

Artist: Insil Choi
RISD Major: Illustration
Anticipated Graduation Year: 2014
Title: *Jelly fungi (detail view)*
Dimensions: 15 x 20 in
Material: Pen & Ink
Image courtesy of the artist
Work on view in the exhibition,
*Investigating the Lab Relationships between
Art, Design, & Science*

FRIDAY 31 January 2014

10:00 a.m. – 12:00 p.m. | Pre-Symposium Tours
Edna Lawrence Nature Lab & Arthur Loeb Design Science Collection

9:00 a.m. – 6:30 p.m. | Exhibition: *Investigating the Lab Relationships between Art, Design, & Science*, co-curated by RISD faculty, Carl Fasano & RISD alumna, Sophia Sobers

12:00 p.m. – 5:00 p.m. | Registration

1:15 p.m. – 2:00 p.m. | Welcome & Panel Discussion: *What is Design Science?*
Moderator: Joe Clinton, Design Science Historian & Engineer
Panelists: RISD faculty, Peter Dean (Furniture Design), Amy Leidtke (Industrial Design), & Carl Fasano (Foundation Studies)

2:15 p.m. – 4:00 p.m. | Share & Tell
Facilitator: Allison Chen, RISD BFA Candidate '15 Industrial Design
Presenters: Thomas T. K. Zung, Design Science Historian, Principal & Architect, Buckminster Fuller, Sadao, & Zung; George W. Hart, Mathematician | Artist | Inventor; & Waldemar Bober, Poland-based Architect
(Plus five additional sessions with fellow Design Scientists)

4:00 p.m. – 4:45 p.m. | Community Discussion: *Building a Design Science Community*
Moderators: CJ Fearnley, Executive Director, Synergetics Collaborative, & Neal Overstrom, Director, RISD's Edna Lawrence Nature Lab
Panelists: Sarah Kuhn, PhD, Professor of Psychology & Center for Women and Work, UMass Lowell; Sophia Sobers, RISD MFA '13 Digital Media; Jaime Topper, Brown MA Candidate '14 Humanities; David Kim, MFA Candidate '14 Digital Media; & Allison Chen, RISD BFA Candidate '15 ID.

5:00 p.m. – 6:30 p.m. | Welcoming Reception & Exhibit Opening | Nature Lab
Hosts: RISD STEAM & Brown STEAM Clubs

STEM to STEAM thru Synergy

Bridging Morphology, Biomimicry, Sustainability, and Synergetics

Fourth Biennial Design Science Symposium
31 January – 2 February 2014
Rhode Island School of Design, Providence, RI



STEAM: integrative, interdisciplinary or transdisciplinary studies working together with the result being greater than individual parts (**synergy**) - The study of a structure's interconnected parts (**morphology**) leading to inspiration through nature (**biomimicry**) producing harmony, fulfilling the social, economic and environmental requirements of present and future generations (**sustainability**) results in cooperation for an enhanced effect (**synergetics**) and supports interdisciplinary or transdisciplinary study of multiple disciplines —
Science, Technology, Engineering, Art, Mathematics.

Event co-sponsored by:
Synergetics Collaborative, Inc. (SNEC) & Edna Lawrence Nature Lab at RISD

SATURDAY 1 February 2014

8:00 a.m. – 5:00 p.m. | Registration

9:00 a.m. – 5:00 p.m. | Exhibition: *Investigating the Lab Relationships between Art, Design, & Science*, co-curated by RISD faculty, Carl Fasano & RISD alumna, Sophia Sobers

9:00 a.m. – 9:05 a.m. | Call to Order & Announcements

9:05 a.m. – 9:15 a.m. | Welcome & Introductory Remarks | Rosanne Somerson, Furniture Maker & Interim President, RISD

9:15 a.m. – 9:25 a.m. | Feature Presentation | Deborah A. Gist, EdD, Commissioner of Elementary & Secondary Education, Rhode Island Department of Education

9:25 a.m. – 10:15 a.m. | Keynote Address | Dayna Baumeister, PhD, Biomimic & Co-Founder of Biomimicry 3.8

10:15 a.m. – 10:30 a.m. | *Break*

10:30 a.m. – 11:20 a.m. | Keynote Address | Dennis M. Bartels, PhD, Executive Director, San Francisco Exploratorium

11:20 a.m. – 11:40 a.m. | Feature Presentation | Kavita Ramanan, PhD, Mathematician, Brown University

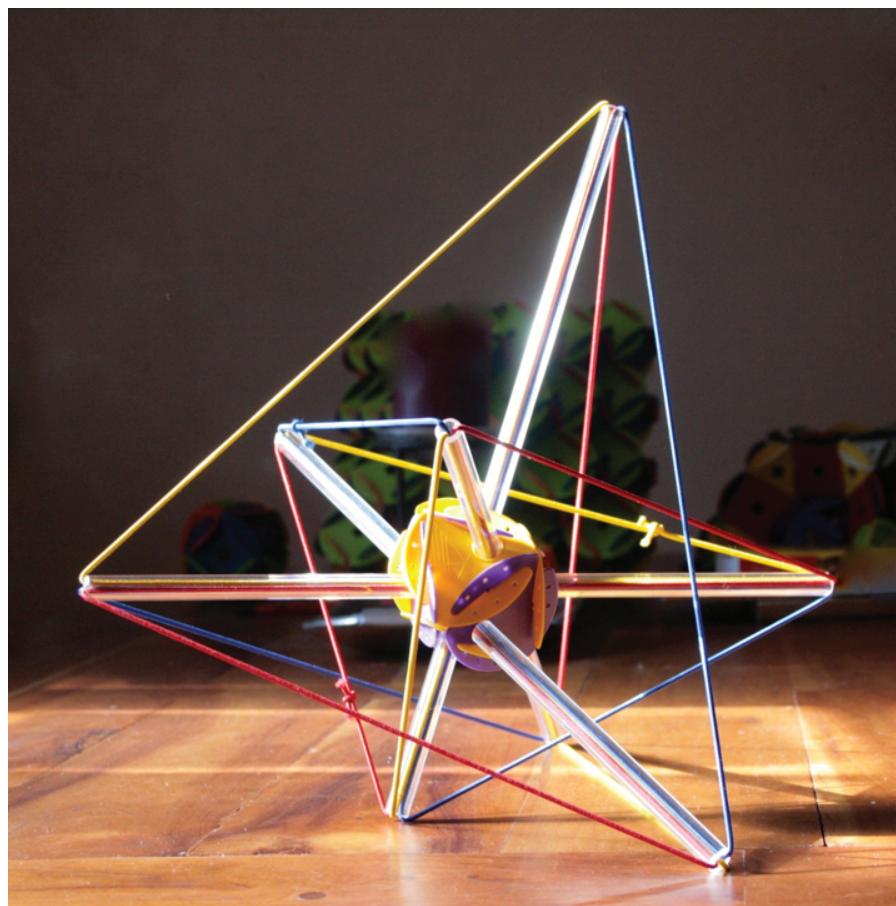
11:40 a.m. – 12:00 p.m. | Feature Presentation | Lefteris Pavlides, PhD, Architect & Professor, Roger Williams University

12:00 p.m. – 1:15 p.m. | *Lunch (on own)*

1:15 p.m. – 3:15 p.m. AND AGAIN AT 3:30 p.m. – 5:30 p.m.
Concurrent Design Science Workshops, Tours, and Activities (sign up at the Registration Desk) Facilitators: George Hart, Bob Sanderson, Leftheris Pavlides, Chris Kitrick, Joe Clinton & Ed Popko, Dick Esterle, Gary Doskas, & more

5:45 p.m. – 6:00 p.m. | Announcements & Awards Ceremony
Presenters: John Belt, Professor, SUNY Oswego, President, Synergetics Collaborative (SNEC), & Thomas T. K. Zung, Design Science Historian, Principal & Architect, Buckminster Fuller, Sadao, & Zung

6:00 p.m. – 6:40 p.m. | Film Screening Debut & Discussion
A Visit with Magnus (documentary | length: 30 minutes)
Christopher Zelov, Filmmaker, Author, & Founder of The Knossus Project



Inventor: Dick Esterle

Title: *The Amazing Geometry Machine*

Materials: Tubes, String, & Space Chips

Photo courtesy of Dick Esterle

Description: The *Amazing Geometry Machine* is an invention of tubes & strings to form a dynamic model exhibiting symmetries in polyhedral assemblies. Polyhedra are built with tubes passing through a polyhedral core and colored loops of string through those tubes. The color loops of string define the edges of a resulting polyhedron. The polyhedra change shape and/or interpenetrate as a result of sliding the tubes inline (inline translation) depending on the pattern.

Workshop participants will experience building their very own *Amazing Geometry Machine* (limit 20 participants/workshop – this workshop will run 2 times).

SUNDAY 2 February 2014

8:00 a.m. – 10:00 a.m. | Registration

10:00 a.m. – 12:00 p.m. | Exhibition: *Investigating the Lab Relationships between Art, Design, & Science*

Co-curated by RISD faculty, Carl Fasano & RISD alumna, Sophia Sobers

9:00 a.m. – 9:45 a.m. | Welcome & Introductory Remarks

Keynote Address

Richard Bresnahan, Master Ceramicist & Artist in Residence, St. John's University

9:45 a.m. – 10:00 a.m. | *Break*

10:00 a.m. – 10:45 a.m. | Feature Presentation

The Fly's Eye Dome, Thomas T. K Zung, & Eric Goetz, Marine Transportation Designer & CTO, Goetz Composites

10:45 a.m. – 11:15 a.m. | Feature Presentation

Don Briddell, Artist & Design Scientist

11:15 a.m. – 11:25 a.m. | Feature Presentation

Student Biomimicry Design Challenge, Biomimicry 3.8

11:25 a.m. – 11:45 a.m. | Feature Presentation

Student Solar Decathlon Design Competition, RISD and Brown student team

11:45 a.m. – 11:50 p.m. | Closing Announcements & Plans for the Fifth Design Science Symposium '16 | *Exit Auditorium and Lobby by 12:00 p.m.*

12:00 p.m. – 1:30 p.m. | *Lunch (on own)*

1:30 p.m. – 4:00 p.m. | Share & Tell | Nature Lab

Facilitators: Allison Chen, RISD BFA Candidate '15 Industrial Design, & Michelle Site, Brown BS Candidate '14 Biology

Presenters: Sarah Kuhn, PhD, Professor of Psychology & Center for Women and Work, UMass Lowell; Hanna McPhee, Brown BS Candidate '14 Biologically Inspired Design; and Reed Burnam, RISD BFA Candidate '16 Industrial Design, plus seventeen fellow Design Scientists.



R. Buckminster Fuller, standing with his *Dymaxion Car* and *Fly's Eye Dome*.
Photo credit: R. Stoller, Stanford University Archives.

Learn about Fuller's *Fly's Eye Dome* from two unique perspectives. First, hear from Thomas T. K. Zung, Principal & Architect, of the architectural partnership, Buckminster Fuller, Sadao, & Zung. Then, learn about the the recent historic renovation of the Dome from local Rhode Islander, Eric Goetz, Marine Transportation Designer & CTO, Goetz Composites.

* The SYMPOSIUM FINAL PREVIEW is a preliminary schedule that is subject to change. See the SYMPOSIUM PROGRAM, available at the Symposium Registration Desk, for the most current details.