



Fueled with passion to hone the scientific skills of students, the Association of DOST-SEI Scholars (ADSS) of Batangas State University meritoriously conducted the Design Thinking Seminar Workshop. It is a two-day event with the main purpose to enable the participants to create an innovative, timely, and attainable design proposal that has the potential to help the current national and global problems. This seminar-workshop is open for bonafide students of Batangas State University of any campus, year level, and courses. The participants were registered as a group of three.

The first part of the two-day event was held last March 12, 2022. To start the program, Ms. Tiffany Mae C. Nuelan, a BS ChE Student and the President of ADSS BatStateU, delivered the opening remarks. It was followed by the discussion of the rules and mechanics that will be followed for the duration of the workshop. This seminar was divided into five phases, namely: Empathize, Define, Ideate, Prototype, and Test.

The Phase 1 of the workshop is Empathize, followed by the Phase 2 which is Define. These were concluded in the first day of the workshop. Dr. Celso G. Zara, the adviser of ADSS served as the speaker for this two-day seminar. For the first two phases, participants listened to the talk delivered by the speaker. They were then required to come up with the needed output and present it virtually using the google meet platform. After all the groups have finished presenting their outputs for the two phases, the first part of the seminar ended.

On March 19, 2022, the second day of the two-day seminar workshop was held. The three phases namely: Ideate, Prototype, and Test, were discussed. As expected, the participants presented their outputs for each of the design thinking phases. The participants also designed their prototypes during this period and presented it along with their solution to the problem. After the group presentations, it was announced that the winners of the event will be published on the following week. The team who got the first place will receive Php 7,500, followed by the second and third place with Php 5,000 and Php 2,500 respectively. The judges for this event were Dr. Celso G. Zara, a Science Course Instructor and Adviser of ADSS, Dr. Nerrie E. Malaluan, the



Vice-Chancellor for Academic Affairs at Lipa City Campus, and Dr. Erma D. Maalihan, the Head of the Office of Student Organization. All of the judges are also DOST-SEI Design Thinking Trainers/Implementers.

The winners of the event were announced on March 26, 2022. Team HaDPCL, a group of third-year BS Chemical Engineering Students from Batangas State University-Alangilan was hailed as the first place for this Design Thinking Seminar Workshop. The team was comprised of Christian Levi Barias, Hans Andersen N. Hernandez, and Dan Phillip J. Sangalang. For their winning prototype, they have come up with an innovative face mask called “ACE Mask”. The group has garnered a total score of 93.33 %.

ACE Mask is an enhanced face mask with features that provide answer to several concerns such as particle filtration, comfortability, and eco-friendliness, which can be made possible through the assembly of modified mask layers. The acronym “ACE” stands for Activated Charcoal, Comfortable, and Eco-friendly. The mask has a sheet of Activated Charcoal filter made from industrial byproducts. The sheets can be replaced and can filter bacteria, viruses, and other microorganisms through the adsorption property of charcoal. It is also comfortable due to the fact that it has a well-designed frame, with an adjustable strap. It can also accommodate various facial shapes and sizes. Moreover, it can also help prevent the accumulation of moisture for people who wear glasses. Lastly, it is eco-friendly since it can be reused for a number of times, instead of disposing it right away; minimizing the numerous wastes caused by disposable face masks.

The other winners of the contest were Team accelerator with their FaMaCoLeb: Face Mask Composite Lego Blocks, and Esmena Corp with their prototype SALTIC: Arduino-Based Saltwater and Microplastic Separator Powered with Built-in Generator. They were hailed as second place and third place respectively. This Design Thinking Seminar Workshop was held for the first time this year, and it has been addressed that it will be conducted again for the following years. This type of events does not only engage the students in scientific methods of thinking, but also enables them to use their potentials to solve real-world problems.



# JPIChE-BatStateU

JUNIOR PHILIPPINE INSTITUTE OF CHEMICAL ENGINEERS  
Batangas State University



HERNANDEZ,  
HANS ANDERSEN

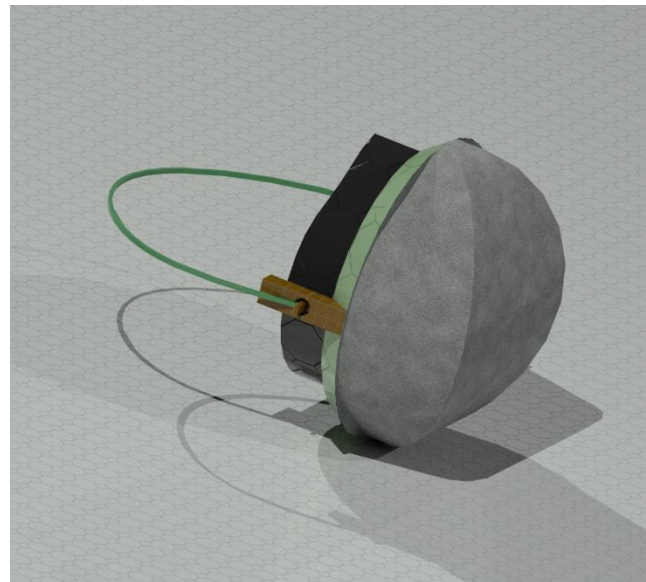
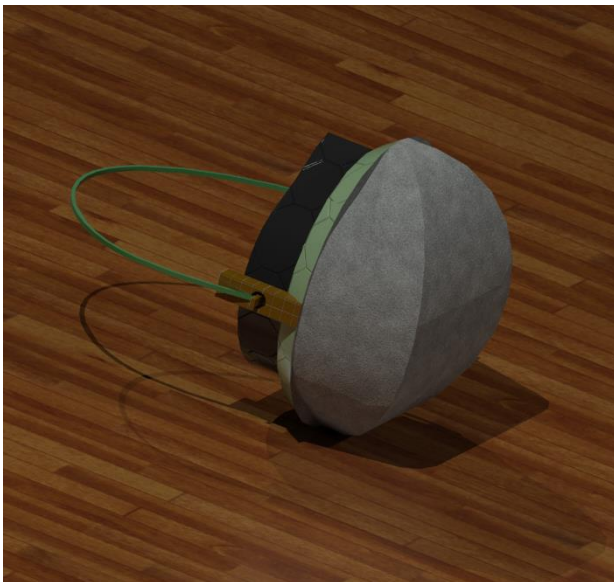


SANGGALANG,  
DAN PHILLIP



BARIAS,  
CHRISTIAN LEVI

*Team HaDpCL*



*ACE Mask, an innovative face mask with Activated Charcoal, has Comfortable design, and Eco-Friendly attributes.*





**JPIChE-BatStateU**  
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Batangas State University



**ASSOCIATION OF DOST-SEI SCHOLARS**  
BATANGAS STATE UNIVERSITY

**DESIGN THINKING**  
*Seminar*

**CONGRATULATIONS**

**1st Place**  
**Team HaDpCI**  
Hans Andersen N. Hernandez  
Dan Phillip J. Sanggalang  
Christian Levi M. Barias

**"ACE Mask"**  
Average Score: 93.33

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*Source: ADSS BatStateU*



**JUNIOR PHILIPPINE INSTITUTE OF CHEMICAL ENGINEERS**  
BATANGAS STATE UNIVERSITY

**CONGRATULATIONS!**

**Christian Levi M. Barias**   **Hans Andersen N. Hernandez**   **Dan Philip J. Sanggalang**

**Team HaDpCI**  
**FIRST PLACE**  
ADSS BatStateU Design Thinking  
Seminar Prototype Competition  
**We are so proud of you!**

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*Source: JPIChE-BatStateU*