

RESEARCH FAIR 2022

NAUTILUS: Diving into the Depths of the Filipino Youth Potential

DepEd - Schools Division Office - Region 05
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By: _____
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Greetings!

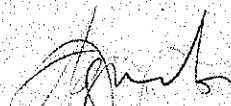
We are from the **University of the Philippines Academic League of Chemical Engineering Students, Incorporated (UP ALCHEMES, Inc.)**, a premier and recognized academic organization from the College of Engineering of the University of the Philippines - Diliman and a duly registered youth-serving organization by the National Youth Commission. This coming **January 27-29, 2022**, we will be holding the annual **RESEARCH FAIR**, a three-day nationwide research-based competition and convention for high school students. This year's Research Fair will be held online through the use of digital platforms. Since its establishment in 2001, Research Fair has been an embodiment of the organization's commitment to promote academic excellence and service for others, as Research Fair 2021 had 38 participating schools and 335 participants.


With the theme, **NAUTILUS: Diving into the Depths of the Filipino Youth's Potential**, Research Fair 2022 will be a platform for the youth to rediscover their potential to build the nation through their scientific breakthroughs during the primary event of the fair, the Research Competition. Students will also be able to hone their scientific proficiency through the National Science Conquest. Moreover, students, along with their teachers, will be given the opportunity to participate in value-adding webinars and workshops through the Youth Science Convention.

In light of this, we are pleased to invite you to participate in this event. Please see the attached invitation kit, which contains the official handbook and pertinent forms. The deadline of submissions for the **Journal Entry Round of the Research Competition** is on **November 26, 2021**. The deadline of the submissions for **Phase 1 of the Case Study Competition** is on **December 10, 2021**. Finally, the **deadline of registration for the National Science Conquest and Youth Science Convention** is on **January 14, 2022**. Other important details and dates to remember can be found in the Research Fair 2022 handbook. Should you have any questions or concerns, feel free to contact the undersigned. We will be delighted to entertain your queries involving this event.

Thank you very much, and we look forward to seeing you!

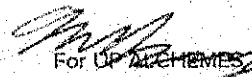
Respectfully yours,


Carl John Rafael S. Aguda
School Affairs Head
Research Fair 2022
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Research Fair 2022
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11/22/21
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For Dissemination and Compliance
ZENIA G. MOSTOLES, Ed.D., CESO V
Schools Division Superintendent
Schools Division of Bulacan

Noted by:


For UP ALCHEMES
Research Fair 2022

Engr. Michael Sean Deang
UP ALCHEMES Adviser

Advisory
No. _____, s. 2021

To: All Schools Division Superintendents

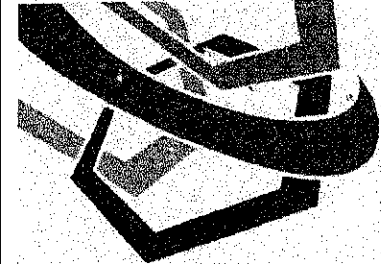
For information.


MAY B. ECLAR, PhD, CESO III
Regional Director

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RESEARCH FAIR 2022

NAUTILUS: Diving into the Depths of the Filipino Youth Potential

ABOUT THE EVENT

Research Fair is the first and flagship event of UP ALCHEMES, garnering recognition for the organization through years of service to the Filipino youth. As a testament to its quality, the event has been consistent in obtaining endorsements from the UP President and the Department of Education. Now on its 20th year, Research Fair continues to be an avenue for students to hone their abilities and broaden their perspectives to the role of science and technology when it comes to human advancement. Despite the challenges brought upon the pandemic, Research Fair stays strong to its objectives and will still push through online.

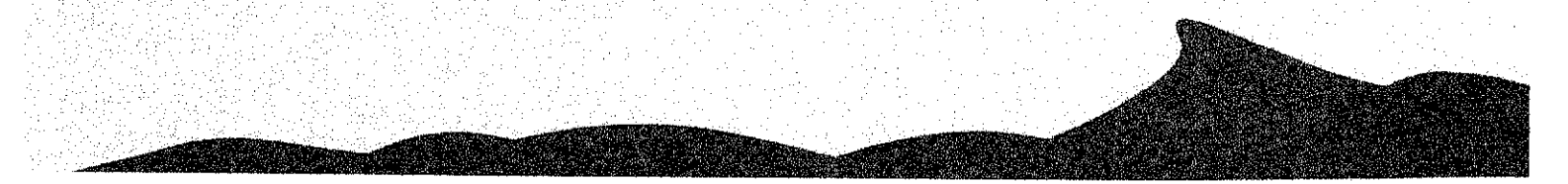
ABOUT THE THEME

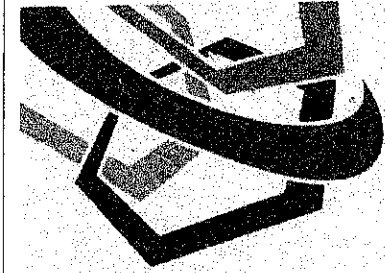
Swimming into the depths of tropical oceans around the world are the shelled and sturdy nautili that have braved the challenge of times and changing tides for several hundred million years. These creatures represent our collective and unwavering aspiration to discover and pave ways for science, technology, and research across the vast, unknown expanse of the world and the universe.

In the pursuit of scientific excellence, Research Fair 2022 continues to provide an opportune platform for the Filipino youth to showcase their potential to contribute for the betterment of the scientific community and our country. Albeit done virtually, this should not defeat our commitment and goal to inspire our participants into making difference through constructive activities the event is going to offer.

ABOUT THE ORGANIZERS

The University of the Philippines Academic League of Chemical Engineering Students, Inc. (UP ALCHEMES, Inc.) is a premier academic, non-stock, and non-profit student organization primarily composed of undergraduate students of the Chemical Engineering program of UP Diliman. It is also duly-recognized and accredited by the National Youth Commission and the UP Diliman College of Engineering.

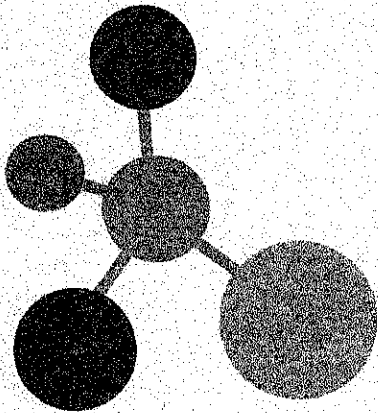




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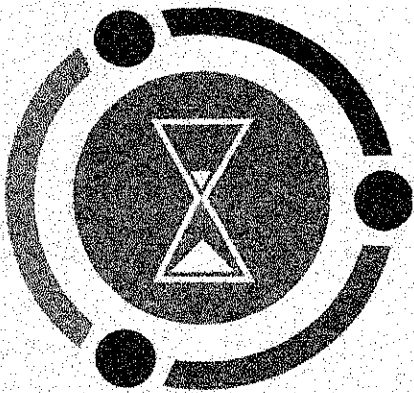
NAUTILUS: Diving into the Depths of the Filipino Youth Potential

ABOUT THE SUBEVENTS



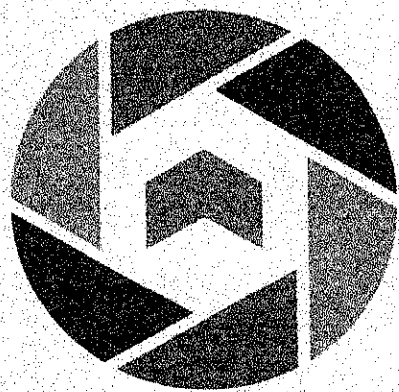
RESEARCH COMPETITION

The Research Competition is at the core of the Research Fair. It celebrates the innovation, creativity, and scientific aptitude displayed by the participants on their research projects. It allows the students to interact with and learn from both their fellow learners and established professionals. The competition promotes engaging in research and recognizing breakthroughs in the field of science and technology.



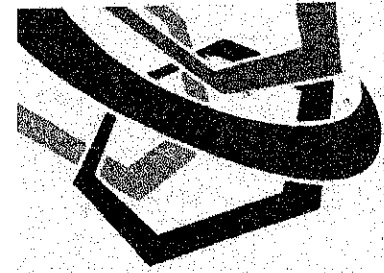
NATIONAL SCIENCE CONQUEST

The National Science Conquest is a friendly competition that challenges the participants on their knowledge and understanding of the different branches of science. The students will go through a series of exams and quiz bees to determine the winners. This event aims to further recognize the youth's potential to excel in science and technology.



YOUTH SCIENCE CONVENTION

The Youth Science Convention is a series of seminars and workshops from experts in their recognized scientific fields, designated to enrich the knowledge and experience of the participants. It provides an avenue that will allow the youth to realize their roles as innovators of the country and help them develop a sense of commitment to science and research.



ELIGIBILITY GUIDELINES

RESEARCH COMPETITION

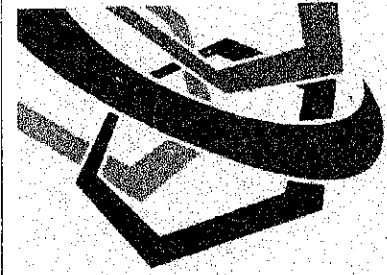
- Any scientific research project done in the past two (2) years from the three categories – Applied Science, Life Science, and Physical Science – of bona fide high school students (of any year level from Grade 7 to Grade 12) in the Philippines is qualified for the pre- evaluation.
- The research project can be the work of a single student, up to a maximum of three (3) students coming from the same school.
- A school may send a maximum of three (3) research entries per category.

NATIONAL SCIENCE CONQUEST

- NSC is open to all senior high school students (Grade 11 and Grade 12).
- A school may send up to two (2) teams composed of at most four (4) eligible students each to join the competition. Three (3) of the team members shall be the team's representatives, while one (1) shall serve as the alternate.

YOUTH SCIENCE CONVENTION

- YSC is open to all Grade 7 to Grade 12 students in the Philippines. However, it is highly recommended for students in Grades 10 and 11 in preparation for their research subjects, investigatory projects, and future submissions to the Research Competition.
- A school may send at most thirteen (13) participants to attend YSC, excluding the participants of the Research Competition (RC) and the National Science Conquest (NSC). Schools shall be informed if there are remaining slots for the convention, should they wish to send more students.
- From the selected participants that will attend YSC, interested students may form teams to represent their school in the Case Study Competition. Each school may form a maximum of two (2) groups, composed of a maximum of three (3) students each.



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NAUTILUS: Diving into the Depths of the Filipino Youth Potential

AWARDS AND PRIZES*

*Cash prizes are subject to change

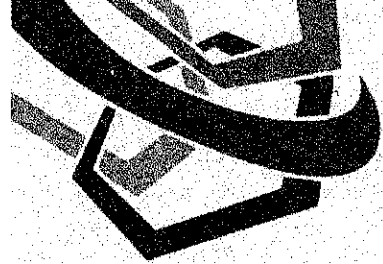
RESEARCH COMPETITION

1. Major Awards

Title	Team Prizes	Individual Prizes
Category Champion (Applied Science, Life Science, Physical Science)	3000	Medals + Certificates
Category Runner-up (Applied Science, Life Science, Physical Science)	1500	Medals + Certificates

2. Special Awards

Title	Team Prizes	Individual Prizes
Best in Digital Poster (research entry with the highest average Digital Poster score)	500	Certificates
People's Choice Award (digital poster with the highest number of reactions and shares after being posted online by the official Facebook Page of Research Fair)	500	Certificates
Best in Oral Presentation (research entry that garnered the highest Oral and Visual Presentation score during the Final Defense Round)	500	Certificates



RESEARCHFAIR2022

NAUTILUS: Diving into the Depths of the Filipino Youth Potential

NATIONAL SCIENCE CONQUEST

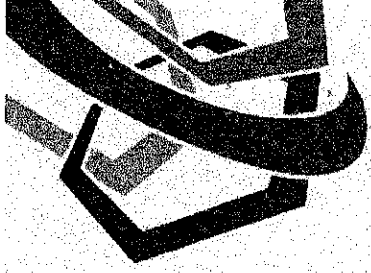
1. Major Awards

Title	Team Prizes	Individual Prizes
National Science Conquerors (determined by the scores in the Final Round)	3000	Medals + Certificates
NSC 1st Runner Up (determined by the scores in the Final Round)	1500	Medals + Certificates
NSC 2nd Runner Up (determined by the scores in the Final Round)	1000	Medals + Certificates

2. Special Awards

Title	Team Prizes	Individual Prizes
Team Challenge Top Scorer (awarded to the team with the highest score in the Team Challenge)	500	Certificates
Individual Exam Top Scorer (awarded to the individual with the highest score in the Individual Exam)	500	Certificates





RESEARCHFAIR2022

NAUTILUS: Diving into the Depths of the Filipino Youth Potential

YOUTH SCIENCE CONVENTION

1. Major Awards

Title	Team Prizes	Individual Prizes
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CSC Champion
(determined by the Judges)

3000

Medal

One (1) Swag bag
containing Course
Hero official
merchandise

Access to a webinar
prepared by Course
Hero

One (1) Certificate

CSC 1st Runner Up
(determined by the Judges)

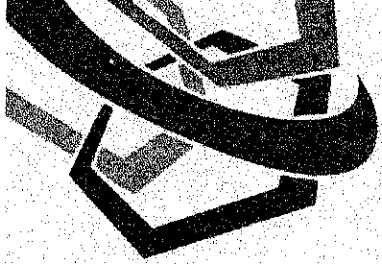
1500

Medal

One (1) Swag bag
containing Course
Hero official
merchandise

Access to a webinar
prepared by Course
Hero

One (1) Certificate



RESEARCHFAIR2022

NAUTILUS: Diving into the Depths of the Filipino Youth Potential

			Medal
			One (1) Swag bag containing Course Hero official merchandise
			Access to a webinar prepared by Course Hero
			One (1) Certificate
CSC 2nd Runner Up (determined by the Judges)	1000		

2. Special Awards

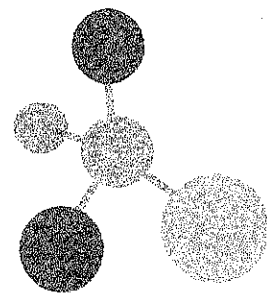
Title	Team Prizes	Individual Prizes
Best in Digital Poster (case study entry with the highest average Digital Poster score)	500	Certificates
People's Choice Award (digital poster with the highest number of reactions and shares after being posted online by the official Facebook Page of Research Fair)	500	Certificates
Best in Presentation (case study entry that garnered the highest Presentation score during Phase II of the Case Study Competition)	500	Certificates

RESEARCH FAIR 2022

NAUTILUS: Encouraging the Best of the Best Filipino Youth Potential

RESEARCH COMPETITION

ask. try. discover



Objectives

- To provide an avenue for high school students to promote their talents and scientific discoveries to their fellow peers, teachers and the scientific community.
- To showcase what Filipino high school students can achieve through science and technology (S&T).
- To encourage healthy discourse between students and professionals.
- To promote scientific professionalism and appreciation of S&T among the youth.
- To develop the capabilities of high school students in discovery and innovation through exposure to the field of research.

3 CATEGORIES



Life Science

This category involves the natural sciences, such as biology and medicine, and deals with living organisms and life processes.



Applied Science

This category involves engineering, such as chemical engineering and civil engineering, and the application of existing scientific knowledge to solve practical problems.



Physical Science

This category involves natural sciences such as physics, chemistry, and earth and environmental science that deal primarily with the nature and properties of non-living or inanimate entities.

3 PHASES

Journal Entry Round

Comprehensive assessment of the technical qualities of the participants' journal-type research papers.

Closed-Door Defense Round

Oral and PowerPoint presentation of the research entries to a panel of judges.

Final Defense Round

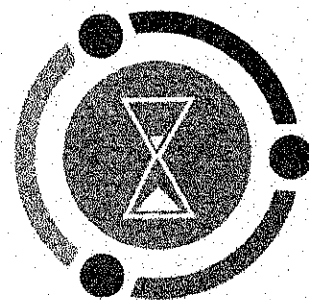
Oral and PowerPoint presentation of the research entries to a panel of judges determining the winners.

NATIONAL SCIENCE CONQUEST

think. solve. conquer.

Objectives

- To distinguish students with scientific proficiency.
- To recognize emerging scientific discoveries and fields.
- To promote science and technology to students, as well as to the general public.



Scientific Disciplines

Chemistry

- General Chemistry
 - Nomenclature
 - Reactions and Reactivity
 - Stoichiometry and Yield
 - Chemical Equilibria
 - Chemical Bonding
 - Chemical Laws and Theorems
 - States of Matter
- Basic Biochemistry
- Basic Thermochemistry
- Chemical Kinetics
- Electrochemistry
- Inorganic Chemistry
- Organic Chemistry
- Recent and Current Breakthroughs or Innovations in Chemistry

Physics

- Fundamentals of Motion
 - Mechanics
 - Kinematics
 - Dynamics
- Forces and the Free Body Diagram
- Energy, Friction, and Work
- Circuits and its Governing Laws
- Principles of Electricity and Magnetism
- Waves and Oscillation
- Recent and Current Breakthroughs or Innovations in Physics

Mathematics and Statistics

- General Mathematics
- Algebra
- Geometry
- Trigonometry
- Calculus
- Business Mathematics
- Sampling Methods and Sample Spaces
- Probability of Simple and Compound Events
- Measures of Central Tendency
- Hypothesis Testing

Earth and Life Sciences

- Biology
 - Human Physiology, Anatomy, Cells, and Macromolecules
 - Botany, Zoology, and Taxonomy
 - Reproduction and Genetics
- Geology and Planetary Sciences
- Meteorology
- Paleontology
- Recent and Current Breakthroughs or Innovations in Earth and Life Sciences

Phases

Qualifying Round

Team Challenge: The qualifying round component that focuses on the collaboration and teamwork of each team in order to come up with solutions to given problems.

Individual Exam: An examination that will be taken by each participant independently, to demonstrate their individual prowess in science and technology disciplines.

Final Round

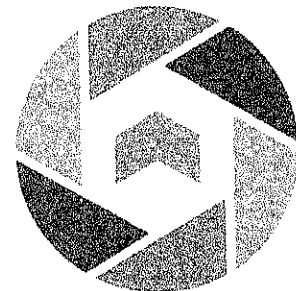
A team quiz bee that revolves around various categories - words or phrases that may contain questions from different scientific disciplines related to it. This round will determine the National Science Conquerors.

YOUTH SCIENCE CONVENTION

engage. acquire. deliver.

Objectives

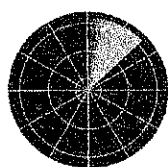
- To enkindle in the participants a love and passion for research and science
- To explore what it means to conduct research and its application in the industry and in different scientific fields
- To help the youth develop practical skills that will not only aid them in future research, but in multiple facets of their daily lives



LINE UP OF WEBINARS AND TOPICS

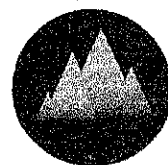
Enabling

These talks *enable* Research Fair 2022's participants to hone their skills and talents useful not only in research but in real life as well.



SONAR

A Talk on Oral Communication. The students will be taught on how to look for visual and oral cues, as well as giving them tips on how to cope with public speaking anxiety specifically in an online platform. This is in order for them to better present and communicate their research findings.



SEAMOUNT

A Workshop on Critical Thinking. The students will be taught on how to assess the viability of different approaches in solving community problems. This will hone the students' critical thinking skills and creativity, which are very important in Research.

RESEARCH FAIR 2022

NABY/US: Bringing into the Details of the Filipino Youth Potential

Enlightening

These talks tap the experts of various fields of research, science, and technology in order to inspire the students through their example.



AGLANTHA

A Talk from an Outstanding Filipino Youth Scientist. Aglantha introduces an outstanding Filipino Scientist's journey and innovations in order to ignite a passion and appreciation for Science and Technology.



FRAZIL

A Talk about a Recent Innovation in Science and Technology in the Philippines. Frazil aims to expose the students to current scientific advancements and its implications and importance to our society.

Emerging

This talk focuses on an emerging field in science and technology. Workshops may be employed in order to further the knowledge of the students when the lessons are imparted to them.



CORALLINE

A Talk on an Interesting Field of Science. Through Coralline, the students will be exposed to an unusual and less traversed field of science and its importance and relevance to our communities.

CASE STUDY COMPETITION

TRIESTE: Case Study Competition

/tri'cs.te/ The first-ever manned submersible to explore and reach the bottom of the challenger deep which opened the path for more deep sea exploration

This sub-event serves as the culmination of YSC with the participants showing not only their ability to think creatively but also their own insights regarding important problems and issues faced in the country.