

Meeting memo—idea sharing

Date: 30th, March, 2013

Time: 20:00~22:00

Place: Room 104, Lujiayi Building

Recorder: GUO Xin

Ideas are recorded in speaking order.

Q—question; A—answer; U—unanswered; Ad—advice

1. WU Xuemeng

Theme: Portable engineered bacteria battery/charger

Q: Efficiency? U

Leakage of electricity? U

How can live bacteria be portable? U

How to collect electricity? U

What is the mechanism of the electricity production? U

Ad: Find out the mechanism.

Try *Shewanella* besides *Rhodospirillum rubrum*.

2. CHENG Han

Theme: Multifunctional bacteria air freshener

Q: Are the gels disposable? A: Yes, but there are a lot of gels inside a cell.

Can Nano gel get into cells? A: Yes, based on document.

Can RNA stent recover once opened? U

Is the expression of plant genes in bacteria feasible? U

Can different gels get into one cell? A: Maybe. (With no evidence.)

Can we use gene stimulates instead of gels? U

Any physiological effect on cells? U

Are gels decomposable? & Gels accumulation problems. U

Ad: The idea of using RNA stent and Nano gels might be useful in our future research.

3. GUO Xin

Theme: Air pollutants purifier

Q: How can we realize the transportation process of air? A: Maybe we can use a pump.

Ad: Give more details of the realization process of the idea.

4. CHENG Zhaopeng

Theme: Air pollutants purifier

Q: How fast can the detecting process be? A: Faster than old chemical ways.

Gene transfer from lichens to bacteria can be very hard. U

Ad: Maybe the chemical ways are faster compared to the long reaction time of bacteria.

5. LIN Shen

Theme:

1. **Producing silk from the degradation of folium mori by bacteria**

Ad: Interesting idea but hard to realize.

2. **Air freshener control system**

Q: Only work when the smell reaches a detection limit? **A:** Yes.

Which kind of gas is the detecting target? **A:** NH₃, maybe other dangerous gases in different conditions.

Can this system degrade gases like NH₃? **A:** Still thinking about it.

The transportation process of air? **U**

6. CHEN Yahong

Theme: Automobile exhaust gas treatment

7. MA Dongxin, WU Xiyu, SHI Bo

Theme:

1. **Automobile exhaust gas treatment**
2. **Sensor of automobile exhaust gas**
3. **Producing biofuels by marine algae**

[Also recommended Bioon.com]

Q: Why not desulfurize the fuels? **U**

Can bacteria survive in the environment of high temperature? **A:** We can use extremophiles.

8. LI Yuzhe

Theme: Producing drugs for the treatment of cancer by microbial fermentation

9. HU Yidan

Theme: Using synthesis biology to prevent rejection of the organ

10. WANG Jie

Theme:

1. **Using programmed bacteria to express anti-cancer genes**
2. **Traditional Chinese medicine for cancer treatment**

[[Chinese medicine and bacteria programming seems really attractive](#)]

11. JIANG Jie

Theme:

1. **Detection of *Salmonella*;**
2. **Using *Salmonella* as a vector**

[[To develop a new vector is a good idea.](#)]

12. DU Xian

Theme: Using synthesis biology to test anaphylactic response

[Get a good understanding of the mechanism of anaphylactic response will be helpful to decide whether this is a good idea.]

13. ZHU Huiming

Theme: Using synthesis biology to produce antivenomous serum/ antivenene

[Get a good understanding of the mechanism of antivenene synthesis will be helpful to decide whether this is a good idea.]

14. XI Xi

Theme: Using synthesis biology for wastewater (containing antibiotics) treatment

[Combine immune reaction with synthesis biology is inspiring]

15. ZENG Shengquan

Theme: Synthesis of 1- butanol (used)

16. LIN Beichu

Theme: Detection of microorganisms in seafood

[Close to daily life]

MORE IDEAS

17. WU Fan

Theme: Synthesis biology in painting and lighting

Q: Florescence will quench.

Should we produce florescence or pigments?

18. TANG Chun

Theme: Using electricity to realize the communication between cells

Q: Are electricity used inside or outside a cell?

[Cells are well organized systems, and proteins on their membranes are determined by their genes. Can this be changed so easily to transfer the electrons for us?]

P.S. Because of the limited time, some ideas are only proposed, but not be discussed.