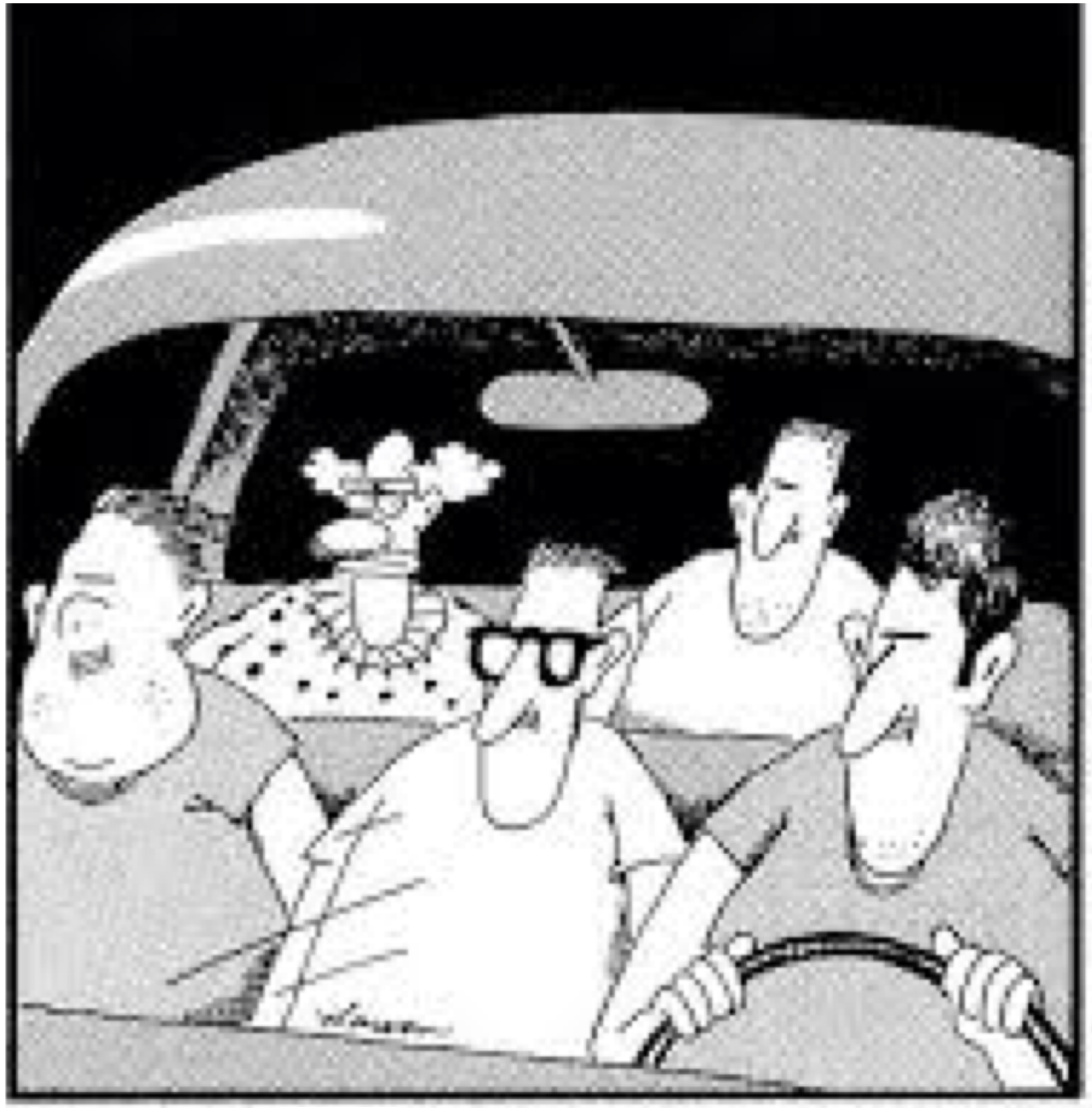
Technology and Transformation

One ID10T's view of the future



Gary Larson is a genius!

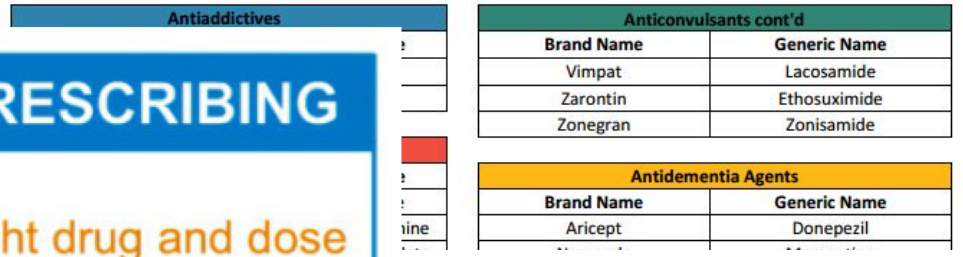
Catching Up to…

NDI

NDI

3/20/19

GENOMICS

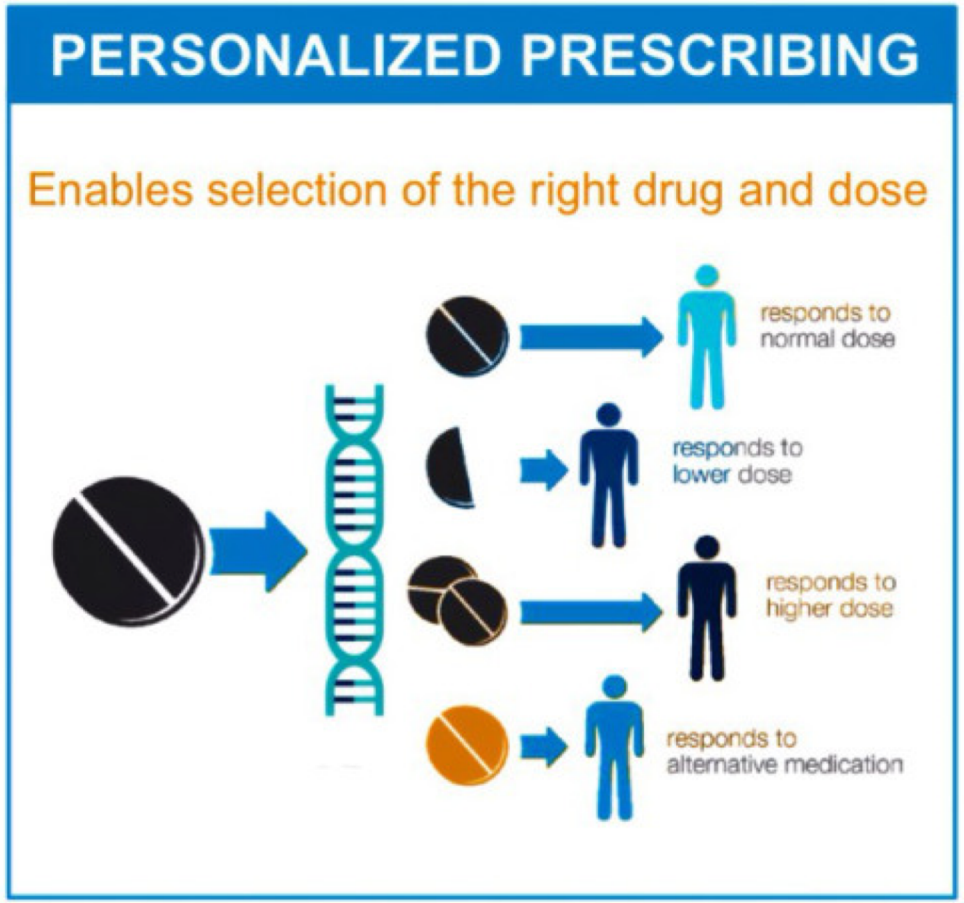


Antiaddictives

Anticonvulsants cont'd	
Brand Name	**Generic Name**
Vimpat	Lacosamide
Zarontin	Ethosuximide
Zonegran	Zonisamide

Antidementia Agents	
Brand Name	**Generic Name**
Aricept	Donepezil

www.genomind.com



GENOMIND

Drug Interacti

This summary provides

s genetic profile

Medication
Antidepressants
Citalopram (Celexa®)
SSRIs: Escitalopram (Lexapro®)
SSRIs: Fluoxetine (Prozac®)
SSRIs: Fluvoxamine (Luvox®)

zoom

INDIANA FAMILY & SOCIAL SERVICES ADMINISTRATION

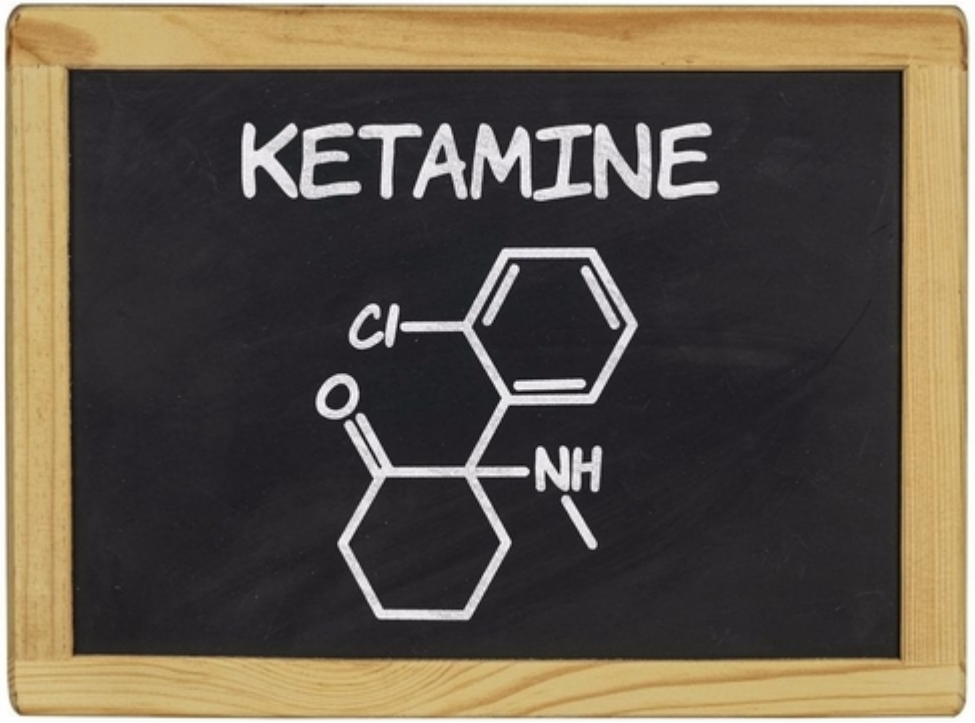
FSSA

NeuroStar rTMS

Nihon Kohden Polysomnography

MECTA 5000Q Electroconvulsive Stimulator

Serotonin
HO
$C_{10}H_{12}N_2O$
HN
NH_2


KETAMINE
Cl
O
NH

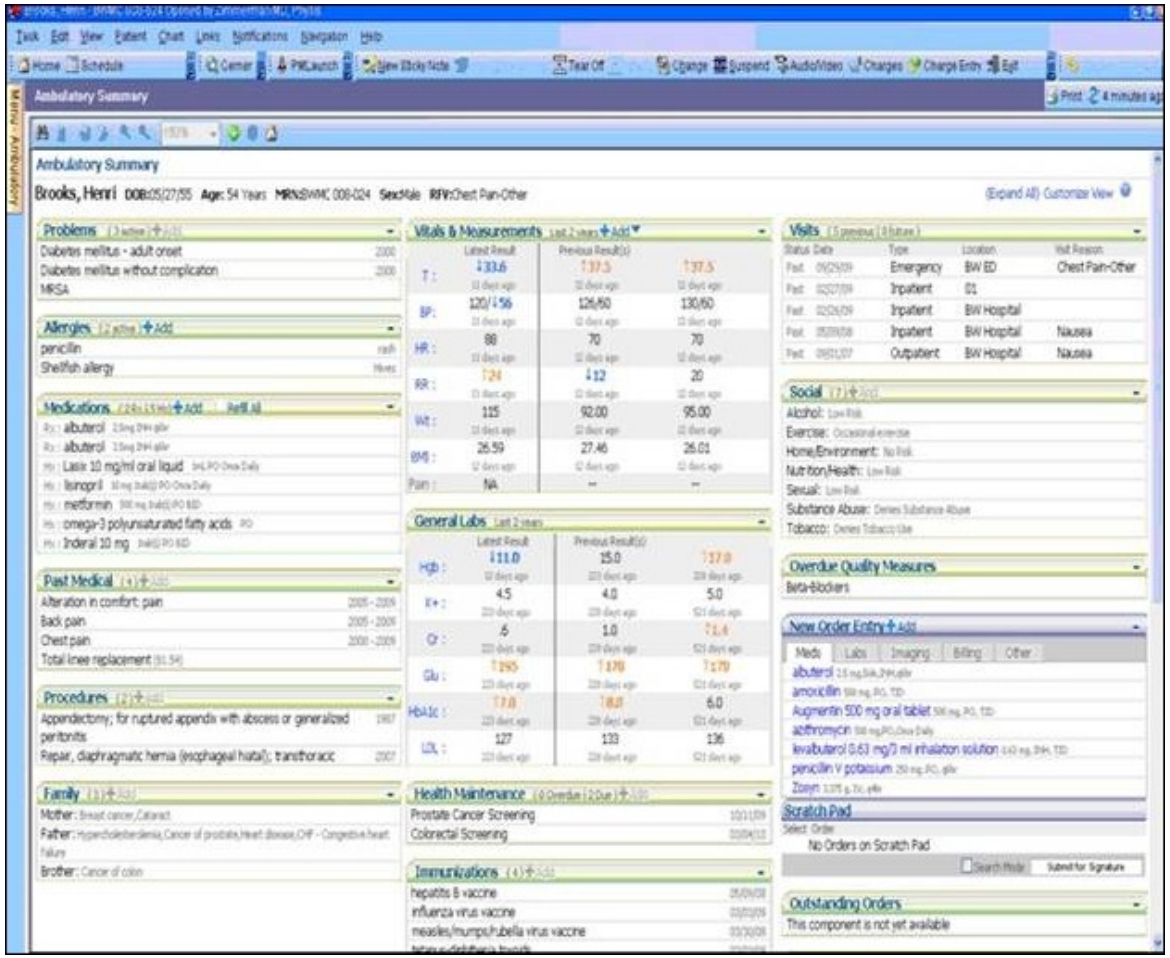
MUSE

Virtual Reality

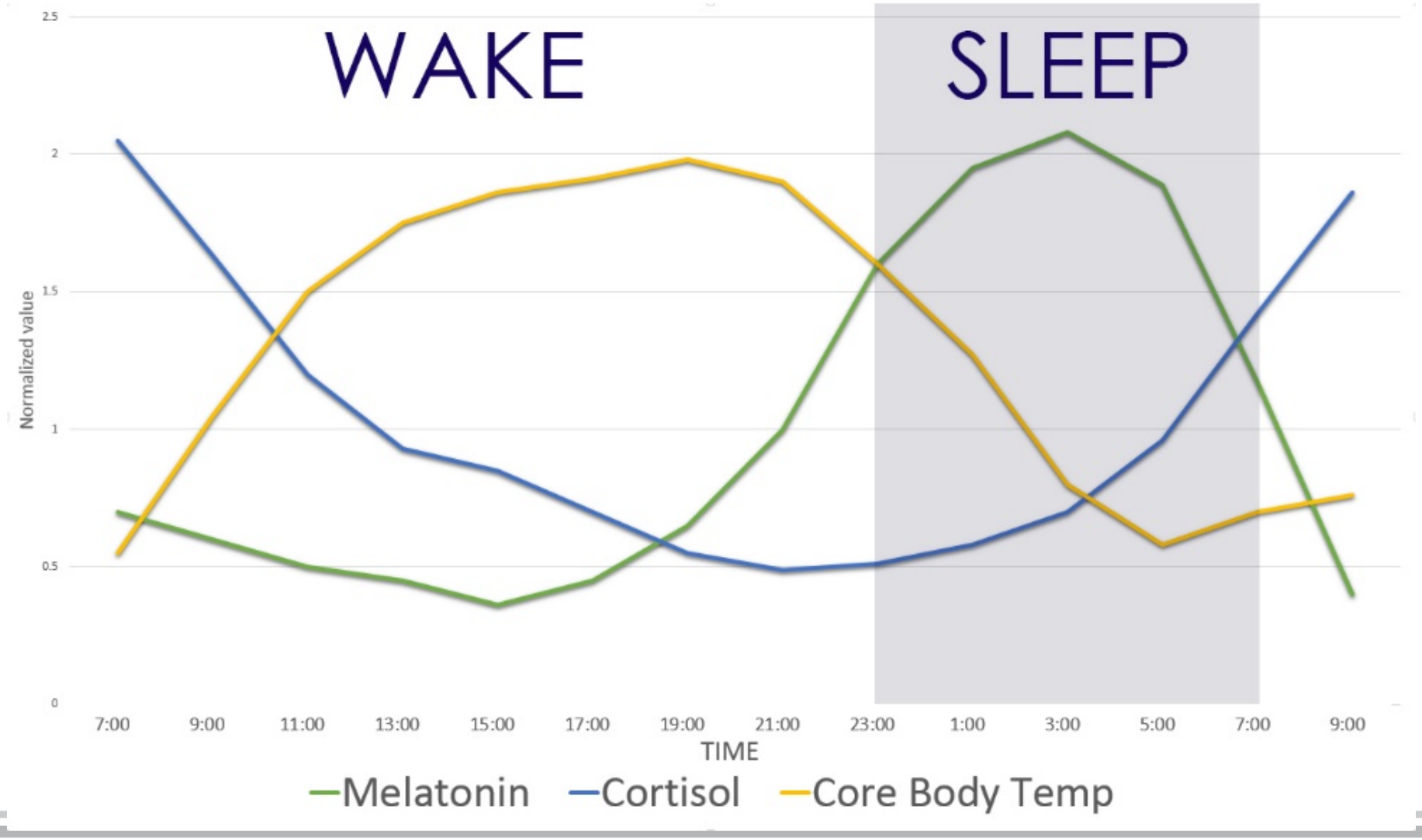
VOCERA Staff Communications

Nihon Kohden Vital Sign Monitoring

Cerner Millennium EHR

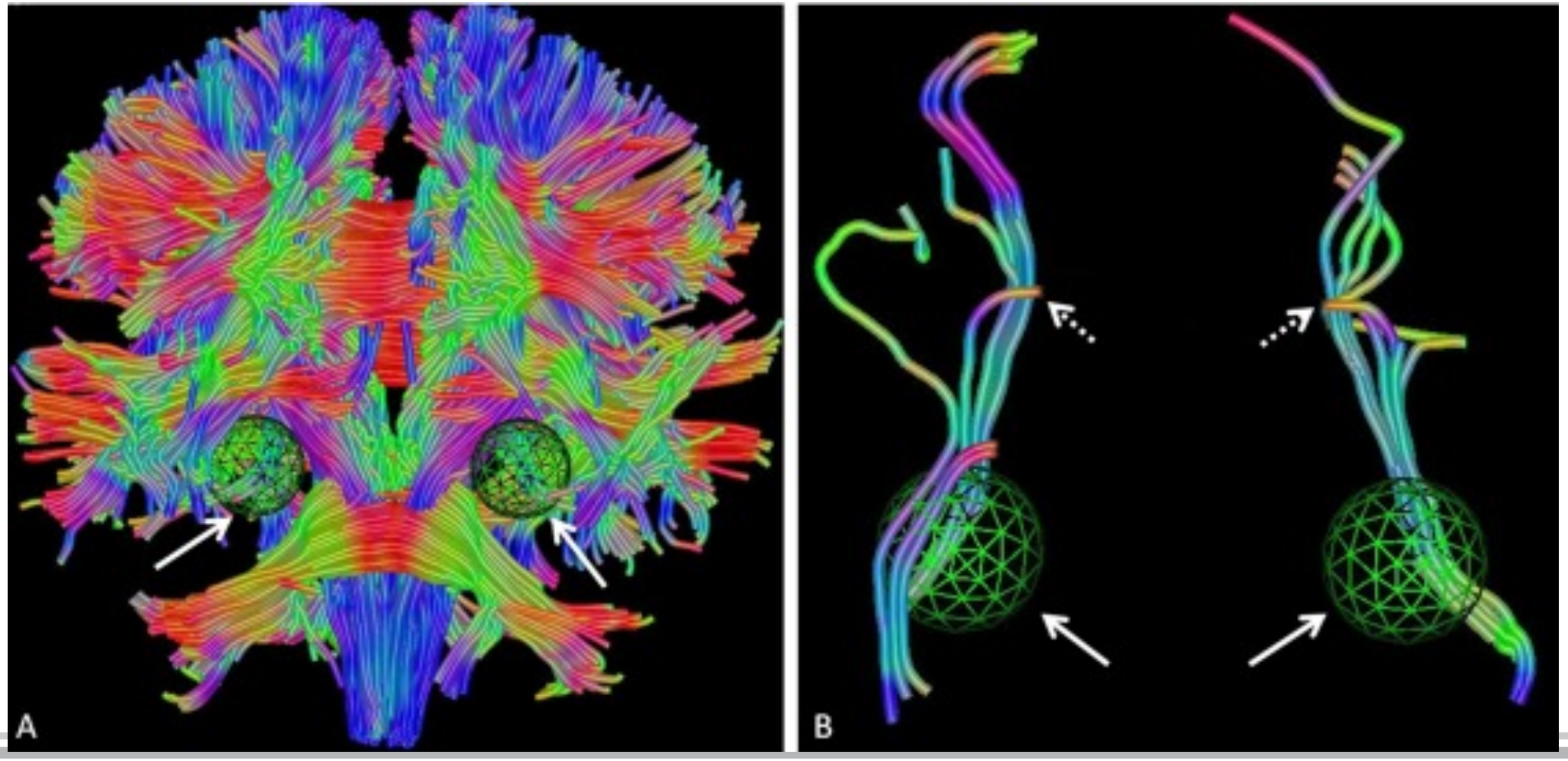


CIRCADIAN RHYTHMS

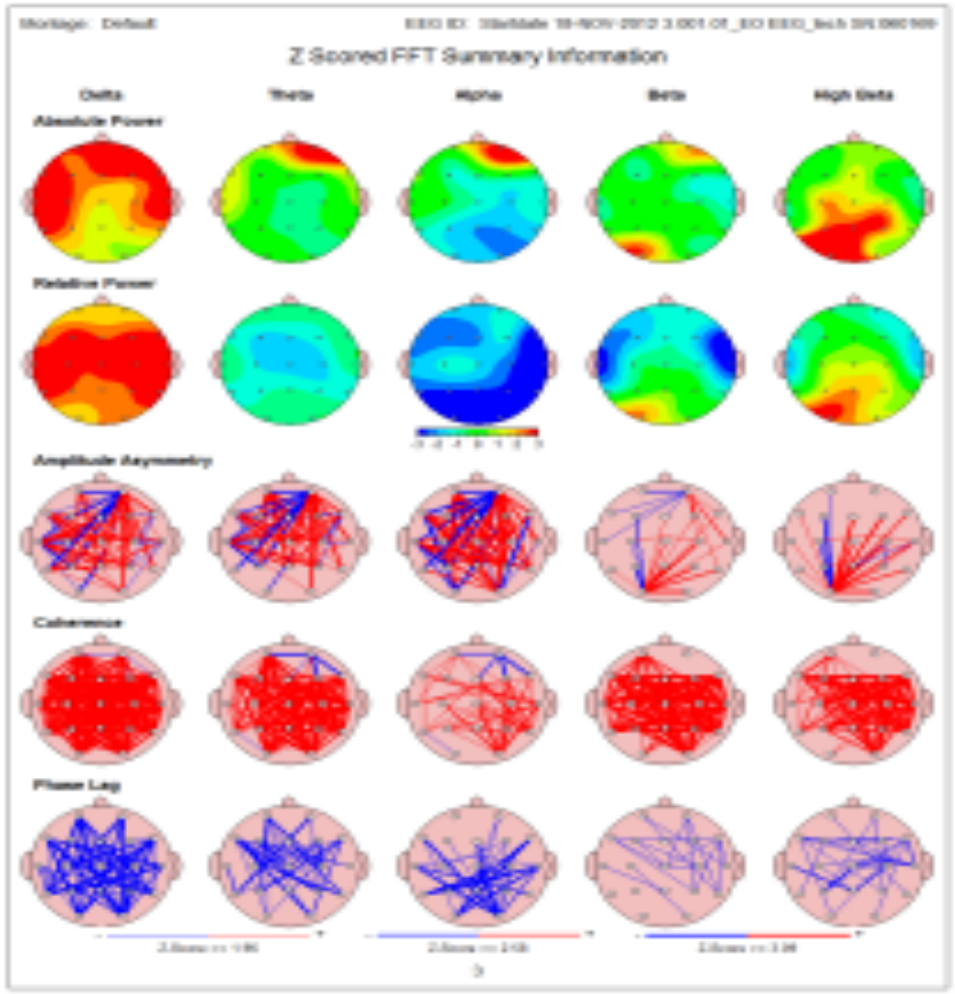


Tunable Lighting

Advanced Imaging at CHE



BEAM: Brain Electrical Activity Mapping

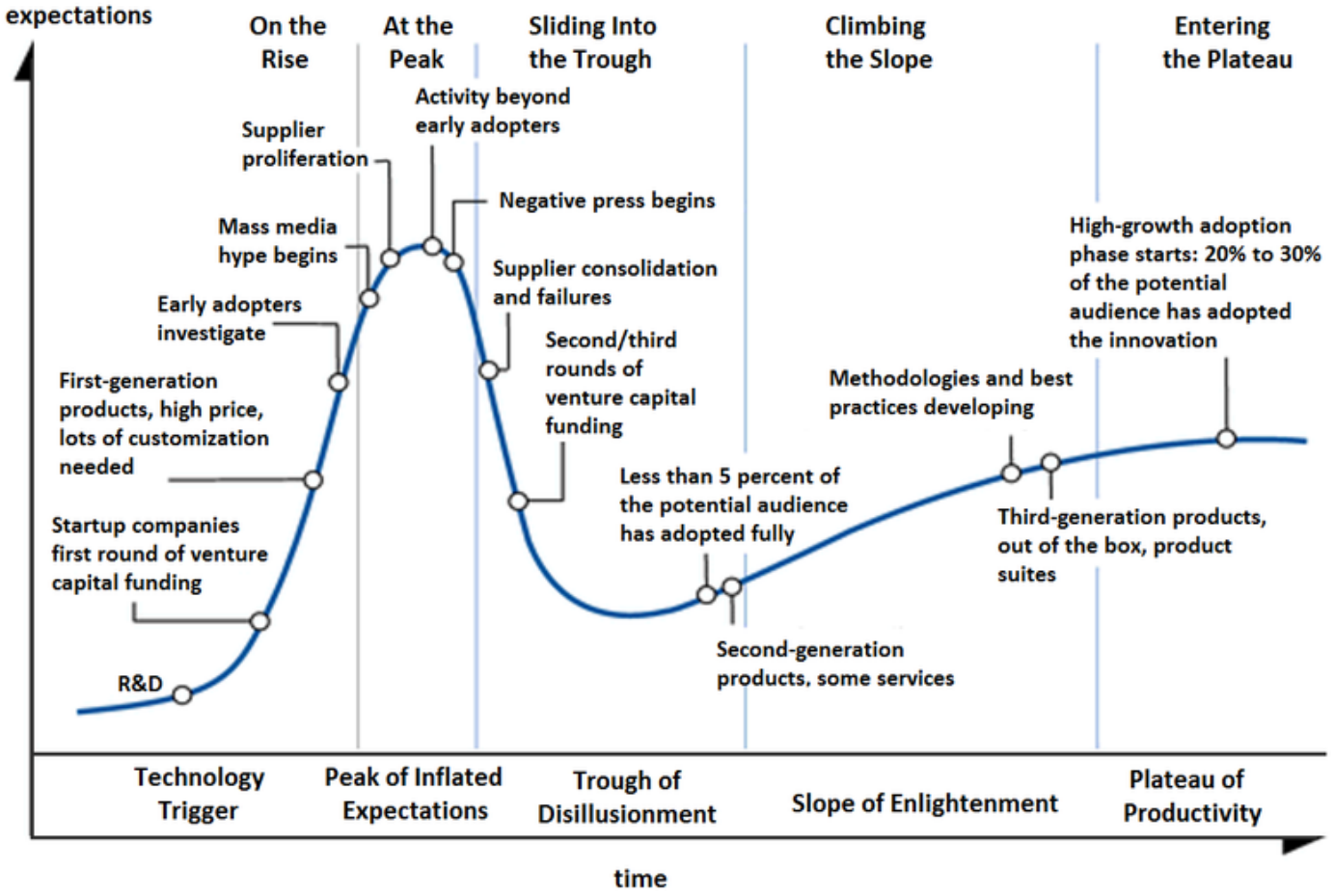


The Near Future

Roy Amara

- We tend to overestimate the amount of change in the short run and under estimate change in the long run.

Roy Amara's Law

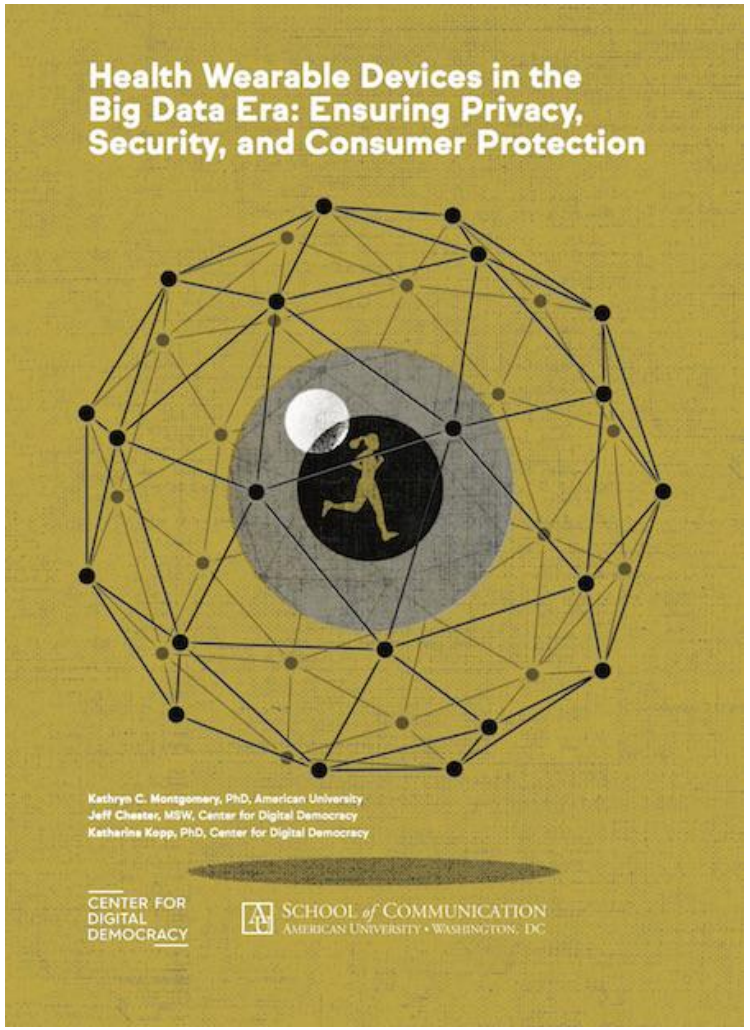


5G

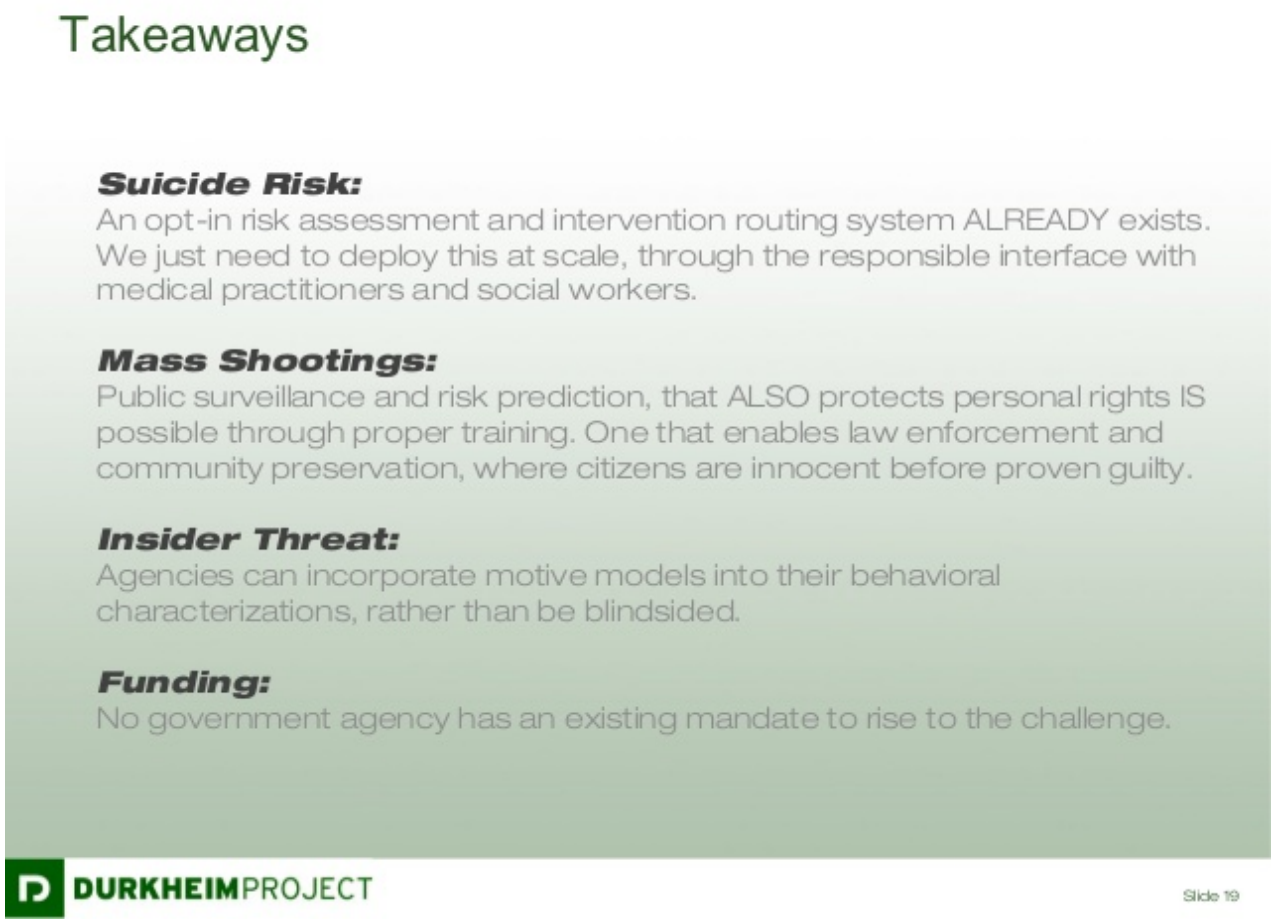
- 20 gigabyte/second; whole Blue Ray movie (25-50 GB) in three seconds
- Sub millisecond latency; essentially instantaneously enabling autonomous vehicles
- Control of remote devices
- Much lower power requirements

Augmented Reality

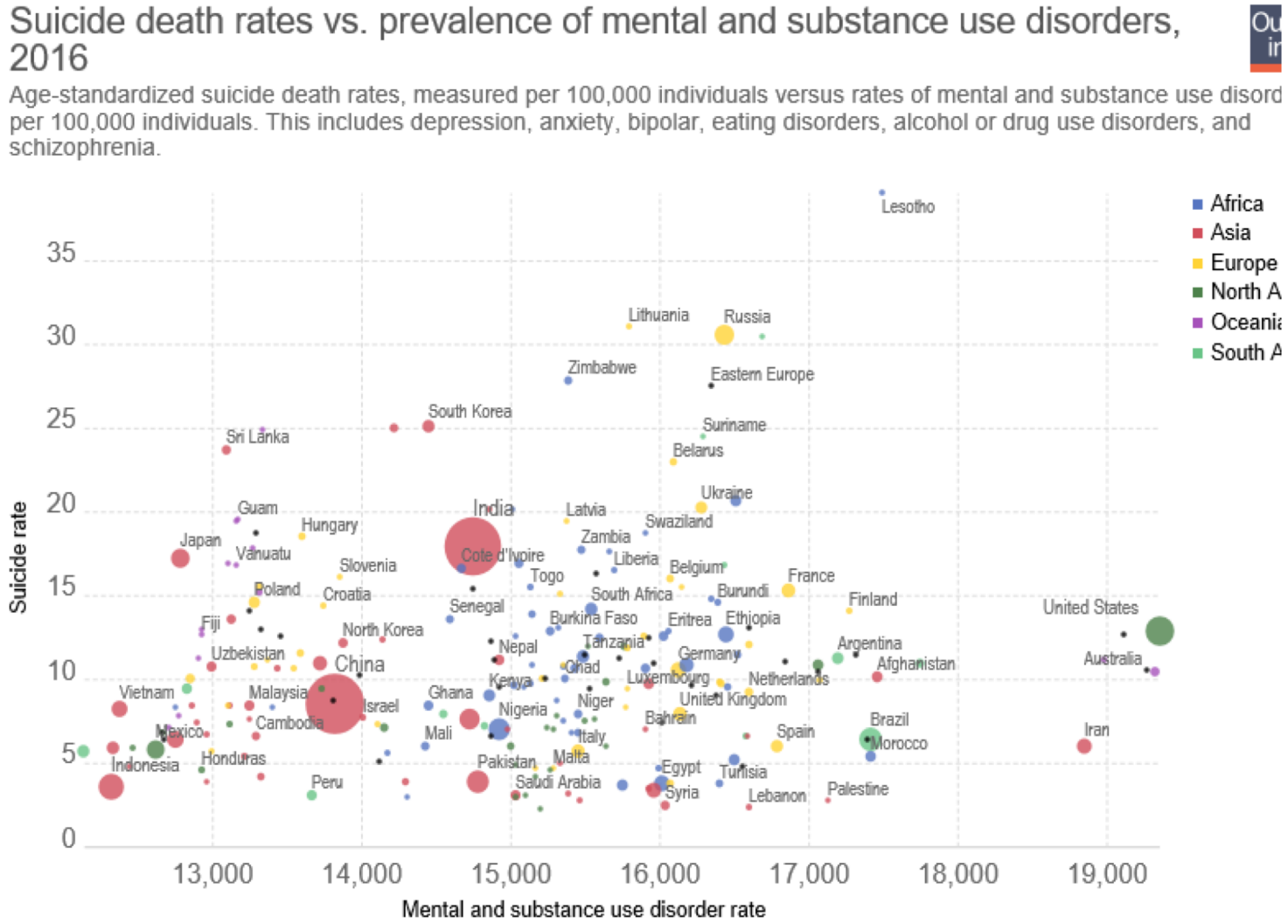
The Internet of Things



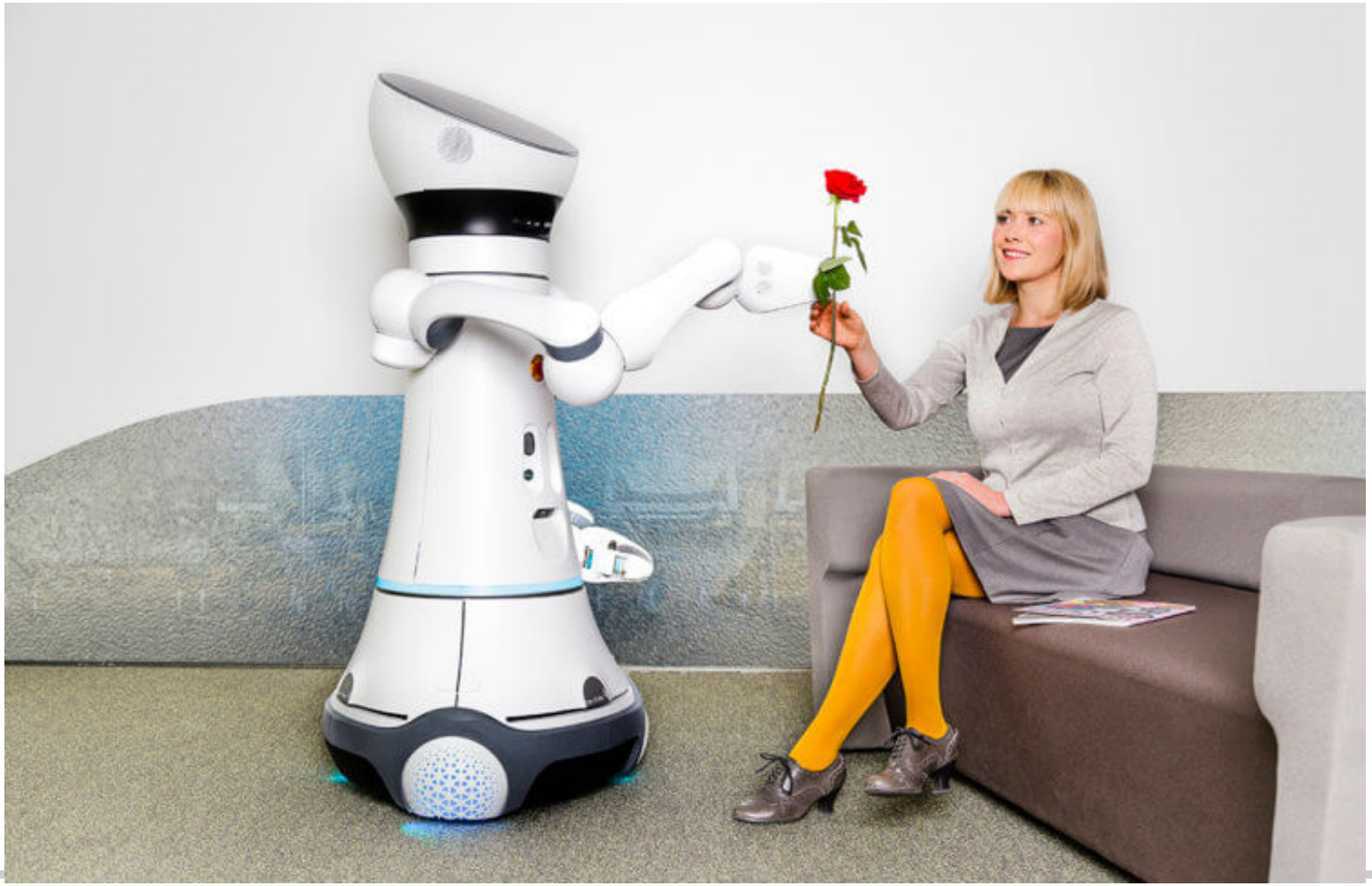
Applications of “Big Data”



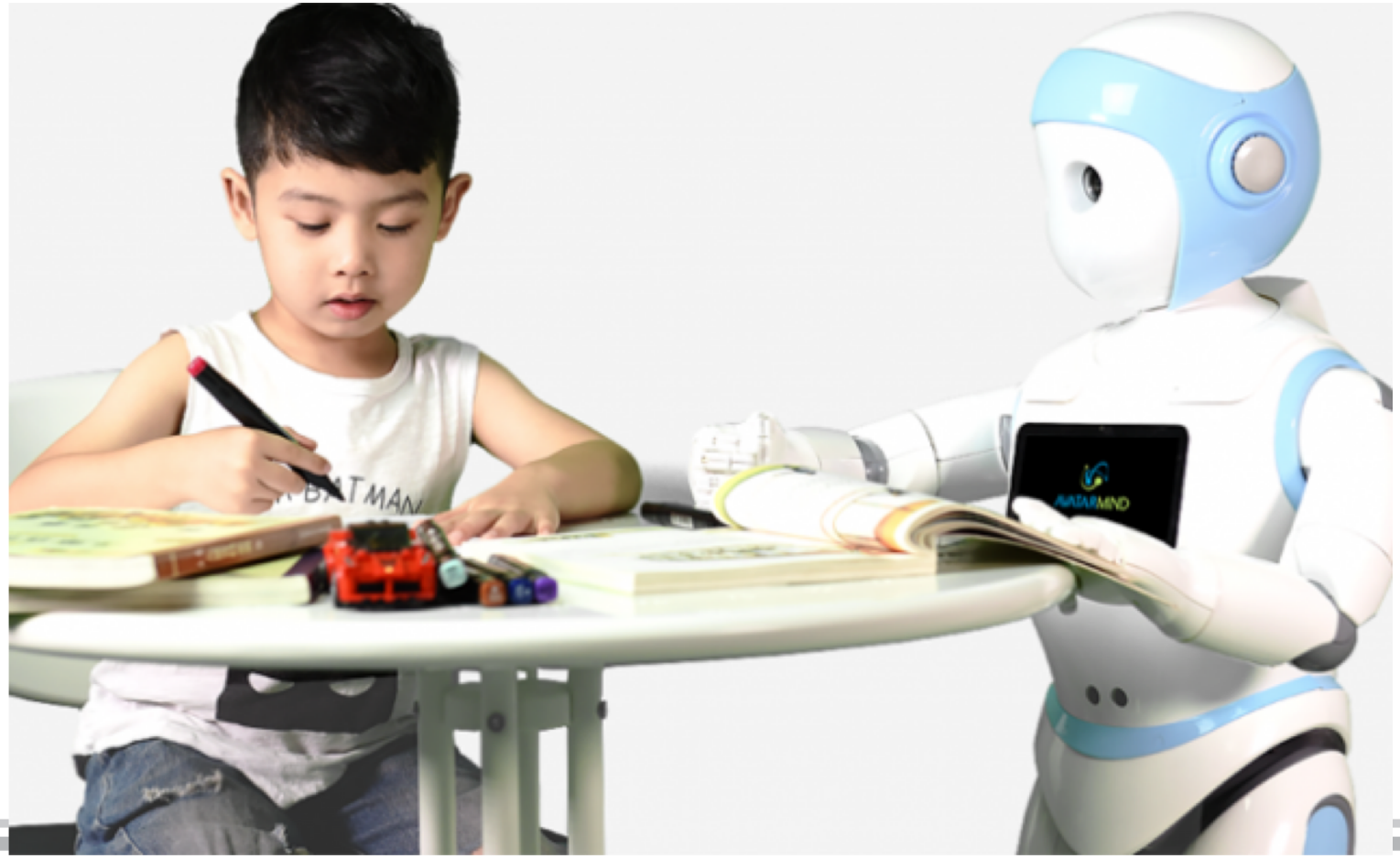
Suicide as an Epidemiological Example



Robotic Companions



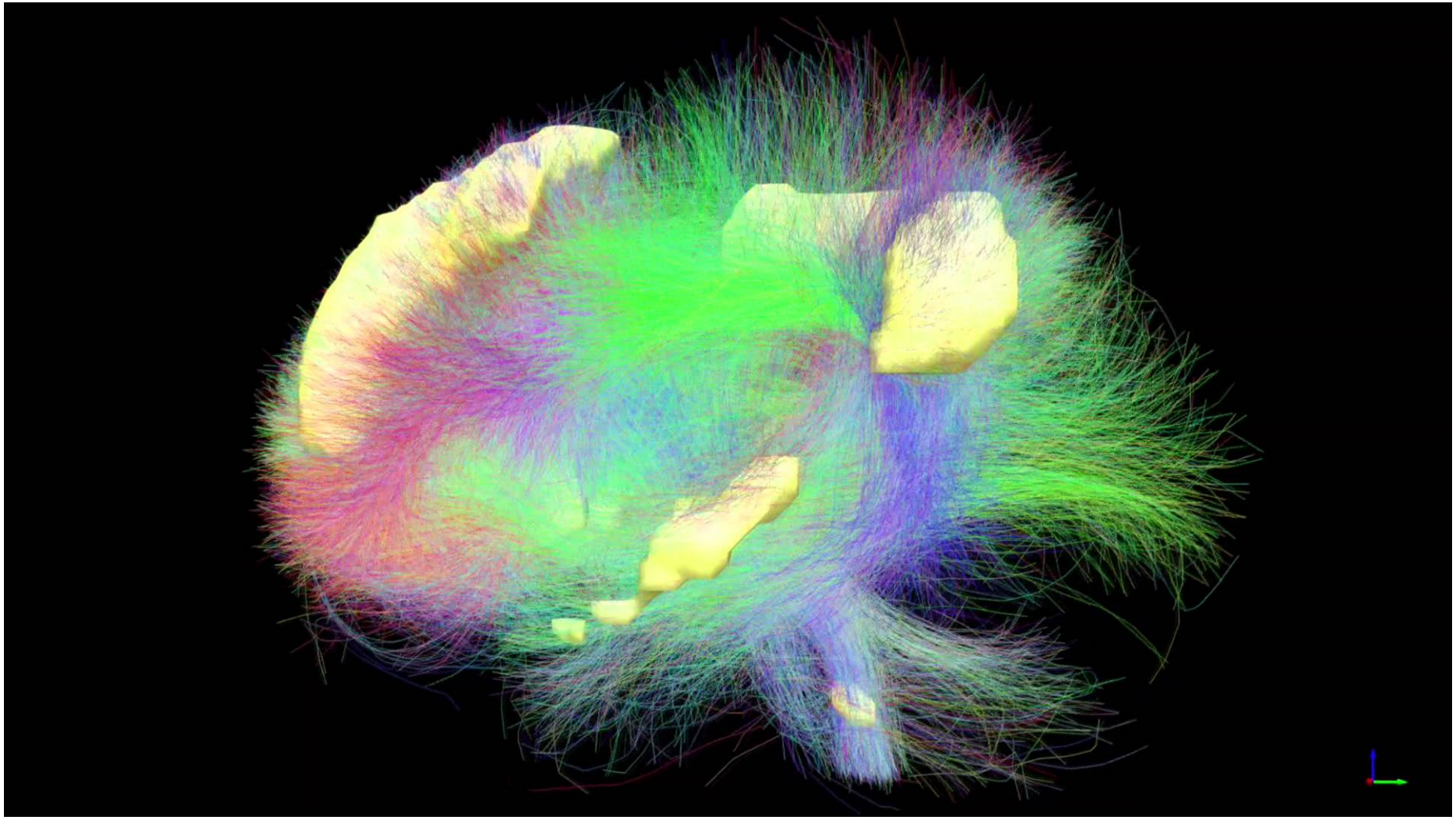
Robotic Therapists



Robotic Attendants

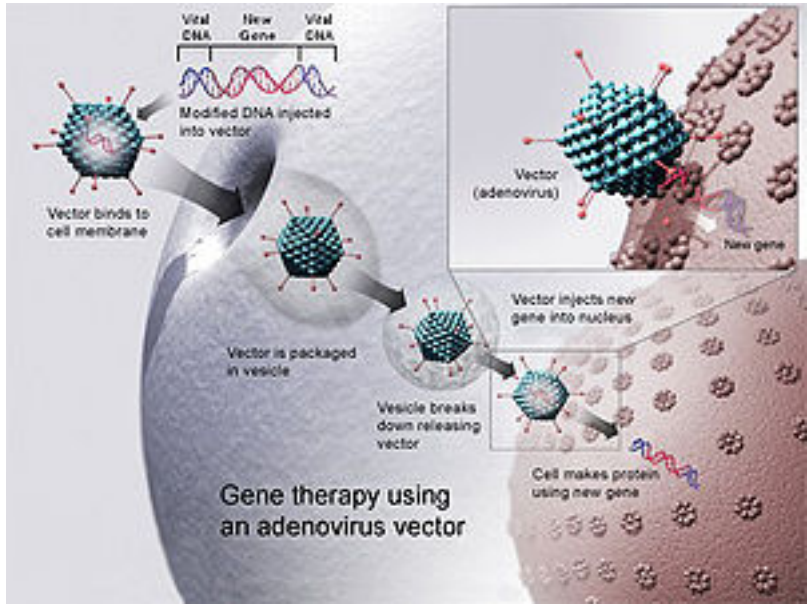
Magnetoencephalography

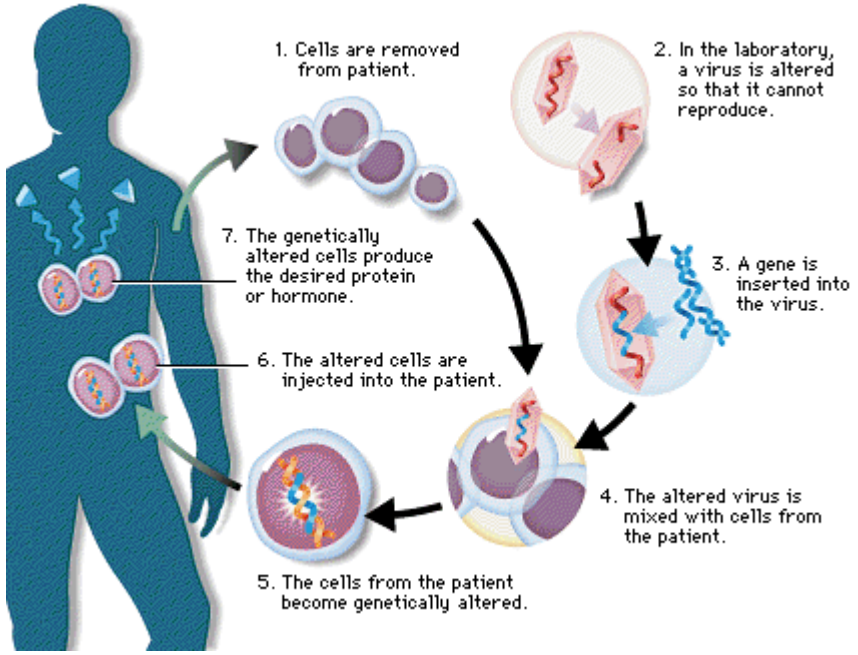
The Connectome



Viral Barcoding
Cold Spring Harbor
Laboratory

Gene Therapy and Epigenetics

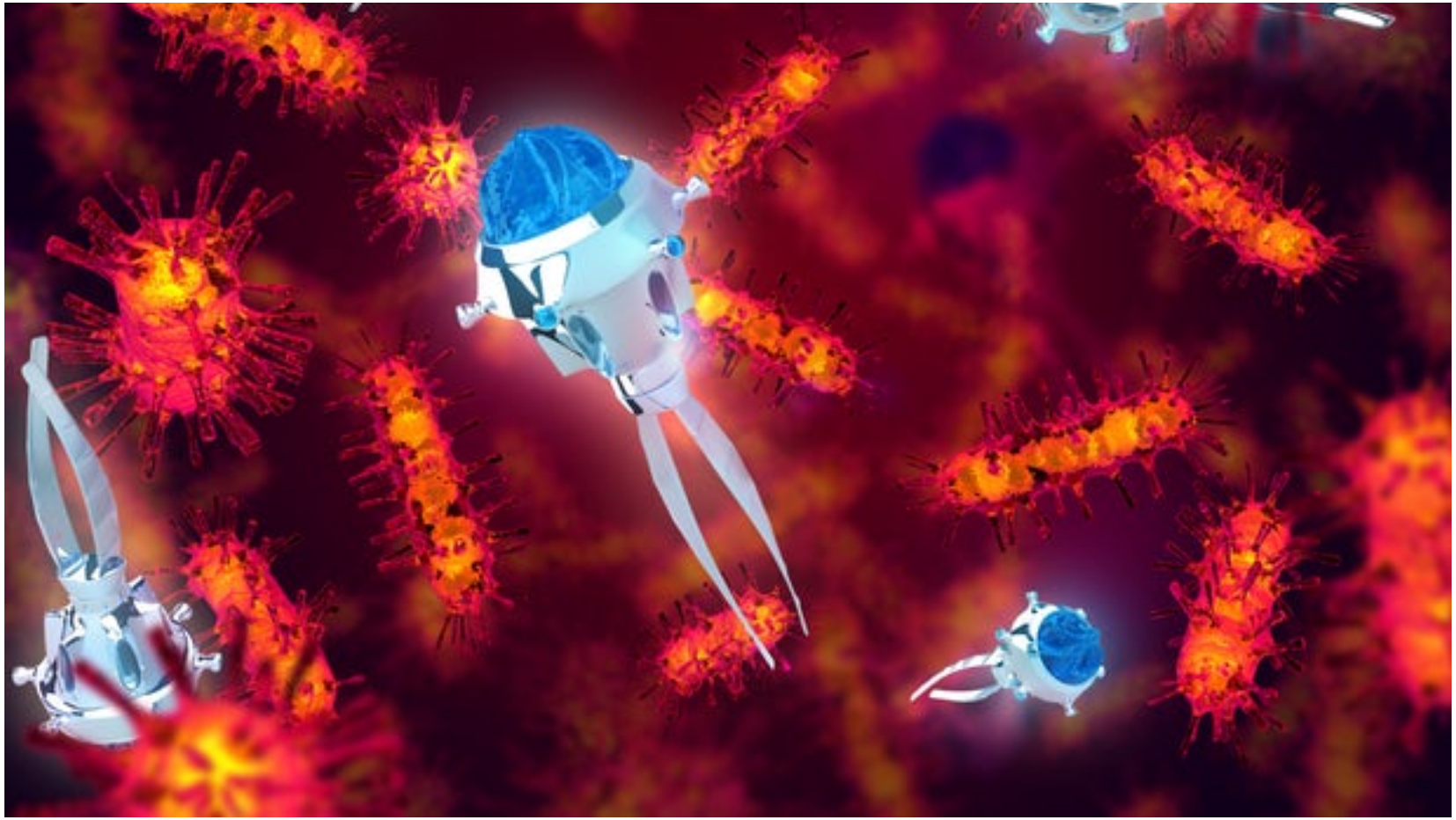




Gamma Knife

The “Far” Future

Nanometer Technology

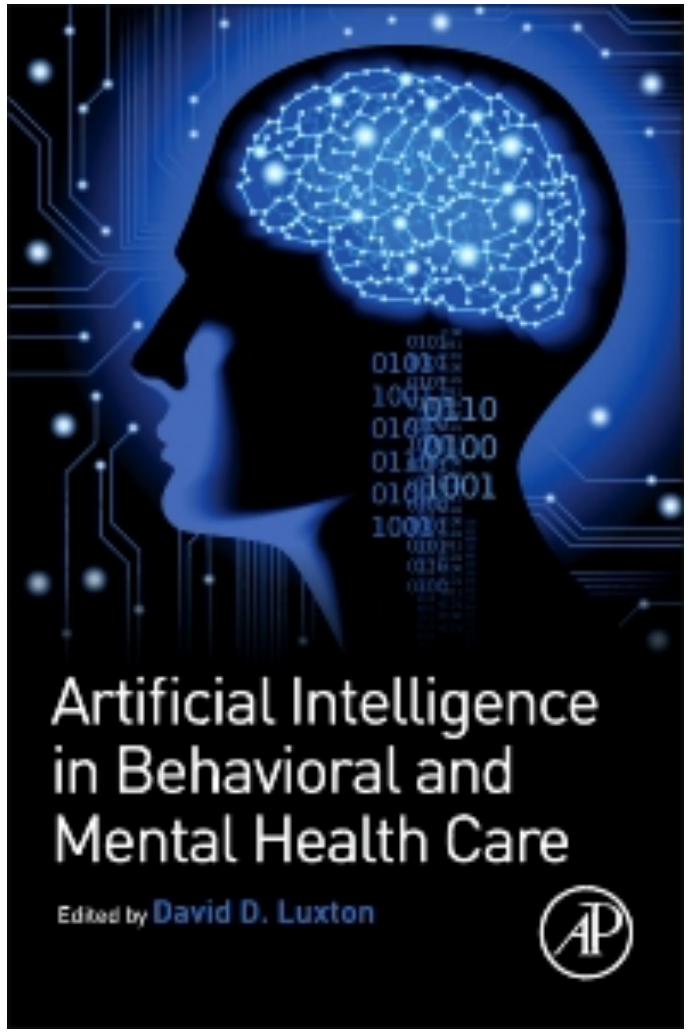


AI and the Singularity

Ray Kurweil
- Google's Director of Engineering
- AI will equal human intelligence by 2045

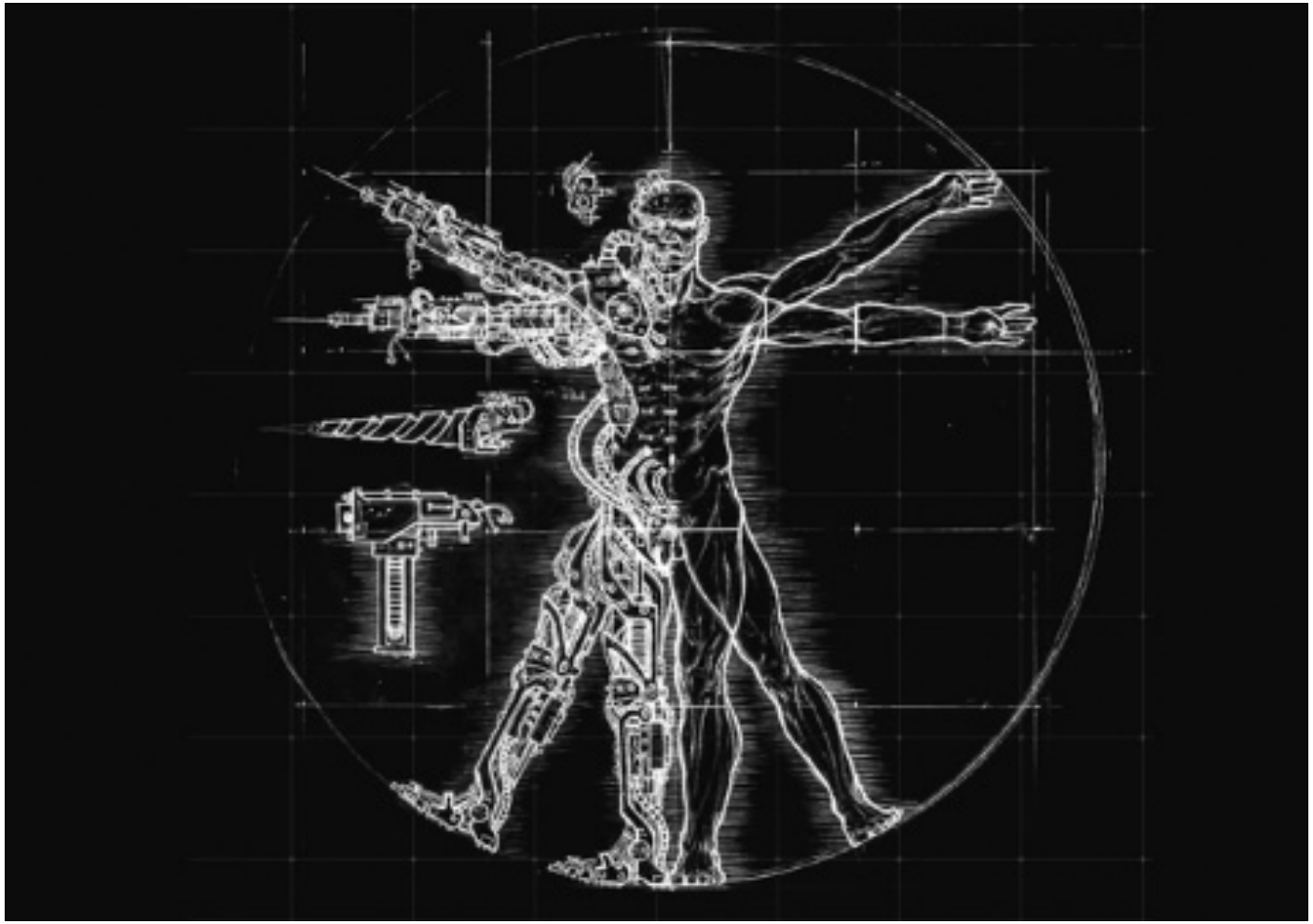
Masayoshi Son
- Softbank CEO
- Super intelligent machines by 2047

Deep Learning Neural Networks achieving new milestones routinely

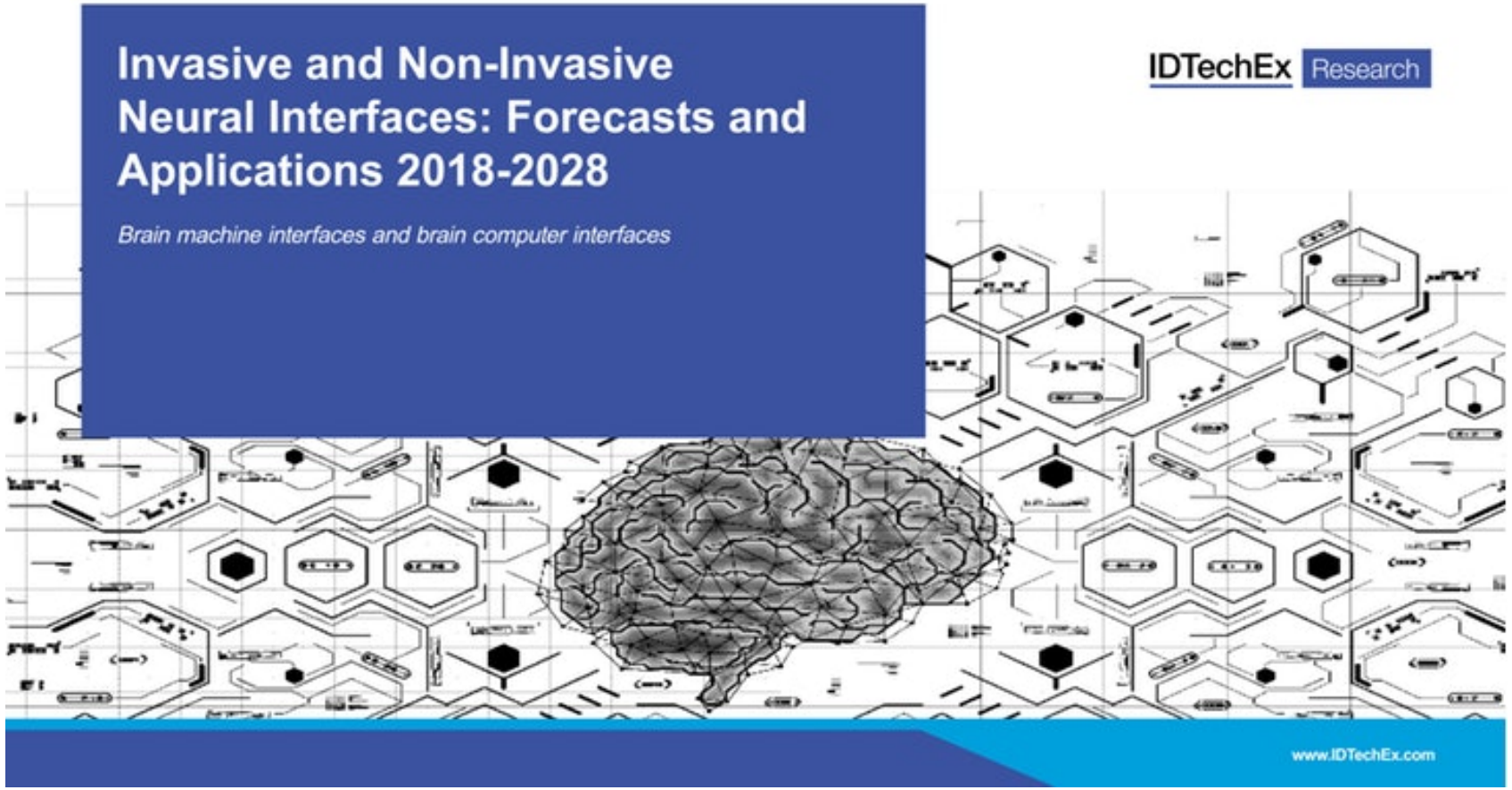


Repairing Quorra

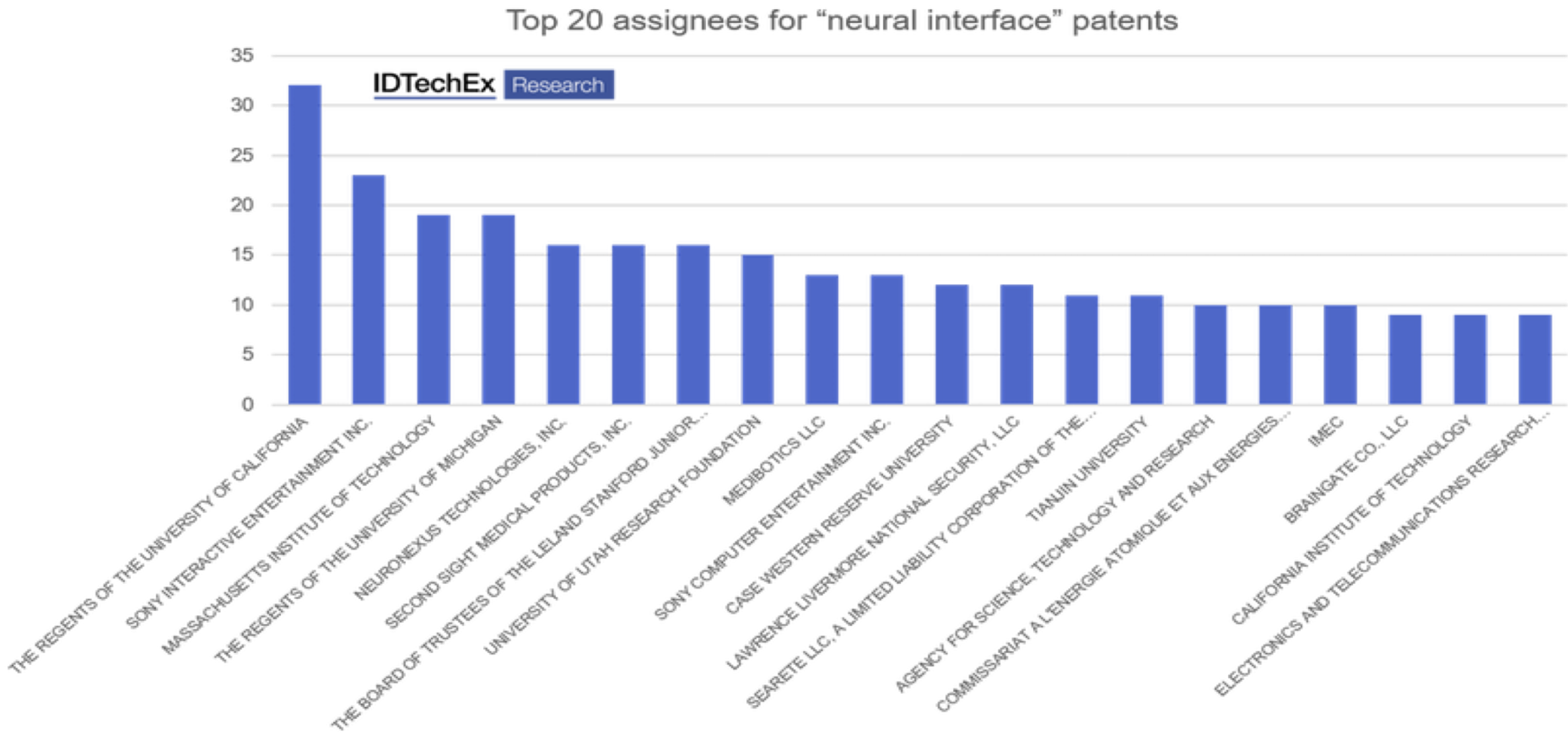
Human/Machine Neural Interfaces



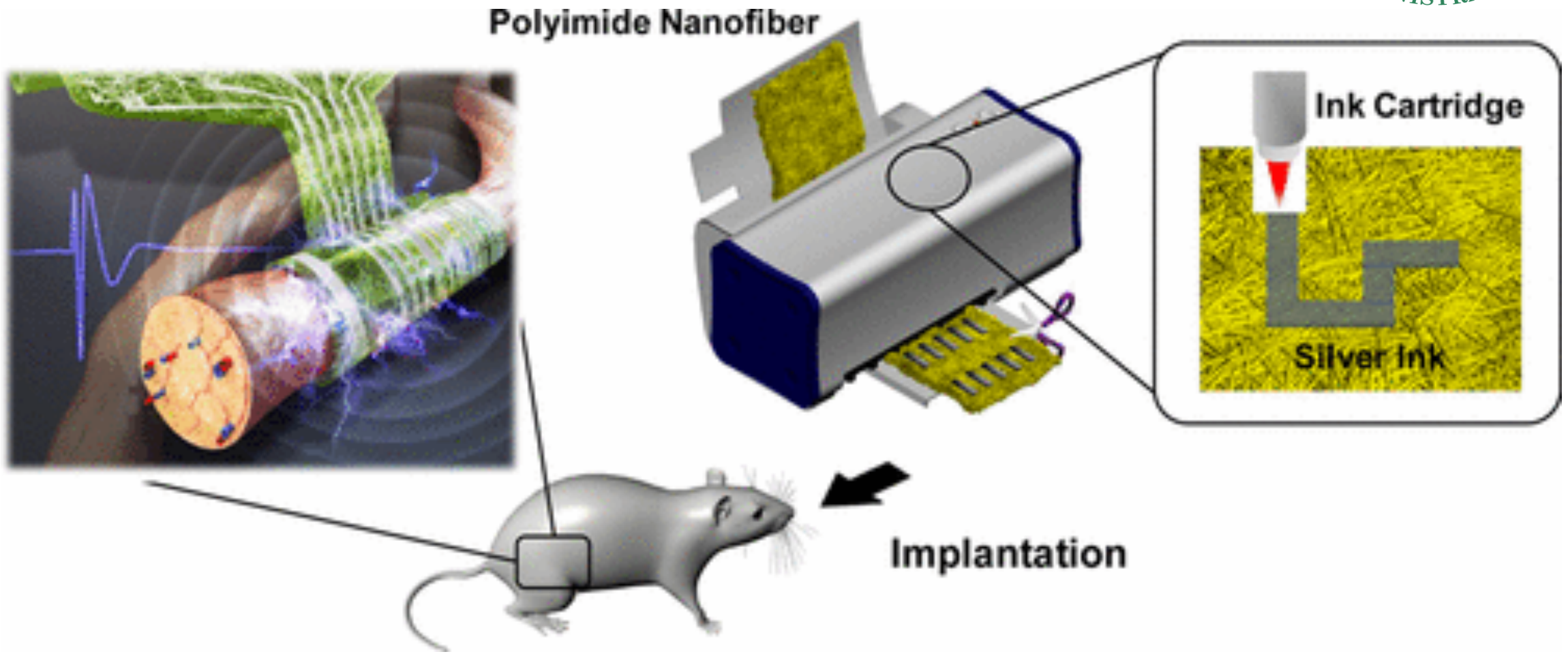
This is Not Science Fiction



It’s Coming Faster Than We Can Imagine



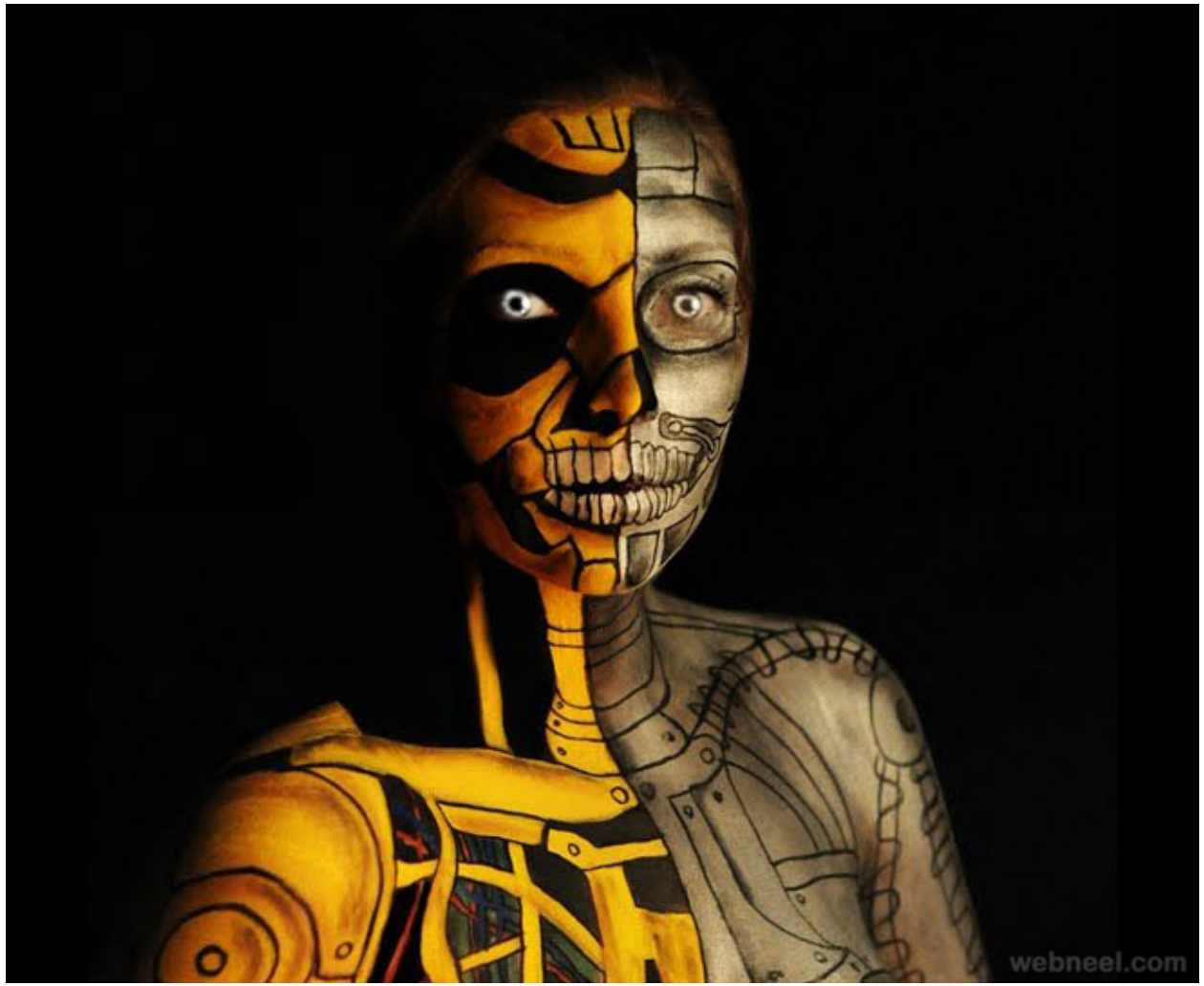
Nanofiber Neural Interface Electrode



Spinal Stimulation

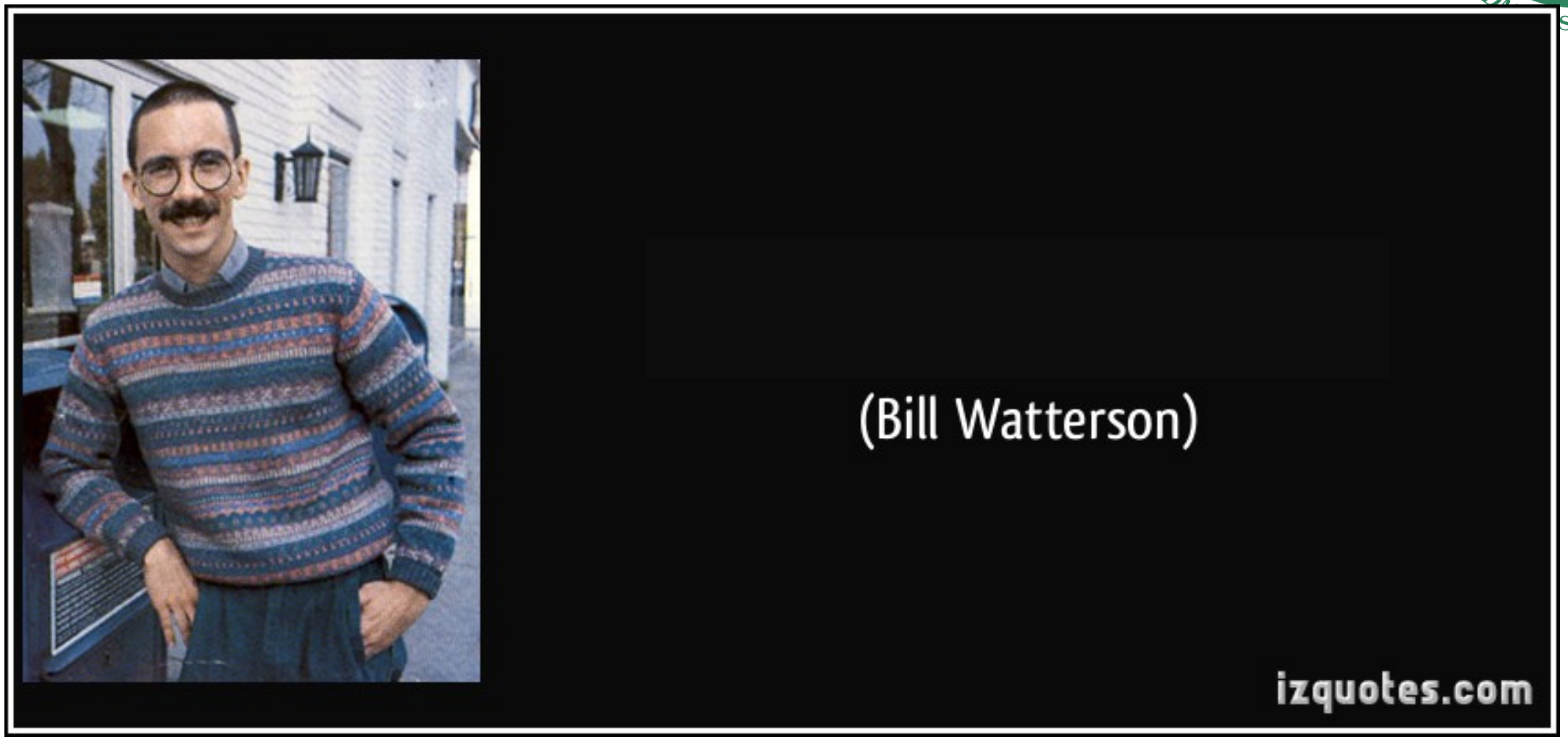
Yin and/or Yang???

Or Simply Fashion?



Would an implantable neural interface from Apple have the same cache as an iPhone?

One Final Thought…



Philosopher Hobb(e)s