dance, Theater

Jacqueline Wernimont
Assistant Professor | Department of English

Affiliate Students

Garrett L. Johnson
Media Arts and Sciences | Arts, Media + Engineering

Brenda McCaffrey
Media Arts and Sciences | Arts, Media + Engineering

Connor Rawls
Digital Culture | Arts, Media + Engineering

Ian Shelansky
Interdisciplinary Digital Media and Performance | School of Film Dance + Theater, AME

Chris Zlaket
Digital Culture | Arts, Media + Engineering

Gabriella Isaac
Digital Culture | Arts, Media + Engineering

Prashan S. Seshasayee
Electrical Engineering | School of Computing, Informatics, and Decision Systems Engineering

Megan Patzen
Digital Culture | Arts, Media + Engineering

Cooper S. Yoo
Media Arts and Sciences | Arts, Media + Engineering

Qiao Wang
Electrical Engineering | School of Electrical, Computer, and Energy Engineering

Chinmay Dharmadhikari
Electrical Engineering | School of Electrical, Computer, and Energy Engineering

Michael Krayzaniak
Media Arts and Sciences | Arts, Media + Engineering

Josh Gigantino
Media Arts and Sciences | Arts, Media + Engineering

Nicole Williams
Media Arts and Sciences | Arts, Media + Engineering

Courtney Brown
Doctor of Musical Arts | School of Music

Varsha Iyengar
Computer Science | School of Computing, Informatics, and Decision Systems Engineering

Joshua Stark
Computer Science | Barrett, the Honors College

Alex Abrue
Media Arts and Sciences | Arts, Media + Engineering

Alyssa Forbes
Digital Culture | Arts, Media + Engineering
## Affiliates

<table>
<thead>
<tr>
<th>Name</th>
<th>Affiliation</th>
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<tbody>
<tr>
<td>Freida Alstan</td>
<td>Music and Computing, Goldsmith University of London, UK</td>
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<tr>
<td>Julie Akerly</td>
<td>Dance</td>
</tr>
<tr>
<td>Jakob Bak</td>
<td>Copenhagen Institute of Interaction Design</td>
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<tr>
<td>Ron Brogio</td>
<td>Associate Professor, Department of English</td>
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<tr>
<td>Nikolaos Chandolias</td>
<td>Rafael Lozano-Hemmer Studio, Montreal</td>
</tr>
<tr>
<td>Grisha Coleman</td>
<td>Associate Professor, Arts, Media + Engineering</td>
</tr>
<tr>
<td>Niklas Damiris</td>
<td>Visiting Scholar, Stanford University, Swiss Finance Institute at the University of Lugano</td>
</tr>
<tr>
<td>Josée-Anne Drolet</td>
<td>Alkemie, Montreal</td>
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<tr>
<td>Patricia Duquette</td>
<td>Artist</td>
</tr>
<tr>
<td>Michael Epperson</td>
<td>Director, Center for Philosophy and Natural Sciences, California State University Sacramento</td>
</tr>
<tr>
<td>Omar Falch</td>
<td>Topological Media Lab, Concordia University, Montreal</td>
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<tr>
<td>Ed Finn</td>
<td>Director Center for Science and the Imagination</td>
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<tr>
<td>Adrian Freed</td>
<td>Research Director, Center for New Music and Audio Technologies, UC Berkeley</td>
</tr>
<tr>
<td>David Gauthier</td>
<td>Netherlands Institute for Cultural Analysis</td>
</tr>
<tr>
<td>Satinder Gill</td>
<td>Center for Music and Science, Cambridge University</td>
</tr>
<tr>
<td>Katie Jung</td>
<td>Topological Media Lab, Concordia University, Montreal</td>
</tr>
<tr>
<td>Célia Lury</td>
<td>Director, The Centre for Interdisciplinary Methodologies, University of Warwick</td>
</tr>
<tr>
<td>Vangelis Lympouridis</td>
<td>Creative Media &amp; Behavioral Health Center, USC</td>
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<tr>
<td>John MacCallum</td>
<td>Center for New Music and Audio Technologies</td>
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<tr>
<td>Michael Montanaro</td>
<td>Associate Director, Topological Media Lab</td>
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<tr>
<td>Evan Montpellier</td>
<td>Topological Media Lab, Concordia University, Montreal</td>
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<tr>
<td>David Morris</td>
<td>Associate Director, Topological Media Lab</td>
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<tr>
<td>Natasha Myers</td>
<td>Department of Anthropology</td>
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<tr>
<td>Navid Navab</td>
<td>Topological Media Lab, Concordia University, Montreal</td>
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<tr>
<td>Adam Nocek</td>
<td>Lab for Critical Technologies</td>
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<tr>
<td>Paul Shrivastava</td>
<td>Executive Director, Future Earth</td>
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<tr>
<td>Liza Solomonova</td>
<td>Dream and Nightmare Laboratory, Université de Montréal</td>
</tr>
<tr>
<td>Andreas Spanias</td>
<td>School of Electrical, Computer and Energy Engineering, Ira A Fulton School of Engineering</td>
</tr>
<tr>
<td>Oana Suteu</td>
<td>Filmmaker, Montreal</td>
</tr>
<tr>
<td>David Tinapple</td>
<td>Assistant Professor, Arts, Media + Engineering</td>
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<tr>
<td>Helga Wild</td>
<td>Water Cooler Logic, Menlo Park</td>
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RESEARCH / what we do
Although Synthesis creates knowledge through making, this is not a place for individuals to produce individual works of art, nor for hackers to tinker with with the latest round of technology. We work with partner studios and labs for such work. Synthesis is a place for thinking through the collective making of events, varied experimentally and reproducibly by computational means. A responsive environment should not make statements, nor should it make spectators.

Synthesis researchers draw from diverse disciplines in the humanities, engineering and the arts to blend knowledge and know-how to find meaningful ways of animating the worlds in which we live and play. In particular, we use techniques from responsive environments, time-based media, experiential science, and non-anthropocentric design theory.

We offer affiliates at any level of experience the chance to associate with other expert and talented people and be enriched with techniques, but most importantly with approaches, tactics of experiment backed by as much studied knowledge as we can offer through our seminars, teas, and walks. We use whatever techniques make the most compelling experience for the minimum engineering overhead: realtime media instruments, custom objects, event structures, reading and writing, movement.

A responsive environment should not make statements, nor should it make spectators.

From phenomena to words and data

Atelier

Experimental variation and reproducible conditions

Experiment

Create knowledge, invent methods, exhibit and publish
Atmosphere and Place

What makes a location a particular location, a place? What qualities make a place particular, have no locus, pertain to no object, yet are definite? Atmosphere.

Rhythm analysis

How can we understand the experience of cities, organizations, bodies and media via a multi-scale approach to temporal phenomena?

Improvisational Environments

How can we use responsive realtime timebased media to build environments for ethico-aesthetic experiment?

Lighting and Rhythm

How do light and other fields of media modulate temporality – our shared sense of dynamic, change, and rhythm?

Sounding Paper

Prototyping with sensor-infused paper that modulates sound in respond to touch, we explore gestural expression via animate matter.

Vegetal Experience: SERRA

A new hybrid of philosophy, botany and art: inspired by the behavior of plants and vegetal life, we invent a new kind of thinking through movement.
Disciplinary Fusion

Transforming Research–Creation

Synthesis’ chief mission the first year was to adapt a Canadian research-creation culture into a knowledge enterprise suitable for the New American University. Most of our activities focused on transitioning practices from Dr. Sha’s Topological Media Lab (2001-2014), developing a community of students and researchers in which such practices can successfully evolve into a new means for disciplinary fusion.

Hosting Research Clusters

Synthesis hosted a series of residencies that applied cutting-edge artistic methods to use-inspired research problems. Two (Lighting and Rhythm and Improvisational Environments) were used to explore how theatrical-grade digital technology can be used to augment (or enchant) quotidian spaces, and two (Atmosphere and Place and Heartbeat) applied digital technology and artistic methods to invent fresh, compelling and rigorous ways of engaging fundamental questions about lived experience. Each residency served as a means for introducing the ethos and methods of research-creation to a team of American scholars with whom we will develop projects next year.

Cultivating Synthesis

In order for disciplines to fuse, their practitioners must mingle well. Dr. Sha has worked for the past 20 years with over 120 makers – artists, theorists, engineers – to develop a working ethos for people from radically different traditions to blend methods to generate fresh knowledge and technology, motivated by fundamental problems and propositions that transcend the frames of particular disciplines. At present this blending is best structured as a series of project streams organized around major themes that inspire disciplinary fusion.
Synthesis projects can be grouped into four major research streams

1. **Experiential Science** and embodied computing

In this stream we study how people can directly and palpably tinker with or steer the most complex scientific simulations to learn about the world. We leverage 15 years of pioneering work with realtime gestural media and responsive environments to create scientific tools, instruments and whole immersive environments that let inhabitants steer otherwise inaccessibly complex models via embodied interaction and rich media feedback in realtime. Our guiding assumption is that these techniques combined with rich narrative tools greatly speed and scale up the generation of hypotheses and theories for testing with advanced (and expensive) instrumentation. This will reduce the cost of conducting big science and also provide a play space for creating alternate imaginaries. The Atmosphere and Place residency kicked off the development of a prototype system that allows a person to corporeally engage with a computational model of fluid dynamics used to approximate a layer of atmospheric activity, showcased in the 2015 Conference on Complex Systems.

2. **Movement and Change** media, bodies, organizations, cities

We extend state of the art work with movement and time-based media to explore how the sense of dynamic, change, and rhythm shapes and intertwines the processes of life, city, industry, with processes of nature at multiple time scales. We will contribute to urban design and the resilience of future cities across the globe. We compare temporal phenomena via notions of rhythm as a way for people with otherwise incommensurate vocabularies and methods to compare insights about movement and change in experiential, built and natural environments, phenomena for which we lack neat theories.
Mathematic Art and Design

Mathematicians, like artists, do not measure or count bits of “nature” – they imagine and propose “what if?” Whereas biology is about the stuff of life, mathematic art and design can be about the life of stuff, like sound, light, movement, song, affect or software. In this research stream we alloy computational media arts and sciences with propositions about process, performativity and embodiment unframed from theater, music, dance, martial arts to create fresh modes of expression for our dynamic age. Sidestepping linguistic and static representation, we can coordinate expressive movement in concert with media.

The Heartbeat residency explored these themes by studying the articulation of a dancer’s internal rhythm with the movement of a group of accompanists. We are hosting studies of how ensembles of rehearsed and un-rehearsed people correlate their actions non-verbally in physical space.

Experimental Humanities

Another stream this year is to explore through reflection how to blend disciplinary strengths via expanded kinds of experimental practice. In this capacity we participate in a larger conversation about what research is within a practice-based college, and how can we incorporate concepts from process and complexity, and practice-based methods into the textually oriented humanities. We challenge ourselves to think engineering and science beyond tools and gadgets, while leveraging the unique critical practices of humanities and the arts. We are building networks of disciplinary evaluators to help us conduct a longitudinal study of the transformation of disciplinary practices under such syntheses.
Ecology of Practices Research Network

circuiting affiliated projects and researchers to develop along host sites' particular strengths

Place & Atmosphere
Rhythm
Movement & Responsive Media
Plant Life & Sustainability
Theory

Centre for Interdisciplinary Methodology | Warwick University
Center for New Music, Art & Technology | UC Berkeley
Center for Music & Science | Cambridge University
Center for Philosophy and Natural Science | CSU Sacramento
Copenhagen Institute of Interaction Design
Complexité et information morphologiques | École Normale Supérieure, Paris
David O’Brien Center for Sustainable Enterprise | Concordia University
Goldsmiths London
Graduate School of Design | Harvard University

Synthesis | Arts, Media, Engineering | Arizona State University

Humanities Innovation Lab | UC Davis
Institut de Recherche et Coordination Acoustique/Musique, Paris
Lab for Critical Technics | Arizona State University
Laboratoire du geste, Art and Philosophy | Panthéon-Sorbonne Paris 1
Plant Collaboratory | York University
Queen Mary University, London
Santa Fe Institute for Complexity Studies
School of Architecture | ETH Zurich
Science and Technology Studies | UC Davis
Topological Media Lab | Concordia University
Calendar of Events
hosted by Synthesis

2013 10/25  Workshop   TML 1: Improvisational Sound  Navid Navab  vimeo.com/82210401  blog.digitalculture.asu.edu/?q=node/534


2014 1/1  Event   Sha Xin Wei named Director of AME  The ASU Herberger Institute for Design and the Arts welcomes media arts, science and technology scholar Sha Xin Wei as the new Director of its School of Arts, Media + Engineering.  vimeo.com/87521693

2/6  Presentation   “Play and Games”  Sha Xin Wei  Digital Culture Lecture  https://vimeo.com/86337788

2/15 - 3/7  Residency Experiment   Improvisational Environments (IER)  Adrian Freed, John MacGillum, Navid Navab, Vangelis Lympouridis, Chris Ziegler, Garth Paine, Sha Xin Wei, Todd Ingalls, Evan Montpellier, Katie Jung  improvisationalenvironments.weebly.com

2/18  Interview   CSI’s 5 Burning Questions  Sha Xin Wei  Center for Science and the Imagination  vimeo.com/85742083


9/1 - 12/31  Study   Research Ecology of Herberger  Helga Wild and Niklas Damiric; External consultants. Assessment of research ecology at the Herberger Institute of Design and the Arts

9/1/13 - 8/15  Research Project   Quickenn Gesturally Sensitive Sounding Paper  Lead: Sha Xin Wei, Intel Research Fellow; Chris Wood, Navid Navab, Jamie Allen, Pavla Baxová, Jakob Bak (CIID)  quickenpaper.weebly.com

Synthesis at Arizona State University
Calendar of Events
hosted by Synthesis

7/9 - 7/11
Talk
INTETAIN 2014
Sha Xin-Wei, Keynote, 6th International Conference on Intelligent Technologies for Interactive Entertainment. Co-hosted with the European Alliance for Innovation.
www.intetain.org/2014

5/15 - 8/18
Project
Brickyard Augmented Interiors
Lead: Katie Jung; Research Team: Byron Lahey, Garrett Johnson, Matthew Briggs, Kevin Klawinski, Assegid Kidane, Luke Kautz, Peter Weisman, Tain Barzso

11/17 - 11/25
Experiment and Workshop
Lighting and Rhythm
Movement + Media:
Lead: Chris Ziegler; Researchers: Omar Faleh, Garrett Johnson, Varsha Iyengar, Vickie Hall, Eleanor Hanafin
Temporality + Media:
Lead: Sha Xin Wei; Researchers: Pavan Turaga, Pete Weisman, Michael Bateman, Ian Shelanskey, Aniket Sarangdhar, Omar Faleh, Connor Rawls, Julian Stein, Garrett Johnson, Gabriella Isaacs, Michael Krzyzaniak, Rushil Anirudh, Qiao Wang, Julie Akerly, Jessica Rajko, Connor Rawls, Varsha Iyengar
lightingrhythm.weebly.com

2015
1/1 - 2/20
Experiment and Workshop
Heartbeat
Leads: Sha Xin Wei, Teoma Naccarato, John MacCallum; Researchers: Garrett Johnson, Gabriella Isaacs, Michael Krzyzaniak, Rushil Anirudh, Qiao Wang, Julie Akerly, Connor Rawls, Assegid Kidane, Pete Weisman, Varsha Iyengar
rhythmanalysis.weebly.com

4/16 - 4/18
Symposium
Place and Atmosphere
Keynote: Silvia Benedito, Harvard Graduate School of Design
Organizers: Chris Roberts and Dehlia Hannah
atmosphereandplace.weebly.com

4/13 - 5/11
Development Residency
Vegetal Life SERRA, Montreal
Leads: Oana Suteu Khintirian, Ginette Laurin; Artists, Evan Montpellier, O Vertigo

8/24 - 9/4
Development Residency
Vegetal Life SERRA, ASU
Lead: Oana Suteu Khintirian visual art; Visiting Artist: Ginette Laurin (O Vertigo) choreography; Researchers: Todd Ingalls, Julian Stein, Gabriela Fuchs, Synthesis team

9/28 - 10/2
Installation Environment
Conference on Complex Systems, Tempe
Lead: Chris Roberts; Researchers: Pete Weisman, Synthesis media and tech team: Connor Rawls, Megan Patzem, Chris Zlaket, Josh Stark

2016
1/13 - 1/17
Research Residency
Maths after Deleuze and Badiou
Michael Epperson, Center for Philosophy and Natural Science, CSU Sacramento

1/1 -
Experiment and Workshop
Movement and Rhythm
Leads: Todd Ingalls, Sha Xin Wei; Researchers: Julian Stein, Garrett Johnson, Gabrielle Isaacs; Cumhur Erkur, Dan Overholt (Aalborg)
**Visitors and Visits**  
hosted and posted by Synthesis

<table>
<thead>
<tr>
<th>Year</th>
<th>Date</th>
<th>Visitor</th>
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<tr>
<td>2014</td>
<td>3/4</td>
<td>David Rothenberg, musician</td>
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<td>3/5</td>
<td>UC Davis, Quality vs Quantity, Measurement</td>
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<td>5/7–5/12</td>
<td>Niklas Damiris</td>
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<td>5/7–5/12</td>
<td>Helga Wild</td>
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<td>9/18</td>
<td>Cornelius Popel</td>
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<td>10/31</td>
<td>Thanassis Rikakis</td>
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<td>12/2</td>
<td>Women in Philanthropy</td>
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<td>2015</td>
<td>2/3</td>
<td>Alan Lightman, writer</td>
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<td></td>
<td>2/10</td>
<td>President Olivier Laboux and Frédéric Benhamou Vice-President of Research and Innovation</td>
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<td>2/16</td>
<td>Scott Parazynski, Center for Human Achievement and Maximizing Performance</td>
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<td>2/16–2/20</td>
<td>John MacCallum, CNMAT Berkeley; Teoma Naccarato, Choreographer, Montreal</td>
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<td>2/19</td>
<td>Chinese Academy of Fine Arts</td>
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<td>3/15–5/19</td>
<td>Wenner-Gren Foundation Symposium, New Media New Publics, Lisbon</td>
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<td>3/26</td>
<td>Roger Malina</td>
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<td>3/26</td>
<td>Hugh Crawford</td>
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<td>3/27</td>
<td>Nina Czegledy</td>
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<td>3/28</td>
<td>Balance Unbalance</td>
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<td>4/6–4/15</td>
<td>Silvia Benedito</td>
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<td>4/6–4/15</td>
<td>Tim Choi</td>
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<td>4/6–4/15</td>
<td>Melissa Bukovsky</td>
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<td></td>
<td>4/15–4/19</td>
<td>Public Life: Politics of Care, Vienna</td>
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<td>4/21</td>
<td>Xi’an Jiaotong University, China</td>
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<td>4/22</td>
<td>Bryan Daniels</td>
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<td>President Michael Crow and Provost Mark Searle</td>
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<td>6/8–6/10</td>
<td>Alliance for the Arts in Research Universities, Carnegie Mellon University</td>
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<td>8/1–8/4</td>
<td>Ginette Laurin, Artistic Director, O Vertigo</td>
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<td>9/2</td>
<td>Brian Johnson, Intel Futurist</td>
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<td>10/16</td>
<td>Mirielle Eaton and Manuela Berger</td>
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<td>10/29–10/30</td>
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<td>Ian Douglas</td>
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<td>11/23</td>
<td>Melani Walton</td>
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<td>2016</td>
<td>1/13 · 1/17</td>
<td>Michael Epperson, Center for Philosophy and Natural Science</td>
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<td>JD Talasek</td>
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<td>3/9</td>
<td>Future Earth, Montreal</td>
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Synthesis
Arizona State University

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Fax +1 480 727 2846

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Credits

3rd image: Topological Media Lab (2013), Einsteins Dream workshop, Concordia University, Montreal.


Michael Montanaro (2013), Candle Installation at Play Symposium, The University of Chicago Gray Center for Arts and Inquiry and Topological Media Lab.

All other images by Synthesis at ASU.