



THE ACADEMIA

Official International Bulletin of the University of Santo Tomas

Vol. L No. 7

July 1 - 31, 2020

ISSN0117-0083



(From left, top row): Fr. Austriaco, Asst. Prof. Bahrami-Hessari, (from left, bottom row): Dr. Egwolf, and Mr. Bennett during the webcast

UST researchers Austriaco, Egwolf discuss pandemic perspectives, UST-CoV 2 Model at Science Week webcast

University of Santo Tomas (UST) researchers Rev. Fr. Nicanor Austriaco, O.P., Ph.D., and Dr. Bernhard Egwolf tackled their research on COVID-19 infection rate forecasts and strategies to flatten the curve during an online discussion held on July 6, 2020. The session, titled “Perspectives on the Pandemic: a UST College of Science Webcast,” was part of the Modified Enhanced Online Week of Science.

Egwolf explained that one aspect of mitigating the risk of the disease is trying to predict how fast the virus will spread, which necessitated the UST CoV-2 Model.

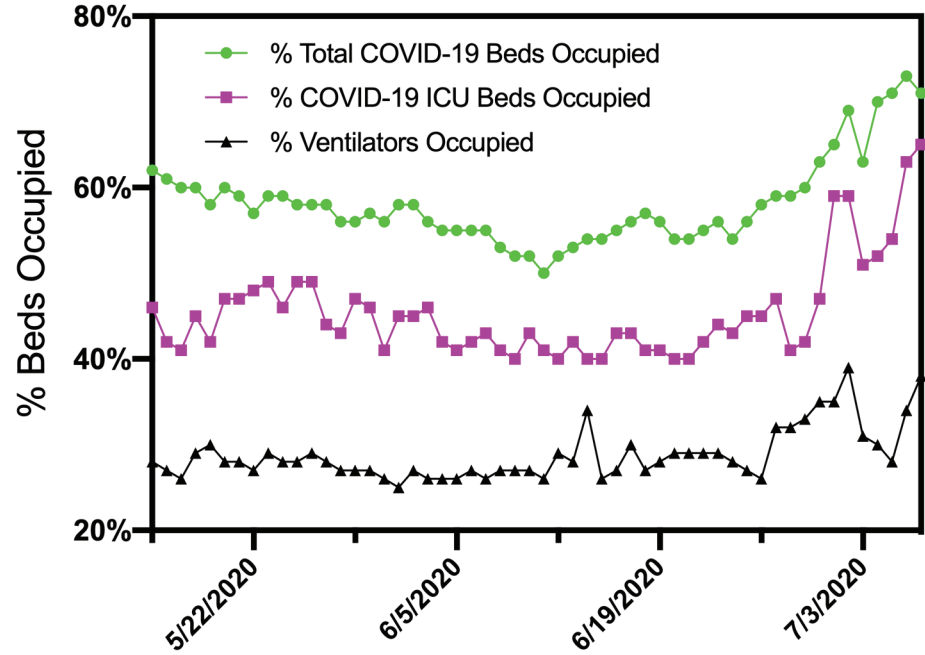
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COVID-19 Hospitalizations (NCR)
Percentage Beds Occupied



In contrast to the hospitalization occupancy data, the number of ventilators in use as of the publication date seem to be lower. [Figure obtained from <http://www.ust.edu.ph/ust-cov2-model/>]

The UST CoV-2 Model

The research paper, initially released on May 24, 2020 in the UST official website, originally focused on the impact of Enhanced Community Quarantine (ECQ) and the spread of COVID-19 in the National Capital Region (NCR) of the Philippines. Called the “UST CoV-2 Model,” the researchers used real-time mobility data to modify the DELPHI Epidemiological Model, a machine-learning capable model developed by a team at the Massachusetts Institute of Technology, where Fr. Austriaco obtained his Doctor of Philosophy degree in Biology. Using this model, it was initially found that the implementation of the ECQ was able to save thousands of lives in the NCR.

Fr. Austriaco and Dr. Egwolf updated the study on June 17, this time focusing on impact of the more relaxed General

Community Quarantine (GCQ) that has been implemented for the month of June. At the time of this study’s publication, the researchers calculated the positivity rate and found that from a high of 30% positivity rate in the beginning of April, the rate dropped to now around 5% in early June, bolstering their finding of low community spread within NCR.

The study was updated more recently on June 25 by the University of the Philippines OCTA Research team, to which Fr. Austriaco also belongs, to include forecasts in other COVID-19 hotspots such as Cebu.

Among the team’s updated findings is that “Based on the current number of cases in the Philippines (including uncategorized cases) and assuming the trends continue, this projects to more than 60,000 COVID-19 cases by July 31,

with 1,500 deaths. In NCR, the projection is 27,000 cases by July 31, while in the province of Cebu, the projection is 15,000 cases by July 31, assuming a continued implementation of ECQ. We emphasize that the projected increase in cases and deaths can be prevented by rapidly identifying and breaking chains of viral transmission.”

As Fr. Austriaco explained during the webcast, “The model can be used to forecast any pandemic’s spread, bacterial or viral. It’s not dependent on the actual pathogen, but simply the mathematical data on the rate of spread. We are modelling the behavior of the pathogen as it spreads within the population.”

Improving Disease Response and Control

“Now that more people are out since the strict quarantine [has been lifted in favor of modified GCQ], it’s more important to do contact tracing more quickly. If there’s more mobility, then there’s also a chance that the virus can spread even faster. Tracking is one of the most important things to do now,” Dr. Egwolf urged upon being asked what he would advise the Inter-Agency Task Force on Emerging Infectious Diseases (IATF-EID)

Fr. Austriaco echoed Dr. Egwolf, saying that “The NCR is undergoing a surge now, so if you look at the last week, it’s clear that the number of cases is rising rapidly and it looks like the positivity rate and the hospitalization rate in the NCR is dramatically increasing over the last few days.”

Due to this rapid increase, the team is prepared to run the UST CoV-2 model again to update the necessary figures. However, Fr. Austriaco expressed some concerns with the incomplete data from the Department of Health. He explained that “... a problem is that the DOH predicts that the data for the last week is not complete. And we know that, in this time of pandemic, there’s going to be logjams of data and its validation. We understand that. However, [with incomplete data] it’s difficult

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for the model to make forecasts that are as accurate as they could be if we had all the data. So when I run the model today, I will stop the data from about five days ago. But when you’re in the middle of the surge, the last 5 days is crucial, since you need to know how steep the curve is, how fast the number of cases are increasing. With a five day lag, the model can only tell us what would’ve happened based on data five days ago and not from today’s situation.”

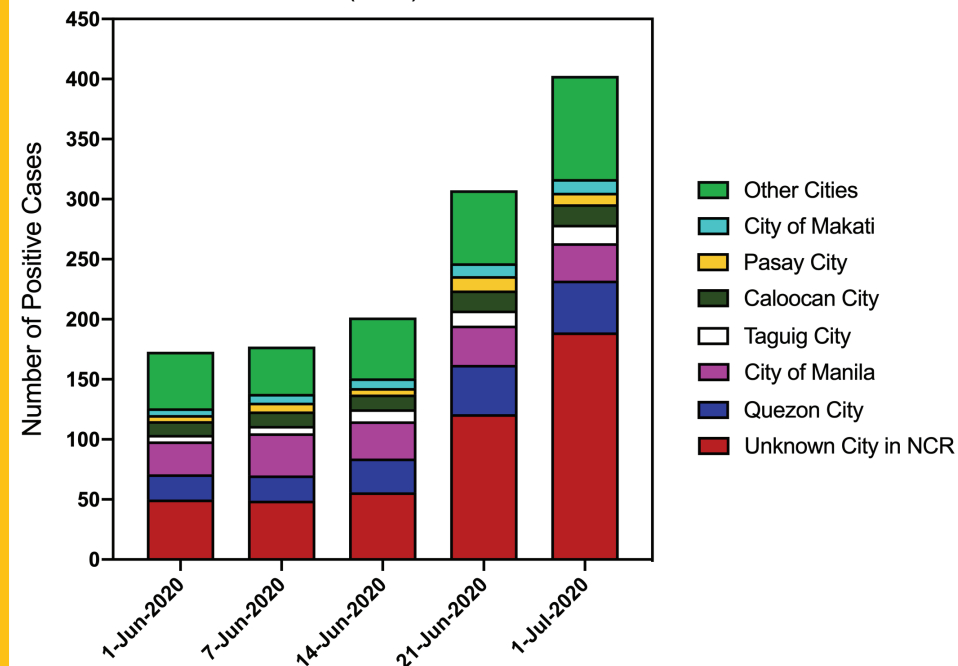
Aside from forecasting the spread of the disease, the researchers pointed out that there are also things that can be learned from the response of neighboring countries to the pandemic.

“One of the things we are learning from around the world, is that the challenge of controlling the pandemic is inherently dependent upon how many

cases you had when you shut down the country the first time,” said Fr. Austriaco. He gave the example of countries such as Thailand and Taiwan which were quick to ban flights from affected areas, particularly Wuhan. Their swift response meant a comparatively easier time in containing the infection.

“There are estimates that every day that lockdown was delayed is at least a week longer that we have to worry about getting the numbers down. Second, we have highly concentrated cities in NCR. We have areas where social distancing is not practical because of urban poverty. That presents a struggle when you use quarantine to regulate a pandemic because distancing and proper isolation simply isn’t feasible. Targeted lockdown is a solution, but more contact tracing really has to be done *within the areas in lockdown*. One of the

Breakdown of Daily Individual Cases by Component City (NCR)



The surge in NCR cases are attributed to an “unknown city” by the DOH [Figure obtained from <http://www.ust.edu.ph/ust-cov2-model/>]

weak points [resulting in the current surge] is that tracing isn’t being done properly. Lockdown the affected barangay, identify the afflicted persons, do contact tracing, and isolate those people,” Fr. Austriaco emphasized.

The provincial return program being done without proper testing and the transportation issues that lead to people not being able to physically distance themselves were cited as other factors which may have contributed to the rapid rise of the disease’s spread.

Joining the webcast were Ms. Amalea Dulcene Nicolasora from the Research Institute for Tropical Medicine and Director Benedict Maralit, Ph.D., from the Philippine Genome Center. It was hosted by the College of Science faculty members Asst. Prof. Michael Bahrami-Hessari and Mr. Reuel M. Bennett. The session is available on the UST College of Science’s Facebook page through this link: <https://www.facebook.com/193178557513642/videos/2711702989049035/?v=2711702989049035>

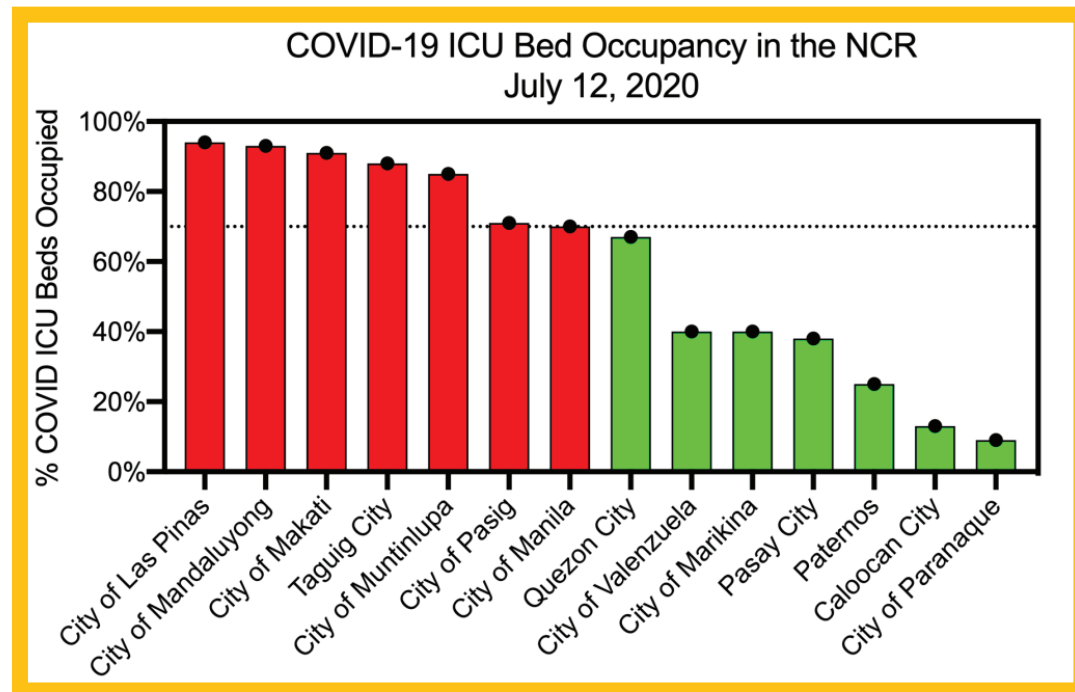
Call for better reporting amid surge

On July 14, 2020, Fr. Austriaco and Dr. Egwolf once again echoed their earlier calls for testing and tracing in their updated report that covered the latter half of June 2020 until July 12. They disclosed that the aforementioned surge in NCR cases is happening in an “unknown city.”

“The number of COVID-19 positive persons is disproportionately increasing in this category relative to the other geographical regions in the NCR. Statistically, this cannot be explained by random clerical or encoding errors. Instead, it may suggest that LGUs may be withholding geographical information when they suspect that individuals in their barangays are positive for COVID-19. However, without proper geographical identification of positive cases, it will be difficult for public health authorities to properly understand the extent of the surge and to control the pandemic through *contact tracing, tracking, and isolation*,” the report underscores.

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Fr. Austriaco and Dr. Egwolf's data on the COVID-19 related ICU bed occupancy in NCR's component cities show that seven cities have exceeded the 70% occupancy limit set by the DOH. [Figure obtained from <http://www.ust.edu.ph/ust-cov2-model/>]

The data showed that in the earlier half of June, the positivity rate ranged between 6 to 8% of tests. In the period covered by the updated report, the positivity rate is now around 10 to 12 percent, more than double of the World Health Organization's (WHO) threshold of 5%. To be below this threshold indicates that, by WHO standards, the pandemic is under control.

To determine the hot spots daily cases in June were separated to two-week intervals and were each assigned to one of the component cities of the NCR. It was revealed that the DOH category of "Unknown City" was the main source of the dramatic rise in positive cases.

With this concerning increase in cases, the hospitalization occupancy has also notably spiked. Eleven cities and municipalities of NCR, namely, Makati, Las Piñas, Quezon City, Valenzuela, Pateros, Manila, Mandaluyong, Malabon, Navotas, Taguig, and Muntinlupa have exceeded the 70% "Danger" hospitalization occupancy limit that the DOH set. However, the number of ventilators in use has not had the same increase, which may point to milder cases being experienced by a younger patient population, as reported in the news media.

The researchers strongly recommend: maintaining the General Community Quarantine of NCR until positivity rates are ideally below five percent and hospitalization occupancy rates are below 50%; "enforcing public health reporting policies that will lower the number of 'unknown' positive cases that lack a geographical identifier; applying timely and closely supervised targeted lockdowns; and restricting the movement of people who wish to leave the NCR until the surge has been brought under control.

It was also pointed out that "If localized lockdowns are unable to slow the spread in the NCR, the government must be ready to return the component cities of the NCR to an MECQ or even an ECQ to protect our health care system and to minimize cases and deaths."

Fr. Nicanor Pier Giorgio Austriaco, O.P., Ph.D., S.Th.D., a Research Fellow at the Center for Religious Studies and Ethics and a Visiting Professor of the College of Science in UST, also holds the posts of Professor of Biology and Theology at the Providence College in the United States, and Principal Investigator of Austriaco Lab. He has published over 50 peer-reviewed papers in biology, philosophy, and theology, and two books, including "Biomedicine and Beatitude: An Introduction to Catholic Bioethics," which was recognized as a 2012 Choice Outstanding Academic Title by the Association of College and Research Libraries. He is a bioethics consultant for the Catholic Bishops Conferences of the United States and of the Philippines.

Assoc. Prof. Bernhard Egwolf, Dr. rer. nat, from the UST Department of Mathematics and Physics, holds a Doctor of Natural Sciences degree from the Ludwig Maximilian University of Munich, Germany. His studies have been published in reputable journals, like the Journal of Computational Chemistry, Journal of Biological Chemistry, and the Journal of Molecular Biology, among others. He took part in a two-year post-doctoral research fellowship in the University of Chicago in 2007 upon receiving a grant from the German Research Foundation. Currently, he is a researcher at the UST Research Center for Natural and Applied Sciences.

UST Miguel de Benavides Library is 'new normal' ready with online services

Since the start of the quarantine in March 2020 due to the COVID-19 pandemic, the University of Santo Tomas, following the policies set by the government, has suspended its public on-site operations. Despite the situation, the Library has never stopped its services virtually support the informational needs of the Thomasian community. Keeping its patrons' learning needs is the top priority of the Library. Thus, at the start of the implementation of quarantine, online reference service and support have been provided; , access to library accounts has been extended, and access to electronic resources has been promoted and made accessible on a 24/7 basis for Thomasians.

For the Academic Year 2020-2021, the Library is presently engaged in full-time preparation for its services in the new normal complementing the remote delivery of instruction with these guidelines to different services:

Remote Access to e-Resources

Over 1,000 e-books, around 35 databases with some e-resources on trials and open and free access links are available to library patrons of the University. A digital library consisting of rare and historical resources of the University, current UST journals, Filipiniana Theses and Dissertations (with limited pages only), and archival materials are also available. These online resources are accessible anytime and anywhere for free.

Online Library User-Education

This service includes library orientation, online database tutorials, and specialized instruction. The online library orientation is much needed at this time to acquaint the faculty members and students on the Library's guide to new normal most especially on the access and use of electronic resources. This service is open to all the departments in preparation for the upcoming academic year in which

the "enriched virtual mode of teaching" will be implemented in the University. The academic units through their respective library coordinators can request for an orientation schedule.

Currently, faculty members are attending online Library Orientation being conducted by members of the Library staff. Moreover, by the start of the academic year, the Library will conduct an orientation for all freshman students to acquaint them with the new normal Library services.

Ask a Librarian

Those who have questions may ask a Librarian for assistance via email, phone, or live-chat.

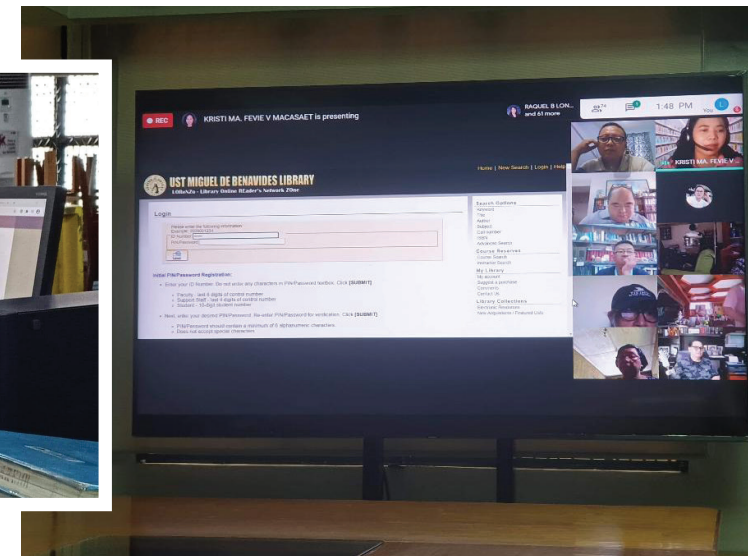
Current Awareness

The Library informs its patrons of the new acquisitions through its website and social media accounts.

UST MIGUEL DE BENAVIDES LIBRARY TO PAGE 6



Humanities Section Acting Head Librarian Mr. Maynard M. Vitug, gives an orientation to faculty members and administrators of the Faculty of Arts and Letters .



Graduate School Section acting Head Librarian Mr. Edward H. Puzon (not shown in photo, facing computer), gives the orientation to UST Graduate School faculty members.

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One of the book drop stations found near campus gates so borrowers do not have to enter University premises

Grammarly

Grammarly account may be requested by faculty members and Graduate School students who are currently enrolled.

Suggest a Purchase

Enhance the library's collection by sending suggested library materials for purchase. The acquisition of e-resources will be prioritized. However, print and non-print materials may still be recommended.

Borrowing of Library Materials

Administrators, academic officials, faculty members and support staff may check-out library materials following the Circulation guidelines of the library. (until the students are allowed to enter the campus)

Returning of Library Materials

Library materials may be returned without having to get inside the campus. A borrower may return the books by using the book drops located at the España Gate 1, or Dapitan Gate 10. The Library has started the dissemination of the above information through its website and social media accounts.

Library coordinators of the different academic units have been informed that they could request for an orientation or e-resources tutorial schedule for their faculty members and students to be acquainted with the new guidelines.

The Library is also harnessing the knowledge and skills of its librarians and staff to ensure that they will be placed in the flow of online teaching and learning in the University by providing them with additional technology-related training and identifying their essential technological skills in this new normal. The "repurposing" of the library staff is essential nowadays to be even more capable of serving its patrons in this challenging situation.

Since the impact of COVID-19 will be felt for years, libraries need to be more dynamic, creative, and responsive in giving its best service than ever before. The UST Library ensures that it will adopt the new trends in these challenging times for education and will continuously support the University in implementing the demands of the new academic environment.

The Library will always remain engaged, connected, and committed to support the information needs of Thomasians.

For updated announcements, please check its website at library.ust.edu.ph and social media accounts: Facebook, Twitter & Instagram: @ustmdblib

Document Delivery

Readers may get full-text electronic journal articles and book chapters from various subscribed databases and open and free access resources. With this service, students will be able to read the library resources they need anytime.

TURNITIN Service

Research papers of the faculty members and graduate school students may be run through the Turnitin software to help avoid plagiarism.

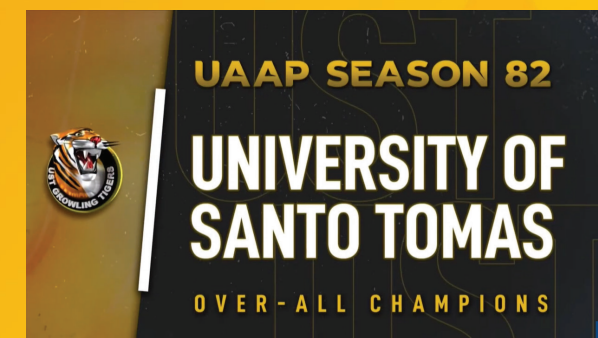
UST named Season 82 UAAP general champion, clinches double championship four-peat



UAAP 82
ALL FOR MORE



UST Rector Very Rev. Fr. Richard G. Ang, O.P., acknowledges the honor of UST being named the overall champion through a video message [screenshot obtained from ABS-CBN Sports YouTube channel].



UST is announced as the Season 82 overall champion for both the college and high school divisions [screenshot obtained from ABS-CBN Sports YouTube channel].

The University Athletic Association of the Philippines UAAP's 82nd season, which ended prematurely because of the COVID-19 pandemic, was officially closed on July 25 through a virtual ceremony, with the University of Santo Tomas (UST) amassing enough points to earn the overall title in both the college and high school divisions for the fourth straight year.

Outgoing UAAP president Emmanuel Fernandez of the Ateneo de Manila University, Season 82 host school, initially announced UST's championship at the online Philippine Sportswriters Association (PSA) Forum held on June 16, 2020.

UAAP cancelled its season on April 7, leaving the volleyball, football, baseball, softball, athletics, lawn tennis and 3x3 basketball events unfinished. At that point, six of 18 championships in high school and 21 of 31 titles in college had already been awarded, paving enough way for UST to be announced as champions. From those completed tournaments, teams from UST obtained five gold medals in the college division (men's and women's beach volleyball, men's and women's table tennis, men's judo) for a total of 209 points.

UST also bagged five silver medals from both men's and women's basketball, men's chess, women's taekwondo, and women's judo, as well as three bronze medals from men's swimming, women's chess, and men's taekwondo.

In the high school division, UST still emerged victorious with a total of 159 points after wins in boys' and girls' swimming, boys' taekwondo, boys' judo, girls' basketball and boys' baseball. It is the Tiger Cubs' sixth straight and 21st overall high school trophy.

The computation solely came from first semester sports after majority of the second semester sports were called off in consideration of community quarantine restrictions.



UAAP Season 82 general champion trophy (photo from UST Institute of Physical Education and Athletics)

UST Museum Director is elected to ICOM Philippines Executive Board



Fr. Abaño, O.P.

UST Museum Director Fr. Isidro Abaño, O.P. was elected member of the International Council of Museums (ICOM) Philippines Executive Board during the General Assembly held recently at the Ateneo Art Gallery. His term of office will run for three years.

The UST Museum is a longstanding institutional member of ICOM, with Fr. Abaño being one of the founding members of the ICOM University Museums and Collections (UMAC) Sub-Committee, established in Barcelona, Spain in 2001. He has also served as a Board Member of UMAC from 2013 to 2016, and spearheaded the UMAC 2015 International Conference hosted by UST.

The incumbent Chair of ICOM Philippines is cultural anthropologist Dr. Nestor Castro, and the Board Members along with Fr. Abaño are: artist and businessman Mr. Anthony Gedang; Ayala Museum Senior Manager of Exhibitions and Collections Ms. Aprille Tijam; applied anthropologist Mr. Joseph Lalo; Asian Institute of Maritime Studies president Ms. Arlene Abuid-Paderanga; and historian and author Dr. Ambeth Ocampo.

Dean Dacanay elected to PPhA board of trustees

Faculty of Pharmacy Dean Prof. Aleth Therese L. Dacanay, Ph.D., was elected as member of the Board of Trustees of the Philippine Pharmacists Association, Inc., (PPhA) during its national elections held on June 29, 2020. The results were released on July 1, 2020, from which point Dean Dacanay will serve until the next elections in 2022.

In 2016, Dean Dacanay was awarded by PPhA as Outstanding Pharmacist in Education. She concurrently serves as President of the Philippine Association of Colleges of Pharmacy and is a member of the Continuing Professional Development Council for Pharmacy of the Professional Regulation Commission (PRC), which recognized her as Most Outstanding Professional in Pharmacy in 2018.



Dean Dacanay

Dean Empleo of UST-AMV COA appointed PICPA nat'l committee chair for faculty development; Caliwan, Garcera elected to key positions



Dean Empleo



Caliwan



Garcera

UST-Alfredo M. Velayo College of Accountancy (UST-AMV COA) Dean Prof. Patricia M. Empleo, Ph.D., was appointed Chairperson of the National Committee for Faculty Development of the Philippine Institute of Certified Public Accountants (PICPA) for fiscal year 2020 to 2021. She will also serve as Co-Chairperson of the National Committee for Research & Development, and member of the Continuing Professional Development Council.

Dean Empleo previously chaired the PICPA Research Committee for two fiscal years, 2016 to 2017 and 2017 to 2018, before she chaired the Research Committee of PICPA Foundation, Inc., which funded the research projects of PICPA, from 2018 to 2019.

In the same fiscal year, UST-AMV COA Secretary Francisco M. Caliwan, Jr. will serve as Secretary of the National Committee for Faculty Development and the National Committee for Research & Development.

For the PICPA-Western Metro Manila Chapter, College Secretary Caliwan was elected Director for Education and fellow UST-AMV COA faculty member Mr. Alfonso G. Garcera was elected Director for Commerce and Industry and will serve until 2021.

RESEARCH

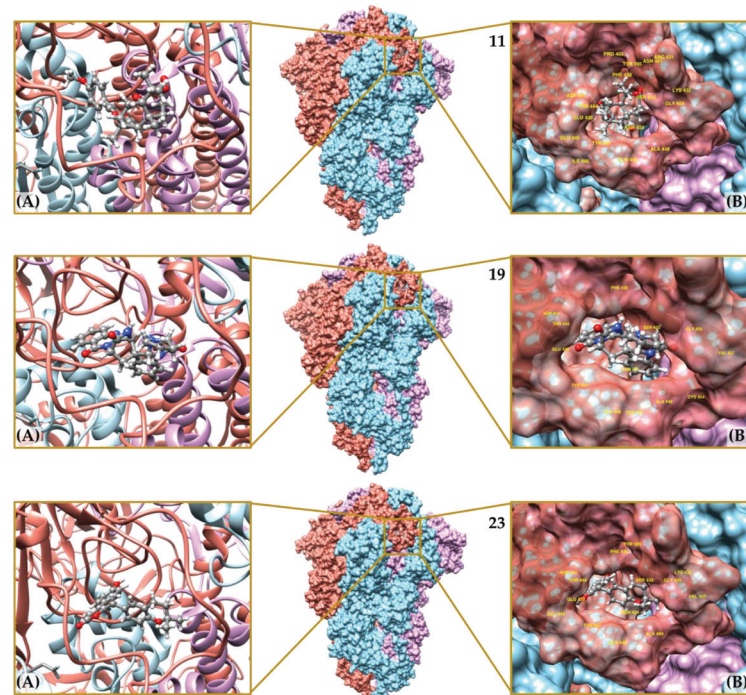
UST researchers use computational models to screen compounds from fungi against SARS-CoV2

A team of researchers from the University of Santo Tomas worked in collaboration with researchers from the Shanghai Jiao Tong University in China to create computational models to screen compounds from fungi against SARS-CoV2 which causes the COVID-19 pandemic.

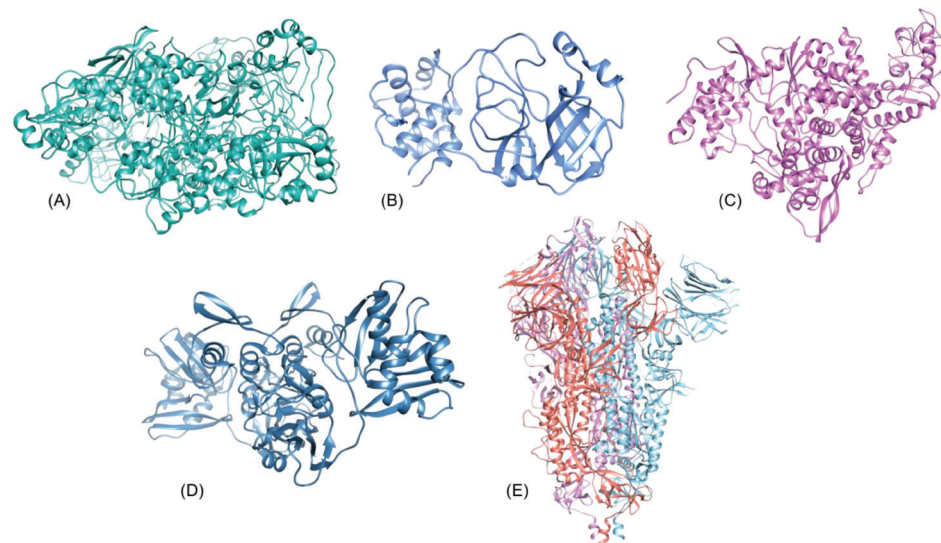
The team's aim was to find potential drug candidates to combat SARS-CoV2. The study focused on the exploitation of fungal secondary metabolites with profound antiviral activity on a range of known pathogenic viruses such as the human immunodeficiency virus, influenza virus, herpes simplex virus, and hepatitis C virus – as potential drug prototypes against the SARS-CoV2 virus.

Prof. Allan Patrick G. Macabeo, Dr. rer. nat., led the UST contingent, composed of Mark Andrew O. Mendoza, Justin Allen K. Lim, Jehiel Karsten H. Ong, and Luis Agustin E. Pilapil (Research Center for the Natural and Applied

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Docked poses of 11-dehydroxyisoterreulactone

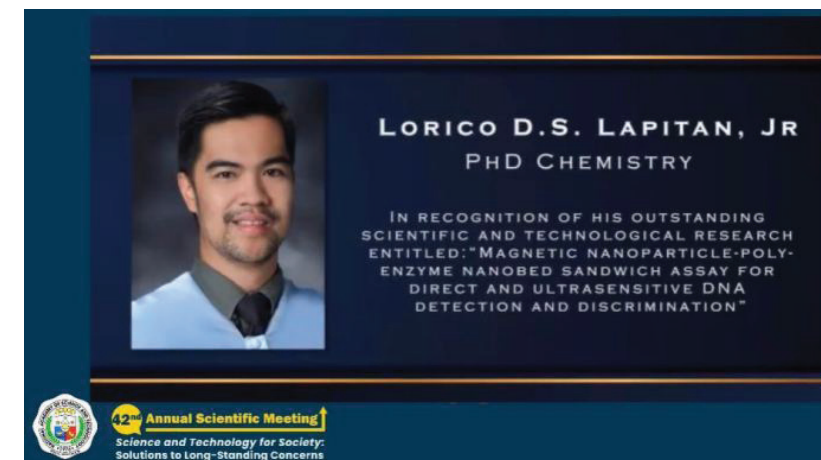


Structures of SARS-CoV2 target proteins: (A) papain-like protease, PLpro, (B) chymotrypsin-like protease, 3CLpro, (C) RNA-directed RNA polymerase, RdRp, (D) non-structural protein 15, nsp15, and (E) spike binding domain to GRP78.



Prof. Macabeo

Engineering mentor's cancer detection research wins him NAST Young Scientists plum



Lapitan is announced as winner through a livestream.



Lapitan presents his paper to the judges remotely via Zoom.

University of Santo Tomas Department of Chemical Engineering mentor Lorico D.S. Lapitan, Jr., Ph.D., emerged the Grand Prize winner of the National Academy of Science and Technology's (NAST) 2020 Talent Search for Young Scientists (TSYS) on July 10, 2020. The announcement was conducted through a livestream on the NAST Philippines Facebook page.

Lapitan's winning research, titled "Magnetic Nanoparticle – Poly-Enzyme Nanobead Sandwich Assay for Direct and Ultrasensitive DNA Detection and Quantification" was a component of his dissertation for his Doctor of Philosophy degree in Chemistry. Through a Leeds International Research Scholarship (LIRS), he graduated in 2018 from the University of Leeds in the United Kingdom.

The DNA sensing strategy outlined within the paper is noted to be highly selective and may have good potential for rapid detection and diagnosis of many human diseases such as cancer, vascular, and neurodegenerative diseases. A commonality among these illnesses is that they are closely associated with single-nucleotide polymorphism or SNP, which the DNA sensor "offers excellent discrimination between the perfect-match and single-base mismatch targets (i.e. SNP)."

Also highlighted in the paper is that "this poly-enzyme nanobead is compatible with other biosensing

and bioassay formats, including the clinical enzyme-linked immunosorbent assays (ELISA) to greatly improve the signal amplification and assay sensitivity, and hence it can impact a wide range of biosensing, bioanalytical, and diagnostic research areas."

Dr. Lyn Marie Corpuz, a fellow Engineering faculty member and RCNAS researcher, finished as one of the five finalists and received a special citation.

Along with their fellow finalists, namely, Darlon V. Lantican from the University of the Philippines (UP) – Los Banos, Wilfred John E. Santiañez, Ph.D. from UP – Diliman, and Zomesh Artus N. Maini, Ateneo De Manila University, Lapitan and Corpuz presented their research remotely to the public, enabled by Zoom, on June 26, 2020 at the Philippine Science Heritage Center (PSHC) in Taguig City. The session was moderated by UST researcher Dr. Allan Patrick G. Macabeo.

Lapitan is currently the Chemistry Laboratory Supervisor of the UST Faculty of Engineering and is a research fellow of the UST Research Center for Natural and Applied Sciences. Lapitan obtained his Master and Bachelor of Science in Chemistry degrees from the University of Santo Tomas.

The NAST Talent Search for Young Scientists is an annual project that encourages young people to pursue a career in science. The grand prize includes a P500,000 research grant from the Department of Science and Technology.

LECTURES AND CONFERENCES

Ramos of EdTech discusses online instruction at UST in PDI webinar



UST Educational Technology Center Director Asst. Prof. Anna Cherylle M. Ramos speaks with Philippine Daily Inquirer editors during her segment of the webinar.

UST Educational Technology Center Director Asst. Prof. Anna Cherylle M. Ramos discussed contextualized e-learning as part of the national broadsheet Philippine Daily Inquirer's webinar series INQlusive. The session was titled "Learning in Focus: Are we ready for an online semester?" and was livestreamed on June 26, 2020 at Inquirer.net's Facebook page.

The webinar, which tackled the changes, challenges and concerns on taking education from the classroom to the internet, also included as resource speakers the Department of Education (DepEd) Undersecretary Atty. Nepomuceno Malaluan, De La Salle Lipa College of Information Technology and Engineering Dean Jorge Bocobo, Kaya Natin! Movement for Good Governance and Ethical Leadership Lead Convenor Harvey Keh, and Sanggunian ng mga Paaralang Loyola ng Ateneo de Manila President JB Bejarin. The session was moderated

by Inquirer Super Editor Pam Pastor and Inquirer Lifestyle Desk Editor Ruel de Veyra.

"There's a wide variation in terms of student and teacher readiness for remote instruction, and digital equity gaps that must be addressed," Asst. Prof. Ramos acknowledged, saying that "The decision of one school [regarding continuity of classes online] will be different from that of another school. In the case of UST, to be proactive in post-COVID times, our University is in close coordination with the Inter-Agency Task Force (IATF) which guides all institutions on how to best deliver instruction based on the context of the learners."

Asst. Prof. Ramos noted that even prior to the pandemic, UST has been revising the standard training curriculum for online instruction. She added that "Our general education courses are already in blended instruction while many of our technical courses are into web enhanced courses. Right now, we are moving into the enriched

virtual model, mixing more flexibility in terms of online and offline activities that can still be delivered while fully in distance mode, and so that our faculty can rapidly teach in this manner."

To assist the faculty members in the transition, a "rapid e-learning standard training program" began in the last week of June for over 1,000 tenured faculty members. With a month of self-paced instruction and virtual training classes, Asst. Prof. Ramos explained that "These training activities that we provide our teachers are content rich, pedagogically driven, and technologically assisted by our educational technology experts in the University. It is also contextually enriched by the program outcomes needed by the industry. This will eventually allow each of our faculty to prepare the courses and be ready for the fully online environment before August."

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RAMOS OF EDTECH FROM PAGE 12

After the training, weeks will be dedicated to quality assurance of the courses within the academic units to ensure that "the courses are grounded in sound instructional design principles for online delivery," said Asst. Prof. Ramos.

In her closing message, Asst. Prof. Ramos reiterated that day-to-day survival is still the topmost priority amid the pandemic. Though as teachers, "It is still expected that we would still perform our primary function, that is the continuity of teaching and learning, and to ensure that our new reality does not affect the quality of education. We should continue to uphold the values of equity, diversity and inclusion, in our own context, and we must stay relevant, not just because of the crisis, but also because we are preparing our students to succeed in a technology pervasive world."

Asst. Prof. Ramos serves as president of the Philippine e-Learning Society, and has been in the field of educational technology for 2 decades. She is a certified e-learning specialist through a scholarship granted by the federal government of Germany and is a digital literacy alumna of the distinguished Australian Fellowship Awards 2015 from Queensland University of Technology.

The webinar is publicly available through this link: <https://www.facebook.com/inquirerdotnet/videos/868869616938198/>



Webinar poster

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Sciences); Kin Israel R. Notarte, Adriel M. Pastrana, and Rey Arturo Fernandez (Faculty of Medicine and Surgery); Mark Tristan J. Quimque and Rhenz Alfred D. Liman (Graduate School). Joining them from Shanghai were Abbas Khan and Dong-Qing Wei.

Citing the fact that nearly half a million have died of COVID-19 "because of complications and lack of therapeutic regimens," Macabeo said the team was inspired to perform a "computational-driven research that enabled the screening of compounds previously obtained from fungi against enzymes/protein playing important role on viral infectivity and virulence of SARS-CoV2."

Through bioinformatics and computational modelling, the researchers were able to identify compounds that can potentially hamper the attachment, replication, protein maturation and even host immunity evasion potential of SARS-

CoV2. These viral mechanisms, according to Macabeo, are important virulent factors that ascertain the successful invasion and infectivity of the said virus. Furthermore, if researchers "can inhibit the enzymes and proteins essential for these mechanisms to happen, then [they] might be able to shut down the infectivity and pathogenicity of SARS-CoV2."

Macabeo and his fellow researchers "were able to fish out compounds from the antifungal library pool with promising anti-COVID properties under virtual conditions." Through molecular docking, molecular dynamics simulations, and pharmacokinetic analysis, they point to the "in vitro and in vivo promise of these compounds for the discovery and development of anti-COVID drugs."

Specifically, they found "five compounds with promising anti-COVID properties in silico. Of note, quinadolone B, a fungal-derived natural product, was

found to inhibit all five target proteins and enzymes in SARS-CoV2. Given the promising activity of quinadolone B, this prompted us to do a further study, particularly doing structural iterations of this compound to improve its antiviral and pharmacokinetic properties."

The project was a collaboration between Thomasian scientists and experts from Shanghai Jiao Tong University in China. For this particular project, Chinese collaborators helped in performing molecular dynamics simulations for the lead compounds that the Thomasians identified through molecular docking and in silico ADMET profiling. The computer-assisted technologies provided by the Shanghai researchers helped validate the in silico results.

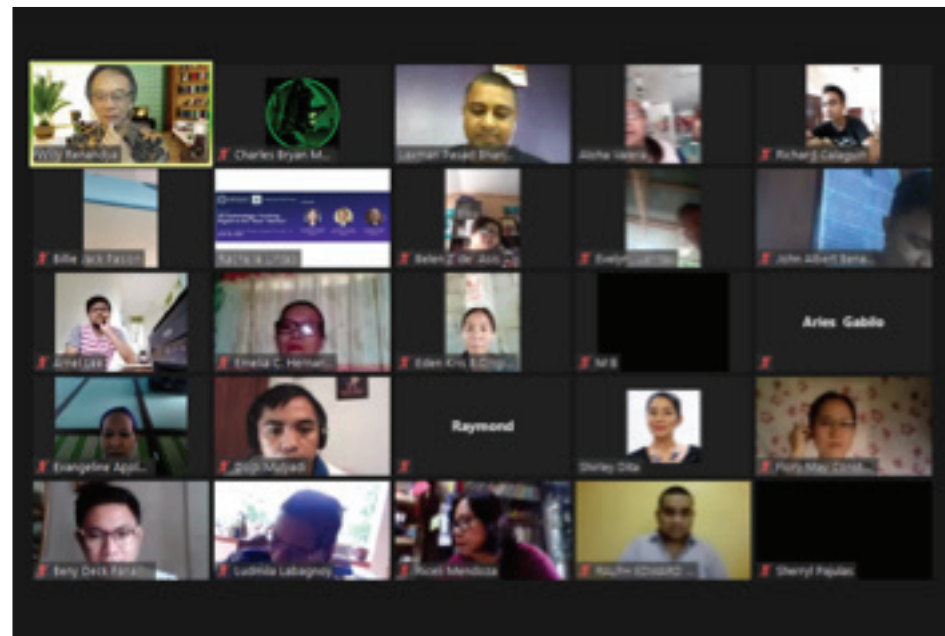
At present, the study remains to be "one of the few computational studies that primarily tested secondary metabolites from fungi against SARS-CoV2."

RESEARCH

Dept. of English, LSP host webinar on technology in Language education in 'Now' Normal



Dr. Willy Renandya (left) interacts with the webinar participants.



The UST Department of English and Linguistic Society of the Philippines (LSP) jointly hosted a webinar titled “ELT[technology]: Teaching English is the ‘Now’ Normal” held on June 20, 2020 focusing on the use of technology in English language education. The two-hour webinar was attended by 300 participants from different parts of the Philippines as far as Marawi and Sultan Kudarat, and other Asian countries such as Indonesia, Nepal and Thailand.

The speakers were National Institute of Education, Singapore Principal Lecturer Dr. Willy A. Renandya, UST Graduate School Asst. Dean Dr. Camilla J. Vizconde, and LSP Director for Membership Dr. Dennis H. Pulido.

Renandya’s talk titled “Is technology a silver bullet for language learning” argued that technology should be used in ways that are well-aligned with L2 learning theories involving

language nutrition, processing, and use.

Vizconde’s session on “Digital Literacy in the Now Normal” tackled the meaning of the “now normal”, the digital literacy frameworks previously provided and how they operate in the new normal, how higher education calibrates itself to adapt to the new normal, how families navigate in the new normal and the common ground for teachers and families in the new normal.

Pulido’s lecture on “Computer Technology and Reading” described how students use computer technology and the internet to develop their reading skills. He also presented certain interventions that the teachers can adopt to further enhance the reading skills of the students.

The webinar was moderated by UST Department of English Chair Dr. Rachelle B. Lintao.

Science webinar presents potential COVID-19 vaccine with internationally known vaccinologist

As the opening lecture to celebrate the college week of the University of Santo Tomas (UST) College of Science, the topic “Vaccine for COVID-19: What we know and what we don’t know” was discussed online by vaccinologist and Takeda Pharmaceuticals International Medical Director Dr. Melvin J. Sanicas. The online discussion was held on July 6, 2020 and livestreamed through the ‘UST-Science’ Facebook page.

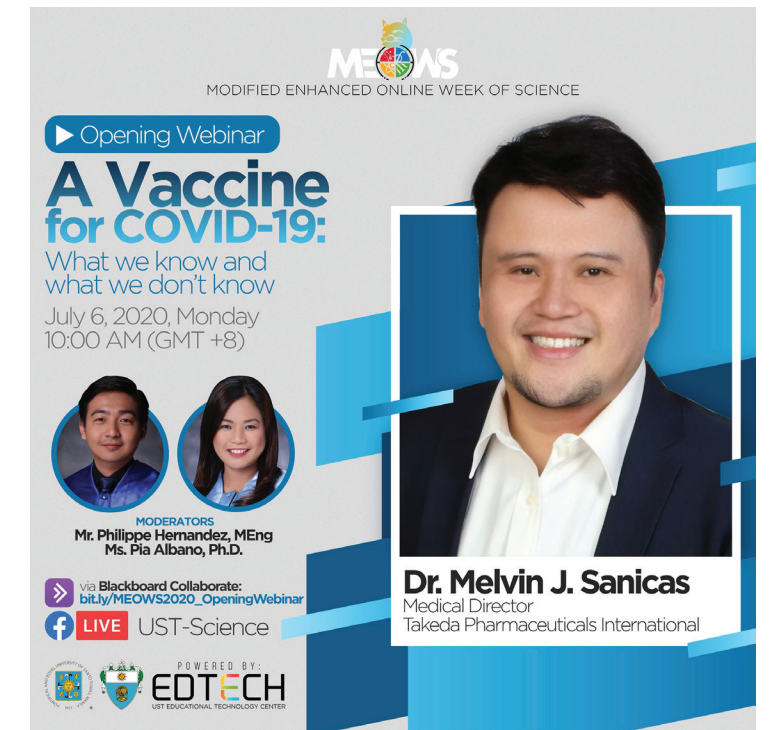
Before delving on his topic, Sanicas, a physician and a scientist, first gave an update on the COVID-19 situation. This was followed by his discussion on the difference between vaccines and drugs, the types of vaccines available, the clinical development of vaccines, and the state of potential vaccines for COVID-19 in the clinical trial stage.

Since COVID-19 began its dreadful spread, finding vaccines that can neutralize its threat has been strongly anticipated, more so “now that the pandemic is accelerating,” said Sanicas, pointing out that globally, the curve has not yet flattened, with over 11 million people still infected as of the webinar’s airdate.

However, an initial challenge to be overcome, according to Sanicas, is that there are fewer vaccine manufacturers in comparison to the large number of intended vaccine recipients, the maintenance of temperature-controlled supply cold chain to keep the vaccine viable can pose difficulty in its distribution, and only a few countries manufacture their own vaccines.

On the state of a potential vaccine, Sanicas explained that around 150 vaccine candidates against COVID-19 are in various stages of preparation. The clinical development stage alone may typically take 10 to 15 years, as it is only part of a longer process including regulatory review and approval. More studies about efficacy and effects normally continue even after the vaccine is approved and licensed.

The lecture summarized the vaccine development process as, “In phase I, small groups of people receive the vaccine to evaluate the safety and reactogenicity and to collect immune response data. In phase II, the potential vaccine is given to people who have characteristics (such as age and physical health) similar to those for whom the new vaccine is intended. In phase III, the study is expanded and the potential vaccine is given to thousands of people and tested for efficacy and safety.”



Webinar poster

Sanicas acknowledged that the vaccine may not be ready soon, however, “We’ve saved several years [within the process of development] because we no longer need to spend much time in the discovery and pre-clinical stage. Of the 150 candidates in pre-clinical stage now, we expect them as well to move into clinical development stage this year, granting that they show that the vaccine has potential and that they have funds,” he shared.

As commonly seen with previously developed vaccines, from around 150 candidates, one will be approved and licensed. But even when a vaccine is finally approved and licensed, there are still questions that will remain, said Sanicas, such as: On efficacy — What are the effect/s of the vaccine, how does it provoke immunity, and how long will its protection last? On operational issues — What is the temperature sensitivity of vaccine which can potentially adversely affect the ease of its distribution? Finally, on accessibility — How will the Philippines get access to the vaccine?

A physician-scientist with over 10 years of international experience in clinical research and development, regulatory and medical affairs, and program management of vaccines, Dr. Melvin J. Sanicas was a Global Health Fellow and Program Officer at the Bill & Melinda Gates Foundation where he launched the Collaboration for Tuberculosis Vaccine Discovery. He has written about infectious diseases and global health topics for the World Economic Forum, Project Syndicate, HuffPost, TED-Ed, and a variety of other publications. Currently, he is a partner at the Brighton Collaboration, a Fellow of the Royal Society of Tropical Medicine and Hygiene, and a Fellow of the Royal Society for Public Health.

ARTS AND CULTURE



Lee's design for "The Bridge" in Western Visayas wins grand prize in the 2020 ArchiNEXT competition.

UST Architecture student brings home top prize in national designer's competition

Third year Architecture student Bridge Lee won both the Grand Prize and Best Presentation award in the national architecture design contest ArchiNEXT. He was one of the three students from the University of Santo Tomas (UST) College of Architecture who got into the top 10 of ArchiNEXT. The contest results were announced on June 11, 2020.

Lee's winning design was titled "The Bridge" that presented plans for a site that would ideally be located in Bancal Bay, Iloilo, Western Visayas. Featuring modular designs that use locally available materials and building solutions that give the local community the ability to build it themselves, the proposed site has

schools, restaurants, and an amphitheater on elevated walkways. Lee also advocates for and includes in the design mangrove forests along the coastline to protect the locals from storm surges and promote marine life reproduction.

As Lee described his presentation, it had five primary considerations, namely, sustainability of local resources, fisher folks' continued livelihood, encouragement of the different roles of the community, and the creation of a space where people can gather holistically. In the ArchiNEXT press release, judges commented that "Lee's entry made a remarkable purpose and he proposed sustainable materials for the site. His idea of helping the locals rebuild

a community while learning and earning made an impact in deciding his fate in the competition."

At seventh place was fellow Architecture student Timothy James Arambulo. Inspired by the beauty of Spanish influence expressed through structures in the Philippines, his design titled "Daungan" was a "cultural and architectural fusion that allows visitors in the site to appreciate the importance of the past in the present time." His park's planned amenities include sites that are inspired by galleons, sails, local culture, and even a balangay.

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Another Thomasian, Lorenzo Angelo Mauricio, won ninth place for his design titled "Green Horizon: About the People, for the People." Having chosen the site of Quezon City's "Welcome Rotonda," his design envisioned a livable community with walkable streets, green environment, and sufficient safe space for the public to move around.

An annual competition that is open to third and fourth year Architecture students in the Philippines, "ArchiNEXT: Hochieng Chiu Group (HCG) Young Designers' Competition" challenges the ingenuity and proficiency of young students to design sound yet sustainable architectural masterpieces. For the 2020 competition, it had the theme "UGNAYAN: A Community Multiplex Interactive Space." It sought designs for an "accessible, eco-friendly, and well thought out interactive structure for an ideal community which is simultaneously a central, holistic public space that aims to nurture learning, recreation, and play."

Serving as final judges were Ar. Menchi Manalo, Ar. Michael Tomeldan, Ar. Ana Mangalino Ling, Ar. Efen Aurelio, and Ar. William Ti, Jr. According to the ArchiNEXT website, the grand winner received a prize of PhP 100,000.



Arambulo's Spanish-inspired design wins seventh place.



Mauricio's design for the Welcome Rotonda bags ninth place.

COMMUNITY DEVELOPMENT

Herrera of Architecture continues COVID-19 aid efforts with UAP-MAC

College of Architecture Student Welfare and Development Committee Coordinator Ar. Henry Felix Herrera recently organized swab booth and protection pack donations for COVID-19 frontliners in coordination with the United Architects of the Philippines Manila Atelier Chapter (UAP-MAC).

Herrera, a former president and the incumbent auditor of the UAP-MAC, was assisted by Ar. Mari-Louie De Leon, Ar. Jose Mari Tan, Engr. Bryan De Leon, Dr. Paz Genevieve Herrera, and the Institute of Community and Family Health, Inc. (ICFHI) Batch 2018. They partnered with Boysen Paints, Juan Balikbayan Inc., Capitol Masonic Lodge, Blac Designs, Fusion, Maynilad Water Services, Inc., and Awards Central to obtain donations.

Over the course of two months, swab testing booths were distributed to different beneficiaries including the University of Santo Tomas Hospital, Philippine General Hospital, Sta. Ana Hospital and Mary Chiles General Hospital, Jose Reyes Memorial Medical Center, Maria Clara Health Center, and Dapitan Quarantine Facility in Manila; World Citi Hospital, Mount Grace Fe Del Mundo Hospital, AFP Medical Center in Quezon City; Marikina Testing Facility and Amang Rodriguez Medical Center in Marikina City; Antipolo Health Facility in Antipolo City; Tayabas Community Hospital Inc., in Quezon Province; and Las Piñas Health Office in Las Piñas City. Donations to other hospitals within the National Capital Region are ongoing.

In addition to booths, 60 bags with sets of face shields, bath soaps, and a month's supply of Vitamin C were distributed to barangays in Zone 48, Sampaloc, Manila, while another



Herrera (rightmost) during the turnover at UST Hospital (photo courtesy of UAP-MAC Facebook page)

40 sets of the same protection pack were distributed to the Philippine Coast Guard (PCG) at the Province of Bataan through Capt. Jeremiah Ching and PCG-Auxiliary. A hundred face shields were sent to Legarda Health Center and barangays in Zone 46 in Sampaloc, Manila.

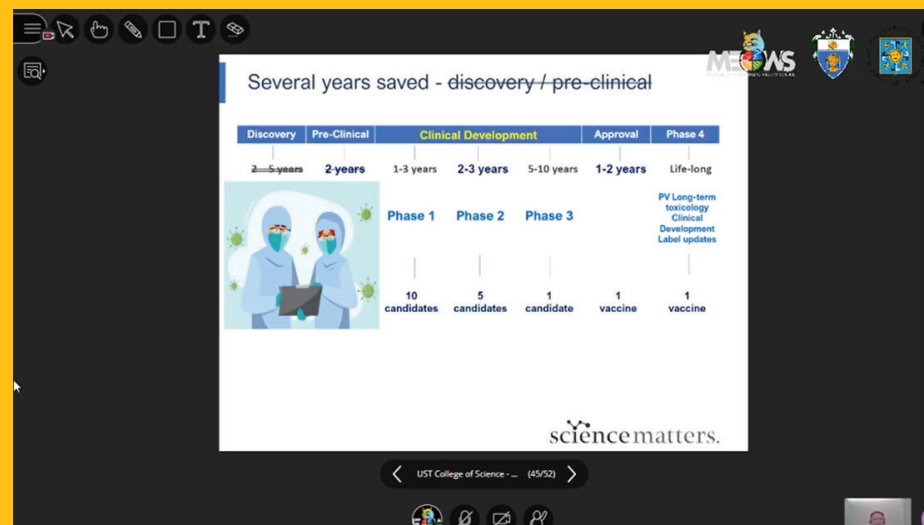
UST SCIENCE WEBINAR FROM PAGE 15

UST College of Science Dean Prof. Rey Donne Papa, Ph.D., explained that the annual Science Week activities — now called Modified Enhanced Online Week of Science (MEOWS) — had been moved to a web-based medium, because “We wanted to ensure that we can continue to deliver quality education to our students in spite of the difficulties posed by this pandemic.”

College of Science faculty member Prof. Pia Marie Albano, Ph.D., and Communications Bureau Assistant Director for Online Mr. Philippe Hernandez served as moderators of the webinar.

The webinar is publicly available through this link: <https://www.facebook.com/193178557513642/videos/270944370994824/?v=270944370994824>

LECTURES AND CONFERENCES



THE ACADEMIA

Official International Bulletin of the University of Santo Tomas

Vol. L No. 7

July 1 - 31, 2020

ISSN0117-0083

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