

# Online PBL/International collaborative production of stop-motion animations of chemical phenomena

Date	Place	Partner Organization	Students' Major and Grade	Participants' Information	SIT Instructor
August22 ~September12,2020	Japan	Widya Mandala Catholic University Surabaya National Taiwan University of Science and Technology	Department of Applied Chemistry • Undergraduate 1st grade • Undergraduate 2nd grade • Undergraduate 3rd grade • Undergraduate 4th grade	(SIT) Students 6, TA 7, Professor 1, Staff 1 (Widya Mandala Catholic University Surabaya) Students 10, Professor 2 (National Taiwan University of Science and Technology) Students 3, Professor 1 (OIT) Students 3, Professor 3 (Tsuda University) Students 2	YOSHIMI Yasuo (Department of Applied Chemistry)



Image1 Making video

PBLs to WMCU (Surabaya) and NTUST (Taipei) scheduled for August-September were canceled. The possibility of hosting PBLs in February was reduced.

In order to maintain the human networks that have been built up to date, we I was wondering whether or not a program could be set up that would allow participants to work together across countries without having to go to each other.

As a result, I came up with the idea of applying the program adopted "Creating stop-motion animation of chemical reaction by using familiar materials to take pictures while moving little by little and then show the movements of the photographed still images in succession" which was applied in the Outline of Industrial Chemistry (1st year of the Dept. Applied Chemistry) in FY2018.

The following program was executed.

- (1) Participants from different countries were paired.
- (2) Each pair selected a chemical reaction and produces a story board for the animation.
- (3) The storyboards were exchanged with other pairs which was selected randomly.
- (4) Prepare an stop-motion animation within 30 seconds according to the given story board.
- (5) Make-up video within three minutes was also prepared.
- (6) The videos were uploaded YouTube and mutually evaluated.
- (7) Professors of participating university evaluated the correctness of chemical reactions.
- (8) Prizes were awarded for highly evaluated pairs.

I was consulted by a pair who had difficulty communicating, but most of the participants seemed to have enjoyed it.

"We would like to incorporate it into the university class" was also heard from the professors at the participating universities.

I hope that we will be able to start working together and deepen exchanges and exchange visits with each other.

\*\*\*\*\*Please check the below URL/link\*\*\*\*\*

<Arrhenius.mp4>

Title: Team Arrhenius @SIT Global PBL 2020

Contents: Animated model of ozone depletion by chlorofluorocarbon made in Global Online PBL at Shibaura Institute of Technology, 2020.

<https://youtu.be/dxl-rHLowk8>

<Langmuir.mp4>

Title: Team Langmuir @SIT Global PBL 2020

Contents: Animated model of SN-1 reaction made in Global Online PBL at Shibaura Institute of Technology, 2020.

[https://youtu.be/IRnkJ4Ws\\_Q0](https://youtu.be/IRnkJ4Ws_Q0)

<Nernst.mp4>

Title: Team Nernst @SIT Global PBL 2020

Contents: Animated model of Fischer-Speier made in Global Online PBL at Shibaura Institute of Technology, 2020.

<https://youtu.be/YfC36YU-yRs>

<Schrödinger.mp4>

Title: Team Schrödinger @SIT Global PBL 2020

Contents: Animated model of epoxide synthesis from peroxy acid and alkene made in Global Online PBL at Shibaura Institute of Technology, 2020.

<https://youtu.be/YAL1eLPesoc>



Image2 Making video

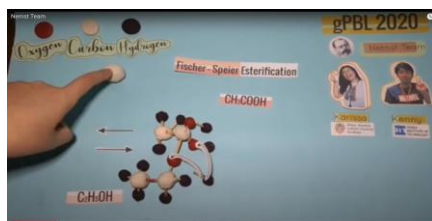


Image3 Highly evaluated animation



Image4 Introduction of SIT



Image5 Introduction of Japan



Image6 Introduction of WMCU



Image7 Quiz of Indonesian Foods