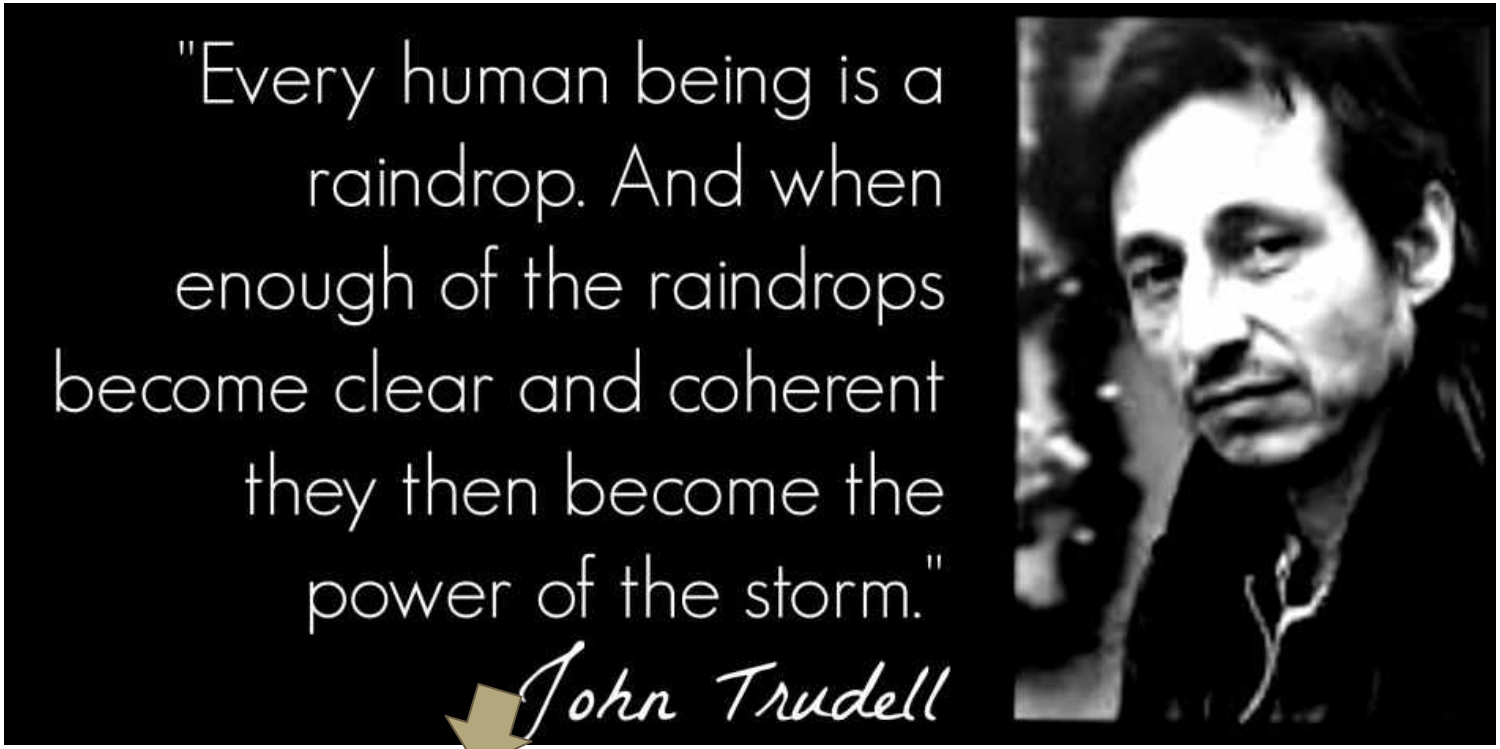
New York Nano

Maple Nation Transmutes Neurotech Empire

Preface

A Predator Energy Seeks To Mine The Being Part Of Human



When We Have Clarity We Are Powerful Beyond Measure

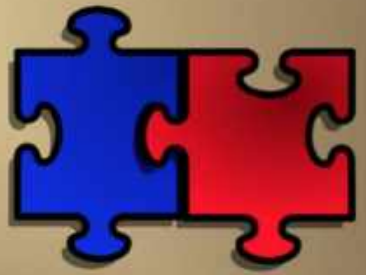
A CONFERENCE

THE VIRAL PANOPTICON: PUBLIC HEALTH'S PRISON PLANET

- Why is the field of virology an effective weapon in coercing global systems change?
- Has the Fourth Industrial Revolution led scientists to betray natural life on Earth?
- How do hedge funds benefit from medical apartheid and the global biosecurity state rollout?
- What would true healing look like?
- How do we break Davos' spell and halt COVID's *coup d'état*?

PRESENTERS:

Tom Cowan, M.D.
Andrew Kaufman, M.D.
Alison McDowell



Saturday, July 10, 2021
10:00 AM to 6:00 PM
6 Cottage Place, Utica, NY
(This is an in-person event. It will not be live-streamed.)

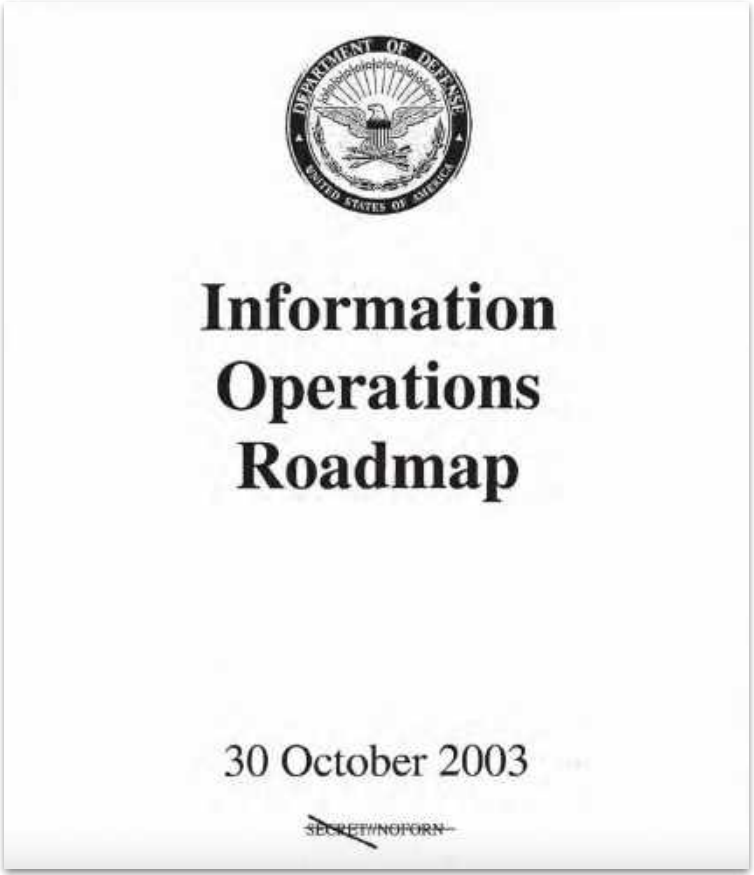
Alison McDowell
@Philly852

1. Do you believe in deadly viruses?
2. Do you believe in deadly environmental toxicity?
3. Do you know nano and frequencies are weapons?
4. Do you understand the internet of bio-nano things?
5. Do you understand digital empire?
Get clear. Until you do they'll jerk you around.

11:40 AM · Jul 16, 2021 · Twitter Web App

View Tweet activity

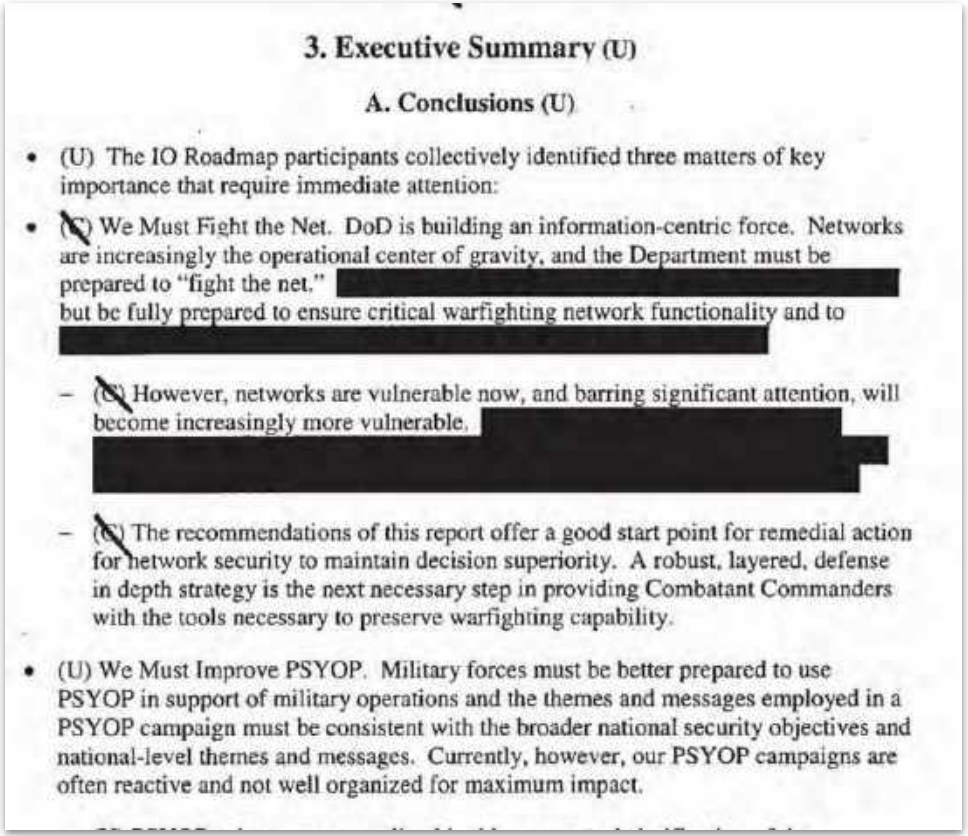
56 Retweets **1** Quote Tweet **148** Likes



Information Operations Roadmap

30 October 2003

~~SECRET//NOFORN~~



3. Executive Summary (U)

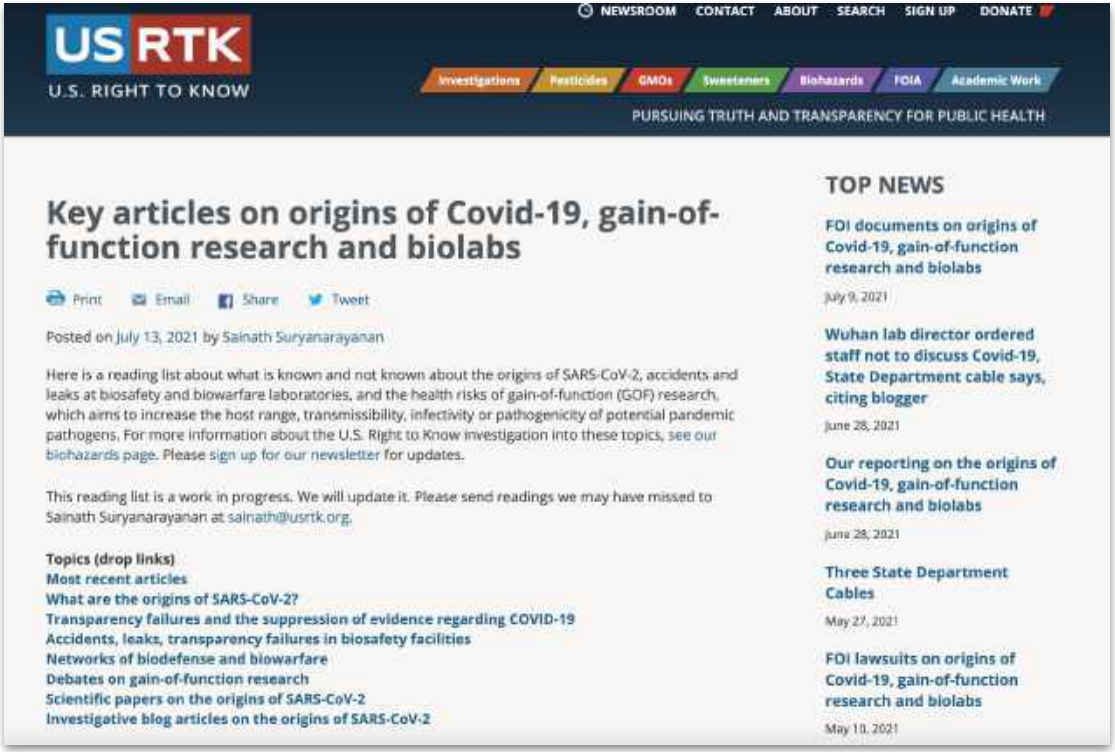
A. Conclusions (U)

- (U) The IO Roadmap participants collectively identified three matters of key importance that require immediate attention:
- ~~(C)~~ We Must Fight the Net. DoD is building an information-centric force. Networks are increasingly the operational center of gravity, and the Department must be prepared to "fight the net." [redacted] but be fully prepared to ensure critical warfighting network functionality and to [redacted]
  - ~~(C)~~ However, networks are vulnerable now, and barring significant attention, will become increasingly more vulnerable. [redacted]
  - ~~(C)~~ The recommendations of this report offer a good start point for remedial action for network security to maintain decision superiority. A robust, layered, defense in depth strategy is the next necessary step in providing Combatant Commanders with the tools necessary to preserve warfighting capability.
- (U) We Must Improve PSYOP. Military forces must be better prepared to use PSYOP in support of military operations and the themes and messages employed in a PSYOP campaign must be consistent with the broader national security objectives and national-level themes and messages. Currently, however, our PSYOP campaigns are often reactive and not well organized for maximum impact.

We are in an information war.

Source

The Gain Of Function / Bioweapon Narrative Advances Social Control Via Virology And Tech Biosurveillance



US RTK
U.S. RIGHT TO KNOW

NEWSROOM CONTACT ABOUT SEARCH SIGN UP DONATE

Investigations Pesticides GMOs Sweeteners Biohazards FOIA Academic Work

PURSUING TRUTH AND TRANSPARENCY FOR PUBLIC HEALTH

Key articles on origins of Covid-19, gain-of-function research and biolabs

Print Email Share Tweet

Posted on July 13, 2021 by Sainath Suryanarayanan

Here is a reading list about what is known and not known about the origins of SARS-CoV-2, accidents and leaks at biosafety and biowarfare laboratories, and the health risks of gain-of-function (GOF) research, which aims to increase the host range, transmissibility, infectivity or pathogenicity of potential pandemic pathogens. For more information about the U.S. Right to Know investigation into these topics, see our biohazards page. Please sign up for our newsletter for updates.

This reading list is a work in progress. We will update it. Please send readings we may have missed to Sainath Suryanarayanan at sainath@usrtk.org.

Topics (drop links)
Most recent articles
What are the origins of SARS-CoV-2?
Transparency failures and the suppression of evidence regarding COVID-19
Accidents, leaks, transparency failures in biosafety facilities
Networks of biodefense and biowarfare
Debates on gain-of-function research
Scientific papers on the origins of SARS-CoV-2
Investigative blog articles on the origins of SARS-CoV-2

TOP NEWS

FOI documents on origins of Covid-19, gain-of-function research and biolabs
July 9, 2021

Wuhan lab director ordered staff not to discuss Covid-19, State Department cable says, citing blogger
June 28, 2021

Our reporting on the origins of Covid-19, gain-of-function research and biolabs
June 28, 2021

Three State Department Cables
May 27, 2021

FOI lawsuits on origins of Covid-19, gain-of-function research and biolabs
May 10, 2021

Handbook of Biosurveillance

1st Edition

☆☆☆☆☆ Write a review

Editors: Michael Wagner, Andrew Moore, Ron Aryel

eBook ISBN: 9780080459998

Imprint: Academic Press

Published Date: 7th October 2005

Page Count: 624

View on ScienceDirect

Description

Provides a coherent and comprehensive account of the theory and practice of real-time human disease outbreak detection, explicitly recognizing the revolution in practices of infection control and public health surveillance.

Key Features

- Reviews the current mathematical, statistical, and computer science systems for early detection of disease outbreaks
- Provides extensive coverage of existing surveillance data
- Discusses experimental methods for data measurement and evaluation
- Addresses engineering and practical implementation of effective early detection systems
- Includes real case studies

Biosurveillance
Of Life On Earth

World Bank
One Health
Perpetual Pandemic
Climate Crisis

Data Collection
Digital Twinning

MicroscopeClub

Home

How Much Is An Electron Microscope?

Electron microscopes come in a variety of types and special variations, and these sophisticated imaging devices can easily cost thousands to millions of dollars, depending on which kind of electron microscope you are looking at.

A safe price range would be $50,000 to $200,000 for conventional tabletop scanning electron microscopes (SEMs), or up to a million dollars for the higher-end ones, while transmission electron microscopes (TEMs) can easily go up millions of dollars.

Which Is Cheaper: SEMs Or TEMs?

Electron Microscopy

Services | Rates | Instruments ▽ | Scheduling | Staff | Policies | Training | Images ▽

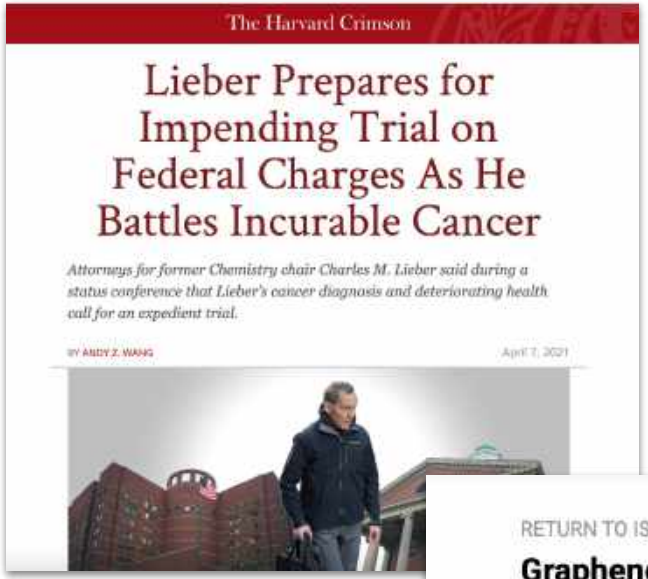
Contact Information

For further detail on training and use of the facility equipment, please contact the facility director **Xinran Liu** via email or phone: 203-785-4050. Due to demand, training should be requested at least 2 weeks in advance. The training request form can be downloaded here and needs to be completed before the first training session.

Training rates

Electron Microscope	Training Hours	Prepaid Hours	Yale	Educational	For-Profit
FEI Tecnai Biotwin	10	6	$1,000	$1,200	$2,000
FEI Tecnai T12	10	6	$1,000	$1,200	$2,000
FEI Tecnai TF20 TEM (hourly)		0	$150	$180	$300

Go back and look more closely at Lieber, Mitre, and nanocomputing.



The Harvard Crimson

Lieber Prepares for Impending Trial on Federal Charges As He Battles Incurable Cancer

Attorneys for former Chemistry chair Charles M. Lieber said during a status conference that Lieber's cancer diagnosis and deteriorating health call for an expedient trial.

BY ANDY Z. WANG

April 7, 2021

"The ultra-small, ultra-low-power control processor—termed a nanoelectronic finite-state machine or "nanoFSM"—is smaller than a human nerve cell. It is composed of hundreds of nanowire transistors, each of which is a switch about ten-thousand times thinner than a human hair. The nanowire transistors use very little power because they are "nonvolatile." That is, the switches remember whether they are on or off, even when no power is supplied to them." Source

RETURN TO ISSUE | ‹ PREV **LETTER**

Graphene and Nanowire Transistors for Cellular Interfaces and Electrical Recording

Tzahi Cohen-Karni[†], Quan Qing[‡], Qiang Li[§], Ying Fang[*§], and Charles M. Lieber[*†‡]

View Author Information

Cite this: *Nano Lett.* 2010, 10, 3, 1098–1102
Publication Date: February 5, 2010
https://doi.org/10.1021/nl1002608
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8285	40	317

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INTERVIEW WITH THE FIFTH COLUMN FOR Michel Chossudovsky

July 16th, 2021

2,160 views

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HOME ARCHIVE GUÍA MAGNETGATE MAGNETGATE GUIDE MAGNETIC WALL DONATE

La Quinta Columna sends information to international lawyer Reiner Fuellmich

JUNE 02, 2021

The Spanish group of researchers of the components of the vaccine and that have found out that graphene is what causes magnetism in people, have sent an e-mail to lawyer Reiner Fuellmich since he's gathering all scientific information he can use in the Nuremberg trials that will take place on July 3rd.

Here's the message Ricardo Delgado sent to **La Quinta Columna followers on Telegram**:

> *Well, good afternoon, everyone.*
>
> *First of all I would like to tell you that the e-mail, with the information in the best and most concise way possible, has been sent to the international lawyer Reiner Fuellmich, giving him room for this latest research that has opened the door for us and we have closed the circle of the 'plandemic' in full rule.*
>
> *All done with technology in combination with nano*
> *best, most succinct and clearest possible way and al*
> *so he can relate everything that is happening in te*
> *head does not explode because, in principle, you kn*
> *measures of restraint of this plandemic and other*
> *keeping an eye on it all. But this is essential. So, at l*
> *account.*

WHAT IS GRAPHENE OXIDE? Main Ingredient in Pfizer, AstraZeneca Vials ...
QUESTION OF THE DAY! Dr. Jane Ruby is a 20-year pharmaceutical researcher and she joined Stew Peters to answer the question everyone is...
redvoicemedia.com

June 2, 2021
Source


Joe Schwarcz PhD | 2 Apr 2021 COVID-19 Videos
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Dr. Joe Schwarcz explains graphene face masks
Watch later
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Source

(54) **REMOTE MAGNETIC MANIPULATION OF NERVOUS SYSTEMS**

(76) Inventor: **Hendricus G. Loos**, 3019 Cresta Way, Laguna Beach, CA (US) 92651

(10) **Patent No.: US 6,238,333 B1**
(45) **Date of Patent: May 29, 2001**

Environmental Toxins Frequencies and Nanoelectronics

Defense Origins

(57) **ABSTRACT**

Apparatus and method for remote manipulation of nervous systems by the magnetic dipole field of a rotating bar magnet. Reliance on modulation of spontaneous spiking patterns of sensory nerve receptors, and exploitation of a resonance mechanism of certain neural circuits, allows the use of very weak magnetic fields. This, together with the large magnetic moments that can be obtained with a permanent bar magnet, makes it possible to effectively manipulate the nervous system of a subject over a distance of several hundred meters, using a small portable battery-powered device. The method can be used in law enforcement for standoff situations.

The method is expected to be effective also on certain animals, and application to animal control is therefore envisioned. The nervous system of mammals is similar to that of humans, so that sensory resonances are expected to exist. The disposition towards the ½ Hz resonance is thought to have its origin in the fetal state, developed through the rythmical sensations caused by the mother's walk, associatively coupled with hormone concentrations. For mammals, one expects a resonance of this type at about the frequency of the mother's relaxed walk. Accordingly, in the present invention, the subjects are mammals.

CNN US Crime + Justice Energy + Environment Extreme Weather Space + Science LIVE TV Edition

US zoos giving special animal coronavirus vaccine to tigers, bears and gorillas

By Neelam Bohra and Christina Zdanowicz, CNN

Updated 3:29 PM ET, Wed July 7, 2021

Working To Make Graphene Biocompatible - Human+

3. Cell Viability and Toxicity

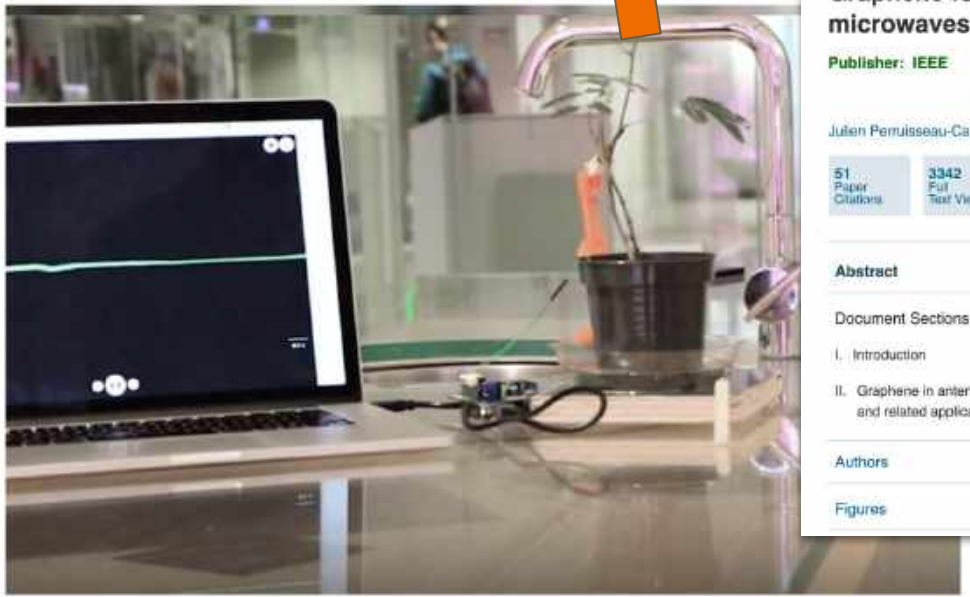
Go to:

Graphene-based nanomaterials can be either biocompatible or toxic to biological cells. The response of living cells to these nanomaterials depends greatly on their layer number, lateral size, purity, dose, surface chemistry, and hydrophilicity. The surface chemistries of graphene nanomaterials vary greatly because of different strategies adopted for their synthesis, and the availability of different molecules or polymers for surface functionalization. Generally, several major cell lines are employed for in vitro evaluation of nanomaterial toxicity, including phagocytes (e.g., macrophages) and non-phagocytic cells (e.g., endothelial and epithelial cells, cancer cells, erythrocytes, etc.). Proper understanding of how graphene nanomaterials interact with those cells is of crucial importance in using them for medical applications.

Source

VIDEO: 'Cyborg Botany' is a Process That Turns Plants Into Electronic Devices

July 5, 2019 Cindy Hanauer Tech Tips



Technology is changing faster than our ability to make sense of it, yet much of it is geared towards dealing with an uncertain future. Each episode of this series curates one genius moment being developed now to improve our lives tomorrow.

Graphene for antenna applications: Opportunities and challenges from microwaves to THz

Publisher: IEEE | Cite This | PDF

Source

Julien Perruisseau-Carrier All Authors

51 Paper Citations | 3342 Full Text Views

Abstract

Document Sections

I. Introduction

II. Graphene in antenna and related applications

Authors

Figures

Abstract:
The use of graphene for antennas and other electromagnetic passives could bring significant benefit such as extreme miniaturization, monolithic integration with graphene RF nanoelectronics, efficient dynamic tuning, and even transparency and mechanical flexibility. Though recently different related theoretical works have been presented, relatively few applications have been proposed and realistically assessed. In this invited talk we will briefly review the main properties of graphene and the state of the art in its theoretical and experimental characterization. Then, we will discuss a number of potential antenna applications from microwave to THz, providing in each case a critical assessment of the benefits, limitations, and remaining issues towards actual real-life implementations. Here we provide a brief overview of different devices and associated developments in our group discussed in the talk, including graphene antennas and reflectarrays at microwave and THz, plasmonic switches, isotropic and anisotropic meta-surfaces, or graphene RF-NEMS.

Source

Source

Prof. Maurizio Prato, leader of Work Package 4, dealing with Health and Environment impact studies, based at Graphene Flagship Partner University of Trieste, said, "The enzymatic degradation of graphene is a very important topic, because in principle, graphene dispersed in the atmosphere could produce some harm. Instead, if there are microorganisms able to degrade graphene and related materials, the persistence of these materials in our environment will be strongly decreased. These types of studies are needed. What is also needed is to investigate the nature of degradation products. Once graphene is digested by enzymes, it could produce harmful derivatives. We need to know the structure of these derivatives and study their impact on health and environment."

HEALTH · COVID-19

U.K. to use A.I. to spot dangerous side effects in the millions of COVID-19 vaccinations it will deliver

BY JEREMY KAHN
November 5, 2020 11:15 AM EST

Source

The British government plans to use artificial intelligence software to spot any potential safety concerns with its planned mass vaccination program for COVID-19.

The U.K. government is expected to approve one or more coronavirus vaccines before the end of the year, and has told the government-run National Health Service to make preparations for a mass vaccination campaign "by Christmas," according to news reports.

But vaccinating the entire British population of almost 68 million people against COVID-19 will pose a number of challenges—one of which will be monitoring those who receive the inoculation for any dangerous side effects.

Even though the vaccines will have undergone testing with thousands of volunteers before they are approved by the British medical regulator, it is possible that those trials will fail to pick up important safety concerns.

And the U.K. Medicines and Healthcare Products Regulatory Agency (MHRA), the country's main medical regulator, is worried that its current process for reporting "adverse events" for medicines will be incapable of handling both the potential number of side effect reports—and too slow to pick up on any worrisome trends.

This is a grand experiment to launch the Internet of Bodies.

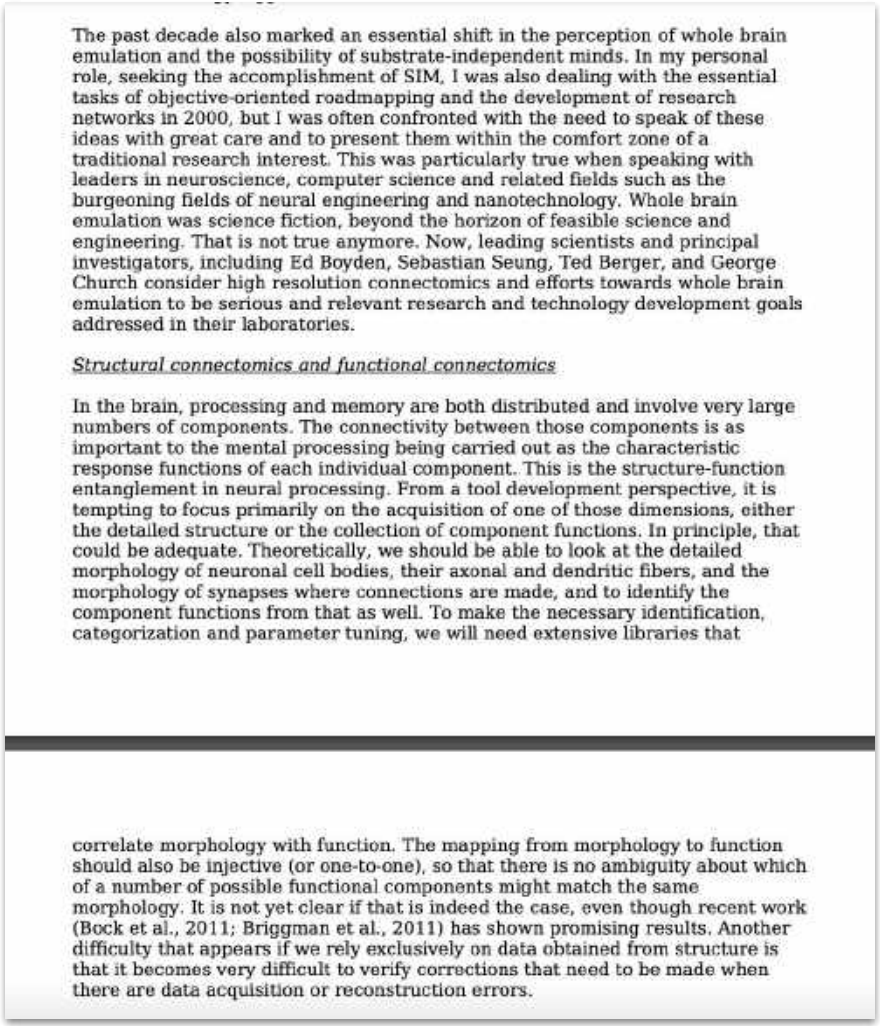
Uploading to substrate-independent minds

Dr. Randal A. Koene
PhD, Director of Analysis Halcyon Molecular, Founder Carboncopies.org

In this paper we will use mind as the term to designate the totality and manner in which our thoughts take place. We use the term brain to refer to the underlying mechanics, the substrate and the manner in which it supports the operations needed to carry out thoughts. For example, this includes the raising and lowering of potential across the neural membrane in response to chemical flux.

Your mind, but not constrained to the biological brain

Source



The past decade also marked an essential shift in the perception of whole brain emulation and the possibility of substrate-independent minds. In my personal role, seeking the accomplishment of SIM, I was also dealing with the essential tasks of objective-oriented roadmapping and the development of research networks in 2000, but I was often confronted with the need to speak of these ideas with great care and to present them within the comfort zone of a traditional research interest. This was particularly true when speaking with leaders in neuroscience, computer science and related fields such as the burgeoning fields of neural engineering and nanotechnology. Whole brain emulation was science fiction, beyond the horizon of feasible science and engineering. That is not true anymore. Now, leading scientists and principal investigators, including Ed Boyden, Sebastian Seung, Ted Berger, and George Church consider high resolution connectomics and efforts towards whole brain emulation to be serious and relevant research and technology development goals addressed in their laboratories.

Structural connectomics and functional connectomics

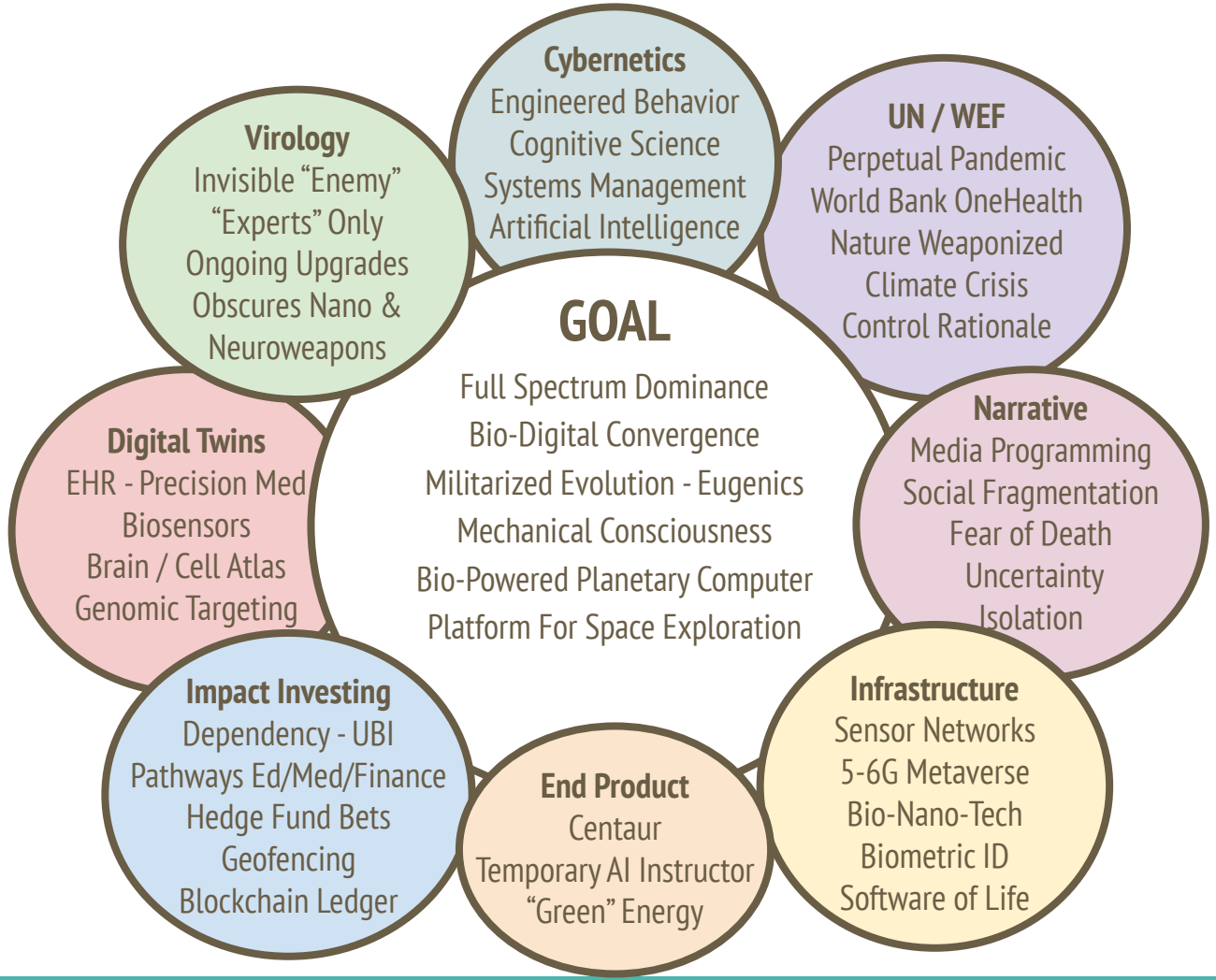
In the brain, processing and memory are both distributed and involve very large numbers of components. The connectivity between those components is as important to the mental processing being carried out as the characteristic response functions of each individual component. This is the structure-function entanglement in neural processing. From a tool development perspective, it is tempting to focus primarily on the acquisition of one of those dimensions, either the detailed structure or the collection of component functions. In principle, that could be adequate. Theoretically, we should be able to look at the detailed morphology of neuronal cell bodies, their axonal and dendritic fibers, and the morphology of synapses where connections are made, and to identify the component functions from that as well. To make the necessary identification, categorization and parameter tuning, we will need extensive libraries that

correlate morphology with function. The mapping from morphology to function should also be injective (or one-to-one), so that there is no ambiguity about which of a number of possible functional components might match the same morphology. It is not yet clear if that is indeed the case, even though recent work (Bock et al., 2011; Briggman et al., 2011) has shown promising results. Another difficulty that appears if we rely exclusively on data obtained from structure is that it becomes very difficult to verify corrections that need to be made when there are data acquisition or reconstruction errors.

Using Graphene To Turn Us Into SIMs

"To make the necessary identification, categorization and parameter tuning, we will need **extensive libraries** (of neurons) that correlate morphology with function." Source

"Learning" Us From The Inside Out To Break The Code of Life


Cybernetics
Engineered Behavior
Cognitive Science
Systems Management
Artificial Intelligence
UN / WEF
Perpetual Pandemic
World Bank OneHealth
Nature Weaponized
Climate Crisis
Control Rationale
Virology
Invisible "Enemy"
"Experts" Only
Ongoing Upgrades
Obscures Nano &
Neuroweapons
GOAL
Full Spectrum Dominance
Bio-Digital Convergence
Militarized Evolution - Eugenics
Mechanical Consciousness
Bio-Powered Planetary Computer
Platform For Space Exploration
Digital Twins
EHR - Precision Med
Biosensors
Brain / Cell Atlas
Genomic Targeting
Narrative
Media Programming
Social Fragmentation
Fear of Death
Uncertainty
Isolation
Impact Investing
Dependency - UBI
Pathways Ed/Med/Finance
Hedge Fund Bets
Geofencing
Blockchain Ledger
End Product
Centaur
Temporary AI Instructor
"Green" Energy
Infrastructure
Sensor Networks
5-6G Metaverse
Bio-Nano-Tech
Biometric ID
Software of Life

Old Parkland Debate Room

Debate Chamber, 75 Seats

The Internet Of Bodies Is A Gateway To Transhumanism

Lincoln Cannon
Technology Vision and Leadership
Salt Lake City Metropolitan Area · 500+ connections

Join to Connect

Thrivous
Brigham Young University
Websites

About

Lincoln Cannon is a veteran leader in the business of technology. He has worked for large enterprises, including Ancestry, Merit Medical, Novell, Symantec, and WordPerfect. He has worked at startups, including Discerner and The World Table. And he has worked with investment firms, including the OS Fund. He is presently CEO at Thrivous, the human enhancement company.

Lincoln received formal education in business and the humanities. He holds an MBA and graduated top tier from the Marriott School of Business. He holds a degree in philosophy and graduated with honors from Brigham Young University. He is also an alumnus of the Exponential Medicine executive program at Singularity University.

LINCOLN CANNON

Lincoln is a founder of the Mormon Transhumanist Association and the Christian Transhumanist Association, the world's largest advocacy networks for ethical use of technology and religion to enhance human abilities. He also formulated the New God Argument, a logical argument for faith in God that is popular among religious Transhumanists.

Lincoln is a veteran in the business of technology. He has worked for large enterprises, including Ancestry, Merit Medical, Novell, Symantec, and WordPerfect. He has worked at startups, including Discerner and The World Table. And he has worked with investment firms, including the OS Fund. He is presently CEO at Thrivous, the human enhancement company.

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Lincoln is a lifelong computer programmer. He learned to code as a child before the Internet. He eventually taught himself web development, including Java and the .NET framework. And as computers and the Internet have continued to evolve, his projects have expanded to mobile web, cloud platforms, social media, and blockchain.

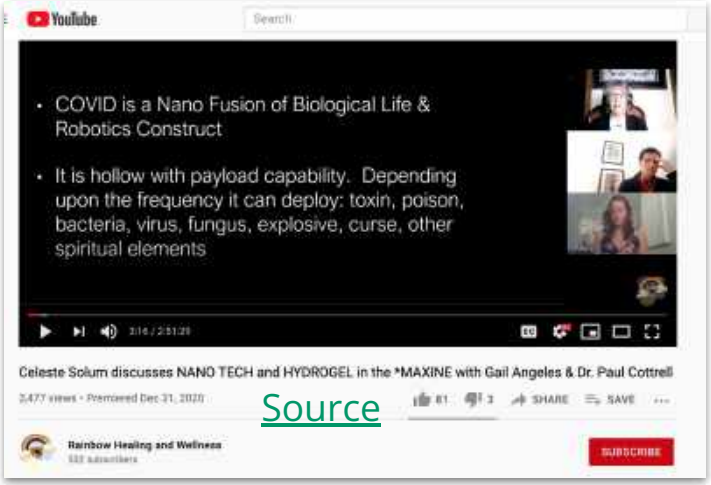
Transfiguration, Resurrecting The Dead, Digital Twins A Coup Of God

Start of Utica Talk

Maple Nation - Gratitude

In the essay "Maple Sugar Moon," Kimmerer narrates her family's first season of tapping Maples and gathering sap and boiling the sap down until it becomes maple syrup. She and her daughters tap "seven Maples, big ones, planted almost two hundred years ago to shade the house" (63). Amazed by the abundance of sap, she builds a wood fire under her backyard evaporator, which is "just my old canning kettle, set on an oven rack, spanning stacks of cinder blocks scavenged from the barn." She spends the "now-freezing night" outdoors, feeding the fire to keep the sap boiling, as "steam billows from the pot, covering and uncovering the moon in the dry, cold sky" (66).

With Input From Bantam Joe, Elana Freeland, Celeste Solum, 5th Column, Amazing Polly, Stephers, Sofia Smallstorm, & Cybertorture Victims



Source

Source

Source

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Source

The intent of predator energy is to **conquer the universe**. This is about empire and domination.

It seeks a coup against god, the creator, source.

To accomplish this it wants to **unlock the key to life** - to become the top coder.

Triggering **the Singularity** is part of its strategy - artificial general intelligence.

It must “learn” all beings **harvesting their bodies, minds, and spirits as data**.

It hopes to **flatten an expansive 3-4-5D universe** down to 2D so it can be controlled more easily.

This transition involves cybernetics, systems engineering, nanoelectronics, ubiquitous computing environments, electromagnetic frequencies, and the weaponization of the atmosphere.

It wishes us to become robots and robots people - **Human+, transhumanism, centaurs**.

Graphene, the world’s first 2D material, is an important tool it is using.

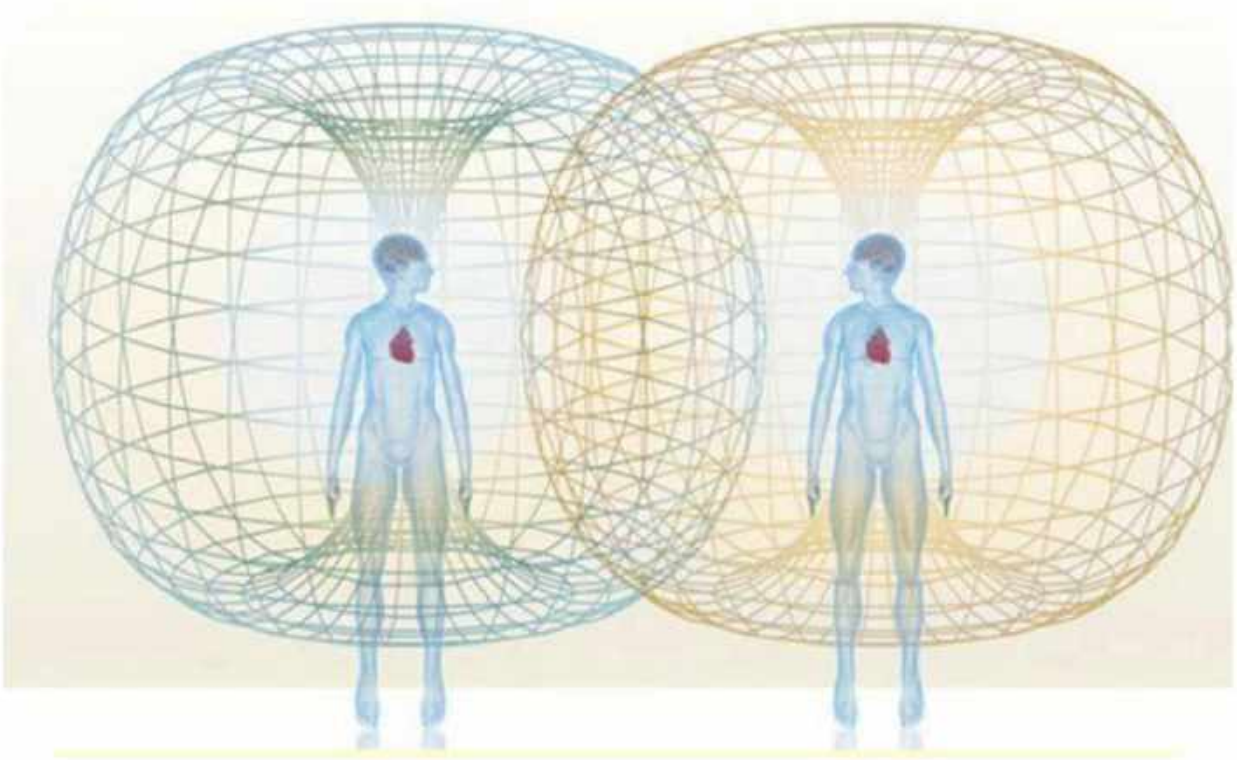
Digital twins seek to usurp our birthright, breaking real relationships to land and to one another.

Sociopaths will use faux **“sustainability” and “social justice”** to push us onto gamified pathways, so hedge funds and impact investors can bet on our futures - rats in a maze controlled through digital nudges.

This is not our destiny. Love will win, but we must stand as keepers of life and state we are not afraid.

The Empire Is Attempting To Jam Our Signals

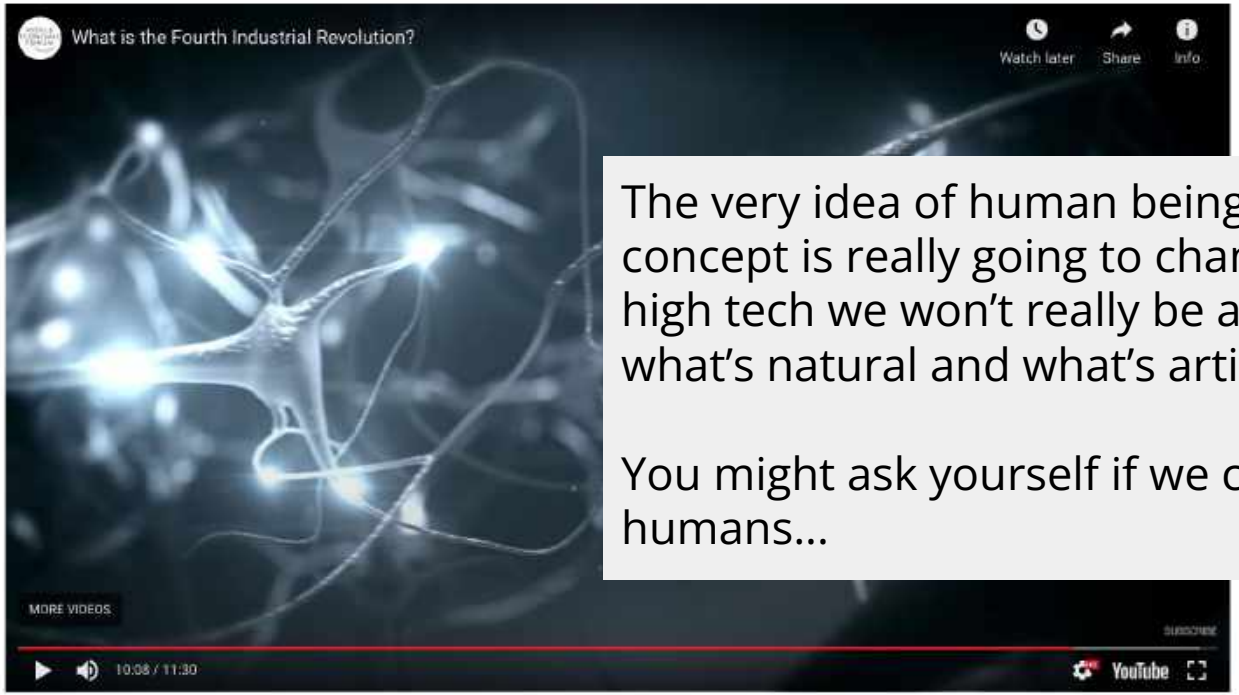
We Are Navigating An Energetic Engagement



Sacred Confronts Profane

WORLD ECONOMIC FORUM Agenda Platforms Reports Events Videos English Sign-in

Documentary | The Fourth Industrial Revolution

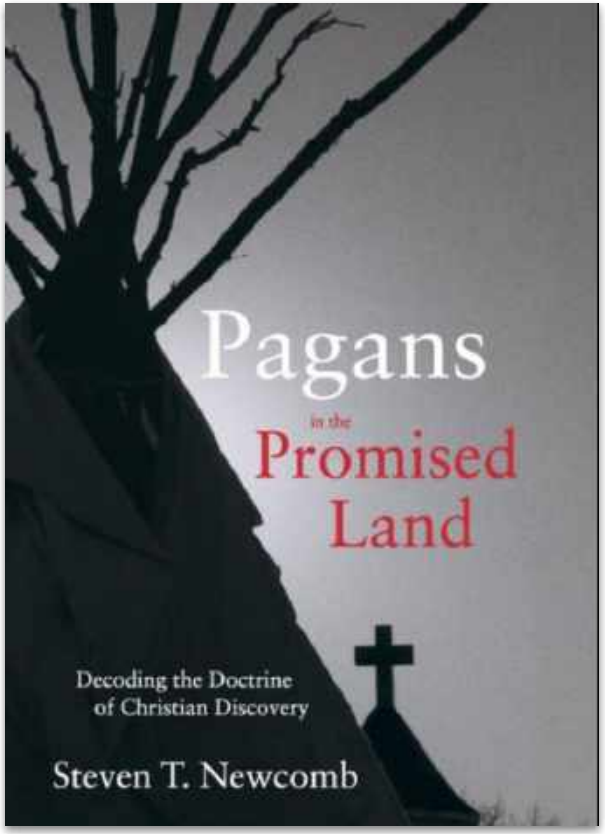


The very idea of human being some sort of natural concept is really going to change. Our bodies will be so high tech we won't really be able to distinguish between what's natural and what's artificial…

You might ask yourself if we can get to be super humans…

18 Jul 2016

A History of Domination - Collective Trauma



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UNCATEGORIZED

Doctrine of Discovery Redux: The Vatican's Plans For Impact Investing

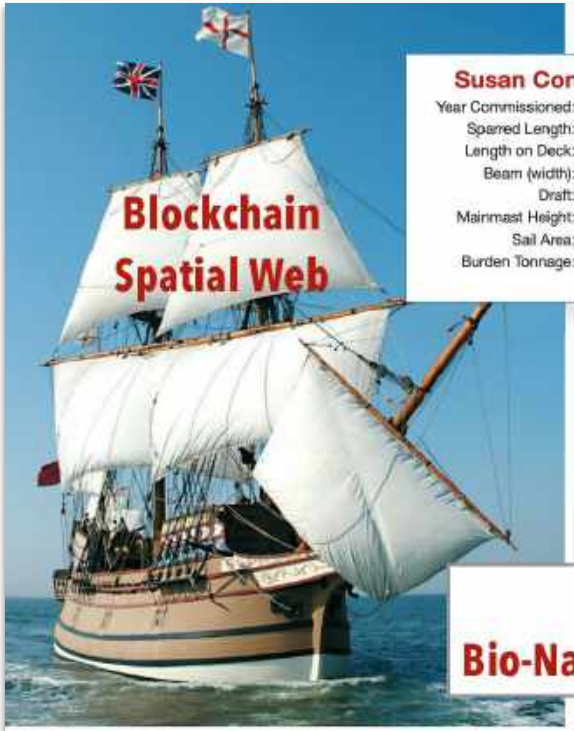
POSTED ON JUNE 21, 2019 BY WRENCHINTHEGEARS

21 Jun

Sr. Helen J. Alford, O.P.

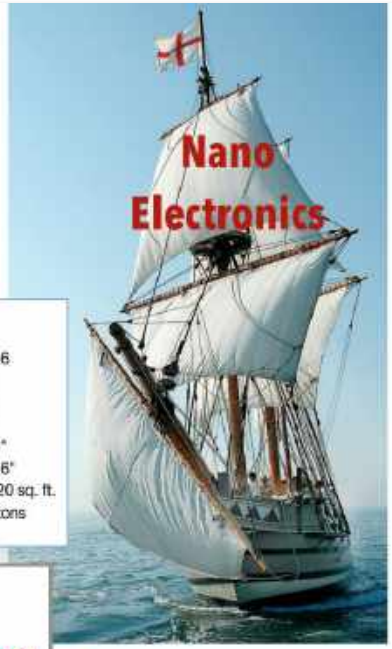
9 Impact Investing in the Light of Evangelii Gaudium: Sr. Helen J. Alford

I watched the video of Helen Alford's talk months ago, and I still can't get it out of my head. A Dominican nun trained in "human-centered technology" who holds a PhD in engineering management from Cambridge regaling a room full of aspiring impact investors on how the Catholic church plans to be the conscience of big business in the coming decades. Even though she notes there are many peace and justice folks who believe wading into human capital impact investing is akin to talking up with the devil, well...circumstances require it, so better just get with the program.



Susan Constant

Year Commissioned:	1991
Sparred Length:	116'
Length on Deck:	82'
Beam (width):	24' 11"
Draft:	11' 9"
Mainmast Height:	95'
Sail Area:	3,900 sq. ft.
Burden Tonnage:	120 tons



Godspeed

Year Commissioned:	2006
Sparred Length:	88'
Length on Deck:	65'
Beam (width):	17'
Draft:	7' 3"
Mainmast Height:	71' 6"
Sail Area:	2,420 sq. ft.
Burden Tonnage:	40 tons

The Age of Bio-Nano-Tech Imperialism

Discovery

Year Commissioned:	2007
Sparred Length:	68'
Length on Deck:	50' 10"
Beam (width):	14'
Draft:	6' 6"
Mainmast Height:	59'
Sail Area:	1,160 sq. ft.
Burden Tonnage:	20 tons

Re-creations of the three ships that brought America's first permanent English colonists to Virginia in 1607 are on exhibit at Jamestown Settlement, a living-history museum of 17th-century Virginia.

The original *Susan Constant*, *Godspeed* and *Discovery* set sail from London on December 20, 1606, bound for Virginia. The ships carried 105 passengers and 39 crew members on the four-month transatlantic voyage. A 17th-century source noted that a total of 71 people were aboard the

While one of the

We don’t recognize new technologies.

Congress / Bills / H.R. 2977 (107th)

H.R. 2977 (107th): Space Preservation Act of 2001

Call or Write Congress | Add to List | Tweet | Share 239

Overview | Summary | Details | Text | Study Guide

To preserve the cooperative, peaceful uses of space for the benefit of all humankind by permanently prohibiting the basing of weapons in space by the United States, and to require the President to take action to adopt and implement a world treaty banning space-based weapons.

The bill's titles are written by its sponsor.

Sponsor and status

Dennis Kucinich

Sponsor. Representative for Ohio's 10th congressional district. Democrat.


H. R. 2977

A BILL

Introduced Oct 2, 2001
107th Congress (2001–2002)

Status **Died in a previous Congress**

This bill was introduced on October 2, 2001, in a previous session of Congress, but it did not receive a vote.

(B) Such terms include exotic weapons systems such as--

(i) electronic, psychotronic, or information weapons;

(ii) chemtrails;

(iii) high altitude ultra low frequency weapons systems;

(iv) plasma, electromagnetic, sonic, or ultrasonic weapons;

(v) laser weapons systems;

(vi) strategic, theater, tactical, or extraterrestrial weapons; and

(vii) chemical, biological, environmental, climate, or tectonic weapons.

SEC. 7. DEFINITIONS.

In this Act:

(1) The term 'space' means all space extending upward from an altitude greater than 60 kilometers above the surface of the earth and any celestial body in such space.

(2)(A) The terms 'weapon' and 'weapons system' mean a device capable of any of the following:

(i) Damaging or destroying an object (whether in outer space, in the atmosphere, or on earth) by--

(I) firing one or more projectiles to collide with that object;

(II) detonating one or more explosive devices in close proximity to that object;

(III) directing a source of energy (including molecular or atomic energy, subatomic particle beams, electromagnetic radiation, plasma, or extremely low frequency (ELF) or ultra low frequency (ULF) energy radiation) against that object; or

(IV) any other unacknowledged or as yet undeveloped means.

amaging or destroying, a person (or the biological physical and economic well-being of a person)--

the means described in clause (i) or subparagraph

based, sea-based, or space-based systems using psychotronic, sonic, laser, or other energies s or targeted populations for the purpose of agement, or mind control of such persons or

r biological agents in the vicinity of a person.

ns such as--

nation weapons;

weapons systems;

or ultrasonic weapons;

(v) laser weapons systems;

(vi) strategic, theater, tactical, or extraterrestrial weapons; and

(vii) chemical, biological, environmental, climate, or tectonic weapons.

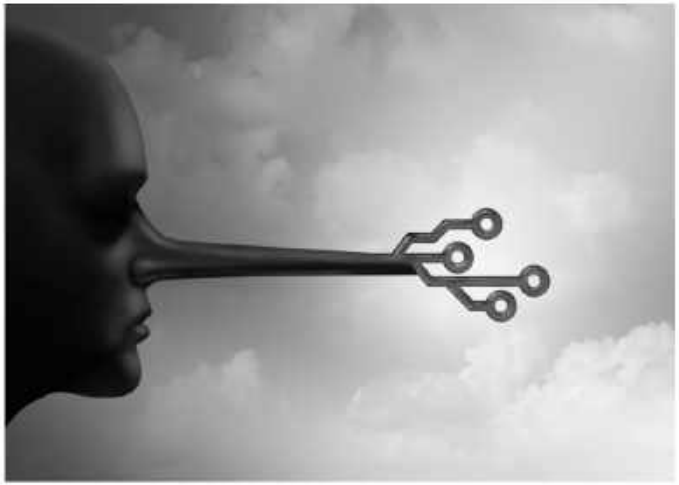
(C) The term 'exotic weapons systems' includes weapons designed to damage space or natural ecosystems (such as the ionosphere and upper atmosphere) or climate, weather, and tectonic systems with the purpose of inducing damage or destruction upon a target population or region on earth or in space.

Source

Manifestation Under The Space Fence

Fear And Nano To Jam Our Signals

Part 4: The Scent of Fear ~ Musings on Fear and Olfaction



"The plague was nothing; fear of the plague was much more formidable."

– Henri Poincaré, French mathematician and theoretical physicist (1854-1912)

Part 4 of the Series, "Of Monkeys, Mice and Men: From Natural Bodies to Digitized Bots"

Curiously, the Air Force Office of Scientific Research (AFOSR), which aims to *"probe today's technology limits and ultimately lead to future technologies with DoD relevance"* (see **here** the plethora of technologies such as digital twinning, nanophotonics, nanoenergetics, genomics, membrane-based electronics, and advanced bioprogrammable nanomaterials), has an internal program called **"Trust and Influence."** One of the main reported goals of this program is to *"advance the science of social influence within the context of national security."* In 2015, AFOSR's Trust and Influence Program co-funded **Noam Sobel** and his research team in the **Department of Neurobiology at the Weizmann Institute of Science** to explore human handshaking and the unconscious human response to examine another's odor. Essentially, the researchers confirmed their initial hypothesis, that when we shake hands with a stranger, we inadvertently smell the stranger's chemical signals. Researchers concluded that this instinctual and subliminal detection mechanism is not only meaningful and adaptive in humans, but that people will *actively* seek out this odor signal transfer to convey social information. This brief video (see below) demonstrates a portion of their **2015 study**, revealing how individuals unconsciously explore the scent of others with whom they have engaged in an overt physical greeting.

Bio-Tech Is Capturing Chemosensory Communication

Clearing the Air: Febreze and the J&J Jab

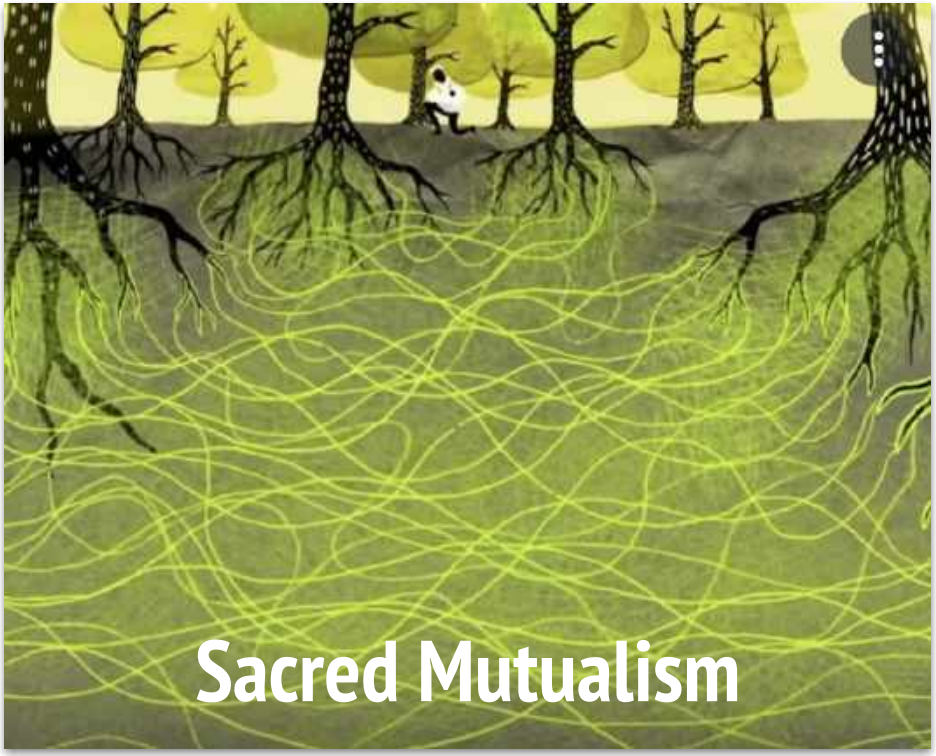
Raise your hand if you have a bottle of Febreze air freshening or fabric spray in your house. Okay, you can put your hands down. Actually, I have a feeling not too many POM readers have Febreze laying around the house.

candidate production. Getting these medicines to market faster cannot only treat the current virus' threat to global health, but also help prevent the full slew of coronaviruses in this family." As a pharmaceutical excipient in injectables, Kleptose has been studied for its **application to assist lipid soluble drugs in crossing the blood-brain barrier** (BBB). It should also be noted that cyclodextrins, are viewed as **"molecular shape sorters"** with unique ion-current flow (conductivity), and have been studied for their application in humans as **embedded electrochemical biosensors** for biomedical and pharmaceutical research . . .

Cue the **Johnson & Johnson** (J&J) jab manufactured by its pharmaceutical brand, **Janssen** . . .

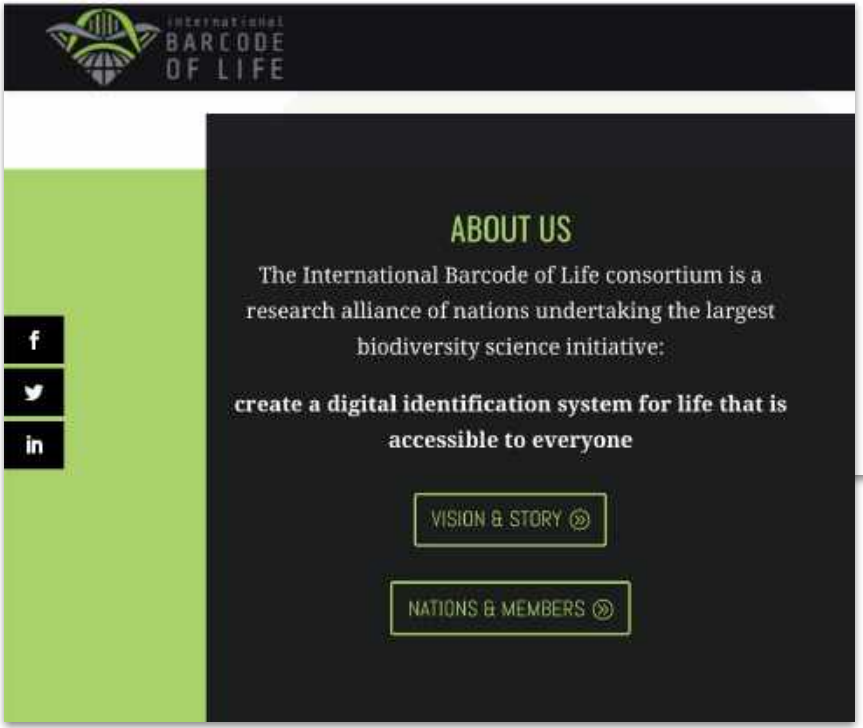
One of the **reported ingredients** in the Janssen (J&J) COVID-19 injectable is HPBCD — the very same peculiar ingredient used in Febreze products, and studied in the clinical trials for Niemann-Pick disease type C (**Janssen provided the HPBCD drug, VTS-270, for the trials**). Following is the full **publicly revealed list of ingredients** (also see the FDA's Fact Sheet for Recipients and Caregivers **here**) in the current Janssen COVID-19 vaccine:

Sense of Community And Webs Of “Trust”



Keepers Of Natural Life

Turning Nature Into A Programmable Machine



Information Cyberwarfare Confusing Domestic Populations

EXECUTIVE SUMMARY

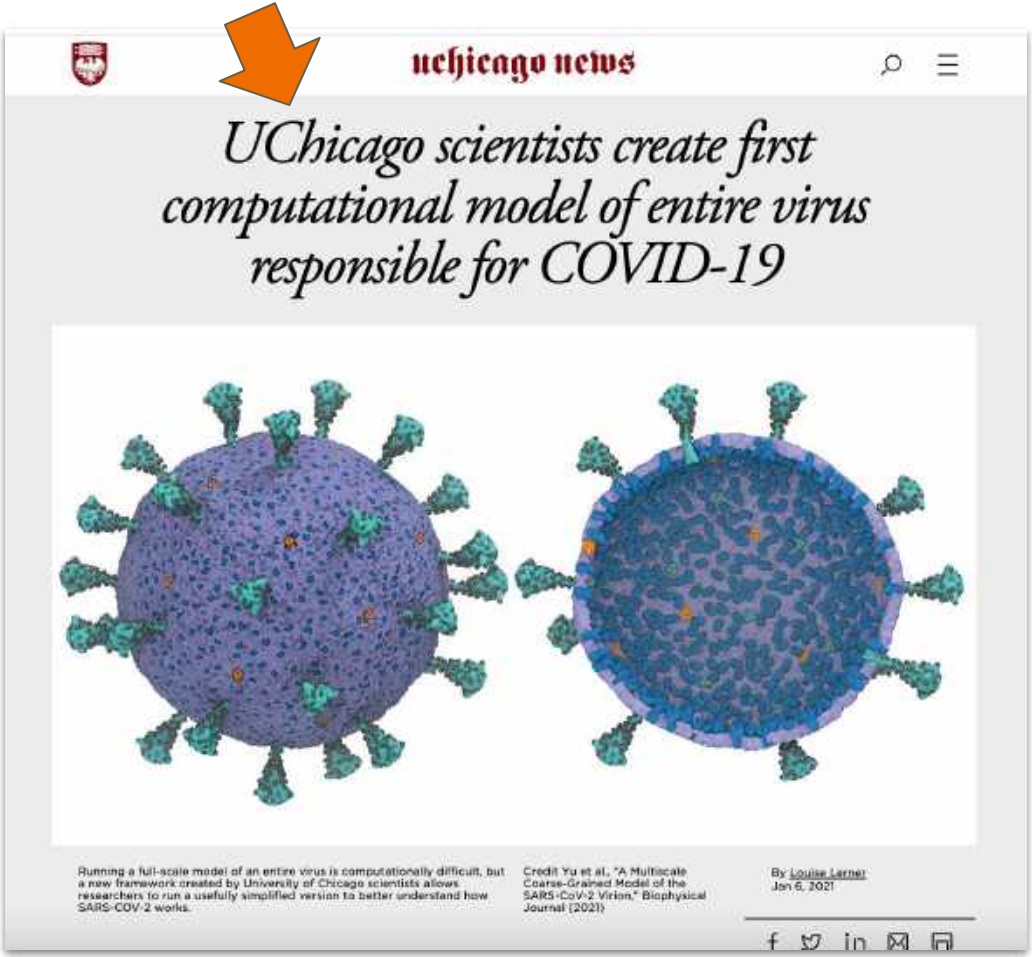
Lt Gen Jay W. Kelley
Commander, Air University
Maxwell Air Force Base, Alabama

Prepared by
2025 Support Office
Air University
Air Education and Training Command

Developed by
Air University Press
Educational Services Directorate
College of Aerospace Doctrine, Research, and Education
Maxwell Air Force Base, Alabama

In 2025 most major battles among advanced postindustrial societies may not be to capture territory. They may not even occur on the earth's surface. But if they do, armies and navies will deploy and maneuver with the privilege of air and space power. More than likely, the major battles among these societies will occur in space or cyberspace. Those who can control the flow of knowledge will be advantaged. It is not information itself which is important but the architecture of and infrastructure for its collection, processing, and distribution which will be critical. This is not to say that surface conflicts reminiscent of the slaughter by machetes in Rwanda will not continue in the future. They probably will. But the US need not fight those adversaries in those places with those weapons—even when we must become involved.

Source



Weaponized Biological Modeling
Economic Modeling
Human Futures Trading
Digital Identity - Blockchain

Heckman Equation

www.hceconomics.org

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HCEO is run by the **Center for the Economics of Human Development**, and funded by the **Institute for New Economic Thinking**.

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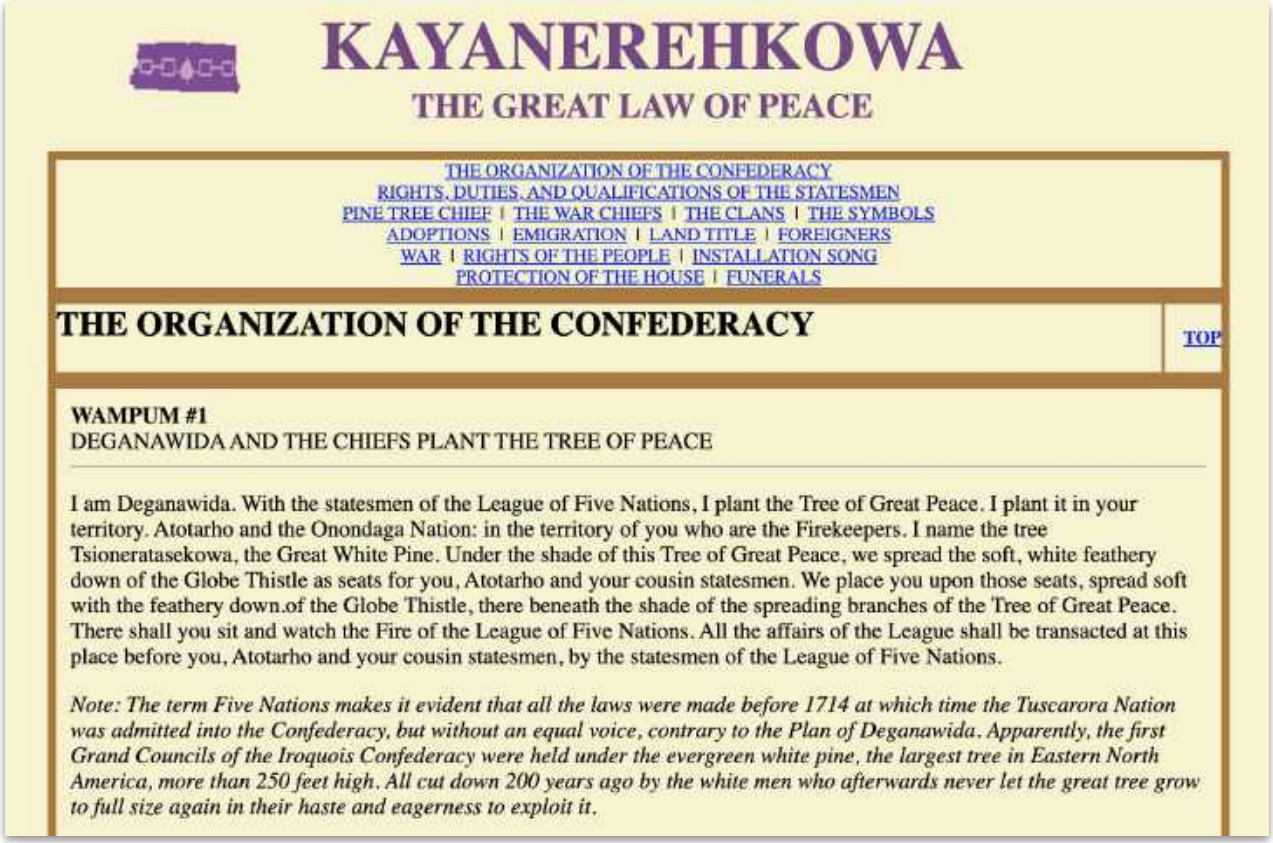
“Sustainability” Leveraged Towards Cybernetics

Systems Engineering Using Decentralized Ledgers

We Stand Of Keepers Of ALL Natural Life
We Are Powerful; Our Intentions Matter

Global Peace Movement Against AI - End Game Settler Colonizer



KAYANEREHKOWA

THE GREAT LAW OF PEACE

THE ORGANIZATION OF THE CONFEDERACY

TOP

WAMPUM #1
DEGANAWIDA AND THE CHIEFS PLANT THE TREE OF PEACE

I am Deganawida. With the statesmen of the League of Five Nations, I plant the Tree of Great Peace. I plant it in your territory. Atotarho and the Onondaga Nation: in the territory of you who are the Firekeepers. I name the tree Tsioneratasekowa, the Great White Pine. Under the shade of this Tree of Great Peace, we spread the soft, white feathery down of the Globe Thistle as seats for you, Atotarho and your cousin statesmen. We place you upon those seats, spread soft with the feathery down.of the Globe Thistle, there beneath the shade of the spreading branches of the Tree of Great Peace. There shall you sit and watch the Fire of the League of Five Nations. All the affairs of the League shall be transacted at this place before you, Atotarho and your cousin statesmen, by the statesmen of the League of Five Nations.

Note: The term Five Nations makes it evident that all the laws were made before 1714 at which time the Tuscarora Nation was admitted into the Confederacy, but without an equal voice, contrary to the Plan of Deganawida. Apparently, the first Grand Councils of the Iroquois Confederacy were held under the evergreen white pine, the largest tree in Eastern North America, more than 250 feet high. All cut down 200 years ago by the white men who afterwards never let the great tree grow to full size again in their haste and eagerness to exploit it.

Love Has Already Won, We Just Have to Do The Work!

Briar Rose - We Are Not Afraid

Leveraging The Singularity To Conquer The Universe

hero^x EXPLORE LAUNCH CHALLENGE HOW IT WORKS COVID-19 SEARCH SIG

Evolution 2.0 Prize

131,566 Share Follow (1.8K)

Artificial Intelligence + Origin of Life Prize, $10 Million USD

Where did life and the genetic code come from? Can the answer build superior AI? The #1 mystery in science now has a $10 million prize.

Data Science Engineering Healthcare Technology

Stage: Enter

Prize: $10,000,000

3,4,5-D Universe Flattened > 2-D Metaverse of Information

DIGITALNATIVE.SUBSTACK.COM

Reality Privilege and Living Your Life Online

How Virtual Reality, Gaming, and Crypto Pave the Road to the...

Revisiting Darwinian Evolution - Life As Design Not Chance

6. Because information is created top-down, existing information has to be decoded first before it can be edited or changed in any beneficial way. Edits have to take place within the layer that they are intended to affect. Edits made on the wrong layer, or noise added, only destroys the information packet.

This means that within the genome, "cellular genetic engineering" must also be done top-down, not bottom-up. This completely overturns the traditional Darwinian assumption of random mutation. Random mutations ALWAYS destroy Internet packets and they always destroy DNA.

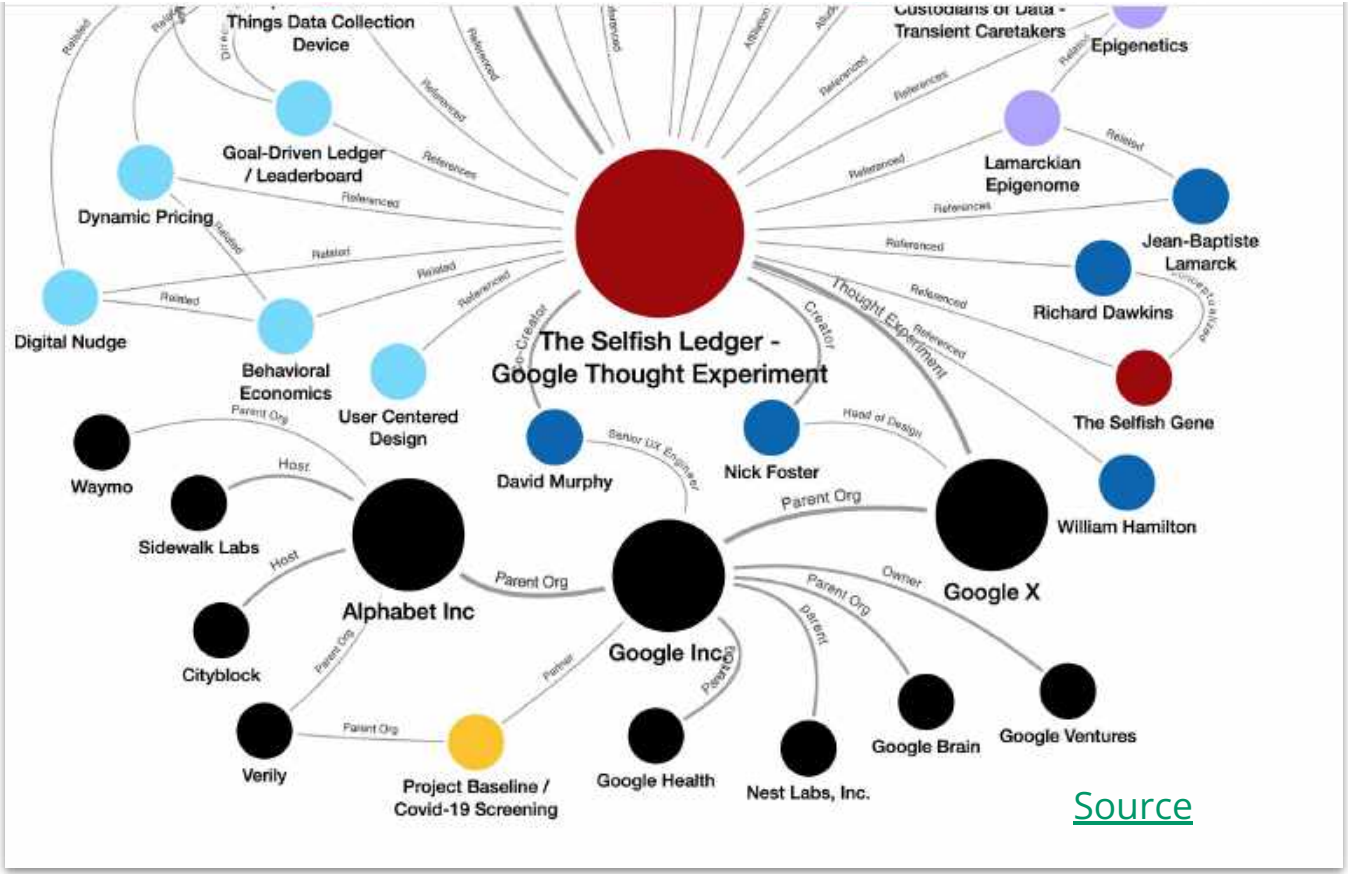
Beneficial mutations are engineered by the genome via intelligent algorithm, not random mutation.

Communication theory proves that living things were designed; that they are purposeful (teleological); that the information in DNA operates top-down not bottom up; and that **evolution is internally directed by the cell and the genome, not by external damage from the environment.**

This turns all the former assumptions of materialistic biology upside down. Everything we know about the information age, computers and the Internet shows us that living things are designed and evolve according to an internal genetic program, not random chance.

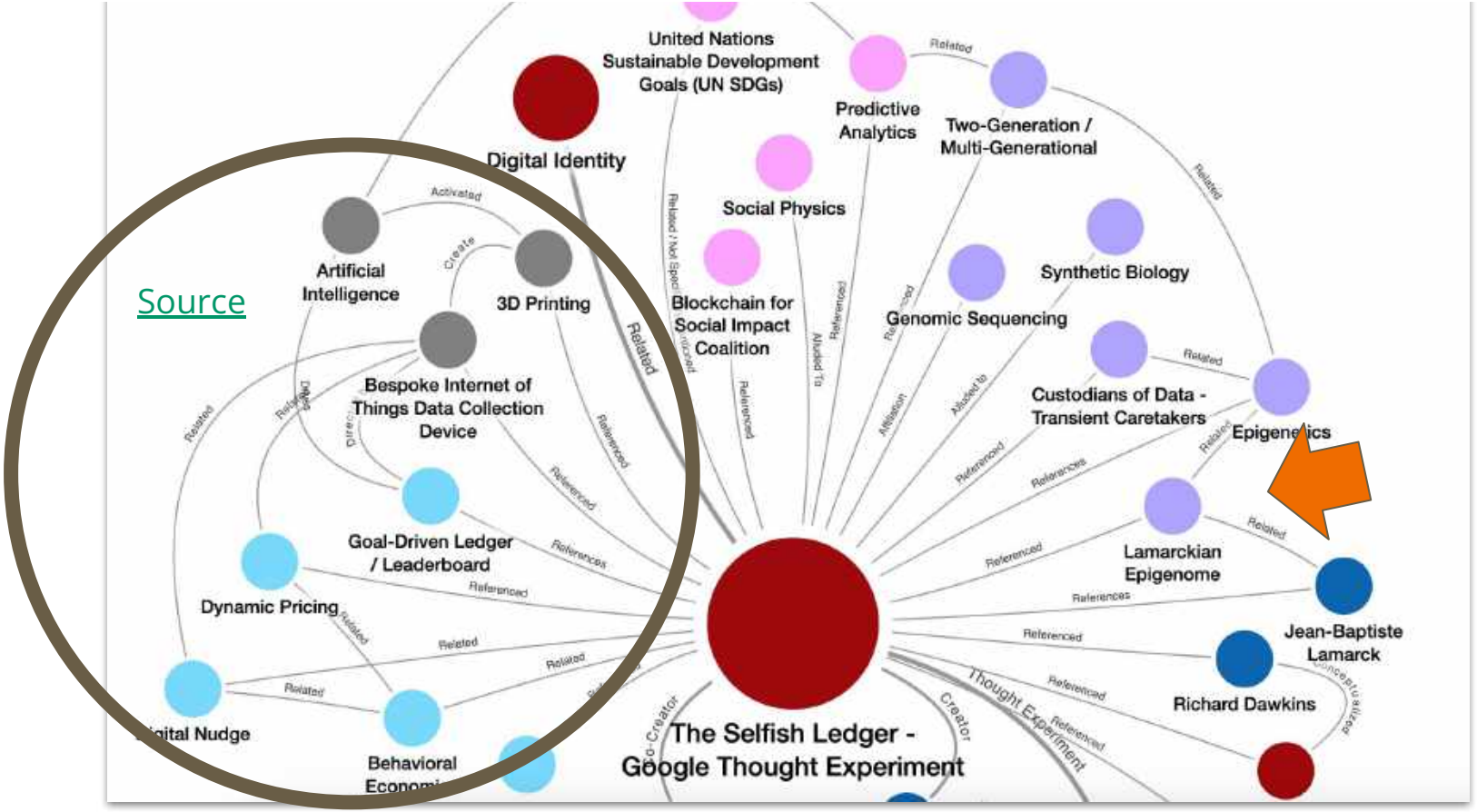
Perry Marshall

Biosensor - Wearable Tech - Smart City Soul Harvest By Google

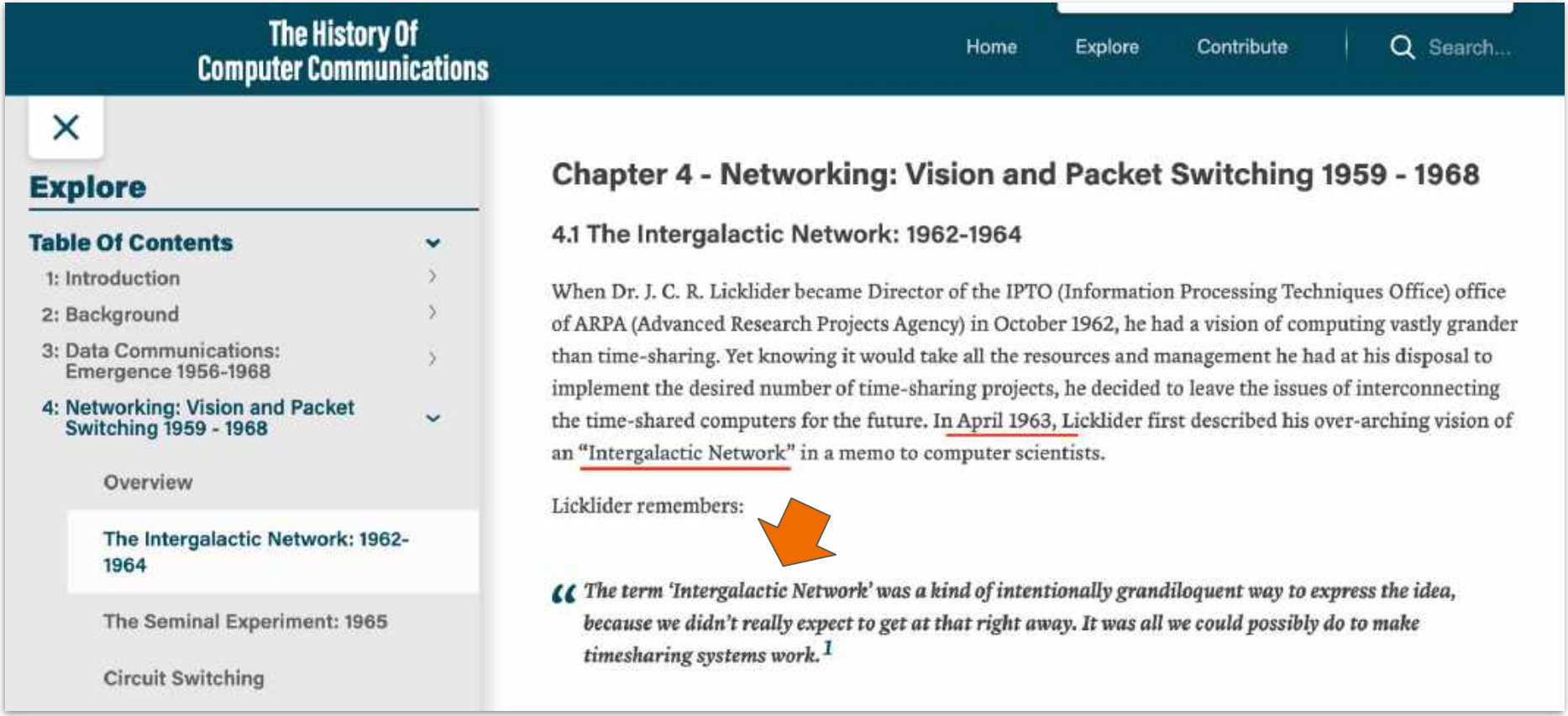


Source

Biosensor - Wearable Tech - Smart City Soul Harvest By Google



Licklider's Plan - Intergalactic Network



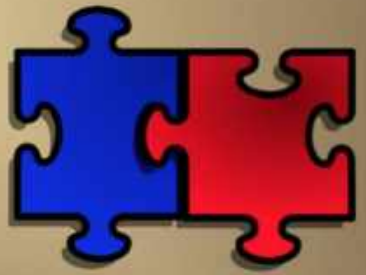
A CONFERENCE

THE VIRAL PANOPTICON: PUBLIC HEALTH'S PRISON PLANET

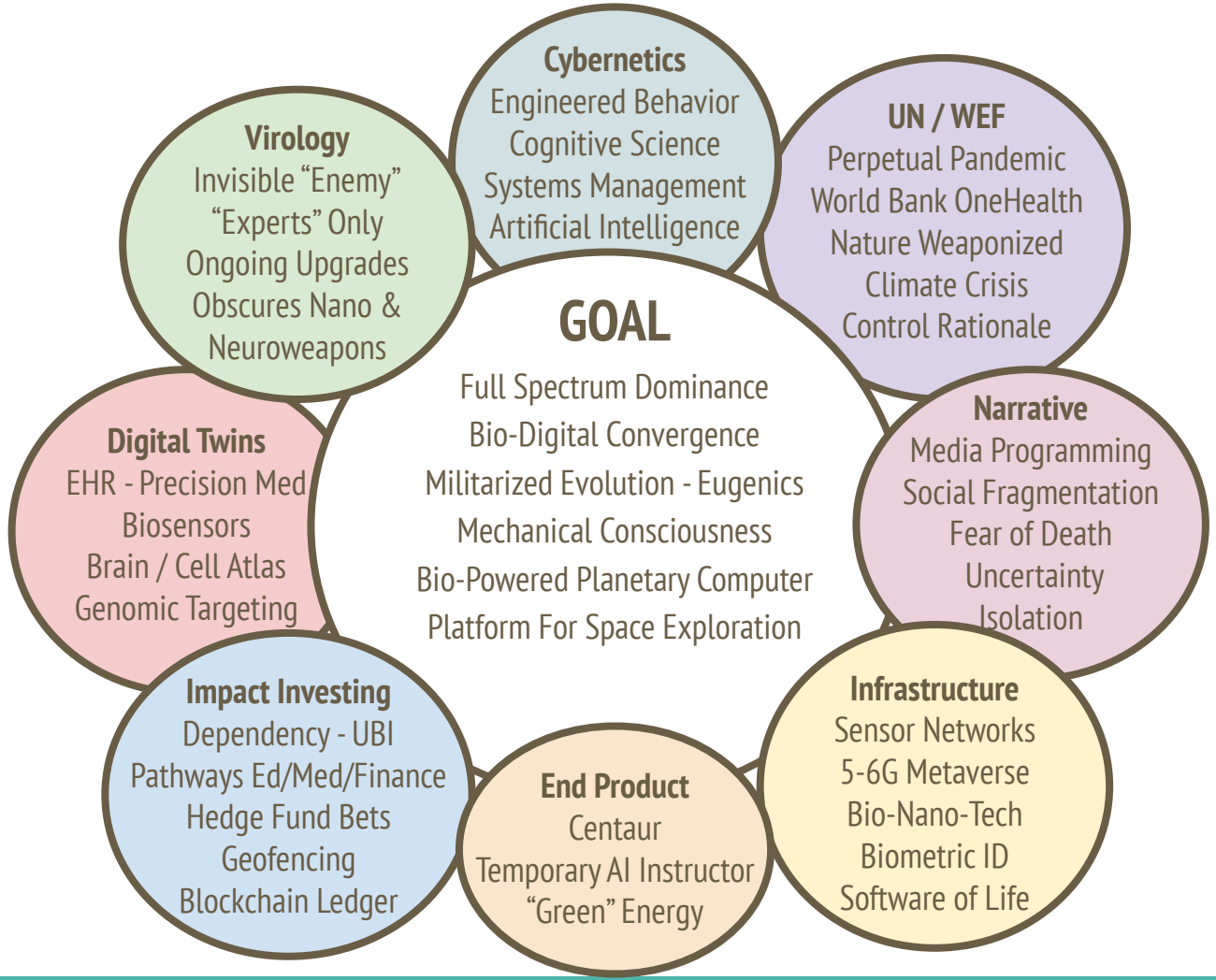
- Why is the field of virology an effective weapon in coercing global systems change?
- Has the Fourth Industrial Revolution led scientists to betray natural life on Earth?
- How do hedge funds benefit from medical apartheid and the global biosecurity state rollout?
- What would true healing look like?
- How do we break Davos' spell and halt COVID's *coup d'état*?

PRESENTERS:

Tom Cowan, M.D.
Andrew Kaufman, M.D.
Alison McDowell



Saturday, July 10, 2021
10:00 AM to 6:00 PM
6 Cottage Place, Utica, NY
(This is an in-person event. It will not be live-streamed.)


Cybernetics
Engineered Behavior
Cognitive Science
Systems Management
Artificial Intelligence
UN / WEF
Perpetual Pandemic
World Bank OneHealth
Nature Weaponized
Climate Crisis
Control Rationale
Virology
Invisible "Enemy"
"Experts" Only
Ongoing Upgrades
Obscures Nano &
Neuroweapons
GOAL
Full Spectrum Dominance
Bio-Digital Convergence
Militarized Evolution - Eugenics
Mechanical Consciousness
Bio-Powered Planetary Computer
Platform For Space Exploration
Digital Twins
EHR - Precision Med
Biosensors
Brain / Cell Atlas
Genomic Targeting
Narrative
Media Programming
Social Fragmentation
Fear of Death
Uncertainty
Isolation
Impact Investing
Dependency - UBI
Pathways Ed/Med/Finance
Hedge Fund Bets
Geofencing
Blockchain Ledger
End Product
Centaur
Temporary AI Instructor
"Green" Energy
Infrastructure
Sensor Networks
5-6G Metaverse
Bio-Nano-Tech
Biometric ID
Software of Life

Working Group 1

Discussion

【Concept of MS Goal candidate】

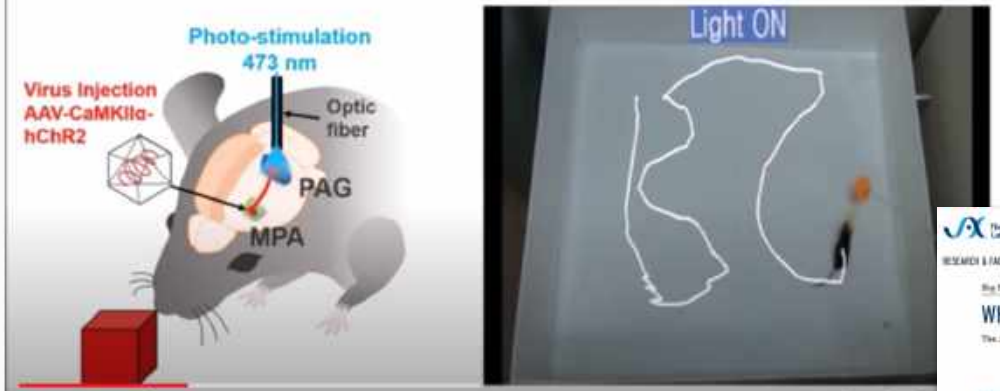
- By 2050, realization of a society in which human beings can be free from their limitations of body, brain, space, and time with harmonious empowerment.

Cybernetics, Free Will, And The Internet of Bodies

The billionaires own the scientists who see us as talking mice.

YouTube [Source](#) Search

Reproduce the object-craving behavior using optogenetics technology (MPA–vPAG circuit photostimulation)

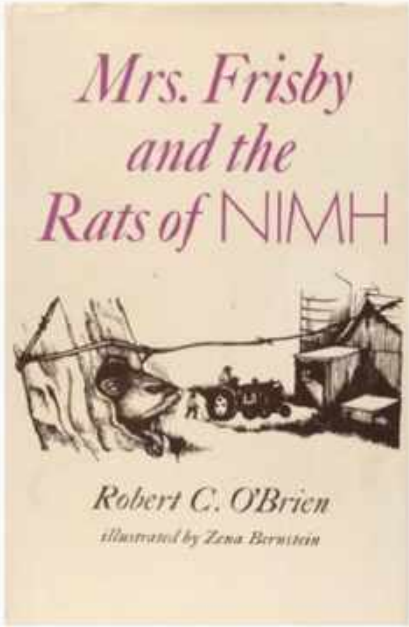


MIDAS System (MPA Induced Drive Assisted Steering)

11,389 views • Mar 18, 2018 53 5 SHARE

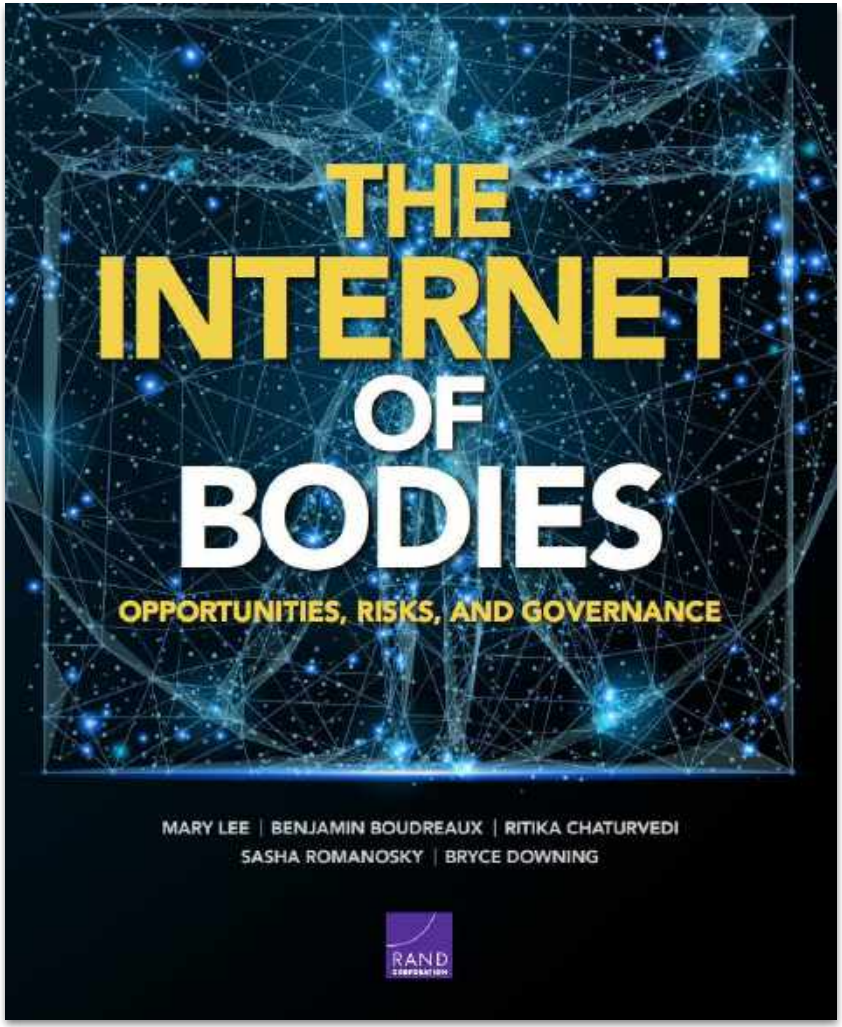
U.S. Senate Floor @SenateFloor · May 26

48-49, Senate rejected Braun #SAmdt1771 to #S1260; To amend title 18, United States Code, to prohibit certain types of human-animal chimeras. Rollcall Vote #212 bit.ly/SFloor



First edition cover with Bernstein artwork

LEARNING Us With Sensors



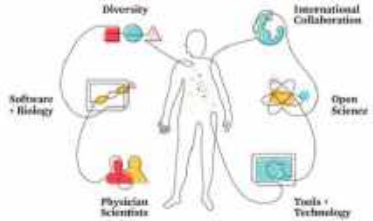
Cell Atlas - Chan Zuckerberg

Jun 21, 2019 · 4 min read

Chan Zuckerberg Initiative Awards $68 Million to Support the Growth of the Human Cell Atlas

New Grants Support Networks of Scientists from Diverse Disciplines Who Study a Variety of Healthy Human Organs

Tags: Grants, Science, Single-Cell Biology



CZI Seed Networks

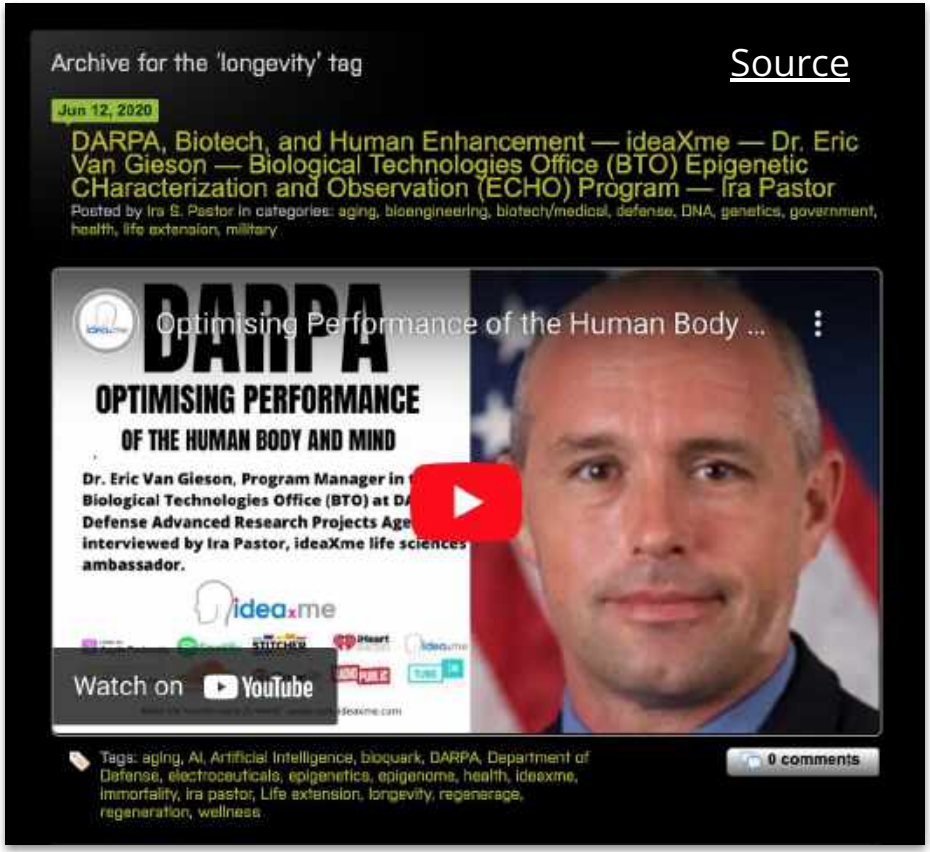
Supporting the Human Cell Atlas

REDWOOD CITY, CALIF. (June 21, 2019) — Today, the Chan Zuckerberg Initiative (CZI) announced $68 million in funding to support the Human Cell Atlas and its selection of 38 collaborative science teams to launch CZI's Seed Networks for a Human Cell Atlas projects. These collaborative groups bring together scientists, computational biologists, software engineers, and physicians to support the continued development of the Human Cell Atlas (HCA), an international effort to map all cells in the human body.

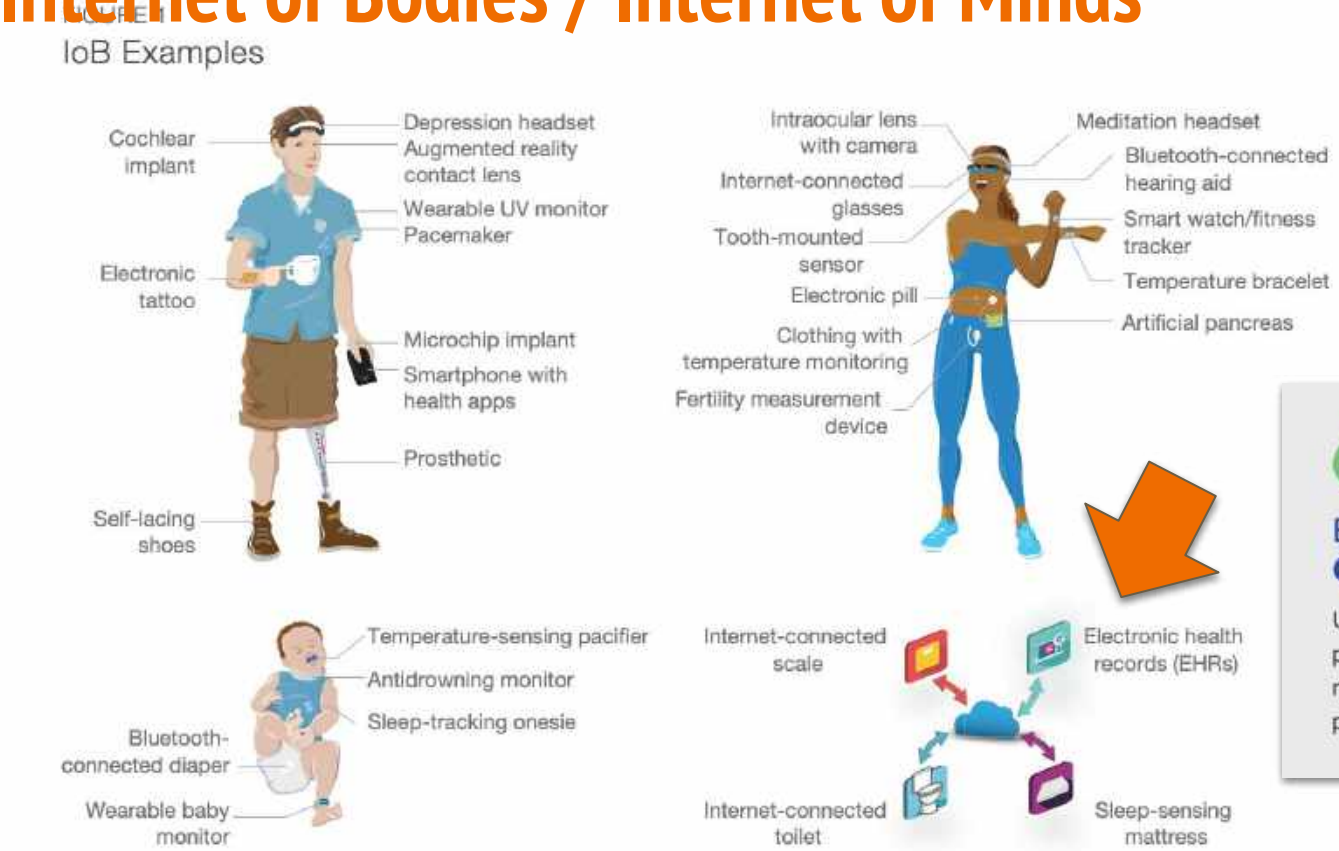
Chan Zuckerberg Biohub

In September 2016, Priscilla Chan and Mark Zuckerberg committed $600 million over 10 years to fund the Chan Zuckerberg Biohub, an independent nonprofit research center that brings together physicians, scientists, and engineers from UC San Francisco, UC Berkeley, and Stanford University. The CZ Biohub seeks to understand the fundamental mechanisms underlying disease and to develop new technologies that will lead to actionable diagnostics and effective therapies. To learn more, visit the CZ Biohub website.

Framed As “Longevity” Research - Transhumanism



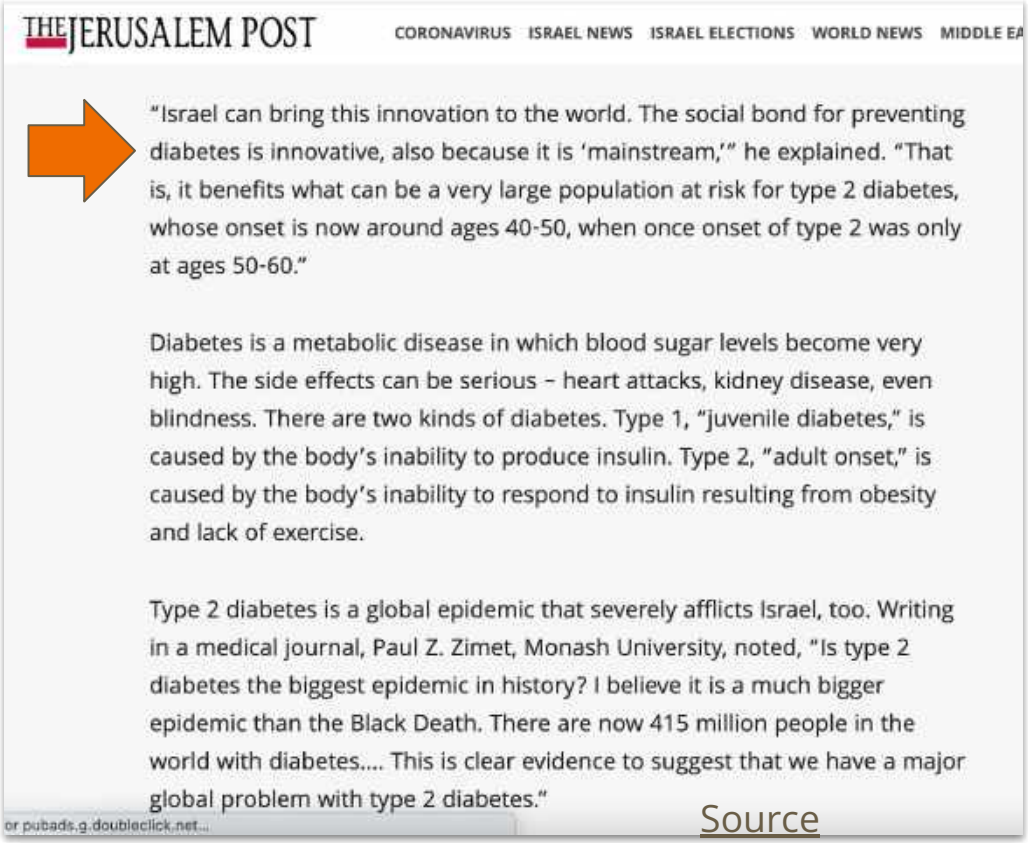
Internet of Bodies / Internet of Minds



EMISSION **FREQUENCY** & **QUANTITY**:

Understanding the amount of methane produced per cow is crucial to identify the most efficient animals, leading to a less polluting and more profitable herd.

Poison The Environment - Use Biosensors To Enforce "Good" Health Behaviors



THE JERUSALEM POST

CORONAVIRUS ISRAEL NEWS ISRAEL ELECTIONS WORLD NEWS MIDDLE EA

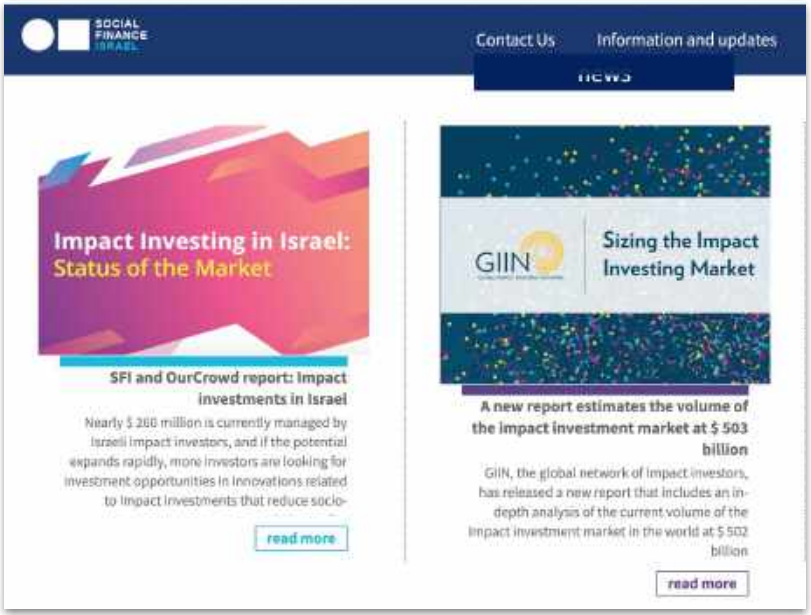
"Israel can bring this innovation to the world. The social bond for preventing diabetes is innovative, also because it is 'mainstream,'" he explained. "That is, it benefits what can be a very large population at risk for type 2 diabetes, whose onset is now around ages 40-50, when once onset of type 2 was only at ages 50-60."

Diabetes is a metabolic disease in which blood sugar levels become very high. The side effects can be serious – heart attacks, kidney disease, even blindness. There are two kinds of diabetes. Type 1, "juvenile diabetes," is caused by the body's inability to produce insulin. Type 2, "adult onset," is caused by the body's inability to respond to insulin resulting from obesity and lack of exercise.

Type 2 diabetes is a global epidemic that severely afflicts Israel, too. Writing in a medical journal, Paul Z. Zimet, Monash University, noted, "Is type 2 diabetes the biggest epidemic in history? I believe it is a much bigger epidemic than the Black Death. There are now 415 million people in the world with diabetes.... This is clear evidence to suggest that we have a major global problem with type 2 diabetes."

or pubads.g.doubleclick.net...

Source



SOCIAL FINANCE ISRAEL

Contact Us Information and updates

NEWS

Impact Investing in Israel: Status of the Market

SFI and OurCrowd report: Impact investments in Israel

Nearly $ 260 million is currently managed by Israeli impact investors, and if the potential expands rapidly, more investors are looking for investment opportunities in innovations related to impact investments that reduce socio-

read more

GIIN

Sizing the Impact Investing Market

A new report estimates the volume of the impact investment market at $ 503 billion

GIIN, the global network of impact investors, has released a new report that includes an in-depth analysis of the current volume of the impact investment market in the world at $ 502 billion

read more

Impact Market $503 Billion

Chronic Illness - Social Impact Finance - More Graphene Uses

LABIOTECH.eu

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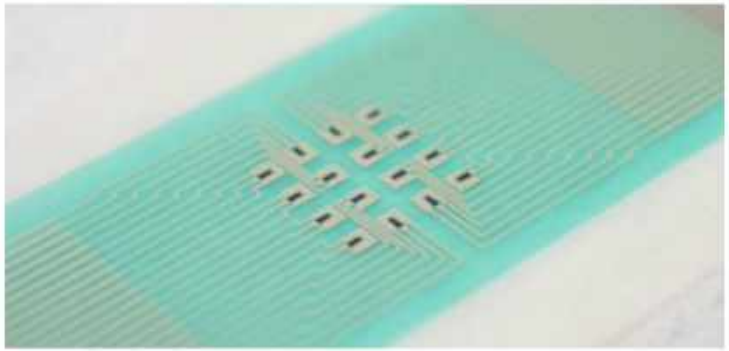
TOPICS CRISPR CAR-T Covid-19 mRNA technology Gene therapy

HOME

Graphene Skin Patch Measures Blood Sugar Without a Needle

BY ALEXANDER BURIK
12/04/2018 · 2 MINUTES



Researchers in the UK have developed a skin patch that measures blood sugar levels without the prick of a needle by pulling fluid out from between hair follicles. The technology could be used for both type 1 and type 2 diabetes patients.

Source

LittleSis

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Diabetes Health Impact Bond Sweden

First Health Impact Bond

add relationship edit flag

Edited by System 4 months ago History

Stockholm issues health impact bond to prevent diabetes ... more »

Relationships Interlocks Giving Data

Parent Organizations

Health Movement - EIT Health Project Health As Start Up - EU Innovation Effort - "Health

Members

City of Stockholm

Donation/Grant Recipients

Health Integrator Health Management App

Services/Transactions

SEB Group Stockholms Enskilda Bank and Skandinaviska Banken merged in 1972

Other Affiliations

Country of Sweden

Skandia Swedish Insurance Company and Investments

Assessing The Economic Costs of Unhealthy Diets and Low Physical Activity European

Basic info

Types	Organization
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Lists

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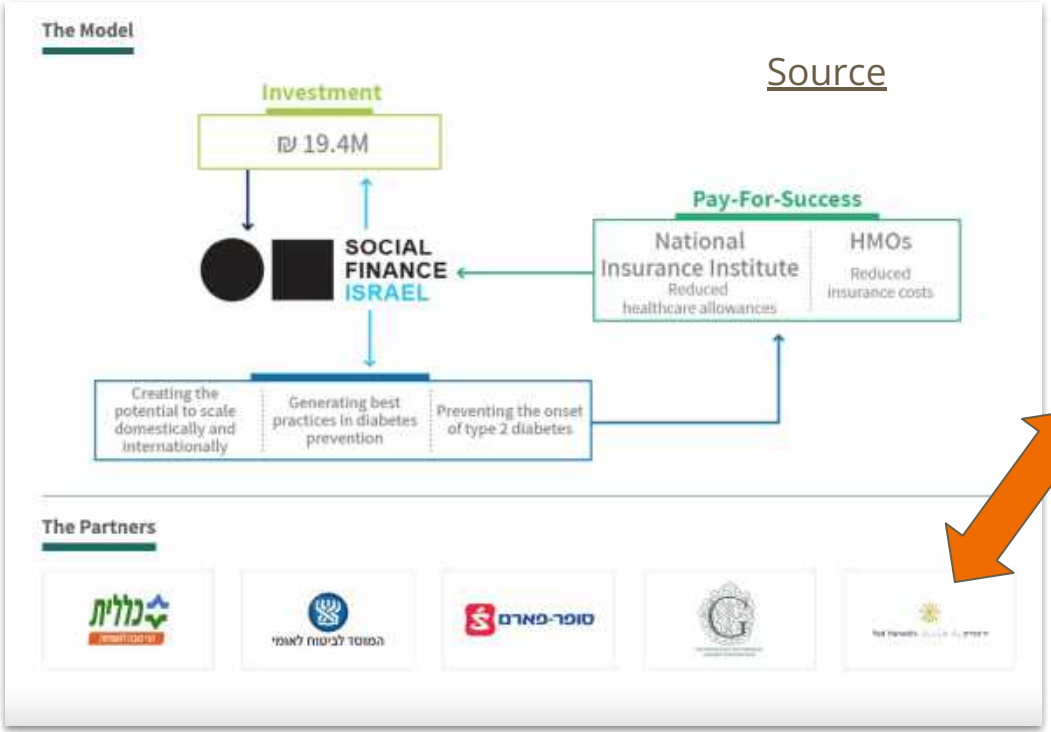

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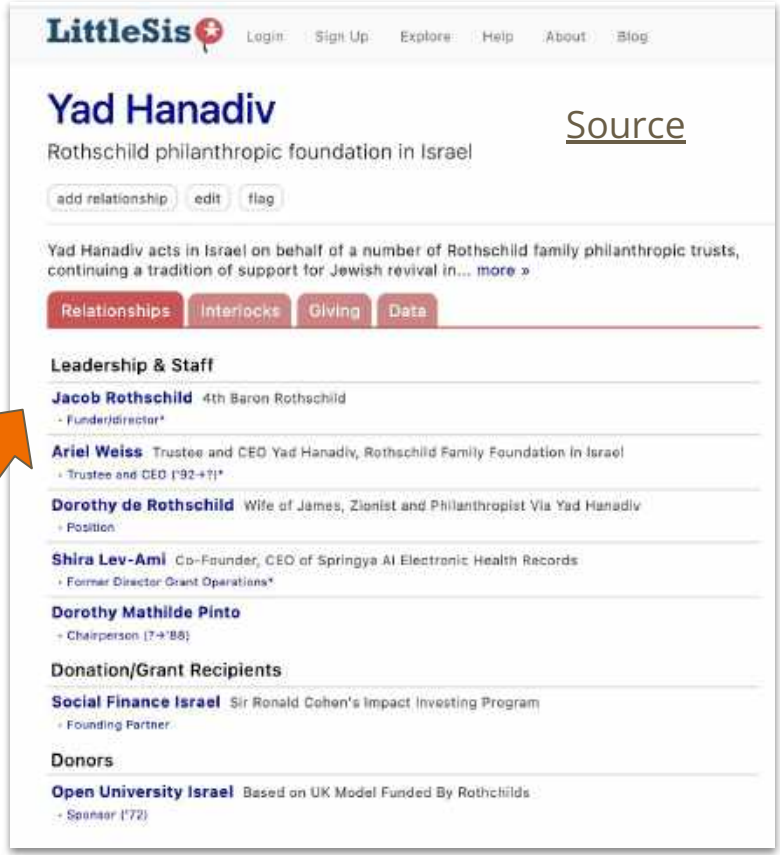

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Graphene Inside And Out - Meet Your Step Count!

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Newsweek

TECH & SCIENCE

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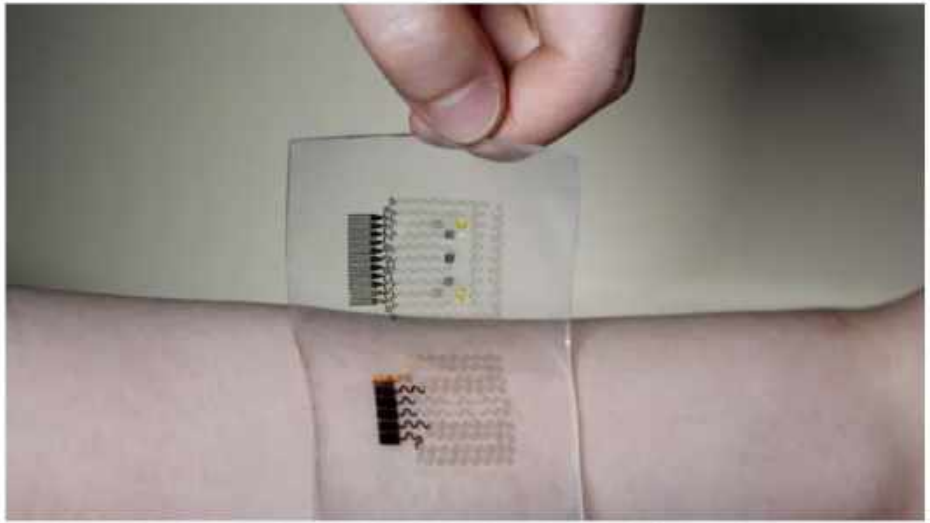
BY ANTHONY CUTHBERTSON ON 3/22/16 AT 11:37 AM EDT



Penn | Center for Health Incentives & Behavioral Economics

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At the Center for Health Incentives and Behavioral Economics, researchers investigate how the science of behavioral economics can improve health outcomes.

What is Behavioral Economics?

Behavioral economics is a field of inquiry that uses **principles of economics and psychology** to understand how individuals make decisions and uses those insights to try **to help people make choices** that are consistent with their own long-term interests.

The Sydney Morning Herald

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OPINION

Walk for the dole? We must find new ways to tackle those corona kilos

Jessica Irvine
Economics writer

July 29, 2020 — 11.27pm

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TODAY'S TOP STORIES

US news 2020

Trump peddles more false claims about ballots, attacks Twitter, Democrats on social media

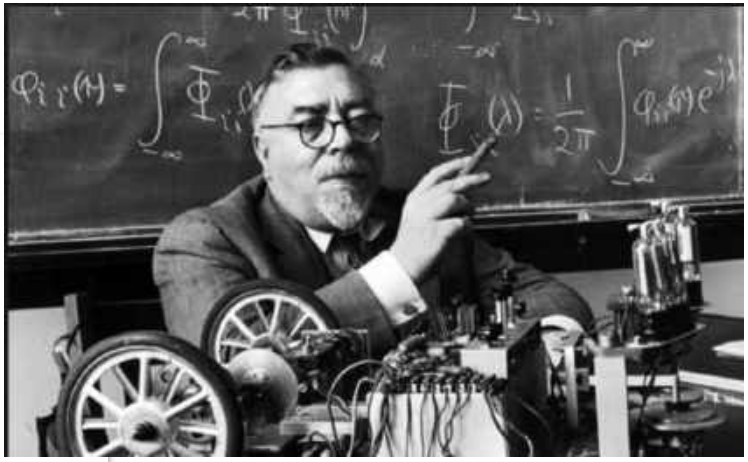
8 minutes ago

US news 2020

"I was too fat," the British Prime Minister, Boris Johnson, reflected in a television ad campaign this week launching his new national health strategy, designed to help Britons curb their kilos and fight off the coronavirus.

Behavioral Economics

Cybernetics



Systems design has its origins right before and during WWII

Cybernetics

- Neuro-systems research
- Anti-aircraft fire control

Operations Research (OR)

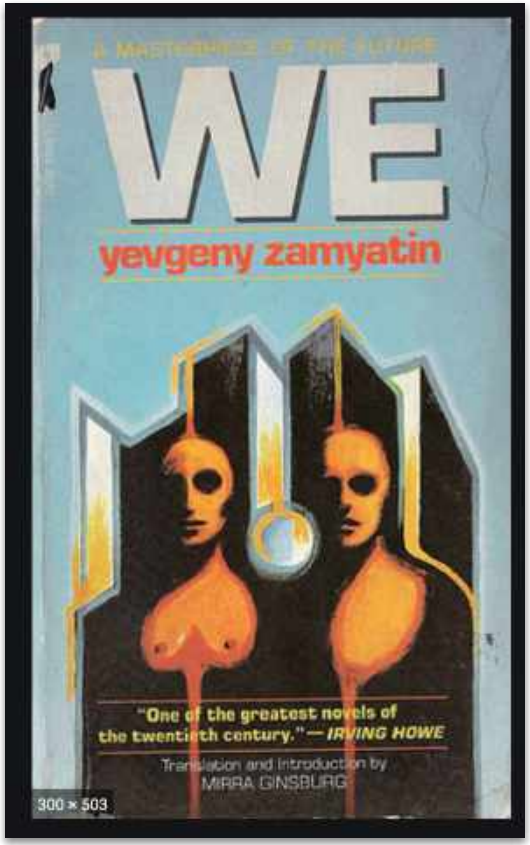
- Radar and air force fighter system integration
- Submarine air-patrol resource allocation
- Representation of real-world systems by mat[illegible]matical models with a view to optimizing outcomes

After the war, OR leads to Systems Analysis

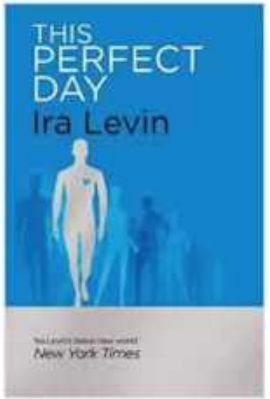
- Later, management science; also management cybernetics

Source

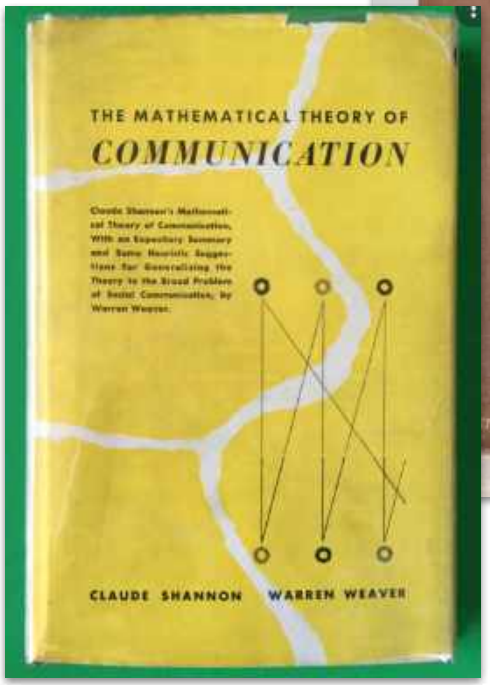
Programmed Society - Lack Of Free Will

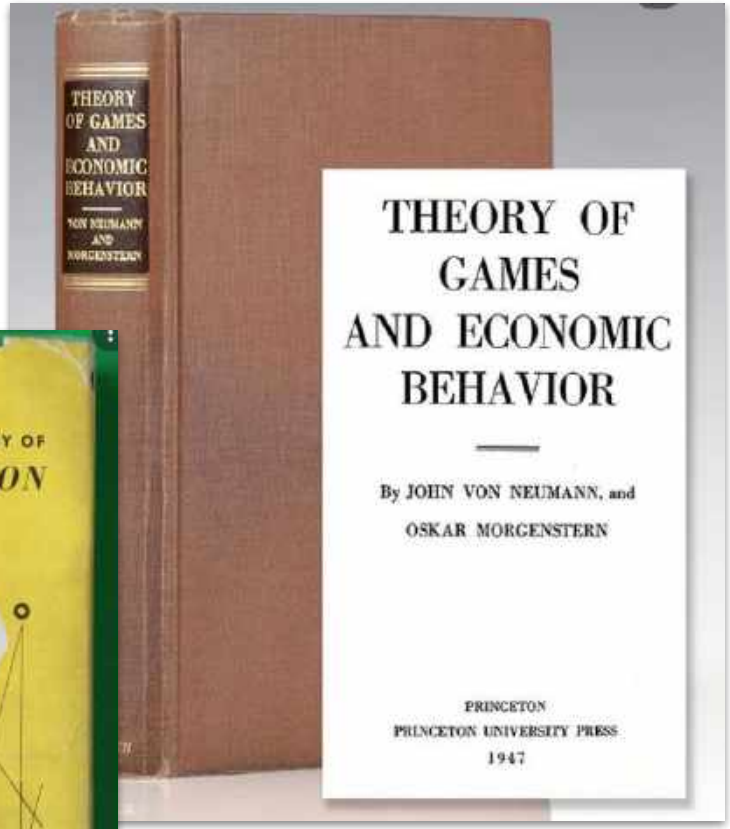


Right from the beginning of **Ira Levin's *This Perfect Day***, we learn of a world that is **chillingly uniform** and **impossibly pleasant**. There is no war, no hunger, no turmoil of any kind; every single person seems to greatly enjoy their simple lives. Alas, the day could never truly be perfect, and we join the protagonist through a four-part journey of continually seeking out the truth and desperately trying to liberate humanity.

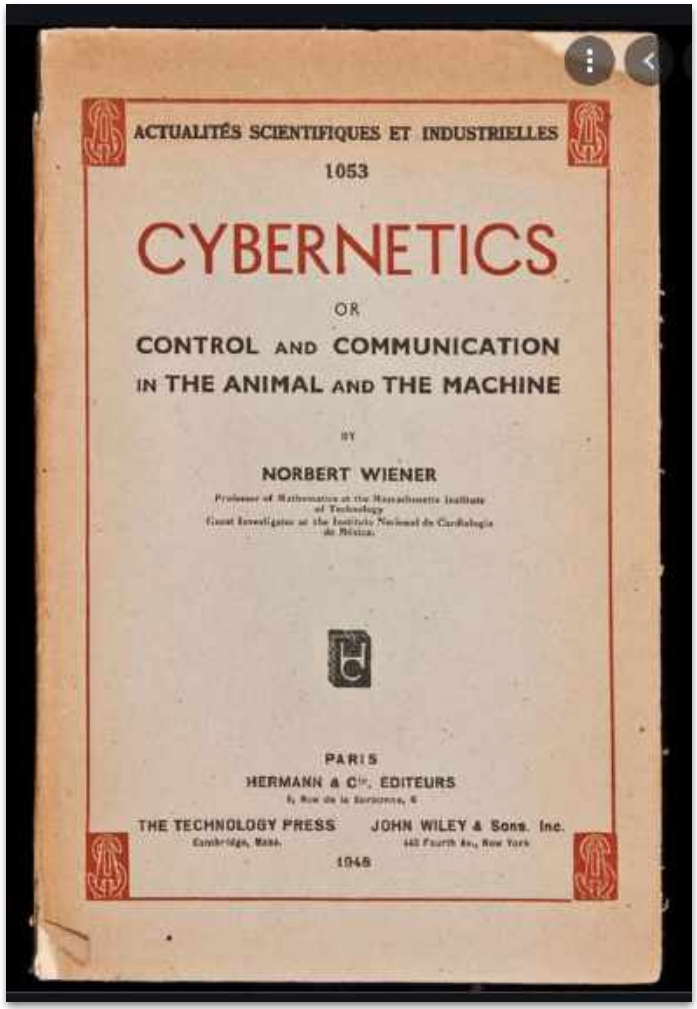


In ***This Perfect Day***, not only have the citizens been reduced to machine-like beings, but the entire world has as well. People have similar appearances and dress in bland white jumpsuits called "coveralls". Instead of normal names, people have **"namebers"**, which consists of one of four first names and a lengthy number as a last name. Continents and countries are abbreviated and then appended by a number, serving to separate identity from both place and person alike. People are referred to as "members" of the larger Family, whose ultimate goal is to spread their will throughout the universe. Worst of all, the Family is subject to the will of an omniscient computer known as UniComp that governs every aspect of their lives, from **profession**, **marriage**, and even **death**. Regardless, every member still praises Uni as an all-knowing entity.





Macy Conferences



Macy Conferences

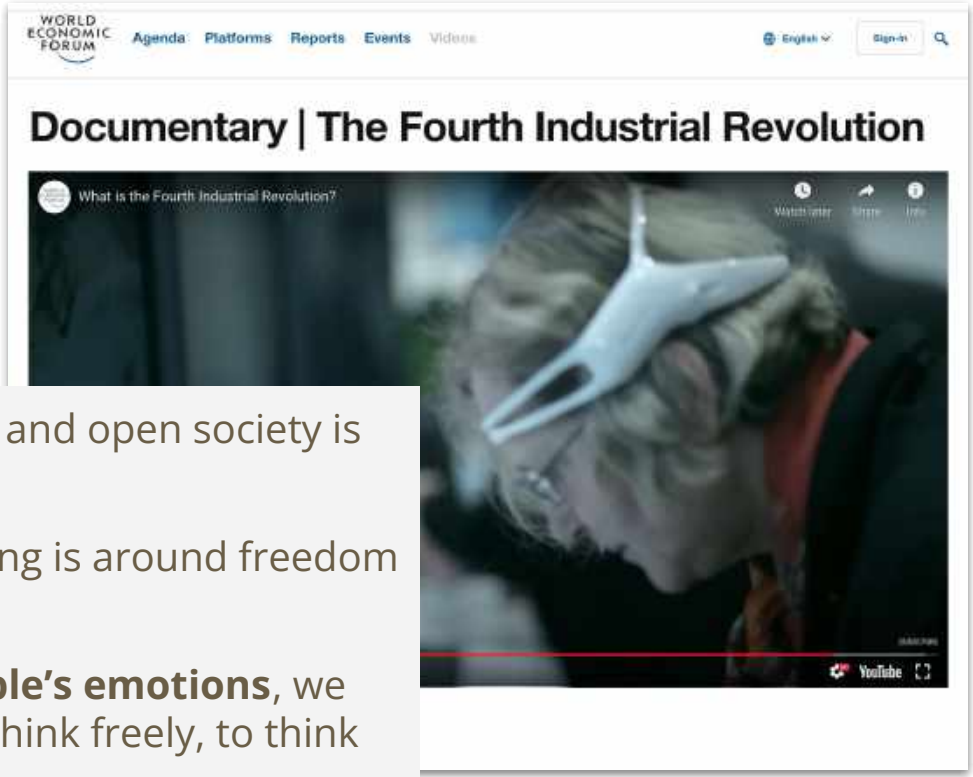
The Cybernetics conferences were held between 1946 and 1953, organized by the Josiah Macy, Jr. Foundation, motivated by Lawrence K. Frank and Frank Fremont-Smith of the Foundation.

As chair of this set of conferences, Warren McCulloch had responsibility to ensure that disciplinary boundaries were not unduly respected.

The Cybernetics were particularly complex as a result of bringing together the most diverse group of participants of any of the Macy conferences, so they were the most difficult to organize and maintain.

The principal purpose of these series of conferences was to set the foundations for a *general science of the workings of the human mind*.

These were one of the first organized studies of interdisciplinarity, spawning breakthroughs in systems theory, cybernetics, and what later became known as cognitive science.



"One of the things I think is so essential to free and open society is freedom of thought.

Up until now the conversation we've been having is around freedom of speech.

Once we can access people's thoughts, people's emotions, we have to create a space that enables people to think freely, to think divergent thoughts, to think creative thoughts.

In a society where people fear having those thoughts, the likelihood of being able to enjoy progress is significantly diminished."
Nita Farahany, Duke University

Augmented Cognition

Augmented Cognition in 2030 - Created January 2007

This 20 minute film on "The Future of Augmented Cognition" is set in the year 2030, and is set in a cyber-security command-and-control facility for what appears to be the global bourgeoisie. The film was underwritten by DARPA to illustrate how augmented cognition will allow workers to integrate multiple sources of information without blowing their minds. It was directed by veteran TV producer Alexander Singer.

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Michael Platt

Principal Investigator

mplatt@pennmedicine.upenn.edu

A former president of the Society for Neuroeconomics, Michael publishes regularly in top-tier scientific journals and has been featured in prominent TV, radio, print, and online media. With the support of such agencies as the National Institutes of Health, Sloan Foundation, Klingenstein Foundation, McDonnell Foundation, and Department of Defense, he's produced seminal articles that have been collectively cited over 4,000 times. Michael's expertise is sought after outside the realm of academia, as well, leading him to serve in science advisory roles for three major motion pictures and is featured in an upcoming episode of HBO Vice.

CONNECT WITH MICHAEL

Linked In ↗

We are especially interested in the processes that allow people and other animals to make decisions when the environment is ambiguous or complicated by the presence of other individuals.

We use an array of techniques, including psychophysics, intracranial recordings, brain stimulation, pharmacology, eye tracking, pupillometry, brain imaging, genomics, and epigenomics to answer these questions.

An important goal is to translate some of these techniques into wearable devices that will allow us to take neuroscience into both natural and consumer environments.

JANUARY 9, 2016

A Fairy Wrestles With a Dandelion – Will Her Wish Come True?

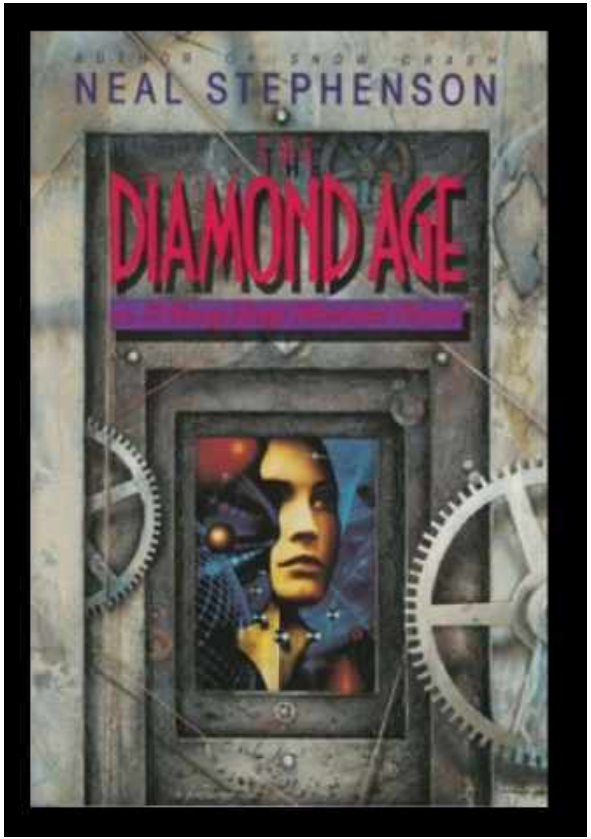
[I don't mean to imply that her wishes don't matter, I'm just pointing out that technically, they don't weight anything, in so far as science has not yet managed to weigh thoughts. I'm sure that will come! Imagine thoughts weighed and wrapped up in graphene…]

About the wire sculpture

This fairy sculpture, titled *Wishes*, is one of a trail of 15 faerie sisters on permanent display at Trentham Gardens. The wishes idea comes from the traditional belief that blowing a ripe dandelion seed head is a way to divine the answer to a question.

Biosensors And Ractors

DoD - Tech - Gaming - Entertainment - Torture - Finance



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Modeling and Simulation: Linking Entertainment and Defense (1997)

DETAILS

196 pages | 6 x 9 | PAPERBACK

ISBN 978-0-309-05842-1 | DOI 10.17226/5830

Source

CONTRIBUTORS

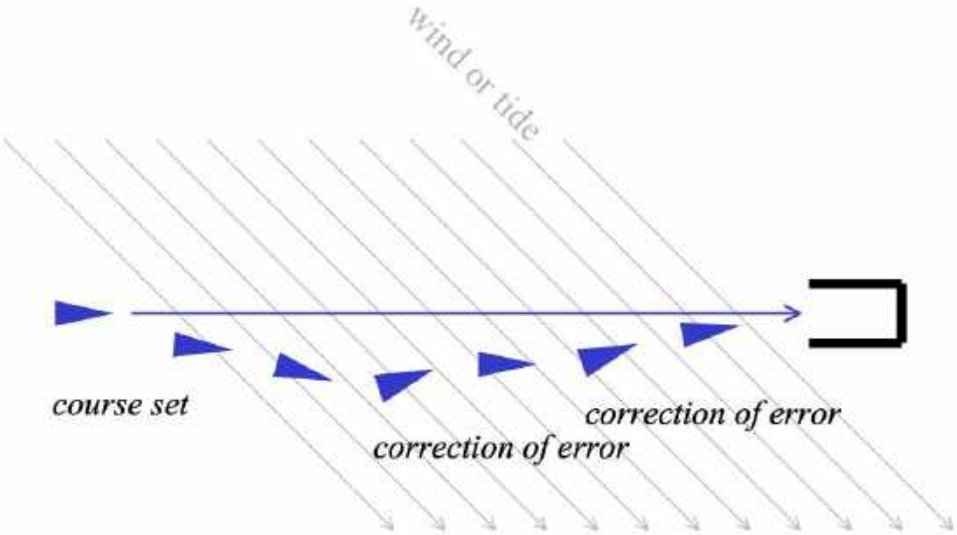
Committee on Modeling and Simulation: Opportunities for Collaboration Between the Defense and Entertainment Research Communities, Computer Science and Telecommunications Board, National Research Council

Cybernetics named

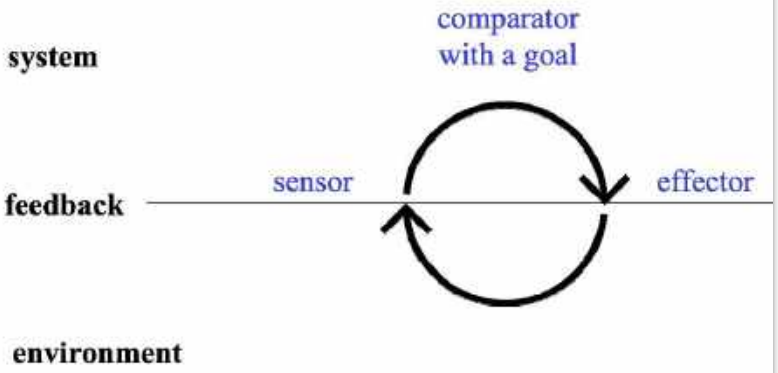
From Greek ‘kubernetes’
— same root as ‘steering’
— becomes ‘governor’ in Latin

Source

Steering



Cybernetic terms



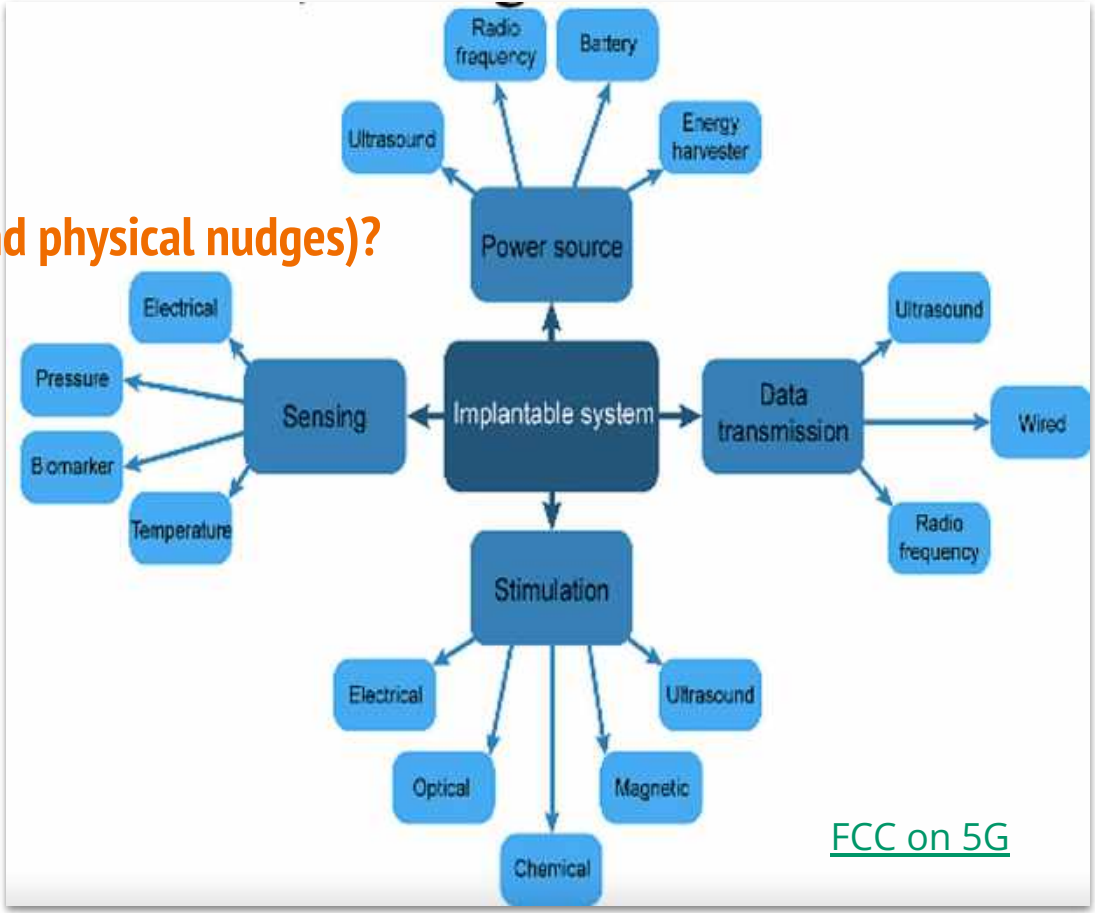
Health Sensors = Data Harvest For Digital Twins

Who ultimately controls whom?

Will AI control all twins?

Will these twins control us?

Will they use biosensors (emotional and physical nudges)?



FCC on 5G

Biosensors Dual Use Cyber Torture

Source

United Nations

General Assembly

E. Cybertorture

71. A particular area of concern, which does not appear to have received sufficient attention, is the possible use of various forms of information and communication technology ("cybertechnology") for the purposes of torture. Although the promotion, protection and enjoyment of human rights on the Internet has been repeatedly addressed by the Human Rights Council (see A/HRC/32/L.20; and A/HRC/38/L.10/Rev.1), torture has

Human Rights Council
Forty-third session
24 February–20 March 2020
Agenda item 3
Promotion and protection of all human rights, civil, political, economic, social and cultural rights, including the right to development

Torture and other cruel, inhuman or degrading treatment or punishment

Report of the Special Rapporteur

Summary

In the present report, the Special Rapporteur on torture and other cruel, inhuman or degrading treatment or punishment examines conceptual, definitional and interpretative questions arising in relation to the notion of "psychological torture" under human rights law.

73. In practice, cybertechnology already plays the role of an "enabler" in the perpetration of both physical and psychological forms of torture, most notably through the collection and transmission of surveillance information and instructions to interrogators, through the dissemination of audio or video recordings of torture or murder for the purposes of intimidation, or even live streaming of child sexual abuse "on demand" of voyeuristic clients (A/HRC/28/56, para. 71), and increasingly also through the remote control or manipulation of stun belts (A/[illegible]/178, para. 51), medical implants and, conceivably, nanotechnological or neurotechnological devices.[55] Cybertechnology can also be used to inflict, or contribute to, severe mental suffering while avoiding the conduit of the physical body, most notably through intimidation, harassment, surveillance, public shaming and defamation, as well as appropriation, deletion or manipulation of information.

VIACTEC

Víctimas de acoso y tortura electrónica.

Madrid, 18/06/2020

Don Nils Melzer.
UN Special Rapporteur on Torture
INPUTS FOR PSYCHOSOCIAL DYNAMICS CONDUCIVE TO TORTURE AND ILL-TREATMENT REPORT

Dear Sir:

In response to your call to participate in the report: ***Psychosocial dynamics leading to torture and ill-treatment,*** we send you our testimony about torture and technological harassment in Spain. We are VIACTEC association approved by the Ministry of Interior of Spain with the CIF 27492065, which groups victims of electromagnetic and electronic torture in Spain and whose objective is to provide support and help to them. Currently we are one hundred and forty-five affiliated victims through our website: http://www.viactec.es, but we know there are many more. We have partnered to find the way for our cases to be investigated because authorities don´t.

Source

A Global "Ractive" using enslaved "Ractor's" like me to play with using a massive on-demand army of players to obey your command, make your moves to affect the Ractors - using the facade of Homeland Security to do it. That's basically it.

The collaboration between DOD/military/homeland, gaming/entertainment, Big Tech, gig-workers/gamers/Citizens on Patrol, etc.
Yep, that is the Big picture that has materialized through my experience and research. And they are scouting for Ractors & infiltrating them for play constantly to feed the game, capitalize on.

The marriage between wargaming and entertainment gaming, using federal funding to support it all. Wow.

The game is a built-in to all the "legitimate" R&D for multiple sectors. Yep.

And yes, nighttime is their major game time, bc the ad hoc networks decend over us in darkness.

Every single night, there is an operation over my location, ANY location, that creates a webbed network of avionics around me. And it follows.

I had black coming out my fingers and skin during my "metamorphosis" period. I had slivers of black buried under my skin.
The corners of my eyes and cheekbones turned blue,

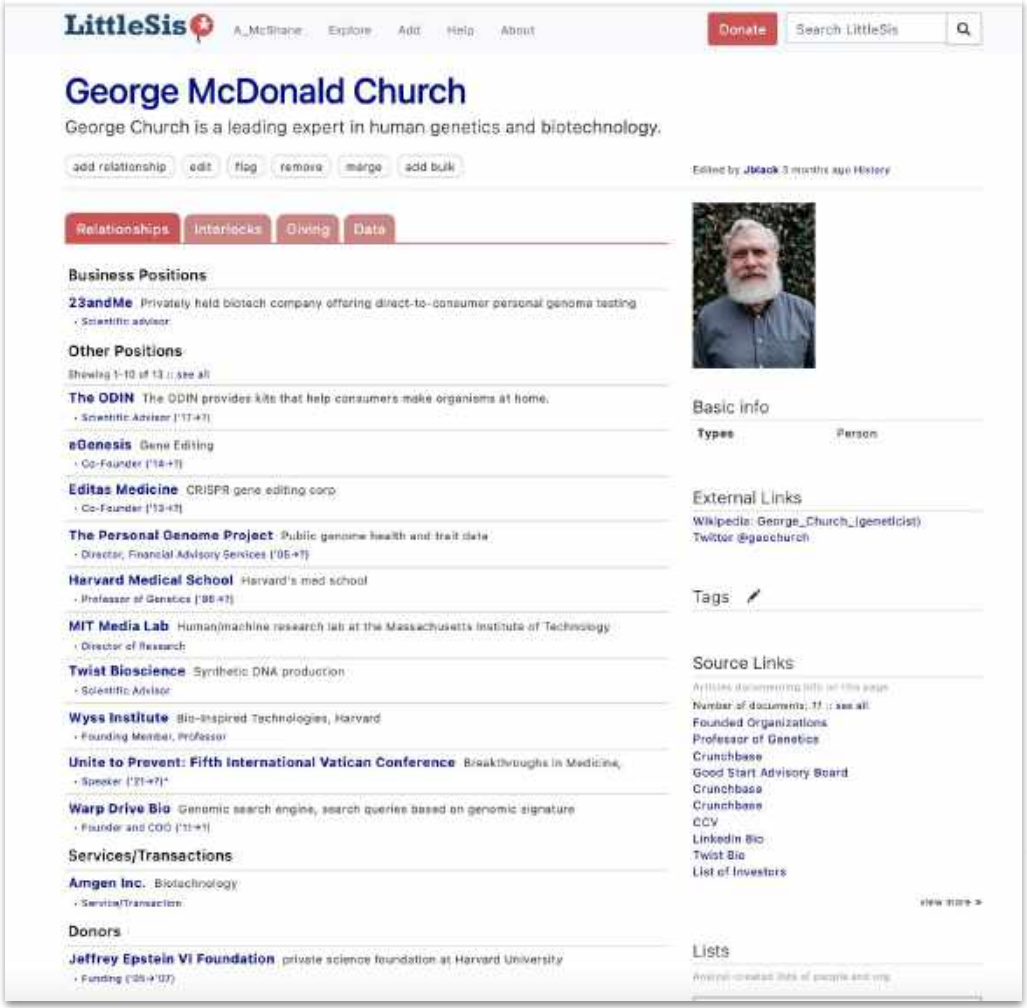
Tls Experience Assault On The A Etheric Body In Sleep

Etheric Double

The etheric double is not made of the supposed omnipresent ether of space, but is composed of physical matter known as etheric, superetheric, subatomic, and atomic.

The term **double** is used because the etheric double is a replica of the denser physical body. The sense organs of the etheric double are the **chakras,** and it is through the chakras that the physical body is supplied with the vitality necessary for its existence and its well-being during life. The etheric double thus plays the part of a conductor, and a bridge between the physical and astral bodies, for without it humans could have no communications with the **astral world** and hence neither thoughts nor feelings.

During sleep the double does not leave the physical body; indeed, in **dreams** the etheric part of the brain is extremely active, especially when, as is often the case, the dreams are caused by attendant physical circumstances, such as noise.



George Church Is One Of The Judges

Judges:

George Church, Harvard & MIT

Denis Noble, FRS, CBE, Oxford University

Michael Ruse, Florida State University

Human Augmentation - Digitally Twinned Worlds

The “Great Reset” = Humans 2.0 (Augmentation)

Human 2.0 will cover the principles underlying current and future technologies for cognitive, emotional, social, and physical augmentation. Topics include robotic exoskeletons and orthoses, limb prostheses, neural implants, social-emotional prostheses, and cognitive prostheses.

ON

OMIDYAR NETWORK

A WORLD OF POSITIVE RETURNS

Omidyar = Ebay Auctions

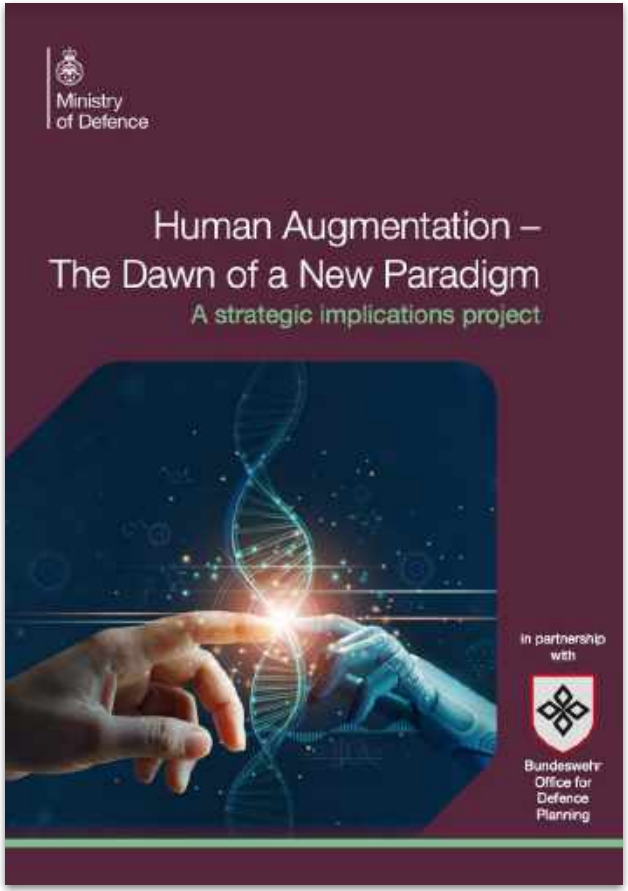
Good ID - No One “Left Behind”

Impact Investing

On - Computers - Reproduction - UN

Power - Middle Finger

Militarized Context



Section 3 – Core human augmentation technologies

Figure 4 provides an overview of how human augmentation technologies apply to each function and identifies four 'core human augmentation technologies' – genetic engineering, bioinformatics, brain interfaces and pharmaceuticals – that could improve psychological, physical and social performance.

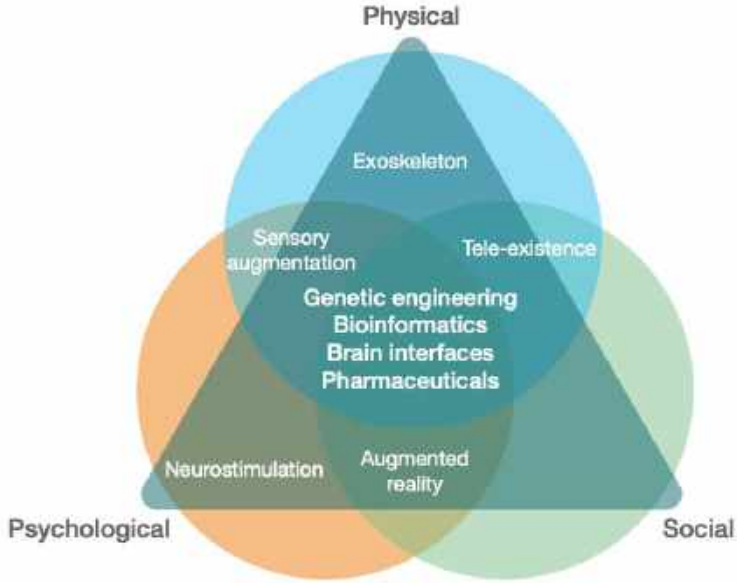
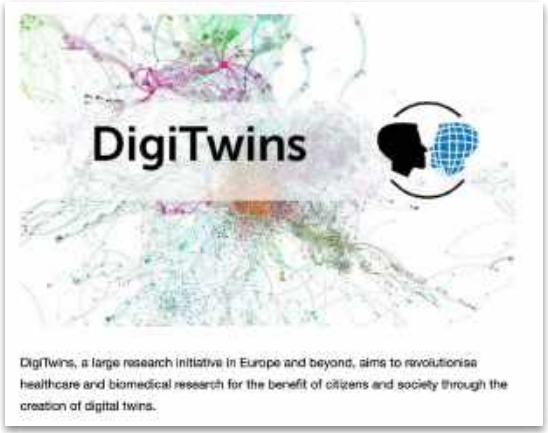


Figure 4 – Human augmentation technologies and the human platform

Precision Medicine Used To Justify Digital Twin Creation

The Digital Twin Computing Concept

The first part of this chapter briefly describes the current state of, and issues with existing digital twins. This chapter then presents the features and architecture of the digital twin computing (DTC) set out in this paper through comparison with existing digital twins.



Intergalactic Travel? Digital Twin?

The Digital Twin Computing Reference Model

Version 2.0

31st March 2021

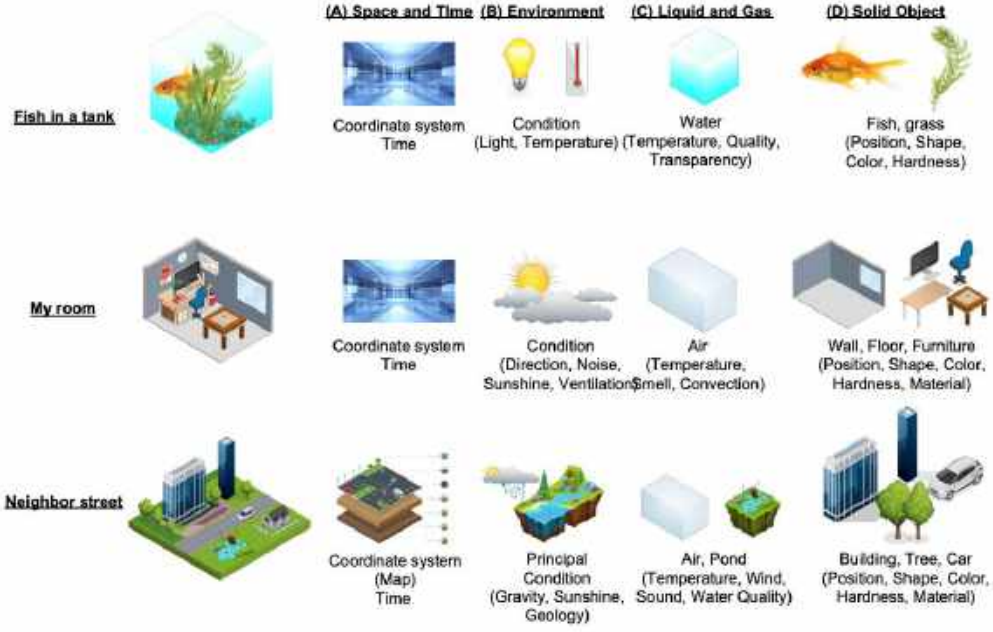


Figure 16 DTC digitalization model applied to different scales

McCullouch - Stafford Beer - Cybersyn - Chile

Stafford Beer first set about making a cybernetic model of Chile's economy that mapped out how all of the different parts of the economy connected within the larger system. Beer also wanted to enable the different parts of the Chilean economy to communicate easily with each other and thought computers could help accomplish this.

Stafford Beer and the team he had assembled set about creating a computer network that would connect all of the factories in Chile. This was a really novel concept for the time, but there was a problem: it was the 1970s—there weren't many computers in Chile. Stafford Beer was only able to get one computer to create his network.

Stafford Beer - Management Cybernetics

Staffo was always a lateral thinker and a wide reader. It was in 1950 that he read and was pressed by Norbert Wiener's *Cybernetics* that dealt with "the entire field of control and communication, whether in the machine or in the animal" (Weiner 1948, 11). He wrote to Wiener to say "I thin am a cybernetician" and enclosed some of his recent work: Wiener responded enthusias lly and invited him at once to MIT (Capey 1996, 7). Stafford's 1959 book, *Cybernetics and Management*, would be written in his spare time over the next several years despite the heavy responsibilities of his day job. The book was eventually translated into 13 languages. As its title suggests, it took the still nascent subject of cybernetics d explored its relevance for management processes and structures. [It was Wiene e originator of cybernetics, who would later identify Stafford as the father of management cybernetics (Rose 1993)].

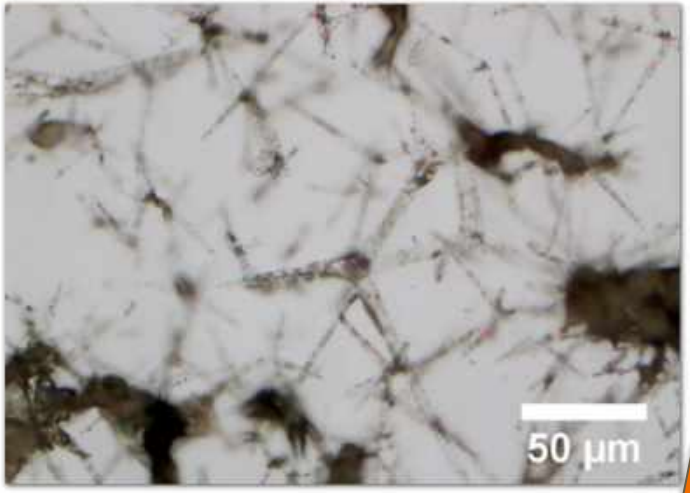
Human digital twins will live in a virtual society even though they are connected to humans in the real world. Therefore, unlike conventional agent models that are completely separated from the real world, a human digital twin should have a mechanism to reflect real-world information at appropriate times. The Data could be reflected by being overwritten with real-world information. On the other hand, because the Process cannot be directly obtained, we should implement some update strategies. For example, the Process could be tuned at a predetermined time according to the Data stored after a previous update. Another example is a kind of online update method in which the Process would be updated according to errors between predicted Data using the current Process and observed Data, similarly to predictive coding in the human brain. This would provide a kind of mechanism that a human digital twin could grow according to the experiences of the corresponding individual in the real world. There remains an open issue of how to define and implement a growth mechanism of corresponding real human according to the experiences of the human digital twin in the virtual society.

Graphene - Mr. Global?

Goal? Refine biocompatibility of graphene hydrogel for soft robotics?

What makes this method special is that the mechanical properties of the hydrogels are largely retained. This way they could be particularly well suited, for example, as a material for medical functional implants, which are used to treat certain brain diseases.

The group's findings were published in the journal *Nano Letters* ("Microengineered Hollow Graphene Tube Systems Generate Conductive Hydrogels with Extremely Low Filler Concentration").



The hydrogel is streaked with microchannels of ultralight, electrically conductive graphene. (Image: Irene Wacker)

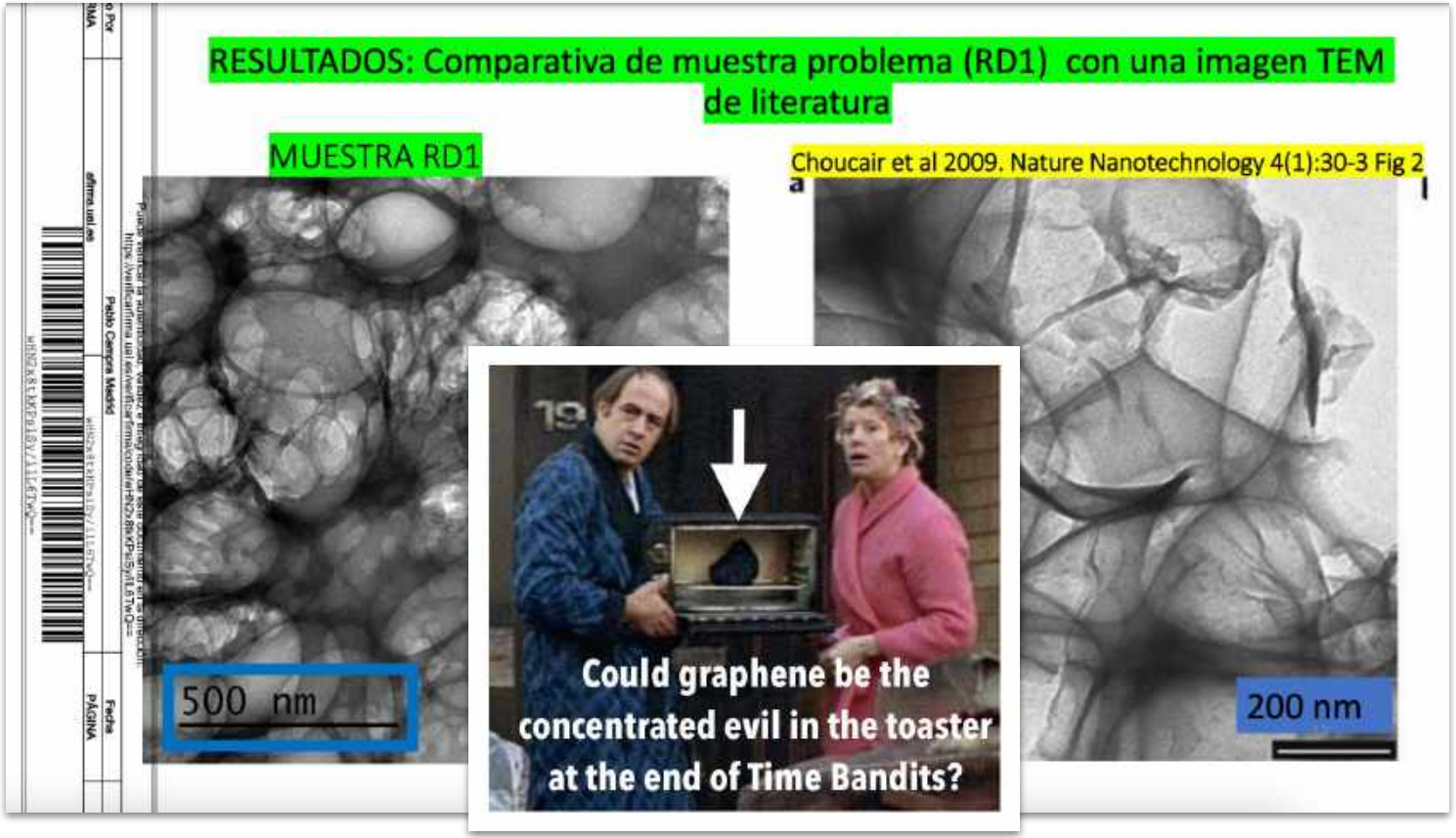
"The elasticity of hydrogels can be adapted to various types of tissue in the body and even to the consistency of brain tissue. This is why we are particularly interested in these hydrogels as implant materials," explains materials scientist Margarethe Hauck, a doctoral researcher in RTG 2154 and one of the study's lead authors.

Source

1. Introduction

Most robots are built using rigid materials. These robots are designed to efficiently carry out preplanned tasks, and they have contributed to the progression of humanity by significantly improving productivity in industrial fields. Recently, people have begun trying to use robots in daily life. However, conventional rigid-bodied robots struggle to operate in unstructured environments because they are composed of discrete links and joints. Moreover, differences in elastic modulus between robotic components and the tissues of living organisms raise safety concerns. The desire for compliant and safe robots has led to the development of soft-bodied robots [1]. Since the continuously deformable bodies of soft-bodied robots give them a high degree of freedom, they can flexibly handle irregular tasks in a less complicated manner than traditional robots. In addition, they can safely and comfortably interact with humans because they are composed of compliant materials that have an elastic modulus similar to that of the soft tissues found in biological systems. Thus, there has been rapid progress in the development of complaint materials to meet the growing need for soft robots (Fig. 1).

Ubiquitous Graphene - Changing Life To 2D Information



Issue 6, 2016 Previous Article Next Article

From the journal: Nanoscale

Functionalized graphene oxide serves as a novel vaccine nano-adjuvant for robust stimulation of cellular immunity†

Check for updates

Ligeng Xu,[a] Jian Xiang,[a] Ye Liu,[b] Jun Xu,[a] Yinchan Luo,[a] Liangzhu Feng,[a] Zhuang Liu*[a] and Rui Peng*[a]

Source

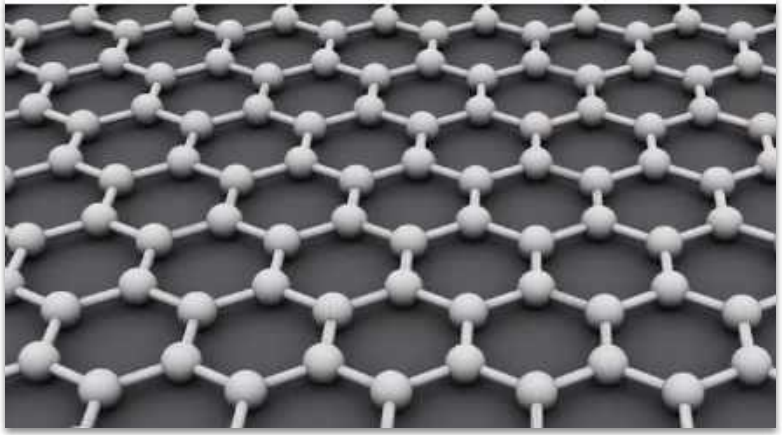
Source

Literature data indicate that exposure to GFM may induce severe cytotoxicity and lung diseases. Wang et al. (2011) demonstrated that graphene oxide could produce cytotoxicity in dose- and time-dependent means, and can enter human lung fibroblasts cytoplasm and nucleus, decreasing cell adhesion, and inducing cell floating and apoptosis at doses above 20 μg ml^{-1} after 24 h. The results indicated that graphene oxide of dose less than 20 μg ml^{-1} failed to exhibit toxicity to human fibroblast cells, while the dose of more than 50 μg ml^{-1} exhibited obvious cytotoxicity reflected in decreasing cell adhesion or inducing cell apoptosis during 1–5 days following cell seeding. Authors also confirmed that GFM can enter the lung tissues and stop there and induce lung inflammation and subsequent granulomas highly dependent on injected dose.

Expert Reviews

Dr. Baron Augustin, Ph.D , (Technical University of Munich, Germany)

Reduced Graphene Oxide Nanopowder : Graphene is an atomic-Scale honeycomb Lattice made of Carbon atoms. Graphene is undoubtedly emerging as one of the most promising nanomaterials because of its unique combination of novel electronic, optical and mechanical properties which opens a way for its exploitation in a wide spectrum of applications ranging from electronics to optics, photonics, composite materials, energy generation, sensors, and biodevices.



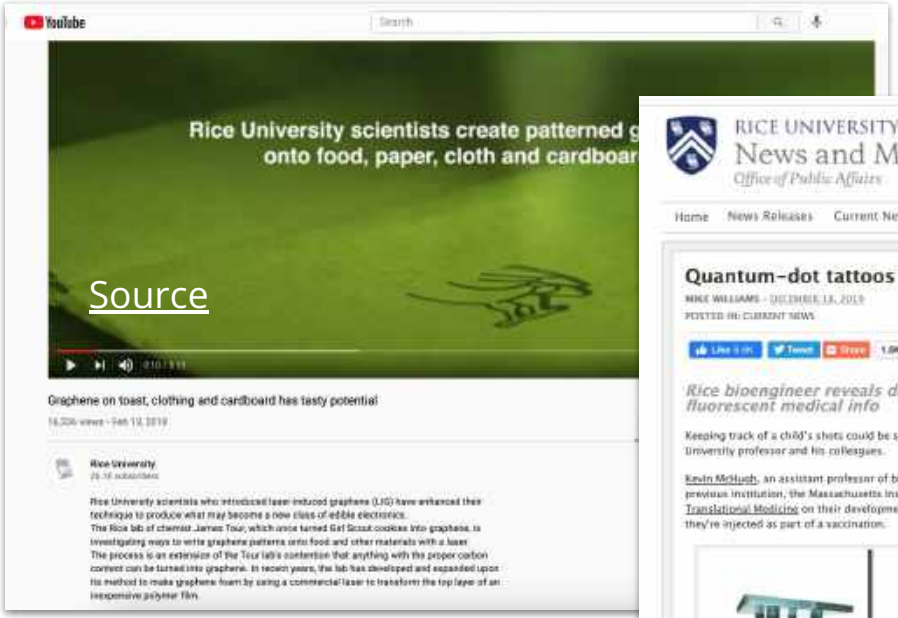
2019-10-16
LAUSANNE, SWITZERLAND

Tetra Pak explores Graphene material for the food and beverage manufacturing industry

New revolutionary thinnest, lightest, and strongest material known

Tetra Pak has joined the European Commission Graphene Flagship project as the exclusive representative from the packaging industry to explore possible future applications of graphene in food and beverage (F&B) manufacturing.

Rice University Graphene, Nanotubes, Quantum Dots



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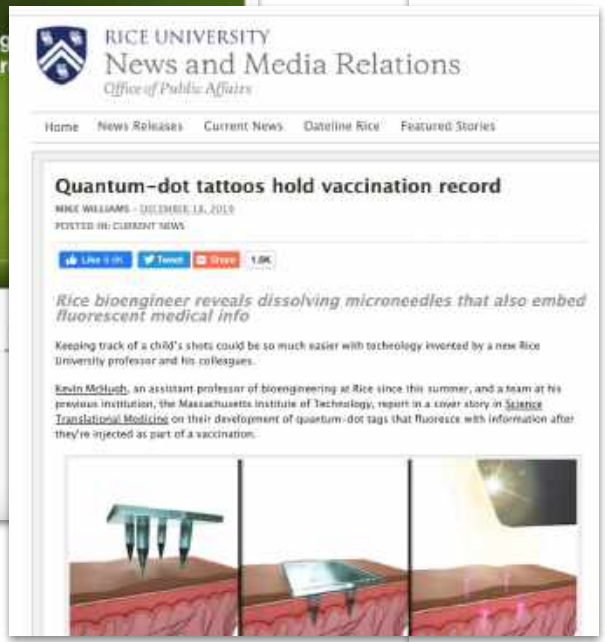

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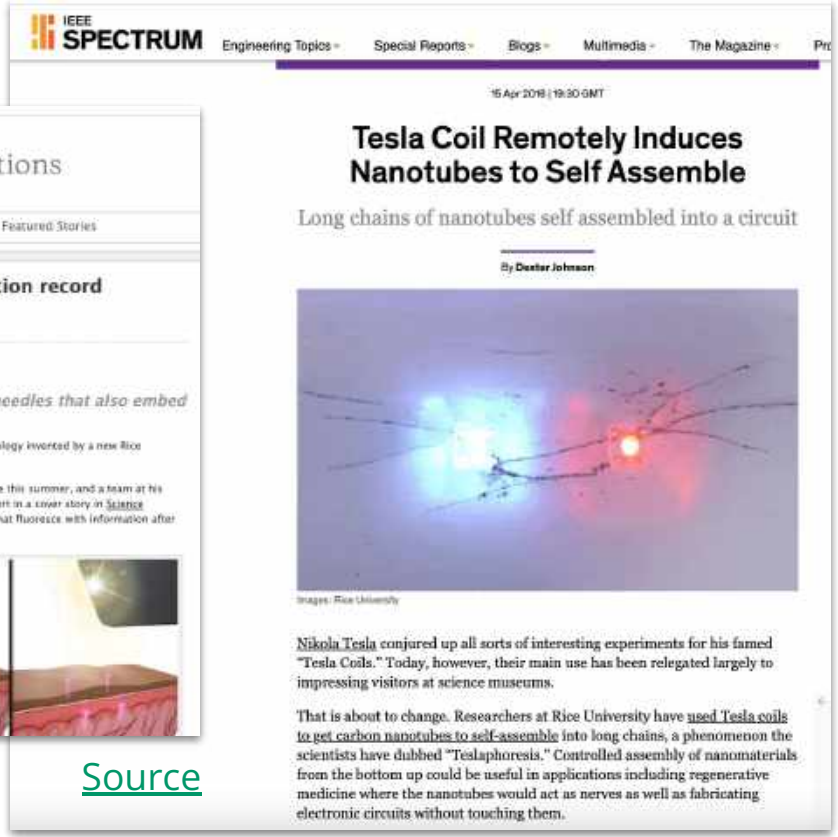

Source

Neurotech Developments Sponsored By DARPA

Battelle
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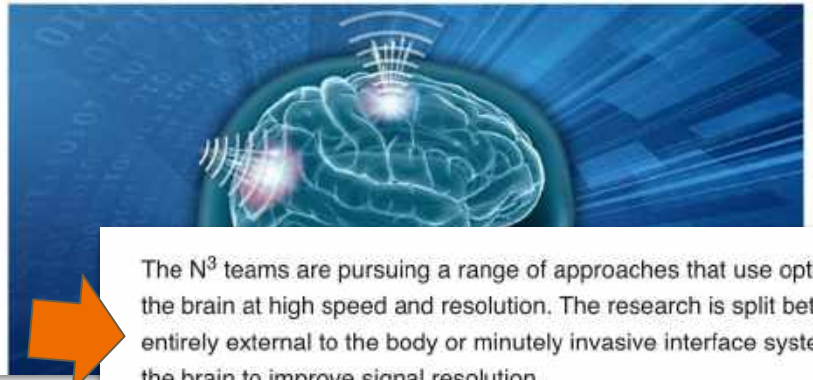
DARPA DEFENSE ADVANCED RESEARCH PROJECTS AGENCY ABOUT US / OUR RESEARCH / NEW

Defense Advanced Research Projects Agency > Six Paths to the Nonsurgical Future of Brain-Machine Interfaces

Six Paths to the Nonsurgical Future of Brain-Machine Interfaces

Teams selected for DARPA's Next-Generation Nonsurgical Neurotechnology program will pursue a mix of approaches to developing wearable interfaces for communicating with the brain

OUTREACH@DARPA.MIL
5/20/2019



The N^3 teams are pursuing a range of approaches that use optics, acoustics, and electromagnetics to record neural activity and/or send signals back to the brain at high speed and resolution. The research is split between two tracks. Teams are pursuing either completely noninvasive interfaces that are entirely external to the body or minutely invasive interface systems that include nanotransducers that can be temporarily and nonsurgically delivered to the brain to improve signal resolution.

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Review Article | Published: 01 October 2018

Graphene-based integrated photonics for next-generation datacom and telecom

Marco Romagnoli, Vito Sorianello, Michele Midrio, Frank H. L. Koppens, Cedric Huyghebaert, Daniel Neumaier, Paola Galli, Wolfgang Tempi, Antonio D'Errico & Andrea C. Ferrari ✉

Nature Reviews Materials **3**, 392–414 (2018) | Cite this article

10k Accesses | **120** Citations | **146** Altmetric | Metrics

Abstract

Graphene is an ideal material for optoelectronic applications. Its photonic properties give several advantages and complementarities over Si photonics. For example, graphene enables both electro-absorption and electro-refraction modulation with an electro-optical index change exceeding 10^{-3}. It can be used for optical add–drop multiplexing with voltage control, eliminating the current dissipation used for the thermal detuning of microresonators, and for thermoelectric-based ultrafast optical detectors that generate a voltage without transimpedance amplifiers. Here, we present our vision for graphene-based integrated photonics. We review graphene-based transceivers and compare them with existing technologies. Strategies for improving power consumption, manufacturability and wafer-scale integration are addressed. We outline a roadmap of the technological requirements to meet the demands of the datacom and telecom markets. We show that

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Research Highlight | Published: 15 June 2020

BIOTECHNOLOGY

Fuzzy graphene for neuron control

Ankita Anirban ✉

Nature Reviews Physics **2**, 344 (2020) | Cite this article

1440 Accesses | **1** Citations | **16** Altmetric | Metrics

Neurons interact via electrical signals known as action potentials, and modulating the electrophysiology of targeted neurons is a key to understanding the brain on a cellular level. Most current methods require genetic modifications to make cells sensitive to light so they can be optically controlled or are imprecise and require high energies that can damage cells. Writing in *PNAS*, Sahil Rastogi and colleagues present a remote, non-genetic method to optically modulate neuronal activity by using nanowires of 'fuzzy graphene' to make precise contact with brain cells.

Add “Green” “Sustainable” Power Systems Perhaps?

Source

Source

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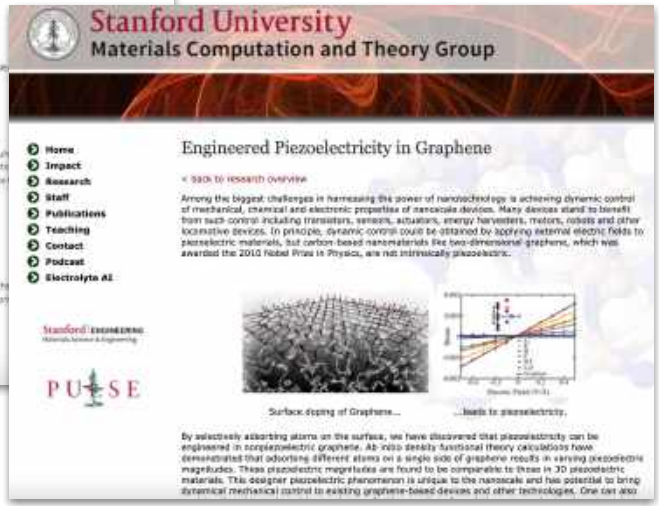
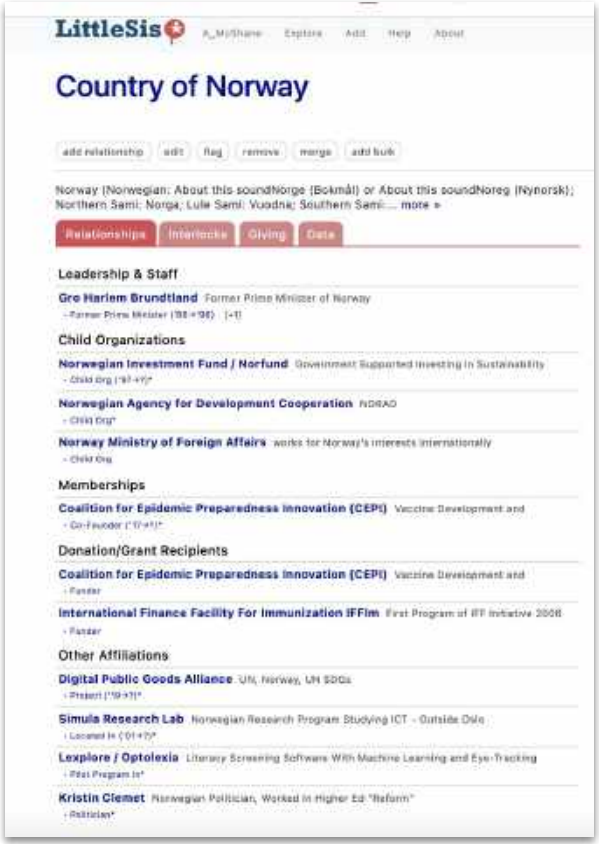




Crazy Things They Can Do With This Tech

Cree - Silicon Carbide - LED - Optogenetics - Neural Programming

frontiers in Neuroscience

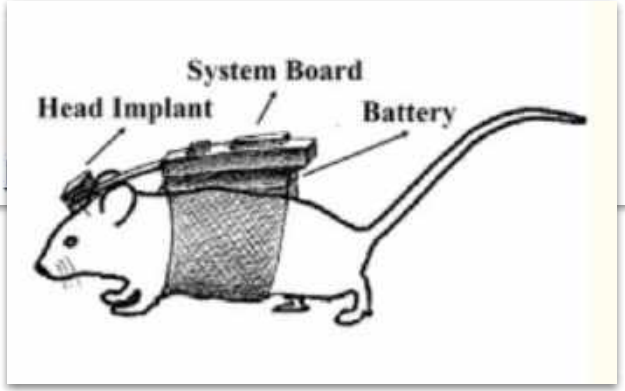
Front Neurosci. 2018; 12: 132.
Published online 2018 Mar 6. doi: 10.3389/fnins.2018.00132

PMCID: PMC5845553
PMID: 29559885

A Compact Closed-Loop Optogenetics System Based on Artifact-Free Transparent Graphene Electrodes

Xin Liu, Yichen Lu, Ege Iseri, Yuhan Shi, and Duygu Kuzum*

▸ Author information ▸ Article notes ▸ Copyright and License information




CREE

Cree® Direct Attach™ DA2432™ LEDs
C*xxx*DA2432-S*xx*00-*x*
Data Sheet

Cree's Direct Attach™ DA2432™ LEDs are the next generation of solid-state LED emitters that combine highly efficient InGaN materials with Cree's proprietary device technology and silicon-carbide substrates to deliver superior value for the LED backlighting and general-illumination markets. The DA2432 LEDs are among the brightest in the top-view market while delivering a low forward voltage, resulting in a very bright and highly efficient solution. The bondpad-down design allows for eutectic die attach, eliminating the need for wire bonds, and enables superior performance from improved thermal management. The design is optimally suited for industry-standard top-view packages.

Introduction

Go to:

Electrophysiology has been the backbone of neuroscience research for decades. The last decade has witnessed rapid advancements in multi-photon imaging meth[illegible]s for monitoring h[illegible]dreds of cells densely packed in neuronal microcircuits with high resolution. The a[illegible]nt of optogenetic[illegible]s revolutionized neuroscience research by enabling [illegible]lective control of neural activity and casual manipulation of specific neural circuits. Crosstalk-free inte[illegible]ion of optical imaging, optogenetics and electrophysiological recordings can transform spatiotemporal mapping of neural circuits and can allow unprecedented studies of functional neural connectivity. However, conventional metal-based microelectrodes are not suitable for that purpose since they suffer from prominent light-induced artifacts generated by optical imaging or stimulation. Therefore, a new generation of optically transparent neural probes which eliminate light-induced artifact problem is needed. Several transparent microelectrode arrays [illegible]sed on ITO (Gross et al., 1985; Ledochowitsch et al., 2011; Kwon et al., 2013) and graphene (Kuzum [illegible]., 2014; Park et al., 2014) have been demonstrated. Graphene electrodes hold a great promise for neural monitoring applications, owing to the unique combination of properties including transparency, flexibility (Lee et al., 2008), high conductivity (Geim and Novoselov, 2007), biocompatibility (Li et al., 2013; Sahni et al., 2013), and single-molecule level sensitivity (Schedin et al., 2007). Transparent microelectrode arrays made of graphene have been used fo[illegible]ultimodal probing of neural circuits using two-photon microscopy (Kuzum et al., 2014) and optogenetics [illegible]ark et al., 2014). The optical transparency of graphene has been shown to enable efficient delivery of light for imaging of neuronal populations with high spatial resolution while recording their neural activity by the graphene electrode with high temporal resolution.

Acknowledgments

Go to:

We would like to acknowledge Office of Naval Research Young Investigator Award (N00014161253), National Science Foundation (ECCS-1752241, ECCS-1734940), San Diego Frontiers of Innovation Scholars Program, and Kavli Institute for Brain and Mind Innovative Research for funding this research. This work was performed in part at the San Diego Nanotechnology Infrastructure (SDNI) of UCSD, a member of the National Nanotechnology Coordinated Infrastructure, which is supported by the National Science Foundation (Grant ECCS-1542148).

loop operation that can respond to a given need of stimulation. For this purpose we used μLED chips that are small in size, sufficient flux rating and require less energy compared to laser-based sources. Here we selected two different blue LEDs (460 nm) for closed-loop optogenetics demonstration according to size and power considerations. First one is Cree DA2432 which operates at a high flux rating but has the drawback of greater lateral radiation profile. Second option, Cree TR2227 generates 33% less flux but has a well-defined Lambertian radiation pattern that promises a higher coupling efficiency. LED specifications can be found in Table 1.

They will want to control us like these mice.

Science News *from research organizations*

Implanted wireless device triggers mice to form instant bond

First optogenetics-based study of unrestricted social interactions within groups of animals

Date: May 10, 2021

Source: Northwestern University

Summary: Researchers have wirelessly programmed -- and then deprogrammed -- mice to socially interact with one another in real time. The advancement is thanks to an ultraminiature, wireless, battery-free and fully implantable device that uses light to activate neurons.

LEDs in Smart Cities

Promise and problems of optogenetics

Because the human brain is a system of nearly 100 billion intertwined neurons, it's extremely difficult to probe single -- or even groups of -- neurons. Introduced in animal models around 2005, optogenetics offers control of specific, genetically targeted neurons in order to probe them in unprecedented detail to study their connectivity or neurotransmitter release. Researchers first modify neurons in living mice to express a modified gene from light-sensitive algae. Then they can use external light to specifically control and monitor brain activity. Because of the genetic engineering involved, the method is not yet applied in humans.

When mice were physically near one another in an enclosed environment, Kozorovitskiy's team wirelessly synchronously activated a set of neurons in a brain region related to higher order executive function, causing them to increase the frequency and duration of social interactions. Desynchronizing the stimulation promptly decreased social interactions in the same pair of mice. In a group setting, researchers could bias an arbitrarily chosen pair to interact more than others.

"We didn't actually think this would work," Kozorovitskiy said. "To our knowledge, this is the first direct evaluation of a major long-standing hypothesis about neural synchrony in social behavior."

MIT News
ON CAMPUS AND AROUND THE WORLD

Neuroscientists plant false memories in the brain

MIT study also pinpoints where the brain stores memory traces, both false and authentic.

Anne Trafton, MIT News Office
July 25, 2013

In last year's study, the researchers conditioned these mice to fear a particular chamber by delivering a mild electric shock. As this memory was formed, the c-fos gene was turned on, along with the engineered channelrhodopsin gene. This way, cells encoding the memory trace were "labeled" with light-sensitive proteins.

The next day, when the mice were put in a different chamber they had never seen before, they behaved normally. However, when the researchers delivered a pulse of light to the hippocampus, stimulating the memory cells labeled with channelrhodopsin, the mice froze in fear as the previous day's memory was reactivated.

Neuromodulation & Mental Hygiene

OXFORD

Social Cognitive and Affective Neuroscience, 2016, 387–394

doi: 10.1093/scan/nsv107
Advance Access Publication Date: 4 September 2015
Original Article

Neuromodulation of group prejudice and religious belief

Colin Holbrook,[1] Keise Izuma,[2] Choi Deblieck,[3] Daniel M. T. Fessler,[1] and Marco Iacoboni[4]

[1]Department of Anthropology, University of California, Los Angeles, CA, 90095, USA, [2]Department of Psychology, University of York, Heslington, York, YO10 5DD, UK, [3]Department of Neurology, David Geffen School of Medicine, University of California, Los Angeles, CA, 90095, USA and [4]Department of Psychiatry and Biobehavioral Sciences, David Geffen School of Medicine, University of California, Los Angeles, CA, 90095, USA

Correspondence should be addressed to Colin Holbrook, Department of Anthropology, Center for Behavior, Evolution and Culture, 341 Haines Hall, University of California, Los Angeles, CA 90095-1553, USA. E-mail: cholbrook01@ucla.edu.

Future directions

This study provides a 'proof-of-concept' that adherence to high-level abstract beliefs can be experimentally neuromodulated. However, the present design does not address several key questions that should be pursued in further research. Most notably, in order to create a context in which ideological adherence could be expected to be relatively intense, particularly with regard to religious ideas, we reminded all of our participants of death. Our data therefore do not reveal whether downregulation of the pMFC via TMS would reduce either group bias or religious belief in the absence of a recent threat prime. Relatedly, we have conceptualized the present design as involving two sorts of problems (i.e. mortality and criticism of group values) that may each be addressed by custom-tailored solutions (i.e. religiosity, and derogation of the critical out-group member, respectively). This framing is consistent with the finding that TMS influenced evaluation of the critical author, but not the complimentary author. However, death primes have been found to exaggerate derogation of individuals who criticize in-group values in numerous studies, such that encountering an attack on group values in the aftermath of a reminder of death may constitute a double-shot threat. Thus, the reduction in out-group derogation

Front. Neurosci., 29 March 2019 | https://doi.org/10.3389/fnins.2019.00112

Human Brain/Cloud Interface

Nuno R. B. Martins[1,2*], Amara Angelica[1], Krishnan Chakravarthy[4,5], Yuriy Svidinenko[6], Frank J. Boehm[7], Ioan Opris[8,9], Mikhail A. Lebedev[10,11,12], Melanie Swan[13], Steven A. Garan[1,2], Jeffrey V. Rosenfeld[14,15,16,17], Tad Hogg[18] and Robert A. Freitas Jr.[18]

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[2]Center for Research and Education on Aging (CREA), University of California, Berkeley and LBNL, Berkeley, CA, United States
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[10]Center for Neuroengineering, Duke University, Durham, NC, United States
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[12]Department of Information and Internet Technologies of Digital Health Institute, I.M. Sechenov First Moscow State Medical University, Moscow, Russia
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[14]Monash Institute of Medical Engineering, Monash University, Clayton, VIC, Australia
[15]Department of Neurosurgery, Alfred Hospital, Melbourne, VIC, Australia
[16]Department of Surgery, Monash University, Clayton, VIC, Australia
[17]Department of Surgery, F. Edward Hébert School of Medicine, Uniformed Services University of the Health Sciences, Bethesda, MD, United States
[18]Institute for Molecular Manufacturing, Palo Alto, CA, United States

Neural Nanorobotics

Neuralnanorobots are also expected to empower many non-medical paradigm-shifting applications, including significant human cognitive enhancement, by providing a platform for direct access to supercomputing storage and processing capabilities and interfacing with artificial intelligence systems. Since information-based technologies are consistently improving their price-performance ratios and functional design at an exponential rate, it is likely that once they enter clinical practice or non-medical applications, neuralnanorobotic technologies may work in parallel with powerful artificial intelligence systems, supercomputing, and advanced molecular manufacturing.

Upstate New York Tech

1993

Governor Mario Cuomo designates Albany site as a Center for Advanced Technology (CAT), establishing the NYS Center for Advanced Thin Film Technology

Leveraging a $10 million investment. This is the first major New York State investment in the Albany site and would enable further investment, as the program merges with the CAT in Nanomaterials and Nanoelectronics.

Governor Andrew Cuomo and Applied Materials announce the META Center

The META Center is a $850 million new R&D institute at NY CREATES in Albany. New York State will invest $250 million to leverage a $600 million, seven-year commitment from Applied Materials to fund materials engineering R&D, prototyping and pilot projects in fields like virtual intelligence, augmented and virtual reality, semiconductors and advanced optics. (Image courtesy Applied Materials)

1998

NYS Leaders commit $5 million in State funds to match a $45 million commitment from DARPA to establish the Center for Advanced Interconnect Science and Technology (CAIST)

DARPA

The Center for Advanced Interconnect Science and Technology (CAIST) at the Albany site that is now headquarters of NY CREATES. This $50 million program launched the Focus Center New York, with partners at University of Albany, RPI, Georgia Tech, Stanford and MIT.

Air Power and Electro-Magnetic Frequencies

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Our Mission: To explore, prototype and demonstrate high-impact, game changing technologies that enable the Air Force and Nation to maintain its superior technical advantage.

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Colonel Fred E. Garcia II is Director, Information Directorate, and Commander, Detachment 4, Air Force Research Laboratory, Rome, New York. The Information Directorate (RI) is the Air Force's leading research organization for command, control, communications, computers and intelligence (C4I) and cyber (+1) technologies. The mission of RI is to explore, prototype and demonstrate high-impact, game-changing technologies that enable the Air Force and nation to maintain its superior technical advantage. RI consists of more than 1,200 military, civilians, and on-site contractors. Full biography.

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Stockbridge provides a truly unique capability to support real world, outdoor, and tactical edge experimentation for a wide range of technologies. The 25 remote nodes, or "pads" spread across Stockbridge's 300 acres provide shelter, power, antenna/towers, and fiber optic and network connectivity to a control center located in our Main building. This infrastructure supports cost effective, rapid performance of experiments and tests to support multiple technology areas, including RF communications, spectrum, networking, cyber, sensor and information.

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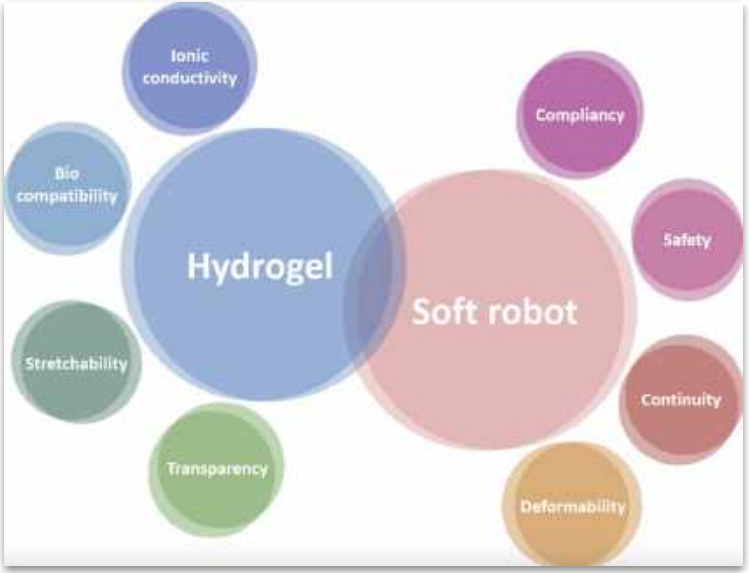
The Griffiss Institute (GI) is a nonprofit talent and technology accelerator for the United States Department of Defense and an international network of academic, government and industry partners. Since 2002, the GI has served the Air Force Research Laboratory Information Directorate (AFRL/RI), the Mohawk Valley region, and the United States, empowering diverse teams with talent and technology development programs that lead the nation in technical and economic impact. Devoted to converging teams and technologies to solve complex national challenges, the GI is proud to enable its international network from its home at Innovare Advancement Center in New York's picturesque Mohawk Valley.

Globalization 4.0 - Humans In The Loop
Work And Lifelong Learning In The Digital Panopticon

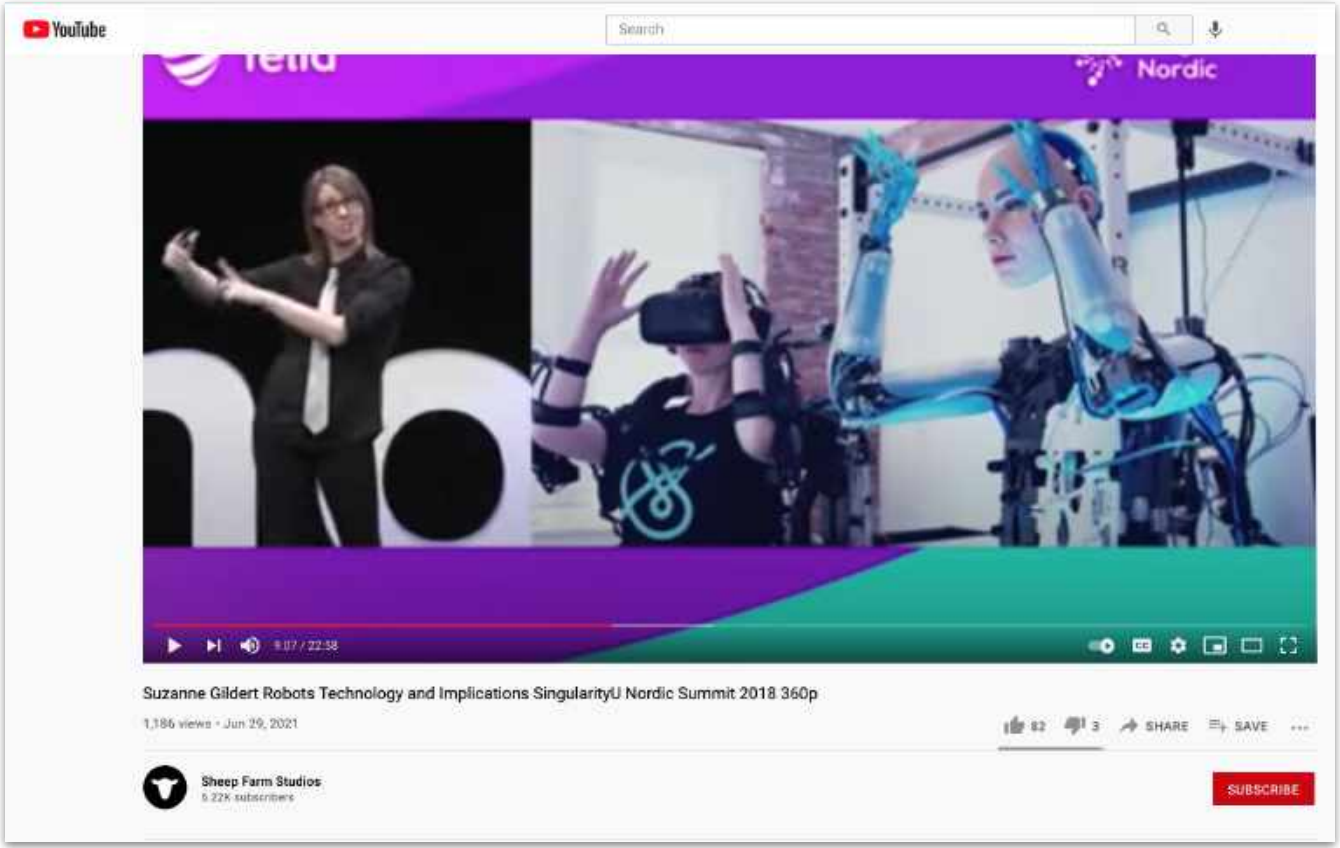
Humans To Robots? Robots To Humans? Hydrogel All Around

1. Introduction

Most robots are built using rigid materials. These robots are designed to efficiently carry out preplanned tasks, and they have contributed to the progression of humanity by significantly improving productivity in industrial fields. Recently, people have begun trying to use robots in daily life. However, conventional rigid-bodied robots struggle to operate in unstructured environments because they are composed of discrete links and joints. Moreover, differences in elastic modulus between robotic components and the tissues of living organisms raise safety concerns. The desire for compliant and safe robots has led to the development of soft-bodied robots [1]. Since the continuously deformable bodies of soft-bodied robots give them a high degree of freedom, they can flexibly handle irregular tasks in a less complicated manner than traditional robots. In addition, they can safely and comfortably interact with humans because they are composed of compliant materials that have an elastic modulus similar to that of the soft tissues found in biological systems. Thus, there has been rapid progress in the development of complaint materials to meet the growing need for soft robots (Fig. 1).



Humans In The Loop - Collecting AI Training Data



AI Closely Linked To Advances In Quantum Computing

Suzanne Gildert
Co-founder and CTO, Sanctuary.ai

About

Suzanne is co-founder of sanctuary.ai

Prior to Sanctuary, Suzanne was co-founder of Kindred AI. She oversaw the design and engineering of the company's human-like robots and was responsible for the development of cognitive architectures that allow these robots to learn about themselves and their environments.

Before founding Kindred, Suzanne worked as a physicist at D-Wave, designing and building superconducting quantum processors, and as a researcher in quantum artificial intelligence software applications.

Suzanne received her Ph.D. in experimental physics from the University of Birmingham (UK) in 2008, specializing in quantum device physics, microfabrication techniques, and low-temperature measurements of novel superconducting circuits.

Globalization 4.0 Haptic Robotic Gig Work On Blockchain

Globotics and globalization's 'third unbundling'

The globalization part of globotics can be thought of as a 'third unbundling'—the geographic separation of labour and labour services. Digital technology is lowering face-to-face costs at a frenetic pace, and this, in turn, is making it easier for people to provide services internationally. Technology is making this separation feasible. Vast wage differences are making it profitable. In the arbitrage framework, this is international arbitrage in labour services.

We discuss this trade in services much more extensively below, especially 'telemigration', which is the sort of trade that happens when workers sitting in one nation telecommute into offices in another. Barriers to the export of labour services are not only about the cost of meetings; some types of service providers have to be in front of a machine to get the job done. But digitech is changing this reality, and the introduction of 5G will change it much more. There are already instances of these 'telerobots' being controlled at long ranges, including telesurgery and drone operations.

Augmented Digital Identity For Work and Play

This is already a very, very, huge thing. First, people can live where they want. Second, it doesn't matter where you were born. You're born in a virtual world. You can do any work, anything, go anywhere.

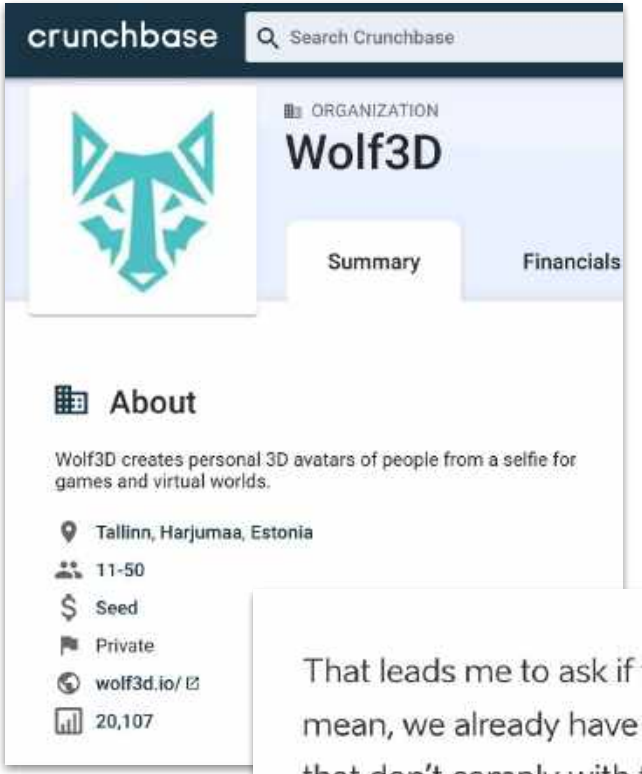
I think that's amazing. You can communicate with anyone in the world and it's not based on location. That's a big thing.

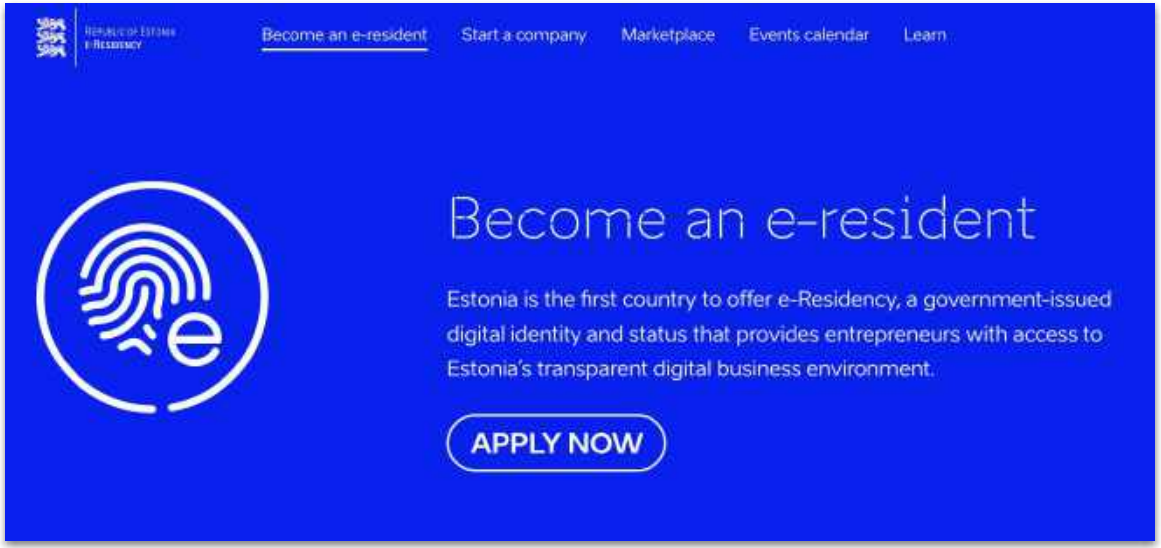
Also, today social media is very passive, and not a natural thing to do. You just go there and broadcast some stuff to a lot of people. This is a very weird kind of interaction, where you like or react to someone, then you feel like you're friends, and that's not how people are used to communicating.

Wolf 3D - ReadyPlayer.me - EU Investment - Estonia

During period 01.09.2020 - 31.12.2021 Wolf3D is participating in product development grant project EU60282. Project name: Ready Player Me platform development. Ready Player Me enables a user to generate a personal avatar from a selfie image and use it in different gaming and virtual applications.

Estonia - E-Government - Digital Citizenship - Globotics





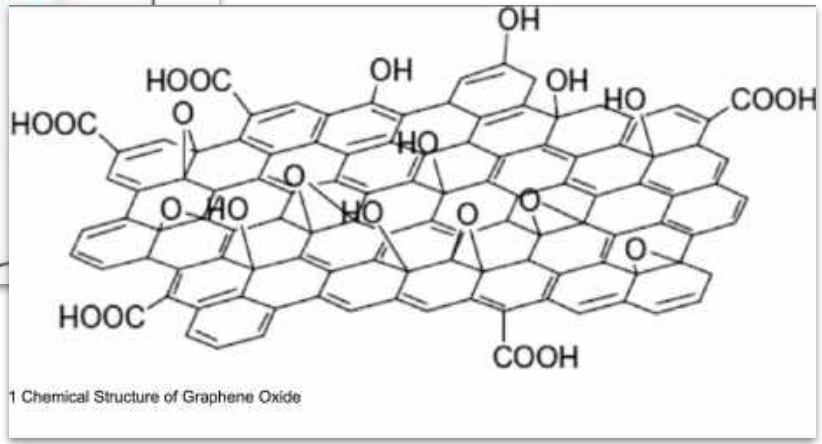
That leads me to ask if there is still a need for physical countries with borders at all? I mean, we already have bitcoin as an independent virtual currency, and different services that don't comply with traditional governmental regulations. Tim Draper re Estonia

MENU

IMPACT MANAGEMENT PROJECT

A forum for building global consensus on how to measure, assess and report impacts on people and the environment

Now I Think The Big Boss, Mr. Global = Mr. Graphene



1 Chemical Structure of Graphene Oxide

Smart Contract Enforced Behavior Under Transhumanism

Transhuman Crypto Cloudminds

Essay Winner: Humanity Plus Essay Competition, "Mutual Benefits of Blockchain and Transhumanism" (2018)

12 Pages • Posted: 26 Nov 2018

Melanie Swan
Purdue University; Institute for Blockchain Studies

Date Written: October 21, 2018

"For surviving in the future, **good-player behavior** could be game-theoretically enforced with the simultaneous privacy-transparency property of blockchains, together with the immutable peer-confirmed consensus algorithm and audit-log checks and balances system."

Blockchain Thinking : The Brain as a Decentralized Autonomous Corporation [Commentary]

Publisher: IEEE

Cite This

PDF

Melanie Swan

Abstract:
Reports on the concept of blockchains, a new form of information technology that could have several important future applications. One is blockchain thinking, formulating thinking as a blockchain process. This could have benefits for both artificial intelligence and human enhancement, and their potential integration. Blockchain thinking is outlined here as an input-processing-output computational system.

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Page(s): 41 - 52

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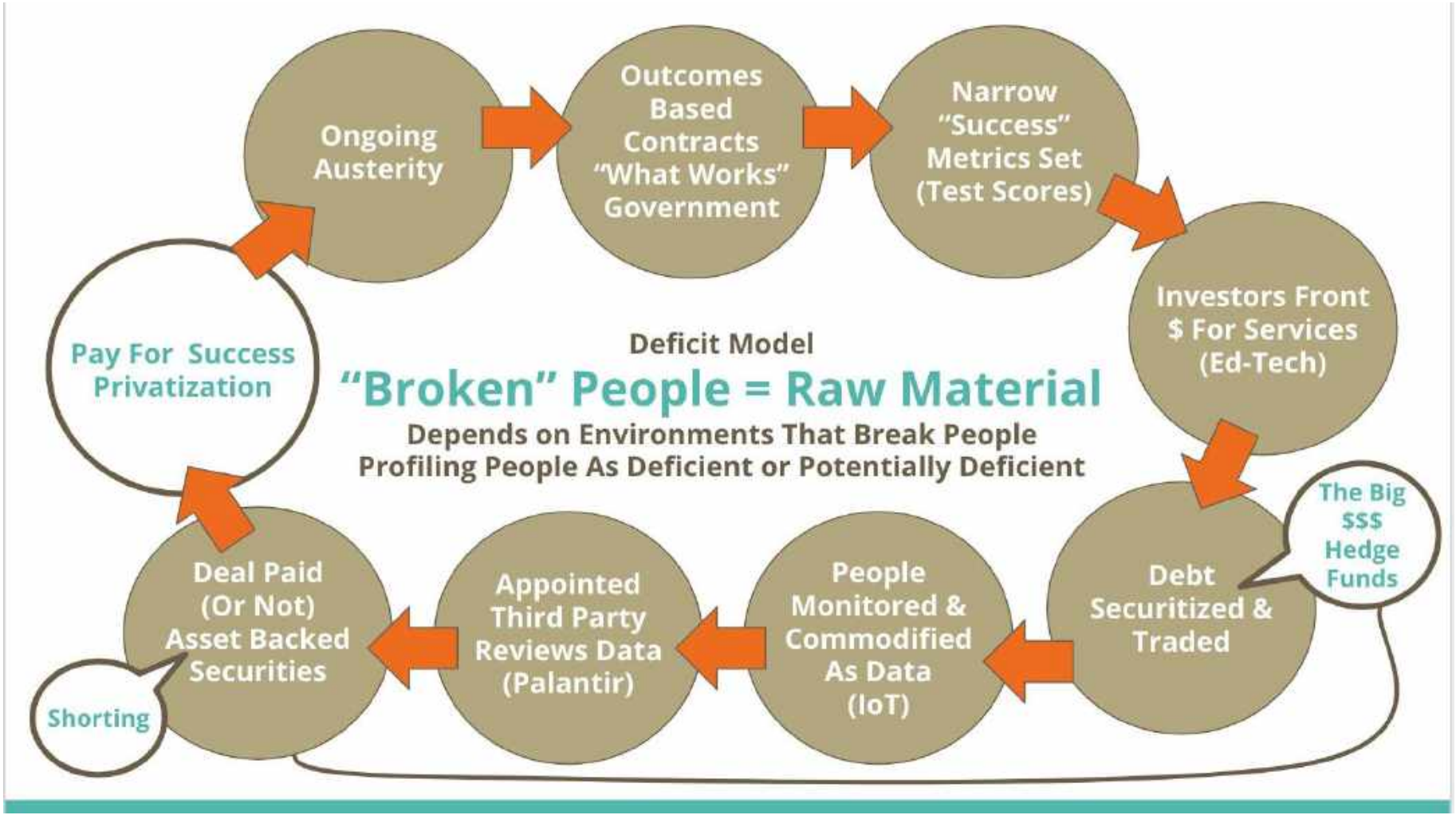
Date of Publication: 17 December 2015

DOI: 10.1109/MTS.2015.2494358

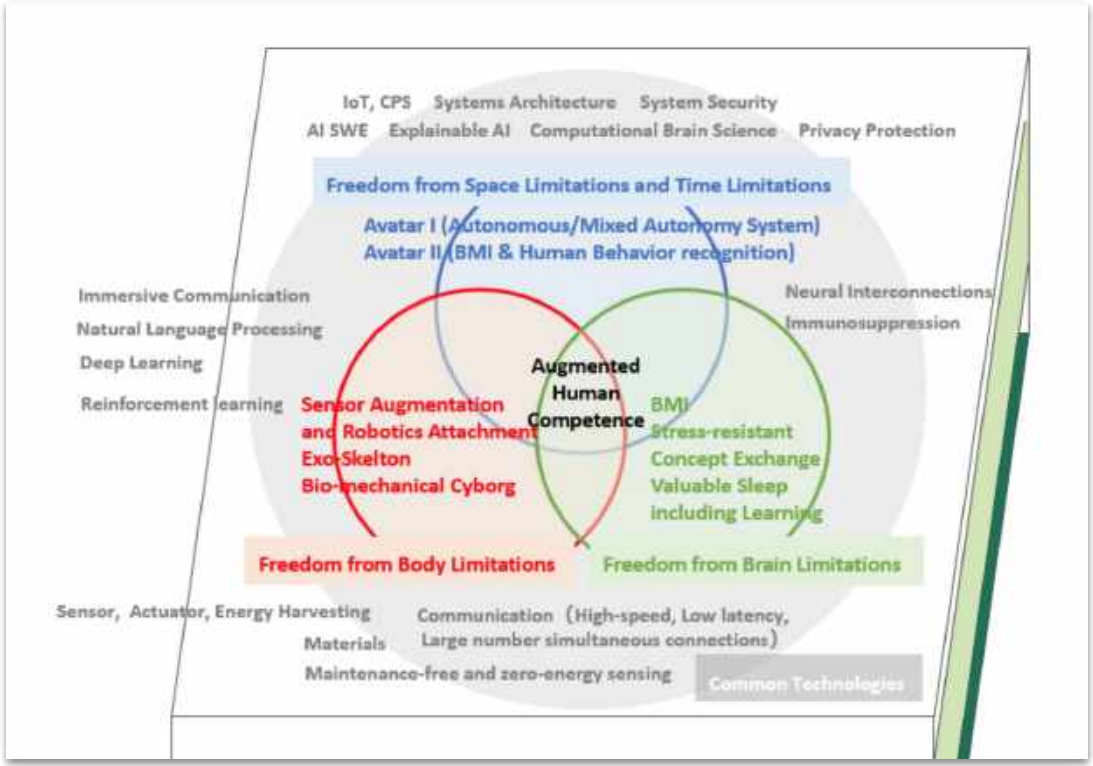
ISSN Information:

Publisher: IEEE

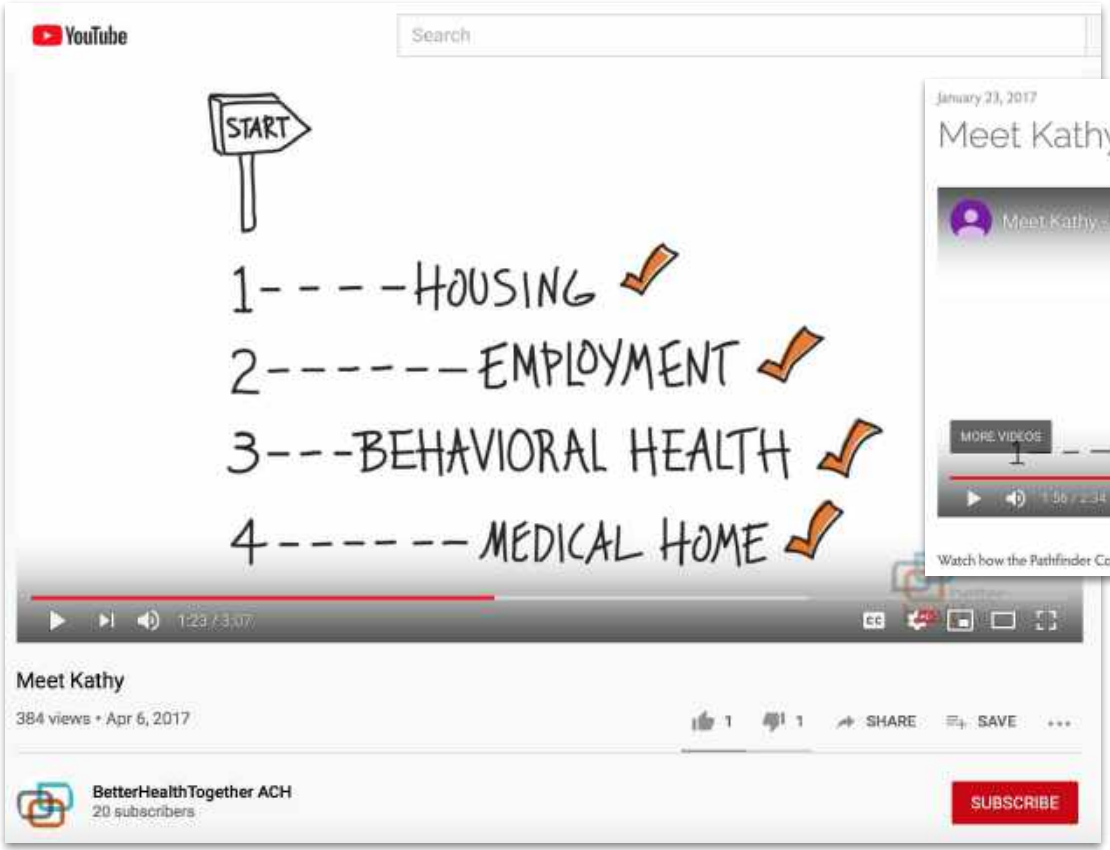
Stakeholder Capitalism
Dashboard Life In The Metaverse
Legitimizing The Panopticon
Training Our Digital Replacements


Ongoing Austerity
Outcomes Based Contracts "What Works" Government
Narrow "Success" Metrics Set (Test Scores)
Investors Front $ For Services (Ed-Tech)
Debt Securitized & Traded
The Big $$$ Hedge Funds
People Monitored & Commodified As Data (IoT)
Appointed Third Party Reviews Data (Palantir)
Deal Paid (Or Not) Asset Backed Securities
Shorting
Pay For Success Privatization
Deficit Model
"Broken" People = Raw Material
Depends on Environments That Break People
Profiling People As Deficient or Potentially Deficient

Life As Mixed Reality "Game" Run By CIA / Hedge Funds



Social Impact Pathways Under IoT Surveillance



Blockchain ID / E-Wallet = Portal To The Metaverse

COINTELEGRAPH
The future of money

BTC	ETH	XRP	BCH	EOS
$34,580	$1,979	$0.64	$477	$3.76
+4.82%	+5.24%	+2.53%	+2.18%	+3.42%

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RACHEL WOLFSON MAY 20, 2020

Universal Basic Income Test Runs Blockchain to Share Money Worldwide

Universal basic income models based on blockchain systems are being developed, but are they practical?

19044 Total views 175 Total shares Listen to article 8:1

"The Citizen Income Experiment will start as a raffle that will allow people anywhere to sign up for the chance to win a one year UBI paid out monthly as $100 worth of crypto (either BTC, ETH or DAI). BrightID will be leveraged to ensure that users enter the raffle only once. This will help us validate BrightID's capabilities."

Monitoring And Nudging

EE Times EUROPE — News | Focus | Opinion | Education | Magazine | Company Dire

IoT Clothing: The Next Generation of Wearables

March 15, 2021 John Koon

Wearable electronics including Apple Watch, Fitbit, and other vital-sign monitors are becoming more and more popular. But another kind of innovation is evolving: wearable fabrics with built-in electronics and sensors. These fabrics can be used to create clothing to monitor our vital signs. What opportunities and challenges will these innovations bring?

Data collection: Sensors need to be small

An additional challenge is being able to include multiple sensors in the fabric without affecting the fabric's texture. Miniaturizing the sensors may be a way to make them more transparent to the wearer. However, the sensors must also perform so as to collect and transfer data continuously. The struggle to balance performance and form factor could cause development bottlenecks.

Energy supply: Solar; harvesting body heat, motion

Finally, everything that the IoT fabric does needs to be supported by a steady supply of power. IoT fabric faces the same problem that other IoT devices have, i.e., how to consume as little energy as efficiently as possible while maintaining a high level of performance. Using a lower-power microcontroller unit with a sleep mode may be an excellent way to conserve energy. On the other hand, obtaining energy without having to swap out expired batteries can also help energy efficiency.

Much research is going into energy harvesting from body heat and motion or vibration. However, adding the capacity to harvest energy from the environment and supply it to the fabric's IoT system will increase design, development, and production complexity.

Leading roboticist Dr David Hanson (right) says androids like his creation Sophia (left) will share the same civil rights as humans by the year 2045, including the right to marry both people and other robots

CONNECTING FINANCE TO RESULTS:

CAN EMERGING TECHNOLOGIES MAKE IMPACT BONDS MORE IMPACTFUL?

MARCH 2019

ROADMAP RESEARCH VISION TEAM PARTNERS UPDATES | GITHUB

SingularityNET Partners With Ocean Protocol to Decentralize AI Data

Looking to make full-stack, decentralized AI a reality.

SimoneSays Follow
Jan 12, 2018 · 4 min read

Ethiopia: the biggest blockchain deal ever

In partnership with Ethiopia's Ministry of Education, Input Output will create a blockchain-based digital identity for 5 million students and teachers. This is the biggest blockchain deployment anywhere in the world. Using Cardano with Atala PRISM, this technology will create a national attainment recording system; to verify grades, monitor school performance, and boost nationwide education.

See Ethiopia's Minister of Education interview »

Logan's Run
Bio-Tech
Big Data, Big Oil, Big Impact
Threat Scoring

Logan's Run - High-Tech Hedonism And Death At Age 30

existence may be Utopian, but nobody is allowed to enjoy it a single day beyond their 30th birthday.

Liquor is apparently passé, but the drug syndrome is very much evident. At shops catering to the hallucinatory experiences and at private parties, drugs in the forms of pills and vapors set the mood.

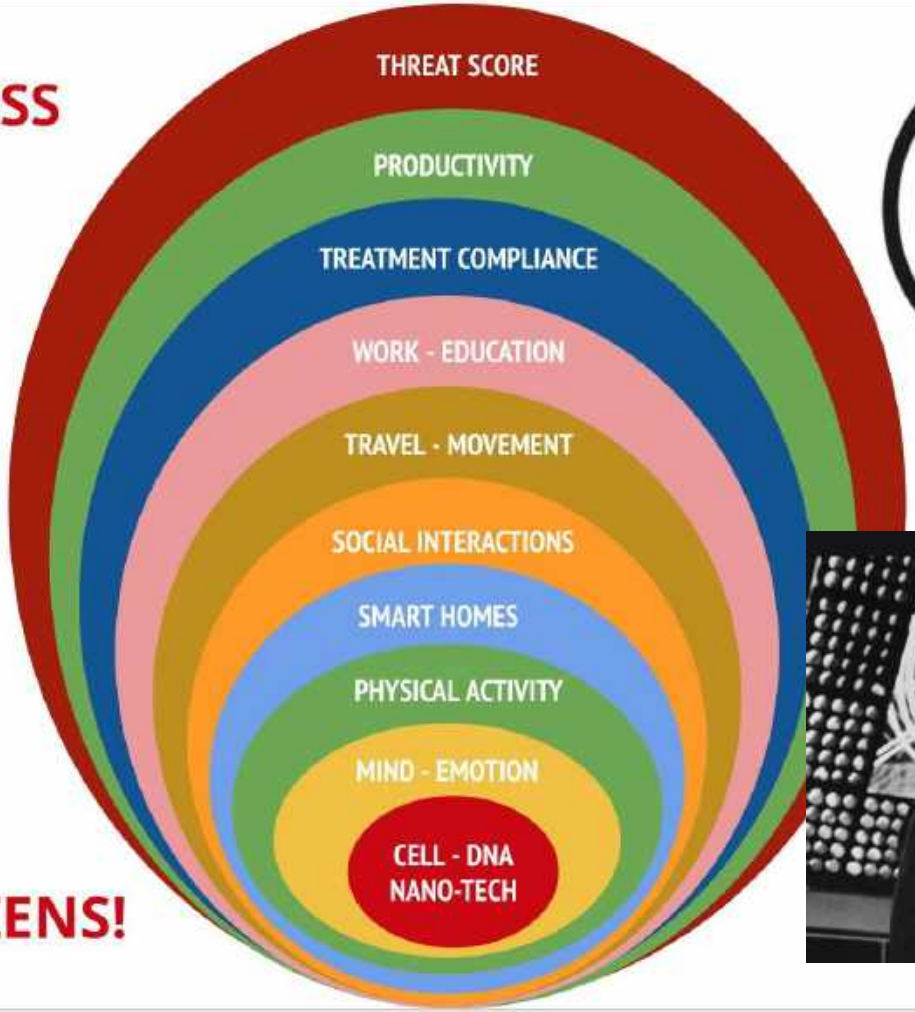
How much do these things cost? Nothing. In this blissful period, money does not exist.

The family no longer exists. Babies are conceived by seed-mothers, but are incubated and raised by computerized controls. Nobody has a last name. There are no uncles, aunts, nephews or nieces. No wives and husbands, no fathers and mothers. Whenever a child is incubated, a 30-year-old faces Lastday. Zero Population Growth has been attained.

PAY FOR SUCCESS
PANOPTICON

Digital ID
Internet of Bodies
United Nations
Agenda 21
Predictive Profiling
Data Harvest
Human Capital
Futures Trading

WELCOME
DIGITAL CITIZENS!



Logan's Run, Pegasus Park Dallas

Pegasus Park: Lyda Hill Philanthropies Unveils Details of 23-Acre Hub for Biotech Innovation, Social Impact in Dallas

The mixed-use social pu[illegible]oject—designed to boost local biotech, nonprofit, and corporate innovation—has been in the works for years. Expected to open in early 2021, the future-focused campus is located near the Dallas Medical District.

In 1976, filmmaker Michael Anderson used the building to depict the faceless authoritarianism of the futuristic dystopian world of *Logan's Run*. Sadly, Pegasus Park's two most distinctive characteristics in the film—its golden glazing and the concrete columns that ran down its facade—were removed during Exxon's subsequent renovation. They were replaced with a glowing Pegasus logo, an echo of the Pegasus that once adorned the oil company's downtown headquarters in the Magnolia Building.

After Exxon moved most of its operations out of Pegasus Park in the early 2000s, the building sat empty for nearly a decade. The Dallas ISD considered moving its offices to the Stemmons location; the property changed hands a few times. Now a new owner has purchased the site with hopes of authoring the next chapter in Pegasus Park's history. J. Small Investments and Lyda Hill Philanthropies plan to transform the 23-acre, six-building, 750,000-square-foot campus into a "biotech 'plus' hub" featuring laboratory

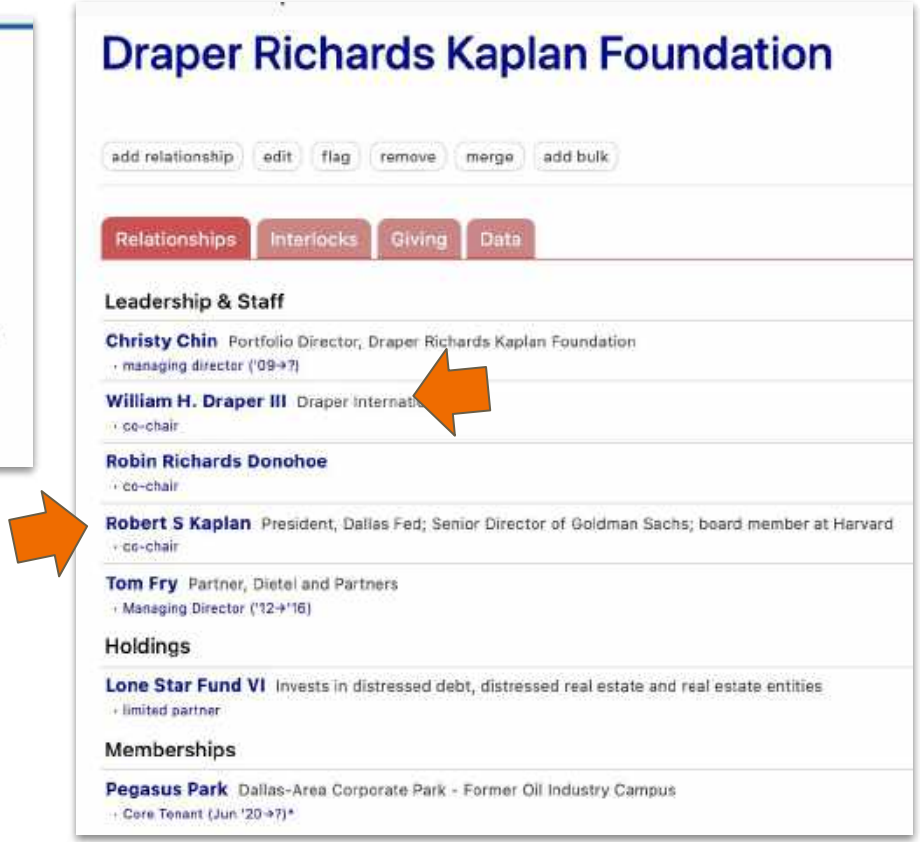
Getting its Wings: The office tower no longer has the

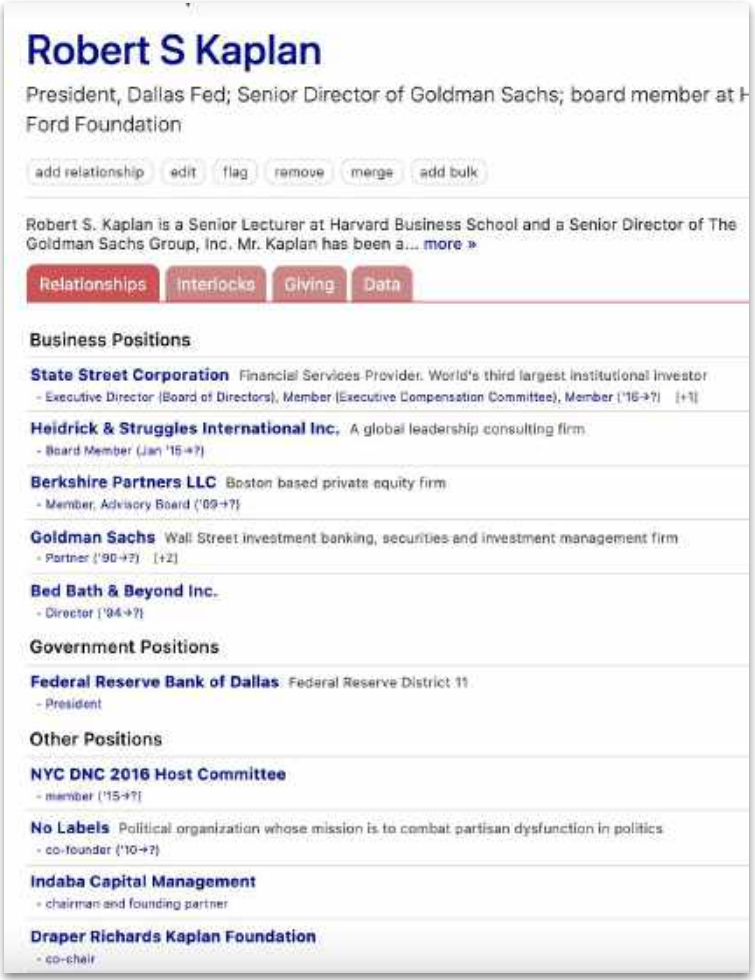
Draper Kaplan Richards Anchor "Social Impact" Tenant

Five Impact Organizations Move to the Water Cooler at Dallas' Future-Focused Pegasus Park

California-based Draper Richards Kaplan Foundation—a venture philanthropy group—will expand to Dallas with the move. Dallas-based founding tenants Commit Partnership, the Dallas Foundation, United to Learn, and Uplift Education served as thought partners during a multi-year planning process.

Prospective Water Cooler tenants may receive reduced rent and access to a 'What-Else-Do-You-Need-to-be-Awesome' fund.





Robert S Kaplan

President, Dallas Fed; Senior Director of Goldman Sachs; board member at H
Ford Foundation

add relationship | edit | flag | remove | merge | add bulk

Robert S. Kaplan is a Senior Lecturer at Harvard Business School and a Senior Director of The Goldman Sachs Group, Inc. Mr. Kaplan has been a... more »

Relationships | Interlocks | Giving | Data

Business Positions

State Street Corporation Financial Services Provider. World's third largest institutional investor
- Executive Director (Board of Directors), Member (Executive Compensation Committee), Member ('16→?) [+1]

Heidrick & Struggles International Inc. A global leadership consulting firm
- Board Member (Jan '15→?)

Berkshire Partners LLC Boston based private equity firm
- Member, Advisory Board ('09→?)

Goldman Sachs Wall Street investment banking, securities and investment management firm
- Partner ('90→?) [+2]

Bed Bath & Beyond Inc.
- Director ('94→?)

Government Positions

Federal Reserve Bank of Dallas Federal Reserve District 11
- President

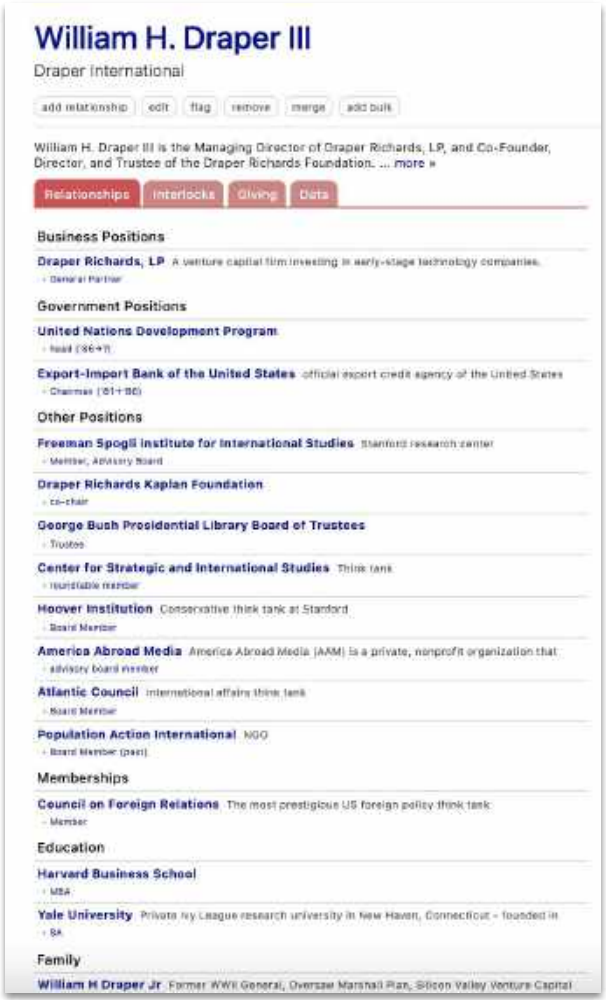
Other Positions

NYC DNC 2016 Host Committee
- member ('15→?)

No Labels Political organization whose mission is to combat partisan dysfunction in politics
- co-founder ('10→?)

Indaba Capital Management
- chairman and founding partner

Draper Richards Kaplan Foundation
- co-chair



William H. Draper III

Draper International

add relationship | edit | flag | remove | merge | add bulk

William H. Draper III is the Managing Director of Draper Richards, LP, and Co-Founder, Director, and Trustee of the Draper Richards Foundation. ... more »

Relationships | Interlocks | Giving | Data

Business Positions

Draper Richards, LP A venture capital firm investing in early-stage technology companies.
- General Partner

Government Positions

United Nations Development Program
- head ('86→?)

Export-Import Bank of the United States official export credit agency of the United States
- Chairman ('81→'85)

Other Positions

Freeman Spogli Institute for International Studies Stanford research center
- Member, Advisory Board

Draper Richards Kaplan Foundation
- co-chair

George Bush Presidential Library Board of Trustees
- Trustee

Center for Strategic and International Studies Think tank
- roundtable member

Hoover Institution Conservative think tank at Stanford
- Board Member

America Abroad Media America Abroad Media (AAM) is a private, nonprofit organization that
- advisory board member

Atlantic Council international affairs think tank
- Board Member

Population Action International NGO
- Board Member (past)

Memberships

Council on Foreign Relations The most prestigious US foreign policy think tank
- Member

Education

Harvard Business School
- MBA

Yale University Private Ivy League research university in New Haven, Connecticut - founded in
- BA

Family

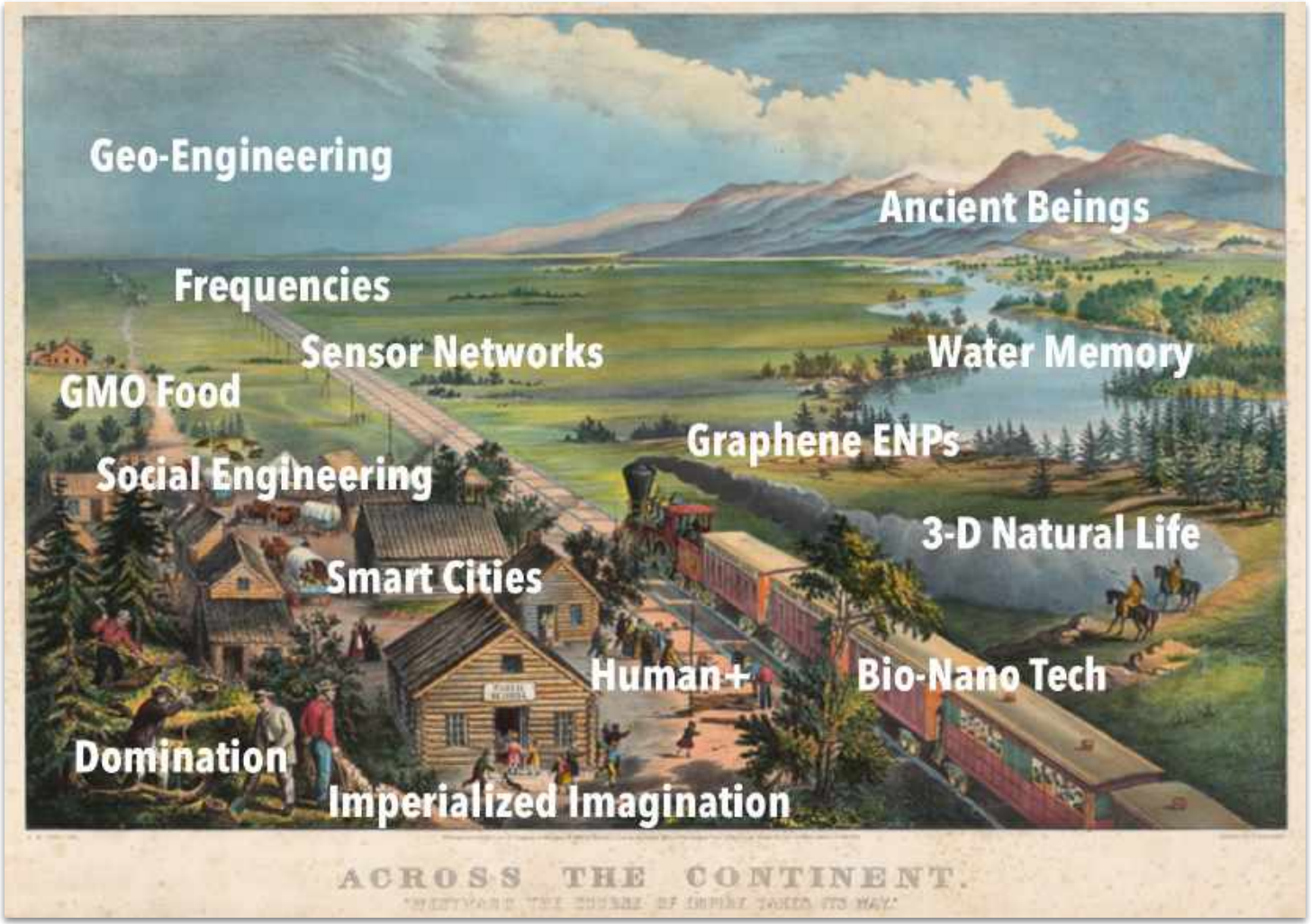
William H Draper Jr Former WWII General, Oversaw Marshall Plan, Silicon Valley Venture Capital

History of Mitre
Systems Engineering - Threat Assessment
Radar Systems To Human Biology

Mitre Corporation

Systems Engineering And Threat Assessment
From Radar Research To Biosecurity

Civilization
The Big Lie
John Trudell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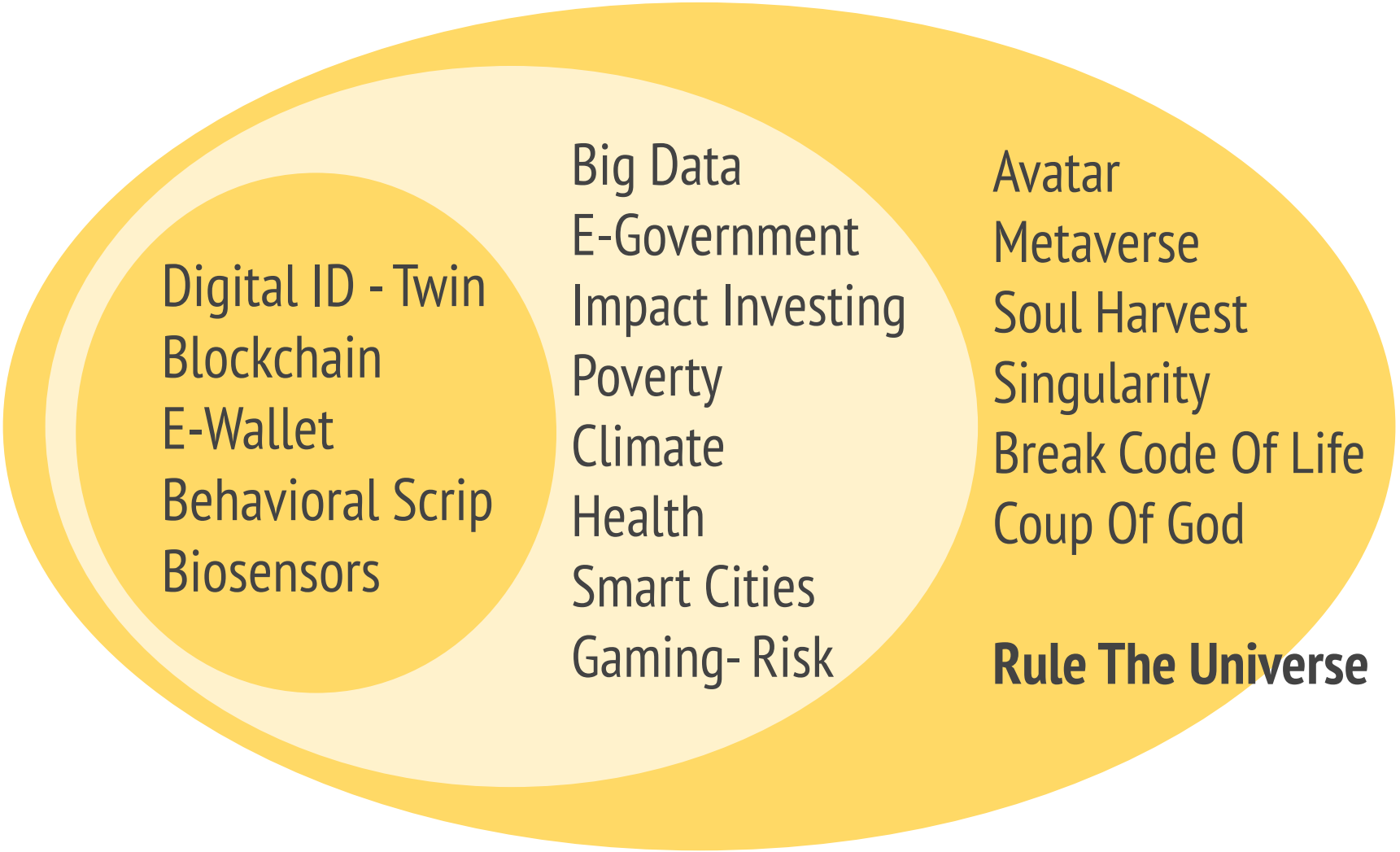
Ancient Beings
Frequencies
Sensor Networks
Water Memory
GMO Food
Graphene ENPs
Social Engineering
3-D Natural Life
Smart Cities
Human+
Bio-Nano Tech
Domination
Imperialized Imagination
ACROSS THE CONTINENT.


Digital ID - Twin
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Behavioral Scrip
Biosensors
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Poverty
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Avatar
Metaverse
Soul Harvest
Singularity
Break Code Of Life
Coup Of God
Rule The Universe

Programmable Matter

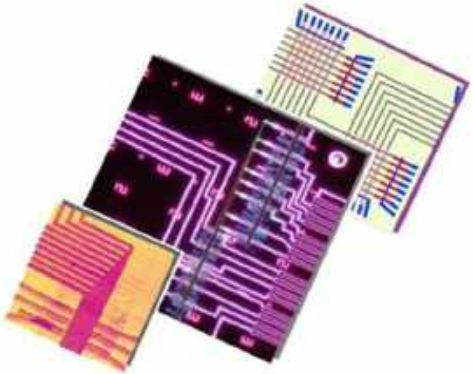
MITRE's Nanosystems Group

Welcome

Since 1992, MITRE's Nanosystems Group has been performing broadly based research and development (R&D) in nanotechnology, with a focus on systems engineering that starts at the molecular scale. Our inter- and multi-disciplinary work includes the development of systems such as nanoelectronic computers, nano-enabled energy and power storage devices, and millimeter-scale robots. Our researchers also have access to state-of-the-art facilities in MITRE's Biotechnology and Nanotechnology Lab on our campus in McLean, Virginia.

For more information about our group and research efforts, follow the links below.

- MITRE's Nano Research and Development
- Nanotechnology Technical Staff
- Our Publications and Patents



Among the strengths of the MITRE Nanosystems Group is the design and prototyping of integrated nanoelectronic system architectures. Shown here is a nanoprocessor that was developed in collaboration with Harvard University.

Page last updated: January 31, 2013 | Top of page

Approved for Public Release; Distribution Unlimited
Case # 97W0061

Matter As Software

James C. Ellenbogen

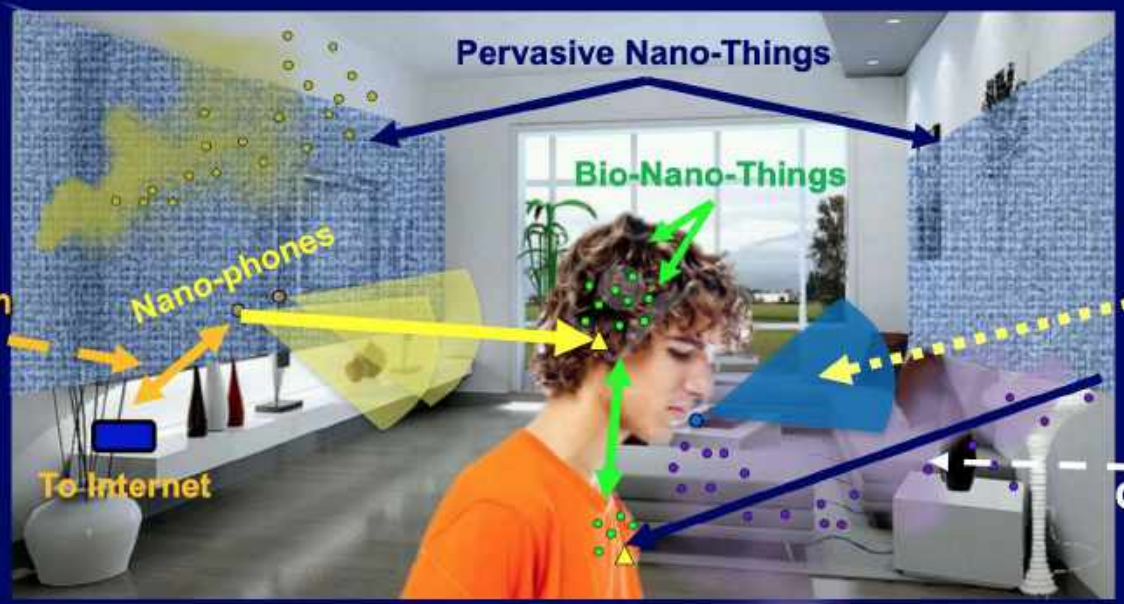
March 1997

MITRE
McLean, Virginia

Presented at the Software Engineering & Economics Conference, McLean, VA, 2-3 April 1997.

INTERNET OF NANO-THINGS

I.F. Akyildiz and J.M. Jornet,
"The Internet of Nano-Things",
IEEE Wireless Communications Magazine, Dec. 2010.



Source

Weapons - Bullets To Nano

Front Neurosci. 2018; 12: 49.
Published online 2018 Feb 7. doi: 10.3389/fnins.2018.00049
PMCID: PMC5808284
PMID: 29467611

The Vagus Nerve at the Interface of the Microbiota-Gut-Brain Axis

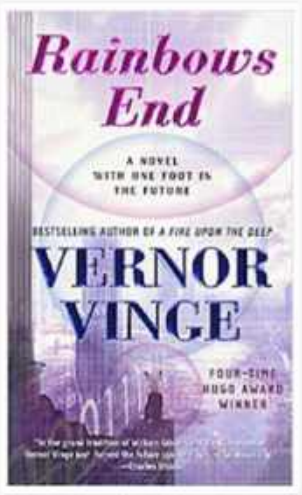
Bruno Bonaz,[1,2,*] Thomas Bazin,[3,4] and Sonia Pellissier[5]

Abstract Go to:

The microbiota, the gut, and the brain communicate through the microbiota-gut-brain axis in a bidirectional way that involves the autonomic nervous system. The vagus nerve (VN), the principal component of the parasympathetic nervous system, is a mixed nerve composed of 80% afferent and 20% efferent fibers. The VN, because of its role in interoceptive awareness, is able to sense the microbiota metabolites through its afferents, to transfer this gut information to the central nervous system where it is integrated in the central autonomic network, and then to generate an adapted or inappropriate response. A cholinergic anti-

- Member of Corporate Global Safety, Health, and Environment (SHE) Leadership Team – provided team with perspectives on potential environmental issues/concerns.
- Member of DuPont's internal Nanotechnology Advisory team with responsibilities for providing corporate-wide guidance on environmental aspects related to nanotechnology.
- Member of DuPont – Environmental Defense team that worked on a Product Stewardship Framework for nanotechnology – Role is DuPont's environmental fate and effects expert. Regulatory Interactions.
- Worked with the US EPA to strongly influence the development of the US EPA PBT Profiler – i.e., Persistence, Bioaccumulation, Toxicity Screening Tool -

Pay Attention To Science Fiction - Vinge's YGBM Virus



Vernor Vinge is now officially a full-time writer, having retired from his day job as a professor of Computer Science at the University of California at San Diego. So fans hoped his new novel would come more quickly, but in fact it's been 7 years. Oh well, it takes as long as it takes. Rainbows End is certainly worth the wait.

Interestingly, it is set at UCSD, and the main character is a former professor there -- though a poet, not a computer scientist. He is Robert Gu, apparently the leading poet of our time (that would be now). But as of about 20 years from now, he has been in a nursing home for years, with Alzheimer's (or some other form of dementia), and other maladies of old age. But he has been cured -- indeed he has hit the jackpot in the "heavenly minefield" of 21st Century medicine.

Robert's son and daughter-in-law, it turns out, are highly placed individuals on the U.S. side in the Great Powers' continuing war against chaos -- against the possibility of various varieties of WOMD being wielded against the whole world. One other key individual is Alfred Vaz, an Indian intelligence head. He and two of his colleagues from Europe and Japan have uncovered a plot to deliver a "YGBM" virus in a clever fashion. YGBM means "You Gotta Believe Me": that is, mind control. They recruit an helper, who they meet only in virtual space, called the Rabbit, who will assist them in infiltrating the biolabs near UCSD where they suspect the virus is under development. The kicker is that the man behind this project is Vaz himself -- but he, of course, will use this power only for good -- he sees it as the only way to control the bad guys in the world. So he needs to play his colleagues and the Rabbit very carefully. But the Rabbit's abilities in the virtual world are quite remarkable.

"One other key individual is Alfred Vaz, an Indian intelligence head. He and two of his colleagues from Europe and Japan have uncovered a plot to deliver a "YGBM" virus to in a clever fashion. YGBM means "You Gotta Believe Me:" that is mind control. They recruit a helper, who they meet only in virtual space, called Rabbit, who will assist in infiltrating the biolabs near UCSD where they suspect the virus is under development." Source

We don’t recognize new technologies.

REVIEW article

Front. Med., 04 June 2021 | https://doi.org/10.3389/fmed.2021.648005

Nanomedicine: A Diagnostic and Therapeutic Approach to COVID-19

Arjun Sharma[1,2], Konstantinos Kontodimas[1] and Markus Bosmann[1,2*]

[1]Pulmonary Center, Department of Medicine, Boston University School of Medicine, Boston, MA, United States
[2]Center for Thrombosis and Hemostasis, University Medical Center of the Johannes Gutenberg-University, Mainz, Germany

Source

Quiet Weapons For Silent Wars Micro-electromechanical Systems (MEMs)

Nanoparticles can enhance drug-based therapies by optimizing uptake, stability, target cell-specific delivery, and **magnetic properties**. In fact, recent studies have highlighted the potential of nanoparticles in different aspects of the fight against SARS-CoV-2, such as enhancing **biosensors** and diagnostic tests, drug therapies, designing new delivery mechanisms, and **optimizing vaccines**.

The COVID-19 crisis sets the stage to evolve the concepts of **nanotechnology** into reality. As its potential is revealed, it can offer **innovative** ways of protecting **healthy** and infected individuals, detecting SARS-CoV-2, and helping to end the pandemic.


MITRE | SOLVING PROBLEMS FOR A SAFER WORLD
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A NATIONAL STRATEGY FOR DIGITAL HEALTH
May 2021
Topics: Public Health, Policy, Systems Modernization, Emergency Preparedness and Response
Digital Health Team, MITRE
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COVID-19 was our wake-up call. Our world was turned upside down in an instant as health officials, government leaders, and everyone scrambled to deal with a disease that we had no way to treat and no way to cure. However, as they have in every crisis that has ever faced this nation, the American people rose to the challenge.
Now that the end of this global nightmare is just over the horizon, we cannot and must not slow down. We have seen first-hand how vulnerable we are. We have seen the need to be able to instantly scale healthcare services. We have seen the vital role that digital technology has played in saving lives, and it is our responsibility to make sure the lessons we have learned inspire us to climb even higher. We must do this, not only to prepare for the next global health emergency, but to improve the health and well-being of our people every day.
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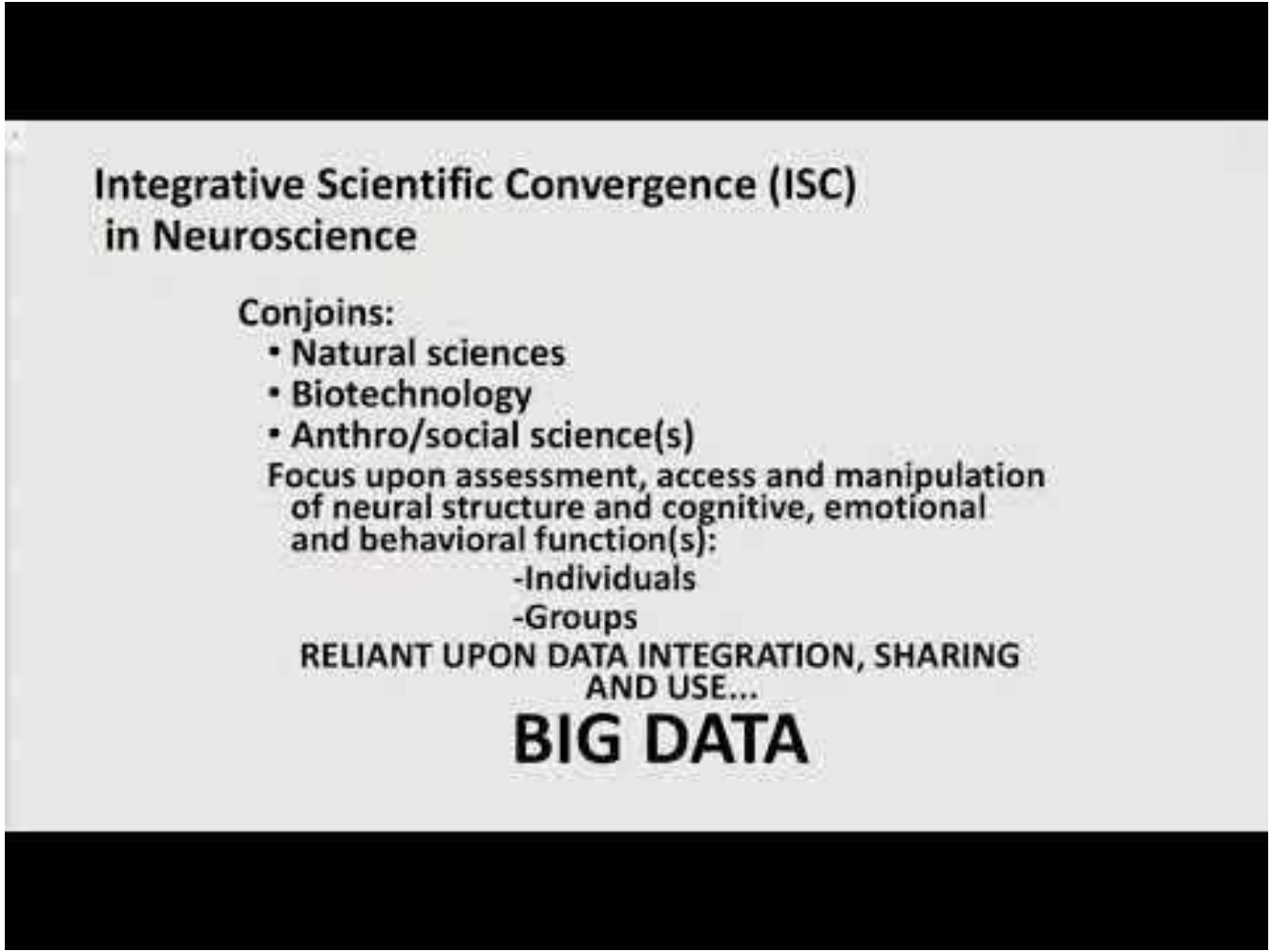
Evolution of Dual Use Neural Nano-Tech



James Giordano
DODIAC Webinar
August 2020
Big Data - Brains
Predictions
Targeting

Source

Soldiers - Veterans - Neural Implant R&D

DARPA DEFENSE ADVANCED RESEARCH PROJECTS AGENCY

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> Defense Advanced Research Projects Agency > Our Research > Systems-Based Neurotechnology for Emerging Therapies

Systems-Based Neurotechnology for Emerging Therapies (SUBNETS) (Archived)

Dr. Al Emondi

The Systems-Based Neurotechnology for Emerging Therapies (SUBNETS) program aims to improve force health by using neurotechnology as the basis for effective, informed, and precise treatments for neuropsychiatric illnesses in military Service members. The effects of such illnesses, brought on by war, traumatic injuries, and other experiences, remain challenging to treat. Current treatment approaches—surgery, medications, and psychotherapy—can often help to alleviate the worst effects of illnesses such as major depression and post-traumatic stress, but they are imprecise and not universally effective. Through SUBNETS, DARPA seeks to generate the knowledge and technology required to deliver relief to patients with otherwise intractable neuropsychiatric illness.

Restoring Active Memory (RAM)

Source

Dr. Tristan McClure-Begley

The Restoring Active Memory (RAM) program aims to mitigate the effects of traumatic brain injury (TBI) in military Service members by developing neurotechnologies to facilitate memory formation and recall in the injured brain. More than 270,000 Service members have been diagnosed with TBI since 2000[1]. The condition frequently results in an impaired ability to retrieve memories formed prior to injury and a reduced capacity to form or retain new memories following injury. Despite the scale of the problem, few effective therapies currently exist to mitigate the long-term consequences of TBI on memory. Enabling restoration of memory function would support military readiness by providing injured personnel the option of returning to duty, and would improve quality of life for wounded veterans.

DARPA's end goal for the RAM program is to develop and test a wireless, fully implantable neural interface for human clinical use. To achieve that goal, the program blends fundamental research and technology development. Performer teams are building multi-scale computational models with high spatial and temporal resolution that describe how neurons code declarative memories—the well-defined parcels of knowledge that can be consciously recalled and described in words, such as events, times, and places. Teams are also exploring new methods for analyzing and decoding neural signals to understand how targeted stimulation might be applied to help restore function to the injured brain.

Soldiers - Veterans - Neural Implant R&D

DARPA DEFENSE ADVANCED RESEARCH PROJECTS AGENCY

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› Defense Advanced Research Projects Agency › Our Research › Next-Generation Nonsurgical Neurotechnology

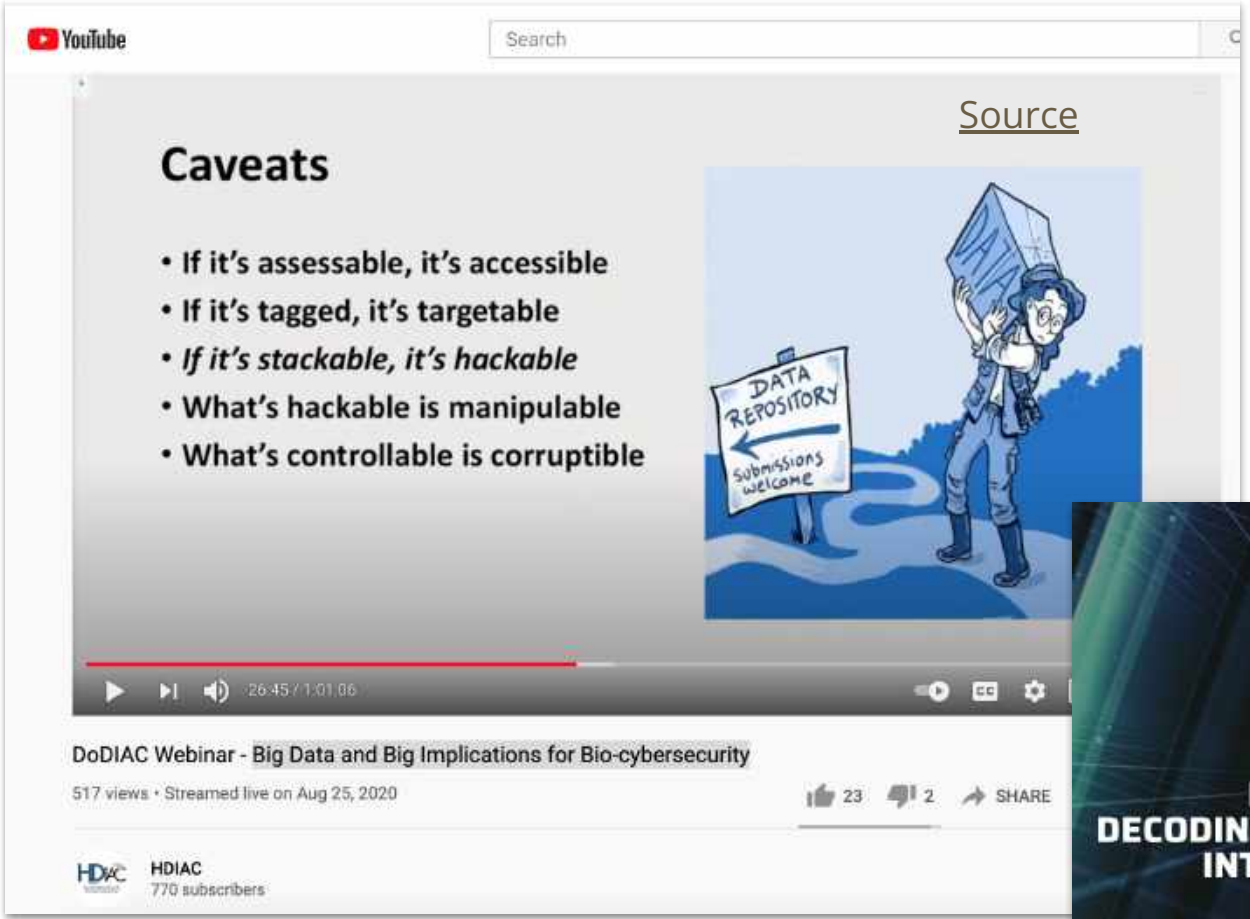
Next-Generation Nonsurgical Neurotechnology Source

Dr. Al Emondi

The Next-Generation Nonsurgical Neurotechnology (N^3) program aims to develop high-performance, bi-directional brain-machine interfaces for able-bodied service members. Such interfaces would be enabling technology for diverse national security applications such as control of unmanned aerial vehicles and active cyber defense systems or teaming with computer systems to successfully multitask during complex military missions.

Whereas the most effective, state-of-the-art neural interfaces require surgery to implant electrodes into the brain, N^3 technology would not require surgery and would be man-portable, thus making the technology accessible to a far wider population of potential users. Noninvasive neurotechnologies such as the electroencephalogram and transcranial direct current stimulation already exist, but do not offer the precision, signal resolution, and portability required for advanced applications by people working in real-world settings.

The envisioned N^3 technology breaks through the limitations of existing technology by delivering an integrated device that does not require surgical implantation, but has the precision to read from and write to 16 independent channels within a $16mm^3$ volume of neural tissue within 50ms. Each channel is capable of specifically interacting with sub-millimeter regions of the brain with a spatial and temporal specificity that rivals existing invasive approaches. Individual devices can be combined to provide the ability to interface to multiple points in the brain at once.



Source

"We use **GRAPHENE**, the thinnest material known to man to build the new generation of neural interfaces for brain restoration to help patients around the world."

Source

Purdue Sentient World Simulation

DRAFT DRAFT DRAFT

Sentient World Simulation (SWS):
A Continuously Running Model of the Real World

A Concept Paper for Comments

Government POC
Tony Cerri
Anthony.Cerri@je.jfcom.mil
JFCOM J9,
Experimentation Engineering Lead,
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FAX 757-203-3198

Technical POC
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West Lafayette, IN 47907
765-494-9048

Version 2.0
August 22, 2006

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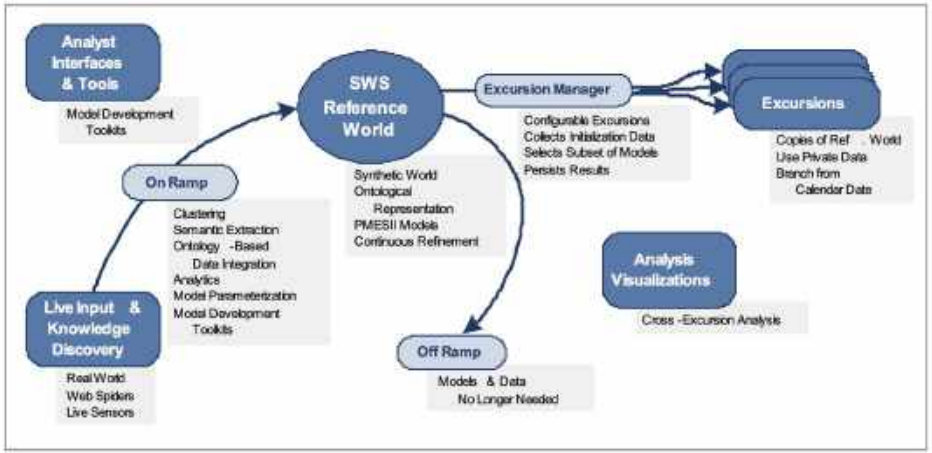

Figure 1: A conceptual view of the Sentient World Simulation

Source

Using Viruses And Proteins To Map And Activate Brain Function

"Much of my research had focused on the control of complex systems, so thinking about the **brain as a computer system to be engineered felt natural**."

"Optogenetics, for example, spread rapidly in part because of the then-**increasing popularity of optics and viruses in neuroscience**."

"In January 2005, Karl transitioned from being a postdoctoral researcher to becoming an assistant professor at Stanford. He had recruited a Stanford chemistry graduate student, **Feng Zhang, to make benign viral vectors that could be used to deliver the gene** for ChR2 (light-activated proteins derived from green algae) to neurons."

Edward Boyden (MIT), "Optogenetics: Using Light To Control Brain Function," *Cerebrum*, November-December 2011

Source

Bio-Engineered Bacteria And Sensor Networks

The Thing with E.coli: Highlighting Opportunities and Challenges of Integrating Bacteria in IoT and HCI

Raphael Kim
Queen Mary University
London, United Kingdom
r.s.kim@qmul.ac.uk

Stefan Poslad
Queen Mary University
London, United Kingdom
stefan.poslad@qmul.ac.uk

2.3 Transceiver

As a component designed to allow both the transmission and reception of communication, cellular membrane of bacteria can be considered as a transceiver. It is involved in release and import of molecules as part of cell signaling pathways. Additionally, the bacterial pilus (fig. 1) is used for conjugation process between two cells which results in DNA exchange. Overall, such types of communication are referred as molecular communication, which forms the basis of bacterial nanonetworks.

3 BACTERIAL NANONETWORKS

Bacterial nanonetworks is an example of molecular communication, which has been gaining increasing attention in the IoT community [1,2,5]. Bacterial nanonetworks involve communication between bacterial communities through molecular signaling [19], and as discovered recently,

Source

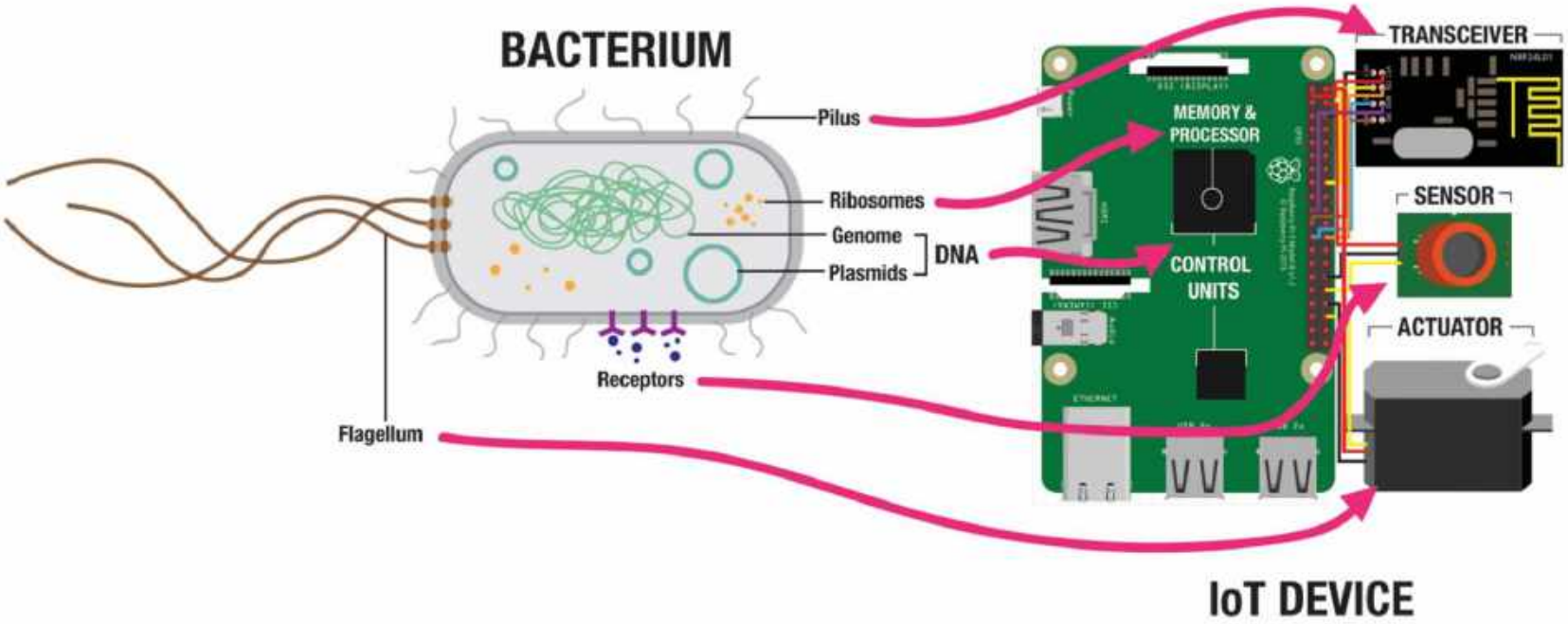

Figure 1: Comparison between *E.coli* bacterium and Raspberry Pi-controlled IoT device. Components of the bacteria anatomy that function similarly to the computerized device are linked by pink arrows.

Source

4.2 Gamification of Bacteria

Source

In the context of IoT, gamification have shown several benefits. For example, it has shown to increase engagement of new IoT applications [4], and positive shifts in human behavior (eg. travel behavior as part of a Smart City initiative [12]). Similarly, Wood *et al.*'s *GPS Tarot* is a playful, artistic tool that allows participants to learn and become aware of 'hidden technologies' in the form of embodied Global Navigation Satellite Systems (GNSS) satellites [18,19].

In a similar vein, we hypothesize that gamification of *E.coli* can aid in engagement, learning, and attitude shifts in their integration in HCI and IoT investigations. Micro-organisms have been gamified before, as a form of a biotic game, which is a hybrid bio-digital game that integrate real microbes into computer gaming platforms [14]. Overall, gamification of microbes has proven successful in terms of engagement, playing experience, and learning [7,8,10].

Source

International Conference on Intelligent Technologies for Interactive Entertainment

INTETAIN 2018: Intelligent Technologies for Interactive Entertainment pp 148-159 | Cite as

Microbial Integration on Player Experience of Hybrid Bio-digital Games

Authors | Authors and affiliations

Raphael Kim, Siobhan Thomas, Roland van Dierendonck, Antonios Kaniadakis, Stefan Poslad

Conference paper

First Online: 31 March 2019

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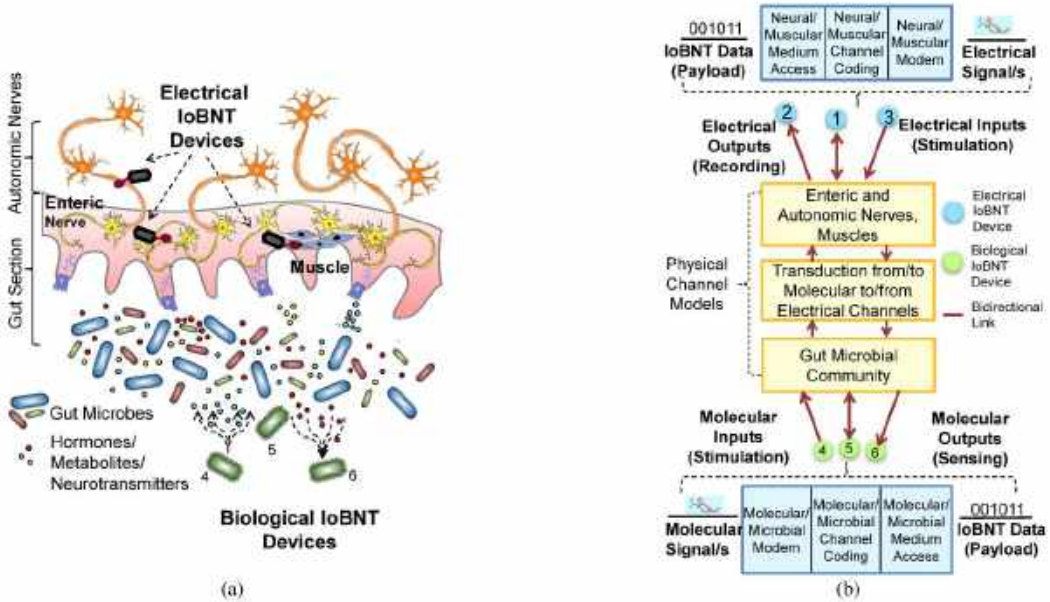
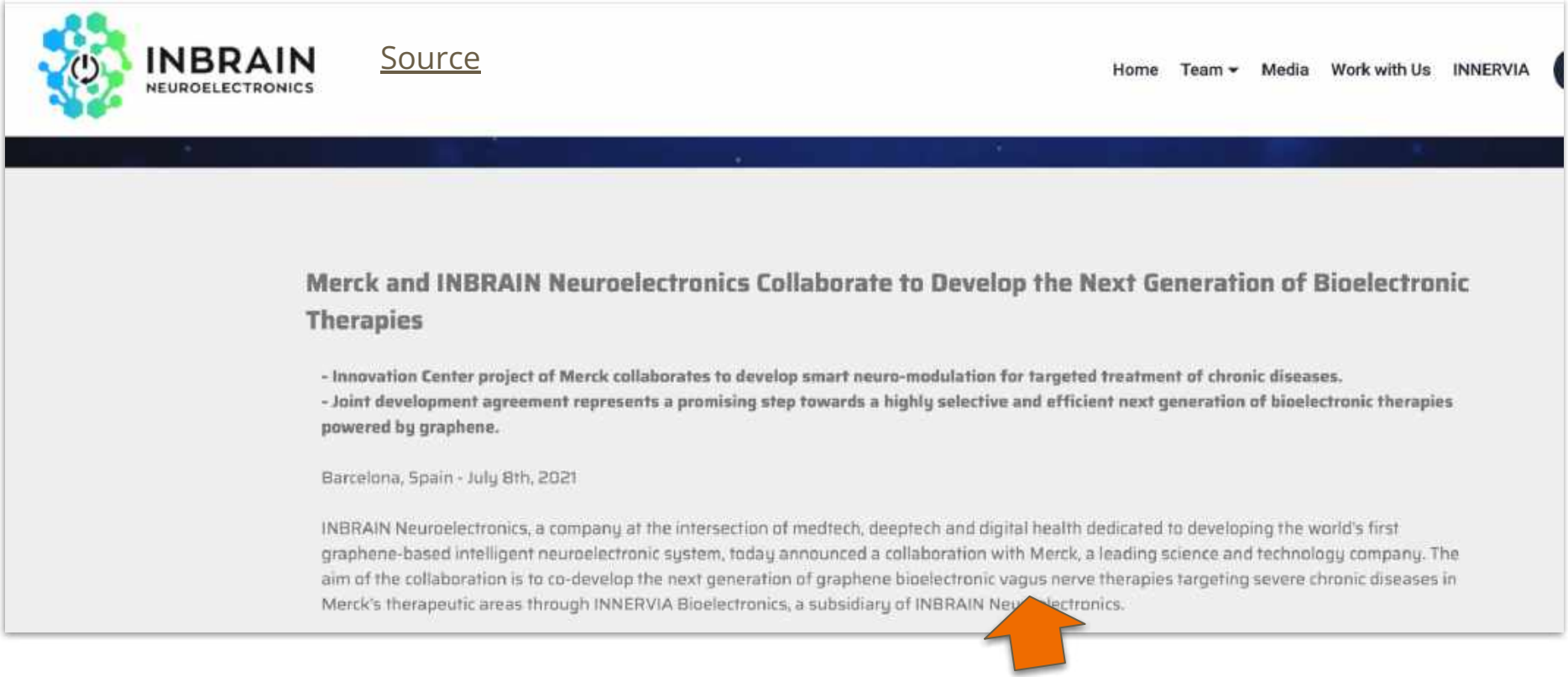


FIGURE 7. (a) The communication processes involved in MGBA stimulation and sensing. (b) The corresponding proposed physical channel models and IoBNT network infrastructure components.

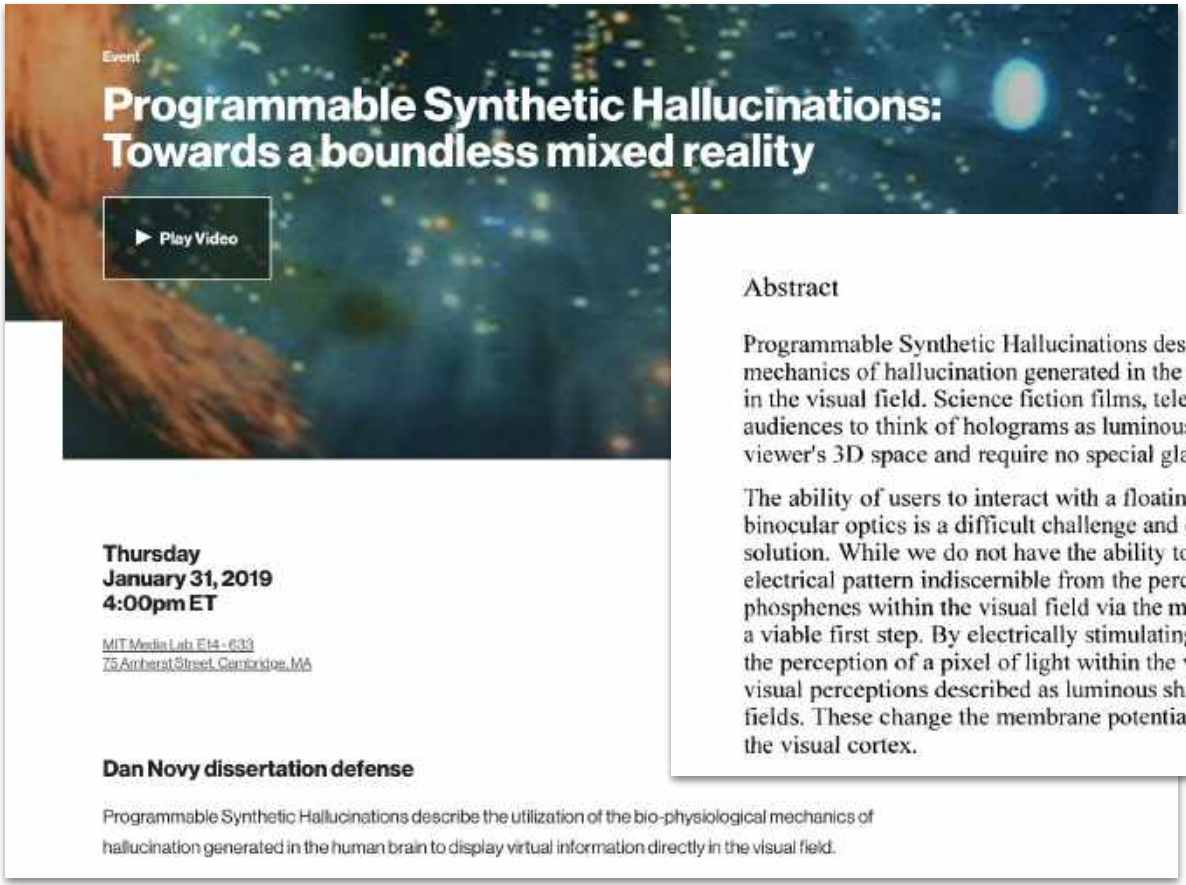
Microbiome-Gut-Brain Axis is investigated as a possible infrastructure to build this network of Bio-NanoThings inside the human body.

Source

Bioelectronic Activation - Vagus Nerve



We live in the stories we tell ourselves.



Source

Abstract

Programmable Synthetic Hallucinations describe the utilization of the bio-physiological mechanics of hallucination generated in the human brain to display virtual information directly in the visual field. Science fiction films, television shows, and video games have trained audiences to think of holograms as luminous volumetric images that float registered in the viewer's 3D space and require no special glasses or optics to see or interact with them.

The ability of users to interact with a floating aerial lightfield without the use of face-worn binocular optics is a difficult challenge and one in which a hallucinatory experience offers a solution. While we do not have the ability to activate individual neurons to recreate an neuro-electrical pattern indiscernible from the perception of reality, this dissertation shows that creating phosphenes within the visual field via the magnetic stimulation of neurons in the visual cortex is a viable first step. By electrically stimulating the cells in the hypercolumns of V1, one can induce the perception of a pixel of light within the visual field of a user. These magnetophosphenes are visual perceptions described as luminous shapes, which can be created by time-varying magnetic fields. These change the membrane potential and trigger an action potential directly in neurons of the visual cortex.

Projected Conciousness Sanctuary.AI Centaurs

Blockchain Tracks The Story Line For The Simulation

Advances in Computers. 2021; 121: 267–283.
Published online 2020 Sep 11. doi: 10.1016/bs.adcom.2020.08.013
PMCID: PMC7485457

Empowering digital twins with blockchain

Pethuru Raj

Author information ▸ Copyright and License information Disclaimer

Abstract Go to:

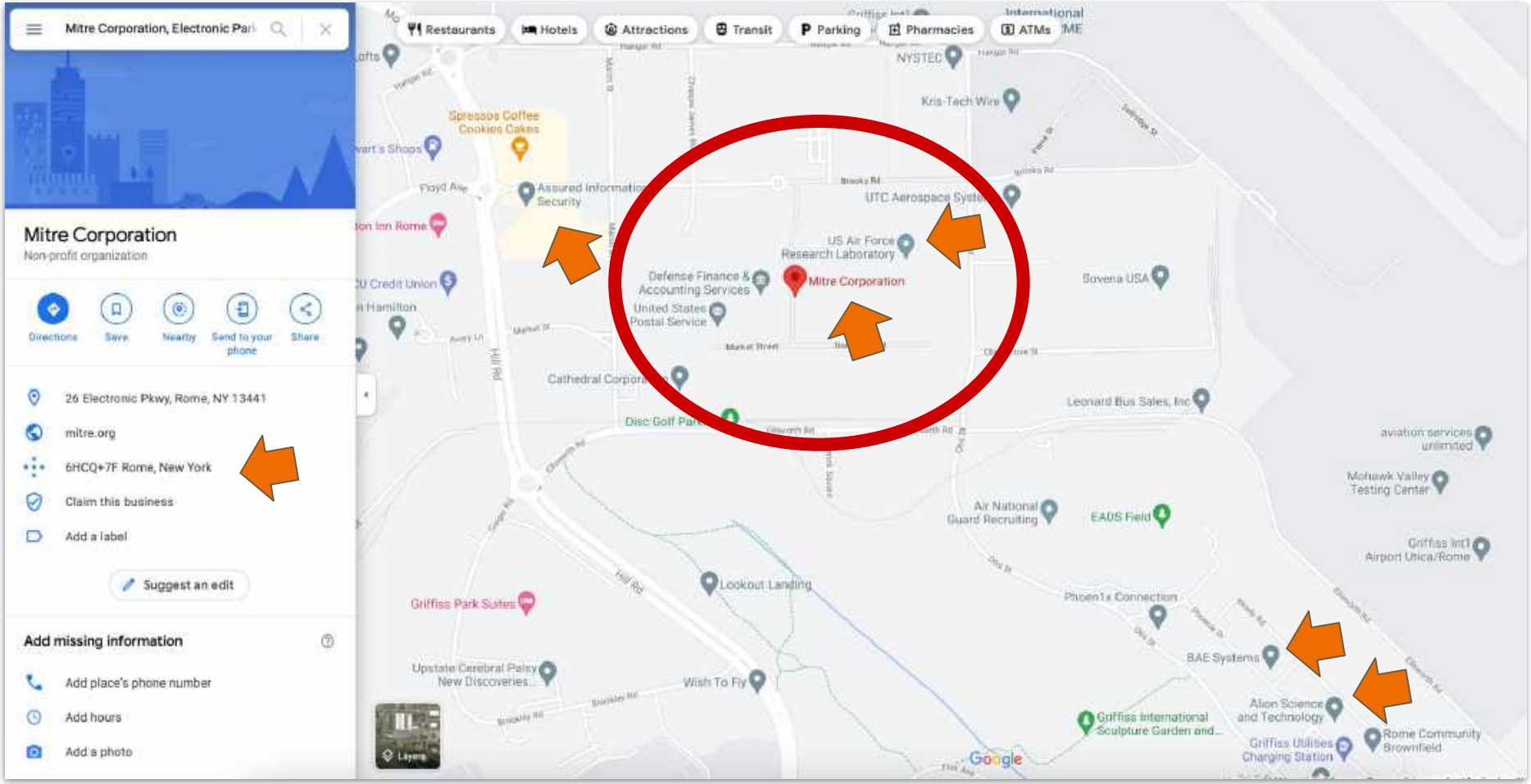
A digital twin is an exact digital/logical/cyber/virtual representation/replica of any tangible physical system or process. And the digital twin runs on a competent IT infrastructure (say, cloud centers). In essence, a digital twin is typically a software program that takes various real-world data about a ground-level physical system as prospective inputs and produces useful outputs in the form of insights. The outputs generally are the value-adding and decision-enabling predictions or simulations of how that physical system will act on those inputs. These help in quickly and easily realizing highly optimized and organized products with less cost and risk.

Source

Step Into Your Own Story - Try And Be That Kid Again

I love to talk to the fireflies and the dragonflies. They appreciate the environment my yard provides. They know that they are well loved by me. Of course, I know all this because they tell me so as they hover and flit around me. I never imagined how much joy this would bring me, and it kind of makes me feel like a carefree kid again, for that moment in time.

Birth of Mitre
MIT War Machine, Defense Contractors, Venture Capital, And Predatory Philanthropy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Hill Rd
Google

Mitre Threat Analysis - Systems Engineering

A Brief History of MITRE

The MITRE Corporation was chartered in 1958 as a private, not-for-profit company to provide engineering and technical guidance for the federal government. Since then, MITRE has operated at the intersection of advanced technology and vital national concerns. We've grown to serve a variety of government agencies at the highest levels through the operation of federally funded research and development centers (FFRDCs).

SAGE operator using a light gun

The company's initial focus was on the continental air defense project called the Semi-Automated Ground Environment (SAGE). SAGE relied on the first digital computers to link radar stations, weapons systems, and military decision makers in near real time.

SAGE became operational in 1963. It spawned numerous innovations in computing, software, information displays, communications, program management, and systems engineering. To name a few: the National Airspace System, Airborne Warning and Communications Systems (AWACS), Joint Tactical Information Distribution System (JTIDS), and Joint Surveillance Target Attack Radar System (Joint STARS).


MITRE | SOLVING PROBLEMS FOR A SAFER WORLD
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A NATIONAL STRATEGY FOR DIGITAL HEALTH
May 2021
Topics: Public Health, Policy, Systems Modernization, Emergency Preparedness and Response
Digital Health Team, MITRE
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COVID-19 was our wake-up call. Our world was turned upside down in an instant as health officials, government leaders, and everyone scrambled to deal with a disease that we had no way to treat and no way to cure. However, as they have in every crisis that has ever faced this nation, the American people rose to the challenge.
Now that the end of this global nightmare is just over the horizon, we cannot and must not slow down. We have seen first-hand how vulnerable we are. We have seen the need to be able to instantly scale healthcare services. We have seen the vital role that digital technology has played in saving lives, and it is our responsibility to make sure the lessons we have learned inspire us to climb even higher. We must do this, not only to prepare for the next global health emergency, but to improve the health and well-being of our people every day.
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Source

NeuroCyber/Big Data Approaches

- Maximize storage and retrieval
- Parallel computing
- Scalable, customizable
- Accessible and sharable

James Giordano
DODIAC Webinar
August 2020
Blockchain EHR
Digital Twins
Threat Assessment
Cellular / Social

Source

Mitre Origins - Ford Foundation + Bell Laboratories

The Mitre Corporation was officially incorporated on July 18. Currently, a Board of Trustees made up of representatives of industrial, educational, and scientific organizations is being formed.

Heading the Board of Trustees is H. Rowan Gaither, Jr., Chairman of the Board of the Ford Foundation. Mr. C.W. Halligan, Director of Military Engineering at the Bell Telephone Laboratories, Inc., will be President of the Corporation. He will have his offices at the Air Defense Systems Integration Division buildings at Hanscom Field.

Formation of the Mitre Corporation evolved from several years of study at highest levels in Washington. Following the reports of several special military-civilian committees studying current and future needs for managing the complex air defense effort, Secretary of the Air Force James H. Douglas invited the Massachusetts Institute of Technology to assist in this joint military-industry effort for air defense systems.

-30-

Source


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Draper, Gaither, and Anderson: First Venture Capital Firm in Silicon Valley
Leslie Berlin
Source
2008 BHC Meeting
In September 1959, two military generals and the former chair of RAND and the Ford Foundation launched Draper, Gaither, and Anderson: the first venture capital firm in the region that would come to be known as Silicon Valley. Many elements of the modern venture capital firm—the partnership structure, the general/limited partner division of profits, the focus on profits as an end in themselves—can trace their roots to Draper, Gaither, and Anderson, which blended practices of famous family investors (the Rockefellers and Whitneys, for example) with the technology- and university-centered approaches pioneered by Georges Doriot at the Boston-based American Research and Development, the first venture capital firm in the United States (founded in 1946). Although Draper, Gaither, and Anderson has received almost no attention from scholars, this paper argues that the partnership's legacy, as well as its implications for the history of the early venture capital industry and of Silicon Valley, are substantial.

Founding Board of Trustees

RAND's original board of trustees was composed of three signatories and eight other prominent individuals from academia and industry.

Franklin Collbohm *(signatory)*
President, RAND Corporation

H. Rowan Gaither, Jr. *(signatory)*
Attorney

L.J. Henderson, Jr. *(signatory)*
Associate director, RAND Corporation

Charles Dollard
President, Carnegie Corporation of New York

Lee A. Dubridge
President, California Institute of Technology

John A. Hutcheson
Director, research laboratories, Westinghouse Electric Corporation

Alfred L. Loomis
Scientist

Philip M. Morse
Physicist, Massachusetts Institute of Technology

Frederick F. Stephan
Professor of social statistics and director, Office of Survey Research and Statistics, Princeton University

George D. Stoddard
President, University of Illinois

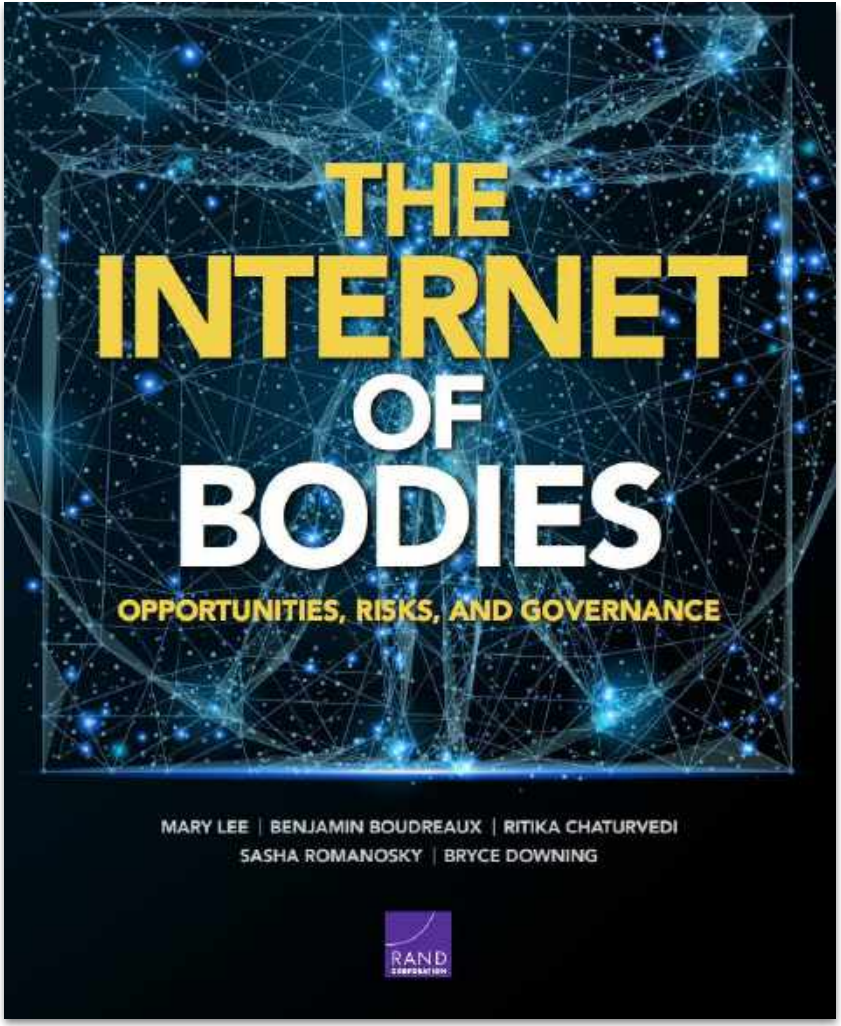
Source

FORDFOUNDATION WORK

After Edsel and Henry died in the mid-1940s, their bequests turned the foundation into the largest philanthropy in the world. Henry Ford II, Edsel's eldest son, assumed leadership of the foundation, and he and the board of trustees commissioned a blue-ribbon panel, led by H. Rowan Gaither, to explore how the foundation could best put its greatly increased resources to use.

The seven-member Gaither Study Committee recommended that the Ford Foundation become an international philanthropy dedicated to the advancement of human welfare through reducing poverty and promoting democratic values, peace, and educational opportunity. In 1949, the trustees unanimously approved the panel's ambitious recommendations. Over the next decades, Henry Ford II remained a key figure in the foundation, serving as president and as chair and member of the board of trustees and overseeing its transformation from a local Detroit foundation to a national and international organization. He retired as a trustee in 1976.

Source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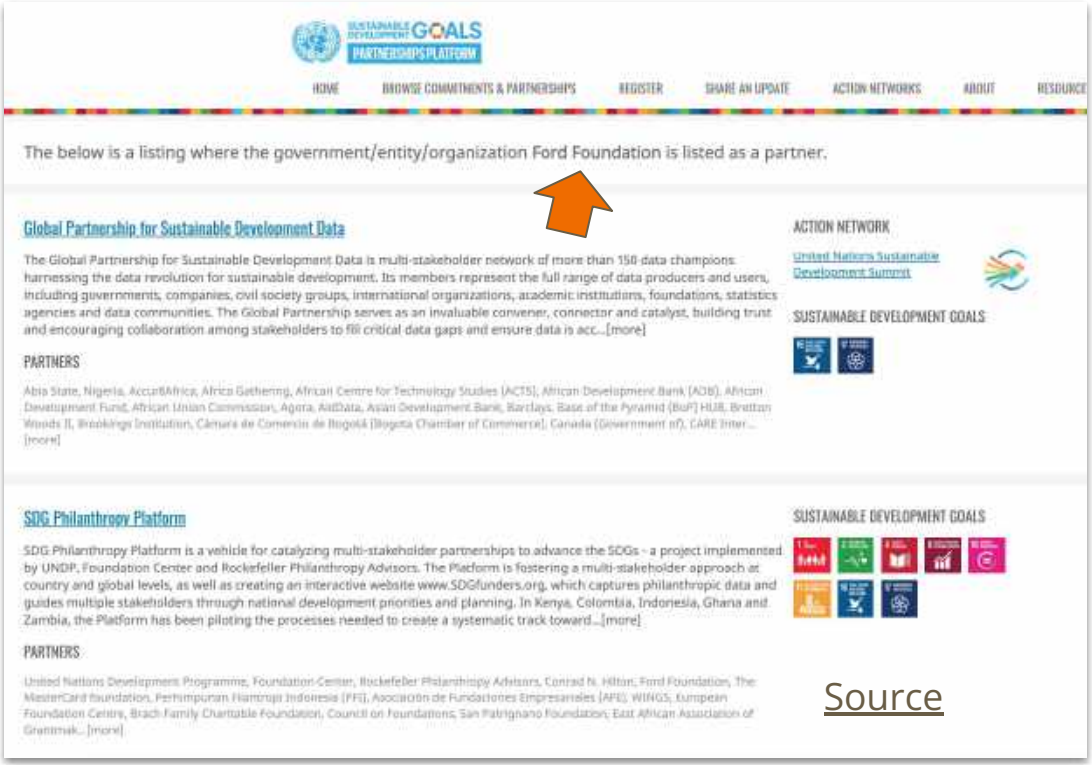
The COVID-19 pandemic has caused widespread illness and death, economic devastation, day-to-day challenges, and long-term uncertainty. RAND research and analysis provide insights on the effects of this monumental crisis—and can help determine the best ways forward.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The Global Partnership for Sustainable Development Data is multi-stakeholder network of more than 150 data champions harnessing the data revolution for sustainable development. Its members represent the full range of data producers and users, including governments, companies, civil society groups, international organizations, academic institutions, foundations, statistics agencies and data communities. The Global Partnership serves as an invaluable convener, connector and catalyst, building trust and encouraging collaboration among stakeholders to fill critical data gaps and ensure data is acc...[more]
ACTION NETWORK
United Nations Sustainable Development Summit
SUSTAINABLE DEVELOPMENT GOALS
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Abia State, Nigeria, Accra8Africa, Africa Gathering, African Centre for Technology Studies (ACTS), African Development Bank (AOB), African Development Fund, African Union Commission, Agora, AidData, Asian Development Bank, Barclays, Base of the Pyramid (BoP) HUB, Bretton Woods II, Brookings Institution, Cámara de Comercio de Bogotá (Bogota Chamber of Commerce), Canada (Government of), CARE Inter... [more]
SDG Philanthropy Platform
SUSTAINABLE DEVELOPMENT GOALS
SDG Philanthropy Platform is a vehicle for catalyzing multi-stakeholder partnerships to advance the SDGs - a project implemented by UNDP, Foundation Center and Rockefeller Philanthropy Advisors. The Platform is fostering a multi-stakeholder approach at country and global levels, as well as creating an interactive website www.SDGfunders.org, which captures philanthropic data and guides multiple stakeholders through national development priorities and planning. In Kenya, Colombia, Indonesia, Ghana and Zambia, the Platform has been piloting the processes needed to create a systematic track toward...[more]
PARTNERS
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THE LATEST | NEWS
Ford Foundation commits $1 billion from endowment to mission-related investments
5 APRIL 2017


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Build Back Better - 6/6/6

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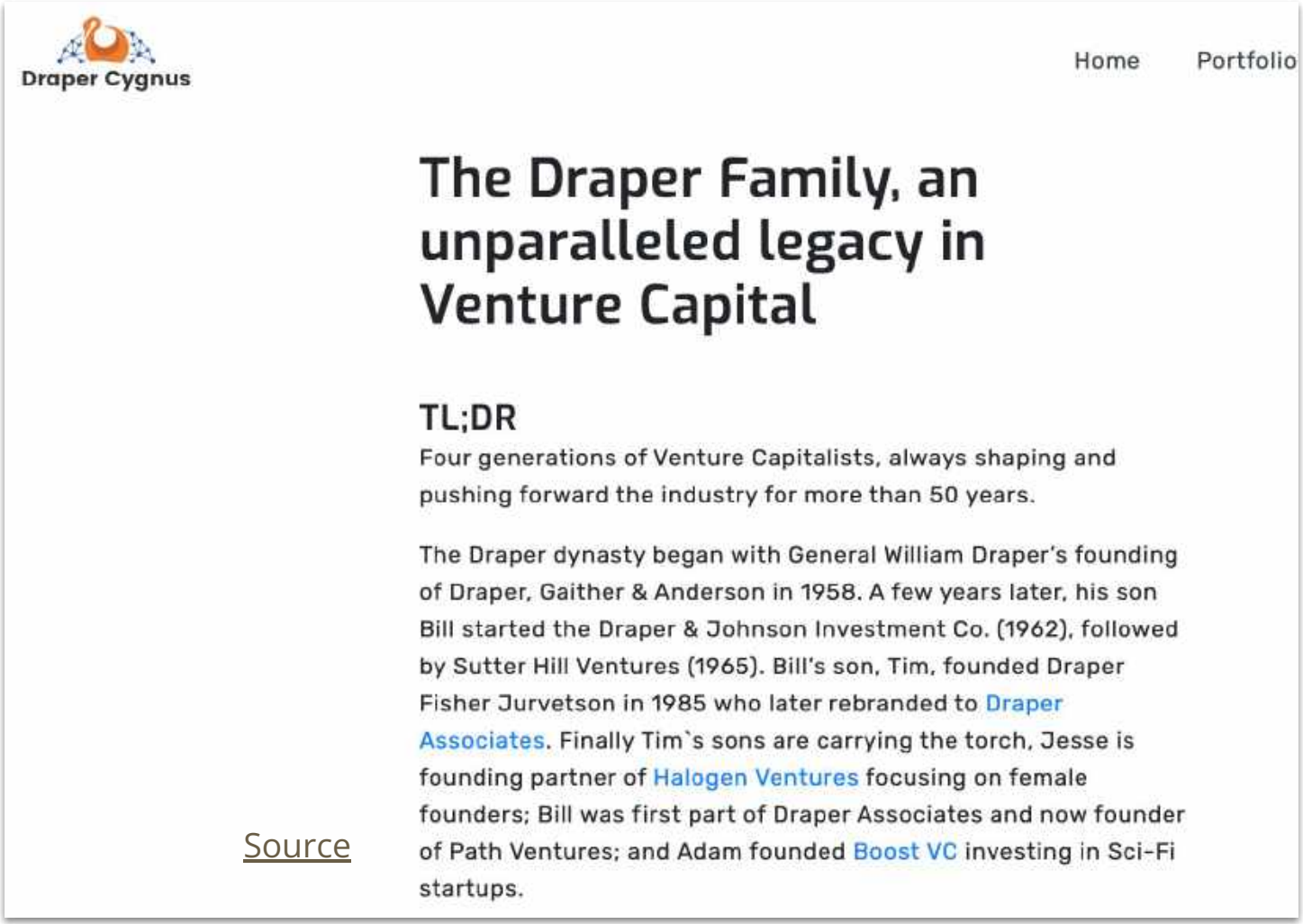
Draper Cygnus
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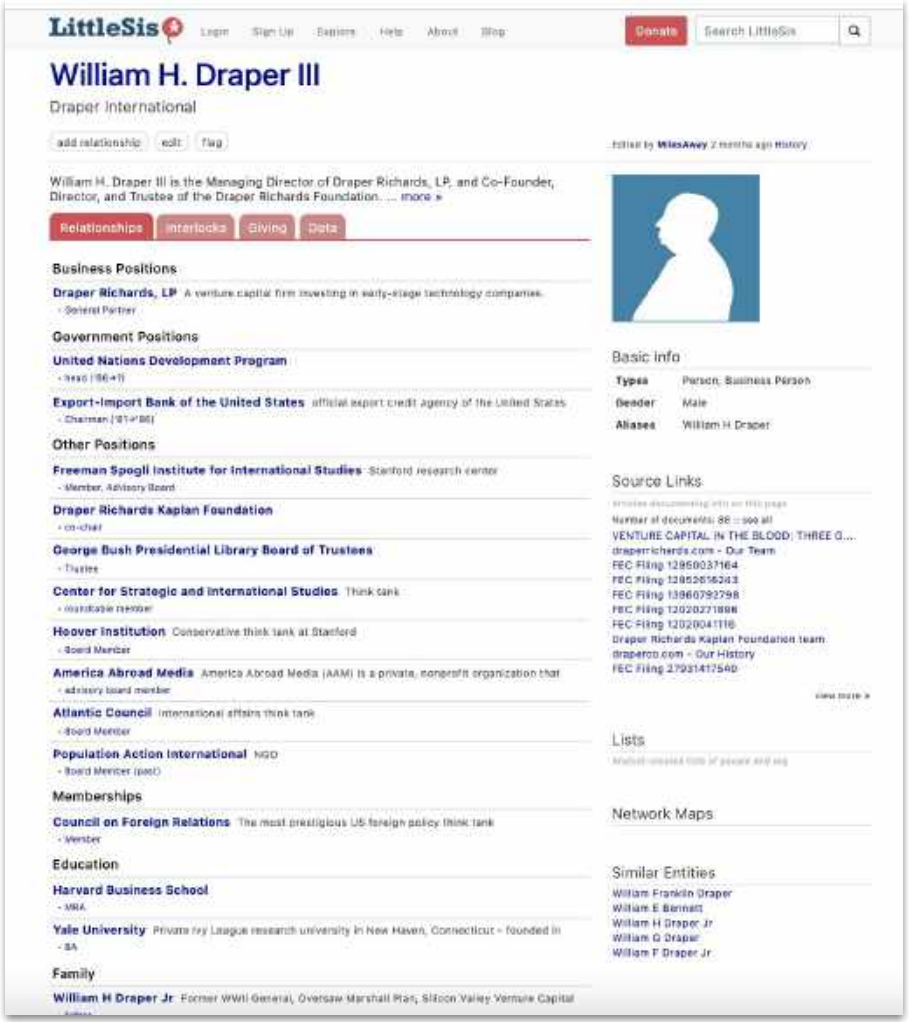
Portfolio
The Draper Family, an unparalleled legacy in Venture Capital
TL;DR
Four generations of Venture Capitalists, always shaping and pushing forward the industry for more than 50 years.
The Draper dynasty began with General William Draper's founding of Draper, Gaither & Anderson in 1958. A few years later, his son Bill started the Draper & Johnson Investment Co. (1962), followed by Sutter Hill Ventures (1965). Bill's son, Tim, founded Draper Fisher Jurvetson in 1985 who later rebranded to Draper Associates. Finally Tim`s sons are carrying the torch, Jesse is founding partner of Halogen Ventures focusing on female founders; Bill was first part of Draper Associates and now founder of Path Ventures; and Adam founded Boost VC investing in Sci-Fi startups.

Source



Business Positions

Draper Richards, LP A venture capital firm investing in early-stage technology companies.

- General Partner

Government Positions

United Nations Development Program

- head ('86→?)

Export-Import Bank of the United States official export credit agency of the United States

- Chairman ('81→'86)

Other Positions

Freeman Spogli Institute for International Studies Stanford research center

- Member, Advisory Board

Draper Richards Kaplan Foundation

- co-chair

George Bush Presidential Library Board of Trustees

- Trustee

Center for Strategic and International Studies Think tank

- roundtable member

Hoover Institution Conservative think tank at Stanford

- Board Member

Source

Gaither Report
Cold War Response

Eisenhower and the Gaither Report:

The Influence of a Committee of Experts on National

Security Policy in the Late 1950s

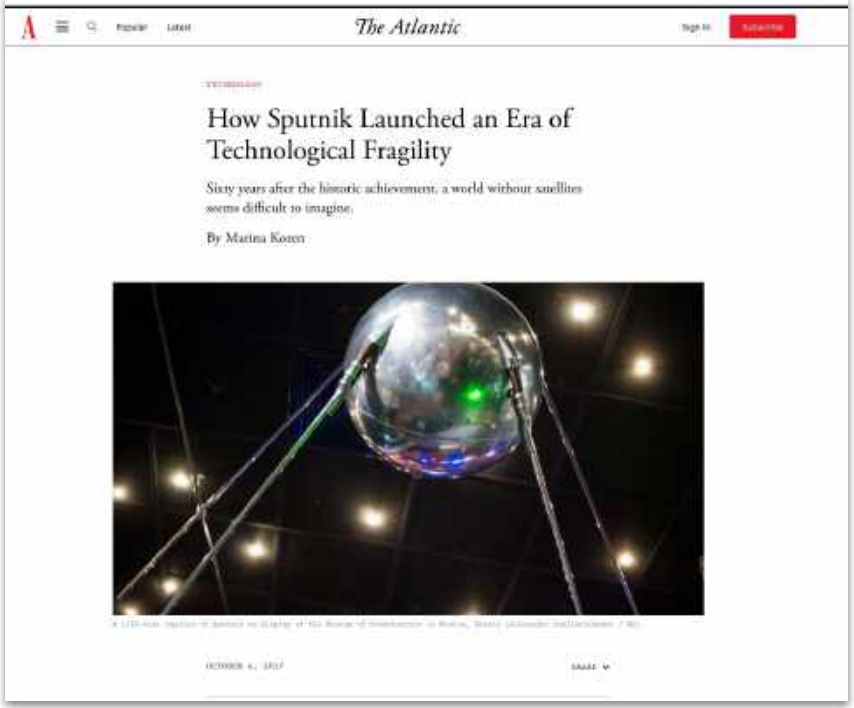
by David Lindsey Snead

Melvyn P. Leffler, Chairman

(ABSTRACT)

As the United States reeled from the Soviet Union's launch of Sputnik in late 1957, President Dwight D. Eisenhower received a top secret report prepared by a committee of leading scientific, business, and military experts. The panel, called the Gaither committee in recognition of its first chairman, H. Rowan Gaither, Jr., emphasized both the inadequacy of U.S. defense measures designed to protect the civil population and the vulnerability of the country's strategic nuclear forces in the event of a Soviet attack. The Gaither committee viewed these defense measures--ranging from a missile system to defend the continental United States to the construction of shelters to protect the population from radioactive fallout--and the maintenance of sufficient strategic forces to launch military strikes against Soviet targets as essential for the preservation of U.S. security. It concluded that in the case of a surprise Soviet nuclear attack the United States would be unable to defend itself with any degree of success. The committee emphasized the urgent need for the Eisenhower administration to strengthen the country's continental and civil defenses and to accelerate the development of its strategic striking power.

Source

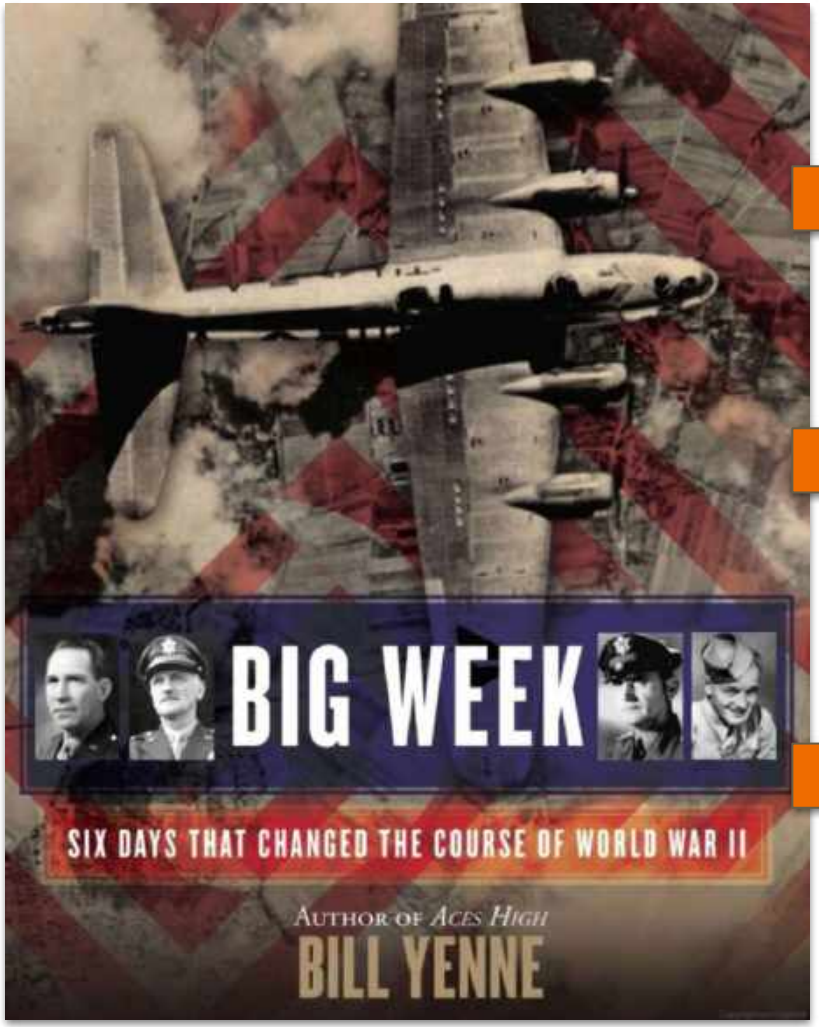


The Atlantic

How Sputnik Launched an Era of Technological Fragility

Sixty years after the historic achievement, a world without satellites seems difficult to imagine.

By Marina Koren

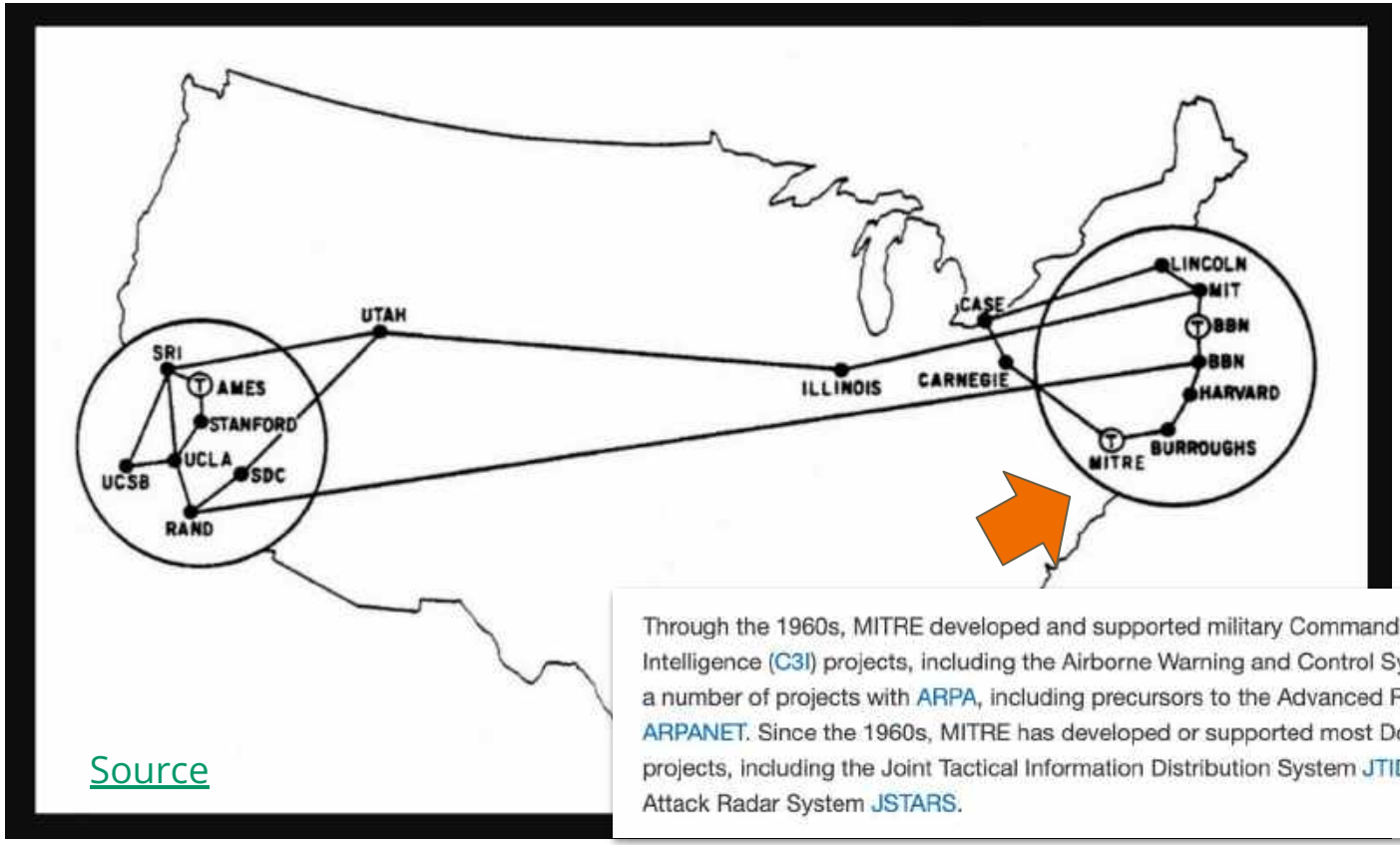


Fred Anderson as his deputy. In turn, Draper and Anderson got to know Horace Rowan Gaither Jr., a San Francisco attorney and financier who had been a cofounder, along with Donald Douglas of Douglas Aircraft, of the RAND Corporation think tank. Coincidentally, during the war, Gaither had been assistant director of the MIT Radiation Laboratory, where they built the H2X (AN/APS-15) radar system for the Flying Fortresses that flew as pathfinders for Anderson's VIII Bomber Command.

In 1959, this trio moved to California's Santa Clara Valley, south of San Francisco, where the high-tech talent coming out of Stanford University was creating a new era of technological innovation. In 1959, they founded Draper, Gaither & Anderson (DGA), the first venture capital firm in the West, to invest in leading edge technology that could be seen as the H2X-type systems of the future. This was an exciting time in the rolling hills south of San Francisco, coincidentally just two years after two of the brightest young future household names in the area, Bill Hewlett and Dave Packard, went public with Hewlett-Packard, and at a time when top secret projects from missile guidance to spy satellites were going full bore in the Santa Clara Valley.

In turn, this was two decades before the valley became known as "Silicon Valley" and famous as the home of an archipelago of venture capital firms that were to underwrite another technological boom and another monumental change in the course of world history.

ARPA Net Map 1971



Source

Through the 1960s, MITRE developed and supported military Command, Control, Communications and Intelligence (C3I) projects, including the Airborne Warning and Control System (AWACS). MITRE also worked on a number of projects with ARPA, including precursors to the Advanced Research Projects Agency Network ARPANET. Since the 1960s, MITRE has developed or supported most DoD early warning and communications projects, including the Joint Tactical Information Distribution System JTIDS and the Joint Surveillance and Target Attack Radar System JSTARS.

JASON - Mitre - Global Grid

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28 OCT 1992

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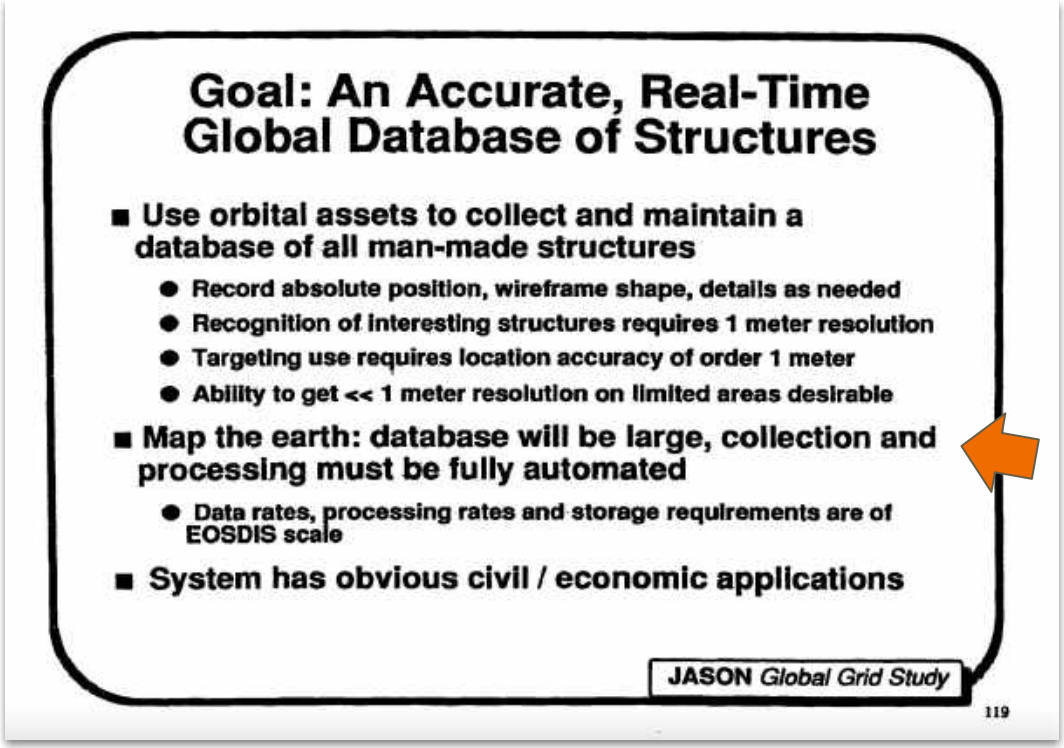


Mitre and HAARP

5.0 LIST OF PREPARERS

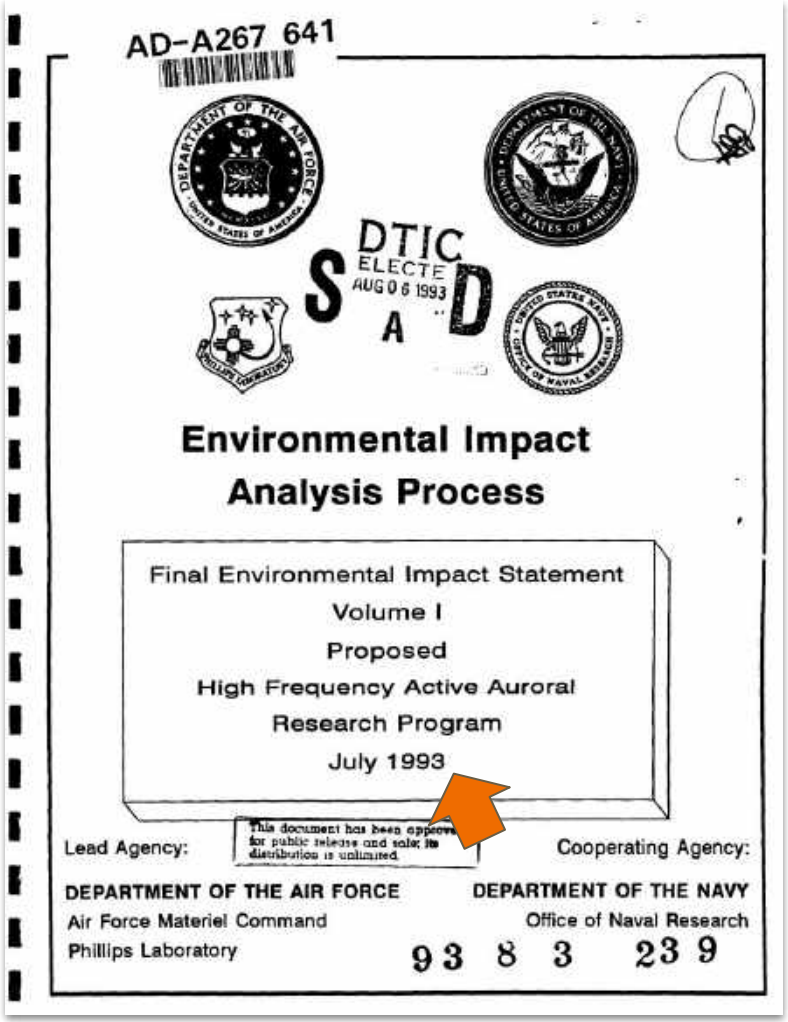
The following persons were primarily responsible for preparing the environmental impact statement:

Leo F. Collins, The MITRE Corporation, M.S. (1963) in Electrical Engineering, 26 years of experience in design of Air Force systems. Mr. Collins contributed to the section on electromagnetic and radio frequency interference.

Gregory A. Robertshaw, The MITRE Corporation, Ph.D. (1980) in Physics, 12 years of experience in antennas for military radar and surveillance systems. Dr. Robertshaw contributed to the section on electromagnetic and radio frequency interference.

Arnold L. Snyder, The MITRE Corporation, Ph.D. (1972) in Geophysics, 26 years of experience in Air Force radio wave propagation programs. Dr. Snyder contributed to the section on electromagnetic and radio frequency interference.

Melvin M. Weiner, The Mitre Corporation, M.S. (1956) in Electrical Engineering, 36 years experience in electromagnetics. Mr. Weiner contributed to the section on electromagnetic and radio frequency interference.



Mixed Reality Built On Military Simulation R&D

Military Equipment Framework

Synthetic Training Environment

Mr. Bruce Gorski
Mr. Brian Parrish

24 February 2017

This technical data deliverable was developed using contract funds under Basic Contract No. W56KGU-16-C-0010.

Sponsor: TCM ITE
Department No.: J84A, J84B
Contract No.: W56KGU-16-C-001
Project No.: 0717A580-01

Document No: MP160204
Leavenworth, Kansas

Milgram's Virtuality Continuum

Figure 1 is Milgram's simplified representation of the Virtuality Continuum. Milgram's Virtuality Continuum is a scale of the levels of mixed-reality a Soldier can experience. The continuum is defined as,

> *"... a continuous scale ranging between the completely virtual, a virtuality, and the completely real, reality ... the area between the two extremes, where both the real and the virtual are mixed, is the so-called mixed reality."* [2]

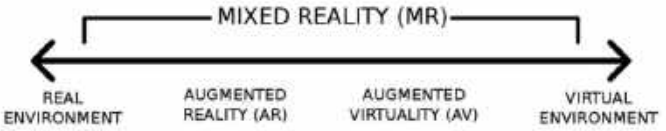
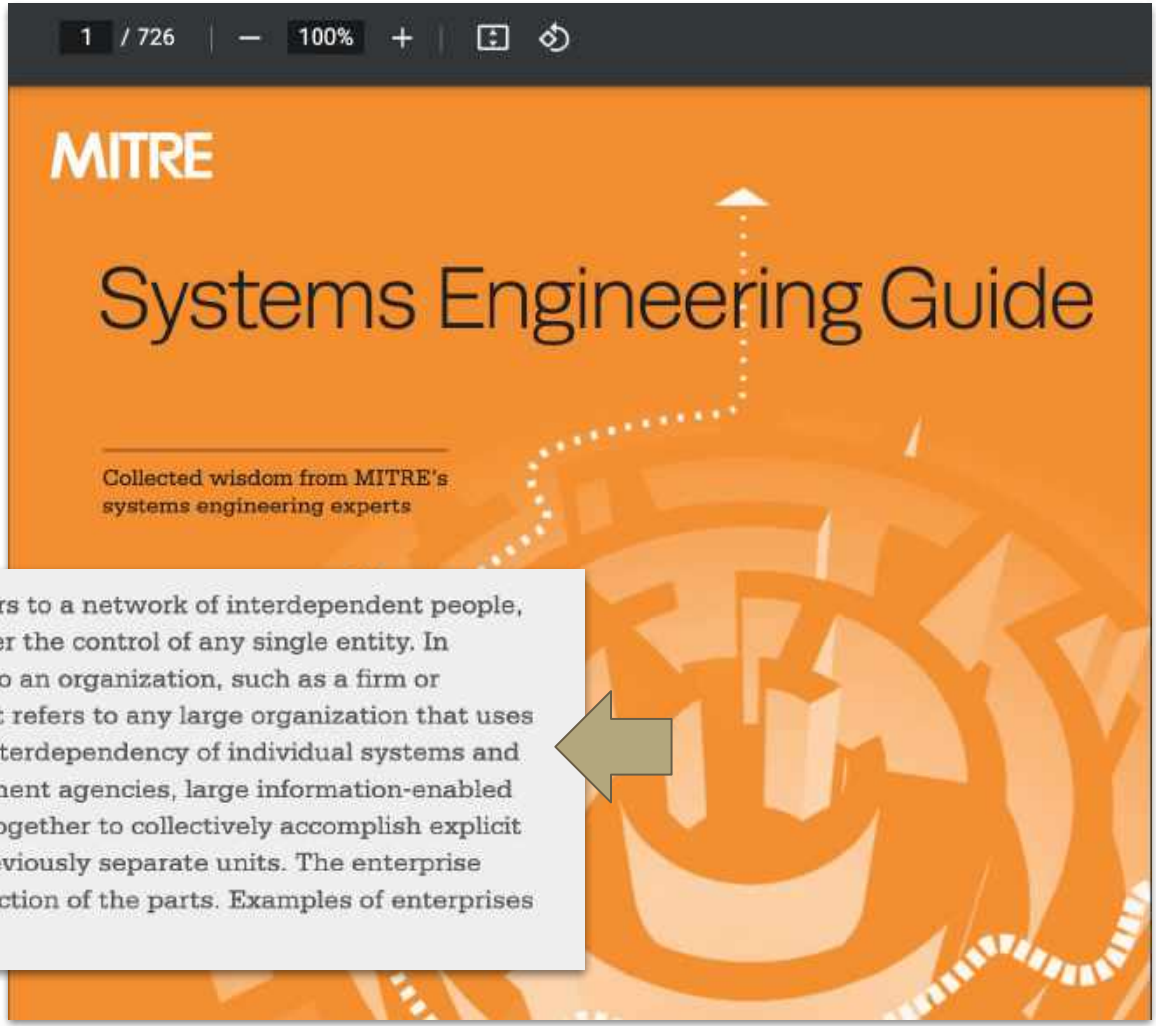


Figure 1. Milgram's Simplified Representation of the Virtuality Continuum.

The Milgram Virtuality Continuum was adapted for application to the ME Framework. This adaptation replaces the phrase, "Real Environment," with the phrase, "Live Environment," and the phrase, "Virtual Environment," with the phrase, "Synthetic Environment."

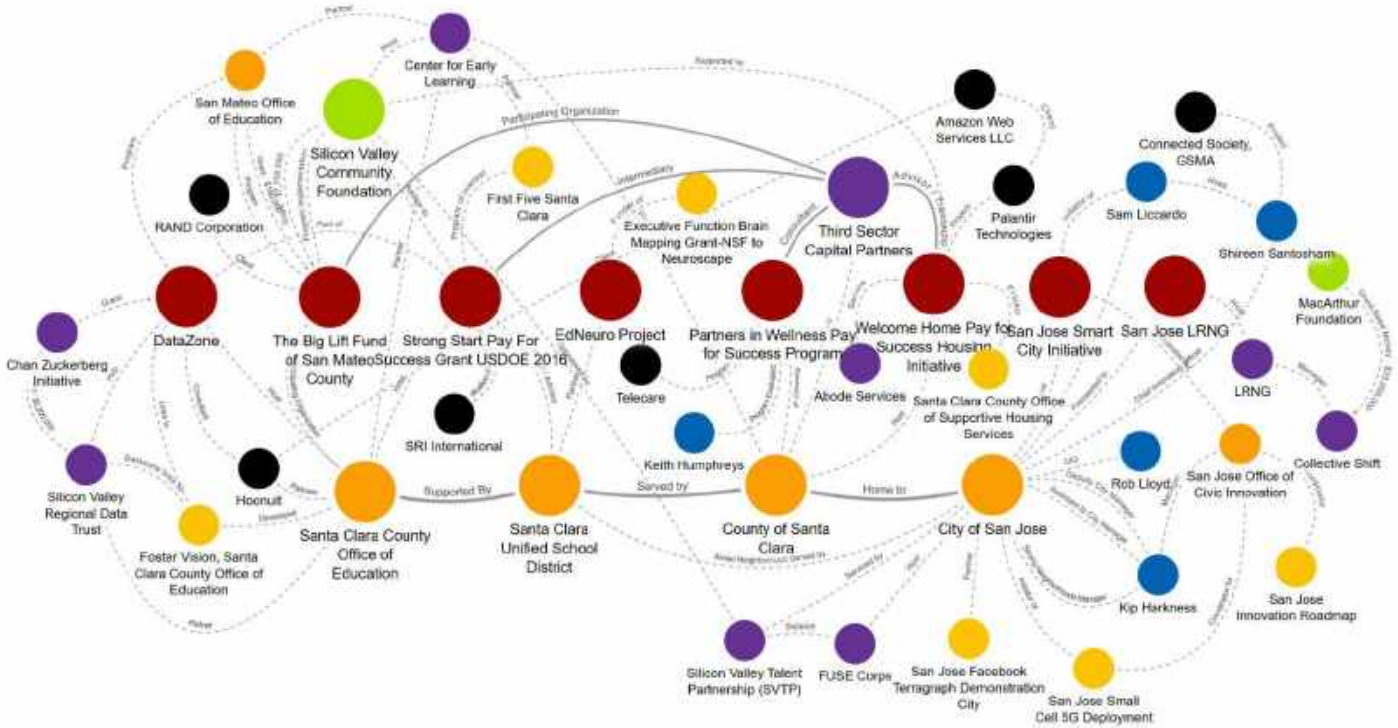
Source

Empire Enterprise Systems of Systems



What do we mean by an enterprise? Enterprise refers to a network of interdependent people, processes, and supporting technology not fully under the control of any single entity. In business literature, an enterprise frequently refers to an organization, such as a firm or government agency, and in the computer industry, it refers to any large organization that uses computers. The MITRE definition emphasizes the interdependency of individual systems and even systems of systems. We include firms, government agencies, large information-enabled organizations, and any network of entities coming together to collectively accomplish explicit or implicit goals. This includes the integration of previously separate units. The enterprise displays new behaviors that emerge from the interaction of the parts. Examples of enterprises include:

Santa Clara Social Impact / Smart City Pilots



JASON AI Healthcare - Impact Investing - Machine Learning

Artificial Intelligence for Health and Health Care

Contact: Dolores Derrington — doloresd@mitre.org

December 2017

JSR-17-Task-002

Source

5 LARGE SCALE HEALTH DATA

Impact Investing - UN SDGs Social Determinants of Health - Codebreaking The Sourcecode of "Life"

An aspirational goal for health and health care is to amass large datasets (labeled and unlabeled) and systematically curated health data so that novel disease correlations can be identified, and people can be matched to the best treatments based on their specific health, life-experiences, and genetic profile. AI holds the promise of integrating all of these data sources to develop medical breakthroughs and new insights on individual health and public health. However, major limiting factors will be the availability and accessibility of high quality data, and the ability of AI algorithms to function effectively and reliability on the complex data streams.

It is estimated that 60% of premature deaths [106] are accounted for by social circumstances, environmental exposures, and behavioral patterns [107]. These three areas are a combination of experiences throughout our life based on where we were born, live, learn, work, and play. Frequently coined the social determinants of health [108], these include economic stability, neighborhood and physical environment, education, food, community and social context, and health care system (see Figure 5) [109].

AI Training Data - Individuals And Communities - Predective Profiling - Threat Scoring - Digital Twins

Economic Stability	Neighborhood and Physical Environment	Education	Food	Community and Social Context	Health Care System
Employment	Housing	Literacy	Hunger	Social integration	Health coverage
Income	Transportation	Language	Access to healthy options	Support systems	Provider availability
Expenses	Safety	Early childhood education		Community engagement	Provider linguistic and cultural competency
Debt	Parks	Vocational training		Discrimination	Quality of care
Medical bills	Playgrounds	Higher education			
Support	Walkability				

Mixed Realty War Gaming
Signals Intelligence For Finance and Threat Assessment

To my thesis committee, Joe P and Ed Boyden, out of whose classes this science fictional concept of neuro-engineering hallucinations was literally born. Some ideas seem crazy, even for the Media Lab, and I appreciate that you've always thought this endeavor was even remotely possible.

To Kristin, Buffy, and Skyler, for keeping our group operational despite financial constraints, and for keeping me sane with well-timed visits. Your belief in, and patience with, me kept me going even when I saw very few ways forward.

To the OBMG members and rescued crew mates, past and present: James B, Dan Smalley, Bardagjy, Santiago, Edwina, Sunny, Laura, Pip, Everett, Bianca, Pedro, Ali, Vik, Caroline, Nick S, Emily S, Nina, and UROPs and MEngs past, EVB and Kristin Z. Our crew is motley, but the best crews are made strong and agile by their differences. I am proud to have served with you all.

To Linda, Keira (please come back), and the crew in the MAS office, for eons of patience.

To Bryan Mayton, without whom I would still be plugging things in and trying them until they blew up. There will always be single malt at my desk for you and thanks for all the spare parts.

To Neil G, Tom, John D, and the rest of the crew in CBA. How To Make changed my life and affirmed my future. Literally none of this would've been built without your guidance and generosity of knowledge and machine time.

To Katy Croff Bell, for believing in me enough to provide financial support and your deep appreciation of rum, shenanigans, and the future.

To Mark Feldmeier and Nathan Lachenmyer, who knew exactly how dangerous what I was attempting was but never shied away from helping me.

To the fine nursing staff at MIT's Clinical Research Center; Catherine Ricci, Tatiana, and O'Mara, for keeping my subjects safe, for keeping me from losing it when things were melting down, and for insisting I keep all my fingers.

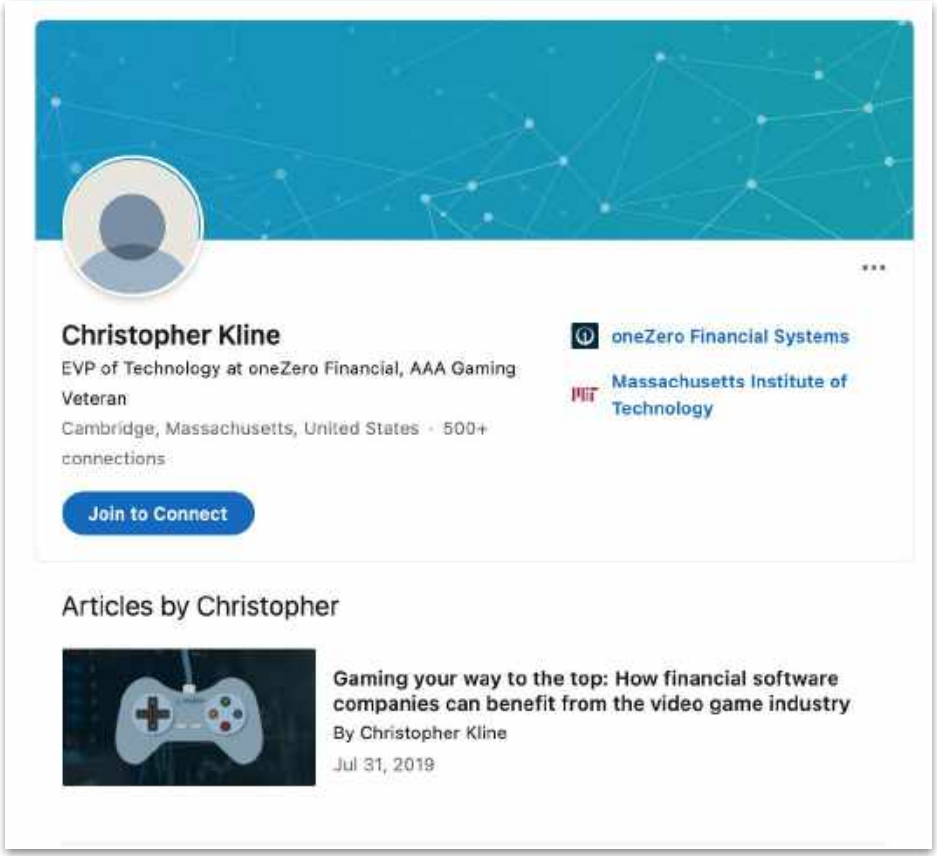
Special thanks to the Epilog corporation for making a laser cutter I can play like a Stradivarius, regardless of all its strange little quirks.

To Rahul B for his box maker; without you, all my projects would still be laying out on the bench right now.

Source

MITRE
Birthed Out of MIT
Hallucinatory
Mixed Reality

Simulation And Gaming



Christopher Kline

EVP of Technology at oneZero Financial, AAA Gaming Veteran

Cambridge, Massachusetts, United States · 500+ connections

oneZero Financial Systems

Massachusetts Institute of Technology

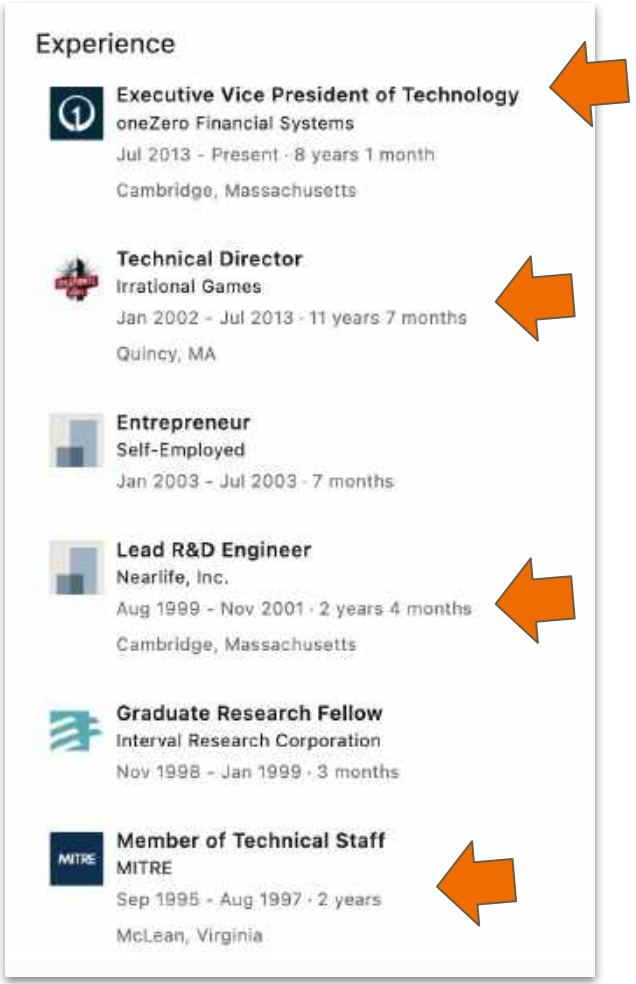
Join to Connect

Articles by Christopher

Gaming your way to the top: How financial software companies can benefit from the video game industry

By Christopher Kline

Jul 31, 2019



Experience

Executive Vice President of Technology
oneZero Financial Systems
Jul 2013 - Present · 8 years 1 month
Cambridge, Massachusetts

Technical Director
Irrational Games
Jan 2002 - Jul 2013 · 11 years 7 months
Quincy, MA

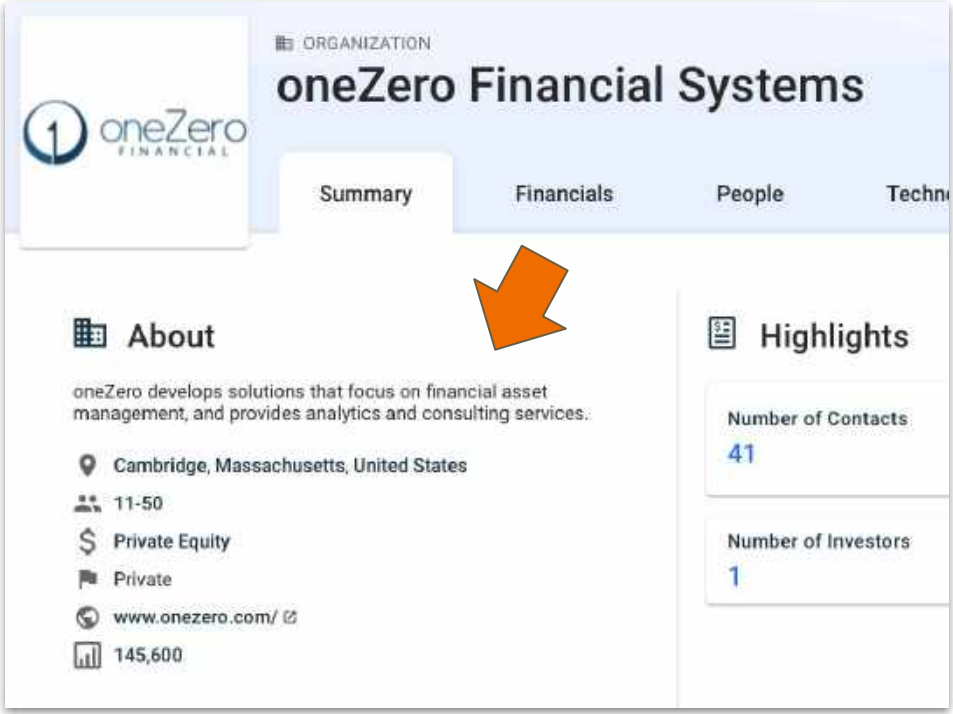
Entrepreneur
Self-Employed
Jan 2003 - Jul 2003 · 7 months

Lead R&D Engineer
Nearlife, Inc.
Aug 1999 - Nov 2001 · 2 years 4 months
Cambridge, Massachusetts

Graduate Research Fellow
Interval Research Corporation
Nov 1998 - Jan 1999 · 3 months

Member of Technical Staff
MITRE
Sep 1995 - Aug 1997 · 2 years
McLean, Virginia

Defense - Gaming - Finance - Signals Intelligence



Rockefeller In Gaming Context

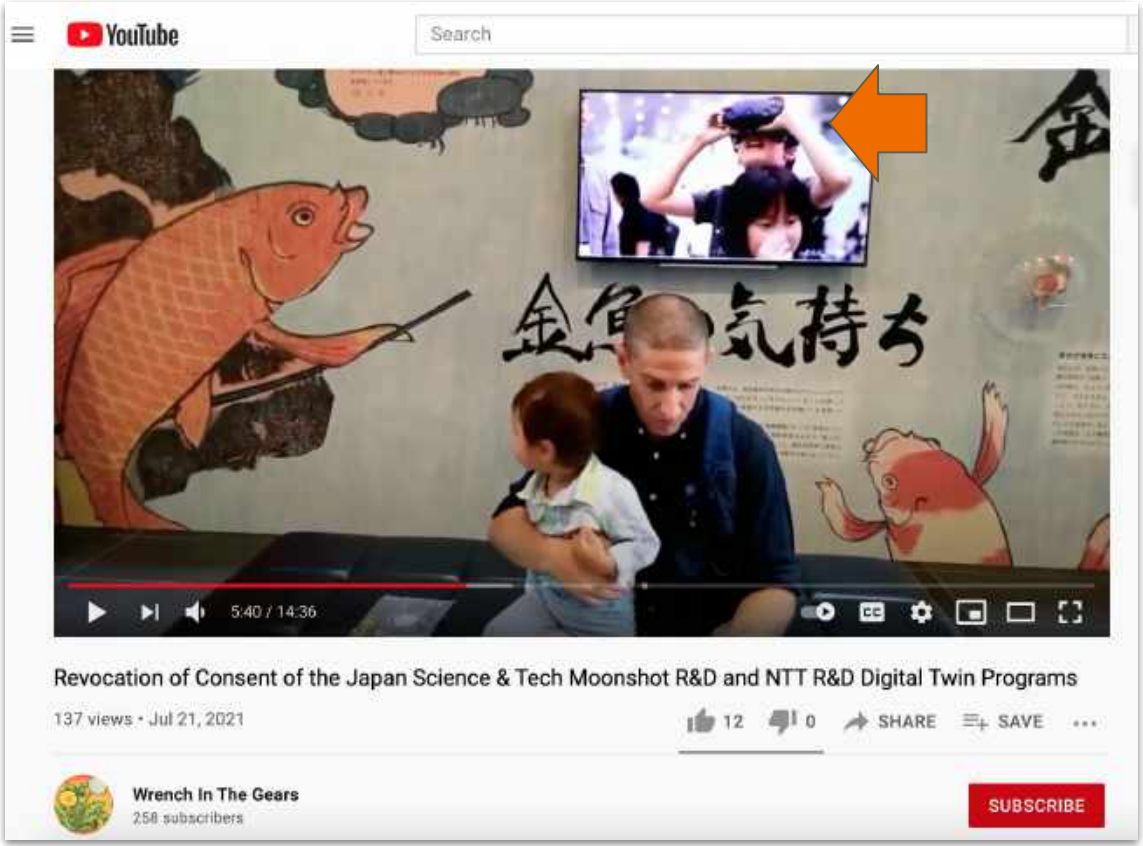
Themes [edit]

BioShock [edit]

The thematic core of *BioShock* was born when Levine was walking at Rockefeller Center near the GE Building in New York City. He saw the uniqueness of the art deco styling of the building along with imagery around the building such as the statue of Atlas near it, and recognized that these were spaces that had not been experienced in the first-person shooter genre.[28] The history of the Rockefeller Center fed into the story concept; Levine noted how the Center had started construction prior to the Great Depression of the 1920s; when the primary financiers had pulled out, John D. Rockefeller backed the remaining construction to complete the project himself, as "a great man building an architectural triumph against all the odds".[28] The history of Rapture and the character of Andrew Ryan is loosely based on Rockefeller's story.[28] He also considered that many of the characters of Rapture were all people who were oppressed once before in the lives and now free of that oppression, have turned around and become the oppressors, a fact he felt resonated throughout human history.[29]

The team wanted to have the player care for the drones in some way and create *pathos* for these characters. The idea of using little girls came out of brainstorming, but was controversial and shocking within the team at first, recognizing that they could easily be killed and make the game more horrific in the style of *Night Trap*.[28] However, as Levine worked on the story, he started to incorporate the ideas of dystopian and utopian thinkers from the twentieth century, including Ayn Rand, Aldous Huxley, and George Orwell, and considered their ideas "fascinating".[20] He brought in the ideas of Objectivism that Rand primarily outlined in the book *Atlas Shrugged*, that man should be driven by selfishness and not altruism, and used this to inform

Digital Therapeutics & Immersive Media “Learn” Us



Source

Modeling and Simulation, Experimentation, and Wargaming - Assessing a Common Landscape

Ernest H. Page, *The MITRE Corporation*

The efficient and effective exploration of "what if" questions is fundamentally necessary to ensure the continued preeminence of U.S. military forces. Accomplishing this mission requires human ingenuity, insight and creativity, as well as the rigorous application of formal analytical methods. Principal among these methods are: *modeling and simulation*, *experimentation* and *wargaming*. In this white paper, we briefly review the current state of each, noting their fundamental interrelationships, and identify opportunities for future focus and community investment. Our assessment also includes a discussion of MITRE capabilities across these three disciplines.

today reached a level of predictive capability that it now firmly complements the traditional pillars of theory and experimentation/observation. Many critical technologies are on the horizon that cannot be understood, developed, or utilized without simulation.

Some estimates establish total U.S. expenditures on M&S at $50B USD annually, including $9B USD within the Department of Defense (DoD) [2].

M&S supports the full range of defense missions – from concept exploration, analysis, acquisition, test and evaluation, planning, development of doctrine and tactics, operations, and training – within each Service and within the Joint commands.

- *Systems Engineering of Simulation-Based Systems.* MITRE has been playing a leading role in the development of distributed simulation technology for nearly 30 years. Dating to its leadership in the DARPA Synthetic Theater of War (STOW) [26], and the subsequent community-wide effort to develop scalable and reliable technologies for simulation interoperability, MITRE played a key role in the establishment of the Defense Modeling and Simulation Office (DMSO), and subsequently "wrote the book" on the High Level Architecture (HLA) [27]. MITRE remains on the forefront of the evolution, standardization

Big Data Government
E-Citizens And Social Impact Fuel The Singularity

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Center for Data-Driven Policy

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> Actionable, effective public policy is based on compelling ideas, technical expertise, data, and rigorous modeling and simulation.

MITRE'S Center for Data-Driven Policy brings objective, evidence-based, nonpartisan insights to government policymaking. We provide tangible, measurable, and innovative ideas to inform public policy that is effective and equitable.

Center for Data-Driven Policy

Center for Data-Driven Policy Home

Technical Papers

FEDERAL BIG DATA SUMMIT: SUMMARY AND WAY FORWARD

November 2014

Topics: Data Management, Government Agency Operations, Information Privacy, Health Innovation

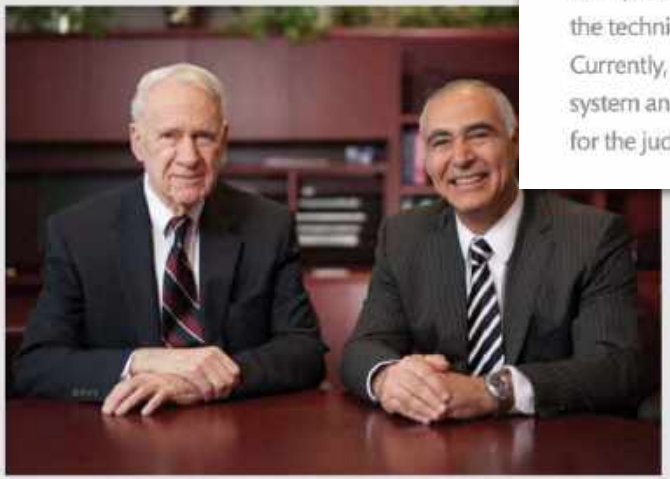
Daniel A. Ruiz, The MITRE Corporation
Tom Suder, The Advanced Technology Academic Research Center

DOWNLOAD PDF (113.44 KB) ›

The Federal Big Data Summit took place on June 19 and 20, 2014, at the Ronald Reagan Center in Washington DC. The Summit began with MITRE-Advanced Technology Academic Research Center (ATARC) Collaboration Sessions that allowed industry, academic, government, and MITRE representatives the opportunity to collaborate and discuss the government's challenge areas in big data. The goal of the collaboration sessions is to create a forum for an exchange of ideas and a way to create recommendations to further the adoption and advancement of big data within the government.

Mitre And Federal Judicial Case Management Software

JEMC's founding marks the latest step in the partnership between MITRE and the federal judiciary. Since May 2006, we have worked with judiciary stakeholders to develop enterprise-wide solutions for upgrading their wide-area network, voice, video, and Internet services. With the creation of JEMC, our staff continues to provide objective assessments of the technical challenges the judiciary faces while analyzing the impact and risks of both available and emerging systems. Currently, the judiciary and MITRE are defining architecture and design recommendations for a new case management system and researching advanced uses of technology for the federal courts. For example, one of our rese[illegible] highlights for the judiciary has been an extensive exploration of IPv6, the next-generation Internet Protocol.



Dr. James Schlesinger, Chairman of the Board of Trustees
Mr. Alfred Grasso, President and Chief Executive Officer

This year we were proud to be selected by the federal judiciary to operate its systems engineering and integration FFRDC—the Judiciary Engineering and Modernization Center. We will continue to leverage our experience in advanced technologies to help the Courts update their information systems.

Source

Prison Industrial Complex - Social Impact Cost Off-Set

Source

search

Category: Social > Impact Investing

FREE Investors in Peterborough prison bond, the world's first social impact bond, to get 3% return

Seventeen impact investors in pioneering SIB had backed it with £5m

print | save in my articles | SHARE:

country: United Kingdom | by: Vibeka Mair | Jul 27th 2017

Investors in the world's first social impact bond are to get a return, it has been announced today.

Source

Rikers Island: The First Social Impact Bond in the United States

Source

John Olson and Andrea Phillips
Goldman Sachs

In August 2012, Goldman Sachs Bank's Urban Investment Group (UIG) announced the first social impact bond (SIB) in the United States, a $9.6 million loan it would make to support the delivery of therapeutic services to 16- to 18-year-olds incarcerated on Rikers Island.[1] The loan will be repaid based on the actual and projected cost savings realized by the New York City Department of Correction as a result of the expected decrease in recidivism. This unique public-private partnership between the City of New York, MDRC, the Osborne Association, Bloomberg Philanthropies, and Goldman Sachs leverages high-quality nonprofit capacity, private-sector capital, and philanthropic support to address a pressing community challenge.

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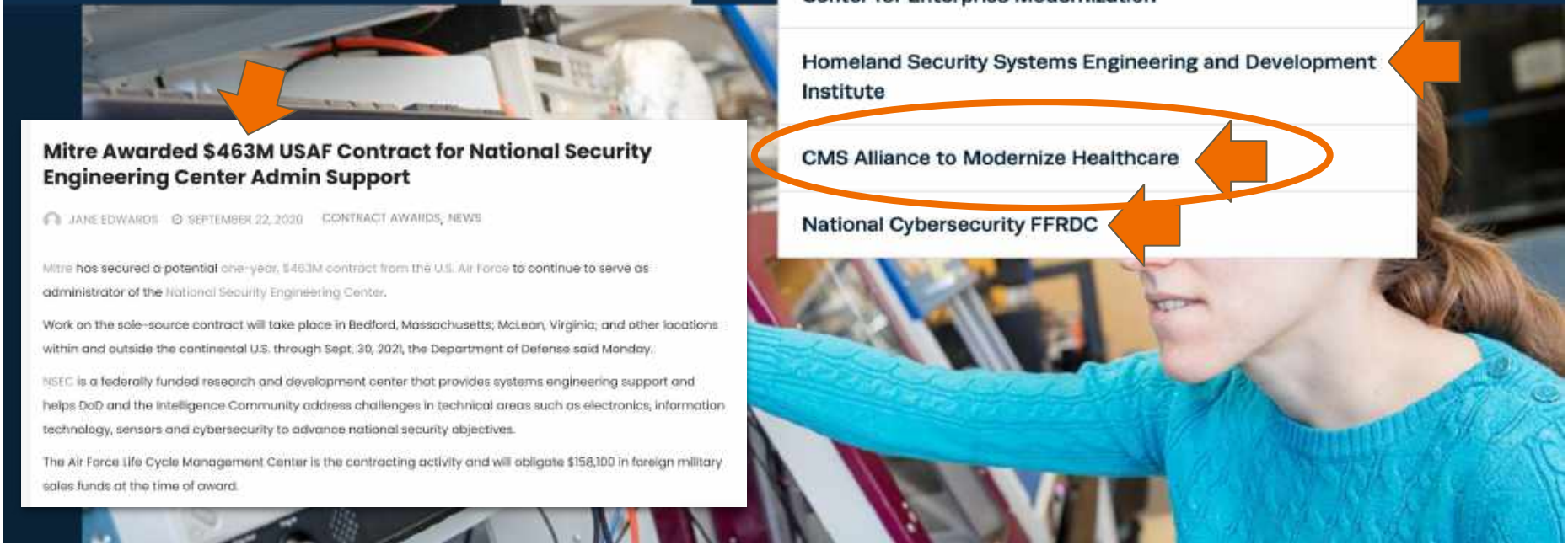
- Center for Enterprise Modernization
- Homeland Security Systems Engineering and Development Institute
- CMS Alliance to Modernize Healthcare
- National Cybersecurity FFRDC

National Se

Who We Are | Wher



Mitre Awarded $463M USAF Contract for National Security Engineering Center Admin Support

JANE EDWARDS | SEPTEMBER 22, 2020 | CONTRACT AWARDS, NEWS

Mitre has secured a potential one-year, $463M contract from the U.S. Air Force to continue to serve as administrator of the National Security Engineering Center.

Work on the sole-source contract will take place in Bedford, Massachusetts; McLean, Virginia; and other locations within and outside the continental U.S. through Sept. 30, 2021, the Department of Defense said Monday.

NSEC is a federally funded research and development center that provides systems engineering support and helps DoD and the intelligence Community address challenges in technical areas such as electronics, information technology, sensors and cybersecurity to advance national security objectives.

The Air Force Life Cycle Management Center is the contracting activity and will obligate $158,100 in foreign military sales funds at the time of award.

Medicaid Makeover for Tech

MITRE has operated the CMS Alliance to Modernize Healthcare, sponsored by CMS and the Department of Health and Human Services (HHS), since its inception in 2012. Consistent with the Federal Acquisition Regulation guiding principle to promote competition, CMS, the primary sponsor, recompeted the contract in 2017. On August 31, 2018, CMS awarded MITRE the new contract to operate CMS Alliance to Modernize Healthcare.

Through the CMS Alliance to Modernize Healthcare, the Center for Veterans Enterprise Transformation, other FFRDC work programs, and independent research, MITRE has pioneered new ways to connect health data to improve patient health, reduce the burden on care providers, and speed discovery of new cures. For example, MITRE's innovative work in cybersecurity and public-private partnerships has helped make patients safer by improving security of medical devices and health IT networks.

MITRE | Health

Opportunities to Improve Care Coordination and Patient Engagement Among Medicaid Beneficiaries

Highlighting research presented at the Academy Health Annual Research Meeting (ARM) in June 2018, Rebecca Bruno points in this blog post to solutions for addressing social determinants of health and improving health outcomes and reduced costs of care for the Medicaid population.

Related resources:

Wraparound Services As a Strategy to Reduce Hospitalizations

Taking action to put the patient at the center of the healthcare system

Project Poplin

Standard Health Record (SHR) collaborative.

Standard Health Records

DA7E8A9D.vcf

HIMSS16

Conference & Exhibition

FEB 29 – MAR 4, 2016 | LAS VEGAS

TRANSFORMING HEALTH THROUGH IT

Reducing Health Disparities in Underserved Populations Through IT Social Impact Investment

March 1, 2016

Joxel Garcia, M.D., Executive Director, MD Anderson Cancer Prevention & Control Platform

Leslie Platt, JD – Senior Advisor, Health & Human Services, The MITRE Corporation

DISCLAIMER: The views and opinions expressed in this presentation are those of the author and do not necessarily represent official policy or position of HIMSS.

#HIMSS16

www.himssconference.org

Agenda

- Health disparities in minority and other underserved populations
  - Current Landscape
  - Relevance and Impacts
- Using Social Impact Investment in concert with IT to reduce health disparities in underserved populations
  - What is Social Impact Investment (SII)?
    - What are Social Impact Bonds (SIBs)?
  - What current social impact initiatives are underway?
  - How can SIBs and other Social Impact Investments linked with IT strategies help reduce health disparities?
  - How effective can SII and SIBs be in addressing health disparities?
- Potential Projects and Case Studies
  - Best practices
  - Potential health disparities to address
  - Additional considerations
- Discussion and Q & A

Telehealth Pilot Montana

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ABOUT

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MITRE AND PARTNERS CLOSING GAPS IN RURAL HEALTH

October 2016

Topics: Environment, Communications Technology (General), Public Health (General)

Patients and doctors in rural locations face unique challenges. A cross-disciplinary MITRE team is conducting research to develop an innovative framework for rural health care and find solutions for rural areas.

Getting Patients More Involved in Their Own Care

The team is using Patient Toolkit—an app developed by MITRE's Kristina Sheridan for our internal research program—to determine the effects of patient-generated health d[illegible]n quality of care.

"One of the many challenges rural patients face is making sure they're actively engaged in their care when providers are spread out across large distances," Sheridan says. "We're doing a research study on using technology to improve that engagement."

HIMSS Who We Are What We Do Membership Resources

Building a Foundation of Interoperable Platforms to Facilitate Broad-Based Data Sharing

by **Sukhman Virdi, Government Relations Intern, HIMSS**

HIMSS Who We Are What We Do Membership Resources News Events Sign In Join

About HIMSS

The Healthcare Information and Management Systems Society (HIMSS) is a global advisor, thought leader and member association committed to transforming the health ecosystem. As a mission-driven non-profit, HIMSS offers a unique depth and breadth of expertise in health innovation, public policy, workforce development, research and analytics to advise leaders, stakeholders and influencers from across the ecosystem on best practices. With a community-centric approach, our innovation engine delivers key insights, education and engaging events to healthcare providers, payers, governments, startups, life sciences and other health services organizations, ensuring they have the right information at the point of decision.

HIMSS has served the global health community for more than 60 years, with focused operations across North America, Europe, the United Kingdom, the Middle East and Asia-Pacific.


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NEW HEALTH PLAYBOOK HELPS COMBAT MIS– AND DISINFORMATION ON COVID VACCINES
May 2021
Topics: Public Health (General), Dise utbreaks, Social and Behavioral Sciences (General), Communication
To combat the impact of misleading claims about vaccines across social and traditional media, MITRE developed a playbook to help public health officials create effective local campaigns to increase vaccine adoption and fight misinformation.


DEVELOPING the COVID-19 Decision Support Dashboard
PROVIDING insights on the impact of social policies
PROMOTING innovation in testing and contact tracing

Attachment 1

FEDERALLY FUNDED RESEARCH AND DEVELOPMENT (FFRDC) TECHNICAL EXECUTION PLAN (TEP)

U.S. Department of Homeland Security

Pandemic Disease Triggers for Nonpharmaceutical Intervention Decision Making

Countering Weapons of Mass Destruction Office
Office of the Chief Medical Officer
and
Homeland Security Systems Engineering and Development Institute (HSSEDI)

Version: 2.0

Date: March 17, 2020

1. Outcome

The outcome of a successful effort will be the mitigation of the Pandemic Influenza as well as other Pandemic Disease outbreaks within the United States. State and local leaders need to have access to data and pandemic experts to inform their decisions regarding non-pharmaceutical intervention escalation as well as retrograde throughout the critical period of outbreak. Reduction in the extent of the previously mentioned disease outbreak and preservation of the U.S. healthcare system will save lives.

2. Task Objectives

The objectives of the task are:

1. Define Pandemic Disease "triggers" (e.g., cases, ICU admissions, deaths) most critical to decision makers.
2. Align non-pharmaceutical interventions (NPI) that influence disease progression
3. Provide supporting disease models that track the disease and can inform decisions and actions to "bend the curve."
4. Convey information in #'s 1, 2, and 3 above to key officials at state, local and national levels who are responsible for making community-protecting decisions for the enhancement of NPIs and their retrograde.

Source

Points of Contact

Government POCs	Corresponding FFRDC POCs
Program Manager (b)(6) Medical Officer DHS/CWMD (b)(6)	**FFRDC Task Lead** (b)(6) Sr. Principal Systems Engineer (b)(6)
Contracting Officer's Representative (COR) (b)(6) EMS Program Manager DHS/CWMD/CMO (b)(6)	**FFRDC Program Director** (b)(6) Portfolio Director HSSEDI Mission Enablers (b)(6)
Contracting Officer (b)(6) Contracting Officer DHS/OPO/CWMDAD (b)(6)	**FFRDC Contracts Manager** (b)(6) Contracts Manager MITRE Public Sector Contracts (b)(6)
Suitability/Fitness Point of Contact (b)(6) Security Manager DHS/CWMD (b)(6)	**FFRDC Security Staff** (b)(6) Personnel Security Manager MITRE Personnel Security Services (b)(6)

Big Data Track and Trace

EMPOWERED [illegible] TECHNOLOGY TO COLLABORATE IN NEW WAYS

As sharing data-driven insights was a key objective of the Coalition, we needed a substantial infrastructure to collaborate, collect, analyze, visualize, and share data and insights from close to 1,000 member organizations in a trusted and secure manner.

We envisioned an infrastructure that would quickly provide members and many other stakeholders with tools and information they could use to make decisions on how to keep their populations safe.

We achieved that vision within weeks thanks to the leadership and extraordinary contributions of members, including:

- Acumen
- Amazon Web Services
- Box
- Deloitte
- Google
- Microsoft
- MITRE
- Okta
- Salesforce
- Slack
- Splunk
- Tableau

BUILT critical infrastructure to enable collaboration and shared analytics

LAUNCHED public website with useful decision aids dashboards

CONVENED leading technology firms in service of the public interest

businesswire | Business Wire

MITRE Engenuity Launches Open Generation Consortium to Drive 5G Innovation

10 November 2020 · 5-min read

Charles Clan[illegible]ITRE's chief futurist and senior vice president and general manager of [illegible] Labs, said, "Developing innovations in 5G use cases for drones can impact smart cities, address crisis response, and advance agriculture needs. But the impact of 5G goes well beyond drones by connecting everything from home appliances to critical infrastructure to the cloud, impacting healthcare, factory automation, critical infrastructure, and more. We must begin [illegible]g solutions and set[illegible]new standards as one, collaborative voice, to ensure a [illegible] future for all."

Consortium brings together industry to drive enterprise adoption of 5G for drones and other transformational use cases

MITRE Engenuity is bringing together government and industry with a new consortium to drive radical collaboration and breakthrough 5G innovation in the United States and democratic societies. The Open Generation Consortium (Open Gen) complements existing 5G groups in the United States by focusing on use-case innovation across a series of U.S.-based 5G test ranges, including MITRE's 5G testbed, and by making the resulting research publicly available to drive innovation and inform stakeholders.

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BROAD COALITION OF HEALTH AND TECHNOLOGY INDUSTRY LEADERS ANNOUNCE VACCINATION CREDENTIAL INITIATIVE TO ACCELERATE DIGITAL ACCESS TO COVID-19 VACCINATION RECORDS

Share Tweet PRINT

- The Vaccination Credential Initiative (VCI) is working to enable individuals vaccinated for COVID-19 to access their vaccination records in a secure, verifiable, and privacy-preserving way.
- Coalition partners include CARIN Alliance, Cerner, Change Healthcare, The Commons Project Foundation, Epic, Evernorth, Mayo Clinic, Microsoft, MITRE, Oracle, Safe Health, Salesforce.
- The coalition is developing a standard model for organizations administering COVID-19 vaccines to make credentials available in an accessible, interoperable, digital format.
- Trustworthy, traceable, verifiable, and universally recognized digital record of vaccination status is urgently needed worldwide to safely enable people to return to work, school, events, and travel.

New York, January 14, 2021—A broad coalition of health and technology leaders today announced the creation of the Vaccination Credential Initiative (VCI), committed to empowering individuals with digital access to their vaccination records based on open, interoperable standards.

The current vaccination record system does not readily support convenient access, control, and sharing of verifiable vaccination records.

VCI coalition members are working to enable digital access to vaccination records using the open, interoperable SMART Health Cards specification, based on W3C Verifiable Credential and HL7 FHIR standards.

Health Wallet

Protocol | Search | GitHub 96 Stars · 24 Forks

SMART Health Cards Framework

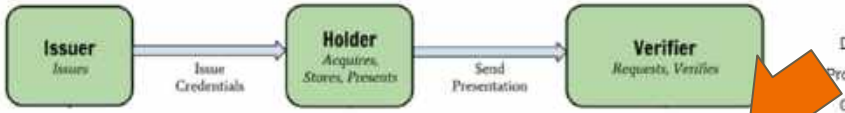
- Protocol
- Credential Modeling
- Credential Types
- Examples
- Changelog

Introduction

This implementation guide provides a framework for "Health Cards", with a short term goal to enable a consumer to receive COVID-19 Vaccination or Lab results and **present these results to another party in a verifiable manner**. Key use cases include conveying point-in-time infection status for return-to-workplace and travel. This approach should also support documentation of immunization status and other health details.

Because we must ensure end-user privacy and because Health Cards must work across organizational and jurisdictional boundaries, we are building on international open standards and decentralized infrastructure.

Conceptual Model



Adapted from Figure 1 of the W3C Verifiable Credentials specification

- **Issuer** (e.g., a lab, pharmacy, healthcare provider, EHR, public health department, or immunization information system) generates verifiable credentials
- **Holder** stores credentials and presents them at will
- **Verifier** receives credentials from holder and ensures they are properly signed

Table of contents

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Home Framework Updates

NEWS

ACCELERATING THE READINESS OF AUGMENTED AND VIRTUAL REALITY FOR MASS DEPLOYMENT

Mitre and Blockchain

RESEARCH

MITRE conducts blockchain research on a variety of topics, such as consensus performance in contested environments, the use of smart contracts for enforcing regulations, and recording commercial aviation traffic. This research informs our sponsors' blockchain efforts and builds a core resource of blockchain knowledge.

PILOTS

MITRE conducts studies, builds prototypes, and conducts pilots for sponsor efforts in domains such as space situational awareness, defense industrial base supply chain, and reducing improper payments in federal grantmaking. This pilot activity informs transitions to mission programs.

ADOPTION

MITRE enables informed decision making, helping to implement the adoption of blockchain in stakeholder ecosystems through the use of facilitated shared agreements, rapid delivery, governance, and an up-front, pro-active approach to innovation and future updates.

EDUCATION

MITRE offers blockchain education through MITRE Institute courses such as "Introduction to Blockchain Technology" and "Introduction to Blockchain Systems Engineering." In addition, MITRE delivers education as part of blockchain exploration workshops with sponsors, including defense and civil agencies and departments. MITRE is presently forming relationships with leading academic institutions to ensure free flow of blockchain research information, informing sponsor efforts and challenges.

email: blockchain@mitre.org

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NIBBLER DRONE IS AN ADVANCED MANUFACTURING "FLAGSHIP" FOR MARINES

January 2019

Topics: Unmanned Aircraft Systems, Unmanned Systems, Military Equip[illegible]vernment Acquisition, Innovation

MITRE developed the "Nibbler," a 3-D printed, low-cost surveillance quadcopter that Marines can make and repair themselves. The Nibbler story demonstrates how advanced manufacturing benefits warfighters by disrupting the traditional acquisition process.

Share Tweet [illegible] PRINT

The Nibbler drone was created through 3D printing to be low cost, easily repaired and have

Publications

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Should the police be able to monitor what you're doing in your backyard? City of Elizabeth officials think so. The police department is using drones to watch residents and broadcast warnings to those suspected of not following social distancing guidelines. The drones surveil areas that are not easy for officers to patrol with cars: parks, alleys, and yards behind houses.

NCCD National Council on Crime & Delinquency

National Council on Crime & Delinquency

National Fusion Center Association

A Lastday participants take flight — hoping to renew. Although they are led to believe that this can happen, in reality it never does. The society is without crime, except that of attempting to escape to live beyond the age of 30.

Hanson Robotics Launches Social Robot Prototype for Health Care

Ding Yi / Jun 10, 2021 07:23 PM / Business & Tech

Hanson Robotics, a Hong Kong-based tech startup that shot to fame for making a social robot named Sophia, is launching a new prototype for the health care market, according to Reuters.

The prototype, named Grace, has a thermal camera that can take people's temperature and measure their responsiveness, and it uses artificial intelligence to diagnose patients, Reuters reported on Thursday.

Self-Assembly Nanorobotics
Mitre's Ties to Charles Lieber At Harvard

Mitre With Harvard / Lieber On Bio-Nano Robotics

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Charles Lieber REUTERS/KATHERINE TAYLOR

Why did a Chinese university hire Charles Lieber to do battery research?

By Robert F. Service | Feb. 4, 2020 , 12:45 PM

MITRE | SOLVING PROBLEMS FOR A SAFER WORLD ABOUT CENTERS CAPABILITIES RESEARC

Project Stories

SHRINK TO FIT: MITRE–HARVARD COLLABORATION CONTINUES NANOPROCESSING CHAIN OF SUCCESS

November 2011

A MITRE and Harvard team has demonstrated the world's first nanoprocessor, a groundbreaking prototype that advances the science of ultra-tiny computing systems.

James Ellenbogen

Chief Scientist, Nanotechnology and Emerging Technologies at The MITRE Corporation

McLean, Virginia, United States · Contact info

Chief Scientist, Nanotechnology and Emerging Technologies

The MITRE Corporation

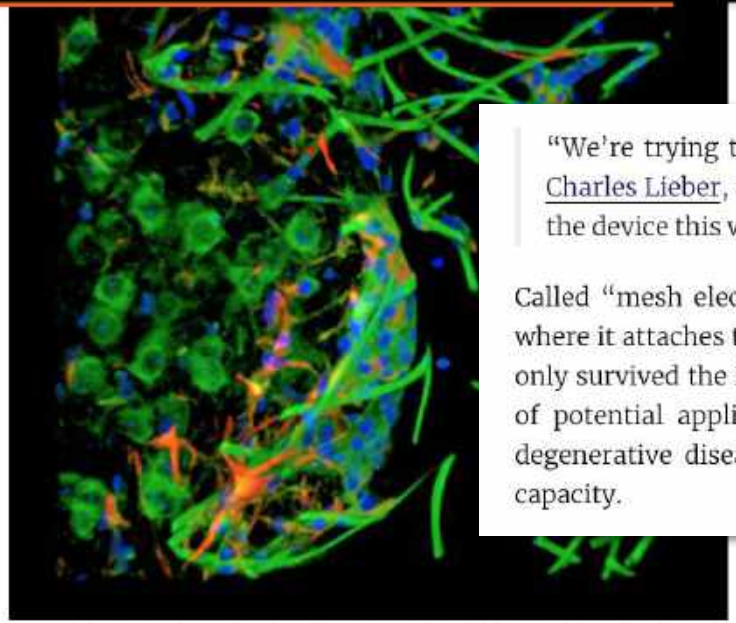
1984 – Present · 37 yrs

McLean, VA

Dr. James Ellenbogen is Chief Scientist for Nanotechnology and Emerging Technologies at the MITRE Corporation in McLean, Virginia, where he joined the technical staff in 1984. He founded MITRE's Nanosystems Group in 1992 and has been a leader in the field of nanotechnology for more than 25 years, especially in the development of next-generation electronic computers integrated on the nanometer scale. He has published a number of fundamental papers and patents in the area and, over the past decade, he collaborated in the realization of the world's first nanocomputers.

Recently, he has been instrumental in the discovery and application of new laws of physics that provide a path to the rapid design of nanocircuits, increasing the density of energy storage in supercapacitors and in batteries, plus more rapid modeling of materials on all scales. He also has led efforts to apply nanotechnology-enabled sensors for the rapid diagnosis of debilitating diseases and to enhance food safety. Presently, he is focusing much of his efforts on enhancing the performance of supercapacitors to help enable green energy sources and improved electric vehicles.

Scientists create neural lace that fuses with your brain



A 3-D microscope image shows the mesh injected into a region of the brain called the lateral ventricle.
(Lieber Research Group, Harvard University)

> "We're trying to blur the distinction between electronic circuits and neural circuits," says Charles Lieber, a nanotechnologist at Harvard University and co-author of a study describing the device this week in *Nature Nanotechnology*.

Called "mesh electronics," the device is so thin that it can be directly injected to the brain, where it attaches to the brain. The technology was already successfully tested on mice, who not only survived the implantation, but seem to have no negative side effects. This could have a lot of potential applications, including monitoring brain activity and delivering treatment for degenerative diseases such as Parkinson's. It might even be used to artificially boost brain capacity.

> "This could make some inroads to a brain interface for consumers," says Jacob Robinson, who develops technologies that interface with the brain at Rice University. "Plugging your computer into your brain becomes a lot more palatable if all you need to do is inject something."

The mesh also gives scientists access to previously inaccessible areas of the brain; when researchers want to study some areas of the brain of a mouse, they have to actually cut a piece from it, but this technology might change that, allowing remote research. Further down the line, delivering treatment directly to the brain could be the way to go.

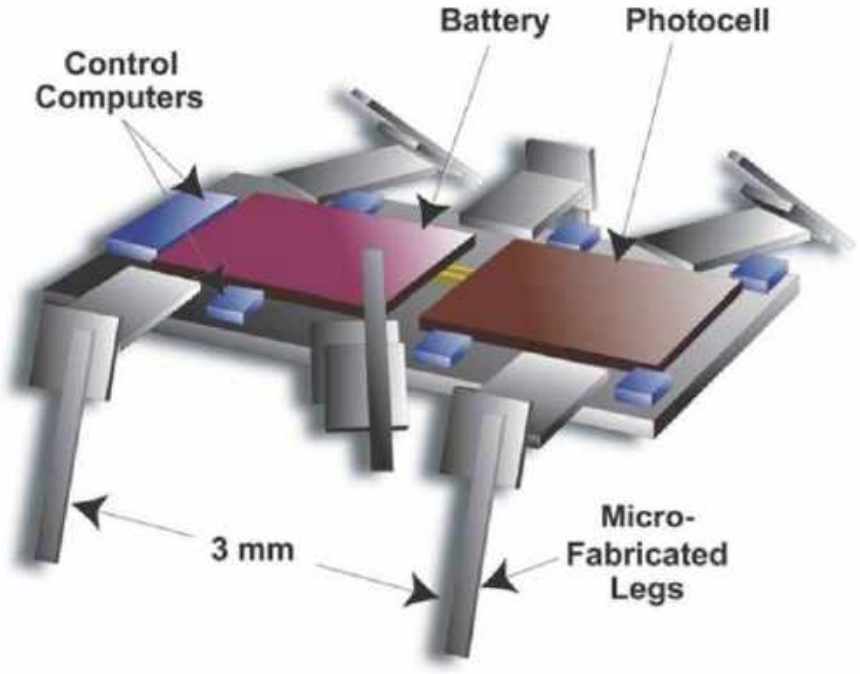


Figure 2. Design for a millirobot as originally designed by Routenberg and Ellenbogen at the MITRE Corporation [17]. The present author's original control circuit is designed to coordinate the leg movements on tiny robots such as this insect-like walking robot.

MITRE | Bridging Innovation

Home Framework Updates

MITRE's Bridging Innovation facilitates identify current operational challenges across all our government sponsors and their respective domains (e.g. healthcare, defense, intelligence, homeland security, transportation, aviation), for which emerging AR/VR technologies are uniquely positioned to be able to provide 'disruptively innovative solutions'. We can help connect with required hardware, as well as professionals with any of the skills and experiences needed for AR/VR application development – including but not limited to software/systems engineering, graphics programming, human factors engineering, user experience professionals, cognitive scientists, and experimental psychologists.. We can also proactively find ways to get subject matter expert and other potential stakeholders' feedback on rapidly prototyped applications of those emerging AR/VR technologies, or even integrate those emerging technologies into novel solutions for acute operational problems that our sponsors need to address.

This bridging approach provides the government sponsors with insights into novel applications driven by emerging technologies while our industry and academic partners receive valuable feedback for iterative enhancements while also gaining exposure to new markets. By facilitating the co-evolution of emerging hardware as well as software or applications, we can *right now* capitalize on the potential of AR/VR to address complex challenges facing our government sponsors – and accelerate the readiness for mass deployment.

Dr. Sacha Panic is a Lead Cognitive Scientist with MITRE's AR/VR Futures Lab. His focus is on assessing or augmenting human sensory-motor performance through physiological and behavioral sensing, and the use of (immersive) displays for basic and applied research, training, and operations.

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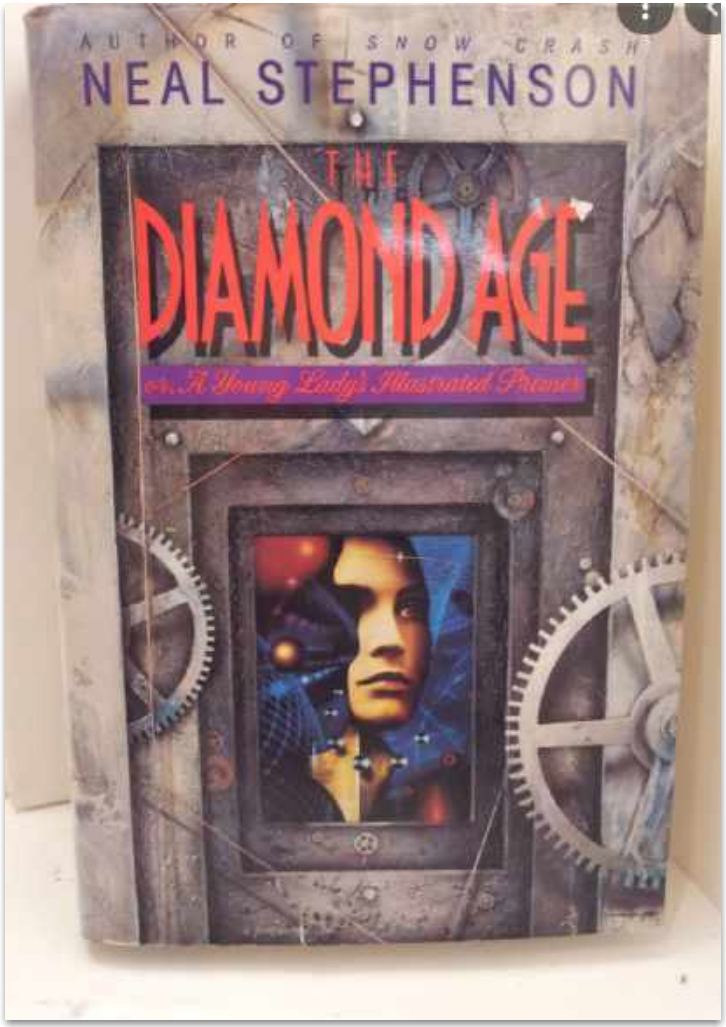

"Think of them as matter compilers, not 3D printers"

Neal Stephenson, The Diamond Age, 1995

Bio-Nano Imperialism - Cellular Manifest Destiny

“Even a wounded world is feeding us.

Even a wounded world holds us, giving us moments of wonder and joy.

I choose joy over despair.

Not because I have my head in the sand, but because joy is what the earth gives me daily and I must return the gift.”

Robin Wall Kimmerer

Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants

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