

Synthetic Biology

- Production of Natural Products from any Organism (1,000,000)
- Generation of New Species by Extensive Changes in DNA Sequence (every third base)
- Need New Technology for DNA Synthesis

Wearable biosensors for Perspiration Analysis

Sam Emaminejad – Wei Gao – Samyuktha Challa
Ali Javey



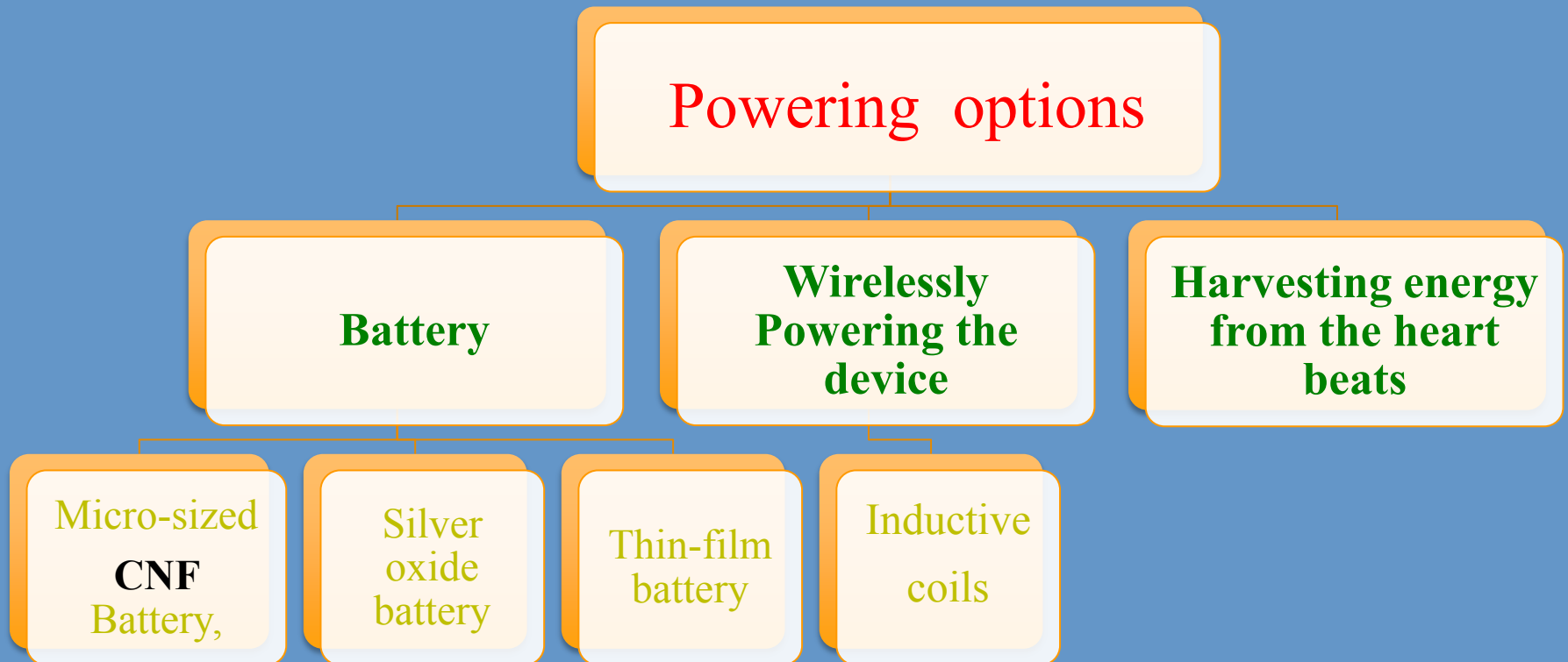
Electrically induce sweat and measure molecular components. Transmit by bluetooth

Implanted Biosensors

Nano Fabricated Biosensors

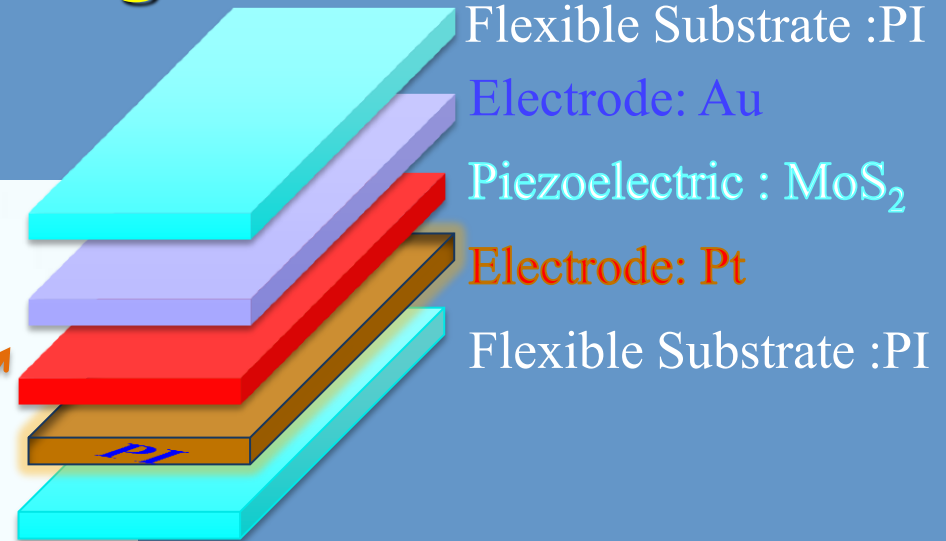
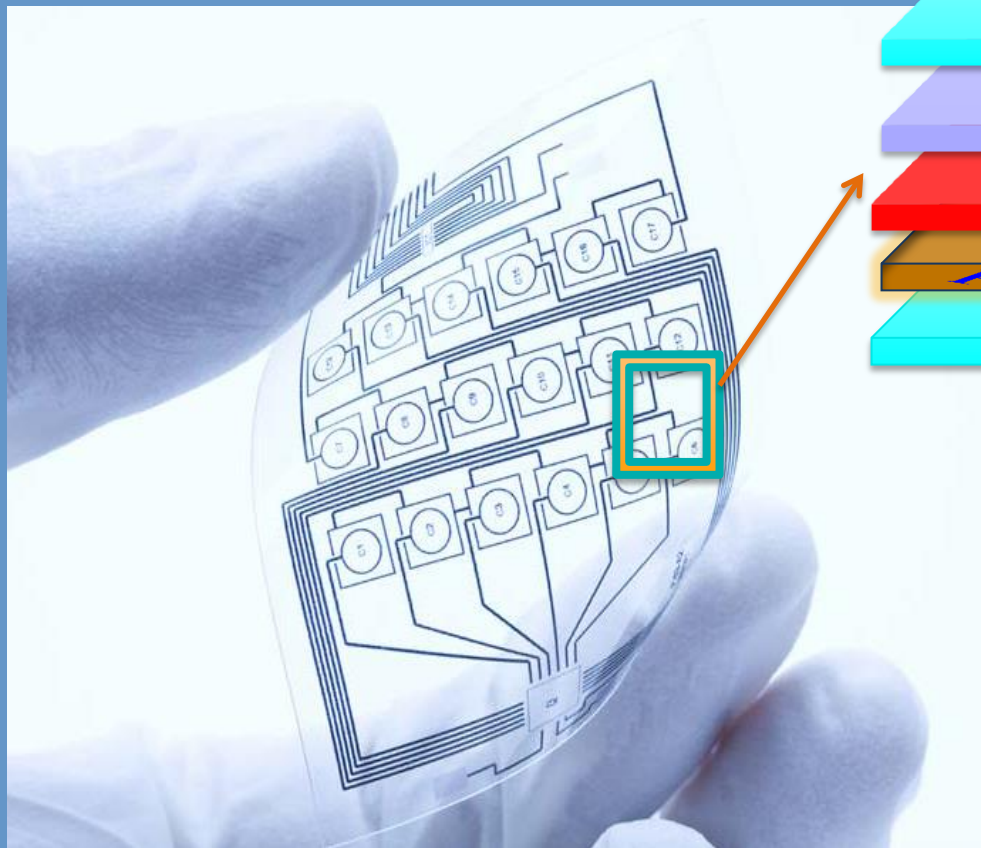
Nano Fabricated Electrical Generator

* **Key challenge** : power budget
Required power for capsule ~ 500 μ w



Grouping the MoS₂ stacks to boost the output voltage

Zahra Koochak



A groups of structures that are electrically connected in parallel. Each of the groups is connected in series to its neighboring group to increase the output voltage.