

# Innovation in Health Care

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András Pellionisz, Ph.D.  
Silicon Valley, California, USA

*Areas of innovation particularly  
preferable for a USA-Hungarian  
cooperation - lessons of 45  
years in Silicon Valley,  
California*

andras@pellionisz.com  
holgentech@gmail.com



In Silicon Valley, *Innovation* is not one thing. Innovation is either/or an *Invention* and/or a *Development* (*Találmány* illetve *Fejlesztés*)

Silicon Valley does both very well, E.g. Edward Teller was an Inventor (of the H-bomb, also one of its Developer). Andy Grove was a Developer (of the computer chip – that he did not invent)

Assuming that we want to learn from Silicon Valley, Hungary may also want to distinguish Invention from the rather different Development.

Moreover, Invention (találmány) fits Hungary very well (magyarok találékonyak) – while development often may not be a winning proposition for us (kevesebb pénzzel fejlesztéseink lemaradhatnak )

Assuming that our Innovation will increasingly favor Inventions, what are lessons of Silicon Valley?

- 1) Promote “areas of inventions” for the greatest market
- 2) Protect Intellectual Property in the greatest market (US patents, trademarks etc)
- 3) Focus limited funds of Hungary for Development of Prototypes (Validation of IP)

# Lucrative fields of Invention from Hungary to US Markets:

1) Extend Gene-Based Precision Medicine to Whole Genome-based Analysis (own contribution is a US patent „fractal genome grows fractal organisms”, FractoGene US 8,280,641)

2) Robotic surgery (da Vinci, Sunnyvale)

3) Medical laser surgery and LED imaging

4) Neural networks-based technology of autonomous vehicles (own contribution F15 emergency-landing re-configuration. A patent-example that was very lucky to find a most lucrative US defence market!)

# How to Innovate in US Siliconvalley Style

MAKE A GOOD IDEA AN INVENTION

- ADDRESS EXISTING MARKET (HEALTH CARE)
- PROTECT IP WITH PATENT & TRADE SECRETS
- DEVELOP PROTOTYPE

Valuation Model

$$Y=C*(x+X)$$

Where x is the value of naked IP (\$100k-\$300k)

X is the investment needed for Prototyping (\$0.25-5M)

C = 100 to 50,000 (Skype)

## Silicon Valley, California – and a small EU Country

Tell the Skype Story

Tiny Estonia and Vast, US-led Global Market

Initial \$ 0.25 M Silicon Valley Investment Returned  
50,000 times !

# invent.USA-SiliconValley Style

MAKE A GOOD IDEA AN INVENTION

- **NASA Ames Research Center; F15 Fighter Airplane**
- **Grail, Inc. (\$1 Bn for Precision Medicine)**
- **Autonomous Cars (Tesla, Apple, Google)**
- **da Vinci Robotic Surgery (Sunnyvale)**

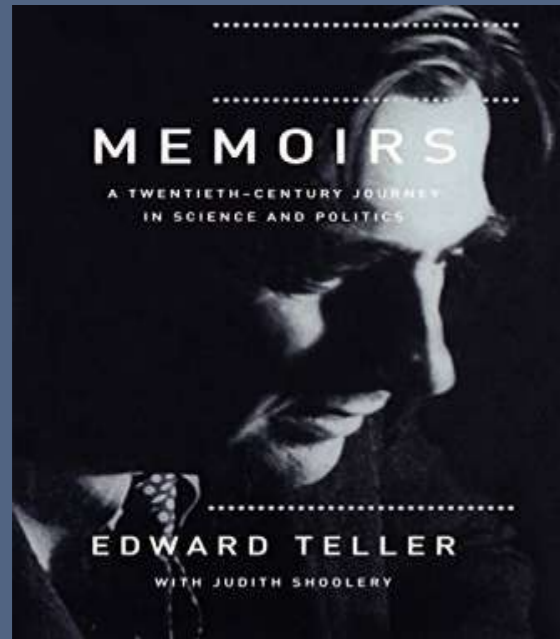


# INVENTION – MY EXPERIENCE

US PATENT 4,450,530 - F15 LANDS WITH ONE WING

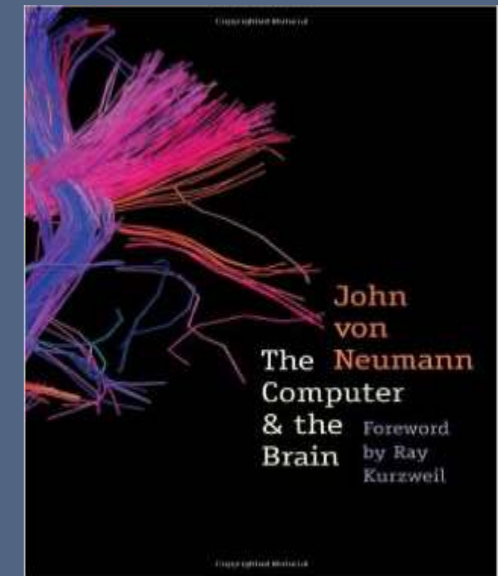
US PATENT 8,280,641 - PRECISION MEDICINE





**< Edward Teller**  
XX. Century of Physics, XXI. Biology

**John von Neumann >**  
The Computer and the Brain



**Pellionisz >**  
**János Szentágothai >**  
The Cerebellum as a  
Neuronal Machine





# US Patent “Sensorimotor Coordination” - F15 Fighter Jet



- F15 Lands with One Wing [link YouTube](https://www.youtube.com/watch?v=M359poNjvVA)
- Israel has not lost a single F15 in all wars !



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USA patent 8,280,641 to Pellionisz

**FractoGene:**

**Fractal Genome Grows Fractal Organisms**

Utility: Statistical Diagnosis and Probabilistic Prognosis  
and Precision Therapy e.g. for *Cancer*



## US Patent Office Issues FractoGene Patent to HolGenTech Founder Pellionisz

HolGenTech Inc., a pioneer in genome interpretation, announces that the USPTO issued patent No. 8,280,641 for a “Utility of Genomic Fractals Resulting in Fractals of Organisms” to founder Dr. Andras Pellionisz.

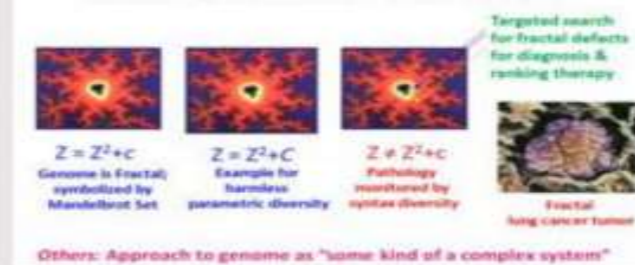
**SUNNYVALE, CA (PRWEB) OCTOBER 02, 2012**

US Patent Office Issues FractoGene Patent **8,280,641**

Recognizes breakthrough research; validates business model.

This method and system is critical to the application of industrial genomics in clinical settings, most especially in the fight against cancer. The computation of genomic fractal defects can parse individual diversity from pathology, and thus represents a quantum

### Identification of “Complex Systems” PELLIONISZ’ PROPRIETARY FRACTAL APPROACH TO GENOME ANALYSIS AND INTERPRETATION



Fractal Approach to  
Genomics