PRODUCE CONSUME ROBOT

Sean M. Montgomery Ph.D.

http://www.ProduceConsumeRobot.com/

http://www.ConnectedFutureLabs.com/

NEW-MEDIA ARTIST
Interactive biofeedback art examining the relationship between technology and the human condition

EDUCATOR
Talks, workshops and full matriculation courses in New York City and around the world

TECHNOLOGIST / ENGINEER
Circuits to algorithms with particular expertise in biological signals that reflect psycho-physiological state

Overview

Sean Montgomery is a technologist, educator and new-media artist in New York City. Using research methodologies combined with emerging technologies, Sean takes a trans-disciplinary look at the human condition to examine the changing relationship between the physical and metaphysical world. From developing wearable bio-sensors and algorithms that derive meaning from sensor data to creating interactive new-media art installations that have shown around the world, Sean's work focuses on how technology can enhance our understanding of ourselves and create new ways for people to interact with one another and the objects around them. After finishing his Ph.D. in Neuroscience, Sean founded Connected Future Labs, an agile R&D consulting group in New York City utilizing a depth of expertise from circuit design to algorithms and app development, to help clients transform product vision into reality.

Art Exhibitions

Livestream

http://produceconsumerobot.com/livestream/

- Downtown Arts Center, Lexington, Kentucky, USA (2014)

Telephone Rewired

http://produceconsumerobot.com/telephonerewired/

- Daejeon Museum of Art, Daejeon, South Korea (2014)
- Harvestworks, New York, USA (2013)
- Science Gallery, Dublin, Ireland (2013)

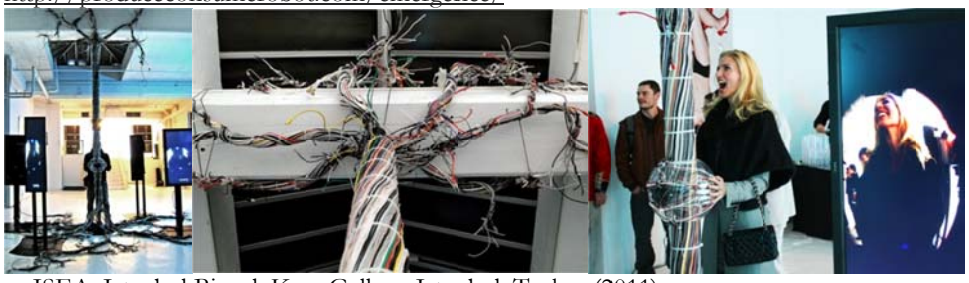
Vital Threads Biofeedback Apparel

http://produceconsumerobot.com/vitalthreads/

- AURAGASM, Studio Anise, New York, USA (2012)
- Center for Life, Newcastle, England (2011)
- BRAINFest, American Museum of Natural History, New York, USA (2011)
- World Maker Faire, The New York Hall of Science, New York, USA (2011)
- Freeze! Exhibit, The National Taiwan Museum of Fine Arts in Taichung, Taiwan. (2010)
- Fish With Braids Gallery, Jersey City, USA (2008)
- The Last HOPE conference, New York, USA (2008)
- Dorkbot NYC, New York, USA (2008)

Emergence

http://produceconsumerobot.com/emergence/



- ISEA, Istanbul Bienal, Kasa Gallery, Istanbul, Turkey (2011)
- Center for Life, Newcastle, England (2011)
- Unintended Consequences, Open House Gallery, New York, USA (2010)

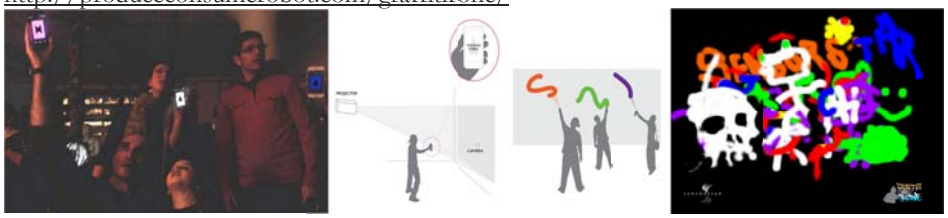
iParade#2 Unchanged When Exhumed

http://lovid.org/iparade/iparade-2.html

- iParade Reception, City College of New York, USA (2012)
- Art In Your Pocket, New Museum, New York, USA (2012)
- Elastic City, New York, USA (2012)

Graffiti Fone

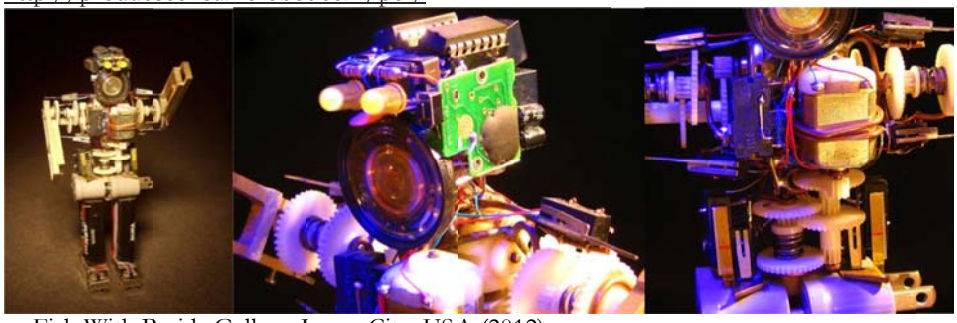
http://produceconsumerobot.com/graffitifone/



- World Maker Faire, The New York Hall of Science, New York, USA (2012)

Produce Consume Robot

http://produceconsumerobot.com/pcr/



- Fish With Braids Gallery, Jersey City, USA (2012)

Talks & Workshops

- Livestream: Tuning In To The Bluegrass : : A UK Water Week Workshop, University of Kentucky, Kentucky, USA (2015)
- What we wear – The wearable revolution, DigitalFlash, New York, USA (2014)
- Invasion of the body sensors - Hands-on discussion of how sensors are changing the way we see each other, ITP camp, NYU, New York, USA (2014)
- Beneath the Skin from Across the Room: How Bio-sensing is Changing Interaction. NUI Central. New York, USA (2013)
- Bio-Sensing: Feeling the Pulse of a City, Urban Sensor Hack webinar series (2013)
- Bio-Sensing: The Y in DIY, World Maker Faire, New York, USA (2013)
- Hello Phonegap, ITP camp, NYU, New York, USA (2013)
- Neuroscience For Artists, Programmers, and Anybody In Between. Devotion Gallery, New York, USA (2013)
- Hybrids between art and research: New tools for peering into the human mind. Dublin Art and Technology Association, Dublin, Ireland (2013)
- Volumetric Society of NYC, New York, USA (2012)

- Measuring Biological Signals for Art and Business (and anything in between). ITP camp, NYU, New York, USA (2010, 2011)
- Neuroscientist expert. Dark Matters, Discovery Science Channel (2011)
- BRAINFest, American Museum of Natural History, New York, USA (2011)
- Neurorealism and the Reality of Neuro-Art. Mobile Lab, Ontario College of Design, Toronto, Canada (2010)
- Biofeedback Fashion and the Creation of New Senses. Wearables Meetup, Site 3, Toronto, Canada (2010)
- Measuring Biological Signals: Concepts and Practice. Tangible, Embedded, and Embodied Interaction Annual Conference. MIT Media Lab, Cambridge, USA (2010)
- Biofeedback Fashion and Design: New Forms of Expression and Communication at the Interface of Biology and Technology. The National Taiwan Museum of Fine Arts, Taichung, Taiwan (2009)
- Vital Threads Biofeedback Apparel. Last HOPE conference, New York, USA (2008)
- Vital Threads Biofeedback Apparel. Dorkbot, New York, NY, USA (2008)

Selected Publications

- Sullivan D, Csicsvari J, Mizuseki K, Montgomery S, Diba K, Buzsáki G (2011). Relationships between hippocampal sharp waves, ripples, and fast gamma oscillation: influence of dentate and entorhinal cortical activity. J Neurosci. 31(23):8605-16.
- Sean M. Montgomery and Ira Laefsky (2011). Bio-Sensing: Hacking the doors of perception. Make Magazine 26:104-111.
- Sean M. Montgomery (2010). Measuring Biological Signals: Concepts and Practice. TEI '10 Proceedings of the fourth international conference on Tangible, embedded, and embodied interaction. TEI '10 ACM 337-340.
- Anastassiou C, Montgomery S, Barahona M, Buzsaki G, Koch K (2010). The effect of spatially inhomogeneous extracellular electric fields on neurons. JNeurosci 30(5):1925–1936.
- Buzsaki G and Montgomery SM (2009). REM dreams. Frontiers in Neuroscience 3(3):440-41.
- Montgomery SM, Betancur M, Buzsaki G (2009). Behavior-dependent coordination of multiple theta dipoles in the hippocampus. J Neurosci 29(5): 1381–1394.
- Montgomery SM, Sirota A, Buzsaki G (2008). Theta and gamma coordination of hippocampal networks during waking and REM sleep. J Neurosci 28(26): 6731–6741.
- Montgomery SM, Buzsáki G (2007). Gamma oscillations dynamically couple hippocampal CA3 and CA1 regions during memory task performance. PNAS 104(36):14495-500.
- Sirota A, Montgomery SM, Fujisawa S, Isomura Y, Zugaro M, Buzsáki G (2008). Entrainment of neocortical neurons and gamma oscillations by the hippocampal theta rhythm. Neuron. 60(4):683-97.
- Isomura Y, Sirota A, Ozen S, Montgomery S, Mizuseki K, Henze DA, Buzsáki G. (2006). Integration and segregation of activity in entorhinal-hippocampal subregions by neocortical slow oscillations. Neuron. 2006 Dec 7;52(5):871-82.
- Robbe D, Montgomery SM, Thome A, Rueda-Orozco PE, McNaughton BL, Buzsaki G. (2006). Cannabinoids reveal importance of spike timing coordination in hippocampal function. Nat Neurosci 12:1526-33.

Professional Profile

Ringly *2014 - Present*

Head of Hardware

- Lead development of hardware and firmware.
- Development of new products and features.

SENSORSTAR Labs *2011 - 2014*

Co-founder, Engineer

- Managing operations of R&D consulting.
- Charting a vision for research program and product development.

ITP, New York University *2012 - Present*

Adjunct Professor

- Teaching a range of courses and workshops from bio-sensing to app programming.

Vital Threads Biofeedback Apparel *2008 - Present*

Owner

- Development of apparel that measures and displays biological signals.

Education

Ph.D., Neuroscience, Rutgers University (2009)

B.A., Psychology, Reed College (1999)