SINOVATION VENTURES

# “AI + Healthcare” Challenges & Opportunities

**Dr. Kai-Fu Lee**
Chairman & CEO, Sinovation Ventures
President, Sinovation Ventures AI Institute

# AI + Drug Discovery: Significant Cost- and Time-saving

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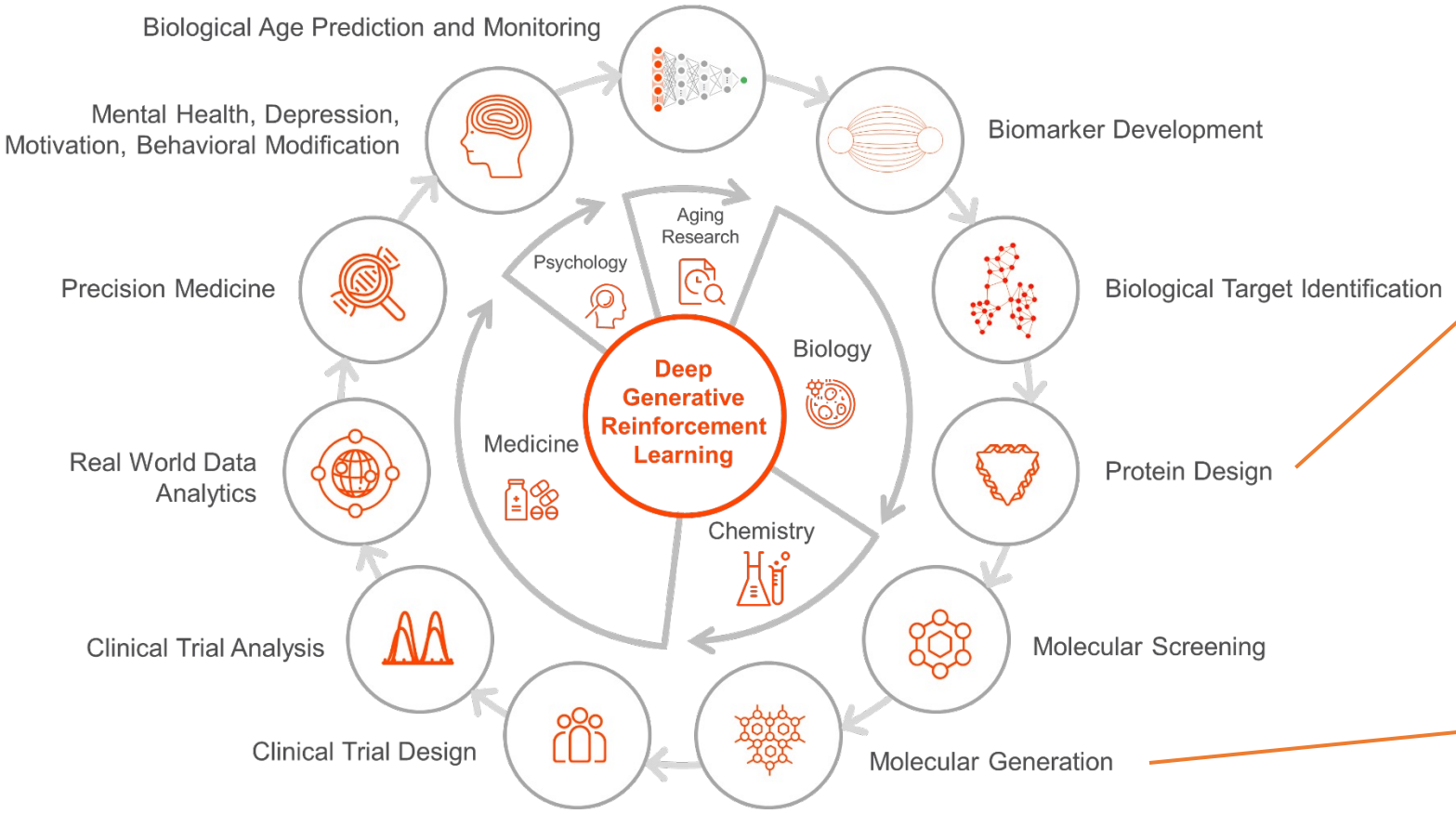


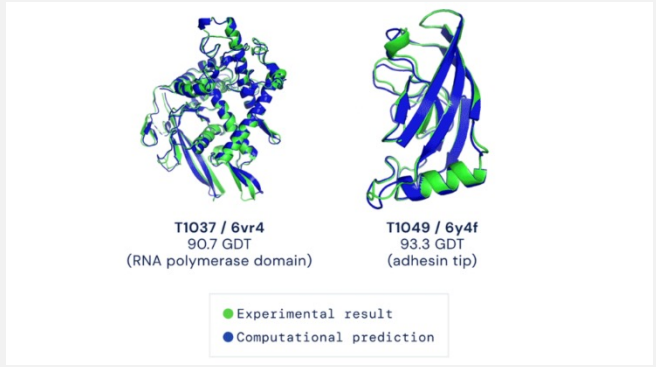


- Protein structures can be predicted using amino acid sequence

Insilico Medicine

- Machine learning AI methods such as GAN and GL can be deployed to generate innovative and special new drug molecules

# AI + Multi-omics: Make Precision Treatment Possible

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## Emerging biotechnology platforms generates multi-omics data + AI

Genome

Epigenome

Transcriptome

Proteome

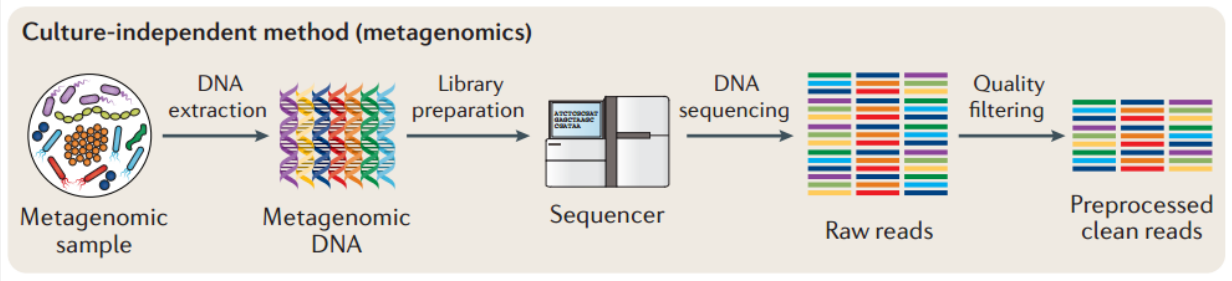
Metabolome

Microbiome

- Multi-omics data is complex.  AI can help with joint analysis of multi-omics data
- AI + multi-omics data can screen new biomarkers and develop precise diagnostic solutions, and also find new therapeutic targets to assist with development of new therapies

予果生物 HUGO BIOTECH

- Infection diagnosis has been a long-time pain point for medical clinics. Development of diagnostic products are based on metagenomic (mNGS) sequencing and nanopore sequencing
- "Gene data + medical data + AI" may improve the accuracy of diagnosis and is an innovative digital solution that changes the diagnosis and treatment paradigm



# AI + Medical Robots: Enhance Surgical Accuracy

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**Laparoscopic Robot**

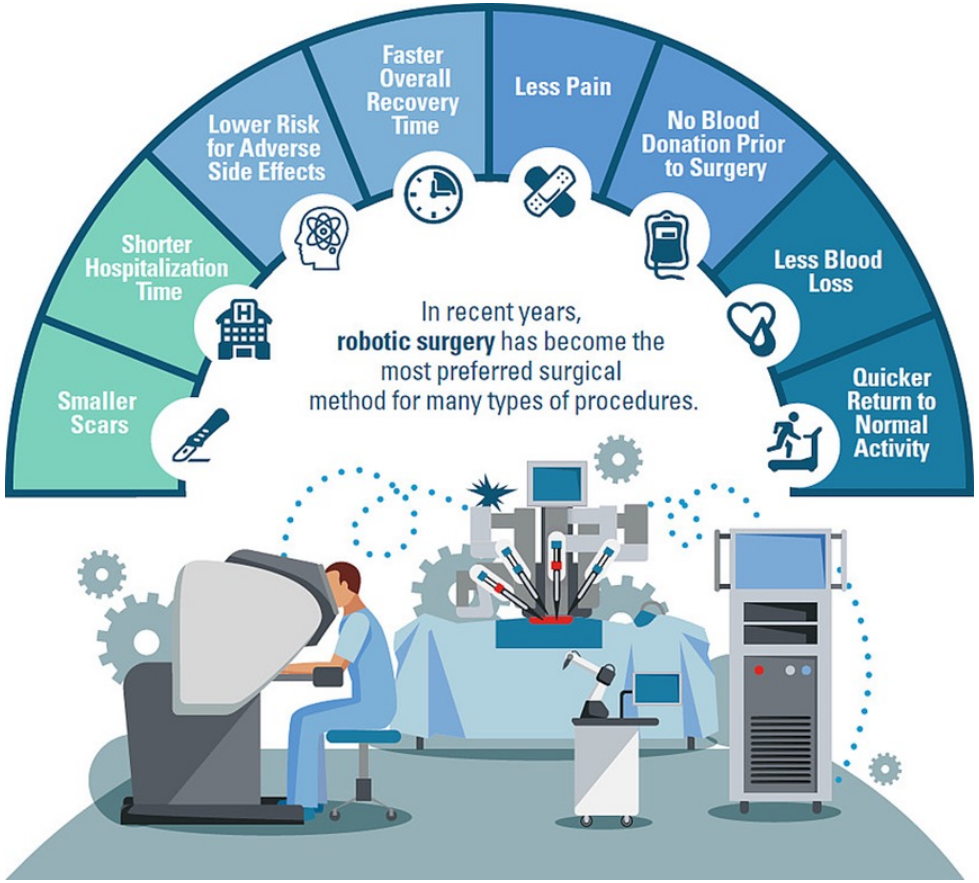
The Da Vinci Robot

**Neurosurgery Robot**

ROSA Brain Surgery Robot

**Orthopedic Robot**

Mako Joint Surgery Robot




## Rise of AI surgical robots

- AI-powered surgery: an important application scenario for AI. High quality and large-scale patient data is critical to the successful combination of AI-healthcare
- AI technical prowess: due to the data-driven nature of AI, it can avoid building complex biomechanical models and instead learn directly from data gathered
- Surgical accuracy: by improving the robotics-Markov model, neural and fuzzy networks, surgical accuracy can be highly improved