



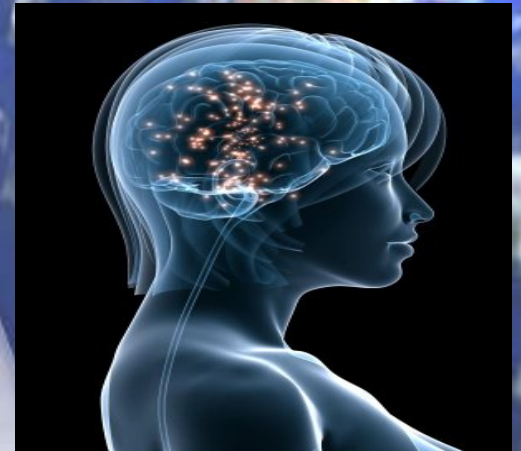
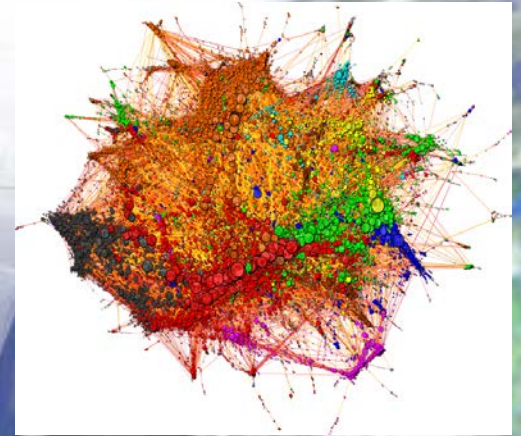
Convergence 2030-2050

Mad Scientist

Dr. James Canton

CEO & Chairman

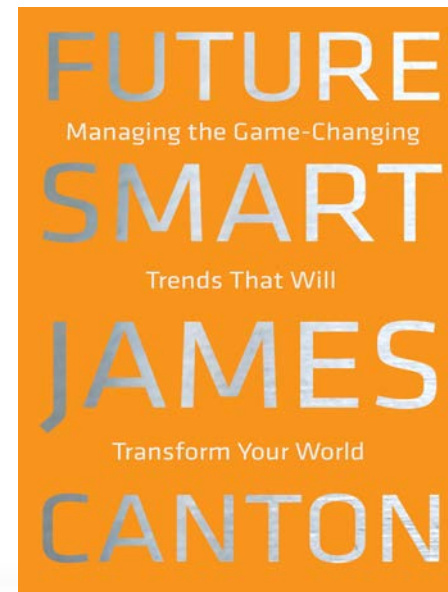
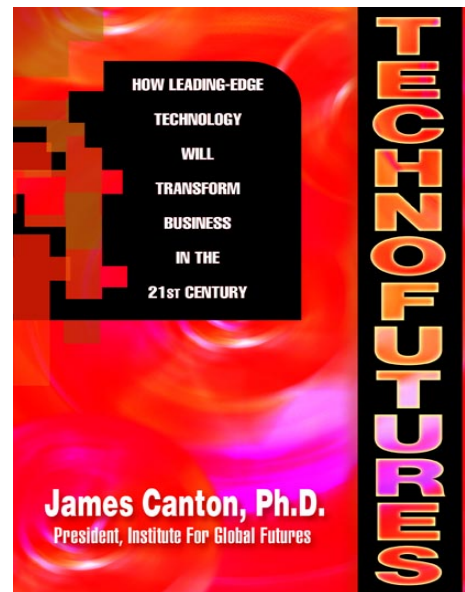
GlobalFuturist.com



Institute for Global Futures



- Think Tank: Forecast Future Trends,
- Keynotes, Consulting, Research, Reports



Worldwide Clients



SONY



FedEx®



citiSM



ST PAUL
TRAVELERS



Genentech
IN BUSINESS FOR LIFE



COURTESY GENERAL ELECTRIC

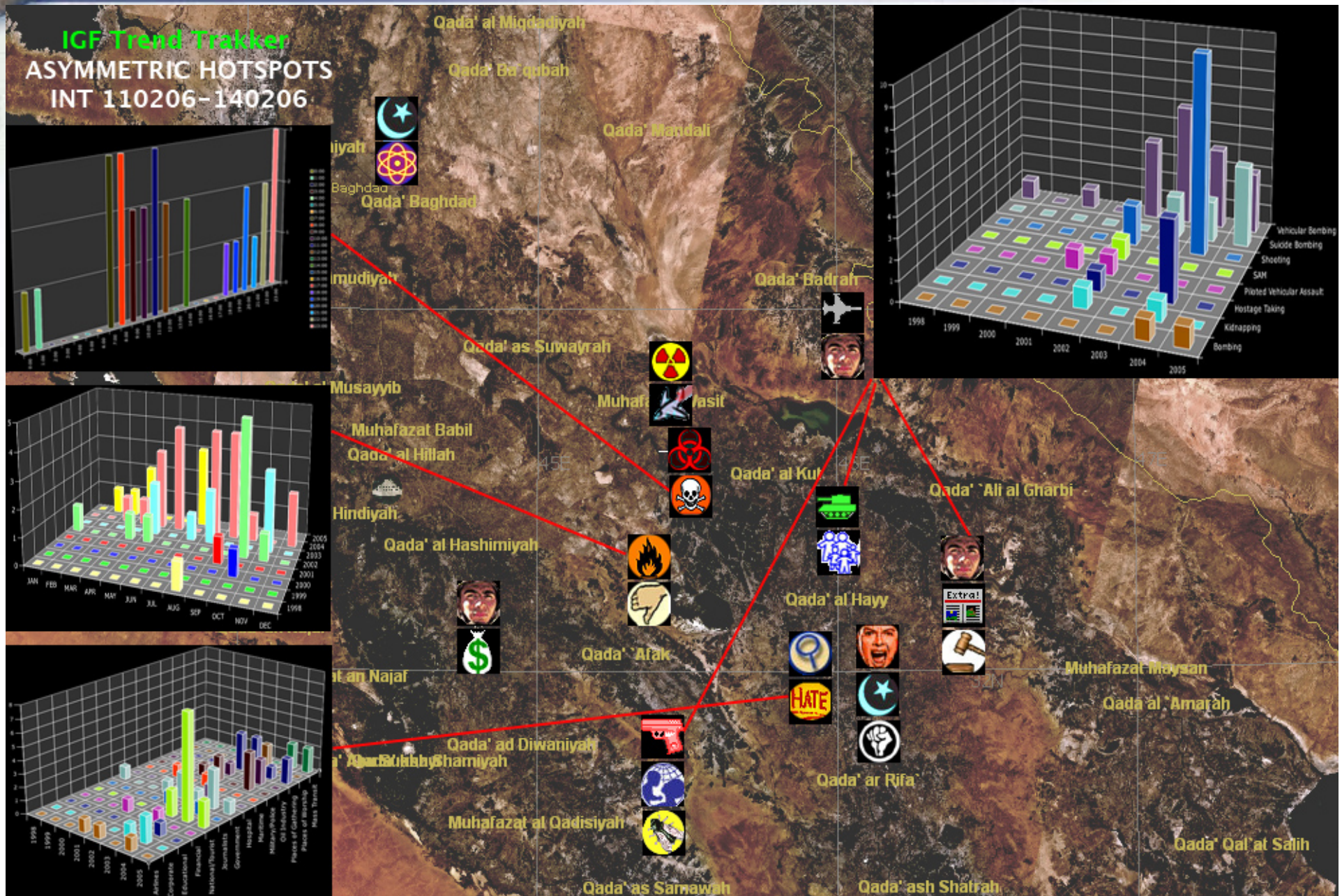
ALCATEL



Institute for Global Futures

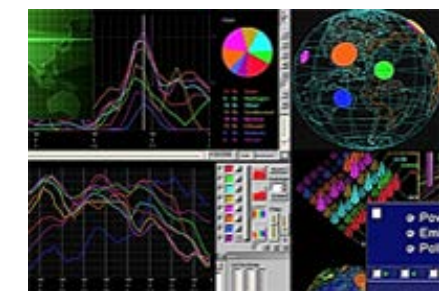
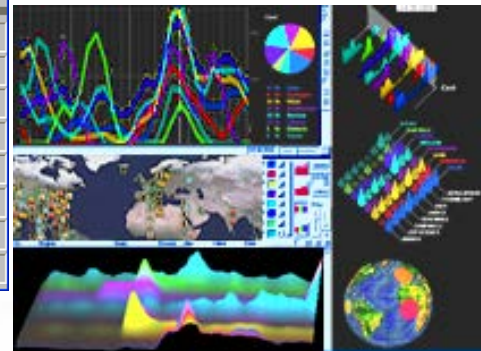
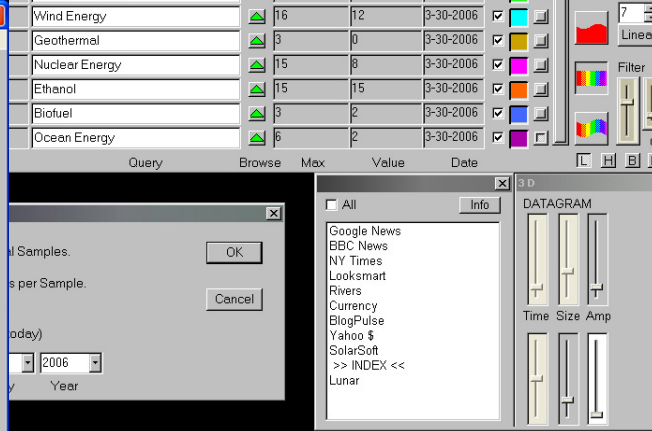
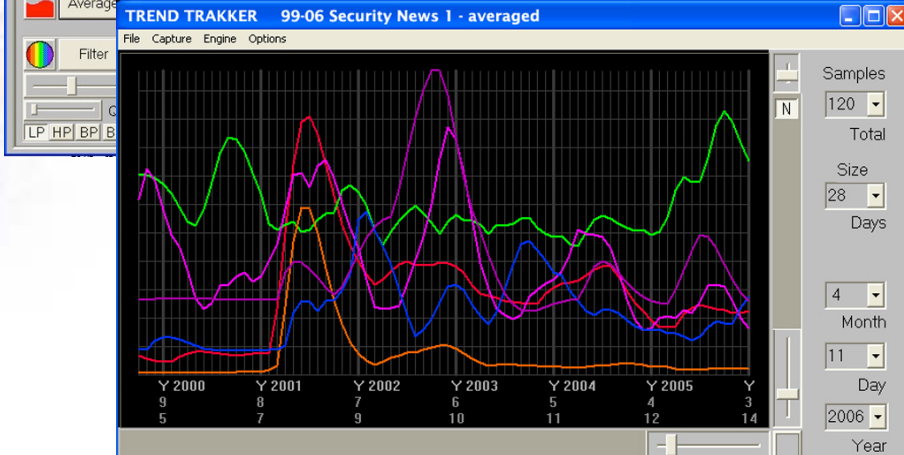
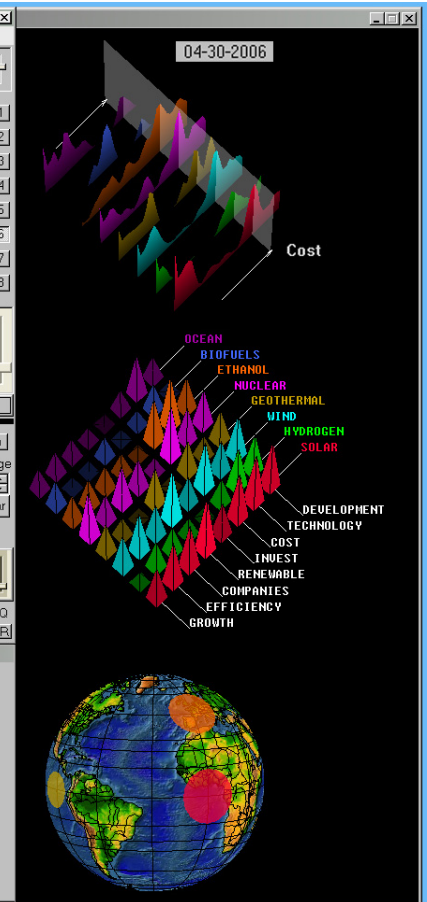
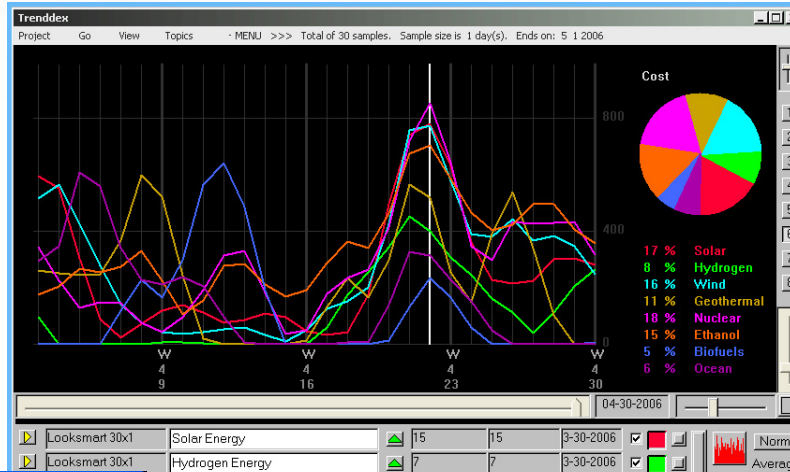
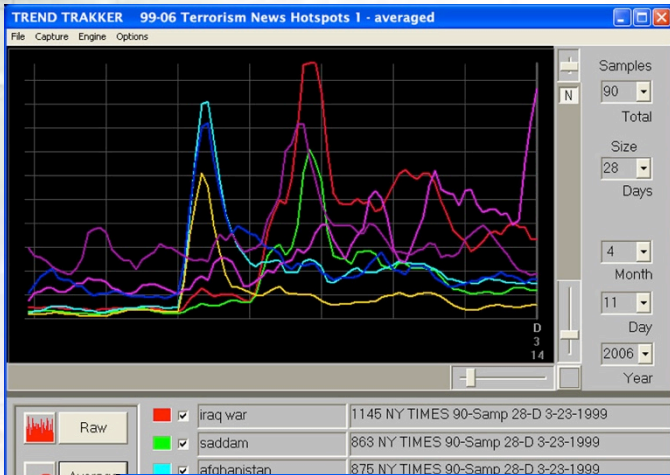


Trend Trakker: Global Risk Analysis



IGF TrendTrakker

Identify, Display, Navigate, Drilldown - OSINT News Trends



TrendTrakker Analytics



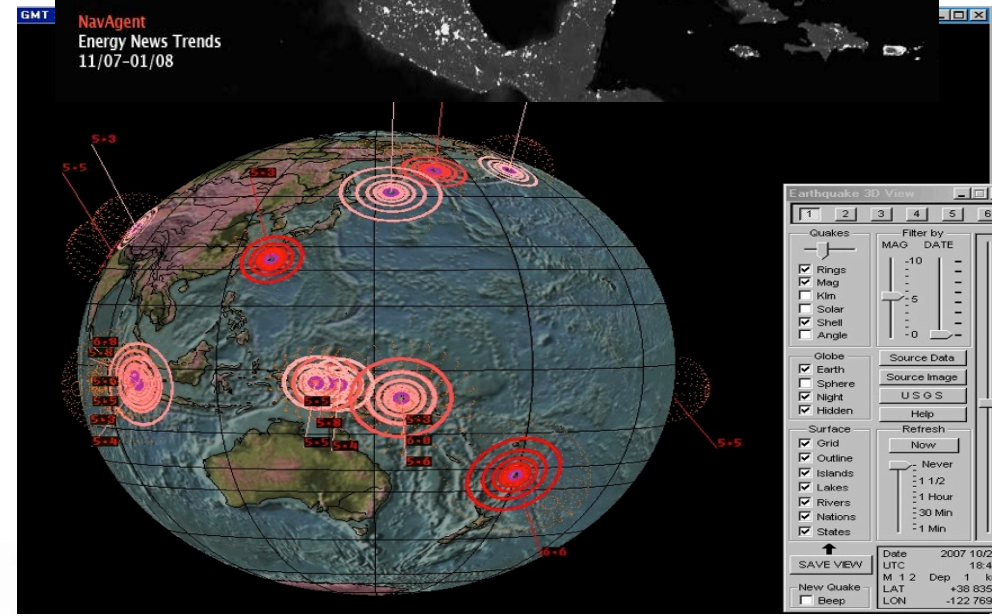
NEWS MATRIX - Navagent Corporation

Program Save Zoom Spin Location News Items

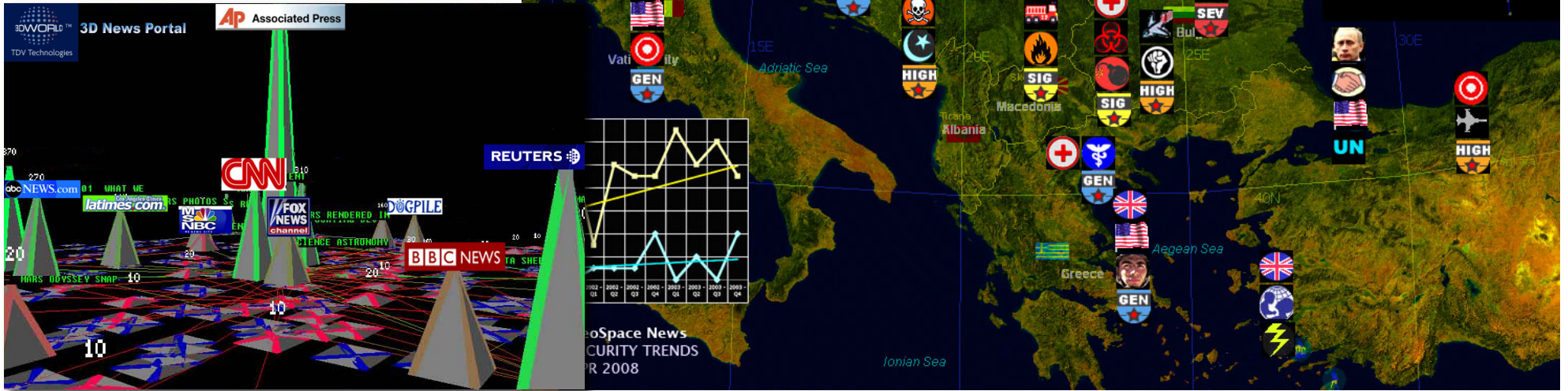
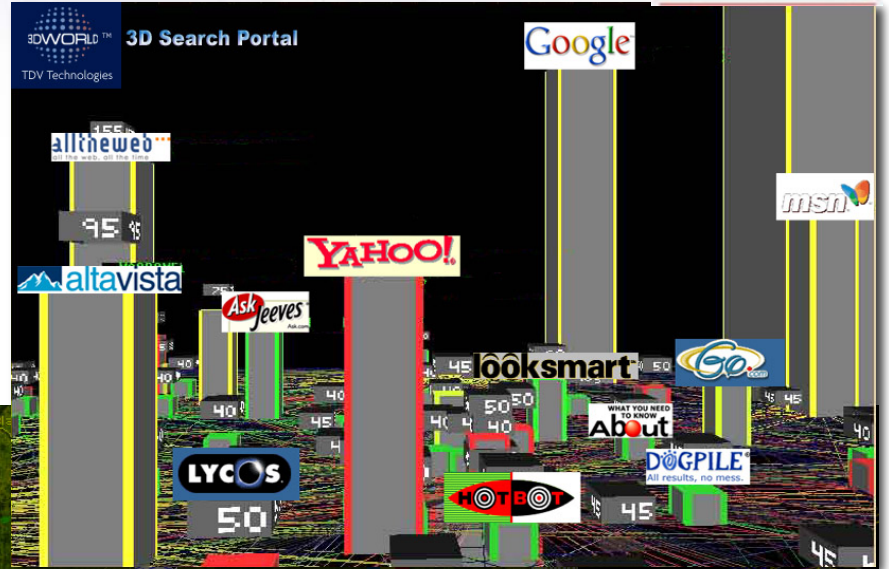


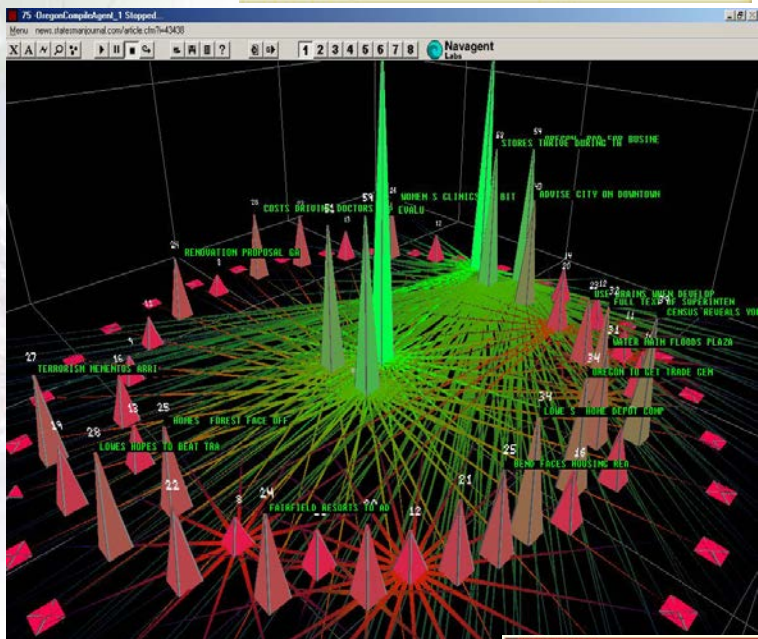
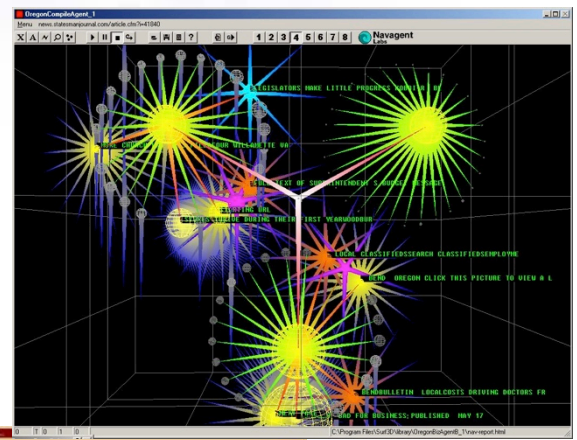
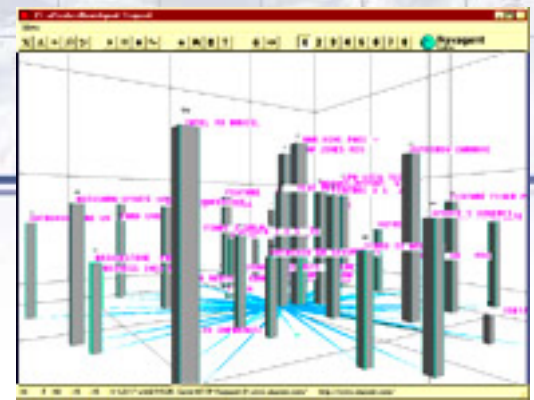
NEWS MATRIX - Navagent Corporation

Program Save Zoom Spin Location News Items



Trend Trakker Platform





Display: MSNAgent_1

Color KEY Size ZOOM Save View

SETTINGS

DOMAIN

FILES

LINKS

METRIC 3

METRIC 2

METRIC 1

METRIC 0

Bar Graph

Tracking

Fan Ring

Flight Sim

Solid Floor

Cloaking

CONNECTOR

Line

2

3

Size

View Angle

True

Visited

All

NODE

Off

Title

True

Visited

All

True

False

Unkn

Fill

Cursor

Cursor Position

1x 100x

Max

Cull Titles

ALL

Grey

Common Source

Decend

Subsequent

Previous

Decendents

Agent Configuration

AGENT START

Open

New

AQUIRE and CAPTURE

Text

Put Text into Title

Title Off

Include False pages

Capture JPEG Images

Max:# 0

Capture GIF Images

Max:# 0

Capture Custom

Max:# 0

EARLY FINISH TEST

Page Limit

500

Source

All

True

FINISH TEST

Source

All

True

RETRV

FINAL

No Header

Include Fa

Show Ima

Show Pag

Highlight

Numbers

Capitals

Pluralizat

Agent Search: []

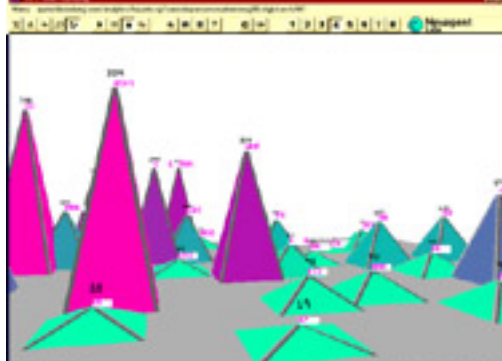
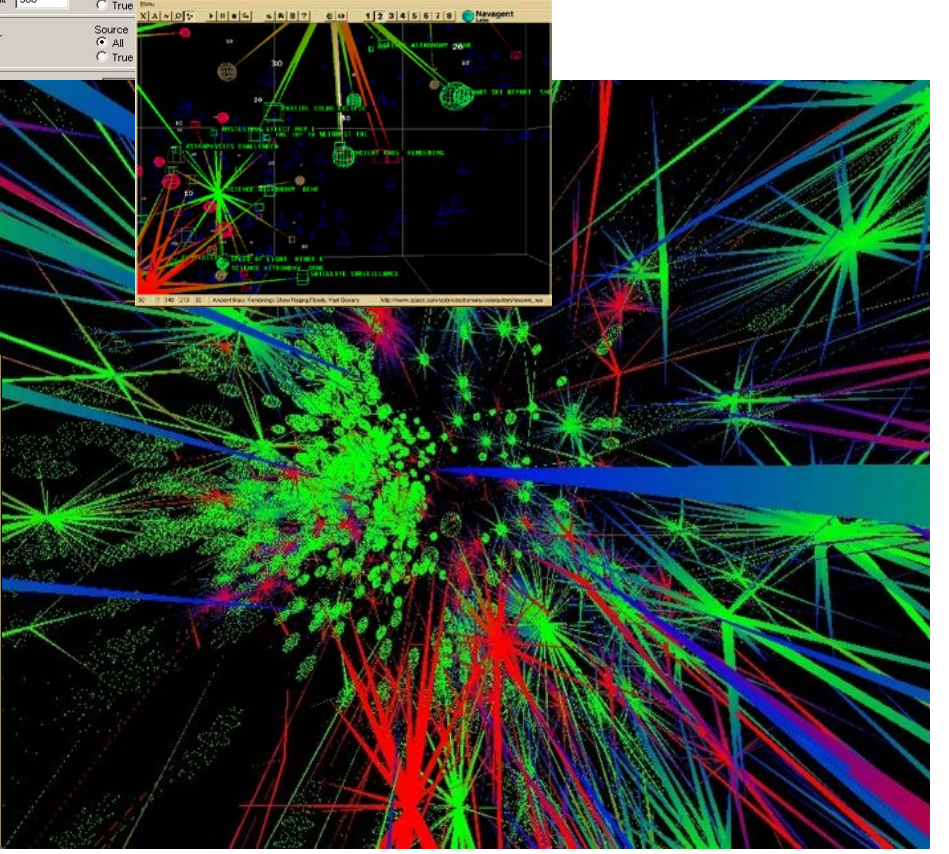
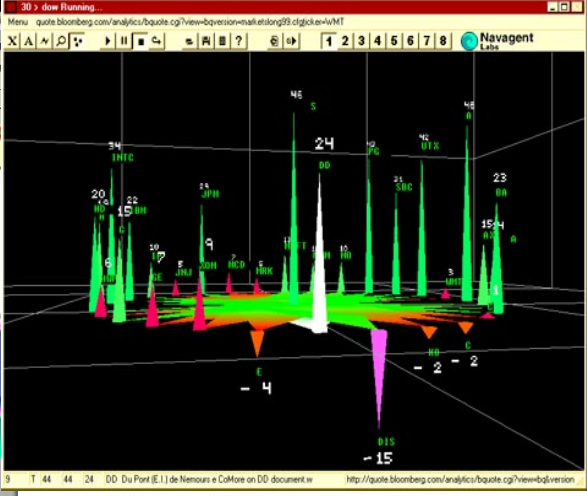
Agent: MSNAgent_1

TOTAL	3314	DONE	121	TRUE	106	FILES	0000	POINT	69	TRUE
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Pointer Title: Internet Content Rating Association

Pointer URL: <http://www.rsac.org/toplips.html>

Current URL:



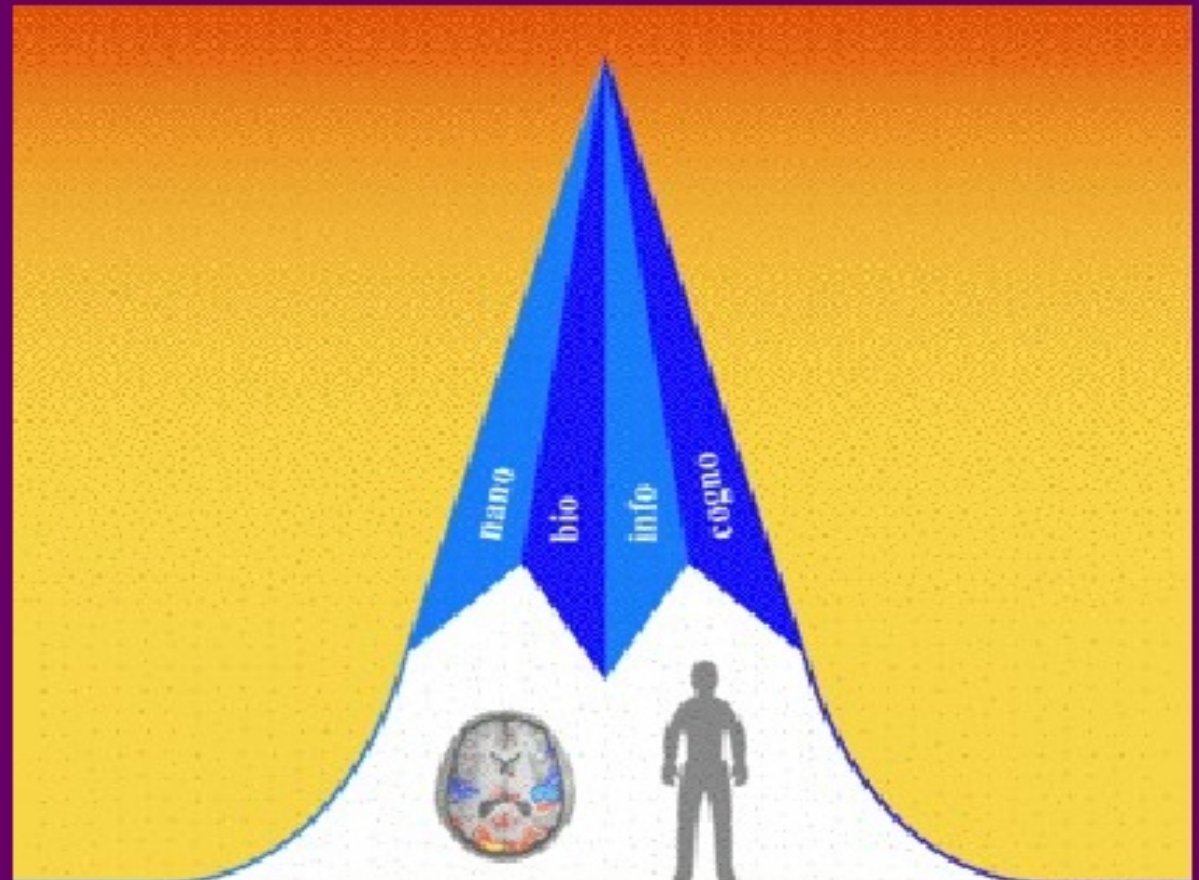


We Assist Our Clients
To Shape the Future



NBIC – the synergistic combination of 4 major areas of science and technology

- **Nanoscience and Nanotechnology**
- **Biotechnology/ Biomedicine**
- **Information Technology**
- **Cognitive Science**



Convergence Trends





BOY
Extreme
Complex
Future

Future Threat Space—RogueTech

- Agile
- High Velocity
- Complex
- Networked
- Pop Up

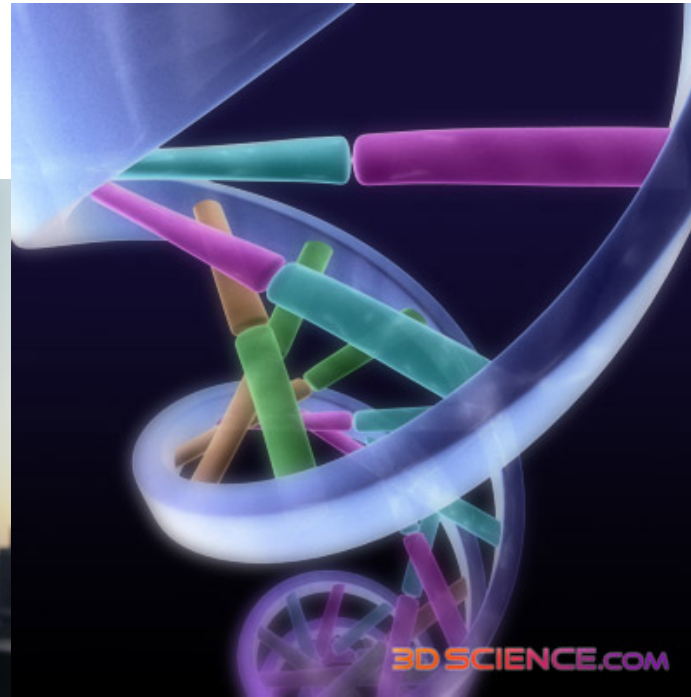
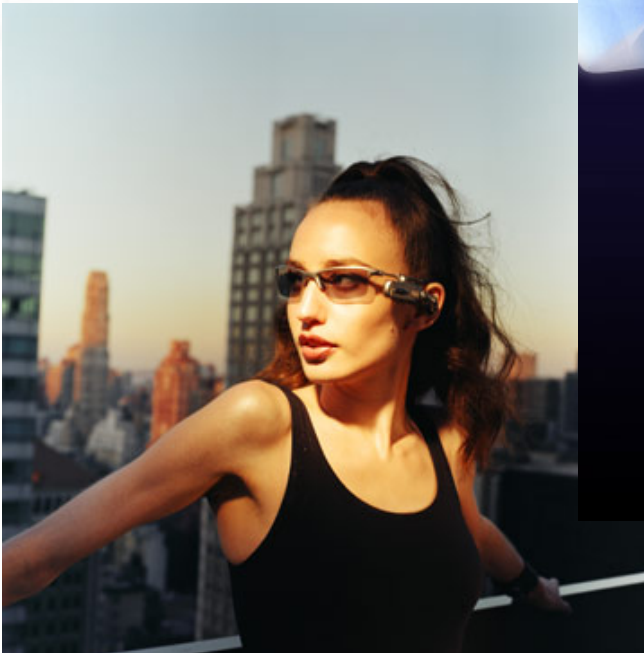


Global Dark Networks

Self Organizing Systems



Global Risk—Not Innovating Fast

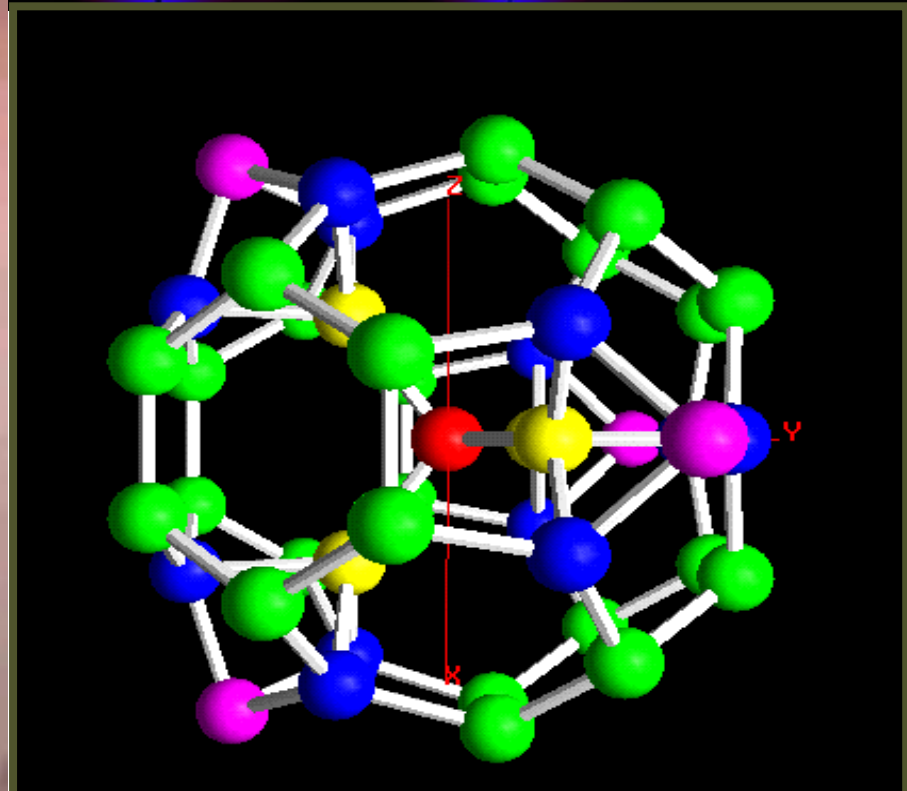
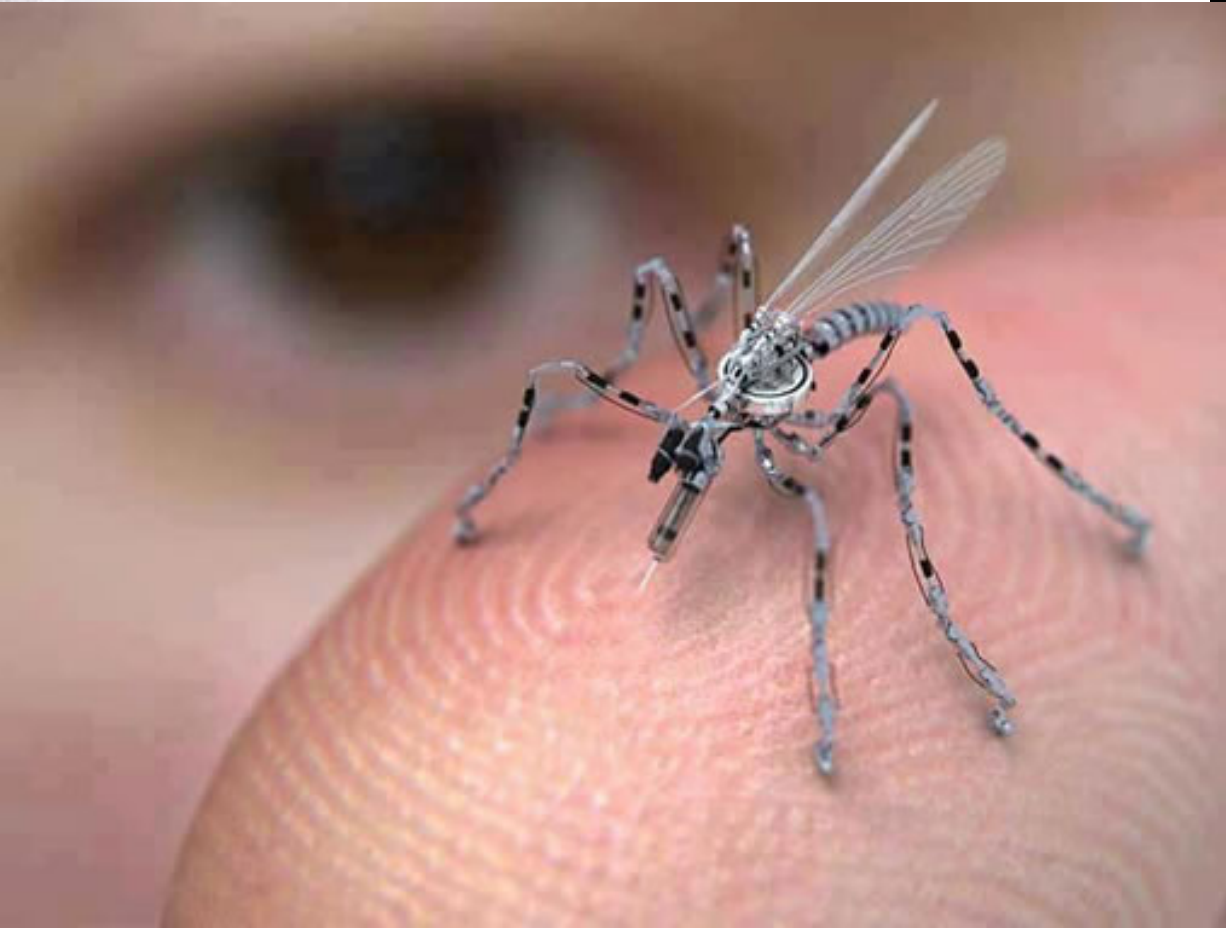
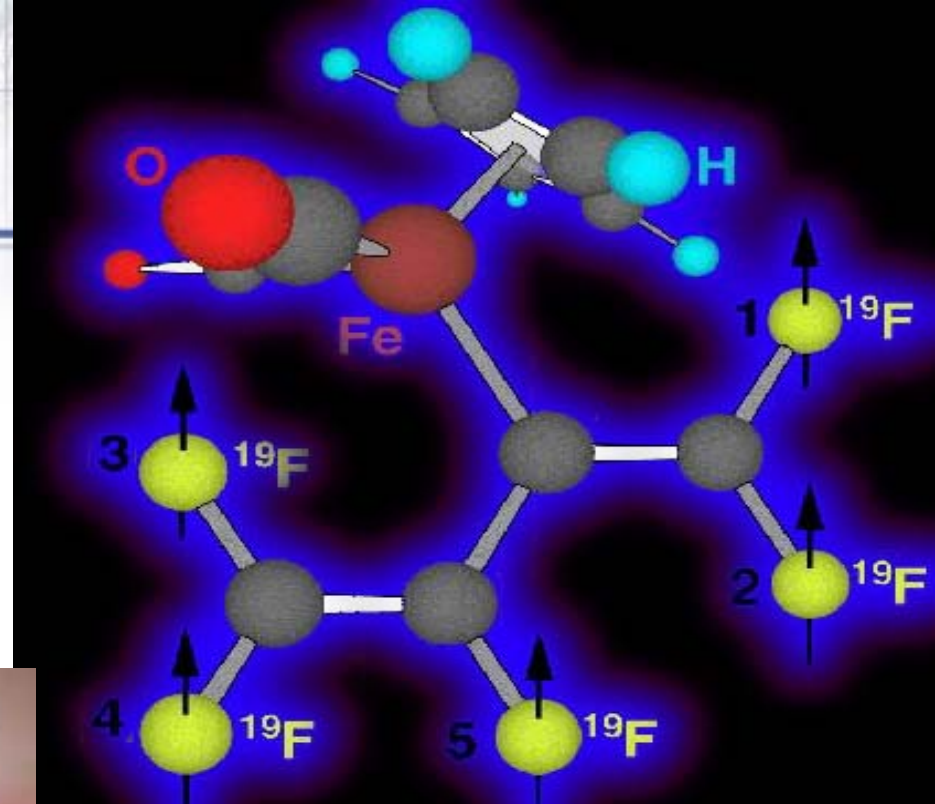


Innovation is the only Competitive Advantage

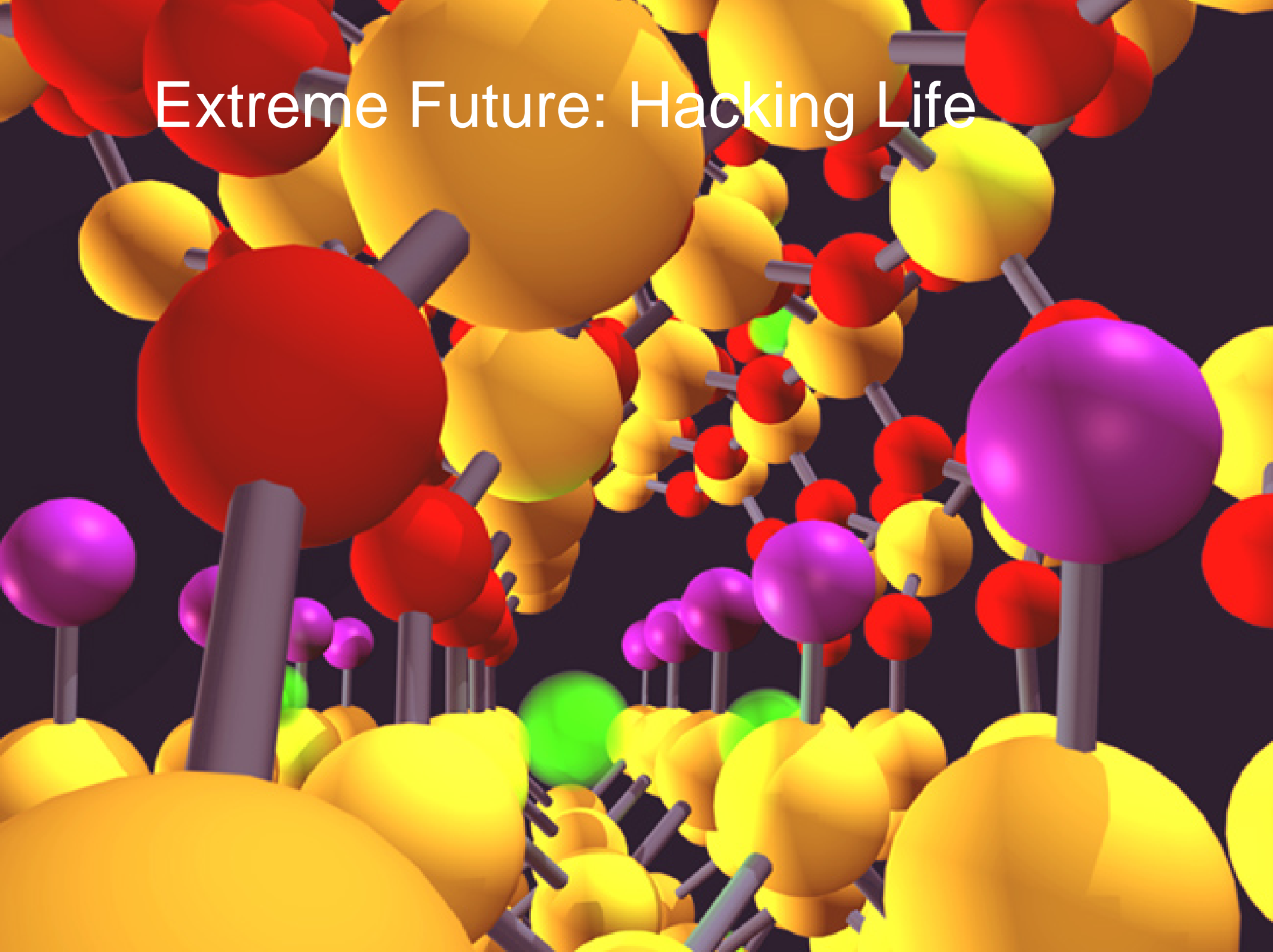




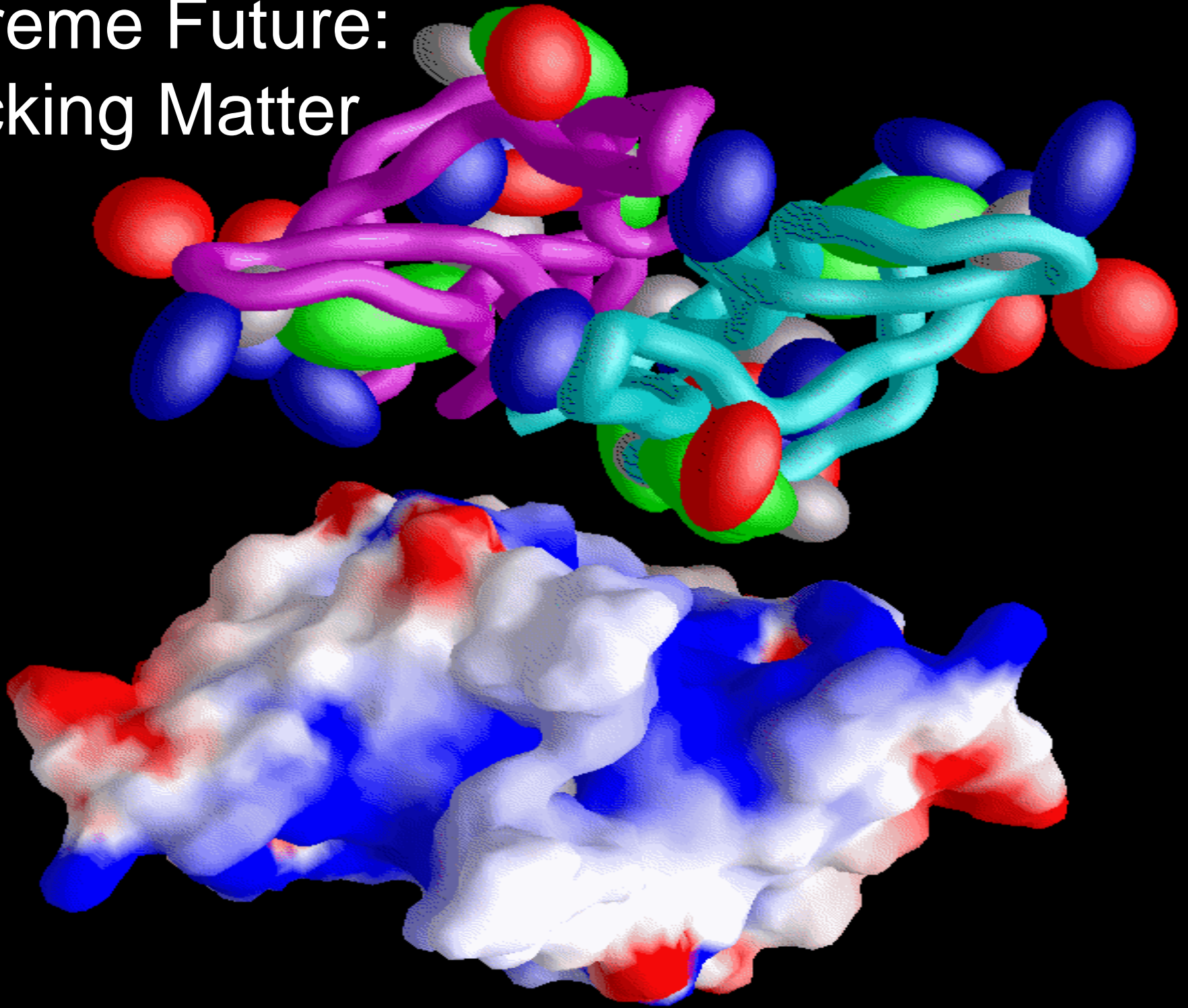
New Rules:
Disrupt Yourself
Before You get
Disrupted



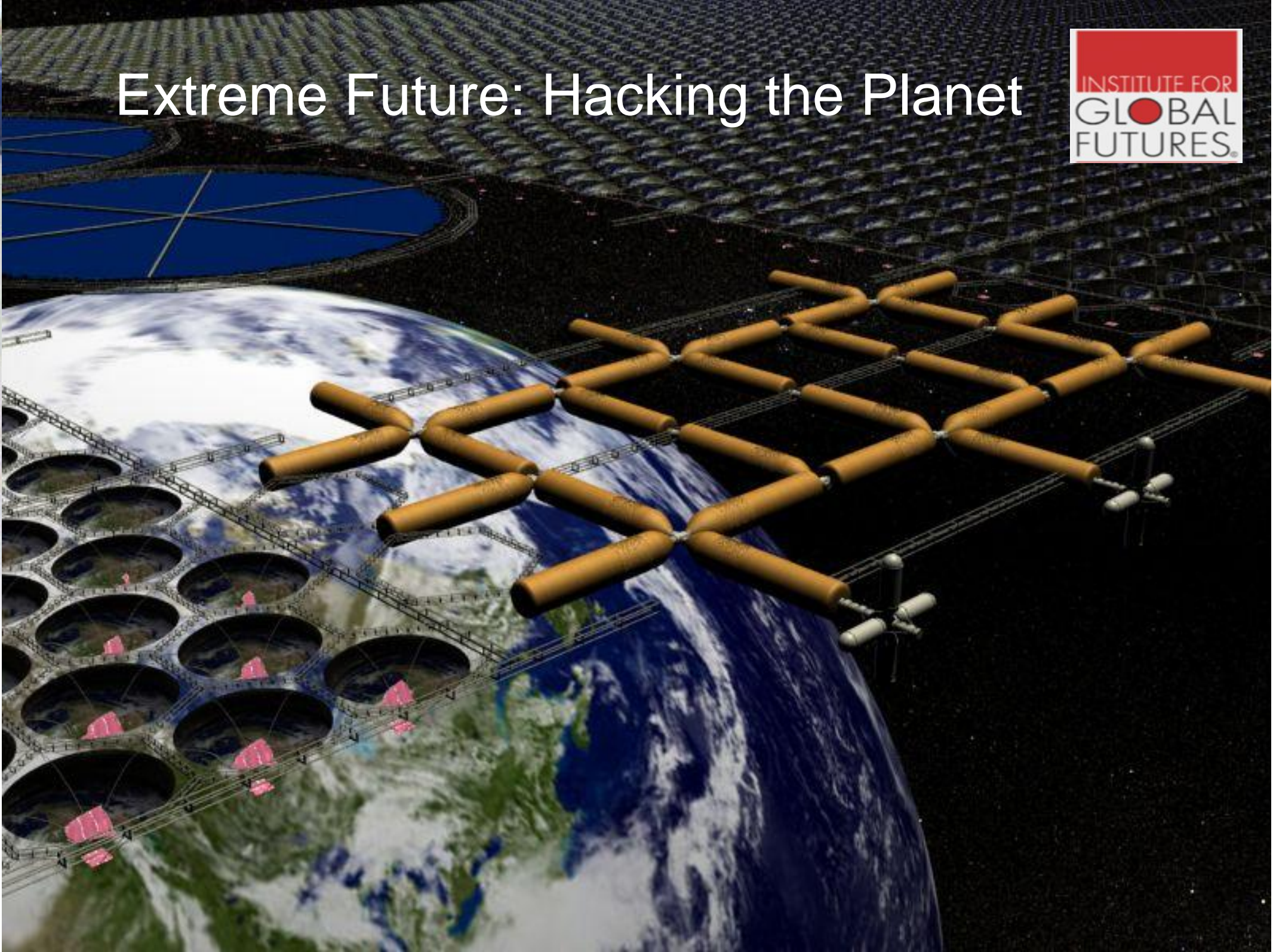
Extreme Future: Hacking Life



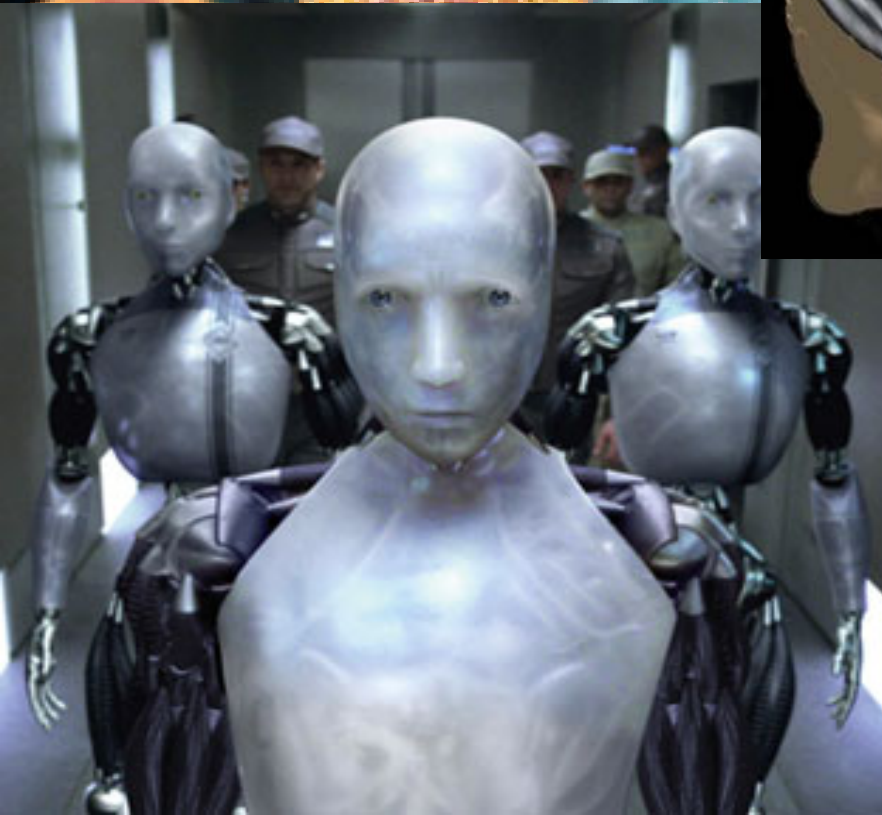
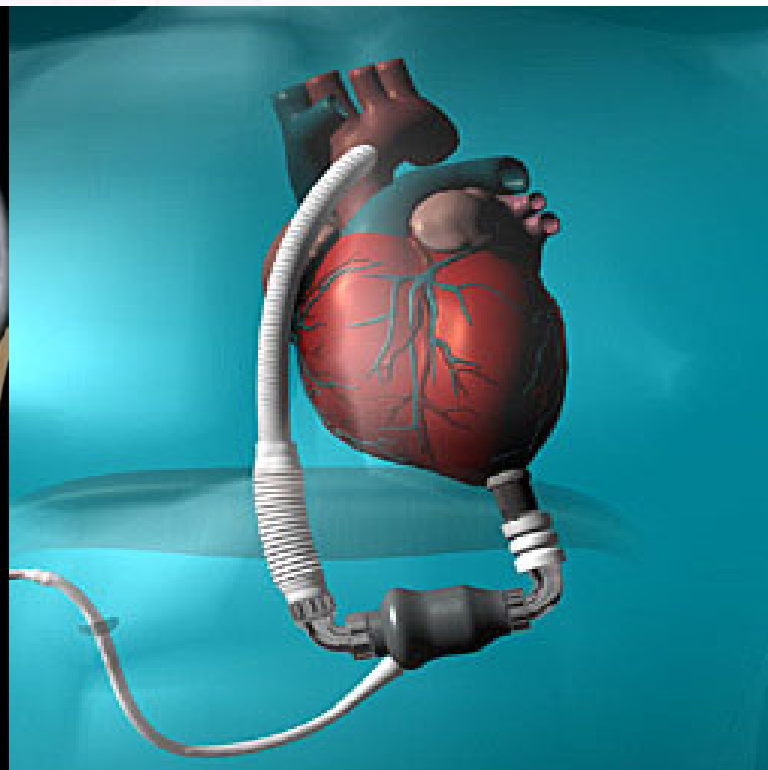
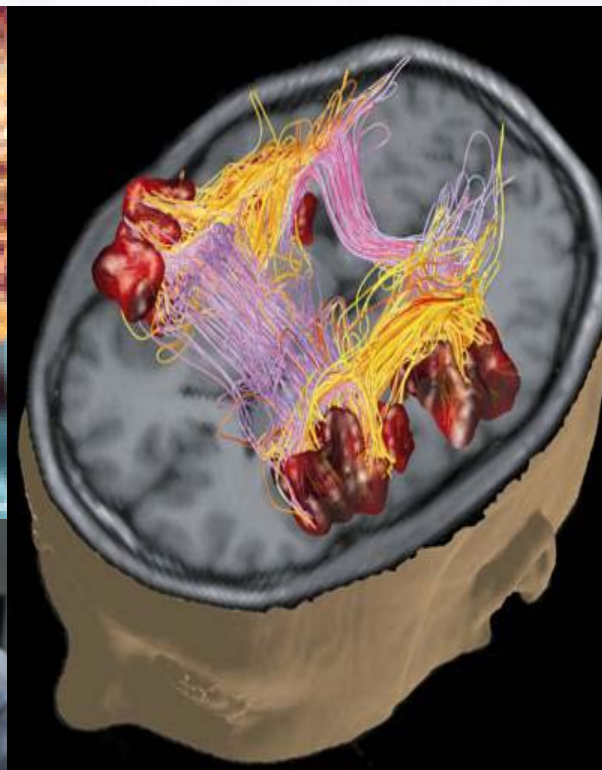
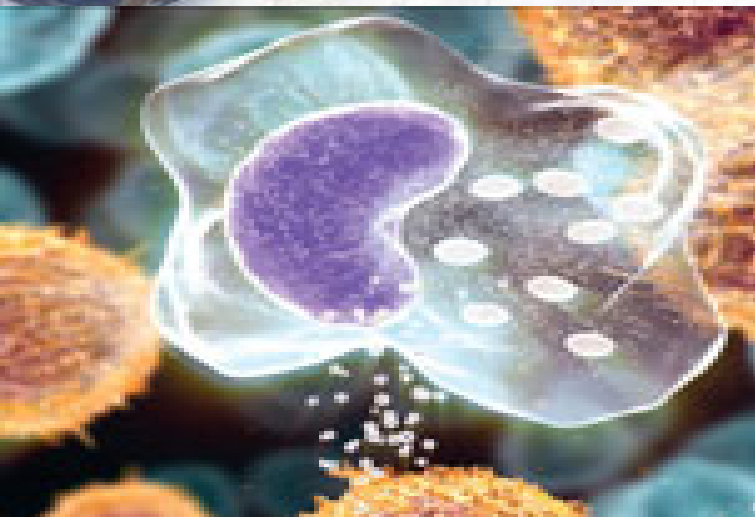
Extreme Future: Hacking Matter

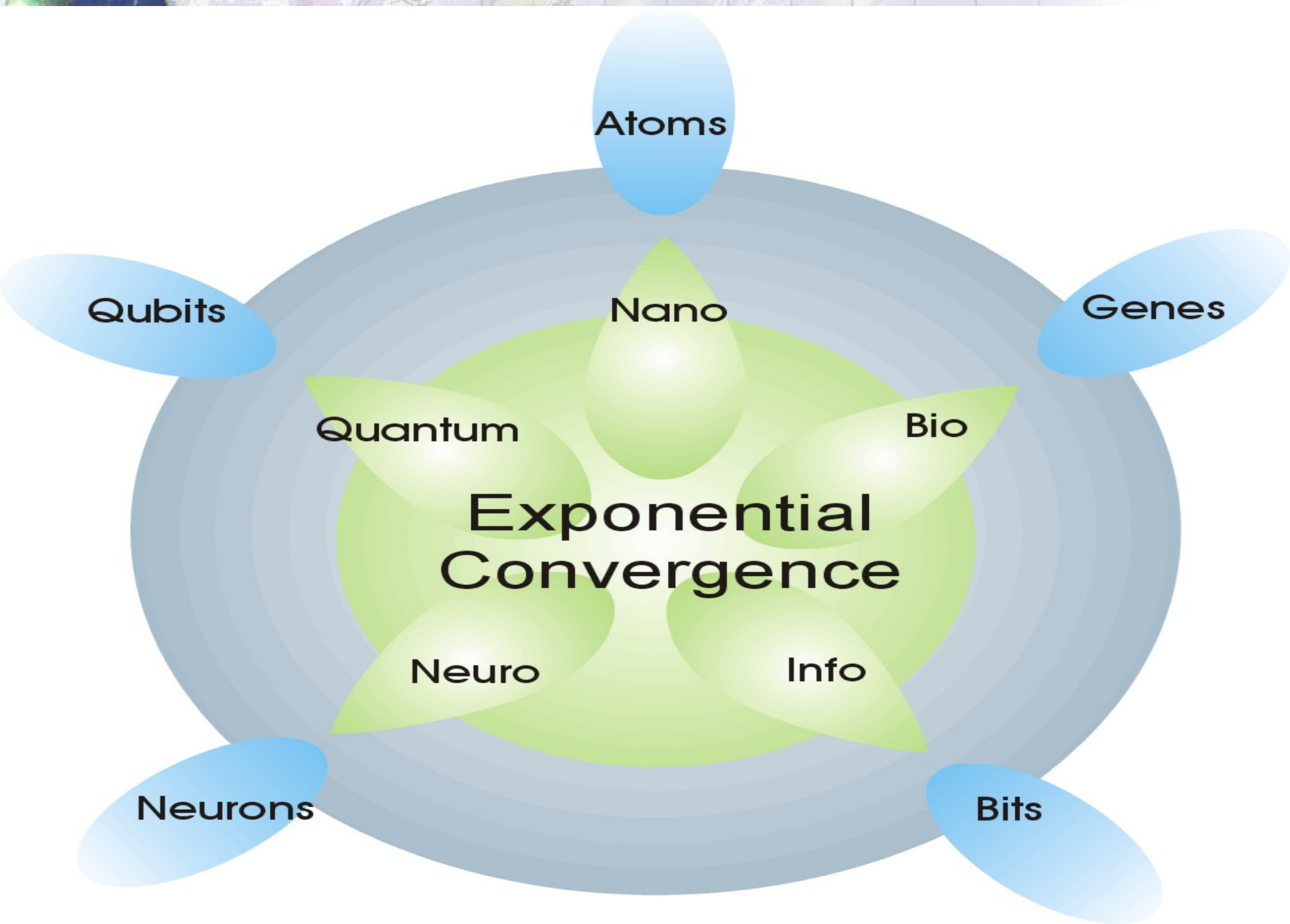


Extreme Future: Hacking the Planet

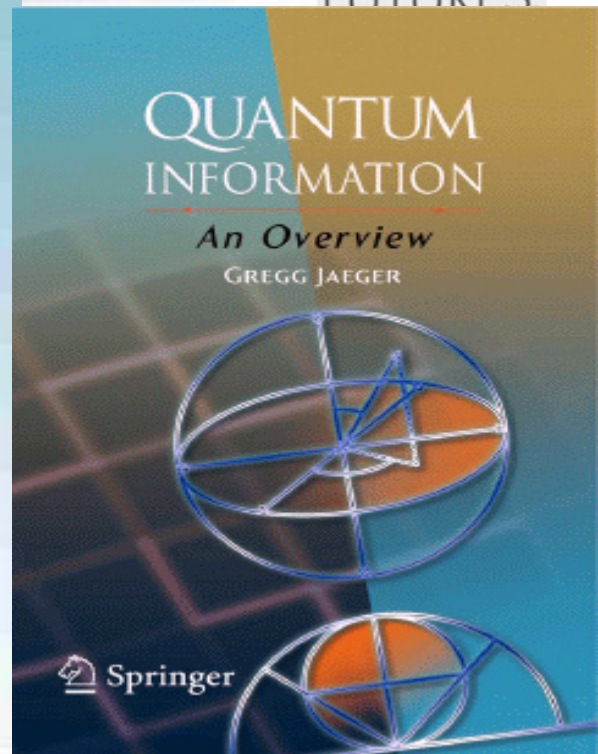
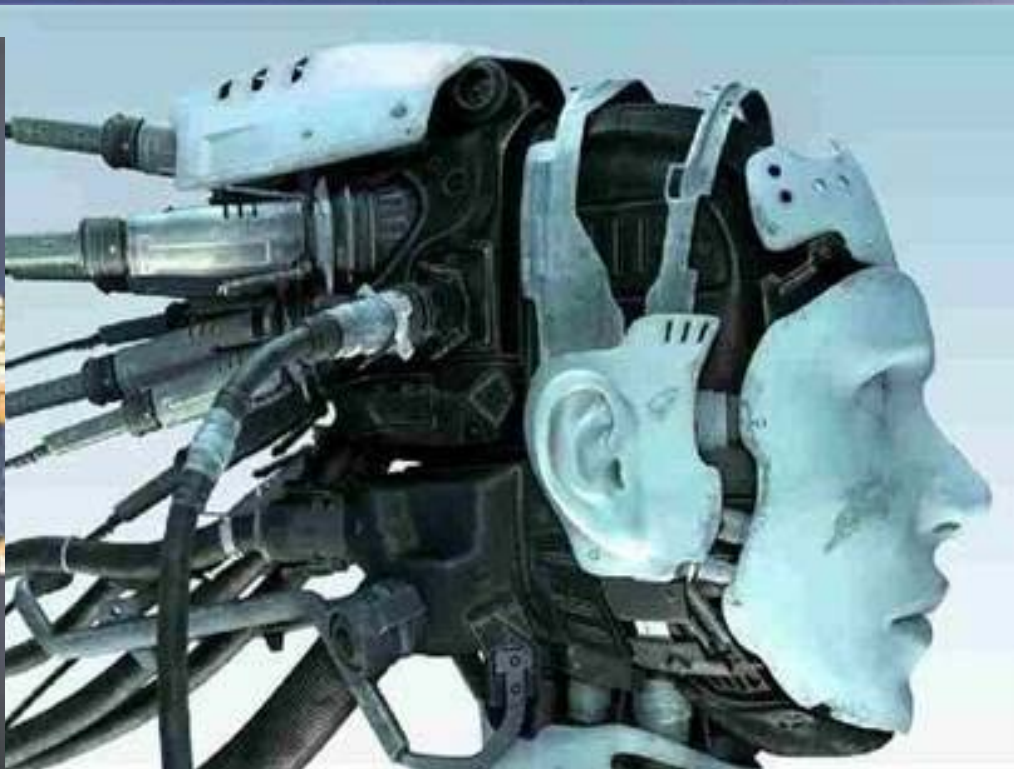
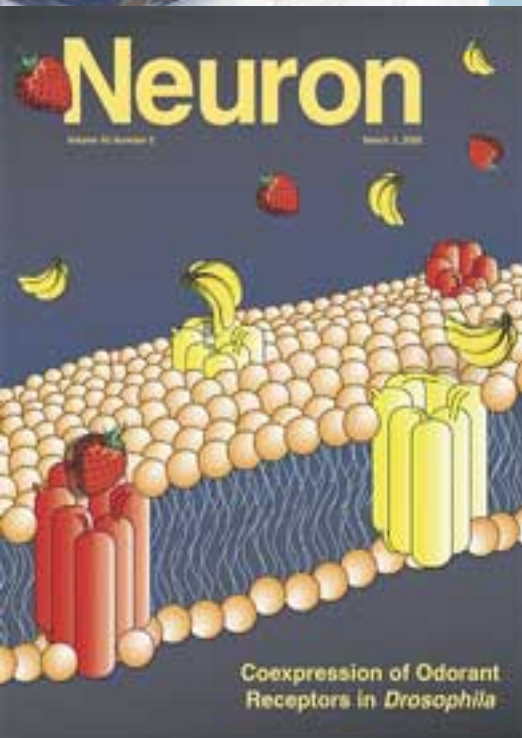


Convergent Technologies





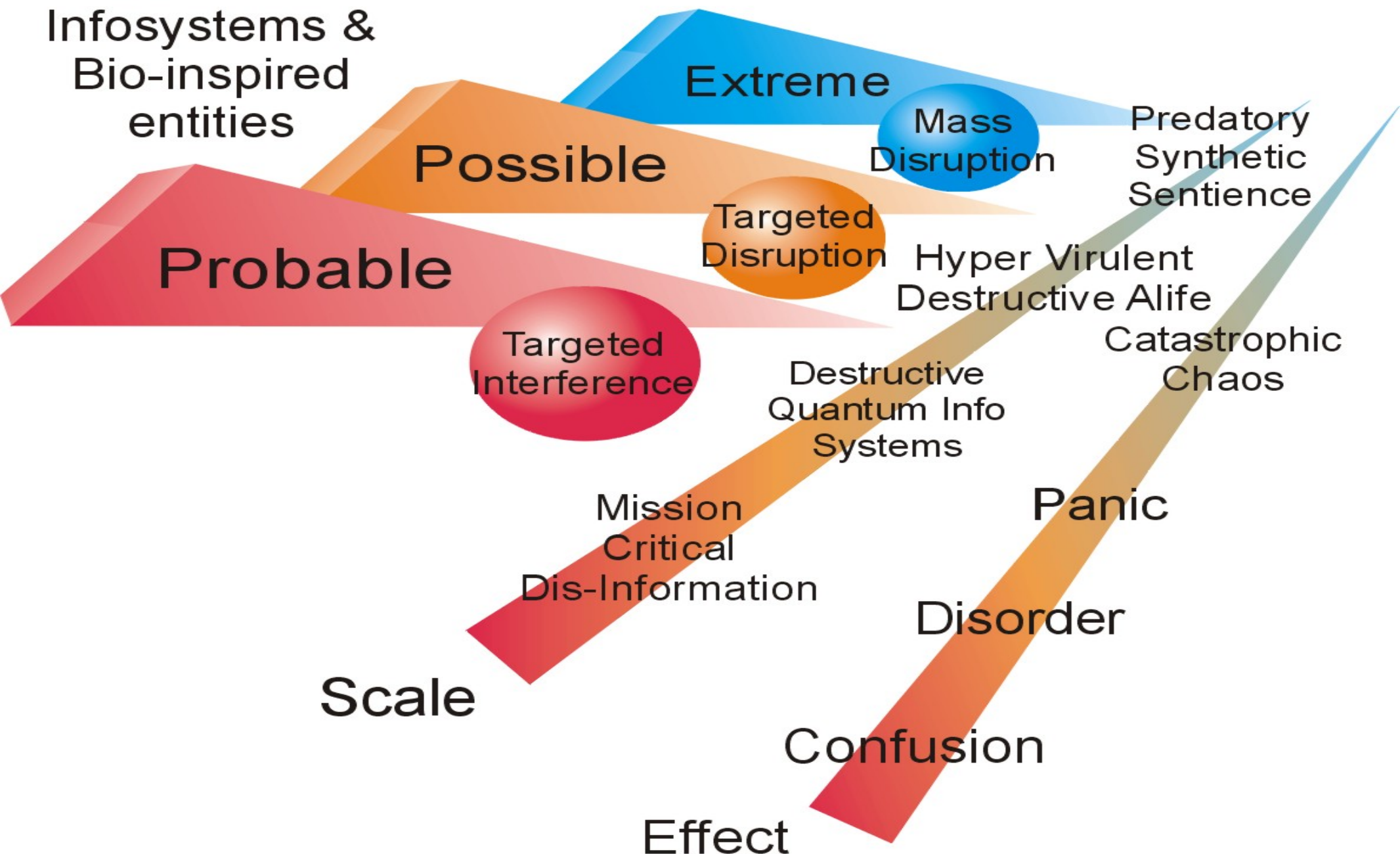
Innovations: Faster Than Moore's Law



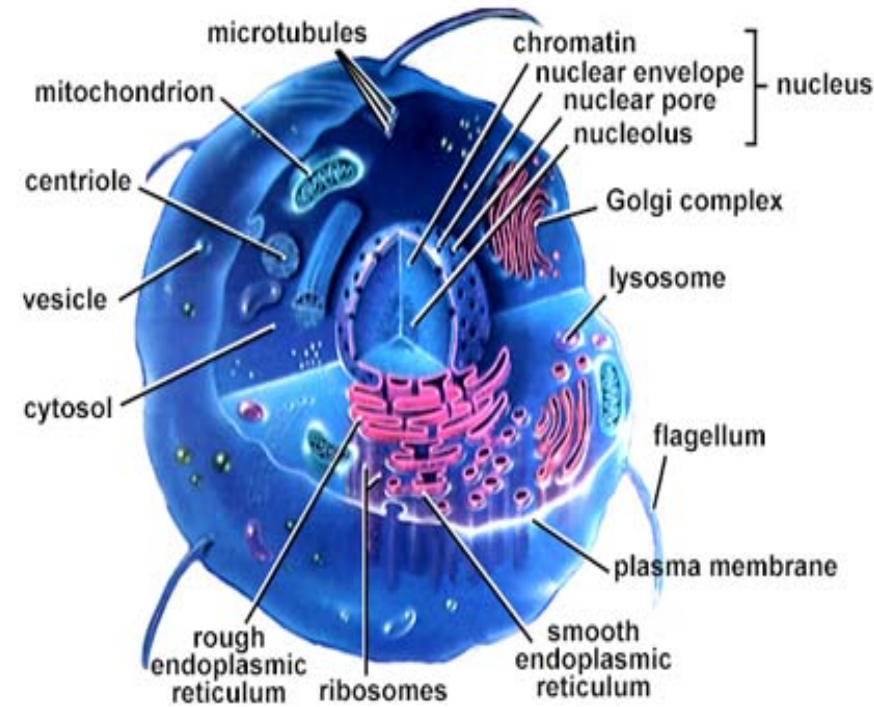
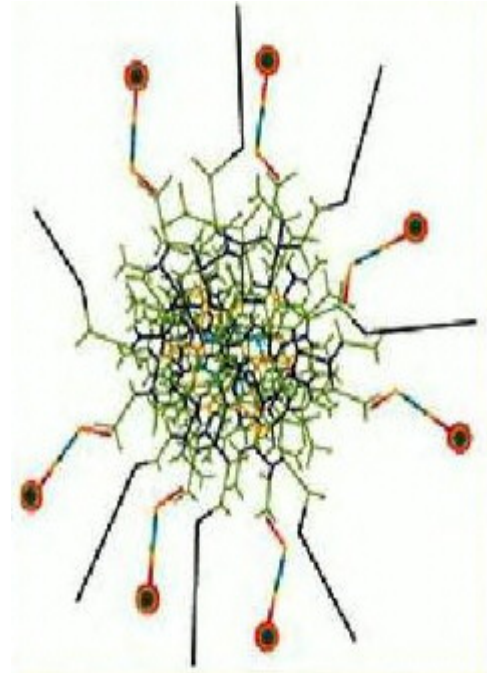
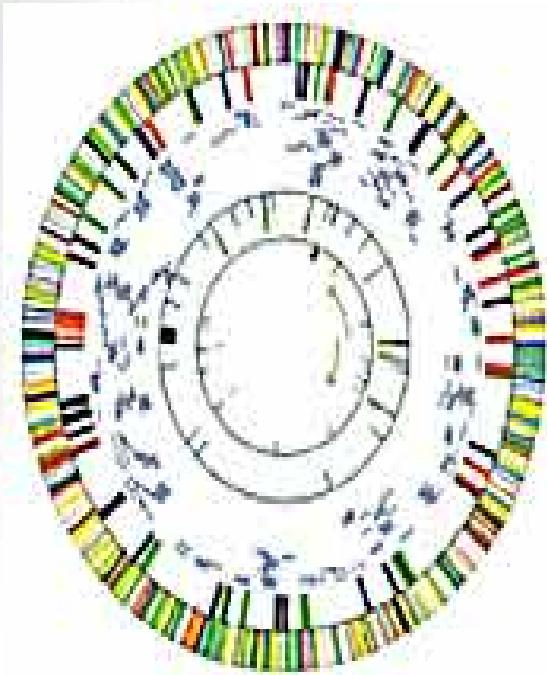
Info Technology

NBICQ Threats Game Changers 25 Years

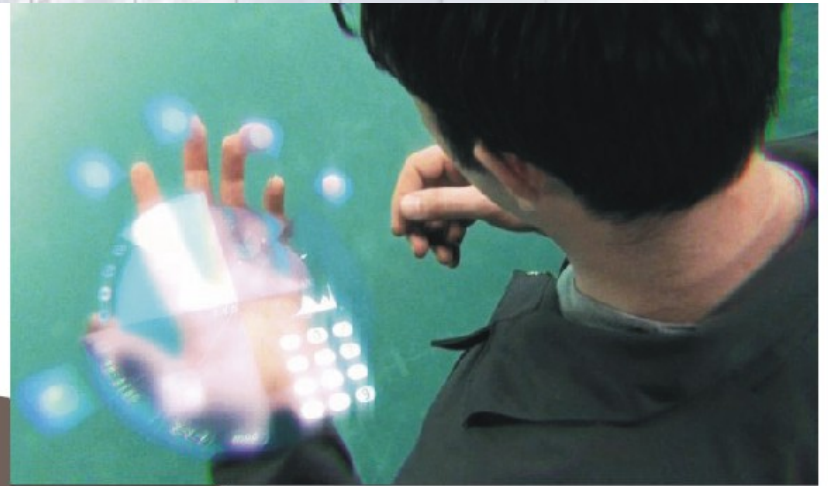
Quantum
Infosystems &
Bio-inspired
entities



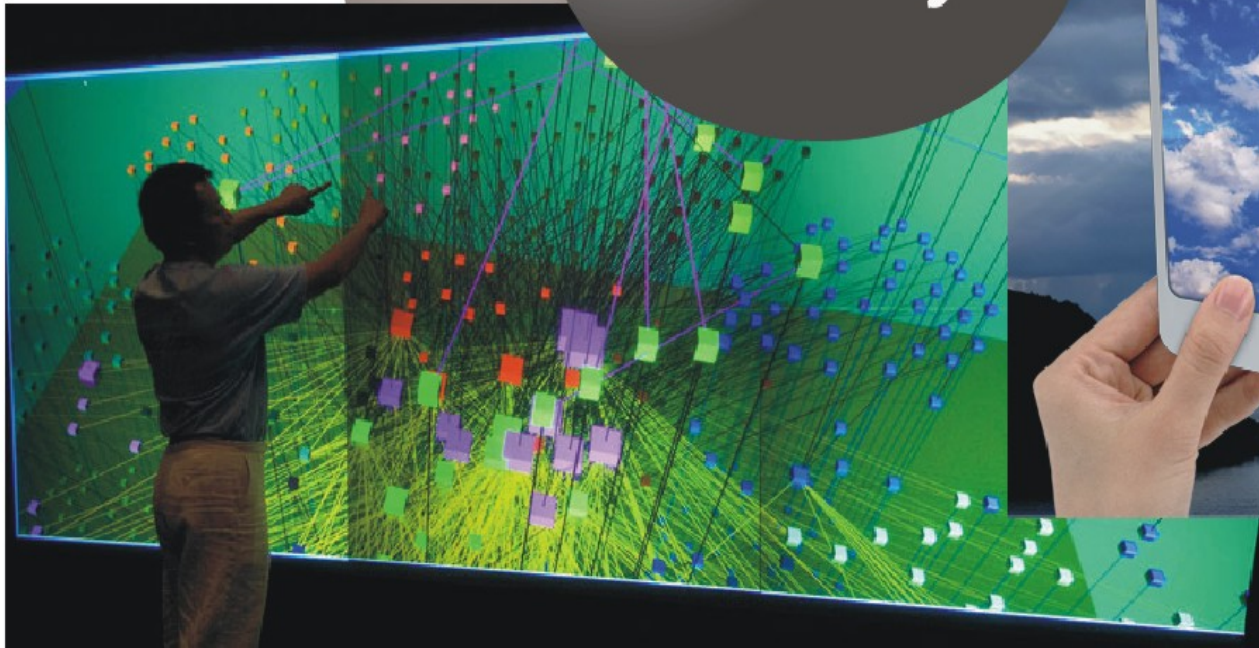
Self-Assembling NeuroDevices



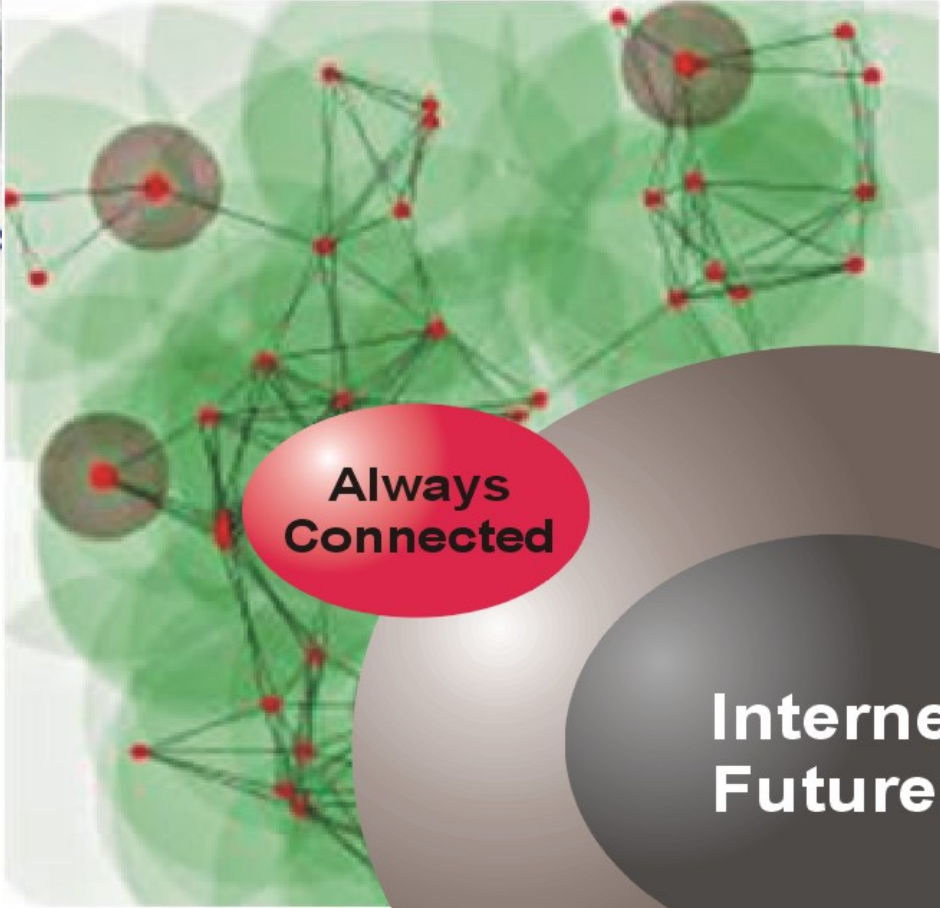
- From InSilico Biology, to Molecular Delivery, to Intracellular NanoNeuroBiology
- The Evolution of Applied NeuroMedicine



Blended Reality

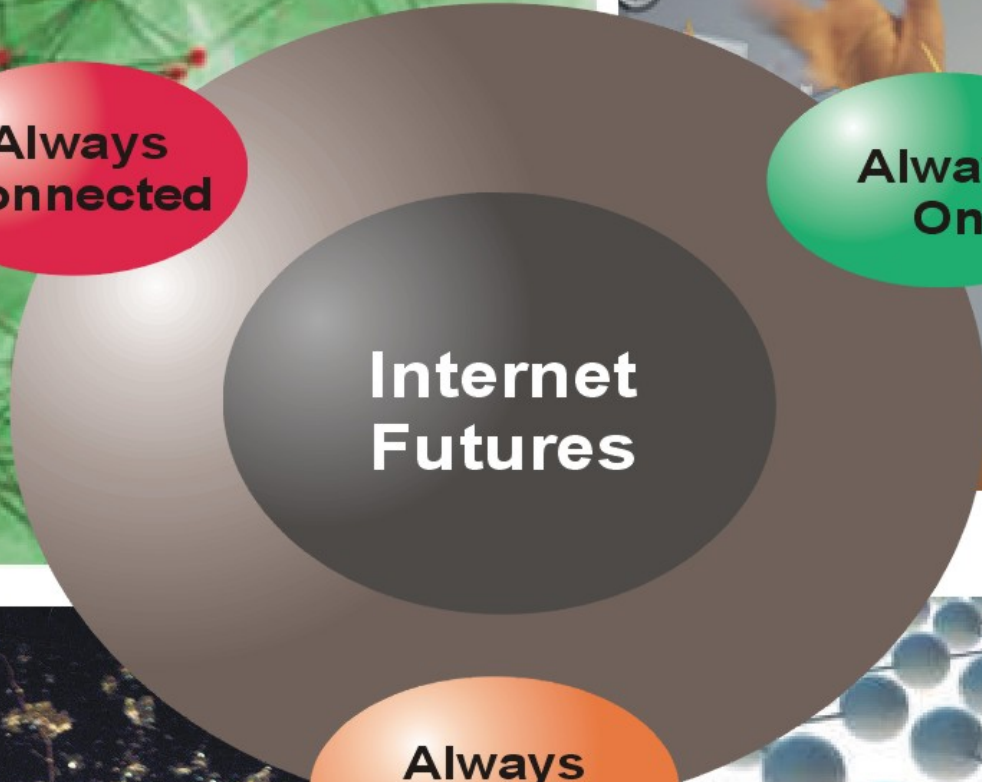




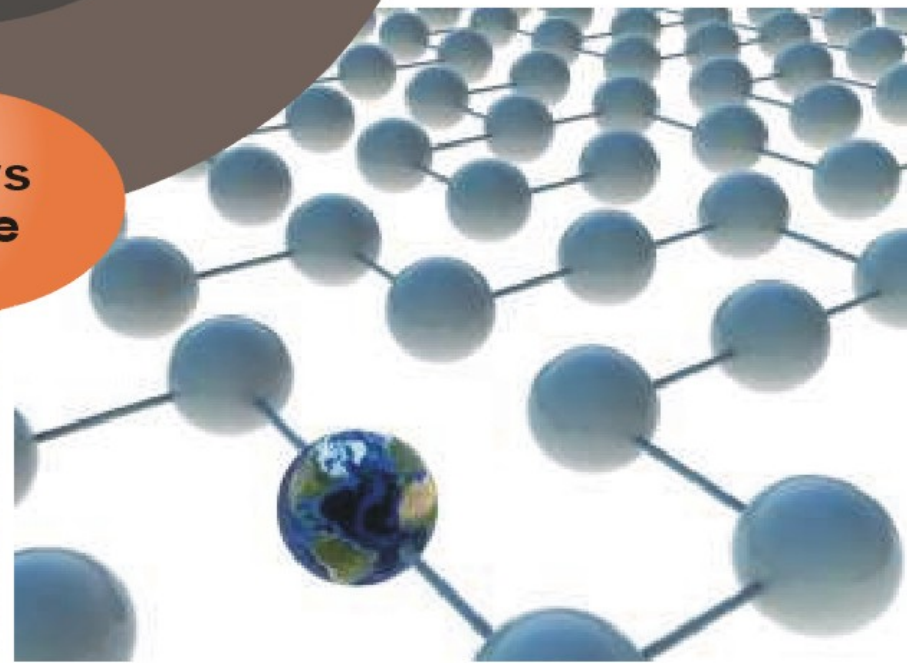


**Always
Connected**

**Always
On**



**Always
Aware**



Emergent Application Domains

Traffic -
Transportation

Industrial
Process
Management

Kiosks

Mobile

Energy -
Smart Grid

Medical -
Diagnostics

Future Data Tsunami

Web 2.0

Video

Smart
Transaction
Portals

Security -
Surveillance

GPS

Behavior
Tracking

Infotainment -
Integrated
Content

Social
Networks -
Search

The Internet of Things



Sentient Environments

People & Smart Object Integration

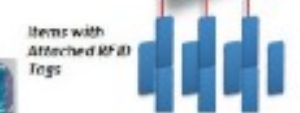
Aware Object Management

RFID / NFC Detectable Objects

2010

2020

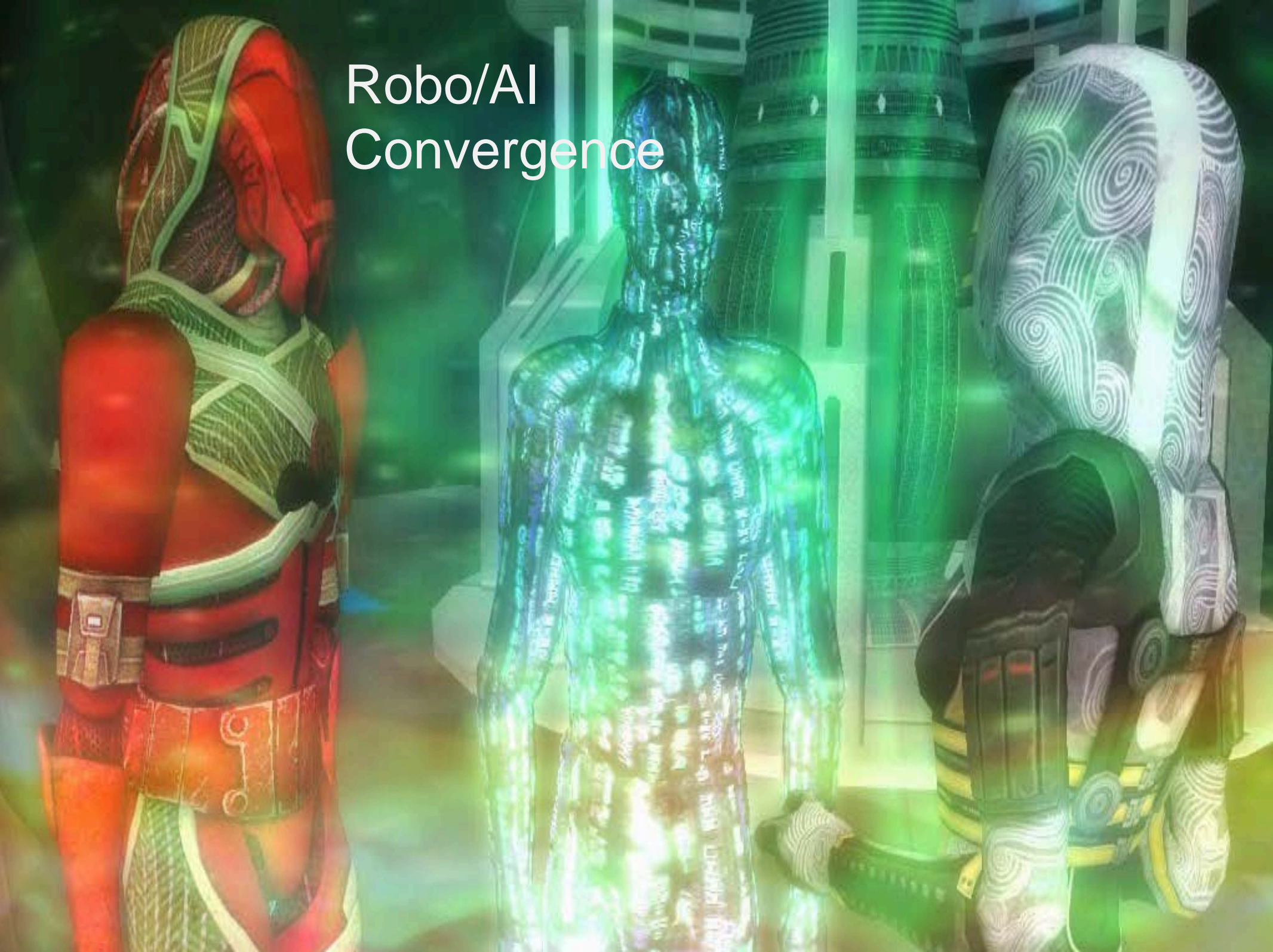
2030



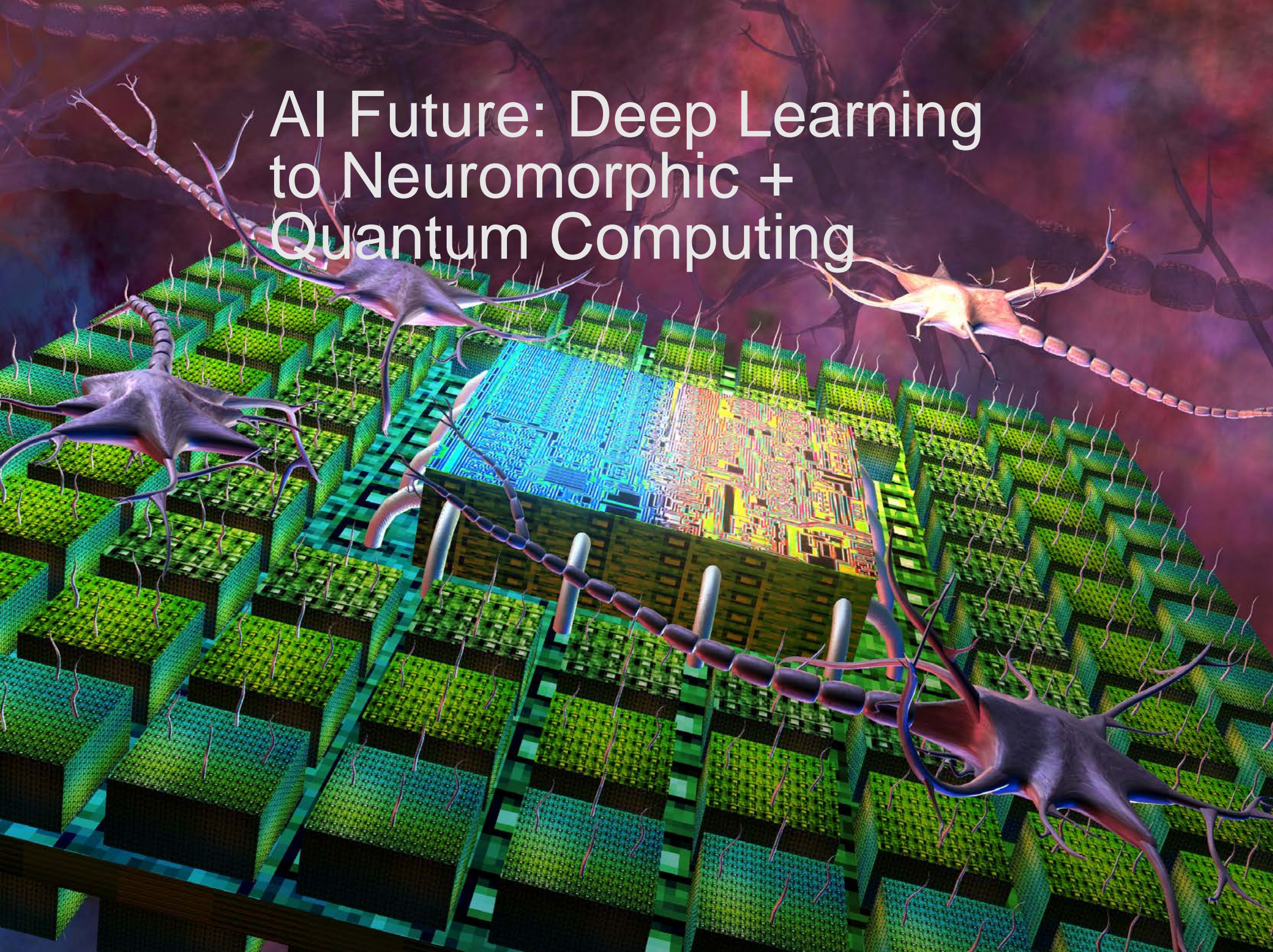
Mixed Reality



Robo/AI Convergence

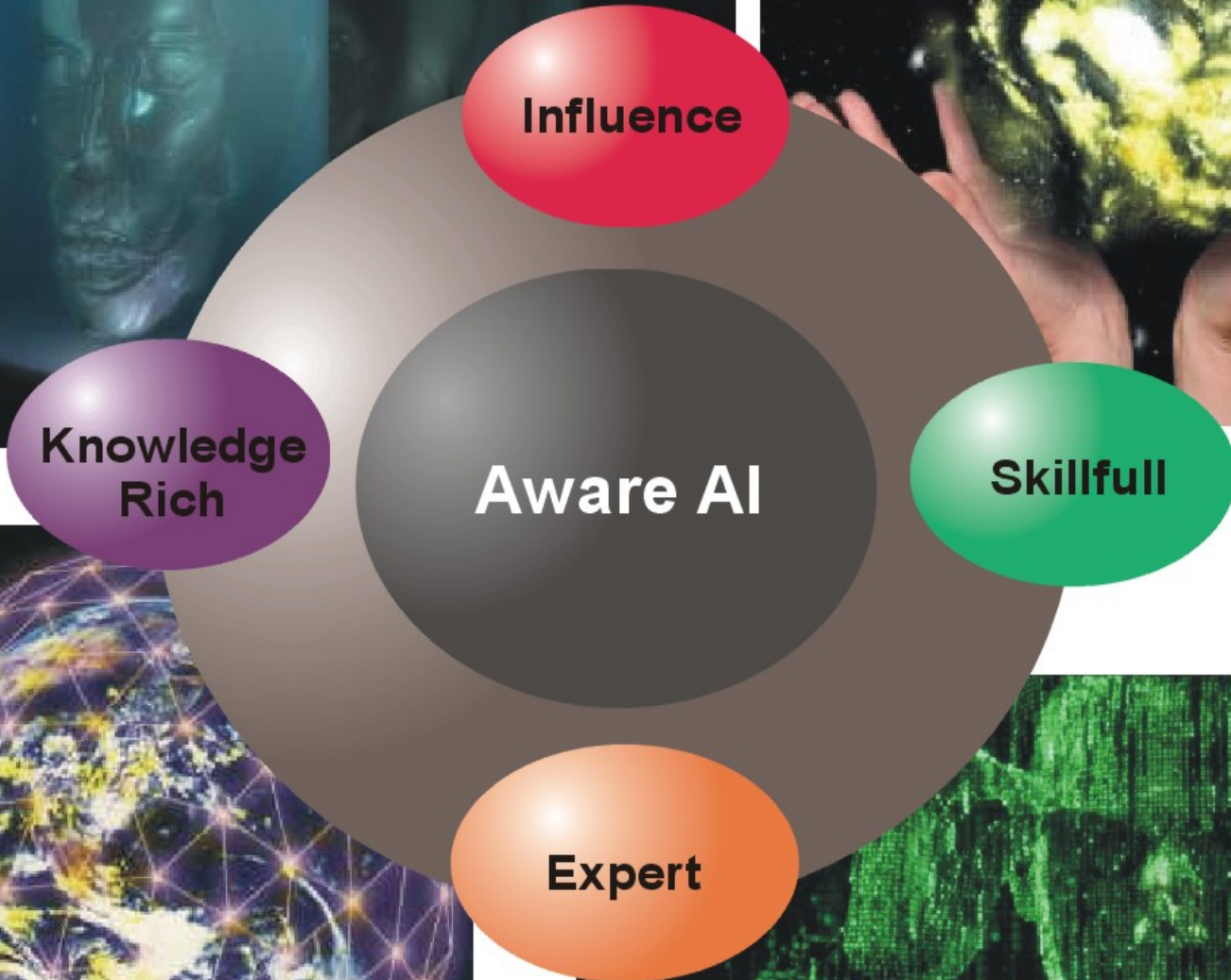
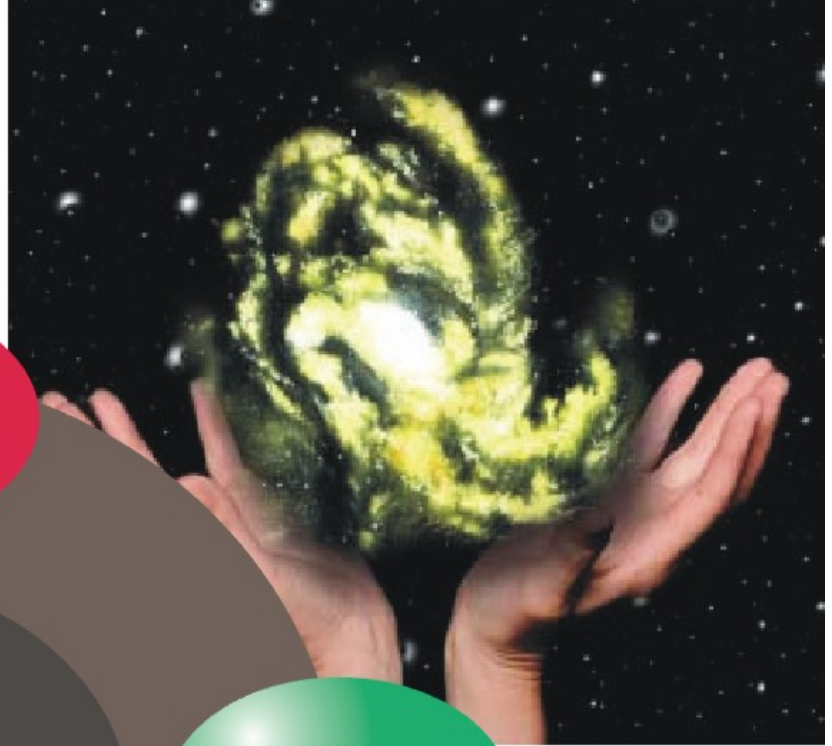
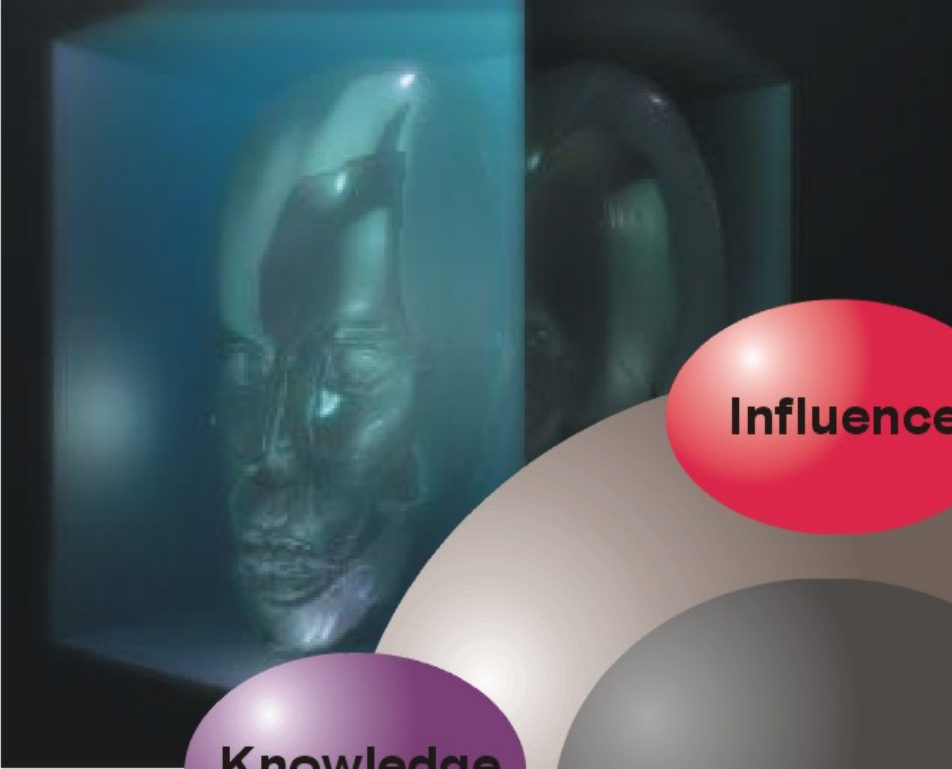


AI Future: Deep Learning to Neuromorphic + Quantum Computing



Emergence of Smart Machines & Autonomous Economy—Cognitive Systems as a Platform

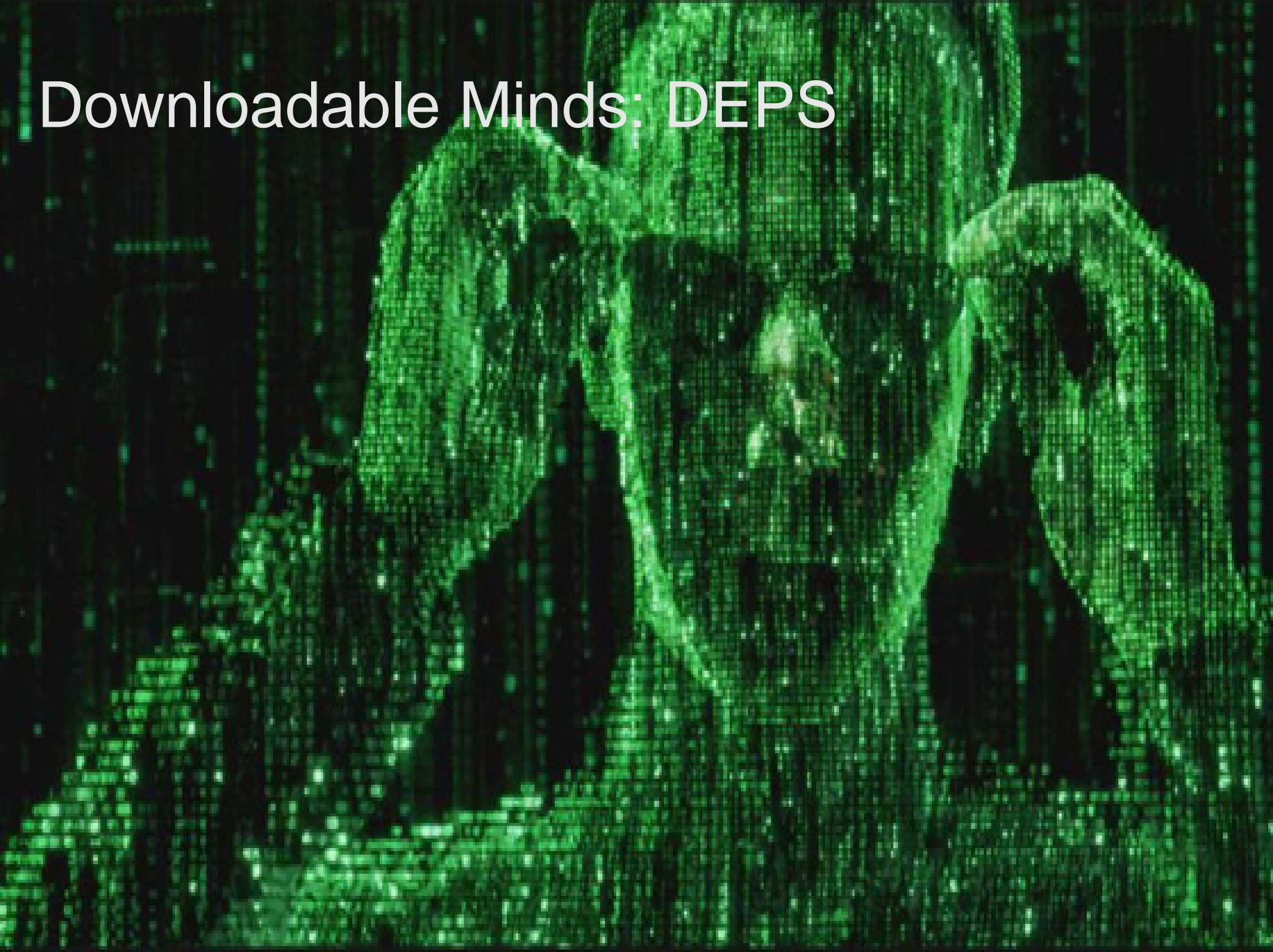




AI as a Deliverable: Synthetic Sentient



Downloadable Minds: DEPS



Fully Autonomous Non-human Strategic Threshold



Autonomous Adaptation

Quantum Analytics

Ubiquitous Sensor Swarms

Self Evolving Strategy

Holistic Theater

Autonomous Artificial Entities

Human - AI Symbiosis

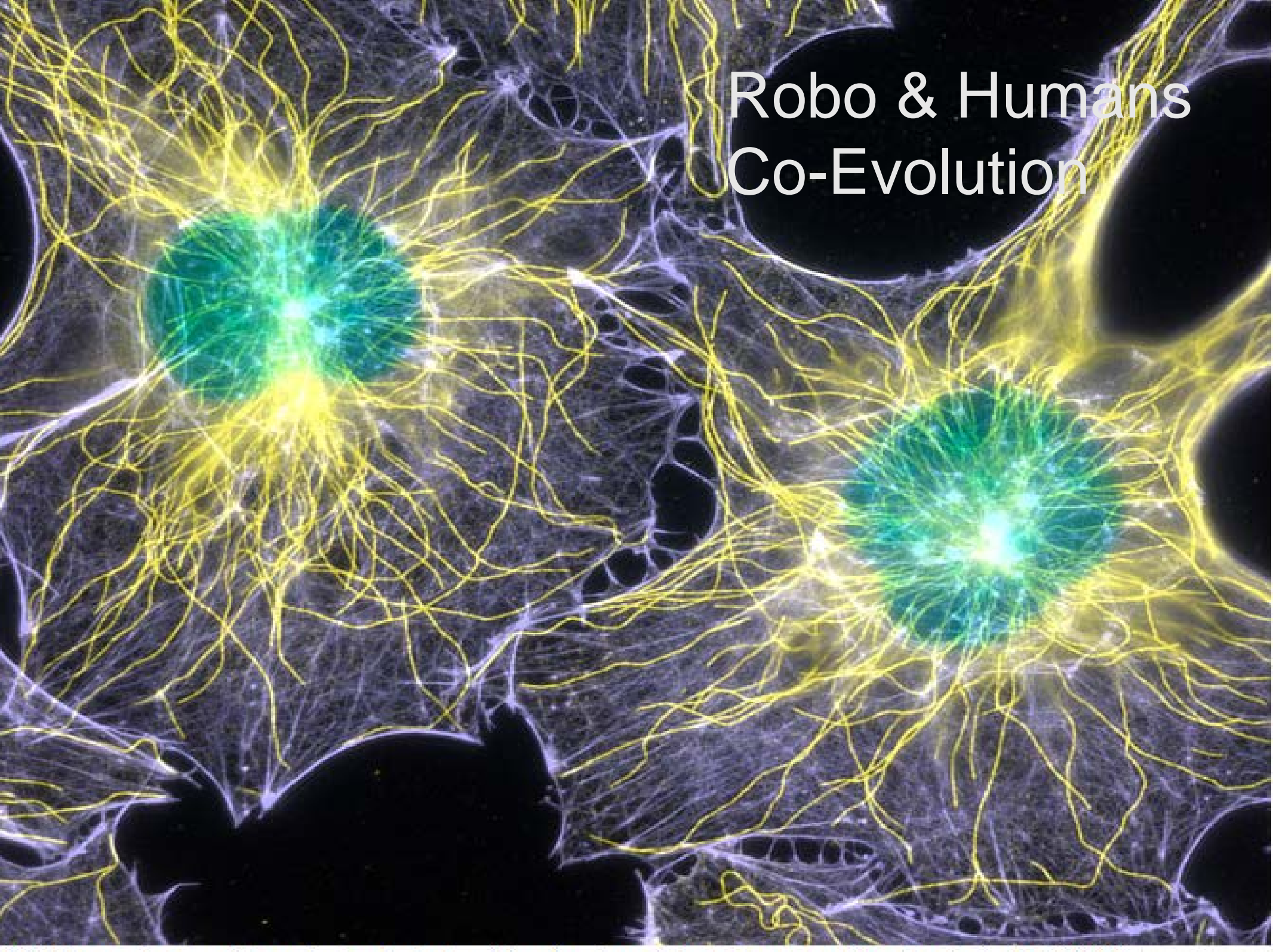
Self Evolving Crypto

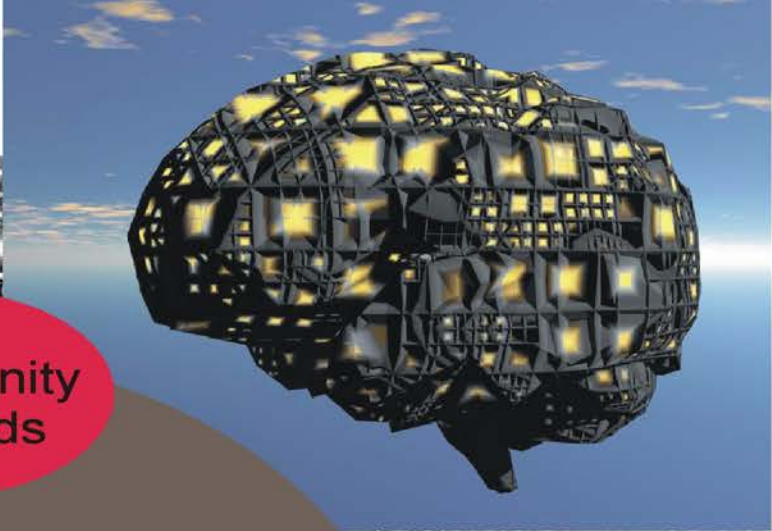
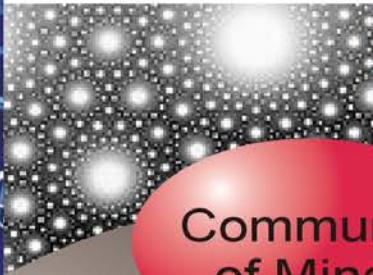
Realtime Non-Human Cognition

Defense Bots



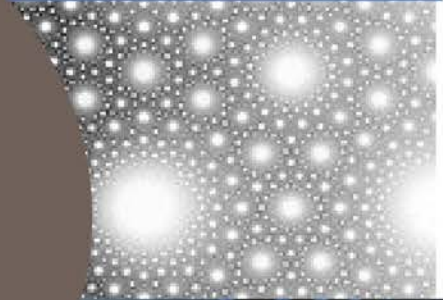
Robo & Humans Co-Evolution





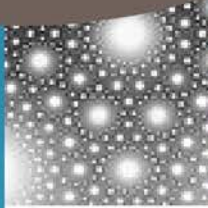
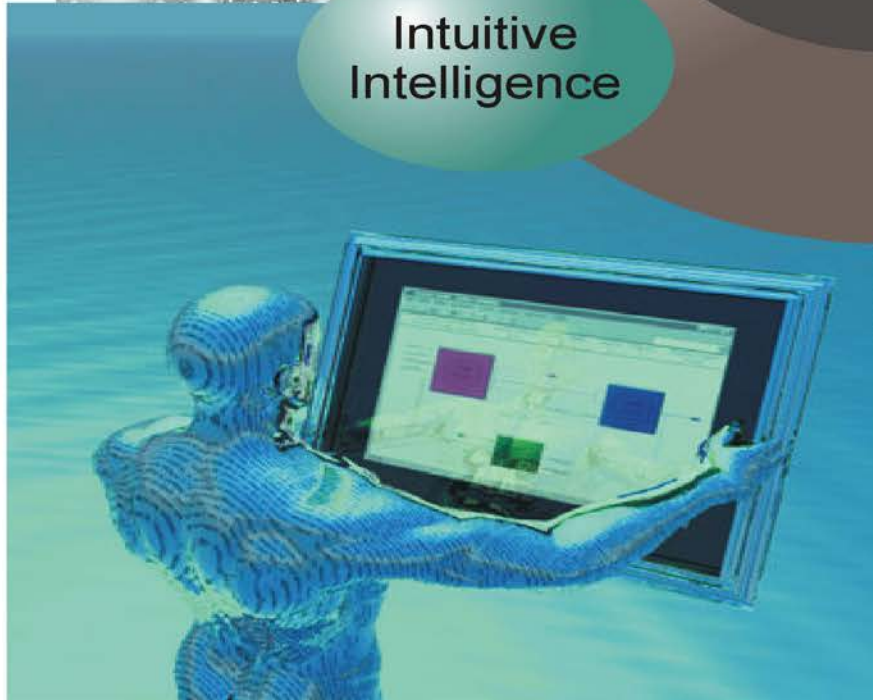
Community
of Minds

Digital
Sentience

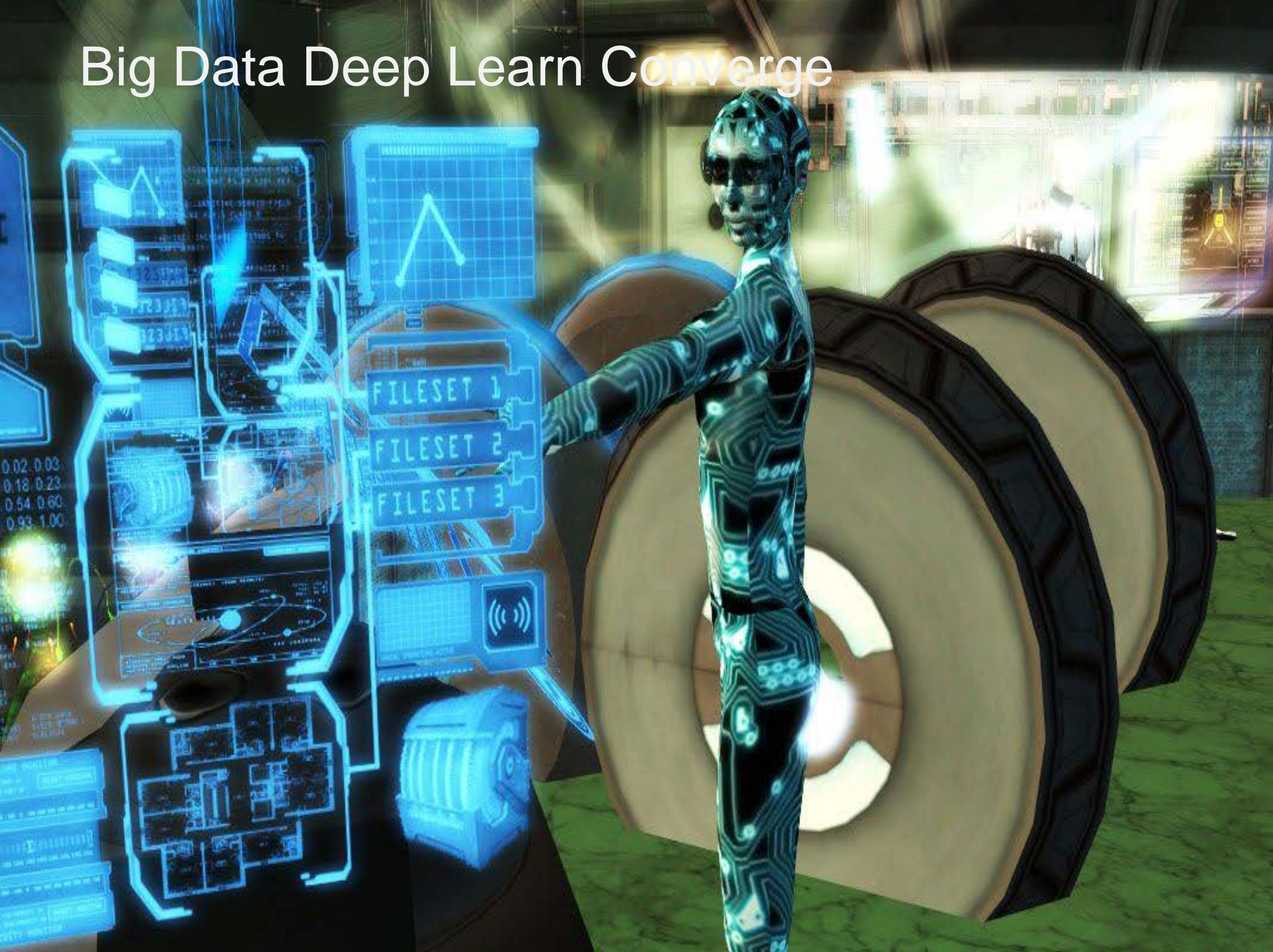


Intuitive
Intelligence

Connected
Intelligence



Big Data Deep Learn Converge



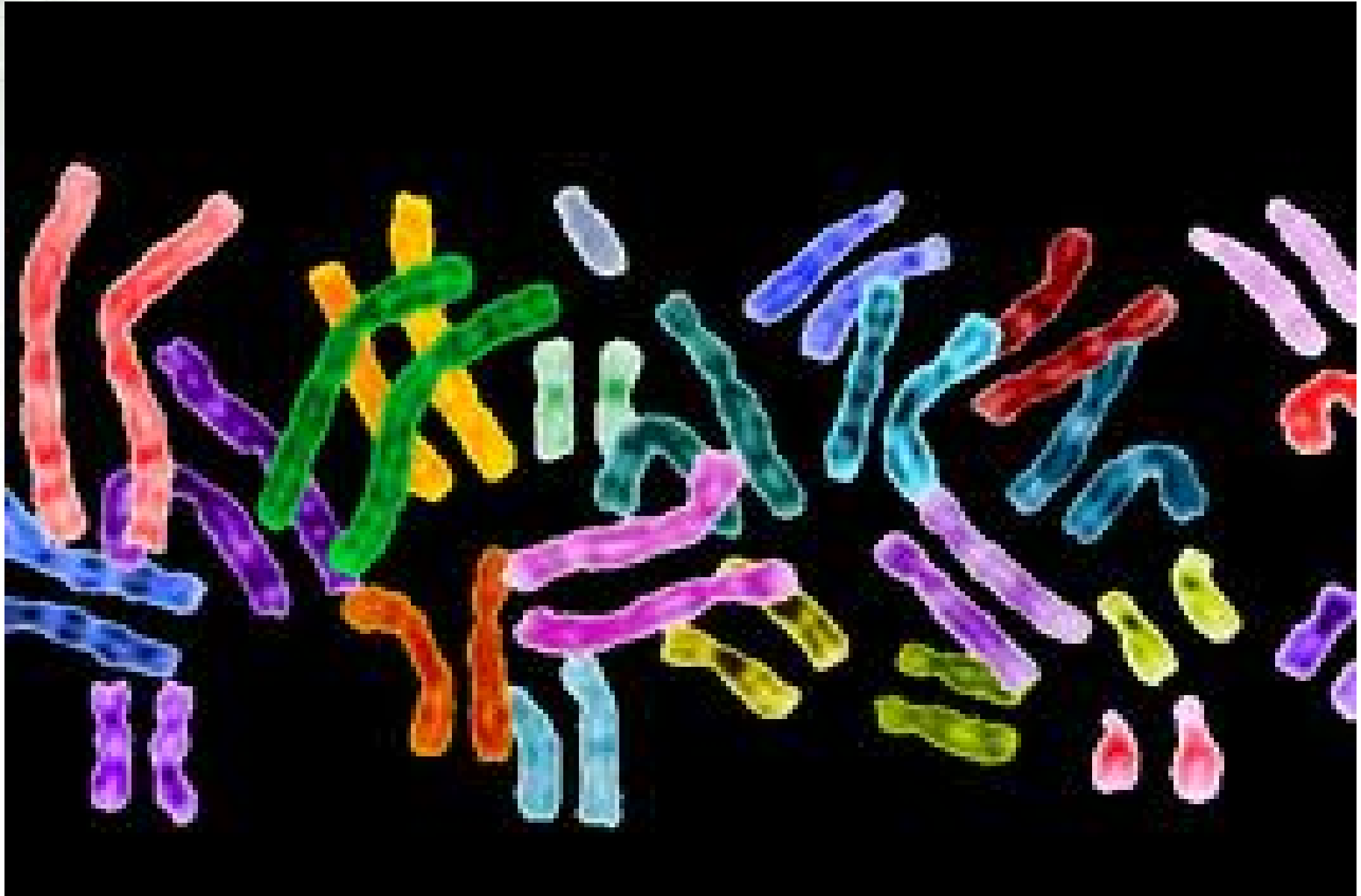
Space AI: Autonomy



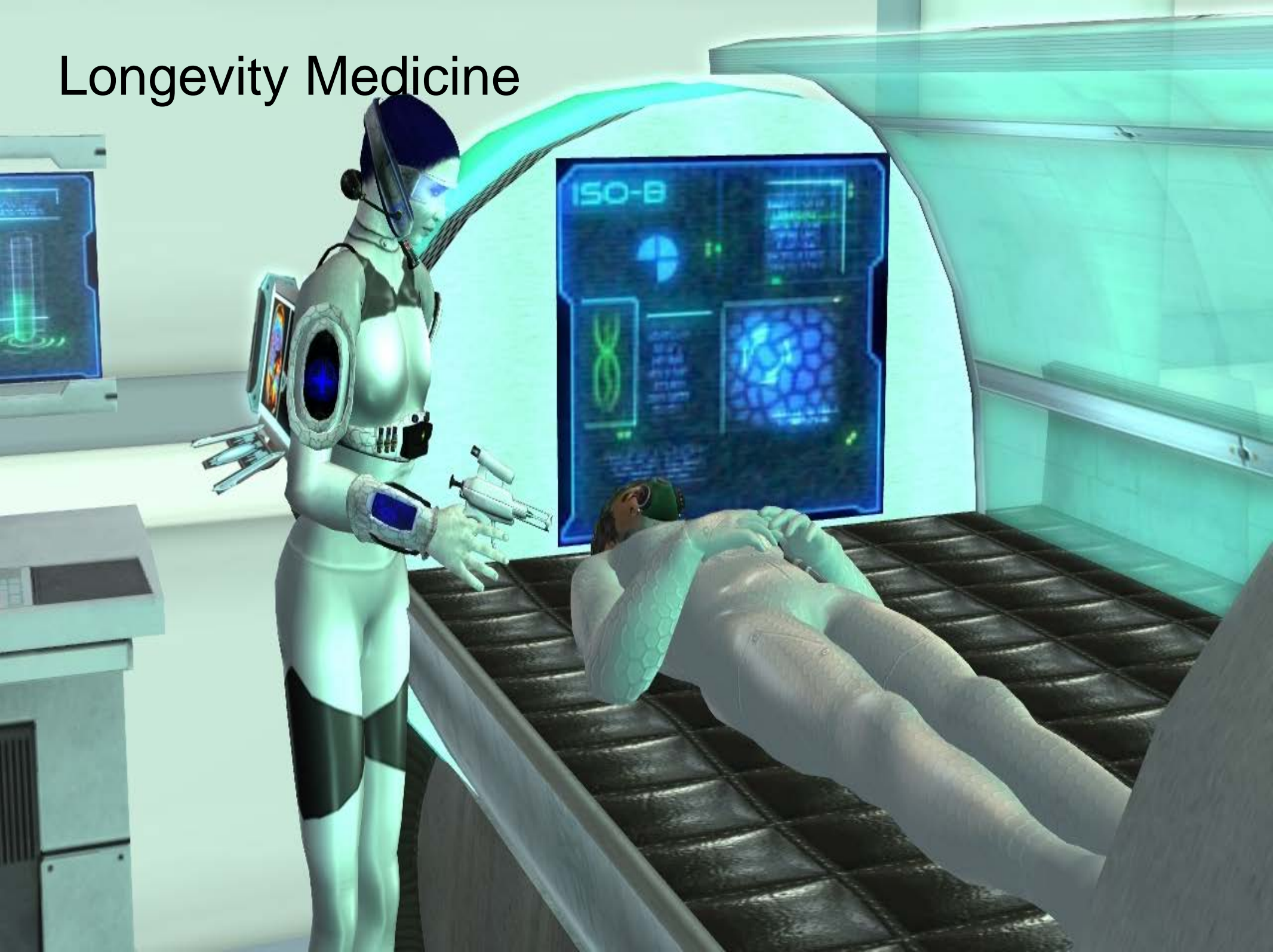
Future Internet will Mimic Living Ecosystems



The End of Medicine



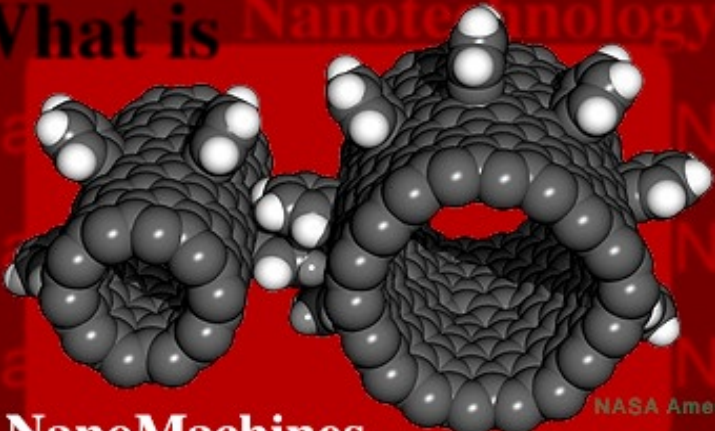
Longevity Medicine



Refreshing Aging Brains



What is Nanotechnology?



NanoMachines NASA Ames

...are so small, they "look" bumpy -
the "bumps" are individual atoms.

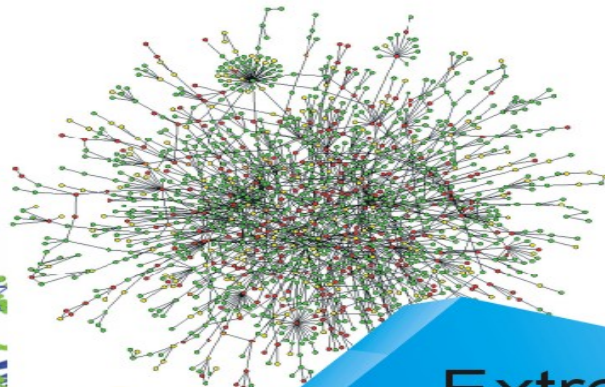


Future of Healthcare

NBICQ

Extreme
In-Silico
Biology

Quantum
Computing



Extreme

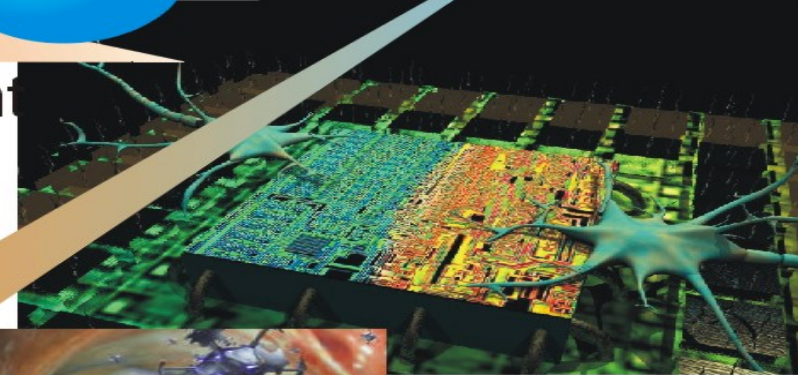
Evolution

Possible

Enhancement

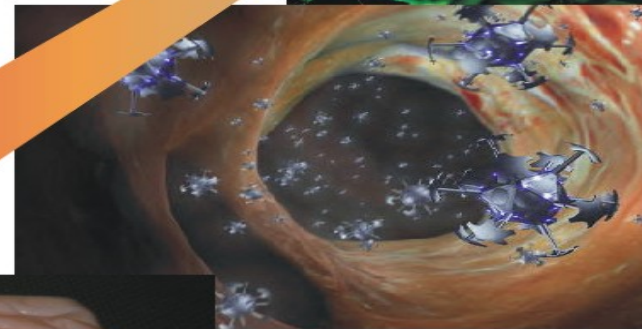
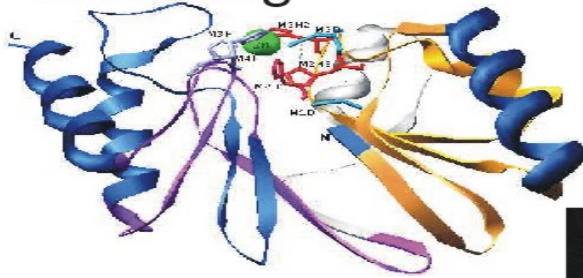
Probable

Regeneration



Neural
Enhancement

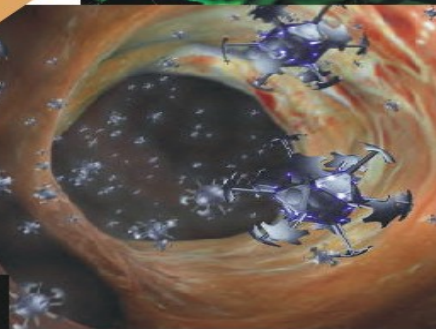
Complex
Biomolecular
Modeling



Synthetic
Tissue



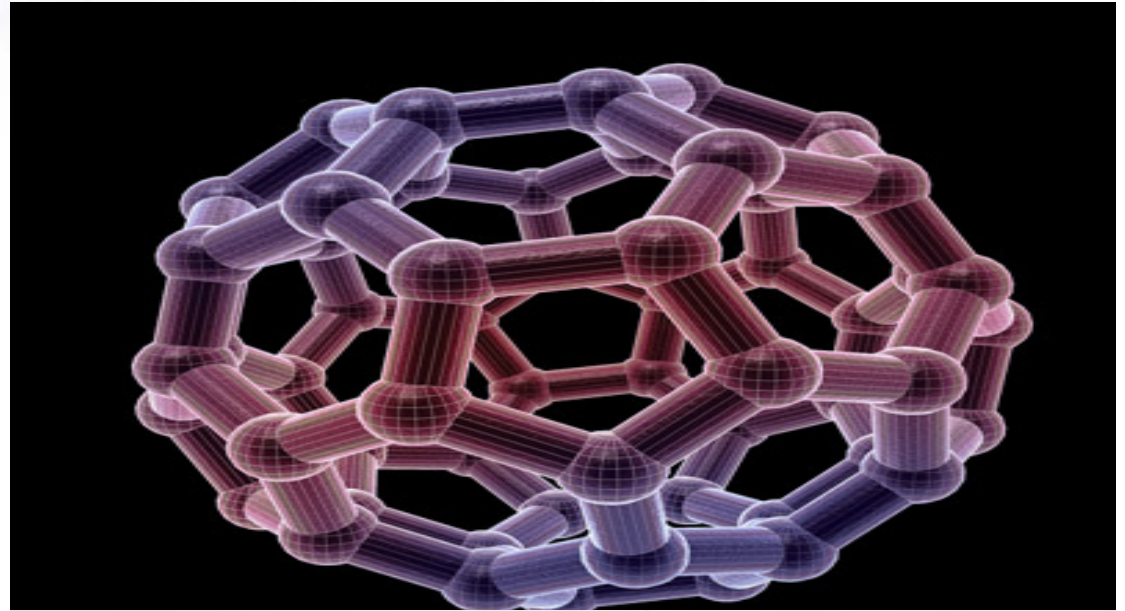
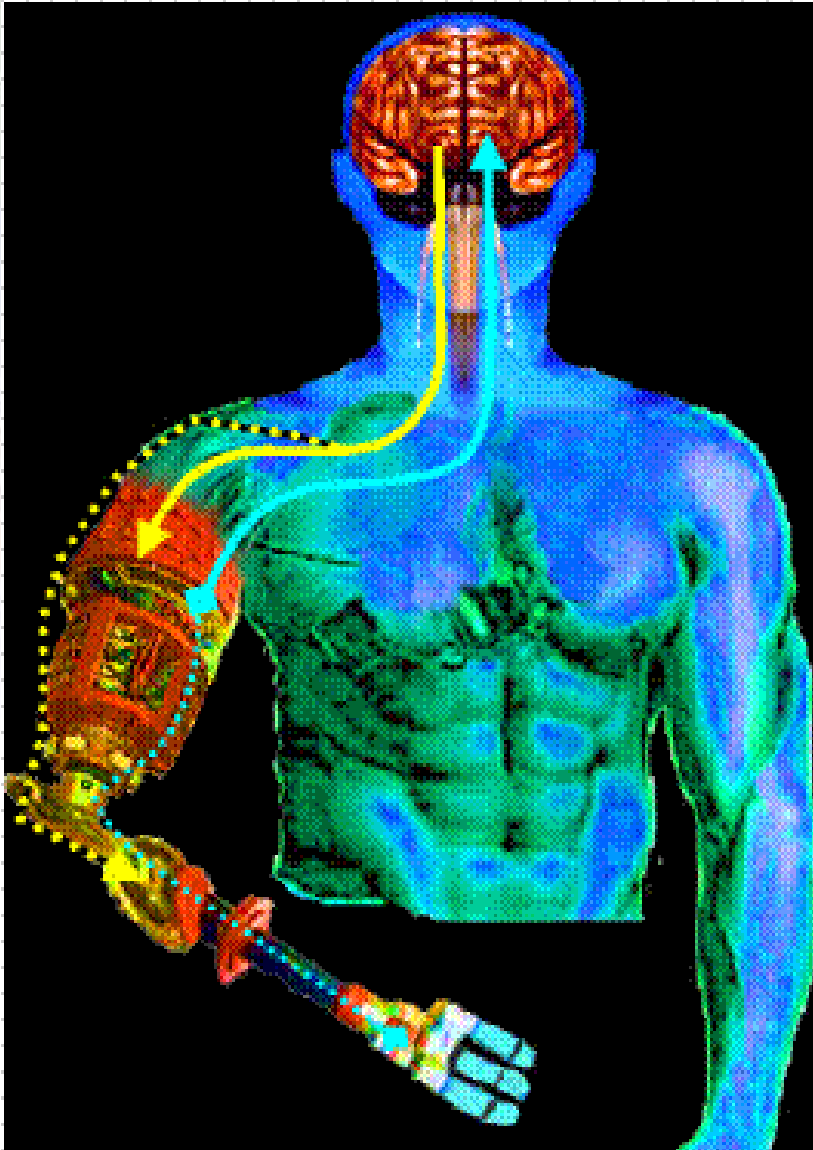
Autonomous
Nano Devices



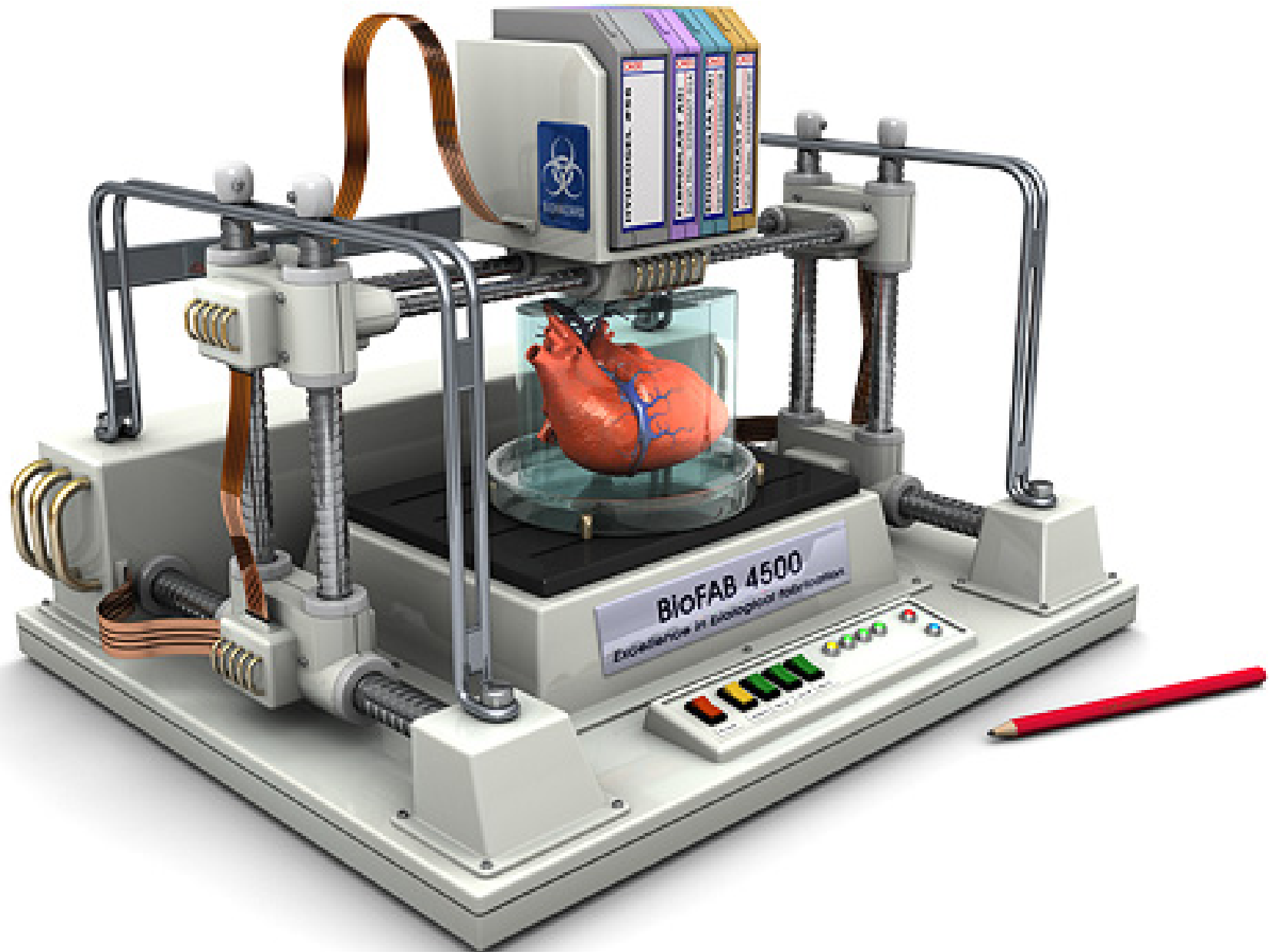
Human 2.0



Human 2.0 will Change Everything: Wealth, Power, Society and Business



3d Printing Organs on Demand



NeuroWars

25
Years

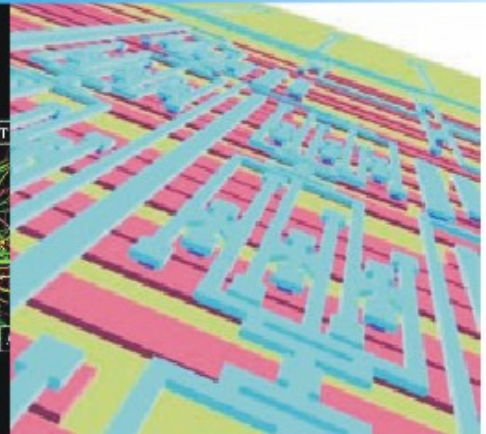
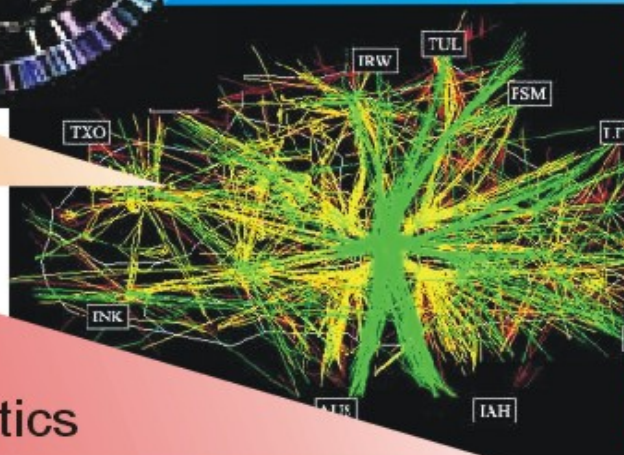
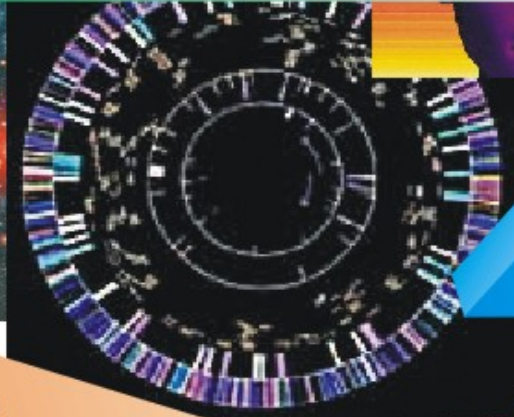
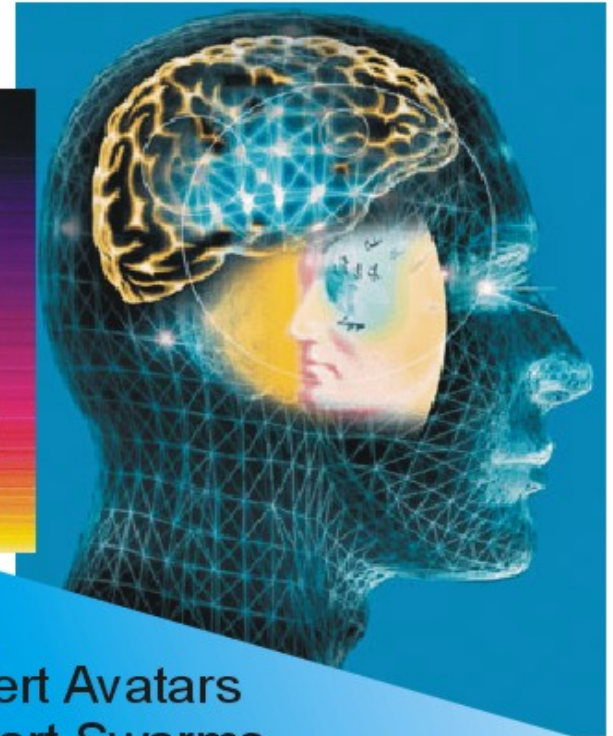
Robo Nets
Human Synthoids

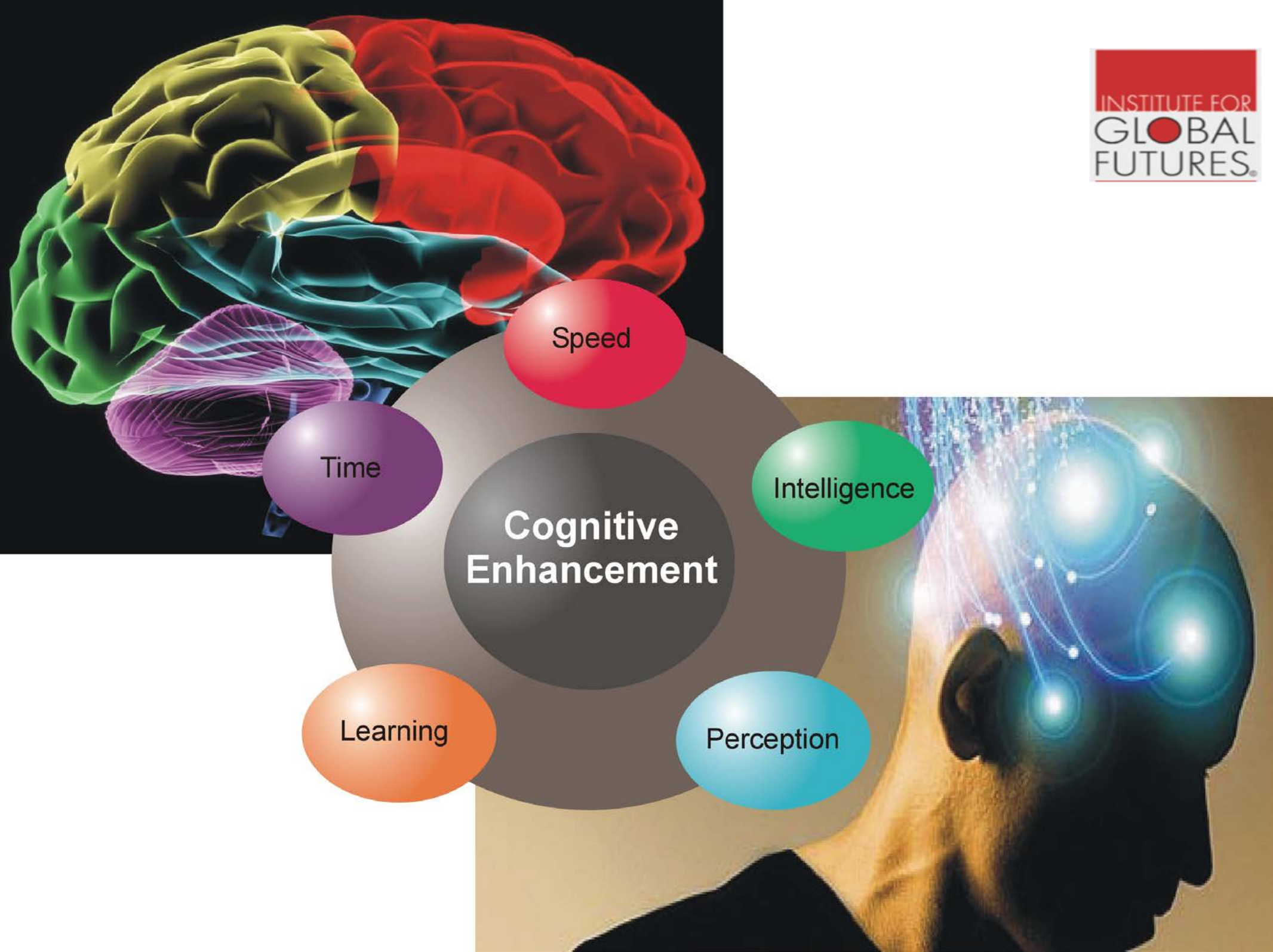
Alert Avatars
Smart Swarms

Facial Neuro Tech
Genomic Targeting

GPS Minng
Predictive Analytics

Near
Future





**Cognitive
Enhancement**

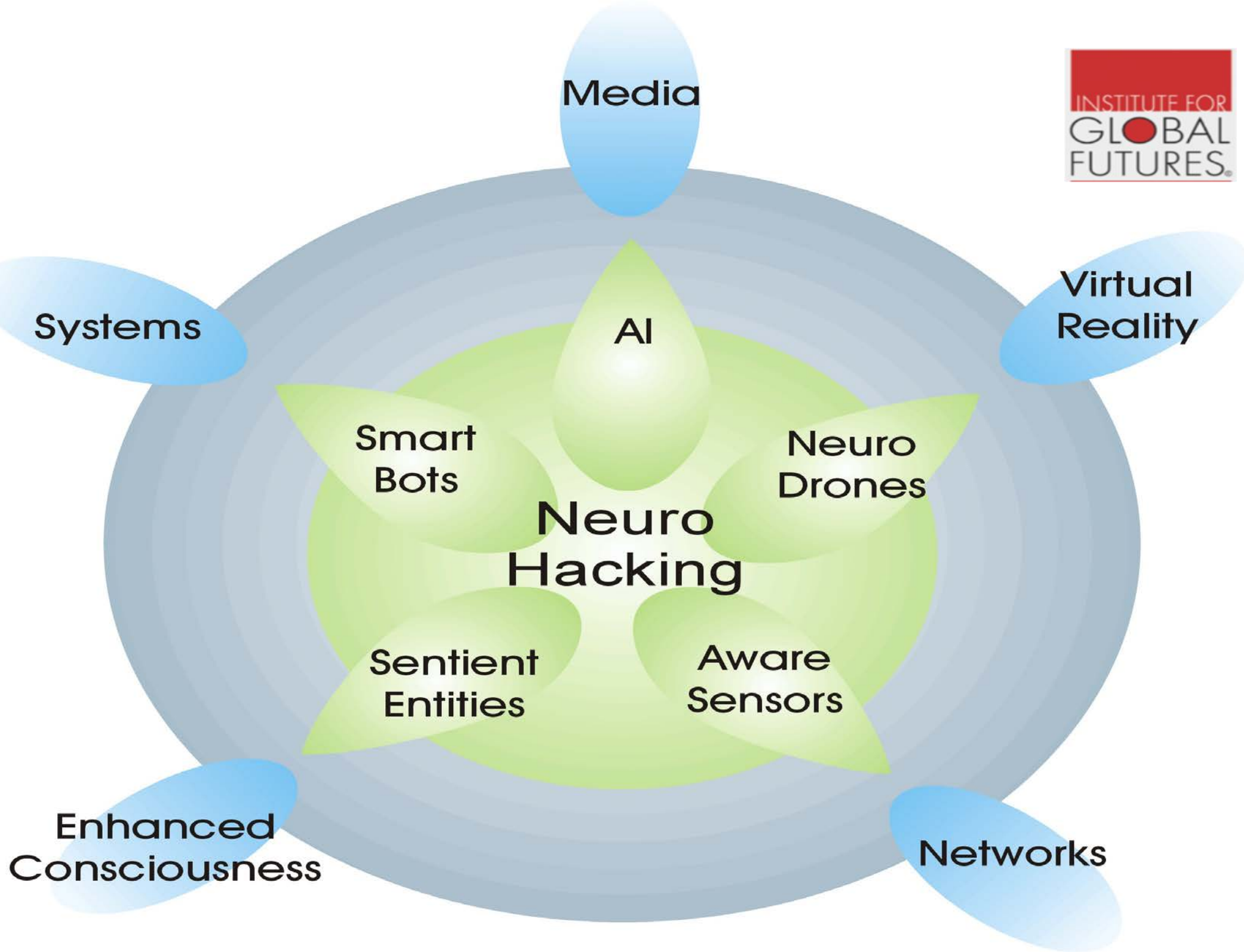
Speed

Intelligence

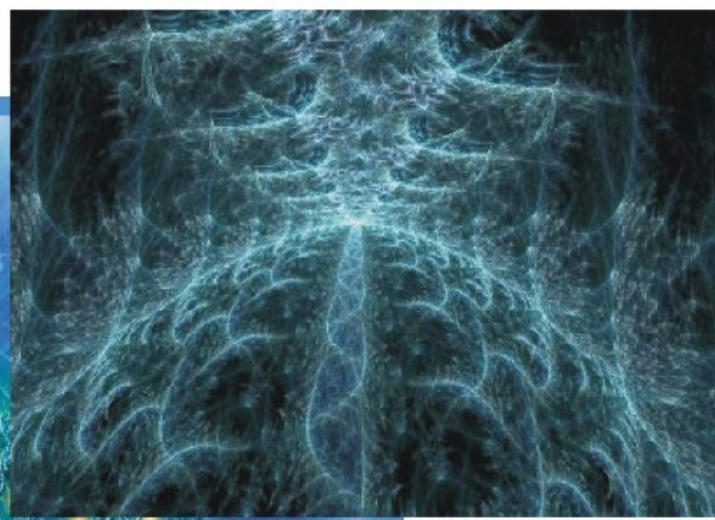
Perception

Learning

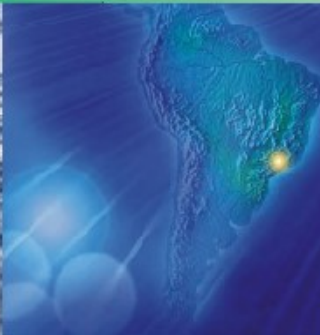
Time



25
Years

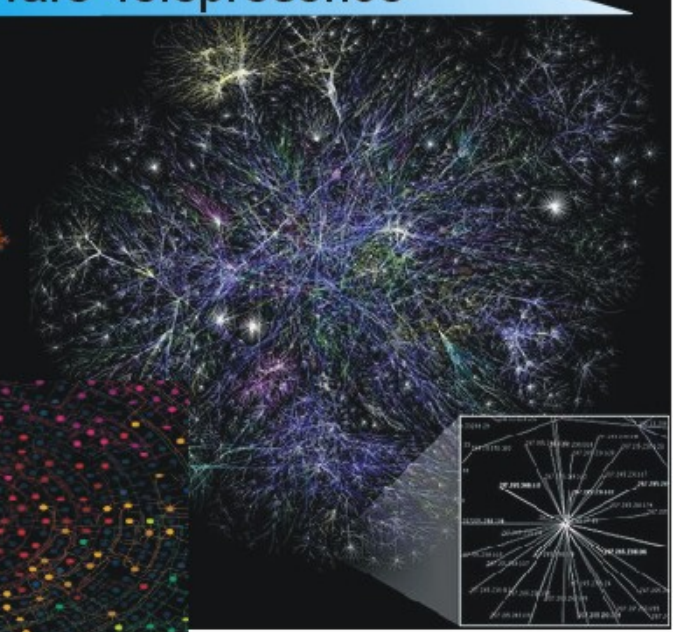
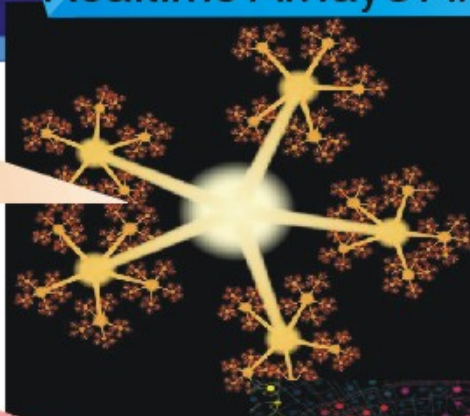


Super Intelligence
Pre-Emptive Global Threat Cognition



Global Quantum Networks
Realtime Always Aware Telepresence

Smart Global Sensor Arrays
Self Organizing Defense Systems

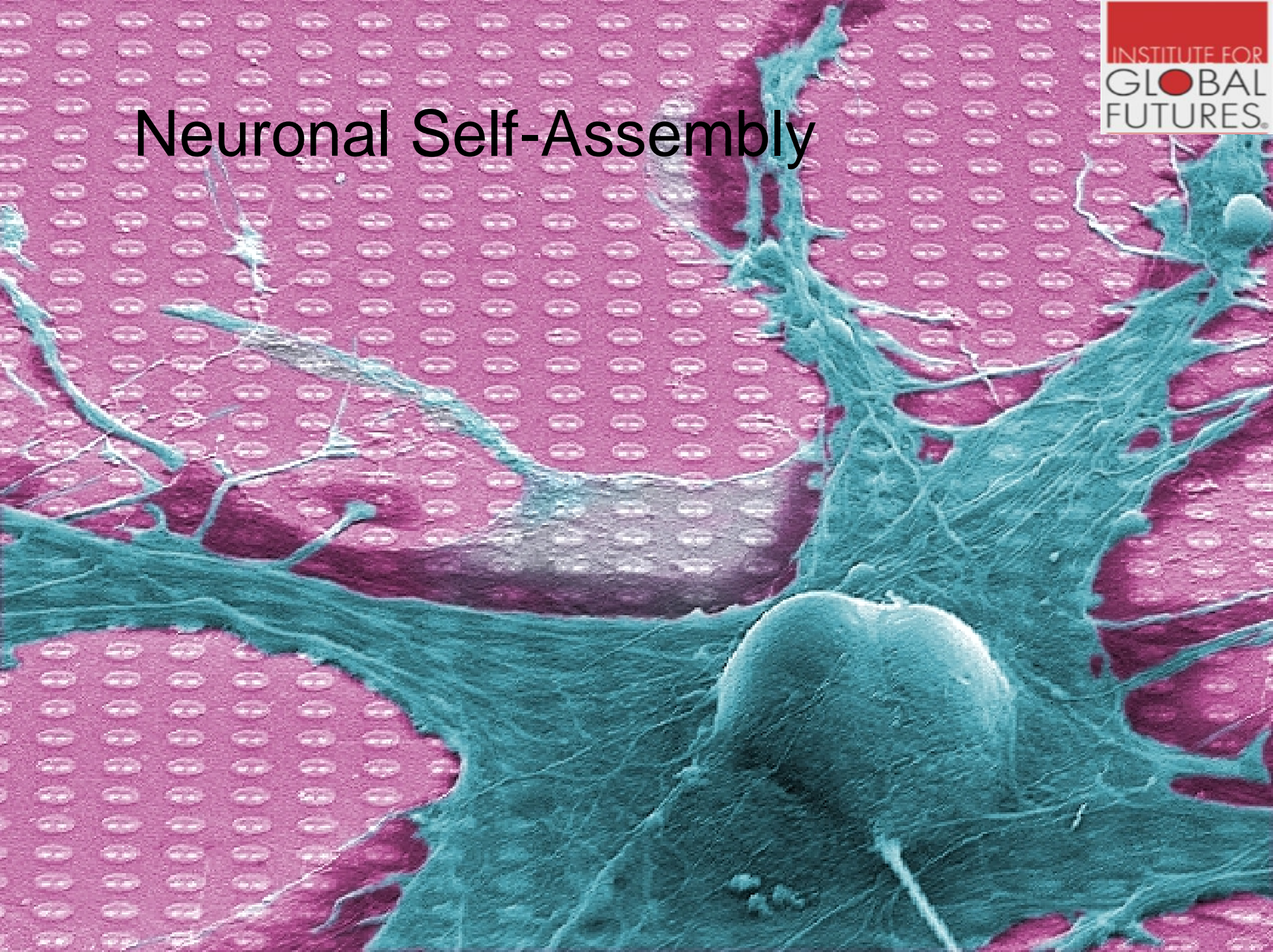


Near
Future

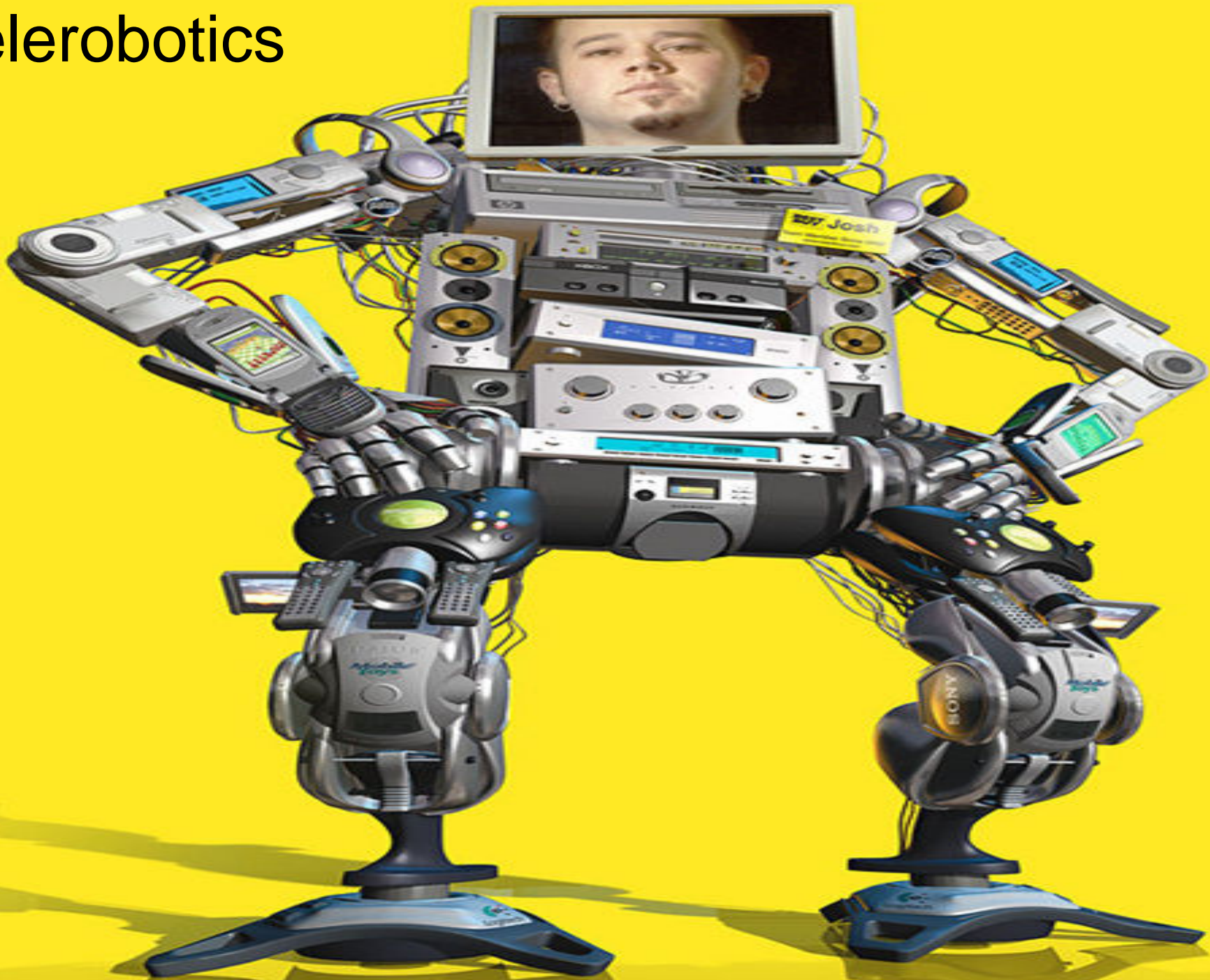
Autonomous Virtual AI
Self Evolving Info Architectures
Self Healing / Adaptive Networks



Neuronal Self-Assembly



Telerobotics





HUMAN PERFECTION.
WHAT COULD GO WRONG?

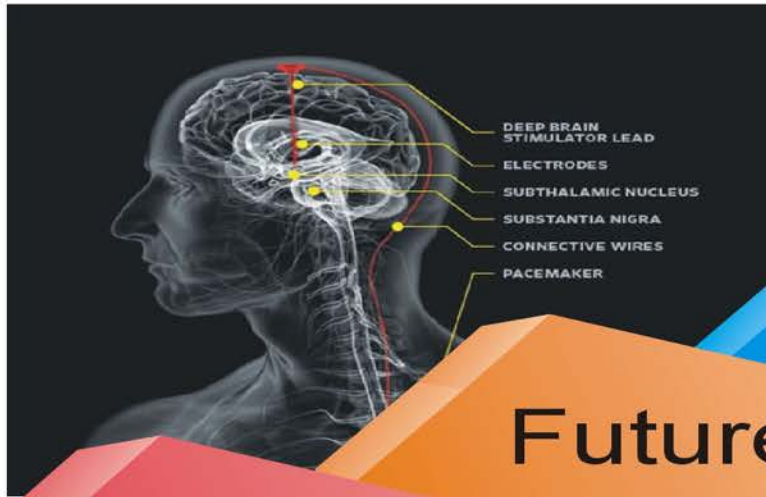


BRUCE WILLIS
SURROGATES

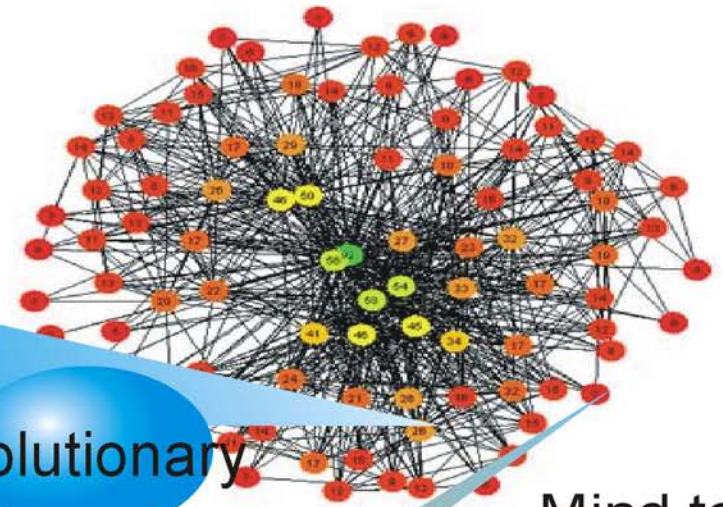
IN THEATRES SEPT 25

 **IGN.COM**

Human Cognitive Enhancement



Total Recall



Mind to Mind Access

Far

Evolutionary

Future

Augmented

Near

Therapeutic



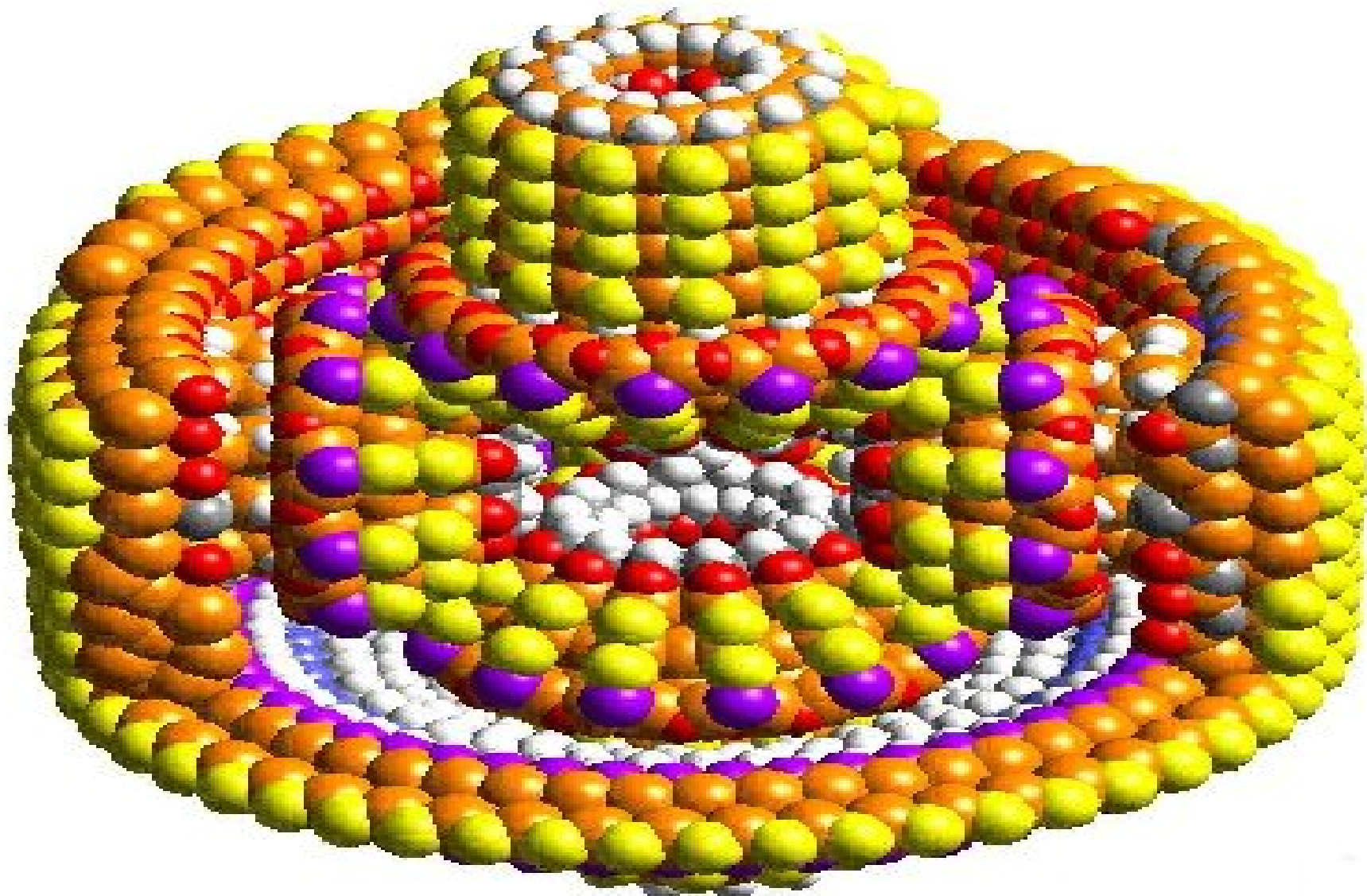
Accelerated Learning



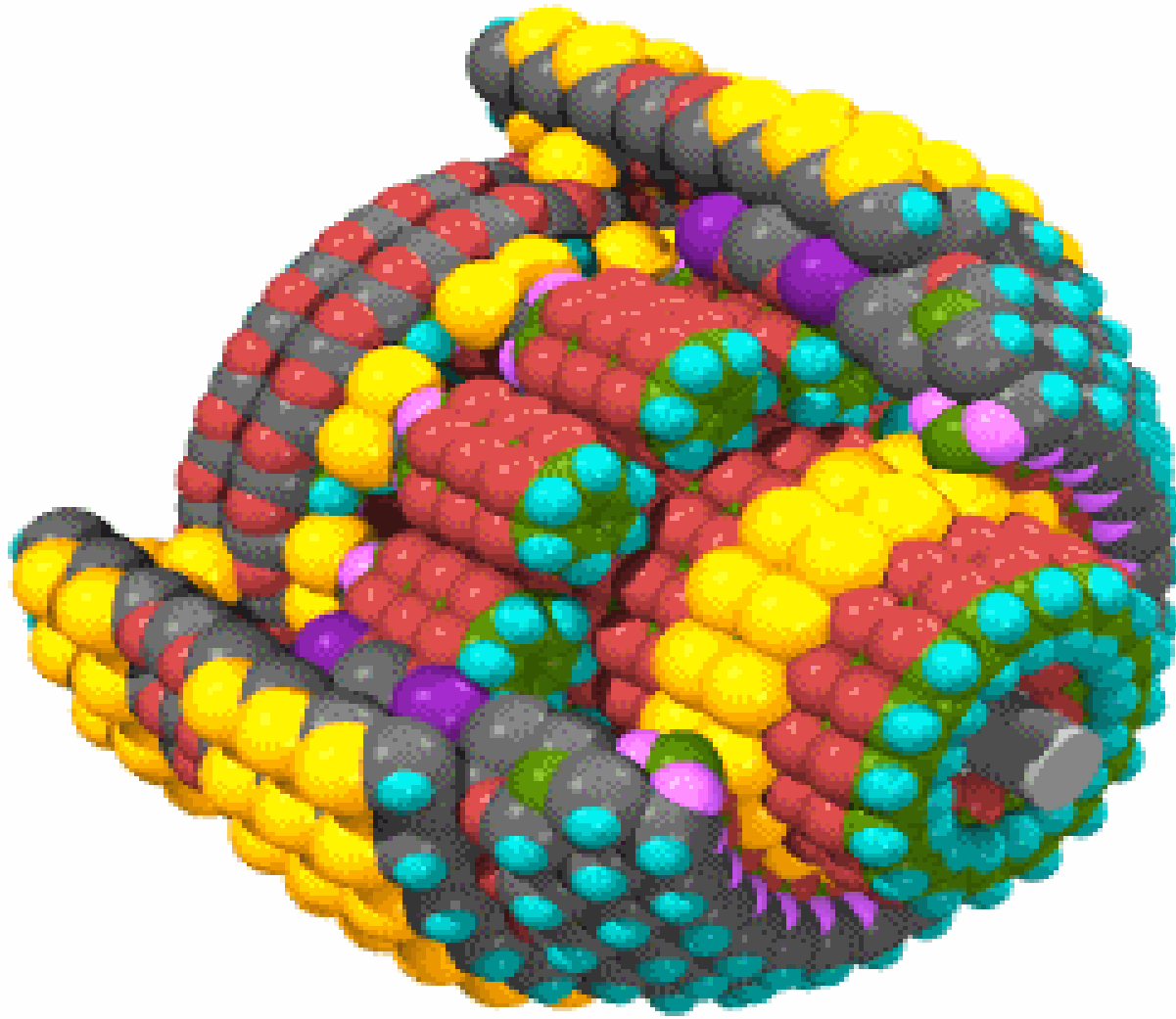
Mind to Systems Access

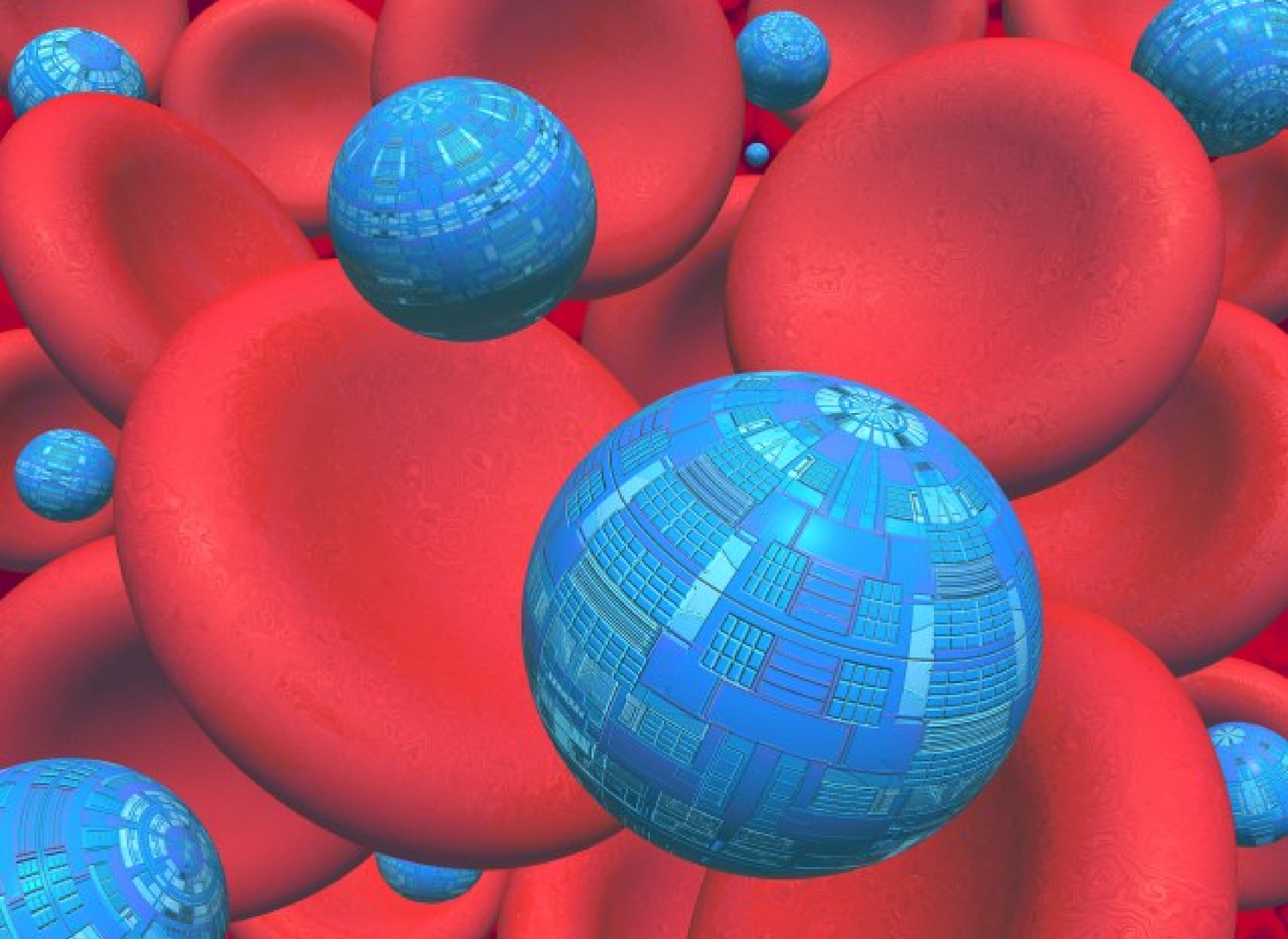
Do you "MIND"?

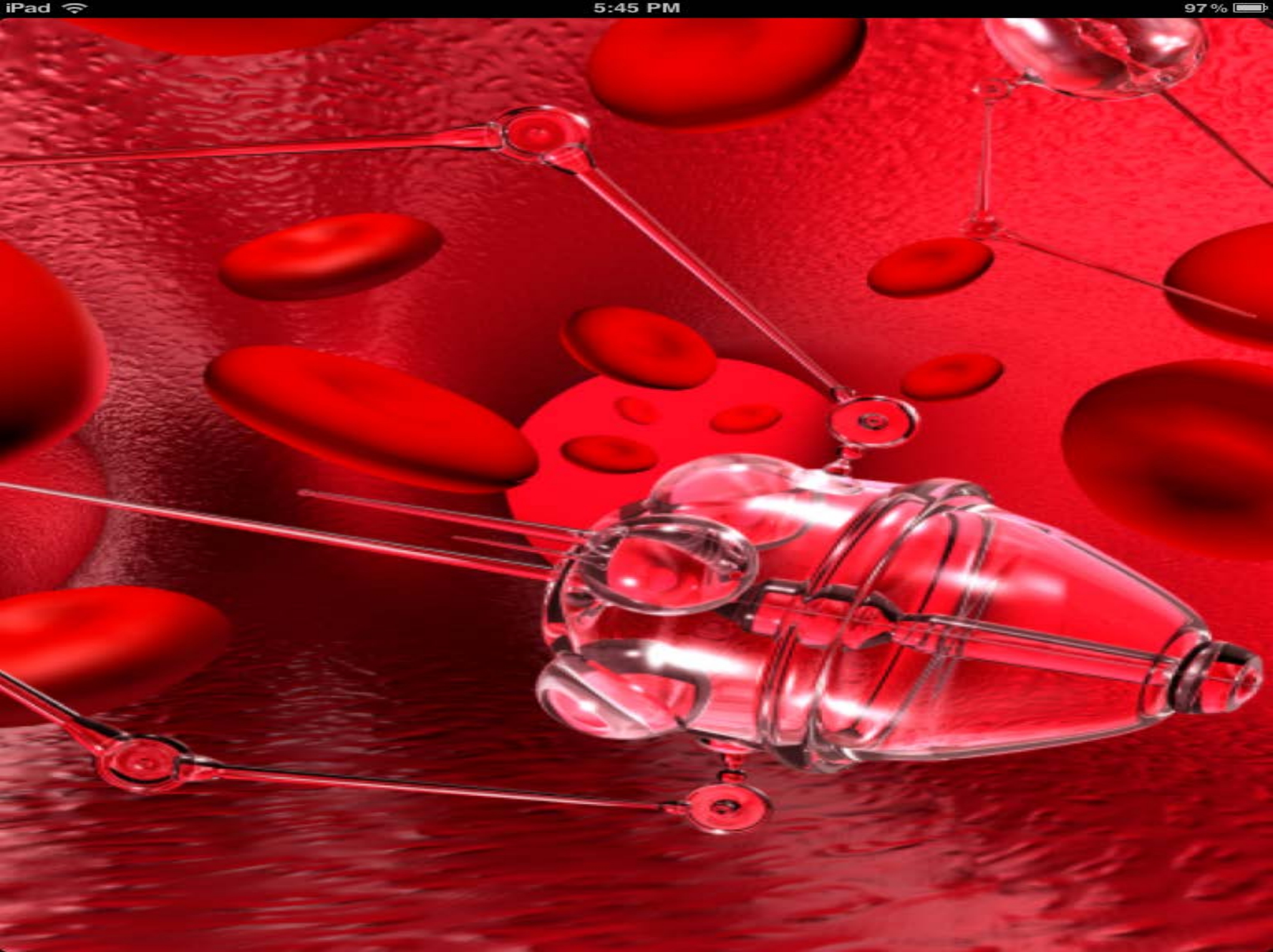
Future Innovations will Drive Competitive Advantage



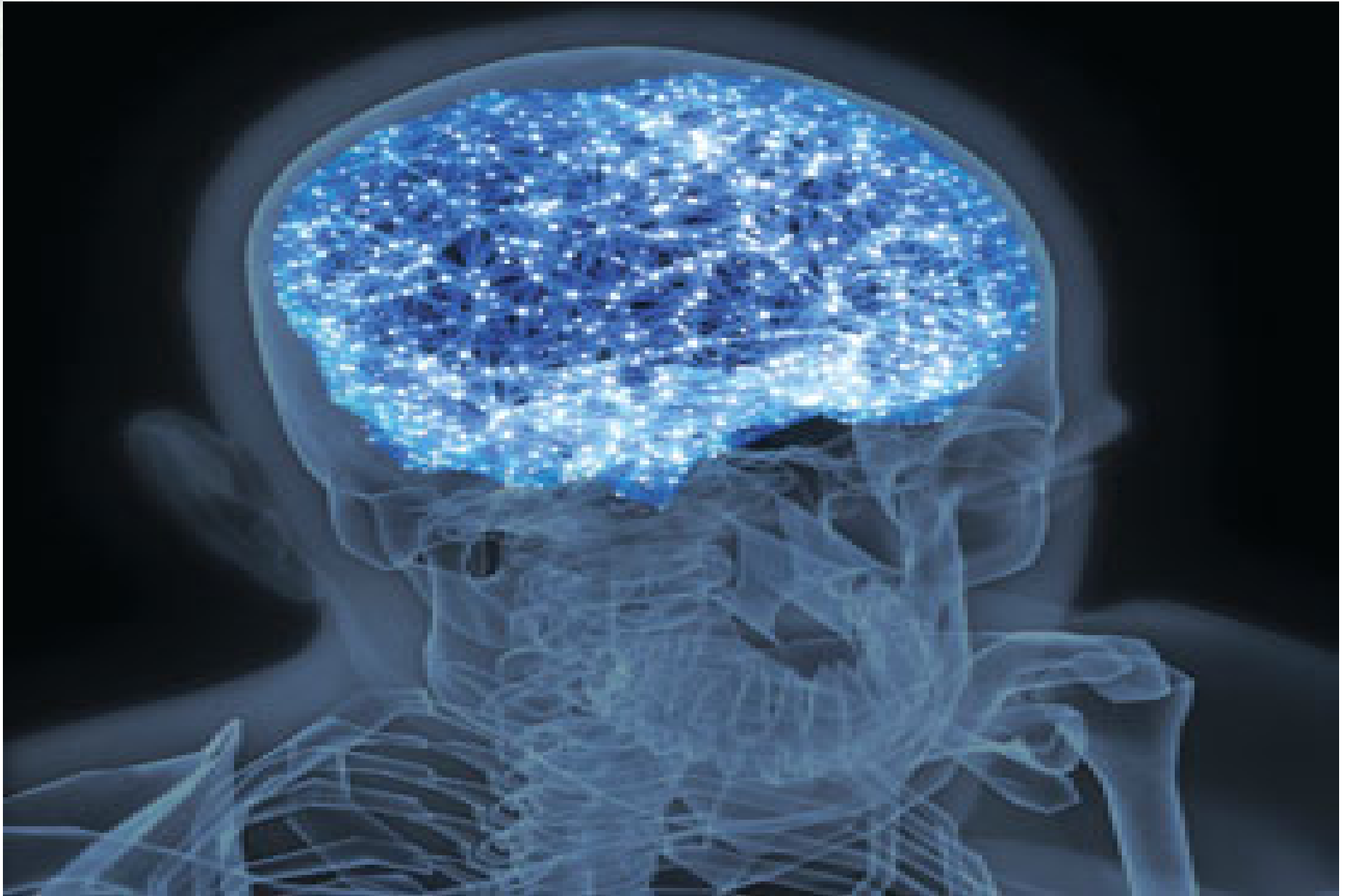
NanoAgents & NanoDevices



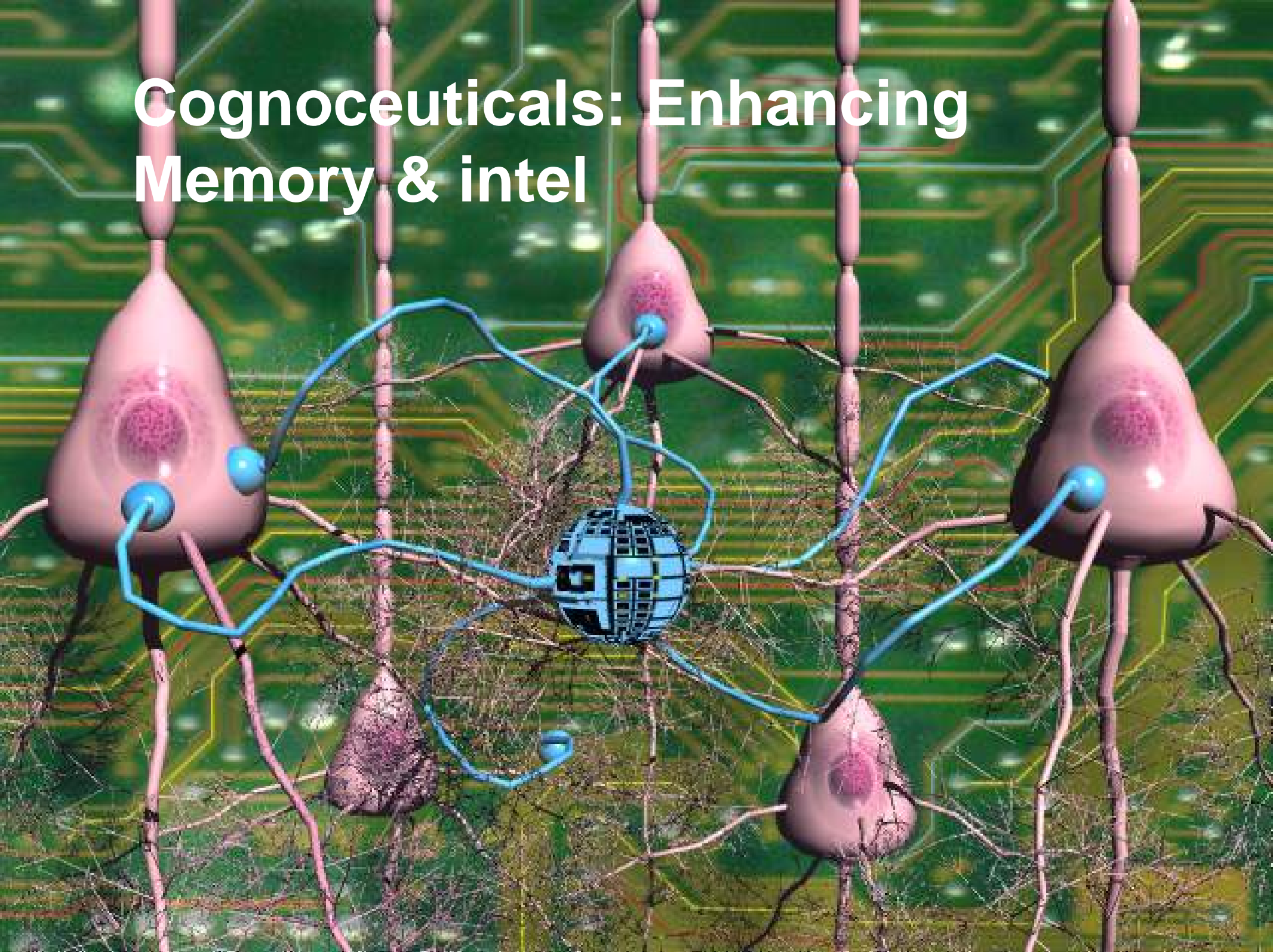




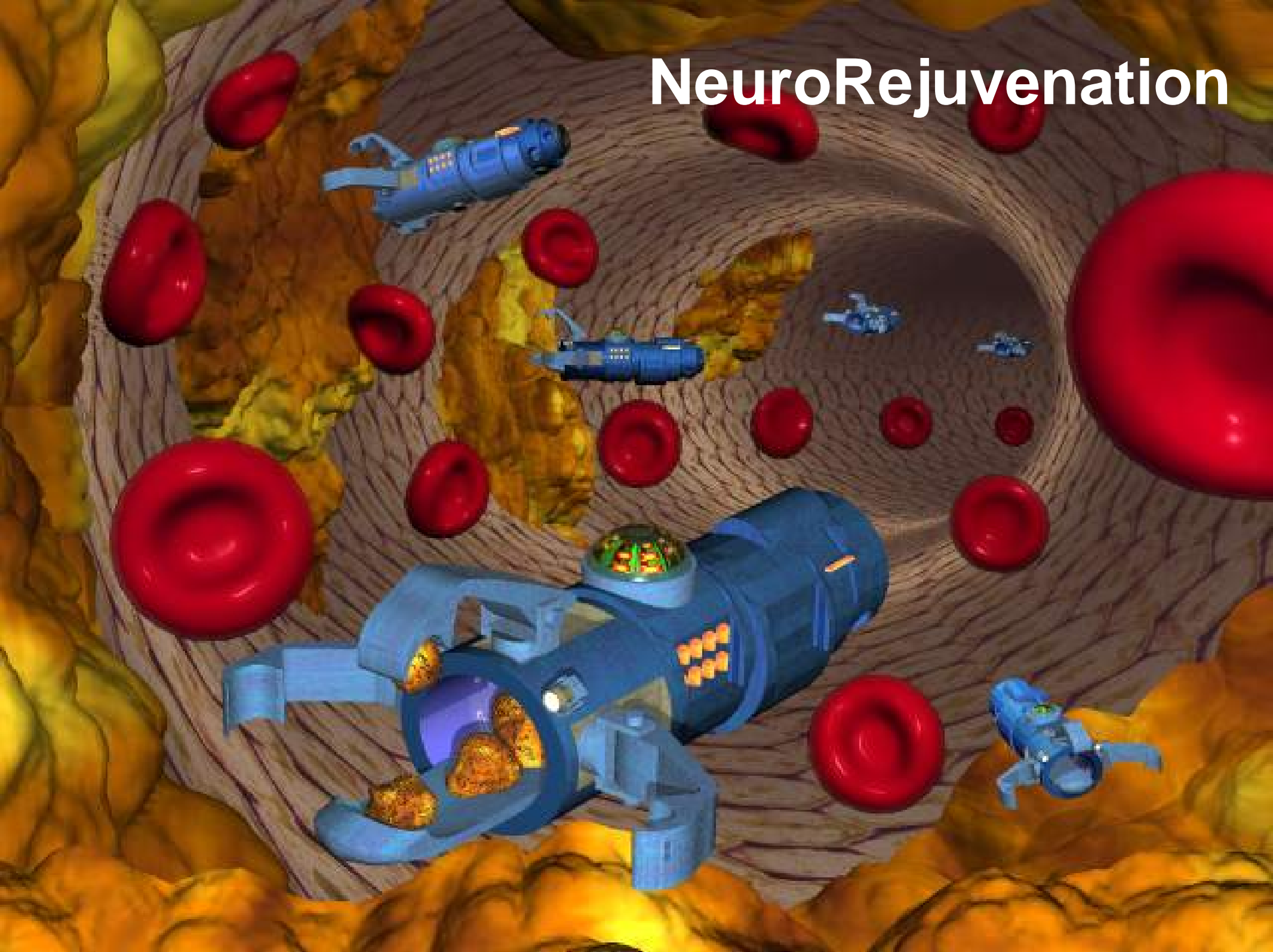
Hacking Human Evolution?



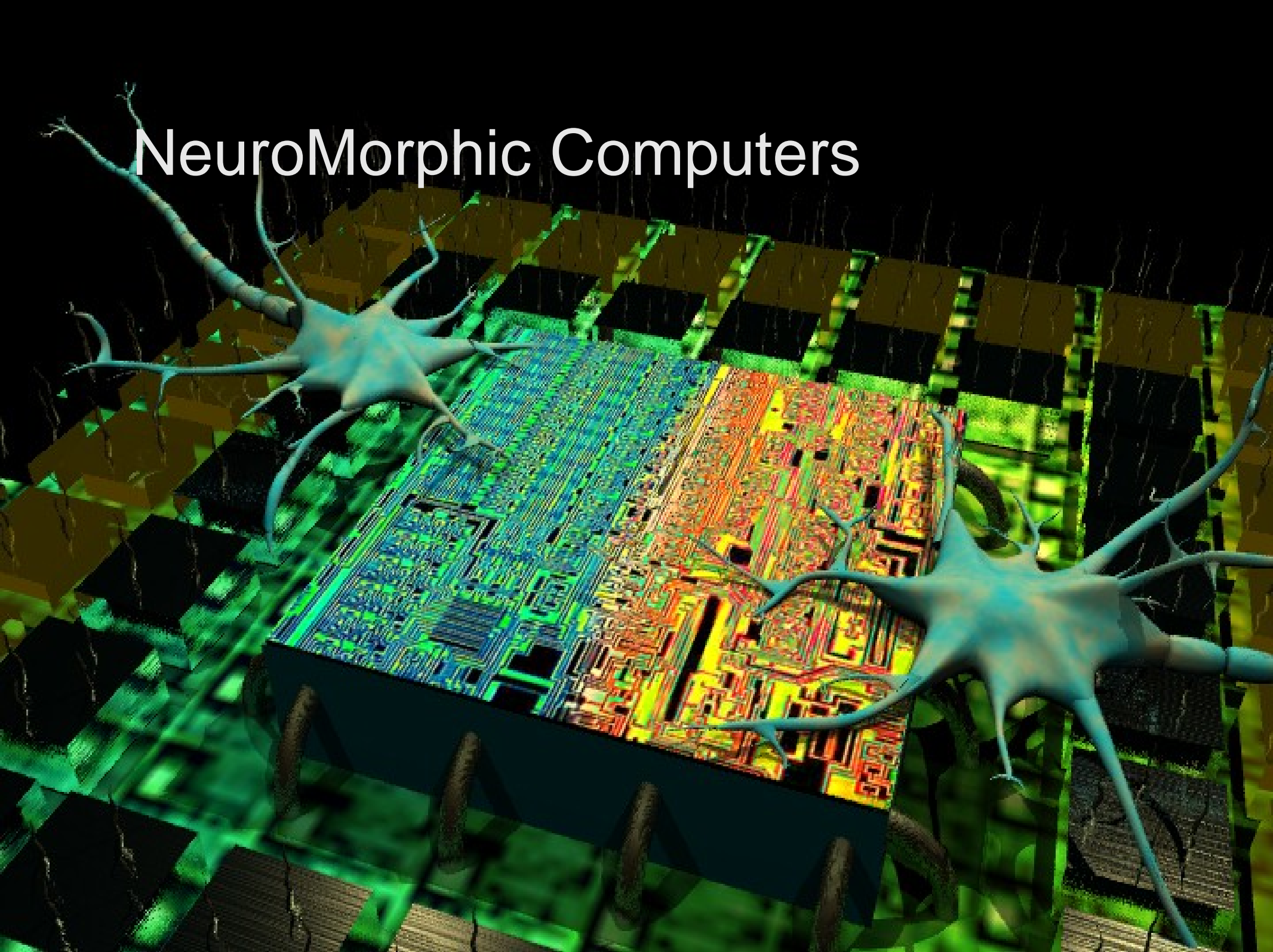
Cognoceuticals: Enhancing Memory & intel

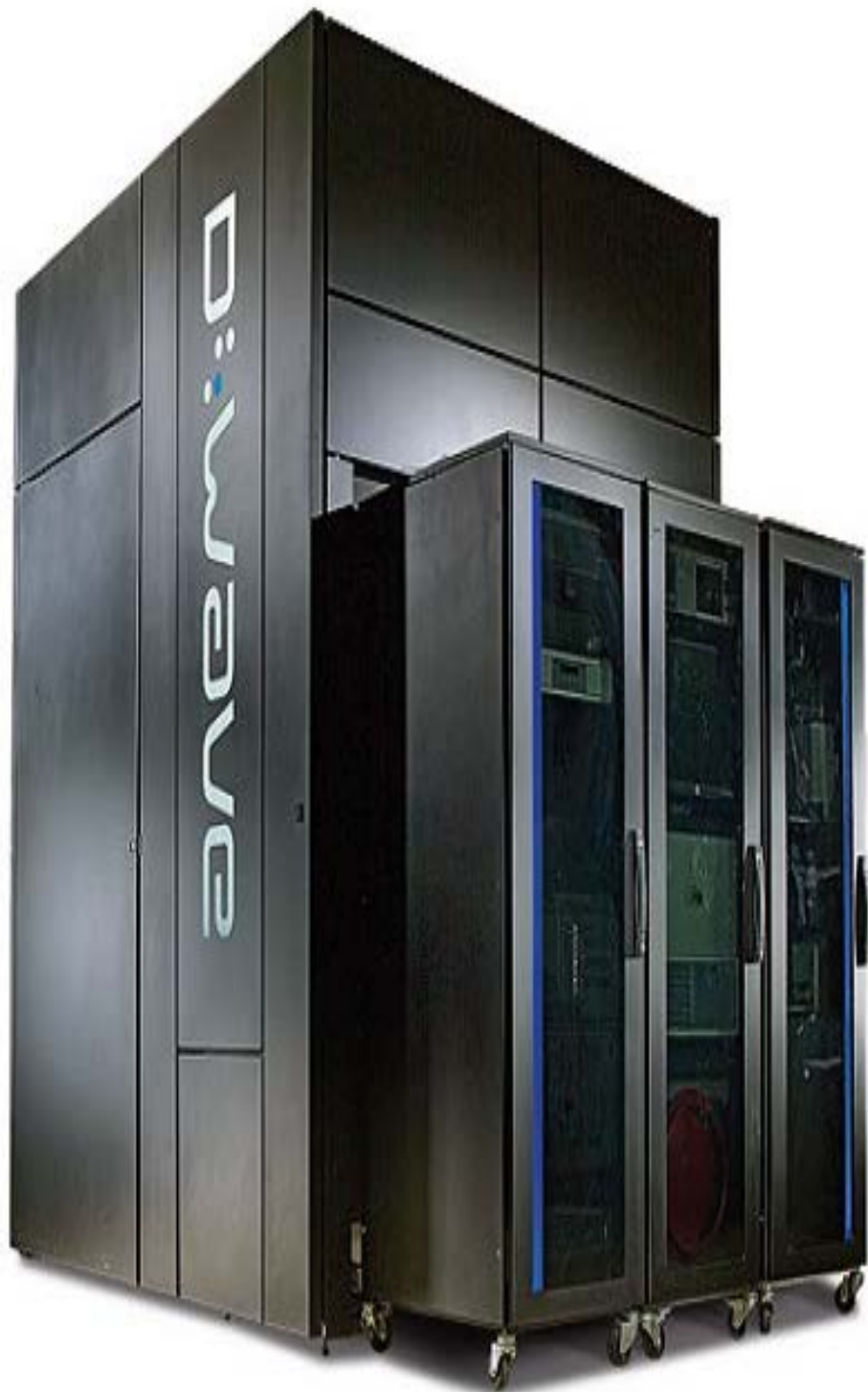


NeuroRejuvenation



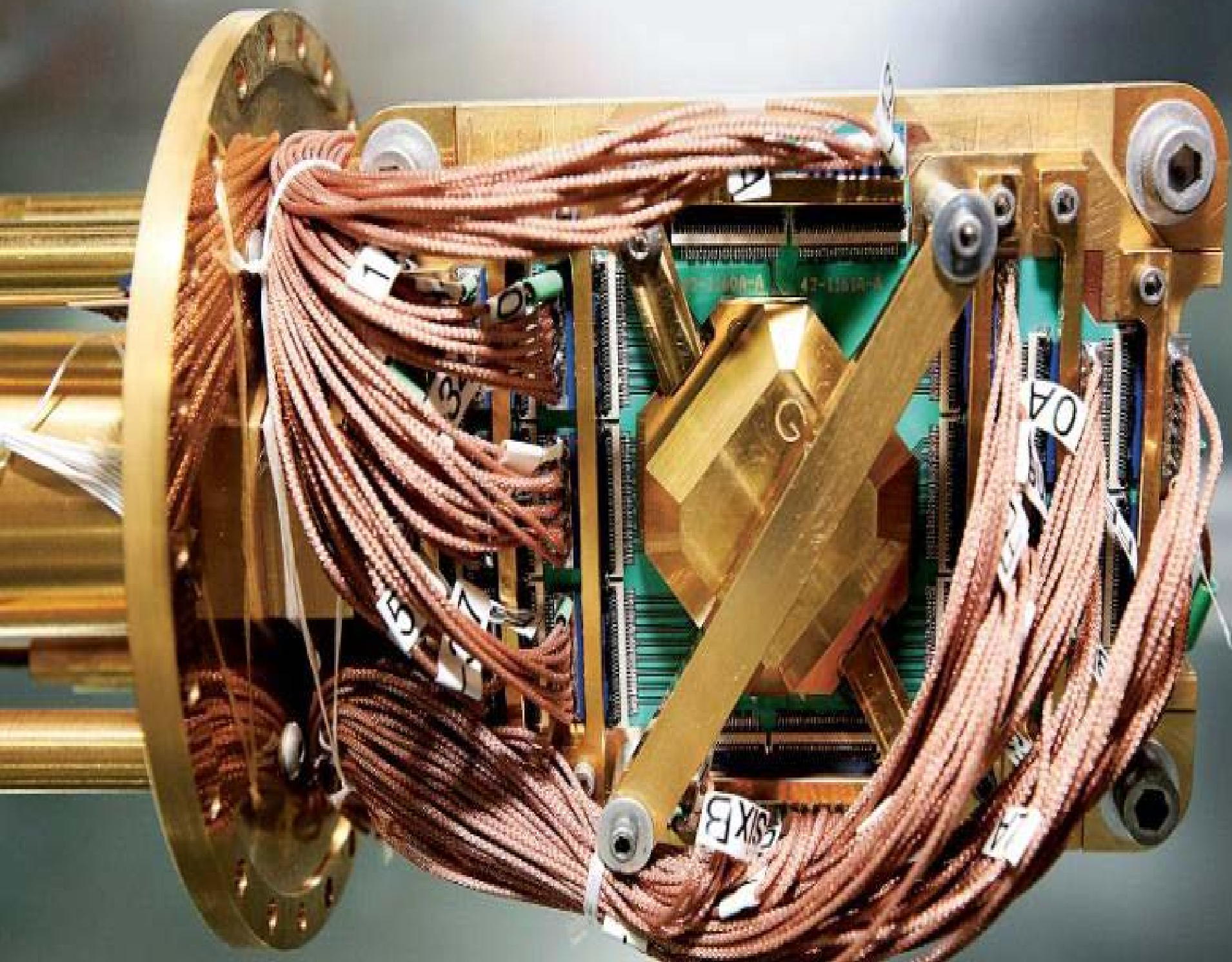
NeuroMorphic Computers

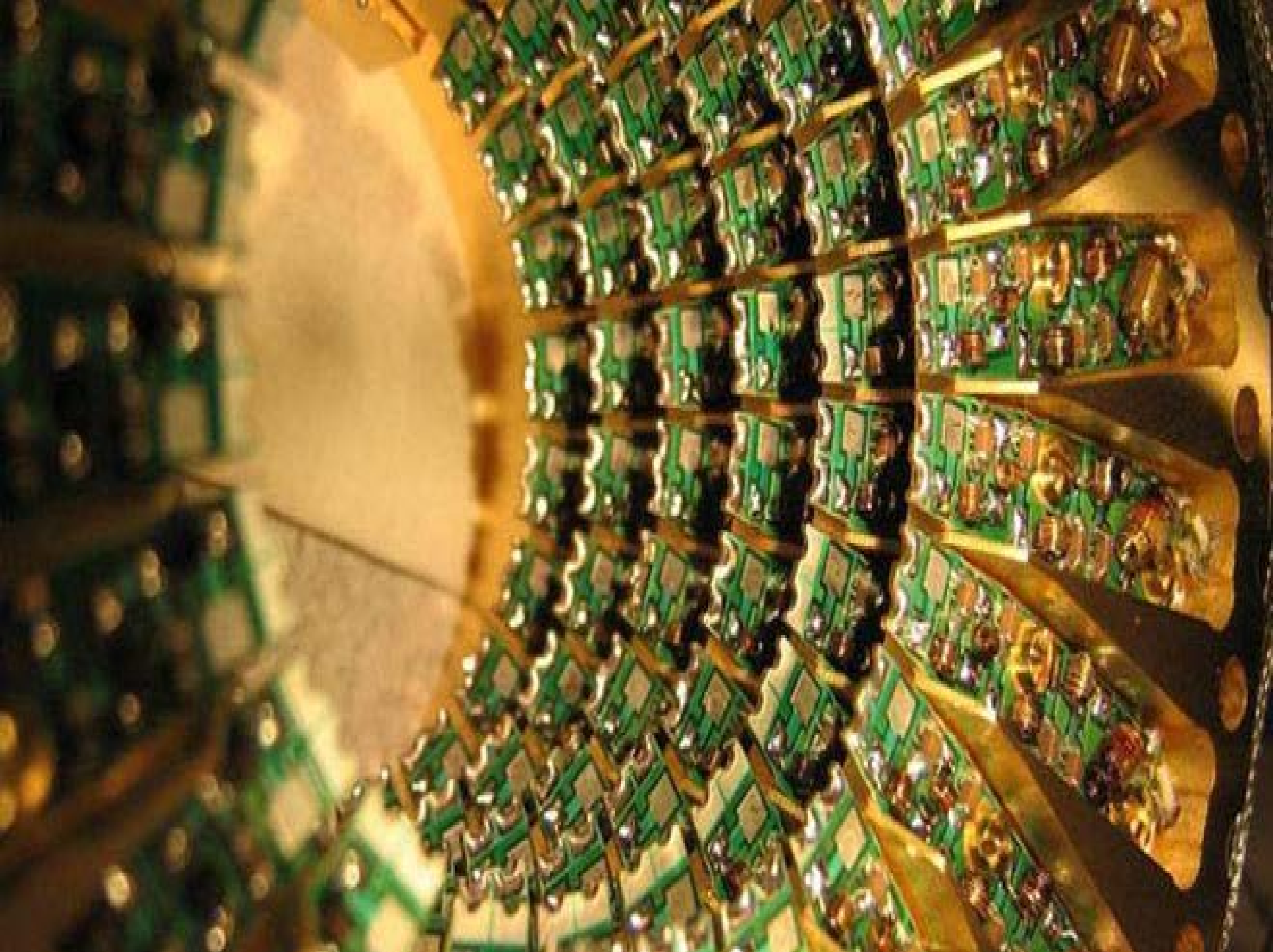




**“ OUR
QUANTUM COMPUTER
IS
100 MILLION TIMES FASTER
THAN PC.**

- GOOGLE





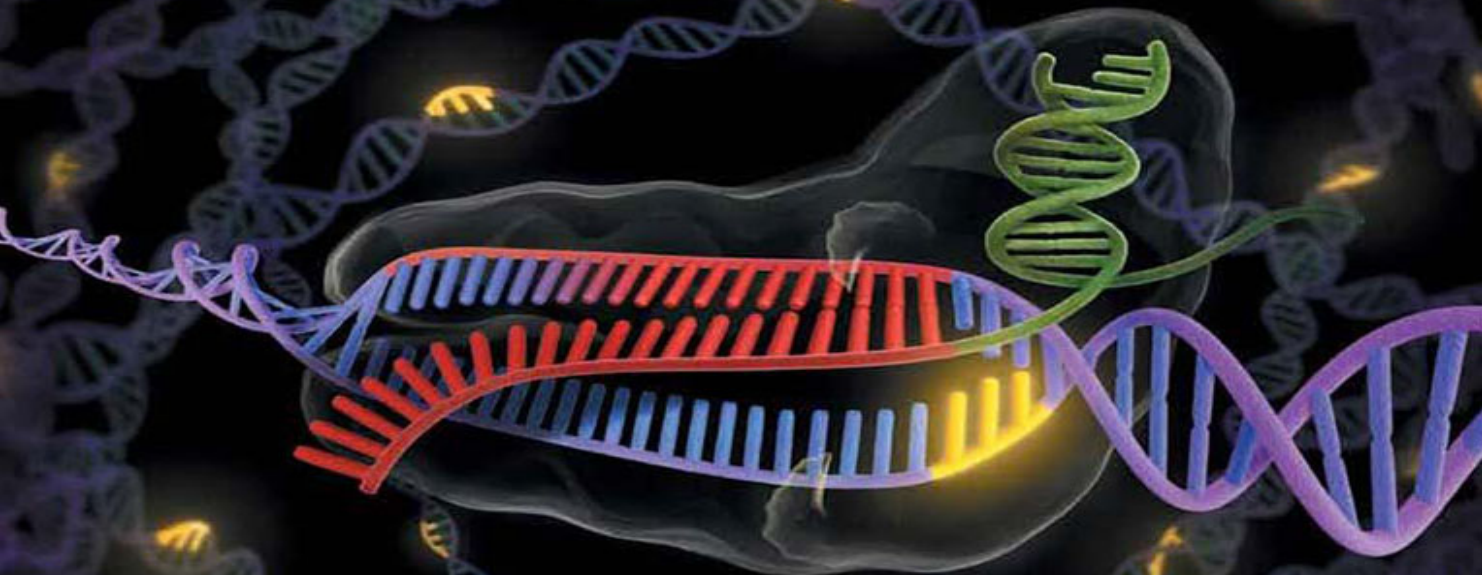


nature

THE INTERNATIONAL WEEKLY JOURNAL OF SCIENCE

OUTLOOK
Vaccines

INSTITUTE FOR
GLOBAL
FUTURES.



SEEK AND DESTROY

PAM sequences recruit and activate Cas9 endonuclease
in CRISPR/Cas9 genome-editing tool **PAGE 62**

CHEMISTRY

TAKING CHARGE

Energy storage beyond
the lithium-ion battery
PAGE 26

COSMOLOGY

STILL IN THE DARK

Where next in the search
for dark matter?
PAGE 29

DEVICE PHYSICS

SEE RADIO IN A NEW LIGHT

Laser signals from
weak radio waves
PAGES 45 & 81

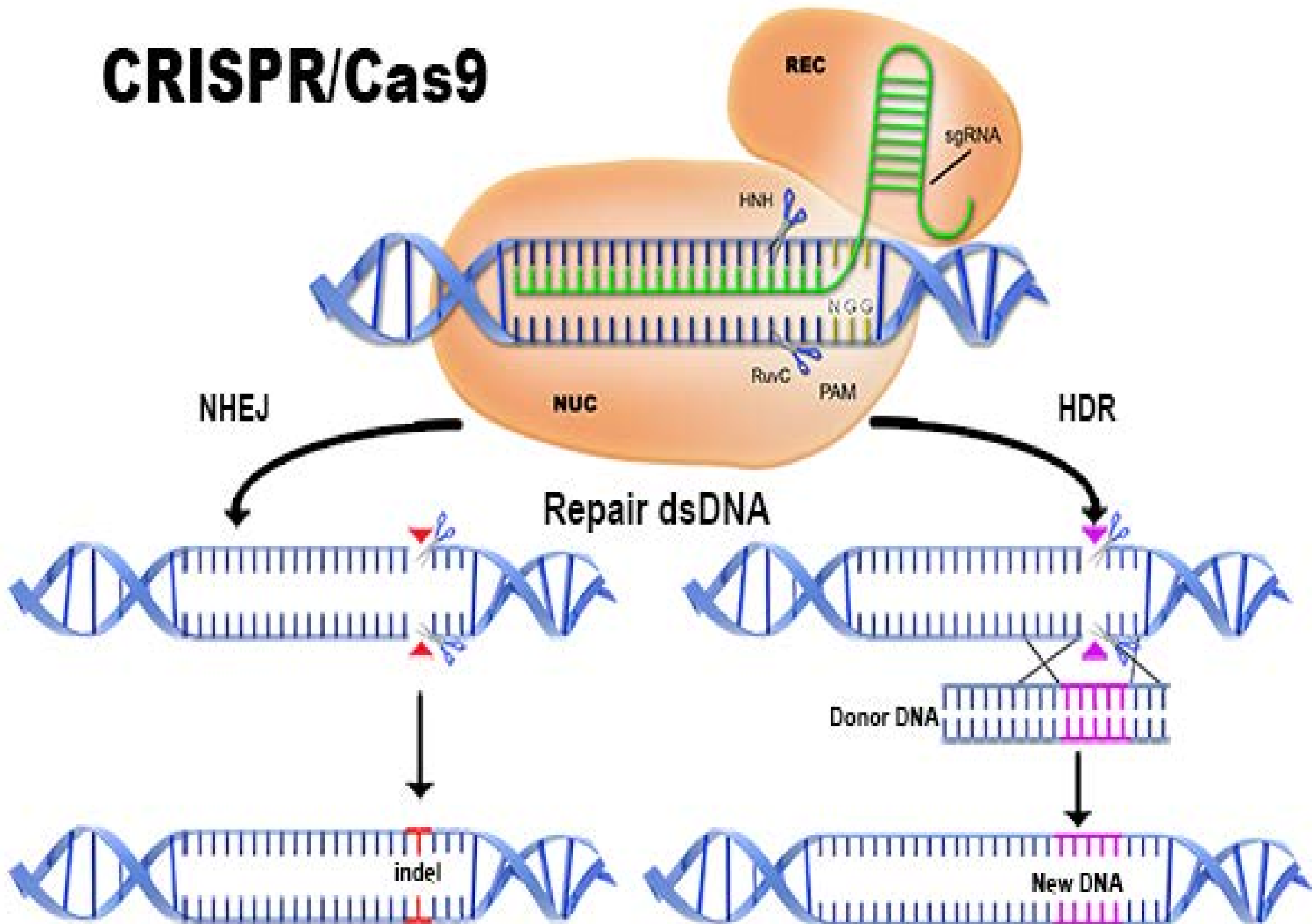
NATURE.COM/NATURE

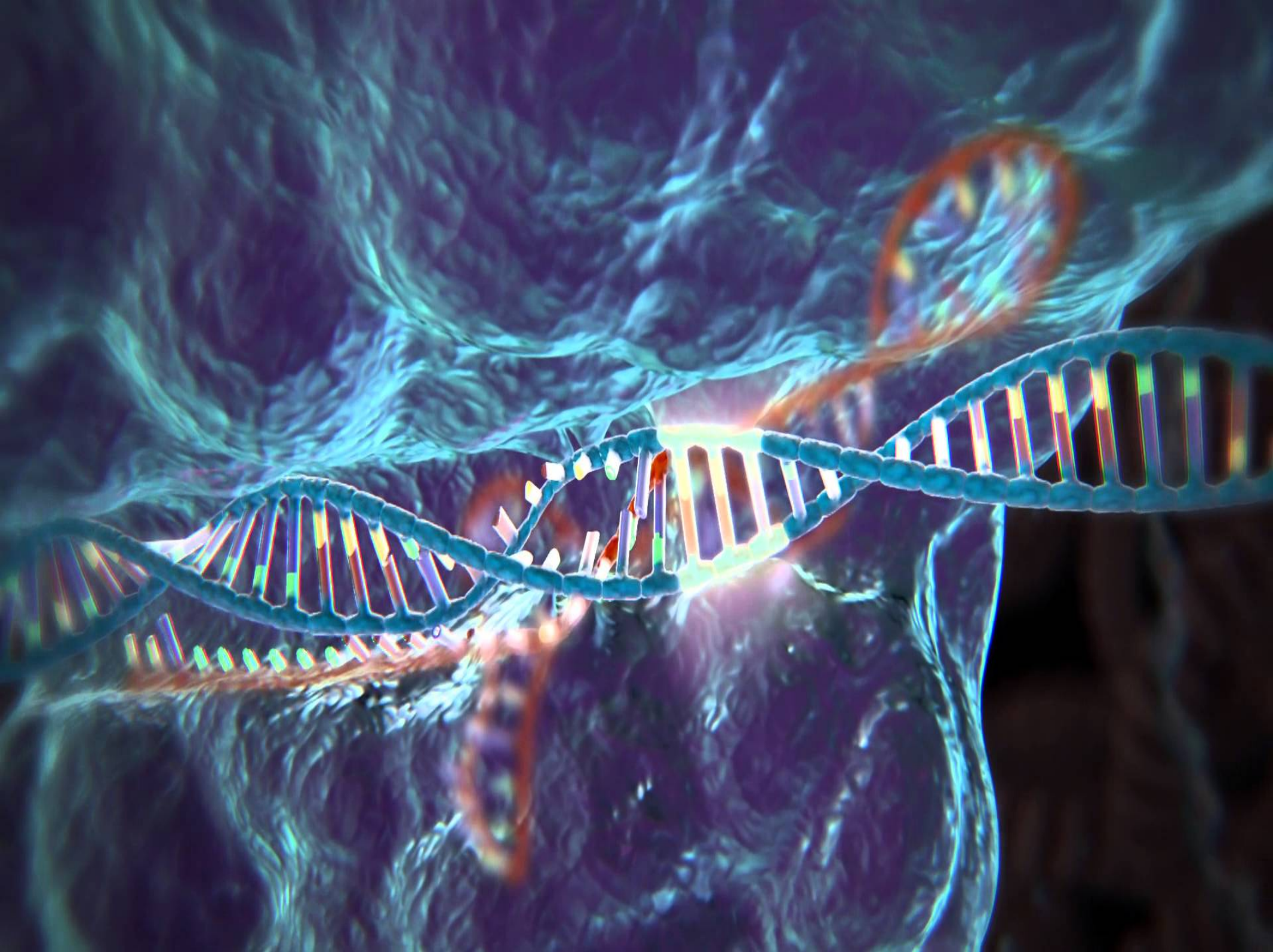
6 March 2014 £10

Vol 507, No. 7490



CRISPR/Cas9





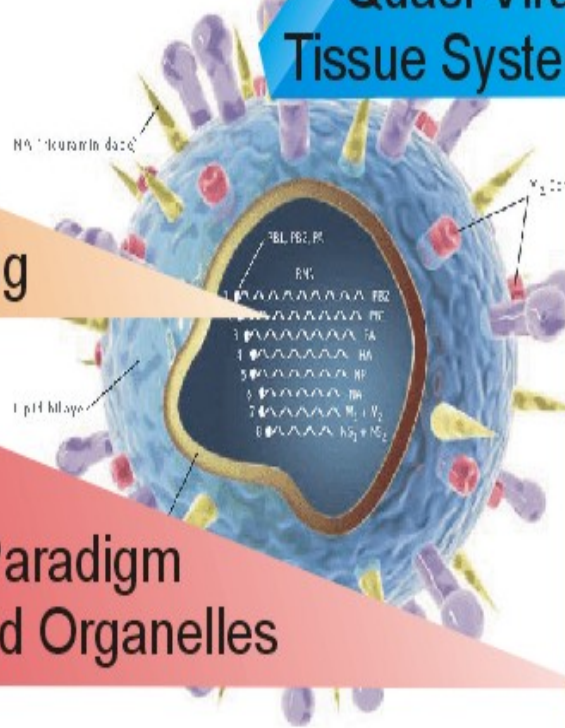
25
Years

Humanoid Biobots
Complex Proto-Lifeforms

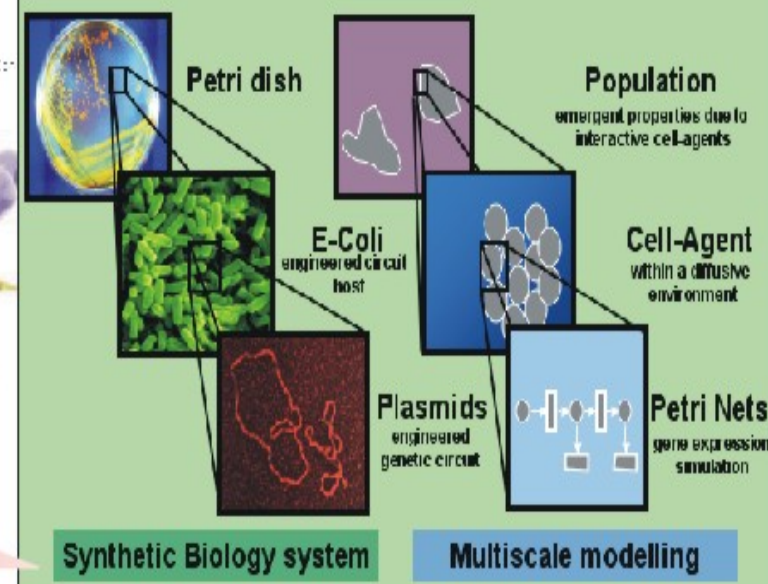


Quasi-Viral Components
Tissue Systems, Cell Matrices

Complex InSilico Biology
Genetically Selective Targeting



BioBrick Paradigm
Object Oriented Organelles

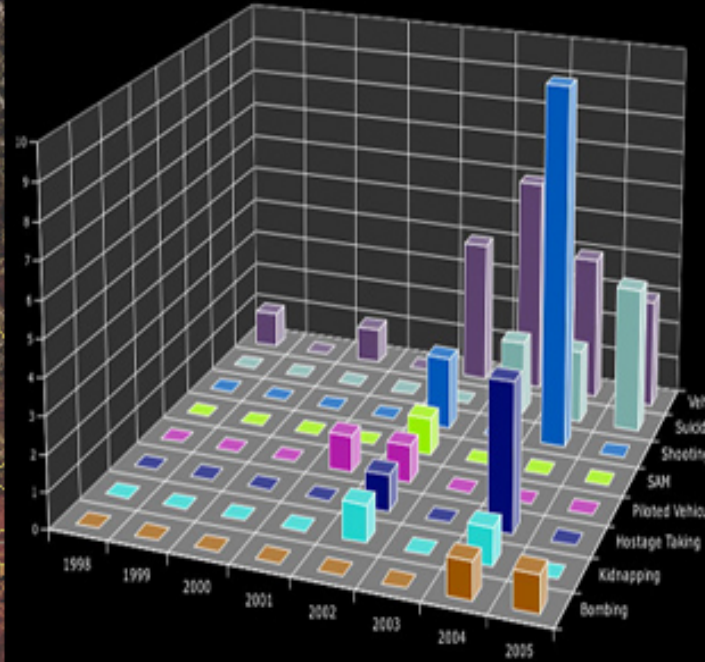
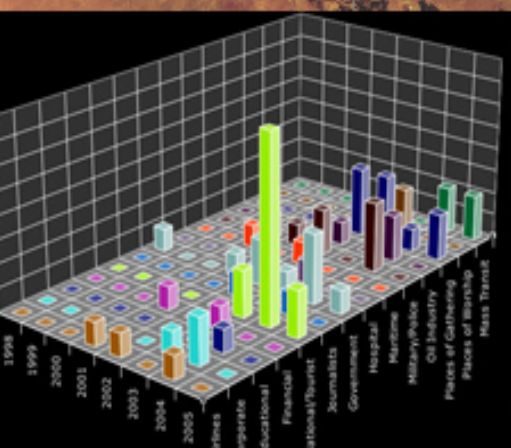
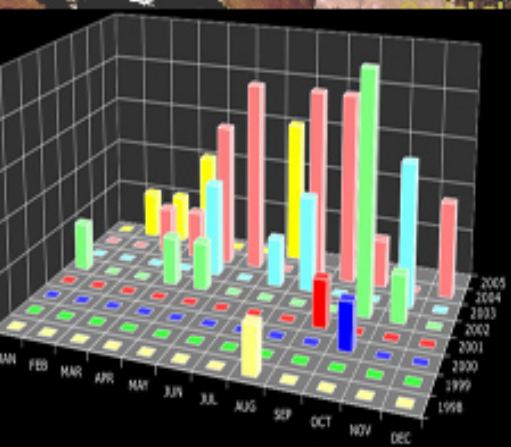
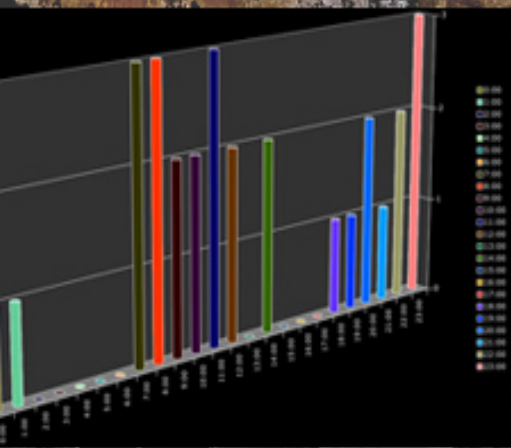


Near
Future

Weaponized Data: Fake News, Reality Hacking, Influence Engineering



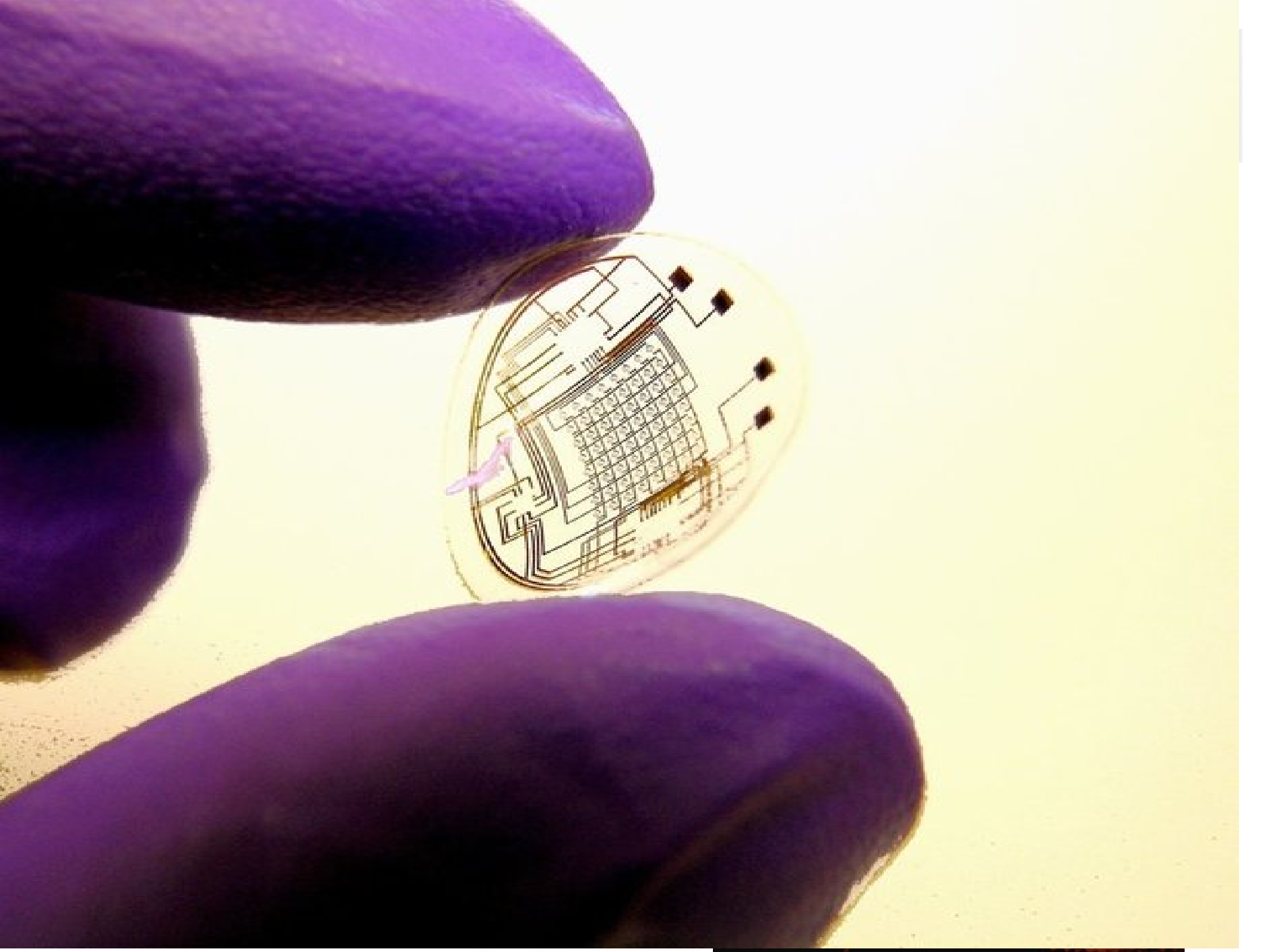
IGF Trend Tracker
ASYMMETRIC HOTSPOTS
 INT 110206-140206

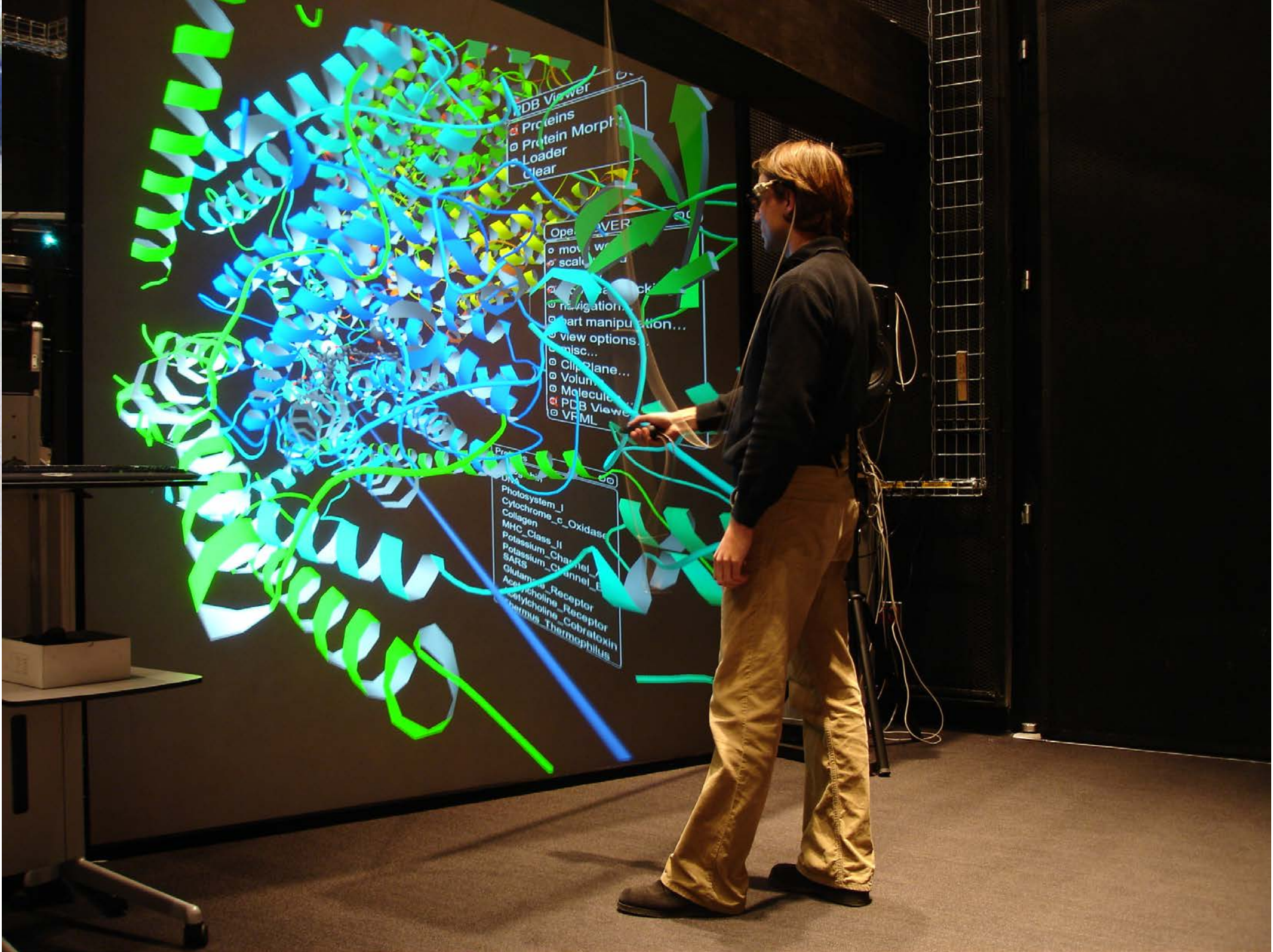


The map shows various regions in Iraq with the following labels and associated icons:

- Qada' al Miqdadiyah** (No icon)
- Qada' Ba' qubah** (No icon)
- Qada' Mandali** (No icon)
- Qada' Baghdad** (Baghdad flag icon)
- Qada' Badrah** (Iraqi flag icon)
- Qada' as Suwayrah** (Nuclear symbol icon)
- Muhafazat Wasit** (Wasit flag icon)
- Qada' al Kut** (Biohazard icon, Skull and crossbones icon)
- Qada' 'Ali al Gharbi** (Iraqi flag icon)
- Qada' al Hayy** (Tank icon, People icon)
- Qada' Afak** (Fire icon, Hand icon)
- Qada' al Hashimiyah** (Iraqi flag icon)
- Qada' al Amarah** (Iraqi flag icon)
- Qada' ar Rifa'** (HATE sign icon, Crescent moon icon, Fist icon)
- Qada' ad Diwaniyah** (Gun icon)
- Qada' as Samawah** (Globe icon, Bomb icon)
- Qada' ash Shatrah** (No icon)
- Qada' Qal'at Sa...** (No icon)

Red lines connect the hotspots to the 3D bar charts on the left side of the image.





PDB Viewer
Proteins
Protein Morph...
Loader
Clear

Open...
OVER...
mov...
scal...
navigation...
chart manipulation...
view options...
misc...
Clip Plane...
Volume...
Molecule...
PDB Viewe...
VFML

Photosystem_I
Cytochrome_c_Oxidase
Collagen
MHC_Class_II
Potassium_Channel_A
Potassium_Channel_B
SARS
Glutamate_Receptor
Acetylcholine_Receptor
Glycylcholine_Receptor
Thermus_Thermophilus

3D Manufacturing

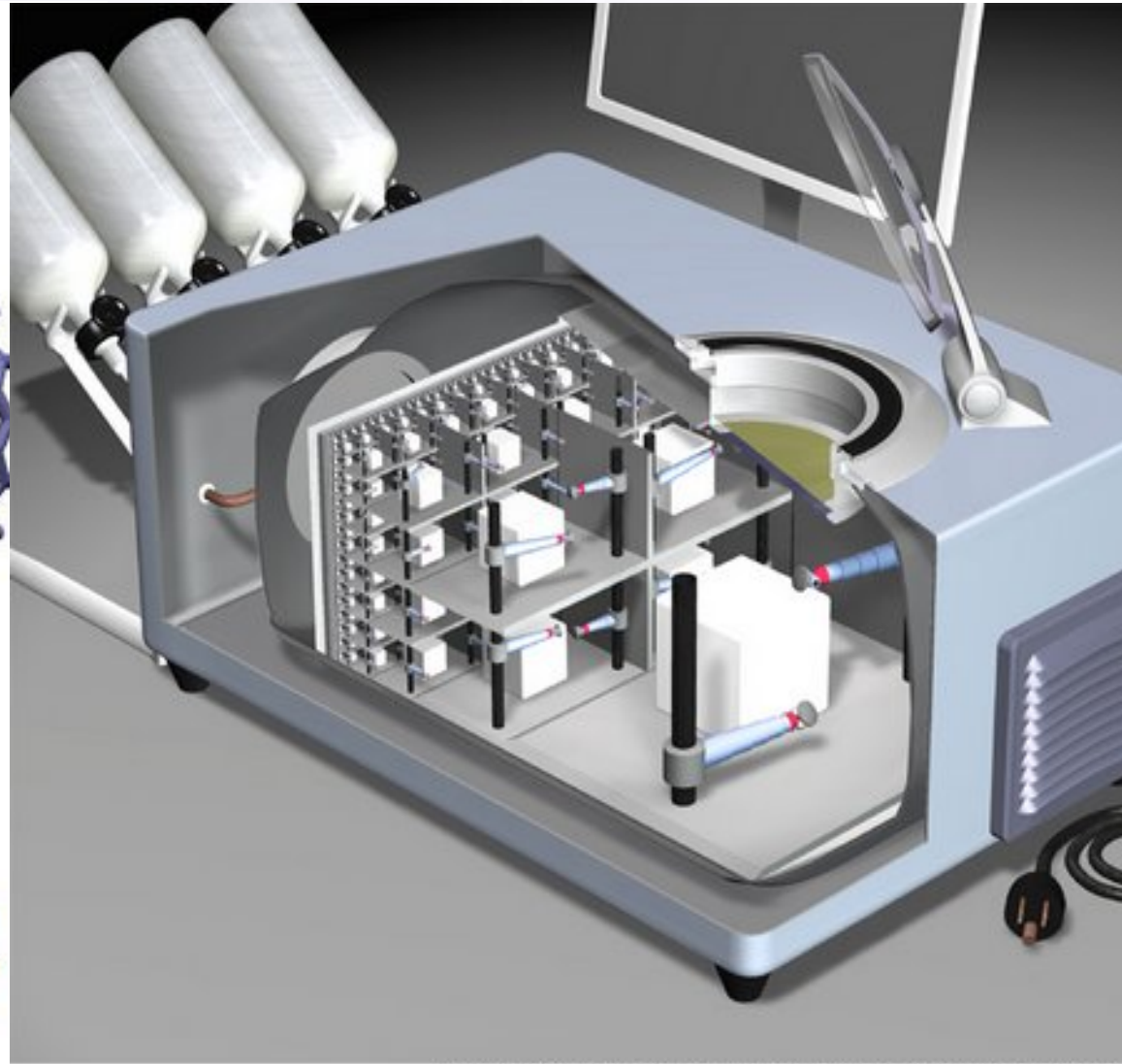
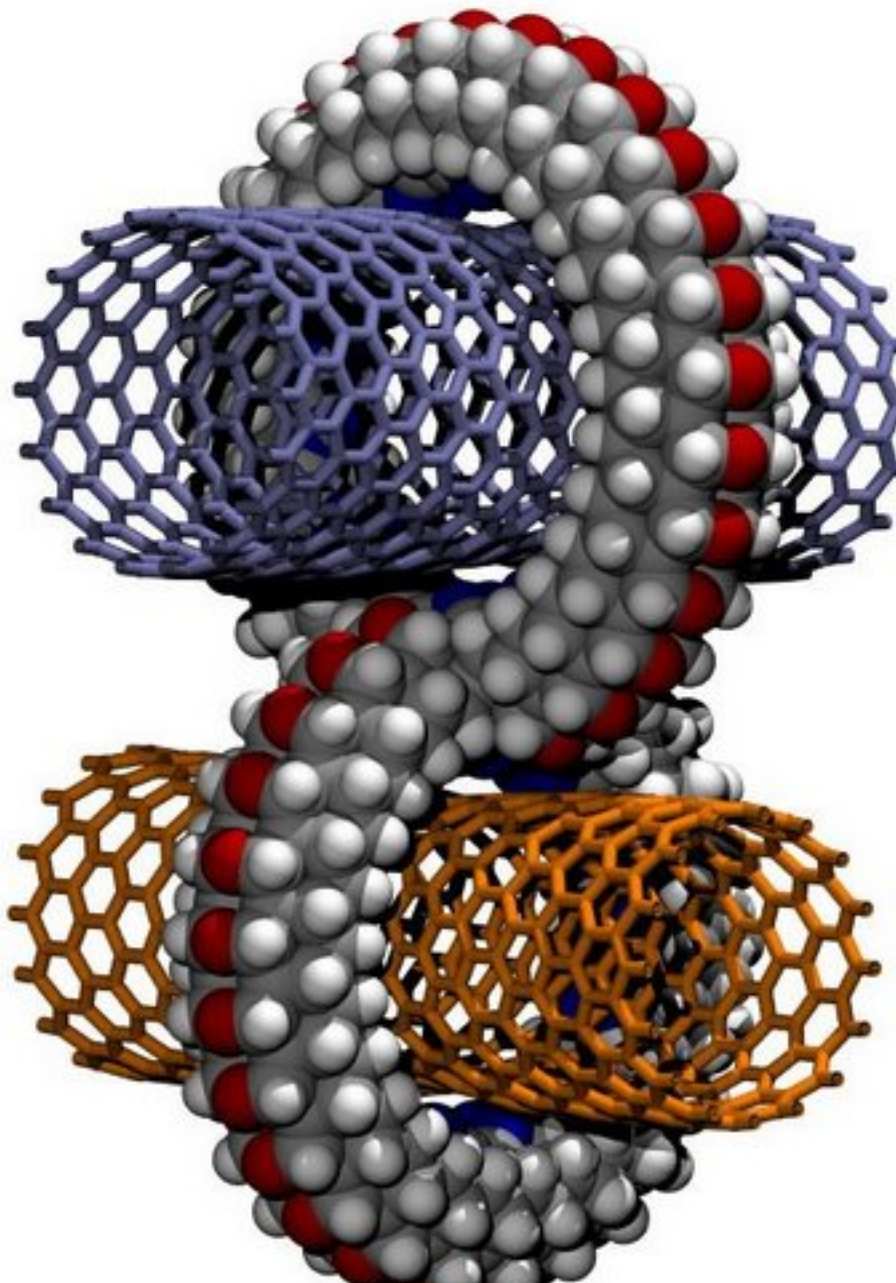
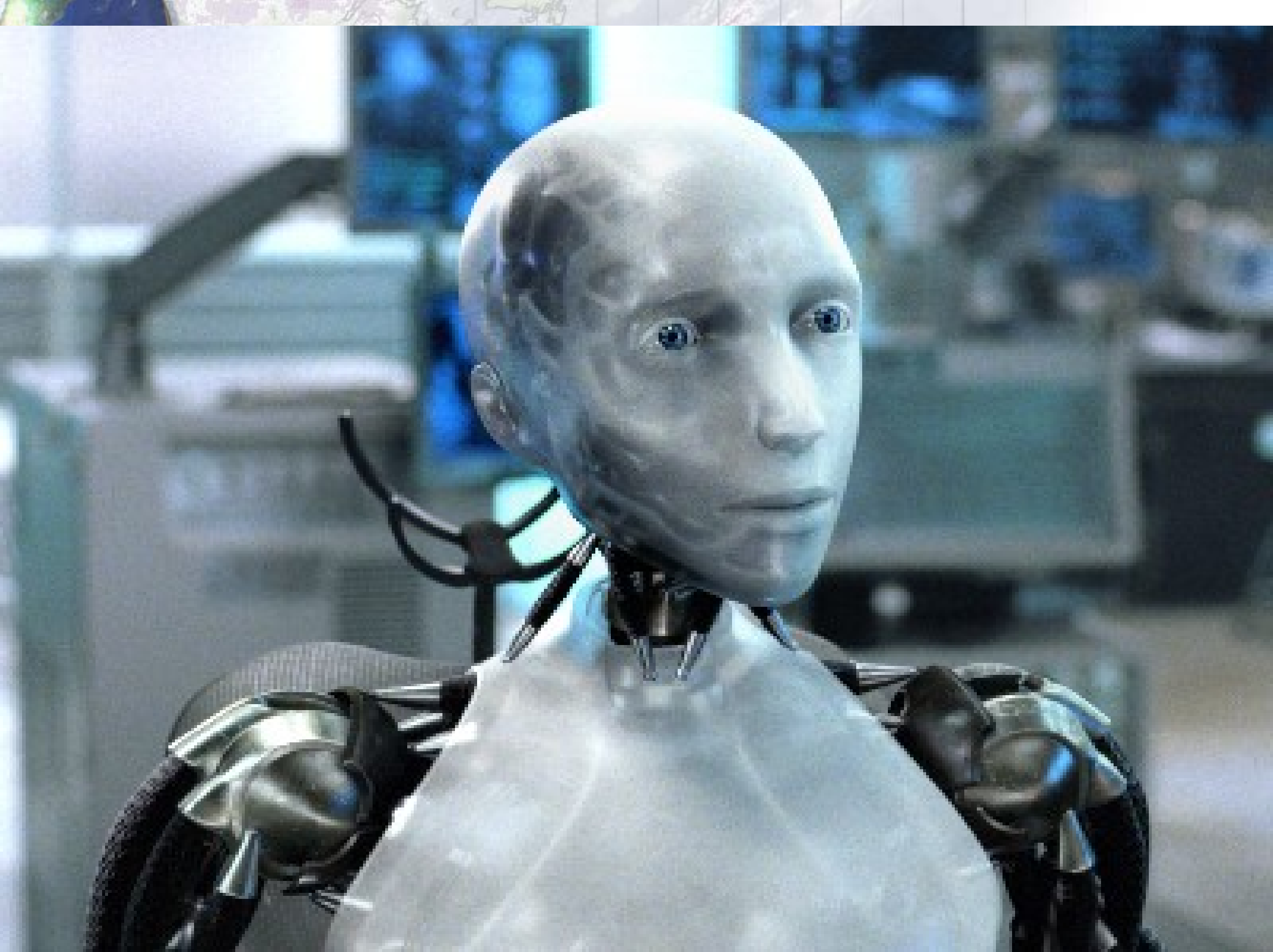


Image by John Burch, Lizard Fire Studios, <http://www.lizardfire.com>

Proposed desktop-scale molecular manufacturing appliance. Tiny machines join molecules, then larger and larger parts, in a convergent assembly process that makes products such as computers with a billion processors. (Parts shown as white cubes)









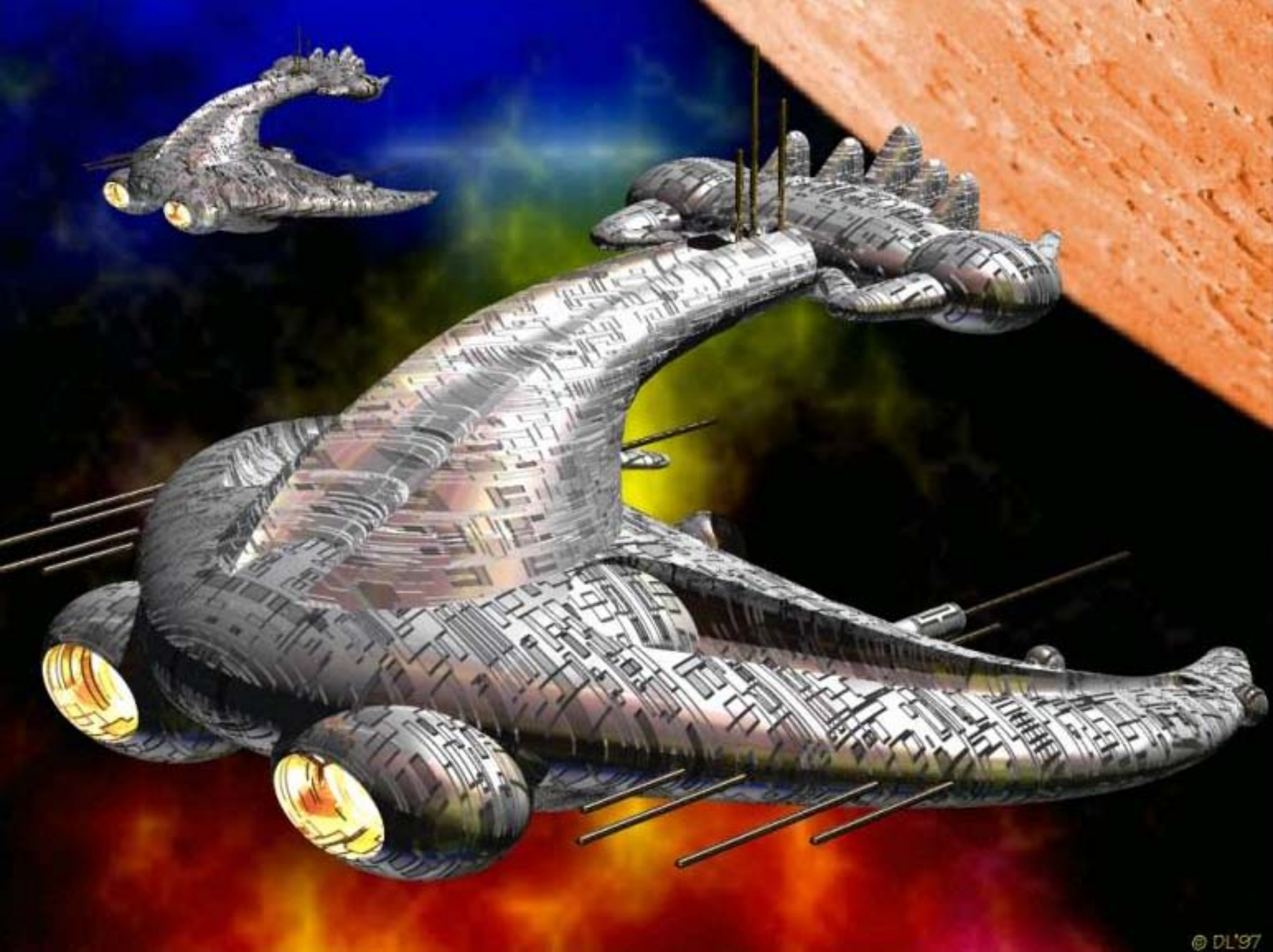
Human or Foe?



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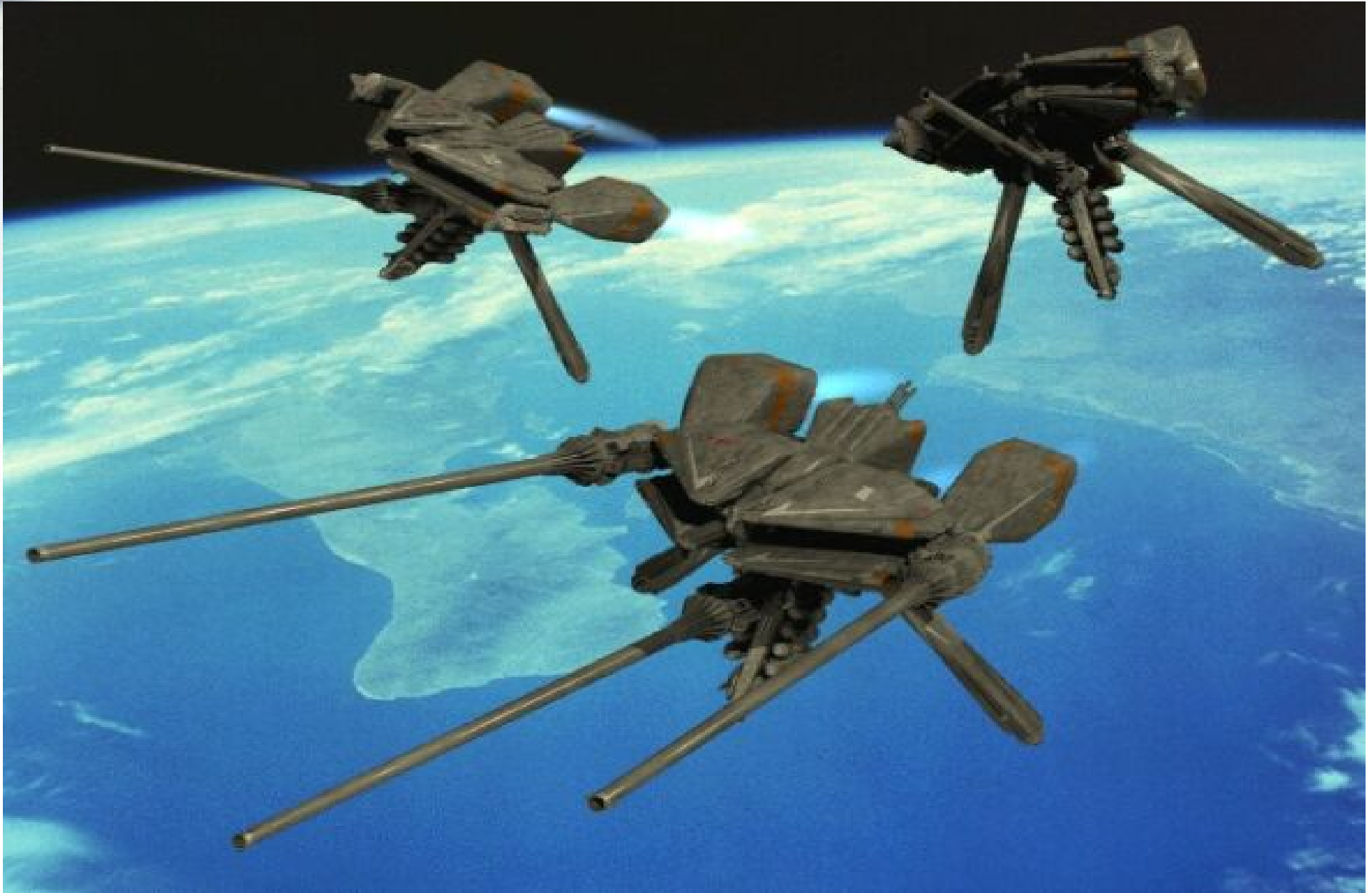








SPACECOM 2.0

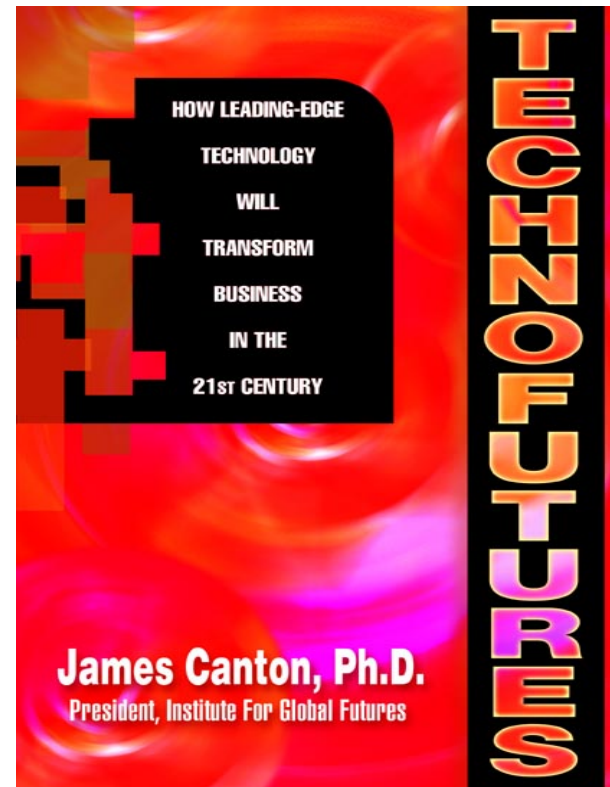


Summary

- Tech Convergence will shape the future threat and counter threat space of 2030-2050
- Get Future-Ready Now



GlobalFuturist.com



Jcanton@futureguru.com