**<b>Collaboration with Jiangnan\_China</b>**

**<b>Human Practices</b>**

**<b>Engagement in Various Activities</b>**

We participated in the**<b> "High School Drifting -Booklet"</b>** activity hosted by Jiangnan\_China in September. During the activity, we received souvenirs from Jiangnan\_China. We read about the ideas of Jiangnan\_China group members on participating in iGEM in the Drifting Booklet. We empathized and wrote down our true feelings. After that we sent the Drifting Booklet and our souvenirs to NJMU-China. In this activity, we found that when the teams have heart-to-heart communication, we can feel that “as an iGEMer, we are all together”.

We also engaged in Jiangnan\_China's **<b>monthly magazine</b>** activity. As the main manuscript team in October, we brought knowledge of synthetic biology to middle school students from Jiangsu, Sichuan, Xinjiang and Tianjin in China, and also promoted our project.

**<b>Collaboration with QHFZ-CHINA</b>**

**<b>Human Practices</b>**

**<b>Suggestions on Topic Selection</b>**

In May, to select an appropriate topic, QHFZ-CHINA had an online meeting to choose one from their four optional subjects. **<b>They invited Chengzhu Fang, a senior student of NAU-China, to attend the meeting.</b>** Chengzhu Fang gave them many tips. For example, she suggested that QHFZ-CHINA should choose two topics among them and do a further research.

**<b>Collaboration with OUC\_China</b>**

**<b>Experimental design</b>**

**<b>Discussion of Part Optimization</b>**

We hope to use earthworms and ***<b><i>Bacillus subtilis</b></i>*** to treat lead contaminated farmland. During this process, we added a kill switch to the engineered bacteria in order to ensure the biological safety. When the engineered bacteria are discharged into the environment, they will be killed. We used the toehold switch as an "AND" gate to realize the spatiotemporal specific expression of toxin proteins. In our design, we need a large amount of trigger RNA to be induced by anaerobic conditions in the intestine of earthworms to turn on the kill switch in the later stage. In this process, we need to **<b>improve the stability of trigger RNA and extend its half-life.</b>**Through team communication, we found that OUC-CHINA’s design just met our needs. OUC team enhanced the stability of trigger RNA by adding hairpin structure at the 5 ‘end of trigger RNA in September. We have carried out in-depth communication and cooperation with OUC-CHINA, and referred to the hairpin sequence provided by them, and realized the optimized design of trigger RNA.

**<b>Collaboration with NJTech\_China</b>**

**<b>Human Practices</b>**

**<b>Choice of Interviewee</b>**

In July, we had an online meeting with NJTech\_China. Regarding the genetic modification issues in their project, we thought that there should be further guarantees for biosafety and ethics. In addition, we provided suggestions to them that we can **<b>adopt the mode of campus interviews</b>** to **<b>solicit the opinions of college students on genetic modification**. **</b>**NJTech\_China adopted our suggestion, carried out this activity, and fed back into their project.

**<b>Collaboration with NWU\_China</b>**

**<b>Human Practices</b>**

**<b>Discussion of Questionnaire</b>**

In June, we discussed the questionnaire with NWU\_China. First of all, we thought **<b>it was necessary to identify the target group</b>.** If it is the public, the language structure of questionnaire should not be too complex, for at least 16-year-old high school students can read. In addition, when we use the survey data, we should ask the respondents' consent.

In August, we attended the Human Practices Lecture held by CCIC together. We learned from Joy Zhang that **<b>we could obtain the consent of the respondents by issuing information sheets</b>**. Our questionnaire is mainly divided into three parts, including Information Sheet, Questionnaire and Findings.

**<b>Model (with NJtech\_China and NWU\_China)</b>**

**<b>Improvement of Direction of Model</b>**

We had an online meeting with NWU-CHINA-B and NJTech\_CHINA in September. In this communication, students from both universities offered some suggestions on earthworm release strategies and cost issues, and raised some questions about our model. Through the communication with the two schools, **<b>we preliminarily determined the direction of the model improvement and we also got some ideas for the model optimization</b>**.