

Going for the Gold

2021 ANNUAL REPORT



UP Engineering
Research and
Development
Foundation, Inc.

Vision

By 2022, UPERDFI, through its network, will enable the sustainable development and optimum utilization of the intellectual capital of the UP College of Engineering (UPCOE) as the premier source of technology for business and industry.

Mission

To bridge the UPCOE and society for inclusive development and collective prosperity.

Identity

The UPERDFI is a non-profit, non-stock foundation, recognized by BIR as a Donee institution, consisting of members who are dedicated to mobilizing support for the UPCOE and its stakeholders.

Core Values

- Knowledge & Expertise
- Integrity & Transparency
- Seamless Communication
- Stewardship
- Excellence & Effectiveness
- Service to & Sharing Results with Society

We link industry with leading edge technology

	Leadership	Sustainability	
Societal Impact	How can our stakeholders benefit from our services?		
	Raise UPCOE facilities and faculty to world class standards	Improve Philippine competitiveness & economic prosperity through technology	
Finance & Sustainable Growth	What do we commit to our stakeholders?		
	Grow & diversify revenue base	Increase accessible and leveraged assets from investments, donations, trusts, wills & grants to ₱1 Billion by 2022	Ensure viable financial position through sound fiscal management
Constituency & Networking	Who are our customers, how do we satisfy their needs?		
	Build a thriving network of committed & generous stakeholders	Facilitate funding and linkages for the development of high value services and solutions	Maintain good relations with the college and with UP
Internal Processes	At which processes must we excel?		
	Leverage deeptech and other assets to accelerate lab-to-market offtake	Identify the needs of stakeholders: members, donors, investors, partners & others	Enhance support system to all stakeholders
Learning & Growth	How do we equip our organization with the needed competencies, values and tools?		
	Attract, develop, capacitate and retain talent	Equip trustees & members with tools to support the strategy	Build growth enabling infrastructure for nontraditional activities



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UP Engineering R&D Foundation, Inc. Report to Stakeholders

Chairman's Message

This year has marked the end of the first 50 years of the Foundation, and we write this annual report to usher in the next 50 or more years to come. The prevailing socio-economic situation has not been favorable for our operations and finances due to the drop in interest rates.

Thankfully, we have been blessed by our donors and friends who tirelessly helped UPERDFI and the College. We salute the Committees and Ad hoc Teams for tirelessly driving our efforts. We continued with our legacy initiatives to support the faculty and students through professorial chairs, scholarships, and awards. We forged partnerships with industry and the academe to encourage research and commercialization of innovations through collaborative agreements and seed funding. We also continued supporting the digital transformation initiatives of the College and our own processes.

We were also able to look back into our first 50 years and reflect upon our strategic objectives as we draw closer to the golden mark. Everybody started to realize what we have missed before, and we are better-equipped moving forward this time.

On behalf of the UPERDFI Board of Trustees, I express our sincerest gratitude to the generous alumni and friends for their support to UP Engineering. I also thank the officers led by President Val Reyes, our hardworking Executive Director Tito Aliga, and our staff. Thank you for pushing on given these challenging times.



Alex Sy Sun Eng
Chairman

President's Report

On the year before we celebrate our foundation's 50th anniversary, we have chosen *Going for the Gold!* as the Annual Report theme. Aside from looking forward to this major milestone in 2022, we remain driven by the aspiration to help the U.P. College of Engineering (COE) excel as the premier engineering institution and as a source of research and development initiatives that significantly contribute to inclusive development in the Philippines.

For the second straight year, the Covid pandemic continued to cast a heavy burden on the health and safety of people and also slow down economies worldwide. The Philippines was preoccupied with catching up with the rest of Asia on its vaccination coverage after experiencing delays in the supply of vaccines, resulting in a policy of limiting movements and activities to what were deemed as essential. The country's education sector to which the University of the Philippines belongs was limited to online classes throughout the year.

In this prevailing environment, the UPERDFI Board of Trustees was again constrained to conduct its meetings and activities online the whole year-round, enabled in a large part by online video conference tools. The seemingly endless surge in Covid infections in the country from the beginning of the year continued to test our ability to adapt to the unpredictable stop-and-go situations we all faced. Through all of these, we found ways to carry on with business.

The year began with the continued pursuit of the flagship dreams that previous administrations had envisioned, particularly the following initiatives:

1. Fund-raising for ₱20 million to purchase the hardware for a **High Performance Computer (HPC)** facility for the COE;
2. Showcasing the intellectual capital of both the COE and the foundation by promoting the **Energy System Model (ESM)** as an energy demand and supply forecasting tool;
3. As the year progressed, testing our new **Innovation Model** to move the foundation between COE and the rest of the R&D ecosystem from being a *bridge* between COE and the rest of the R&D ecosystem to the role of an *integrator*;
4. To boost internal capability, our comprehensive **Digitalization** project went on-stream with an initial focus on the donation process and migrating financial data into the updated QuickBooks online system acquired for this purpose; and
5. Strengthening our governance process through a formal **Policy** review and documentation in five (5) priority areas - R&D, fund-raising, investment management, project governance, and professorial chair/ faculty development awards.

The COE faculty had to make major adjustments in conducting online classes, modifying lesson plans, and monitoring the learning of their students. R&D initiatives were also hampered

by the inability of researchers to conduct field observations and tests, shifting the reliance toward computer-based simulations, if not delaying the project timetables altogether. In the face of these unfamiliar challenges, *what remained steadfast was the generosity of our donors*. Despite the economic downturn, the Foundation received new donations for seven (7) **Professorial Chair Awards (PCAs)**, six (6) **Scholarship and Study Grants**, and two (2) **Thesis Support Grants**. There were 16 PCAs with expired commitments that were also renewed during the year. These helped alleviate the expiration or resting of several annual donations, enabling the Foundation to support the total need of the COE for 132 PCAs in 2021, including three (3) funded by the UP Foundation, Inc. The year was also marked by new donor institutions who signed up to support the COE Research and Student Assistance grants, i.e. Accenture, Japan Foundation Manila, and Foxmont, in partnership with the UPSCALE Innovation Hub.

Over the second half of 2021, the Foundation focused its efforts to move our flagship projects and sustaining initiatives closer to the finish line as we initiated a call to *Go, Grow and Glow*.

Go

- Two major developments in the **HPC** project were: (a) increasing the fund to acquire the first 1,120 cores of hardware from ₱12 million to ₱18 million by year-end and (b) negotiating a Memorandum of Agreement with PLDT for the latter to donate the annual off-site data management and co-location services to U.P. for five (5) years.
- Digitalization** took a huge step forward after our full-time accounting staff completed the painstaking task of uploading 2021 financial data into the QuickBooks Online system in time for the 2021 external audit. It was made more difficult by the financial data crash of the old QuickBooks system in 2020. Toward the year-end, we acquired a new scanner, a 3-in-1 copier/scanner/printer and subscribed to Google Workspace to equip our digitalized Document Management System. Finally, we met with two banks to move toward setting up our online system for receipts and payments and issuance of online checks.
- We put due attention on the important administrative and operational needs of the Foundation. A key accomplishment was the renewal in October of our Philippine Council for NGO Certification (**PCNC**) **Certificate of Accreditation** for the next five years and the subsequent issuance of the Bureau of Internal Revenue (**BIR**) **Certificate of Donee Institution** of the Foundation in November. This donee status exempts donations above ₱50,000 from donor's tax and grants a 100% deduction of the amount from the donor's taxable income. At year's end, we also hired a Finance and Investment Officer together with an administrative office assistant to boost the manpower of our back-office operations, a long-standing need of the foundation.

On the other hand, The Foundation still has unfinished business at year's end, which will continue to be pursued in 2022.

- The LEAP software-based **Energy System Model for Luzon**, which was presented to industry and government

participants in partnership with the Management Association of the Philippines and with the endorsement of the Senate Committee on Energy, did not go beyond inquiries from prospective users. Our targeted outcomes here range from specific energy-source-related project studies for clients to providing inputs to energy policy and development programs of government.

- The Innovation Committee selected an infant hearing tester device under the **HeLe project** as its pilot research-to-market initiative using the new Innovation Model. Unfortunately, the initial funding proposal to the DOST did not make it through the screening and the assigned project lead of the industry partner resigned from the latter. We need to re-strategize this in the coming year.
- The **ESI01 Textbook and Workbook Project** funded by three generous member donors came to a standstill after the authors could not complete the project as well as give a new commitment. After due deliberation, the Board of Trustees decided to identify new authors with the intent to see the project through to completion. The foundation will not give up on this.

Grow

Growth in Membership and Asset Base was modest during the year. There were 14 new members inducted, which was close to a 7% growth on the starting roster of 203. Three (3) members passed away during the year. We were unable to give enough attention and push in recruitment, focusing instead on reviewing the current membership policy and assessing whether changes were to boost membership and interest among the huge base of COE alumni. Our membership roster is .9% of the total estimated COE alumni, which is a virtual gold mine of talent, resources, and network to be tapped.

On the financial front, the worldwide slowdown further depressed interest earning rates and hampered efforts to generate new sources of funds. Our total asset base did grow by ₱3 million versus 2020 but much of this is attributed to funds that were not spent as planned. This is one of the *biggest areas of opportunity* for the foundation as we work in partnership with the COE to fully utilize the donated funds that we have under our disposal and thereby, fulfill our donors' intentions on a sustained and timely basis.

Glow

We conclude this report with a great deal of optimism of better things to come in the coming year which will mark the **50th anniversary of the UPERDFI**. While there is much more work to be done to achieve the foundation's objectives, the quest to glow and excel remains foremost and will not be diminished. As early as June this year, we formed a Golden Jubilee Committee to plan and execute a memorable celebration of this significant once-in-a-lifetime milestone.

More than the celebration itself, this is an opportunity to inspire our foundation members and partners to strengthen our initiatives on all fronts and demonstrate the capability of the COE to be a rich source of ground-breaking research and a think-tank for helping solve real-life industry and government problems of the country and beyond. The best is yet to come!

Thank you to the Board of Trustees and foundation members, our Partners in U.P., the COE and UP AE, our Donors and Benefactors, our Board of Advisers, our Administrative Staff, and all who have contributed to and supported our foundation in this year's accomplishments.



Valentin A. Reyes
President

Executive Director's Report

Our foundation continued to focus on supporting the UPCOE in building better engineers and scientists based on the three pillars - the best faculty, the best students, and the best learning facilities. And we reorganized our mechanism for bringing research results of UPCOE faculty and students to impact society, by way of commercialable projects and or widespread adoption of appropriate engineered solutions. We also focused on strengthening our administrative infrastructure to provide better servicing of our many operational activities.

The successful renewal of our Accreditations from the Department of Science and Technology (DOST) and the Philippine Council for NGO Certification (PCNC), and the renewal of our Certificate of Registration as a Donee Institution by the Bureau of Internal Revenue (BIR) enabled us to provide the appropriate acknowledgements to our Donors and help us solicit donations for our various projects.

We thank the current and new donors who remained committed to provide funds for our various activities. The total donations we received in 2021 from generous individuals and corporations in the Philippines and abroad are found in Annex 1.

Investing in the College

With this funding, and earnings of endowed funds, we disbursed a total of ₱30.97 Million, 89% of which or ₱27.51 Million, were for professorial chair awards and teaching/research awards, faculty-led R&D projects, student assistance (scholarships, grants and awards), and improvements for infrastructure/laboratory facilities.

Category (Recipients)	Amount (Pesos)
Faculty Development (172)	₱ 17,580,000
Student Development (123)	5,649,000
Infrastructure	4,285,000
Total Funds Provided	₱ 27,514,000

Faculty Development

We solicited donations for seven professorial chairs in 2021, bringing our total established chairs at year-end to 210. The new chairs and donors are:

1. Dr. Mariano P. Ramiro Chair in Materials Engineering (by his daughter, Atty. Ma. Elena C. Ramiro, a UP Law)
2. Orchards of the ABBA Corporation Chair in Mechanical Engineering (by Christopher Barrameda, ME '79)
3. ME Class of 1980 Chair in Mechanical Engineering (pool of 12 alumni from ME Classes 1979 and 1980: Enrique Abreu, Joseph Christopher Barrameda, Isidro Cariño, Kenneth Su Chua, Armando Figueroa, Jose Francisco, Dr. Francisco Lapid, Elias Benjamin Lava, Vivian Malabanan-Pacia, Ramon del Rosario, Rosendo Sanchez, Cesar Santos, Jr.)
4. PetroEnergy Resources Corp. Chair in Energy Engineering (by Mila V. Reyes, President)
5. Felix M. Gonzalez Chair in Materials Engineering (by member Michael Gonzalez)
6. David Y. Tan Chair in Geotechnical Engineering (by member Brian B. Tan, President of Brian B. Tan Engineering Consulting Services)
7. SMC Infrastructure Chair in Transportation Engineering (by San Miguel Holdings Corporation, with our member Atty. Lorenzo G. Formoso III, and Raoul Eduardo C. Romulo, as signatories)

For 2021, UPERDFI awarded professorial chairs to 129 COE faculty members (see Annex 2). Teaching and Research Awards were also awarded to 34 faculty members (See Annex 3). Awards were also given to nine (9) faculty and staff (See Annex 6).

Student Development

We redoubled efforts to increase student assistance through scholarships and thesis support grants. For AY 2021-22, the new donors were: Alvarez Foundation Philippines, PGATECH Group of Companies (by member Mark Morales), RL Royal Prime Construction Company, and UP Alumni Association in British Columbia. Continuing donors with numerous slots included GT Foundation, Huawei Technologies Philippines, Multiflex RNC Corporation (care of our member Christianne Medina), PayEngg Forward (by our member Michael Gonzalez), Filminer Resources Corporation (by our member Pedro Remoto), Philippine Gold Processing and Refining Corporation, and Philsaga Mining Company - PMC/MMPRC Foundation (by our member Raul Villanueva).

Many more donors continued sponsoring Thesis Support Grants which helped Seniors do their capstone projects as a requirement for graduation.

For 2021, UPERDFI provided scholarships and study grants to 88 students (See Annex 4), thesis support grants to 27 students (See Annex 5), and 18 student awards (See Annex 6).

The UPCOE Undergraduate Project Competition - Dr. Francis Chua Innovation Awards was successfully held virtually for the second year. The 10 finalists (19 students) for the Research and Design Categories made their presentations in the judging session held on July 14, 2021. (See Annex 7).

Infrastructure

Bakas Pilipinas, a non-profit organization based in the USA, and AMH Philippines donated a software called DIANA-FEA, a preservation engineering tool for the Institute of Civil Engineering Computational Laboratories.

Fluor Daniel Inc. – Philippines donated funds for a five-year license of AspenONE Software for the Fluor Process Simulation

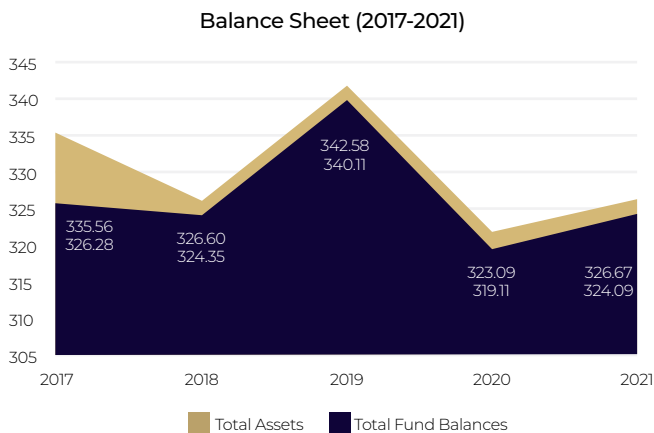
and Plant Design (PSPD) Lab at the Department of Chemical Engineering, which they set up in 2015. The company also made a donation to equip the Institute of Civil Engineering's Structural Engineering Laboratory.

UPERDFI has an ongoing fundraising effort totalling ₱20 Million for the High Performance Computing Facility, planned for implementation this 2022. Adding to the 2020 donations were new donations in 2021, coming from DCCD Engineering Corporation (c/o our member Michael Reyes), Australia-based alumna Agnes Marquez-Whiten and our Trustee Victor Villagracia. (Note that ahead of this, the College procured a set of HPC cores from its own budget, for delivery in 2022.)

Financial Highlights

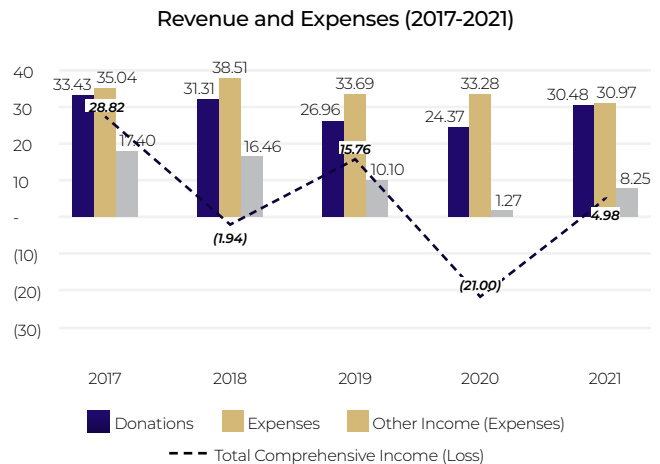
No Growth in Fund Balances

We have not been able to grow our asset base for the past 5 years: Our TOTAL FUND BALANCES in 2017 was at ₱326.28 Million, and in 2021, at ₱324.09 Million. Practically all our donations received were meant for items to be disbursed the same year. We were not able to raise endowments, and earnings from endowments further decreased, as interest rates had gone down from 2017 until now. Some donors of endowed professorial chairs also agreed that we draw down the chair awards from the corpus of their endowment funds. We also sourced our Teaching and Research Awards from the endowment fund thereof. These depleted the endowment funds for professorial chairs and TRAs.



Spending Based on Available Funds

We managed spending based on the income we generated. Donations dipped in 2019 and 2020, with some recovery in 2021. Due to continuing low interest rates, and lack of higher-yielding long-term investments in 2020 and 2021, and our conservative investing policy, our Other Income (mainly Interest and Dividend Income) suffered significantly.



Statement of Assets, Liabilities and Fund Balances (in ₱ millions)	2017	2018	2019	2020	2021
Total Assets	335.56	326.60	342.58	323.09	326.67
Total Liabilities	9.28	2.25	2.47	3.98	2.58
Total Fund Balances	326.28	324.35	340.11	319.11	324.09

Statement of Revenues and Expenses (in ₱ millions)	2017	2018	2019	2020	2021
Revenue: Donations	33.43	31.31	26.96	24.37	30.48
Expenses	35.04	38.51	33.69	33.28	30.97
Other Income (Expenses)	17.40	16.46	10.10	1.27	8.25
Excess (Deficiency) of Revenue over Expenses before Final Tax	15.79	9.26	3.37	(7.65)	7.76
Provision for Income Tax (Final)	(0.55)	(0.66)	(0.68)	(0.74)	(0.50)
Excess (Deficiency) of Revenue over Expenses	15.25	8.60	2.69	(8.38)	7.26
Other Comprehensive Income (Loss)	13.55	(10.54)	13.07	(12.62)	(2.28)
TOTAL COMPREHENSIVE INCOME (LOSS)	28.82	(1.94)	15.76	(21.00)	4.98

Impact of Fair-Market Valuation

In accordance with financial reporting rules, the changes in the valuation of market-indexed financial assets are reflected in the OTHER COMPREHENSIVE INCOME (LOSS) figures in our audited statements. The dip in 2018 showed paper losses compared to 2017; 2020 also showed similar loss impact compared to 2019. Some recovery was obtained in 2021.

Acknowledging the Friends of the University of the Philippines Foundation in America and the UP Foundation, Inc.

We are extremely grateful to the FUPFA for its full support to UPERDFI, by way of handling donations from US-based donors!

And beyond that, FUPFA has pledged to support by way of significant donation to our High Performance Computer Facility Project! FUPFA is largest donor! UP President Danilo Concepcion is the FUPFA Chairman, while US-based Atty. Lourdes Santos -Tancinco is the Vice-Chairman, ably assisted by CFO Polly Cortez.

Also chaired by Pres Concepcion, the UP Foundation is the second largest donor to the HPC Project!

Strengthening Our Backroom

We focused our efforts on improving our accounting operations by migrating to the cloud-version of QuickBooks Accounting Software, by implementing a Document Management System (DMS), and by preparing for digital banking operations. QuickBooks was operational in 2021, while the other two will be in full operation this 2022.

Our backroom needs significant strengthening to enable systematic support to all our operational activities. This is with extreme urgency, as the increased fund-raising efforts for our own projects are increasing. And we have accepted the role of fund administrators for the special fundraisers carried out by celebrating Engineering Departments with ambitious goals: the Department of Industrial Engineering and Operations Research **Golden Pillars Campaign**, with a P27 Million goal, kicked off in 2021 to celebrate the 50th year of the Department. And the

Department of Chemical Engineering **Catalyzing Honor and Excellence Campaign** has a P74 Million target to celebrate the 70th year of its establishment this 2022.

We thank our Finance and Administration Team for their tireless efforts, addressing the lockdown situation through work-from-home arrangements and in-office work. We have asked UPCEAVSB Professor Mikhael Magana, in addition to doing our investment analysis, to expand his role to include accounting matters as well. Our Accountant Nelly Manalo continues to work hard on accounting matters, assisted by Accounting Assistant Teresita Quinatac-an. Norika Ishikawa is our highly dependable Executive Assistant ably handling our management support services, communications and administration work, ably assisted by Administrative Assistant Raymond Uy handling general office duties.

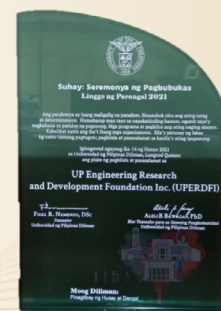
We must muscle up for 2022 and beyond, as we cross over to our next golden age!



Alfonso A. Aliga, Jr.
Executive Director

UPERDFI Receives Gawad Tsanselor Award

The foundation was recognized by UP Diliman Chancellor Fidel Nemenzo for its contribution in mobilizing support during the pandemic in partnership with the College of Engineering. We share this recognition with over 90 donors who answered our call for donations in 2020. The award was presented during the opening ceremony of the Linggo ng Parangal on June 21, 2021.



Dean's Report



The UP College of Engineering Annual report covers the period from January 2021 to December 2021. This report consists of five (5) sections: (I) Overview of the College, (II) Teaching and Education, (III) Research, (IV) Public Service, and (V) Key accomplishments and challenges.

I. Overview of the College

The UP College of Engineering (UP Engg) consists of six (6) departments, two (2) institutes, the National Graduate School of Engineering (NGSE) with the departments and institutes graduate degree programs and three (3) interdisciplinary graduate programs, and the National Engineering Center (NEC) with its five (5) constituent centers: Building Research Service, National Center for Transport Studies, National Hydraulic Research Center, Philippine Learning Center for Environment and Social Sustainability, and the Training Center for Applied Geodesy and Photogrammetry. The College offers twelve (12) undergraduate and twenty-one (21) graduate degree programs. UP College of Engineering has an excellent roster of 267 full-time and 97 part-time faculty members, 144 administrative staff, 48 research, extension and professional staff (REPS), 43 security guards, 60 janitors and 400 project staff. In the celebration of its 111th Founding Anniversary on June 13, 2021 with the theme, "Pagkilala sa Galing at Husay," UP Engg recognized the vital role of its faculty and staff in maintaining the integrity of daily operations and excellent public service amidst another year into the pandemic.

II. Teaching and Education

For the First Semester of academic year (AY) 2021-2022, the student population consists of 4,193 undergraduate students and 905 graduate students. For this period, the number of graduates in the bachelor's program is 431, for the MS program is 104 and for the Ph.D. program is 5. The College continues to support the online learning needs of its students through the Laptop Computer Donation Drive, with the help of the UP Engineering Research and Development Foundation, Inc. (UPERDFI) and UP Alumni Engineers (UPAE). Adjustments in course requirements also aided in maintaining the vigor of the students. As the College continues to strive in improving teaching and education amidst COVID-19, it also recognizes the effectiveness of current methods applied. Aside from easing academic requirements, the College also keeps the mental well-being of students in check.

Effectiveness of the faculty promotion system

The excellent roster of faculty members in the College continuously strive for professional growth, evidenced by the gradual increase in the number of PhD holders since 2015 as shown in Figure 1. As maintaining academic excellence and scholarly productivity are vital in their duties and

responsibilities, the College encourages faculty development through an impartial and predictable promotion system. With the recalibrated faculty promotion system, impartiality and professionalism were enhanced. This also encouraged faculty members to formulate the necessary targets for future promotions. The result translates into professional development, dedication to service, and contribution to the engineering profession. As shown in Figure 2, the number of professors increased from 2015-2021. The College has additional two (2) new Professor Emeriti: Dr. Manolo G. Mena of the UP Department of Mining, Metallurgical, and Materials Engineering and Dr. Guillermo Q. Tabios III of the UP Institute of Civil Engineering.

Figure 1.

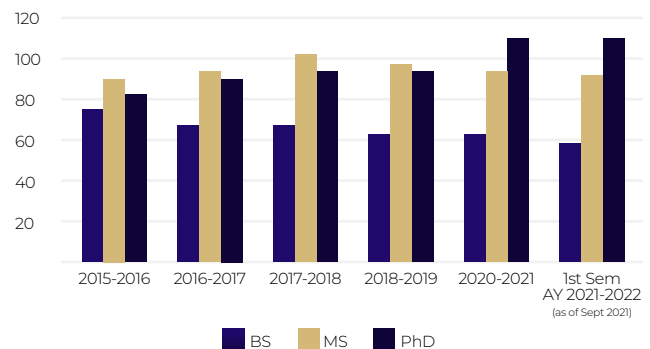
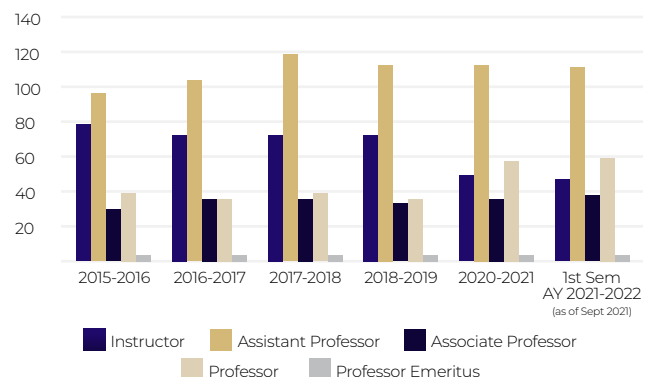


Figure 2.



Faculty members have received various awards and competitions within and beyond the College to honor their contributions to the profession. Prof. Ulpiano P. Ignacio, Jr. was awarded the Association of Structural Engineers of the Philippines Outstanding Achievement Award in Structural

Engineering Education, while Dr. Guillermo Q. Tabios III and Dr. Joey D. Ocon were awarded the 2021 Philippine Association for the Advancement of Science and Technology awards. Instructor Dean Ashton D. Plamenoco, Asst. Prof. Diocel Harold M. Aquino, Prof. Fernando J. Germar, and Asst. Prof. Ammiel Mac A. Barros also won Habitat for Humanity's crowdsourced competition for The Column Footing Grade Beam Monolith. Dr. Manolo G. Mena was also welcomed by the Philippine National Academy of Science and Technology (NAST), as a new member for exemplary contributions in the field of metallurgy. Dr. Rinlee Butch M. Cervera and Dr. Magdaleno R. Vasquez, Jr. received recognition from the UP-OVPAA as UP Scientist I. Dr. Eden May B. Dela Pena received a Citation of Merit for Materials Engineering from the UP Alumni Engineers. Every year, the Faculty Awards celebrate the achievements of outstanding faculty members. The faculty awardees for 2021 are shown in Figure 3. The UP Scientific Productivity System, a three-year award that honors scientific productivity exhibited by faculty members, included six (6) faculty members from the College for the period of 2020-2022 as shown in Figure 4.

Forging globally prepared nation-builders

Through a curriculum that serves to contribute to nation-building, UP Engg forges students who are ready to face real-world problems. Along with the reduction and possible elimination of students on non-major status, the migration from five (5) to four (4) years in its undergraduate degree programs is already in full swing.

To be holistic students, the College encourages them to participate in extracurricular activities where they can utilize their brilliance. The Undergraduate Project Competition (UPC), for example, enhances research capacities and creates career pathing, thereby inspiring students to pursue their chosen fields. Senior-level students have continuously participated in the UPC to demonstrate their skills and connect their outputs to pressing industry needs. UPC 2021 was judged by Dr. Alexander P. Paran, Engr. Roger Buendia, and Dr. Beatrice Ang and included 8 finalists for the Design category and 17 contenders for the Research category. In the Design category, students showcased ideas that can be utilized in essential industries and sectors such as healthcare systems to agriculture and the sustainable use of natural resources. In the Research category, topics ranged from studying the properties of cellulose acetate-based anion exchange membranes for fuel cell applications, to sustainability assessment of renewable desalination, and development of an epidemiologic simulator that can be applied in vaccination scenarios for Quezon City. Funding for the award was provided by Dr. Francis Chua. The finalists for both categories were awarded ₱10,000, while the second-place winners were awarded ₱20,000. The First-Place team was given an award of ₱40,000. The winners were encouraged to further develop their ideas to meet urgent industry and public needs.

Figure 3.



Figure 4.



Students, under the guidance of advisers, from Department of Computer Science also won awards in the Philippine Geomatics Symposium 2021 and the 13th International Conference on Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment, and Management 2021. UP Engg students bagged numerous prestigious awards and became the Global Winner of the virtual Shell Eco-marathon (Alamat UP), and 4th Place and Best in Economic Strategy at the 2021 International Metal Cup Championship (UP Kampilan Team). The Department of Industrial Engineering and Operations Research students were also 2nd runner-up in this year's Industrial Engineering Quiz and 3rd place in the 4th International Statistics Competition for Engineers. UP Engg graduates capped the board examinations yet again with high passing rate, earning the highest scores in the Metallurgical Engineer Licensure Examination in July 2021, the Chemical Engineer Licensure Examination in October 2021, and the Geodetic Engineer Licensure Examination in December 2021.

Capstone projects and internships are required in some degree programs as a way to expose students to industry needs. By doing so, students are able to anticipate opportunities that await beyond the College. Furthermore, Student Internship Programs have been tailored to be part of the new curricula enabling students to gain first-hand industry experience and find more work opportunities. New courses and programs were also developed, including Digital

Transformation Essentials: Trusted Digital Identity as an elective course in the Department of Computer Science, and Bioinformatics and Artificial Intelligence as new graduate programs in the College.

The various departments and institutes mirror the aspirations of the College to create well-rounded students by facilitating webinars, student conferences, and other activities beyond classroom learning. Together with the UP System Information Technology Foundation, the UP Information Technology Development Center and the Department of Computer Science sponsored the IT - Youth Congress on Information Technology in October 2021.

III. Research and Extension Service

The National Engineering Center thrived in providing research and extension services, expanding extension services and enriching engineering research and development and consultancy for both private and government institutions. As the research and extension arm of the College, most of NEC's research agenda are geared towards engineering solutions that benefit the mass populace.

With projects funded by government institutions, specifically the Department of Science and Technology (DOST), Department of Trade and Industry, Bangko Sentral ng Pilipinas, Commission on Higher Education, and by UP Diliman, the World Bank, and by private funding institutions, research funding for 71 projects during the First Semester AY 2021-2022 amounted to ₱686,220,928.40.

UP College of Engineering is also proud that its students took part in the development of Maya-3 and Maya-4, the first nanosatellites built in the Philippines. Giving students the opportunity to directly be a part of developing Maya-3 and Maya-4 cube satellites through Space Science and Technology Proliferation through University Partnerships, a project with funding from DOST, is truly historic. The development of Maya-3 and Maya-4 was part of the graduate course requirements in Electrical Engineering under the Electrical and Electronics Engineering Institute. Local communities also benefit directly from research projects conducted by the College and its Departments and Institutes.

IV. Public Service

UP Engg develops and mainstreams sustainable engineering solutions that genuinely serve the Filipino people. It commits to competitive engineering education and public service. Its COVID-19 research initiatives in 2020, funded by public and private donors through the UPERDFI and UP AE, are now being utilized by different local government units and hospitals. UP Engg was one of the awardees of the 4th Gawad Pangulo: Award for Excellence in Public Service for its

COVID-19 engineering solutions that are now being utilized in public hospitals.

The Office of the Associate Dean for Public Service and the National Engineering Center, in partnership with UPERDFI and UP AE, was able to successfully execute two Public Policy lectures; namely, "Alleviating Traffic Congestion" with Professor Ricardo G. Sigua, Director of the National Engineering Center for Transportation Studies and faculty member of the UP Institute of Civil Engineering as keynote speaker, and "Sustainable and Resilient Water Supply Development" with Professor Emeritus Guillermo Q. Tabios III of the UP Institute of Civil Engineering as the presenter. The two Public Policy lectures as shown in Figure 5 were held last August 20, 2021 with a total of 428 participants and May 28, 2021 with a total of 484 registered participants, respectively. UP Engg conducts Public Policy lectures to raise awareness on the value of engineering and science, highlight their critical roles in improving the everyday lives of people, and provide a venue among the industry, academia, and the government on critical national issues and policies.

Figure 5. Public policy lectures.

ENGINEERING PUBLIC POLICY LECTURE SERIES
Sustainable and Resilient Water Supply Development
 The College of Engineering conducts a Public Policy Lecture Series aimed at examining the impacts of institutional decisions and existing government policies, and evaluating potential outcomes of initiatives.

KEYNOTE SPEAKER
 DR. GUILLERMO Q. TABIOS III
 PROFESSOR EMERITUS
 INSTITUTE OF CIVIL ENGINEERING

PANELISTS
 DR. ERNESTO M. ODIONIZ
 CHAIRMAN SUSTAINABLE DEVELOPMENT
 FOUNDATION OF PHILIPPINE INDUSTRIES
 DR. SERELLO B. DAVID JR.
 EXECUTIVE DIRECTOR
 NATIONAL WATER RESEARCH BOARD
 ENER JOEL A. DOMINGUEZ
 DEPARTMENT MANAGER, OPERATION OPERATIONS
 TECHNICAL SERVICES
 METROPOLITAN WATERWORKS AND
 SEWERAGE SYSTEM
 ATTY. JO KRISTINE CELERA NEVIL
 DEPUTY CHIEF, INSPECTION REGULATORY AND
 COMPLIANCE DIVISION (DRIP)
 MANILA WATER COMPANY

In cooperation with:
 UPERDFI, UPAE, UP Engineering R&D Foundation, Inc.

May 28, 2021 | 2:00pm - 5:00pm
 2PST (Philippine Standard Time)
 Register via Zoom: bit.ly/COEPublicPolicyWater

fb.com/UPDEngg @UPDEngg coe.upd.edu.ph /company/UPDEngg

ENGINEERING PUBLIC POLICY LECTURE SERIES
Alleviating Traffic Congestion
 The College of Engineering conducts a Public Policy Lecture Series aimed at examining the impacts of institutional decisions and existing government policies, and evaluating potential outcomes of initiatives.

KEYNOTE SPEAKER
 DR. RICARDO G. SIGUA
 DEPUTY CHIEF
 INSTITUTE OF CIVIL ENGINEERING

PANELISTS
 DR. MARIA SHELAH G. NAPALANG
 PRESIDENT
 DEPARTMENT OF TRANSPORTATION
 ROBERTO "KA OBET" MARTIN
 PRESIDENT
 PASANG MADA, PA JARNEY
 ATTY. JOHN FRANCIS PANONCILLO
 CHIEF COUNSEL
 HOUSE COMMITTEE ON TRANSPORTATION

In cooperation with:
 UPERDFI, UPAE, UP Engineering R&D Foundation, Inc.

August 20, 2021 | 2:00pm - 5:00pm
 Friday 2PST (Philippine Standard Time)
 Register via Zoom: bit.ly/COETransportPublicPolicy

fb.com/UPDEngg @UPDEngg coe.upd.edu.ph /company/UPDEngg

In celebration of the UP College of Engineering's 111th founding anniversary, Galing at Husay ng Engg!" featured in its first episode the recipients from the UP Engg of the Gawad Tsanselor Para Sa Natatanging Mag-aaral: Ms. Jaira Mathena Angeles, and Mr. Vincent Stanley So. Episode 2 featured Gawad Tsanselor Para Sa Natatanging

REPS and Hall of Famer, the UP College of Engineering Library Head Librarian, Ms. Sharon Maria Esposito-Betan and Episode 3 featured recipients of the Gawad Tsanselor Para sa Natatanging Programang Pang-Ekstensiyon Dr. Herman Mendoza, and Dr. Djoan Kate Tungpalan of the UP College of Engineering Department of Mining, Metallurgical, and Materials Engineering and Dr. Oscar Ferrer of the College of Social Work and Community Development for “Community-Led Integrated Non-Mercury Non-Cyanide Gold Extraction Method Technology for People’s Empowerment and Participation. “Galing at Husay ng Engg!” is UP Engg’s unique weekly podcast featuring distinguished faculty, staff, REPS, and students from the College. The online platform also provides do-it-yourself technology solutions and information presented in a manner accessible to the masses. “Galing at Husay ng Engg” is currently live-streamed via the College’s Facebook page as DZUP 1602 is yet to resume its full operations and regular programming.

UP Engg also voiced solidarity with the University of the Philippines community in condemning the unilateral action of the Department of National Defense (DND) to undermine the 1989 UP-DND Accord in January 2021. UP Engg articulated its stand against the violation of the 1989 UP-DND Accord and condemnation of baseless allegations against the College’s integrity. This document can be accessed via the link: <https://coe.upd.edu.ph/2021/01/27/up-college-of-engineering-statement-on-the-abrogation-of-the-1989-up-dnd-accord/>.

UP Engg asserts the value of academic freedom in gaining relevant knowledge and in strengthening love for the Motherland. Academic freedom underpins the capacity to provide excellent engineering education and relevant research work. In the same way, academic freedom is necessary to forge patriotism among the nation’s builders. However, the College is also aware of its constitutional responsibilities and does not tolerate any illegal activities. The College, guided by integrity and respectability, has and will always be a safe place for its students, faculty, staff and alumni.

The College, together with the College of Architecture and the School of Urban and Regional Planning, also facilitated Day 3 of the Association of Pacific Rim Universities Undergraduate Leaders’ Program in October 2021. With Day 3 embracing the theme, “Holistic Habitation,” Dr. Diocel Harold M. Aquino discussed “Sustainable Building Technology and Methods.”

Christmas Gift-Giving

To celebrate the holiday cheer in December 2021, a small token of gratitude was distributed to College faculty members, REPS, administrative staff, non-UP personnel, security guards, and janitorial/maintenance personnel as shown in Figure 6. The year-end event also included an online raffle pooled by the College, alumni, and UPERDFI.

Figure 6. UP Engg Christmas Gift-Giving 2021.



The College was able to garner an additional ₱36,000 for prices of the online raffle.

Typhoon Odette Donation Drive

At the near-end of the year, the country especially the areas of northeastern Mindanao, Western Visayas, Central Visayas, and Palawan experienced the onslaught of Typhoon Odette that left thousands of our fellow countrymen in dire need of assistance. The College implemented a donation drive to help affected students, staff, and faculty members and their families who reside in the affected areas. While different Departments and Institutes conducted their own fundraising efforts, donations coursed through the Associate Dean for Public Service amounted to ₱23,100.

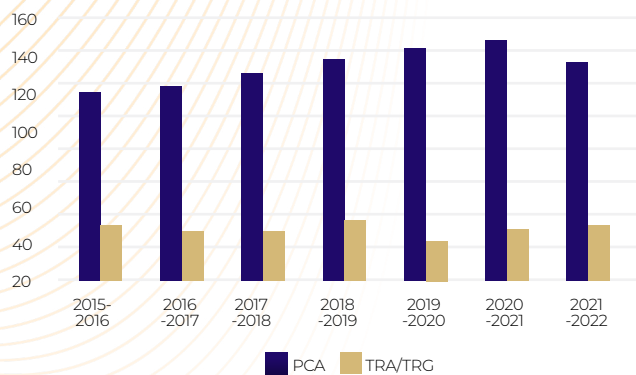
V. Key Accomplishments and Challenges

For the AY 2021-2022, the College became more confident in blended learning and in the transition to online platforms. The College turned hurdles into opportunities in performing its duties and responsibilities. Turning the tide enabled the College to thrive and improve methods in the new normal. While the pandemic may have crippled mobility and hindered face-to-face activities, it urged the enrichment of practices to ensure effective operations despite limitations. Improving practices enabled the College to create more collaborations and strengthen industry relations in the continued pursuit towards Education 4.0.

Professorial Chair Awards and Teaching and Research Awards

The highlight of 2021 is the unwavering dedication of UP Engg faculty members to create research outputs that genuinely serve the nation. Currently, the College has 132 Professorial Chair Awardees (PCA) and 34 Teaching and Research Awardees (TRA). As shown in Figure 7, the number of TRA holders from AY 2020-2021 to AY 2021-2022 has increased. New applicants contributed to the increase, but there is still a need for additional PCA and TRA slots for qualified faculty members.

Figure 7. Breakdown of PCA and TRA holders



Incentives to Administrative Staff and Research, Extension, and Professional Staff

UP Engg provided a cash incentive award to qualified administrative staff and REPS. This acknowledges their valuable contribution in maintaining the efficiency of day-to-day operations and research work for 2020. In addition, with the support of UPERDFI, three were awarded Outstanding Performance Award for Administrative Staff and one for Outstanding Performance Award for REPS.

“Drive me” and “Drone me” Programs

Several strategies are presented towards attaining the College’s vision to be an inclusive and progressive unit that is pro-faculty, pro-REPS, pro-staff, pro-alumni, and pro-student, collectively aimed to achieve academic excellence and create invaluable solutions to our incessant needs. Programs that can provide students equal opportunities through various practical and trendy activities are the drone pilot training (Drone me) and vehicle driving program (Drive me). In both programs, the College is in touch with different companies for collaboration opportunities and course development. Notably, companies already committed to sponsoring cars and drones for practical and theoretical courses. The programs are targeted to commence in early 2022.

Development of Master Plans for UP Engg Buildings and Landscape and Sculpture Designs

The preliminary design for UP College of Engineering buildings is being prepared by the Building Research Service and the master development plan is in its finalization stage. A donation drive is also ongoing to help pool funds, and a donation of ₱100 Million from the family of an alumnus from the Department of Geodetic Engineering has already been promised for the project that would approximately cost ₱2 Billion. The purpose of this design is to provide a template for discussion and resource generation drives with the three departments: Department of Mechanical Engineering, Department of Industrial Engineering and Operations Research, and Department of Geodetic Engineering.

The landscaping project of the UP College of Engineering was launched in 2021 in collaboration with the UP Alumni Engineers, UPERDFI and the Office of the President of the university. It aims to create pleasant views both to users of outdoor space and those viewing the outdoor spaces from different areas inside the buildings in the Melchor Hall Site and the Engineering Complex. In December 2021, a landscape conceptual design competition was launched in order to harness the talents of landscape architects in the design of landscapes. The design of the landscape should (i.) contribute to the enhancement and/or establishment of vehicular and pedestrian circulation and wayfinding, (ii.) provide multi-functional open space, shaded areas for more activities that require a quieter environment and spaces for active use (i.e., playing games, exercising and assemblies) and lush and, (iii.) create a “sense of arrival” for the sites.

The Conceptual Sculpture Design Competition shall immediately follow after the Conceptual Landscape Design Competition. It is envisioned that sculptures will be installed in front of each engineering academic building.

College’s Initiative towards Education 4.0

UP Engg is strongly committed to adapting the thrusts of Education 4.0, especially in light of the dramatic shift into online learning. Education 4.0 lays the foundation for the alignment of education and training with work opportunities. This became the backbone during the pandemic to turn challenges into opportunities, from converting more than 300 courses into online learning and from face-to-face public forums into webinars. Included in the alignment to Education 4.0 is the enrichment of digital learning resources.

The Engineering Library (EnggLib) is crucial in providing resources for students. Shifting services online effectively, EnggLib makes use of various platforms to support online learning, such as VitalSource and Pearson.

As the pandemic continues to affect the way university courses are being taught, classes for the first semester AY 2021-2022 are still online. Having a suitable laptop for blended learning becomes crucial for students and educators. Faculty members and staff are equipped with computers and tablets. Many students have echoed their need for a suitable laptop to be used in the remote learning setup. UP Engg continues the Laptop Donation Drive, which was launched the previous year, for AY 2021-2022 to help students gain access to laptop computers.

Collaborations and Strengthening Industry Relations

The existing Memorandum of Understanding (MoU) and Memorandum of Agreement (MoA) with 82 companies and 27 universities locally and abroad helped the College to create

internship programs and academic collaborations. UP Engg also has 8 student exchange programs with universities in Japan, Taiwan, Germany, Spain, and the USA.

Closing Remarks

The College overcame another year into the pandemic thanks to the strong resolve of its personnel in turning challenges into opportunities. As online learning continued, daily operations and effective capacity in adapting to different scenarios determined another successful year. With the best interest of the nation at heart, we faced another year into the pandemic with a strong mind. We are optimistic that our efforts will bloom to renewed hope in the coming year. Time and time again, we have proved our capacity to go above and beyond the call of duty. This year was no exception. We also affirmed the importance of thinking outside the box and veering away from our comfort zones for the sake of performing our duties and responsibilities amidst the myriad of challenges. This year, we learned to juggle different

tasks while caring for our mental well-being and ensuring the vigor of our students, faculty, staff, REPS, and personnel. The achievements and lessons learned this year will be the foundation of the coming year as we continue to be at the forefront of innovation and drivers towards a better normal.

We would like to thank UPERDFI for continuously supporting the aims and objectives of UP Engg. The determination of UPERDFI in pooling funds for the College and helping us strengthen industry ties inspire us to overcome any challenge. We are looking forward to another year and invite everyone to continuously support and participate in the College's many initiatives.

Mabuhay tayong lahat!



Prof. Ferdinand G. Manegdeg
Dean, UP College of Engineering

HPC – Moving Closer to Reality

Among the current flagship projects of the Foundation, there is not one that resonates more with the Annual Report theme of “Going for the Gold” than that of the High Performance Computer (HPC). Its high-speed ability to simulate situations and process problems in minutes rather than weeks or months that the current desktops would take will open new doors to a first-world range of solutions and designs. These will address difficult and complex problems that industry and government deal with today. This in short will move the COE to the next level of excellence.

The Foundation started the fund-raising in June 2020 and had raised a total of ₱12 Million in cash and pledges from generous donors by year-end 2020. An estimated total of ₱ 20 Million was needed to buy the initial hardware of 1,120 cores. (UP Diliman shouldered the cost of acquiring software licenses.)

In 2021, as we continued to solicit support from other donors to complete the ₱8 Million balance, there were parallel efforts to understand the total costs of starting up as well as operating and maintaining the HPC facility for the first 5 years. A tripartite task force composed of representatives

from COE, UPERDFI, and ePLDT was formed to prepare a comparative cost analysis. ePLDT's involvement was suggested by a donor in late 2020.

After a number of iterations, it boiled down to a choice between locating the facility in the COE premises or in an external service provider. By the second half of the year, the ManCom decided to pursue the direction of seeking partnership with an external service provider that would deliver professional data management services, including the operation and maintenance of the facility.

That partner turned out to be none other than PLDT after several rounds of discussions which led to a proposal from the Foundation for the company to locate the facility in one of its data centers in Metro Manila and donate the co-location expenses associated with it, essentially the annual operation, maintenance, and staff support. By year's end, an initial draft of the MOA between PLDT and the University of the Philippines was drawn up. This is undergoing review and finalization as of this writing, with the documentation to be completed in the first quarter of 2022.

Communicating Results - Energy System Modelling Project Updates

After completing the project in November 2020, the Energy System Modelling Team led by Dr. Michael Angelo Pedrasa, with the support of UPERDFI and UPCOE, focused on communicating results with key stakeholders in 2021. The ESM Study, which covered Luzon, was funded from our UPERDFI Technology Development and Strategic Studies Fund.

It confirmed the usefulness of the Low Emissions Analysis Platform (LEAP) tool for energy studies. In addition to the ESM presentation to the Senate Committee on Energy headed by Sen. Sherwin Gatchalian in February 2021, the ESM study was also presented to the industry.

On June 7, the Management Association of the Philippines (MAP) Energy Committee organized a zoom meeting with electric distribution associations. The groups included the Private Electric Power Operators Association (PEPOA), Development for Renewable Energy Applications Market Mainstreaming and Sustainability (DREAMS), Philippine Independent Power Producers Association (PIPPA), Philippine Rural Electric Cooperatives Association (PhilRECA) and were attended by 80 participants. Note that the MAP, through its 2019 President, our member Riza Mantaring, and Energy Committee chairman Baste Quiniones, threw full support to the ESM Study from its inception in May 2019.

The ESM Study confirmed the usefulness of the Low Emissions Analysis Platform (LEAP) tool for energy studies.

The screenshot shows a Zoom meeting banner with the following details:

- Logos:** MAP (Management Association of the Philippines), UP College of Engineering, and UP Engineering R&D Foundation, Inc.
- Event Title:** A LEAP-BASED ENERGY SYSTEM MODEL FOR LUZON: Models for Electricity Demand and Generation
- Date and Time:** May 20, 2021, 2:00 PM to 4:00 PM, Thursday, via ZOOM
- Project:** A Project of MAP Energy Committee
- Special Message:** Sen. SHERWIN "Win" T. GATCHALIAN, Chair, Senate Committee on Energy
- Main Speaker:** Dr. MICHAEL ANGELO "Mike" A. PEDRASA, Director for Electrical and Electronics Engineering Institute, UP College of Engineering
- Panelists:**
 - Atty. JOSE "Joe" ALEJANDRO, Chair, PCCI Committee on Energy
 - Ms. MARIETTA "Mayette" QUEJADA, Supervising Science Research Specialist, Department of Energy (DOE)
 - Mr. JOHN MARK "JM" CATRIZ, Head of Market Assessment Group, Philippine Electricity Market Corp. (PEMC)
 - Mr. ERNESTO "Ernie" B. PANTANGCO, Chair, MAP Energy Committee, Chair, EBP Holdings Corporation
- Small Logo:** THE GREAT RESET

Establishment of Philippine Energy Research and Policy Institute

On July 30, 2021, the Republic Act 11572 or the Philippine Energy Research and Policy Institute (PERPI) Act was signed by President Rodrigo Duterte. Dr. Pedrasa and the UP Energy Engineering Program have been advocating for the creation of an independent research and policy institution for the energy sector. The bill was sponsored by Sen. Gatchalian in the upper chamber. The institute's mandate is to conduct research and develop cutting-edge solutions on energy issues and ensure coordination and dissemination of key results to government agencies. PERPI is an independent institution attached to UP, but with a separate budget from the university. The law is awaiting the formulation of the Implementing Rules and Regulations.

Energy System Modelling Course

UPERDFI hosted a meeting with UPCOE and the National Engineering Center (NEC) on August 5 to discuss the next steps in promoting the LEAP-based Energy System Model to industry and government sectors. The group discussed three avenues to be pursued for ESM promotion - a regular training course offered at the NEC, a modelling tool for industry, and a resource for energy planning studies.

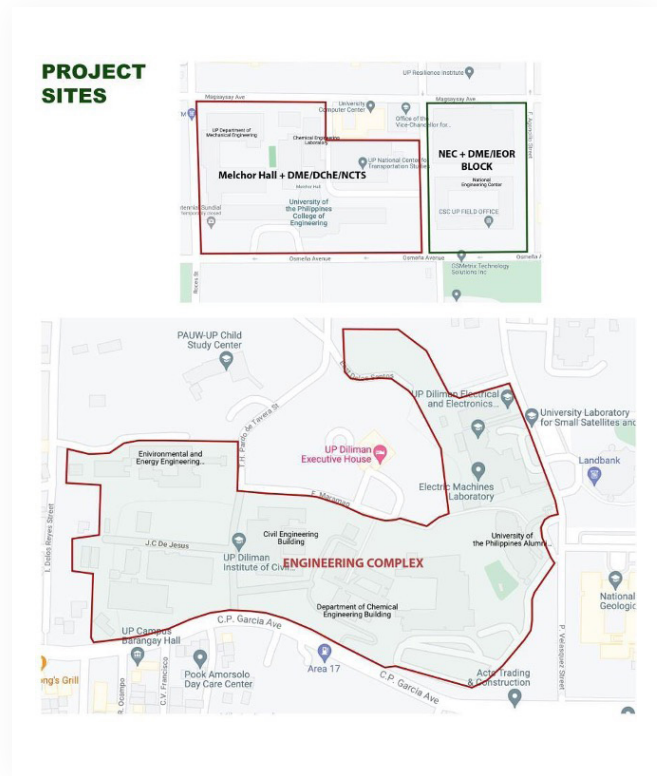
UP College of Engineering Landscaping Project

The landscaping project of the UP College of Engineering was launched in 2021 in collaboration with the UP Alumni Engineers, UPERDFI and the Office of the President of the university. It aims to create pleasant views both to users of outdoor space and those viewing the outdoor spaces from different areas inside the buildings in the Melchor Hall Site and the Engineering Complex.

In December 2021, a landscape conceptual design competition was launched in order to harness the talents of landscape architects in the design of landscapes. The design of the landscape should (i.) contribute to the enhancement and/or establishment of vehicular and pedestrian circulation and wayfinding, (ii.) provide multi-functional open space, shaded areas for more activities that require a quieter environment and spaces for active use (i.e., playing games, exercising and assemblies) and lush and, (iii.) create a “sense of arrival” for the sites.

The design of the landscape should incorporate expressions of the following values and concepts particularly in the field of Engineering (sustainability, resilience, creativity, innovation, service and social responsibility), and should follow applicable laws and standards, including UP architectural standards. The use of low maintenance and locally produced innovative materials, and indigenous flora are highly encouraged.

Six teams have pre-qualified to join this competition. Each of these teams has at least one (1) landscape architect, registered under the Professional Regulation Commission and will submit an entry that shows their design proposal for the landscapes of the Melchor Hall site and the Engineering Complex. The deadline of submission of entries to the competition is on April 4, 2022.



Buildings and open areas included in project site around Melchor Hall and the Engineering Complex.

Winners of the competition will receive ₱150,000, ₱75,000, and ₱25,000 for the first, second, and third prizes, respectively. The panel of judges comprises of the Deans of the College of Engineering, College of Architecture, and the College of Fine Arts and two well-known landscape architects.

2021 UP College of Engineering Professorial Chair Colloquium Series

UPERDFI congratulates the UP College of Engineering (COE) headed by Dean Ferdinand Manegdeg and the respective department chairs and institute directors for successfully completing the 2021 Professorial Chair Award Colloquium Series, which started on September 27 and ended on

October 29. The colloquium showcased the engineering research outputs of the UPCOE faculty in the eight (8) departments/institutes in COE. Chair donors (and their staff) were invited to attend the colloquium in addition to faculty, students, alumni, and UPERDFI representatives.

Professorial Chair Colloquium:

1. Department of Mechanical Engineering - September 27
2. Department of Chemical Engineering - October 4
3. Department of Computer Science - October 18 and 25
4. Electrical and Electronics Engineering Institute - October 25
5. Department of Geodetic Engineering - October 25
6. Department of Industrial Engineering and Operations Research - October 25
7. Department of Mining, Metallurgical and Materials Engineering - October 26 and 27
8. Institute of Civil Engineering - October 28

There are 129 PCAs in Engineering that have been awarded by UPERDFI, and 3 from the UP Foundation. UPERDFI continuously raises professorial chair awards to incentivize faculty members to pursue engineering research not only for the expansion of knowledge but also for the betterment of society.



Committee Reports:

Innovation Committee

The Innovation Committee entered 2021 targeting to deliver on three fronts: **First**, that the Research-to-Market thrust be pursued by piloting the Innovation Model that was recently formulated. **Second**, that we actively engage with donors in support of innovation initiatives. For both, UPERDFI collaborated with UPSCALE, UP Diliman's Innovation Hub where technology-based startups are incubated. The **third** deliverable was to engage in activities that encourage COE researchers to pursue market-driven innovation.

Research-to-Market

An environment scan performed by the Innovation Committee in 2020 identified various reasons why not many research projects coming out of the COE succeed in becoming successful commercial undertakings. Among these are the tendency of faculty members to prioritize technology development over industry or market needs, the limited collaboration between COE and Industry despite the network made available to the College through its various alumni associations and the UPERDFI, and the absence of proponents within the College with the entrepreneurial mindset, the time and the passion needed to pursue the widespread adaptation of a product or service.

UPERDFI came up with an Innovation Model which attempts to address these barriers by offering the following interventions to research-to-market initiatives: First, to help guide research-to-market activities from early stage all the way to deployment, giving emphasis to tying-in industry or government needs in the identification of opportunities. To this end, the members of the Innovation Committee, as well as other volunteers from the UPERDFI membership, made themselves available as panelists or reactors in pitching sessions, project presentations and professorial chair colloquia. Several have even become mentors and senior partners to startups. Second, for high potential ventures, UPERDFI will strive to put together the key stakeholders

needed to make the venture a success. This includes securing an industry partner or investor that can take on the proponent role with passion. We selected from several candidates a specific venture to test this model and ended up with the HeLe Project.

HeLe Project

The “An Automated Auditory Brainstem Response (AABR) hearing test device for newborn hearing screening” or HeLe Project is a collaboration between the UP College of Engineering and the National Institute of Health at UP Manila. The lead investigators are Phillip B. Fullante, MD, of the Philippine National Ear Institute, National Institute of Health; and Luis G. Sison, PhD, of the Electrical and Electronics Engineering Institute, UP College of Engineering. The objective is to develop a cost-effective hearing-screening device that enables early detection of hearing impairment in newborn infants. This is in support of the Newborn Hearing Screening Act (RA 9709). Currently available devices are prohibitive in price. This has hindered the enforcement of the Hearing Screening Act.



A first prototype was developed by researchers from the College with funding provided by the Philippine-California Advanced Research Institutes (PCARI). The device is based on the detection and characterization of brain activity in response to noise stimulus. It relies on sensitive measurements taken using electrodes connected to the infant’s scalp. Unfortunately, the existing prototype requires improvements after which, it must be replicated to be able to undergo field testing. Since the end of the PCARI program, there have been no new developments. UPERDFI connected the project team with Embedded Silicon Technology Solutions Corporation (ESTSC), which is headed by our member, Robert Minguez II. ESTSC expressed interest in working with the project proponents to improve the current design and make it ready for manufacturing. If proven to be a viable solution, ESTSC will be willing to further invest in the project and bring it to market.

Engaging with Donors

The Innovation Committee succeeded in engaging with donors in support of UPSCALE initiatives. It executed a MOA with Accenture, Inc. which established a framework for cooperation in promoting industry-academe collaboration and technology-based entrepreneurship. The MOA led to a Collaborative Agreement in which Accenture donated ₱9.2 Million for UPERDFI to support select startups incubated by UPSCALE (more on this below).

The Committee also engaged with the Japan Foundation Manila for the implementation of the WE Project Design Challenge, the objective of which is to promote inclusive designs for people with disabilities in the Philippines and in Japan. Activities were launched last October 2021 with UPSCALE, as JFM and UPERDFI’s implementation partner. A Demo Day was held on January 30, 2022 with four teams participating. From the four, the Pic-A-Talk team was selected to receive funding for prototype development. Pic-A-Talk is a picture exchange communication system that helps children with communication disabilities express themselves and connect with the people around them.

Accenture Grant

In July 2021, UPERDFI entered into a Collaborative Agreement with Accenture, Inc. aimed at accelerating technology-based innovation in the Philippines. The agreement came with a ₱9.2 Million grant to support UPSCALE startups and activities. Six startups have so far been awarded from the fund. These startups, all with a minimum viable product, are to use the grant for additional prototyping and market validation activities over a three-month period toward achieving commercialization. All six went through a stringent evaluation process. Their performance is currently being monitored. The recipients are the following:

					
XPerto Event Management, Software as a Service	Metrocity AI Human Resource Management using Artificial Intelligence	Cropital Social Enterprise in Support of Farmers, Financial Technology	Waste for Good Waste Reduction, Sustainability	HomeAssist.ph Real Estate Assistance, Marketplace Development	
Magwai Sustainable Personal Care Products					

The balance of the fund is being earmarked for seed funding of early stage initiatives. UPERDFI expects new candidates to emerge from existing UPSCALE cohorts and from two ongoing entrepreneurial classes at the COE.

Encouraging Market-Driven Innovation

UPERDFI continued to facilitate discussions between industry and the College with the hope that more faculty will become involved in solving prevailing industry problems. A project brokered by UPERDFI that finally got off the ground is the COIR+ Project involving Vista Land and Lifescapes, Inc. and the Department of Mining, Metallurgical and Materials Engineering of the College. The research team is led by Dr. Magdaleno Vasquez, Jr. The project is being managed through the IGNITE program of UPSCALE with UPERDFI providing fund management.

COIR+ Project

The project is titled "Development of the Usage of Plasma Treated Coconut Fiber as Reinforcement for Cement Composites". Plasma technology will be employed to treat coco coir so that it can be used as reinforcement for concrete structures with properties similar to synthetic fibers but at a lower price. Vista Land and Lifescapes, Inc. provided the funding for the project. In exchange, it will receive a lab-scale prototype of the equipment needed. It officially started July 2021 after several years of discussion and scoping. As of the last accomplishment report, the evaluation and assessment of plasma-treated coco coir as concrete reinforcement is in the completion stage and the design of the prototype equipment is more than half done. The project, originally slated for completion in July 2022, will encounter a few months of delay because of the University lockdowns due to recent Covid surges and sourcing delays brought about by the pandemic.



The project team visited Axomas Innovations, Inc. in San Pedro Laguna in November 2021 and did sample preparation and testing.

Members of the Innovation Committee:

Chairman: Rafael Nestor V. Mantaring

Members:

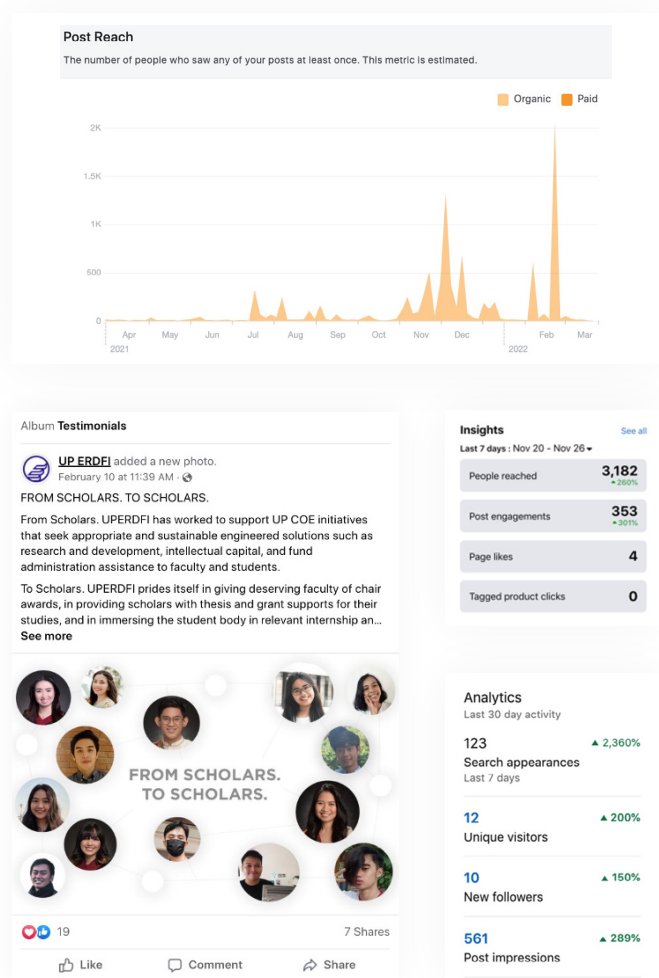
Roger Victor E. Buendia	Valentin A. Reyes
Leo R. de Velez	Mary Rose de la Cruz
Rowena Cristina L. Guevara	Patrick M. Ostrea
Rizalina Gervasio-Mantaring	Glenn C. Gratil
Robert O. Minguez II	

Resource Generation Committee

The Resource Generation Committee has started its efforts to increase its online presence through use of social media channels, specifically Facebook and LinkedIn.

Scholars of the Foundation were featured along with their testimonies and their expression of gratitude for the assistance they received. Many members of the Foundation were also featured to build rapport with the audience and provide value.

To further increase online reach, a dedicated LinkedIn page for the Foundation has been set up. You can follow the page at <https://www.linkedin.com/company/uperdfi/>.



Acknowledgement of 2020 and 2021 Donors

(scan to watch)



Through the said online channels, the Foundation has gained engagements for the last months and is hopeful to increase its reach in the future.

There were seven (7) new PCAs donated in 2021, and four (4) new PCAs in 2022 to make a total of ₱8.88 Million worth of committed funds. The HPC project is in its final stretch with hardware funding completely secured and, more importantly, a five-year internet access, Housing and Maintenance donation from a superb Corporate Partner is in the works. Its MOA is under legal review.

The Committee is continuing on its pursuit for wider reach and is hoping to tap into more potential scholars and donors for the organization.

Members of the Resource Generation Committee:

Chairman: Michael V. Gonzalez

Members:

- | | |
|------------------------|----------------------------|
| Alexis A. Acacio | Ramon B. Segismundo |
| Alex S. E. Sy | Patrick Vincent G. Peña |
| Elmir S. dela Cruz | Rowena Cristina L. Guevara |
| Ferdinand M. dela Cruz | Victor N. Villagraca |

Membership Committee

The Membership Committee, headed by VP Dante Briones and Membership Committee members Bing del Rosario, Ronnie Nolasco, and Tito Aliga, invited 16 alumni for UPERDFI membership, 14 of whom accepted the invitation.

1. Anita "Annette" A. Alcasabas, ChE '64
2. Vernon R. Aliga, ME '04
3. Graciano "Bobby" M. Calanog, Jr. EM '77
4. Millbert M. Capistrano, EM '16
5. Vladimir "Vlad" Y. Co, EE '86
6. Jose "Joe" B. Cruz, Jr. EE '53
7. Pedrito "Pete" T. Dy, ME '68
8. Renato "Rene" C. Garcia, CE '84
9. Enrico "Rico" A. Ibana, IE '82
10. Alex D. Ibasco, EE '79
11. Renato "Äto" M. Jiao, ME '78
12. Angel "Babby" A. Z. Reyes, ME '81
13. Josephine "Jo" B. Santiago Bond, ECE '01
14. Maria Antonia "Tonette" N. Tanchuling, CE '88

Three members of UPERDFI have departed in 2021.

Julius Labrador was President of Labtech Manufacturing Industries, Inc. He served as a UPERDFI Trustee and donated endowment funds for Professorial Chairs and the Technology Development and Strategic Studies Fund in the 1990s.



Pablito R. Chua, ChE '76 was Vice President of Philippine Belt Manufacturing. He brokered the establishment of the two Vicente and Juanita Hao Chin Professorial Chairs in 2014 when he was Executive Vice President of Borland Development Corporation.



Luis Maria "Chito" R. Calingo, IE '75. After several years being Provost and then president of a University in California, he came back in 2015 to assume the presidency of the Holy Angel University in Pampanga. There, he led the multi-campus school to soar in various disciplines.

In early 2022, the Membership Committee carried out the nomination and invitation of 10 new members, who were formally welcomed by the Board during the February 16, 2022 Board meeting. The following members bring the current membership roster to 213:

1. Ramon "Mon" de Leon, IE '74
2. Lorenzo "Ämboy" Formoso III, AB Philo '84
3. Geraldo "Gerald" Iglesia, CE '82
4. Benjamin "Benjie" R. Lava, ME '80
5. Enrico "Eric" Paringit, GE '97
6. Patrick Anthony "Anton" D. Pascual, CE '88 (UPAE President, 2022)
7. Antonio "Tonet" L. Rivera, IE '79
8. Hector "Butch" Rivera III, ChE '86
9. Gilbert Santa Maria, EE '87
10. Mamerto "Mert" Tagonan, CE '84

Members of the Membership Committee:

Chairman: Dante M. Briones

Members:

- Alfonso A. Aliga, Jr.
- Jaime G. del Rosario
- Rene E. Nolasco

Finance Committee

Entering the second year of the pandemic in 2021, the economic outlook was not promising, and this was reflected in the available investment opportunities. Interest rates were still low, and the fixed-income offerings were over-subscribed. The equity market experienced volatility as COVID-19 surges forced changes in the quarantine restrictions.

With all of these, maturing investments with higher interest rates and investible funds from donations can only be placed at much lower rates. One decision made was to increase the Foundation's placements in the Sun Life Money Market Fund which offers better returns and easy accessibility for short-term needs.

The investment portfolio at the end of 2021 stands as follows:

Subportfolio	₱ Millions (at Cost)	% Mix (at Cost)	₱ Millions (at 12/31/2021 MV)	% Mix (at MV)
Government Securities	68.3	24.4%	77.3	25.9%
Peso Government Securities	60.8	21.7%	67.0	22.4%
ROP Bonds	7.5	2.7%	10.3	3.4%
Corporate Notes	51.3	18.3%	51.3	17.2%
Time Deposit	14.8	5.3%	14.8	4.9%
Preferred Equities	7.0	2.5%	7.3	2.4%
Mutual Funds	77.8	27.8%	83.6	28.0%
Common Shares	21.0	7.5%	24.6	8.2%
Money Market Fund (Sun Life)	40.0	14.3%	40.2	13.4%
Cash Available for Reinvestment	0.0	0.0%	0.0	0.0%
TOTAL	280.2	100.0%	299.1	100.0%

The FinComm will continue to think of ways to improve the investment situation of the UPERDFI particularly as the Philippines is trying to move out of the lockdowns and ramp up its economy. The FinComm will also undertake a continuing review of its investment policies in light of the needs of the constantly changing environment.

Members of the Finance Committee:

Chairman: Edgardo G. Atanacio

Members:

Jaime G. Del Rosario Rene E. Nolasco
 Michael V. Gonzalez Victor N. Villagracia
 Rizalina Gervasio-Mantaring

Audit Committee

In cognizance of the very expansive role of the two focus areas, the Audit and Governance Committee was split into two, to enable better policy-making and execution. This was as decided by the Board in its August 2021 Quarterly Meeting. Elise del Rosario was A&G Chairman.

In accordance with the UPERDFI by-laws, the Audit Committee is tasked with providing assurance by assessing and reporting on the reliability of financial statements and supporting accounting records. To achieve this, the Audit Committee performs timely reviews of operations and liaise with the independent auditor in undertaking the statutory audits on the Foundation.

Generally, the task of the Committee is to perform activities that cover (i) accounting and financial reporting, (ii) comptrollership and internal audit, (iii) external audit, (iv) regulatory compliance and (v) risk management of UPERDFI.

A summary of the specific tasks according to these five activities are as follows.

1. Accounting and Financial Reporting

Review financial statements and related documents prepared by the Accountant that are periodically submitted to the Executive Director, Treasurer and Finance Committee.

2. Comptrollership and Internal Audit

Conduct internal audits and post reviews of financial transactions and other operations and discuss relevant findings with the Treasurer, the Executive Director and the Accountant.

3. External Audit

Coordinate with the External Auditor, Executive Director, Comptroller, Treasurer and Finance Committee in defining and finalizing the scope of the external audit

4. Regulatory Compliance

Discuss with UPERDFI Management attorney and general counsel, litigation, or regulatory compliance risks when conditions necessitate this.

5. Risk Management

Discuss with Governance Committee the policies and practices used to identify, prioritize, and respond to the risks that threaten the achievement of UPERDFI objectives or opportunities that enhance the achievement of such objectives. Elevate issue to the BoT as needed.

The Audit Committee is assigned by the UPERDFI Board of Trustees (BoT) which composes three (3) members and a Chairperson is chosen by the Committee.

Members of the Audit Committee:

Chairman: Guillermo Q. Tabios III

Members:

Maria Antonia N. Tanchuling

Edgardo P. Kasilag II

Governance Committee

The Governance Committee was set up and organized in 2021. It is tasked with:

1. Assessing current practices and anticipating potential problems;
2. Putting in the required interventions if needed to ensure that the governance structure is operating as designed; and
3. Ensuring that processes enable timely decisions to be made.

Through a Policy Review Ad Hoc Team, the Committee performed an evaluation of what policies need to be formulated and/or reviewed.

The following policies have been formulated:

Fundraising and Donations Policy - to cover fund-raising and solicitation activities of UPERDFI that are intended to raise resources for the organization in any form of value, monetary or in-kind, to achieve the Vision and Mission of the organization

Investment Policy - to cover all investible funds contributed to UPERDFI, including those for the purpose of supporting chairs, grants, scholarships, projects, and any initiatives specified by the donor which conform with the purposes and policies of UPERDFI and are approved by the Board.

Project Governance Policy – to ensure that UPERDFI projects are planned thoroughly, executed properly, and managed proactively to deliver the expected results.

Faculty Development and Professorial Chair Awards Policy - provides input to the College of Engineering on the research and development areas of Faculty who are given PCAs

Research & Development Grants and Funds Policy - to guide the UPERDFI in supporting the R&D work of Faculty and Students of the College of Engineering (COE) and channeling these toward initiatives that promote innovation involving emerging and disruptive technologies that are responsive to the needs of the market and society.

Conflict of Interest Policy – to serve as a guide in identifying areas where potential or perceived conflict of interest could exist and to lay out guidelines on how to prevent said conflict of interest.

As of the end of 2021, the following policies are in various stages of drafting, review, and approval: Membership, Financial Stewardship, Student Support and Support to Academic Instruction.

Members of the Governance Committee:

Chairman: Manuel H. Torres

Members:

Lisa Grace S. Bersales

Rhodora M. Gonzalez

Ramon M. De Leon

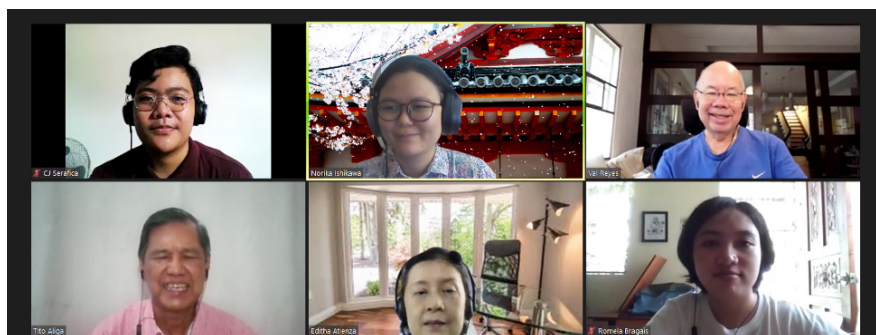
Rene E. Nolasco

Renato Goco

A Digital UPERDFI... Now Loading

The UPERDFI Digitalization Task Force headed by Vice President Dante Briones continued to implement the digital transformation initiatives of UPERDFI. The project aims to equip UPERDFI with the digital infrastructure to provide a more seamless donation process and a more efficient and secure records management system. In 2020, we reported on two primary initiatives by the Digitalization task force: the Accounting System migration to QuickBooks Online (QBO) and the Implementation of a Document Management System. In 2021, the task force added two initiatives: Digital Banking enrollment and Documentation of new processes.

In April 2021, UPERDFI acquired the cloud-based QuickBooks Online after the live testing of the software in February-March. After loading the transactions for 2021 on QBO, Accountant Nelly Manalo was able to generate the monthly reports by August. The QBO has been fully implemented and has generated reports for the year in time for the 2021 audit. UPERDFI ensured that the transition to the cloud system is compliant and sound by regularly consulting our auditors. The next step for QBO is to register the system to the Bureau of Internal Revenue (BIR). Recording on the BIR-registered books of accounts are ongoing in the meantime.



Internship Final Report Meeting

With the help of Member Rico Ibanez, UPERDFI moved forward with the establishment of a Document Management System (DMS) for managing relevant donation documents and procedures. The system enabled the tracking of donations, and alerting for funding, collection, and disbursement. IE alumna Alma Sta. Ana assisted in the formulation of a filename system. Management authorized the procurement of equipment for the scanning of physical documents, and the subscription to the Google Workspace. Executive Assistant Norika Ishikawa and Administrative Aide Raymond Uy were in-charge of loading and organizing the digital records to the Google Workspace. The next step for the DMS is to complete and verify the uploaded documents so that donors can be given access to their ledgers to track all their transactions.

UPERDFI decided to move toward the digitalization of its receipts and disbursement processes by enrolling in UnionBank's Digital Banking System after conducting a selection process by members of the Management Committee in August 2021. After complying with the necessary documentary procedures, UPERDFI will proceed to implement the digital banking system.

UPERDFI has also documented the existing and the changes in the donation-related procedures given the remote setup, and the new QBO and DMS initiatives. Two BS IE students, CJ Serafica and Romela Bragais joined UPERDFI from June to August 2021 as interns. They worked on optimizing and documenting the workflow processes of the Foundation, particularly on the Donation Lifecycle, which covers the acquisition and recording of donations and the disbursement of funds to beneficiaries. The diagrams have been segmented to allow for the documentation of future automation of procedures.

Planning for UPERDFI's 50th Anniversary

The UPERDFI leadership and trustees have been planning for its 50th anniversary on August 3, 2022. They proposed a plan to identify the major activities, designate the key persons to lead the sub-committees, and specify a timeline to implement the plan. PERT-CPM, a tool to find the critical path, was used to complete the activities and meet the August celebration with outcomes that would make the day memorable for all stakeholders, i.e., the members, donors, and UP College of Engineering faculty and student beneficiaries.

Starting in September 2021, the Golden Anniversary Team led by President Val Reyes and Adviser Chato Calderon began drumming up the efforts to cover three major activities. They created sub-committees for collecting UPERDFI memoirs and memorializing them into a Coffee Table Book and a short video, programming the celebration and event night itself, and raising funds for the occasion and significant projects of the organization. Tito Aliga, who was President from 2013-2017 and Executive Director from 2017-present has been instrumental in identifying key persons who know UPERDFI's history. He organized the backroom for the research and archiving efforts with Executive Assistant Norika Ishikawa. ED Tito looked into the five-decade history of UPERDFI to come up with the list of most significant donors in terms of overall contribution and impact.

For having had the experience of putting together the UPCOE Centennial Coffee Table Book in 2010, Rhod Gonzalez, presented a similar strategy of lining up the memoirs to be collected and key personalities to be featured in the proposed UPERDFI 50th Anniversary Coffee Table Book. This History sub-committee aimed to document the milestones of UPERDFI over the years by recovering and digitizing photos, memorabilia, and reports. A team of volunteers conducted online interviews with founding members and their families, deans, officers, and prominent members of UPERDFI. Edith Juinio Atienza provided an excellent source of Dean Alfredo Juinio's vision and undertakings to create the UPERDFI. Secretary Boy de la Peña brought his

historical perspective as a UPCOE faculty member involved with UPERDFI early in his career. The Class '69 of Secretary Boy de la Peña, Benjie Lopez, Pepe Santiago, Cesar Yñiguez, and their batchmates generously offered to be the book's editorial team. Alex Sy took the lead in printing the book. Jeng Pascual, who has experience in similar corporate events, led the competitive solicitation for a professional service provider for UPERDFI's Coffee Table Book design and rendering, with accompanying video documentation. UPERDFI awarded the contract to Drink PH.

Since the effect of the COVID pandemic on the day of the festivity is still unknown, the Event sub-committee headed by Bing and Elise del Rosario and Dean Ferdinand Manegdeg proposed a hybrid celebration of both virtual and in-person. They are considering Novotel as the venue. The dinner will honor UPERDFI's loyal and generous donors with special recognition. Aura Matias and her team are planning a special number of home-grown UPERDFI and UPCOE talents as '*Alay sa Mga Tagapagbigay*' similar to the successful Engg Musika Concert in 2019.

The Fundraising sub-committee of Michael Gonzalez, Elmir de la Cruz, and Alexis Acacio will highlight the projects that sustain UPERDFI's legacy projects for the faculty's professorial chairs and students' financial grants supporting UPCOE educational excellence. Other fundraising efforts for special projects include research and instructional improvements such as the High Performing Computer and optimization of laboratories.

UPERDFI members, donors, and beneficiaries for the last 50 years who reside in the Philippines, US, and other countries will celebrate this auspicious occasion. The planning and organizing team of volunteers who have put their time, talent, and treasure to ensure success are hereby greatly acknowledged. **Mabuhay ang UPERDFI!**

Golden Anniversary Team

Chairpersons: Valentin A. Reyes and Rosario S. Calderon

Memorabilia Sub-Committee:

Alex Sy Sun Eng (Coffee Table Book Lead)	Fortunato T. De la Peña
Jose Jerome Pascual (Audio-Visual Presentation Lead)	Rhodora M. Gonzalez
Jose Martin Aliling (Class '69)	Bienvenido Lopez (Class '69)
Editha J. Atienza	Felipe Santiago (Class '69)
	Cesar Yñiguez (Class '69)

Budget and Fundraising Sub-Committee:

Alexis A. Acacio
Elmir S. De la Cruz (UP Alumni Engineers)
Michael V. Gonzalez

Event Sub-Committee:

Ferdinand G. Manegdeg (UP College of Engineering)	Pepito Dizon
Eden May B. De La Peña (UP College of Engineering)	Erwin Gabriel (National Engineering Center)
Jaime G. Del Rosario	Aura C. Matias
Elise A. Del Rosario	Eric Tingatinga (UPAE Executive Director and Associate Dean for Alumni Relations)
Arlene De Ocampo (National Engineering Center)	

Project Support

Alfonso A. Aliga, Jr. (Executive Director)
Norika C. Ishikawa (Executive Assistant)
Raymond Joshua C. Uy (Administrative Aide)

Networks of Action

Our formal partnerships and informal links with various organizations and associations continue to help us gain advances in our various activities. In 2021, we can cite the following:

1. **Friends of the University of the Philippines Foundation in America.** In addition to providing our US donors a vehicle where they receive tax benefits from the US IRS, FUPFA has invested a significant amount to our High Performance Computer Project.
2. With a Memorandum of Understanding signed up with UP Diliman Chancellor Fidel Nemenzo in March 2021, we have strengthened our working relationship in advancing UPD research projects towards commercialization. In 2021, discussions on the VISSER Science Lab in a Box Project continued, while a new project involving medical diagnostics was taken up.
3. We also have a separate MOU with UP Diliman regarding our involvement with the UP Sustaining Center in an Advanced Learning Environment (UPSCALE). In 2021, we started two major projects: (1) The COIR+ Project funded by Vista Land and Lifescapes, Inc. This involves the development of cocofiber as a mix for concrete. It is led by DMMME Professor Dr. Magdaleno Vazquez, Jr. (2) The Start-up Ventures Project with Accenture Philippines, Inc., led by UPSCALE Director Dr. Luis Sison., This involves the funding of qualified start-ups being shepherded by UPSCALE.
4. **The UP Alumni Association of British Columbia (Canada)** sponsored two-year scholarships for two students, covering AY 2021-22 and 2022-23.
5. **The UP Alumni Association of the Greater Los Angeles Area** continued on the third year of their 5-year commitment to donate funds for five Thesis Support Grants.
6. Our members in their individual capacities participated in various fora hosted by the Department of Science and Technology (DOST), the Philippine-American Academy of Science and Engineering (PAASE) and the UP Alumni Association of America.

We redouble our efforts in seeking partners for the following endeavors:

Research for Engineered Solutions

Commissioned Research Projects.

Companies/individuals who will engage UPCOE for faculty-led teams to carry out in-depth research projects, like the Vista Land COIR+ Project cited above. The collaboration of the UPCOE teams working with the technical staff of the host company to carry out defined parts of the study in their own laboratories enables skills exchange and increased capabilities for both UP and sponsoring company.

Implementing Research Results to Impact Society.

We orchestrate the implementation of faculty-led research projects in communities that benefit therefrom. A good example is one that has been cited by the UP System where a faculty-led team worked with a company owned by one of our Foundation members to set up a communication link in a lakeshore barangay in Binangonan, Rizal.

Projects for the UP College of Engineering

These projects comprise various elements that include professorial chairs, faculty development and certification, scholarships and student support, and items that enhance/modernize existing laboratory and classroom facilities as well as set up new ones.



DIEOR Golden Pillars Campaign.

We work with the Department of Industrial Engineering and Operations Research in its special program celebrate the 50th anniversary of the establishment of the Department.



DChE@70: Catalyzing Honor and Excellence.

Starting in February 2022, we work with the Department of Chemical Engineering in celebrating the 70th year of the Department's establishment.

Thank you for supporting UP Engineering!



The complete list of donors in 2021 can be found in Annex 1 (Page 26).

Annexes

Annex 1: List of Donations in 2021

	Donor	Purpose	Amount
FACULTY SUPPORT			
1	Allado Construction Company, Inc.	Honorio & Elisa Allado Professorial Chair	90,000.00
2	AMH Philippines, Inc.	AMH Philippines Professorial Chair	120,000.00
3	Analog Devices Gen. Trias, Inc.	Analog Devices Professorial Chair	240,000.00
4	ME Class of 1980 (Various Donors)	ME Class of 1980 Professorial Chair	240,000.00
5	Anta Construction Corporation	Antonio Tan Giok Khun Professorial Chair	120,000.00
6	Antonio Tanchuling, Jr.	Antonio & Lourdes Tanchuling Professorial Chair	120,000.00
7	Apolonio & Lorna Yson (Via FUPFA)	Apolonio & Lorna Yson Professorial Chairs (2)	247,214.49
8	Borland Development Corporation	Vicente & Juanita Hao Chin Professorial Chairs (2)	240,000.00
9	Brian Tan Engineering Consultancy Services	David Y. Tan Professorial Chair	120,000.00
10	Cleantech Foundation, Inc.	Cleantech Global Renewables Professorial Chair	120,000.00
11	DCCD Engineering Corporation	DCCD Engineering Professorial Chair	120,000.00
12	DMCI Project Developers, Inc.	DMCI Project Developers Professorial Chairs (3)	360,000.00
13	DMCI Project Developers, Inc.	DMCI Project Developers Teaching/Research Awards (4)	240,000.00
14	Dr. Luis Pascual (Via FUPFA)	Dr. Luis Pascual Professorial Chair	484,480.00
15	Elzar Lorenzana Simon (Via FUPFA)	Elzar Lorenzana Simon Professorial Chair	120,013.39
16	Felicidad Z. Reyes	Prof. Felisberto G. L. Reyes Professorial Chair	120,000.00
17	Focus Global Inc.	Focus Global Professorial Chair	120,000.00
18	Globe Telecom, Inc.	Globe Telecom Professorial Chair	120,000.00
19	Jose Edgar Manrique (Via FUPFA)	Jose Edgar Manrique Professorial Chair	123,607.25
20	Jose Francisco	ME Class of 1980 Professorial Chair	60,000.00
21	Donor c/o Jose Francisco	ME Class of 1980 Professorial Chair	60,000.00
22	Kenneth Chua (Via FUPFA)	ME Class of 1980 Professorial Chair	91,999.17
23	Levyrox Corporation	Levy Espiritu Professorial Chair	120,000.00
24	Longridge Construction, Inc.	Longridge Construction Professorial Chair	120,000.00
25	M.E. Sicat Construction, Inc.	M.E. Sicat Construction Professorial Chair	120,000.00
26	Ma. Aura Teodora C. Matias	Dr. Maria Aura Teodora C. Matias Professorial Chair	120,000.00
27	Ma. Elena C. Ramiro	Dr. Mariano Ramiro Professorial Chair (For 6 Years' Awards)	720,000.00
28	Macarthur and Josefina De Los Reyes	Top-Ups For Three De Los Reyes Professorial Chairs	120,000.00
29	Maynilad Water Services, Inc.	Maynilad Water Services Professorial Chair - 1	120,000.00
30	Maynilad Water Services, Inc.	Maynilad Water Services Professorial Chair - 2	120,000.00
31	Michael V. Gonzalez	Felix M. Gonzalez Professorial Chair	120,000.00
32	Orchards of The Abba Corporation	ME Class of 1980 Professorial Chair	60,000.00

33	Orchards of the Abba Corporation	Orchards of the Abba Professorial Chair	120,000.00
34	People's Asia Pacific Construction Corporation	Domingo Toledo Professorial Chair	120,000.00
35	Petroenergy Resources Corporation	Petroenergy Resources Professorial Chair	120,000.00
36	Philippine Society for Soil Mechanics and Geotechnical Engineering	Dr. Salvador Reyes Professorial Chair	120,000.00
37	Phinma Foundation, Inc. (Dr. Magdalena Albarracin, Jr.)	Phinma Foundation Professorial Chairs for Deans (6)	720,000.00
38	Renato Bello (Via FUPFA)	Antonio & Leticia Bello Professorial Chair	122,546.15
39	Ronaldo S. Ison	Ronaldo Ison Professorial Chair	120,000.00
40	Rosario Calderon (Via FUPFA)	Quintin and Norma Calderon Professorial Chair	118,230.88
41	Rosehall Management Consultants, Inc.	Juan Jr & Rosario Halili Quintos Professorial Chair	120,000.00
42	Segovia & Co. Inc.	Top-up for Jose Segovia Professorial Chair	50,000.00
43	Simon Sandoval and Victor Sandoval	Concepcion H. Sandoval Professorial Chair	120,000.00
44	Steelasia Foundation, Inc	Don Benito Yao Professorial Chair	120,000.00
45	Stephen D. Sy	Stephen D. Sy Professorial Chair	120,000.00
46	Vantageone Financing Corporation	Fernando Serina Professorial Chair	120,000.00
47	Victor Villagracia (Via FUPFA)	Chancellor Ernesto Tabujara Professorial Chair	232,484.50
48	Vivian Pacia (Via FUPFA)	ME Class of 1980 Professorial Chair	91,999.17
49	WITCO Construction & Development Corporation	Dr. Meliton Ordillas Jr. Professorial Chair	120,000.00
		SUB-TOTAL FOR FACULTY SUPPORT	8,072,575.00
		STUDENT SUPPORT	
50	Abelardo Basilio	Abelardo Basilio Thesis Support Grants	20,000.00
51	Alvarez Foundation Philippines	Alvarez Foundation Scholarships	143,080.00
52	Amante & Cecille Aguilar	Amante & Cecilia Aguilar Thesis Support Grants	40,000.00
53	Apolonio & Lorna Yson (Via FUPFA)	Apolonio & Lorna Yson Scholarship	59,557.36
54	BA Foundation (Francis Chua)	UPC 2021 Dr. Francis Chua Innovation Awards	300,000.00
55	Calsol Realty Corporation	Calderon Award for Class Valedictorian	15,000.00
56	Cenon Carolino (Via FUPFA)	Cenon and Mimilyn Carolino Thesis Support Grants	49,350.62
57	Don Mustapha A. Loong	Don Mustapha Loong Thesis Support Grant	10,000.00
58	Elena Laguina	Enrique Laguina Thesis Support Grant	10,000.00
59	Elmer Manzanero Malolos	Elmer Manzanero Malolos Thesis Support Grants	50,000.00
60	Ferdinand M. De La Cruz	Ferdinand M. De La Cruz Thesis Support Grants	20,000.00
61	Ferdinand M. De La Cruz	Ferdinand De La Cruz ICE Academic Excellence Award	10,000.00
62	Filminera Resources Corporation	Filminera Scholarships	660,000.00
63	Francis Felizardo	Francis & Leah Felizardo Thesis Support Grants	20,000.00
64	George & Lilibeth Aristorenas	George & Lilibeth Aristorenas Thesis Support Grants	20,000.00
65	Gerald Iglesia	Godofredo & Alfonsa Iglesia ICE Academic Excellence Award	30,000.00
66	Gokongwei Brothers Foundation, Inc.	Gokongwei Brothers Foundation Scholarship	60,000.00
67	Graciano Calanog, Jr.	Graciano Calanog, Jr. Thesis Support Grants	50,000.00

68	GT Foundation, Inc.	GT Foundation Scholarships	665,000.00
69	Hector Rivera III	Hector Rivera III Thesis Support Grants	20,000.00
70	Huawei Technologies Phils. Inc.	Huawei Scholarships	1,168,000.00
71	J. Amado Araneta Foundation, Inc.	J. Amado Araneta Foundation Thesis Support Grants	50,000.00
72	Jennifer Lynn Cua	Jennifer Lynn Cua Thesis Support Grants	60,000.00
73	JG Summit Petrochemical Corporation	JGS Petrochemical Thesis Support Grants	19,600.00
74	Johnip Go Cua	Johnip Cua Thesis Support Grants	20,000.00
75	Jose Albano (Via FUPFA)	Jose Albano Scholarship	58,104.74
76	Josephine Santiago-Bond (Via FUPFA)	Josephine Bond Thesis Support Grants	20,104.04
77	Josielyn Villafranca-Mendoza	Josielyn Villafranca-Mendoza Thesis Support Grants	20,000.00
78	Jude Salac (Via FUPFA)	Jude Salac Thesis Support Grant	10,052.01
79	Kingson Management & Development Corporation	Kingson Masteral/Doctoral Grants	100,000.00
80	Longridge Construction, Inc.	Longridge Construction Thesis Support Grants	100,000.00
81	Lorenzo Torres (For Rowena Torres Ordoñez)	Teodorico Festin DChE Academic Award & DChE Student Wellbeing Program	25,000.00
82	Ma. Elena C. Ramiro	Dr. Lourdes Ramiro Thesis Support Grant	10,000.00
83	Ma. Elena C. Ramiro	Dr. Mariano Ramiro Thesis Support Grant	10,000.00
84	Ma. Elena C. Ramiro	Dr. Mercedes Concepcion Thesis Support Grant	10,000.00
85	Ma. Elena C. Ramiro	Dr. Isabelo Concepcion Thesis Support Grant	10,000.00
86	Ma. Elena C. Ramiro	Ma. Elena Ramiro Thesis Support Grant	10,000.00
87	Manuel Bulaong Jr.	Manuel Bulaong Jr. Thesis Support Grants	100,000.00
88	Michael V. Gonzalez	Pay-Engg Forward Scholarships	270,000.00
89	Multiflex RNC Phils. Corporation	Robert Cheng Uratex Scholarships	360,000.00
90	Olegario Villoria, Jr. (Via FUPFA)	Olegario Villoria, Jr. Thesis Support Grants	20,104.04
91	One Small Step Forward Foundation, Inc.	Dr. Luis Pascual Academic Award (DIEOR)	50,000.00
92	Patricia Coseteng (Rey Marketing)	Edwin Coseteng Scholarship	60,000.00
93	Philippine Geanalytics, Inc.	PGATECH Scholarship	60,000.00
94	Philippine Gold Processing and Refining Corporation	PGPRC Scholarships	330,000.00
95	Philsaga Mining Corporation	Philsaga Scholarships	300,000.00
96	PMC-MMPRC Foundation, Inc.	Philsaga Board Exam Review Support	50,000.00
97	Rafael Discipulo	Rafael Discipulo Thesis Support Grant	10,000.00
98	Raymond Magpantay	Raymond Magpantay Thesis Support Grant	10,000.00
99	Raul Ignacio	Raul Ignacio Thesis Support Grants	20,000.00
100	RL Royal Prime Construction Company	RL Royal Prime Construction Scholarship	73,349.28
101	Roger Murga	Tek Hedriana DME Student Award (For 5 Years)	50,000.00
102	Rolando T. Dy (For Pedrito Dy)	Pedrito Dy Thesis Support Grants	20,000.00
103	Rolando T. Dy	Rolando Dy Thesis Support Grant	10,000.00
104	Rosario Calderon	Quintin Calderon ICE Class Valedictorian Award	15,000.00

105	Roy R. Alminanza	Roy Alminanza Thesis Support Grants	20,000.00
106	Sherwin O	Sherwin O Thesis Support Grants	20,000.00
107	UP Alumni Association of British Columbia (Anita Aytona)	UPAABC Scholarships	60,000.00
108	Victor Villagracia (Via FUPFA)	Victor Villagracia Thesis Support Grants	49,350.62
109	WebFocus Solutions, Inc.	WebFocus Solutions Thesis Support Grants	100,000.00
110	Yin Yong Lao	Yin Yong Lao Scholarships	120,000.00
		SUB-TOTAL FOR STUDENT SUPPORT	6,130,652.71
		INFRASTRUCTURE AND SPECIAL FACILITIES	
111	Agnes Whiten	High Performance Computing Project	100,000.00
112	AMH Philippines, Inc.	DIANA FEA Software License	50,000.00
113	Bakas Pilipinas	DIANA FEA Software License	136,132.84
114	DCCD Engineering Corporation	High Performance Computing Project	250,000.00
115	Fluor Daniel Inc. Phils	ICE Structural Engineering Laboratory	748,710.00
116	Fluor Daniel Inc. Phils	DChE Process Simulation / Plant Design Laboratory	499,140.00
117	Genaro Mempin (Via FUPFA)	High Performance Computing Project	59,930.38
118	Victor Villagracia (Via FUPFA)	High Performance Computing Project	546,883.39
		SUB-TOTAL FOR INFRASTRUCTURE AND SPECIAL FACILITIES	2,390,796.61
		RESEARCH AND DEVELOPMENT AND INNOVATION	
119	Accenture, Inc.	UPSCALE Ventures Incubation Program	9,212,000.00
120	Vista Land & Lifescapes, Inc.	Vista Land COIR Project (UPSCALE)	1,642,531.96
		SUB-TOTAL FOR R&D AND INNOVATION	10,854,531.96
		SPECIAL PROJECTS	
121	Antonela Gabrielle P. Gancayco	UPIE Golden Pillars Project	10,000.00
122	Eric Recto	UPIE Golden Pillars Project	2,159,850.00
123	Kathleen Santos-Tankia	UPIE Golden Pillars Project	10,000.00
124	Peter Duran	UPIE Golden Pillars Project	10,000.00
125	Renato Bello	UP Alumni Engineers Fund Raising	236,153.00
126	Reynaldo Paul Chico	UPIE Golden Pillars Project	50,000.00
127	Ryan Christopher Abis	UPIE Golden Pillars Project	10,000.00
		SUB-TOTAL FOR SPECIAL PROJECTS	2,486,003.00
		ADMINISTRATION	
128	Diliman Integrated Technical Consultancy, Inc.	Miscellaneous Income	31,800.00
129	UPD-Revolving Fund	Sakay Award For UPERDFI	5,000.00
		SUB-TOTAL FOR ADMINISTRATION	36,800.00
		TOTAL DONATIONS IN 2021	29,971,359.28

*The Donations amount shown in the Audited Financial Statement is ₱30,481,822.00. The ₱510,462.72 difference from the tabulated total amount shown in this Annex 1 is accounted for by adding back amounts returned in 2021 from several payments released in 2020, and by recognizing portions of 2020 receipts meant for 2021 releases.

Annex 2: List of Professorial Chair Awards (AY 2021-2022)

	Chair Name and Donor	Awardee (Dept/Inst)	Research Title
CATEGORY 4 (P 300,000)			
1	Alejandro Melchor Donor: Dr. M. Albarracin Jr. & DMCI Holdings	Manegdeg, Ferdinand G. (ME)	Design and Performance Characterization of Waste-to-Energy System using Rubber Waste
CATEGORY 3 (P 240,000)			
2	Analog Devices Donor: Analog Devices Gen Trias	Alarcon, Louis P. (EEE)	Ultra-Wideband Radios for Wireless Sensor Networks Matching Circuit
3	Dado and Maria Banatao (1) Donor: Dado & Maria Banatao Institute	Festin, Cedric Angelo M. (CS)	Contact Tracing Techniques/Challenges
4	Dado and Maria Banatao (2) Donor: Dado & Maria Banatao Institute	Atienza, Rowel O. (EEE)	Algorithms and Techniques for Running Deep Neural Networks on Microprocessor-based Devices
5	Dado and Maria Banatao (3) Donor: Dado & Maria Banatao Institute	Naval, Prospero Jr. C. (CS)	Deep Learning for COVID19 Detection in CT Scans
CATEGORY 2 (P 120,000)			
6	Dean Alfredo L. Juinio Donor: A. L. Juinio Family & Friends	Antonio, Oscar Victor Jr. M. (CE)	Application of UGV and UAV as Complementary Equipment for Conducting RCAsT
7	Ambrosio Magsaysay Donor: A. Magsaysay, Inc. and Miguel Magsaysay Family	Regidor, Jose Regin F. (CE)	Development of Bicycle Facilities in the Philippines
8	Maynilad UP Centennial Donor: AA Alarilla Const./ CM Pancho Const./ DMCI/ JV Angeles	Herrera, Eugene C. (CE)	Understanding Manila Bay Hydro morpho-dynamics through Numerical Simulations
9	Dr. Magdaleno Albarracin Jr. UP Centennial Donor: AB Capital/Union Galvasteel/ Bacnotan Consolidated/ Phinma/ Transasia Oil & Energy, Phinma Property Holdings	Tumolva, Terence P. (ChE)	Synthesis of Novel Phycocolloidal Hydrogels for the Development of Vitamin Loaded Wound Dressing
10	Alexan Donor: Ace Electronic Technologies	Tiglaio, Nestor Michael C. (EEE)	Lightweight Blockchain-based Authentication for the Internet of Things
11	Sy Ling Chat Donor: Alex Sy Sun Eng & Benjamin Sy	Ramos, Roseanne V. (GE)	Satellite Data Products for Air Quality Assessment in the Philippines
12	Honorio & Elisa Allado Donor: Allado Construction Co., Inc.	Sadie, Noriza T. (CE)	A Comparative Analysis on the Applicability of Existing Water Quality Index Models on Philippine Rivers
13	AMH Philippines Donor: AMH Philippines, Inc.	Acosta, Timothy John S. (CE)	A Review of the Vulnerability of Philippine Housing for the Past Decade
14	Apolonio and Lorna Yson (ChE) Donor: Apolonio Yson & Lorna Llave Yson	De Leon, Rizalinda L. (ChE)	Green Hydrogen Production
15	Apolonio and Lorna Yson (ME) Donor: Apolonio Yson & Lorna Llave Yson	Quiros, Edwin N. (ME)	Fuel Economy Results from Diesel Engine Tuning for Steady Speed and Drive Cycle Operation
16	Lagman Family Donor: Augusto C. Lagman	Alamani, Bryan G. (ChE)	Duality of Ionic Modifiers and their Impact in Crystallization
17	Renato M. Tanseco Donor: Automated Tech Phils. Inc.	Balbarona, Juvy A. (ME)	Surface Porosity and Droplet Mobility on Superhydrophobic Brass Sheets
18	Beta Epsilon Donor: Beta Epsilon	Acacio, Alexis Philip A. (CE)	Use of Construction Waste as Soil Reinforcement Material to Mitigate Soil Liquefaction
19	Prof. Dominador Ilio Donor: Beta Epsilon	Soriano, Jaymar B. (CS)	Analysis of Seizure Progression using Coupled Neural Mass Models
20	David Y. Tan Donor: Brian B. Tan Engg Consulting Services	Hernandez, Jaime Jr. Y. (CE)	Preliminary Study on the Design of Living Houses
21	Fernando N. Serina Donor: Carmen V.F. Serina	Denoga, Gerald Jo C. (ME)	Development of Biomedical Devices
22	Cerlito San Juan Donor: Cerlito San Juan & Family; Houston Hydrotech	Callanga, Jennifer F. (ME)	Static and Dynamic Response of a Transtibial Prosthetic Leg Made from Composite Materials
23	Chua Liong & Loreta Dy Chua Donor: Chua Liong & Loreta Dy Chua	Baynosa, Marjorie L. (ChE)	PMS Activation Using Zn/Co-Based Catalyst for Pollutant Degradation

24	Ciriaco Corporation Donor: Ciriaco Corporation	Victor, Jaime Angelo S. (CE)	Assessment of Induced Partial Saturation for Mitigating Earthquake-Induced Liquefaction
25	Beatriz Basa-Altura Donor: Claudio Altura	Quinay, Pher Errol B. (CE)	Development of Modules for the Computations of Feature-Based Analysis in Parallel Computers
26	Cleantech Global Renewables, Inc. Donor: Cleantech Global Renewables, Inc.	Cervera, Rinlee Butch M. (MMM)	Solid Oxide Electrochemical Cell Thin Films
27	Concepcion H. Sandoval Donor: Concepcion Hidalgo Sandoval Memorial Fund	Cajote, Rhandley D. (CS)	Data Analytics, Neural Networks, Machine Learning in Signal Processing
28	Daniel Chan Dy Reyes Donor: Daniel B. Reyes	Ramos, Manuel Jr. C. (EEE)	Throttle and Brake Control using Fuzzy-Neural Algorithm in Car Following
29	Lodevina B. Reyes Donor: Daniel B. Reyes	Del Rosario, Julie Anne D. (ChE)	Multiphysics modeling, sensitivity analysis, and optimization of an LCO-C6 lithium polymer battery
30	Jorge Consunji Donor: David Consunji (DMCI Holdings, Inc.)	Lumbera, Maxell P. (CE)	Assessment of Water Saving Potential of Hypothetical and Representative Rainwater Harvesting Systems in Four Climatic Regions of the Philippines
31	DCCD Engineering Donor: DCCD Engineering Corp.	Caram, Rosabelle Louise (CE)	Determination of Appropriate Expansion Process of Perlite to Conform to Standards of Light Weight Aggregates for Use in Construction
32	Diliman Integrated Technical Consultancy, Inc. Donor: Diliman Integrated Technical Consultancy, Inc.	Jalao, Eugene Rex L. (IE)	A Decision Support System to Hit Target Sample Distribution Quota and Consumers Professorial Chair in Industrial Engineering on Outdoor Product Sampling
33	David M. Consunji Donor: DMCI Holdings, Inc.	Palmiano, Hilario Sean O. (CE)	Development of a Travel Demand Forecasting Tool for Philippine LGUs
34	DMCI Project Developers 1 Donor: DMCI Project Developers	Tingatinga, Eric Augustus J. (CE)	SAP15x II: Implementation and Applications of Nonlinear Analysis of Structures
35	DMCI Project Developers 2 Donor: DMCI Project Developers	David, Marjorie T. (CE)	Development of Site Suitability Map for Offshore Wind Farms
36	DMCI Project Developers 3 Donor: DMCI Project Developers	Torio-Kaimo, Lestelle V. (CE)	Use of Abaca Fiber as an Alternative Reinforcement Material for Clay
37	Domingo Toledo Donor: Domingo Toledo Family	Ejera, Stan Kristian G. (MMM)	Product Life Cycle Analysis of Ferrous Boiler Tubes
38	Don Felipe Say & Theresa Chua Say Donor: Don Felipe Say & Theresa Chua Say	Ballesteros, Florencio Jr. C. (ChE)	Effect of current density, value and current application period on the wastewater treatment performance of Electrochemically Enhanced Self-Forming Dynamic Membrane Bioreactors (e SFDMBRs)
39	Antonio and Lourdes Tanchuling Mining Engg Centennial Donor: Dr. Antonio N. Tanchuling, Jr.	Menor, Terence Lucero F. (MMM)	Copper Mine Tailings Remediation/Saprolitic Ore Leaching/Leaching behavior of Goethitic laterite in other lixivants
40	Dr. Luis Pascual Donor: Dr. Luis Pascual	Lagria, Raymond FrETH A. (IE)	A Systems Dynamics Approach to Disaster Management Logistics in the Philippines
41	Dean Francisco L. Viray Donor: Dr. Magdaleno Albarracin Jr.	Tria, Lew Andrew R. (EEE)	Optional Placement of EV Charging Station in Local Transportation Network
42	Dean Juan L. Tiongson Donor: Dr. Magdaleno Albarracin Jr.	Feria, Rommel P. (CS)	Designing a Tele-ophthalmology Mobile Application
43	Dean Oscar P. Baguio Donor: Dr. Magdaleno Albarracin Jr.	Magdaluyo, Eduardo Jr. R. (MMM)	Effect of Reaction Time in the Crystallographic, Infrared Spectral and Surface Charge Characteristics of PEGylated AgFeO ₂ NPs
44	Dean Reynaldo B. Veja Donor: Dr. Magdaleno Albarracin Jr.	Villar, John Justine S. (CS)	Port Capacity Analysis and Route Optimization for Local Maritime Administration
45	Dean Ruben A. Garcia Donor: Dr. Magdaleno Albarracin Jr.	Cabarle, Francis George C. (CS)	Formal Framework of Spiking Neural P Systems
46	Dr. Aura C. Matias Donor: Dr. Maria Aura Teodora Castillo Matias	Custodio, Benette P. (IE)	Postural Assessment of Home Study Space of UPD DIEOR Undergraduate Students
47	Dr. Olegario G. Villoria, Jr. Donor: Dr. Olegario G. Villoria, Jr.	Sigua, Ricardo Dg. (CE)	Active Transport in the Times of the Pandemic
48	Elzar Lorenzana Simon Donor: Elzar L. Simon	Remolona, Miguel Francisco M. (ChE)	Transformer-Based Mathematical Variable Typing and Automated Ontology Population
49	Prof. Alfredo B. Juinio Jr. Donor: Erlina Juinio & Juinio Family	Zarco, Mark Albert H. (CE)	Analysis of Limit State Problems using Kinematical Element Method
50	Prof. Felisberto G. L. Reyes Donor: Felicidad Z. Reyes	Germar, Fernando J. (CE)	Seismic Risk Reduction and Resilience
51	F. F. Cruz Donor: Felipe F. Cruz	Principe, Jeark A. (GE)	Land Cover Change Dynamics and Socioeconomic Impacts of Areas Converted to Solar Farms

52	Filminera Resources Corp. Donor: Filminera Resources Corp.	Tungpalan, Djoan Kate D. (MMM)	Investigating Ore Variability based on Drill Core-Scale Texture
53	H. B. Reyes ME Centennial Donor: Filomena & Meneleo Carlos, Jr.	Abuan, Binoo E. (ME)	Investigation on the Effects of Various Parameters to the Performance of a Highway Installed Banki Turbine
54	Focus Global Donor: Focus Global, Inc.	Llaguno, Erickson L. (IE)	Discovering the Innovators' DNAs of a Healthcare Organization
55	Stephen D. Sy Donor: Focus Global, Inc.	Lorenzo, Lowell L. (IE)	Development of a Crop Planning and Scheduling Model for Small Scale Farming
56	GE Phils Meter & Instrument Co. Donor: General Electric Phils. Meter and Instrument Co.	Hizon, John Richard E. (EEE)	A Vibration Aware Energy Harvesting unit in CMOS
57	Globe Telecom Donor: Globe Telecom Philippines	Pedrasa, Jhoanna Rhodette L. (EEE)	Security in ITS
58	Holcim Donor: Holcim Philippines	Resurreccion, Augustus C. (CE)	Wastewater Treatment Using Granulated Coal Ash
59	Integrated Microelectronics Inc. Donor: Integrated Microelectronics Inc.	Diaz, Leslie Joy L. (MMM)	Applications of Electrospun Nanofiber Membrane in Biomedical Devices
60	Jesus P. Francisco Donor: Jesus P. Francisco	Berana, Menandro S. (ME)	Organic Rankine Cycle Incorporated with Ejector for Low-Enthalpy Geothermal Power Plants
61	Jose Edgar Manrique Donor: Jose Edgar Manrique	Soriano, Virginia J. (IE)	Exploring Opportunities and Strategies for University Facilities Management
62	Marithe Girbaud Donor: JVS Worldwide	Buquiz, Jan Lowell P. (MMM)	Spatial Variation of Pitting Corrosion Susceptibility in Pb-Ca-Sn Battery Grids
63	Levy Espiritu Donor: Levyrox Corp.	Diola, Ma. Brida Lea D. (CE)	Assessment of Community Based Waste Utilization Technologies
64	Leopoldo V. Abis Donor: Lilia Abis, C. San Juan, M. Albarracin Jr., F. De La Pena, A. Sy Sun Eng, V. Villagracia & UPERDFI	Reyes, Joseph Gerard T. (ME)	Developing a Methodology for Setting up a Real-time Indoor Air Quality Monitoring and Reporting System in Offices
65	M.E. Sicat Construction Donor: M.E. Sicat Construction	Espiritu, Richard Dv. (MMM)	Fabrication of 3D-Printed Adsorbents for Carbon Capture
66	Dr. Mariano P. Ramiro Donor: Ma. Elena C. Ramiro	Dela Peña, Eden May B. (MMM)	Effect of Additives on Choline-Chloride Based Deep Eutectic Solvent
67	Ariston De Los Reyes Engg. Centennial Donor: Macarthur And Josefina De Los Reyes	Sarmiento, Czar Jakiri S. (GE)	Geomatics and Social Science Research in Smart Cities
68	Macarthur Delos Reyes Engg. Centennial Donor: Macarthur And Josefina De Los Reyes	Alvarez-Ballesil, Anastacia P. (EEE)	Power and Area Oriented Implementations of Lightweight Cryptographic Algorithms for Wireless Sensor Networks
69	Meralco Donor: Manila Electric Company	Pedrasa, Michael Angelo M. (EEE)	Aggregating EVs for Vehicle-to-Grid Services for Low Voltage Distribution Networks
70	Maynilad 1 Donor: Maynilad Water Services	Tanchuling, Maria Antonia N. (CE)	The Waste Flow Diagram as a Tool to Estimate Plastic Leakage
71	Maynilad 2 Donor: Maynilad Water Services	Yap, Kristian July R. (ChE)	Optimization of Anion Exchange Membrane Water Electrolyzer (AEMWE) Performance for Hydrogen Production
72	M. G. Carlos Sr. EE Centennial Donor: Meneleo Jr. & Filomena Carlos	Austria, Isabel M. (EEE)	Software-Defined Community Networks for Inclusive Smart Cities
73	Manuel M. Lopez UP Centennial Donor: Meralco Millenium Foundation Inc (MMFI) & Meralco Mngt & Leadership Dev. Center Foundation Inc.	Rosales, Marc D. (EEE)	WSN for Smart Hydroponics / Energy Harvesting Circuits / VCSELS
74	Felix M. Gonzalez Donor: Michael V. Gonzalez	Vasquez, Magdaleno Jr. R. (MMM)	Deposition of TiN-based Thin Films for Decorative Applications
75	Edison Coseteng Donor: MMI Holdings, Inc.	Lucas, Crisron Rudolf G.(EEE)	Decompression of Bluetooth transmitted Audio using Super Resolution for Low-Latency Applications
76	Robert G. Cheng - Uratex 2 Donor: Multiflex RNC Phils. Corp.	Balela, Mary Donnabelle L. (MMM)	Fabrication of Copper Foam for Energy Applications
77	Robert G. Cheng - Uratex 3 Donor: Multiflex RNC Phils. Corp.	Macatulad, Edgardo G. (GE)	GIS-Based Platform for Assessing Drainage Design for Flood-Mitigation
78	Robert G. Cheng - Uratex 1 Donor: Multiflex RNC Phils. Corp.	Perez, Jem Valerie D. (ChE)	PolyMOF: Polymer-based Metal Organic Framework (MOF) Nanocomposites for Water Applications
79	Angel A. Alejandrino Donor: National Hydraulic Research Center & M. Casillan Jr.	Tabios, Guillermo III Q. (CE)	Groundwater Related Land Subsidence Study

80	NTT Donor: Nippon Telephone And Telegraph	Co, Paul Jason R.	Characteristic Mode Analysis of Cubesat Frame
81	Vicente Paterno ME Centennial Donor: Paterno Jislan Corporation	Danao, Louis Angelo M. (ME)	Techno-Economic Assessment of Tidal Energy in the Hinatuan Passage
82	Dr. Salvador F. Reyes Donor: Phil. Society For Soil Mechanics & Geotechnical Engineering	Azul, Kristian M. (CE)	Determination of Subsurface Model Effects on Local Earthquake Site Amplification Ratio Characteristics
83	Dean Marino Mena Donor: Dr. Magdaleno Albarracin, Jr.	Aberilla, Jhud Mikhail O. (ChE)	Environmental Sustainability Assessment of Banana Waste Utilization
84	Roger Murga Donor: Phinma FDN /Murga Family / Semirara MPC	Macaspac, Hannah Erika D. (ME)	Analysis of Prosthetic Pylon Tube Made of Indigenous Fiber Composite
85	Edgardo S. Pacheco Donor: Phinma Foundation	Gonzales, Arthur III A. (ChE)	Drug Discovery from Phytochemicals from Philippine Plants using Virtual Screening
86	Filadelfo Panlilio Donor: Phinma Foundation	Solamo, Ma. Rowena C. (CS)	Exploring the Persuasiveness of An Emotional Intelligence Training Application using U-FADE
87	Filemon Rodriguez Donor: Phinma Foundation	Festin, Susan P. (CS)	Holochain as Applied to Distributed Ledger Technologies
88	PHINMA Foundation Donor: Phinma Foundation	Mercado, Candy C. (MMM)	Polymeric Nanoparticles for Biological Applications
89	Cesar A. Buenaventura Donor: Pilipinas Shell Petroleum Corp	Ocon, Joey D. (ChE)	Pre-Feasibility Assessment of Hybrid Renewable Energy Systems in 634 Philippine Off-grid Islands: Policy Implications on Public Subsidies and Private Investments
90	Cesar A. Buenaventura UP Centennial Donor: Pilipinas Shell Petroleum Corp	Bongolan, Vena Pearl A. (CS)	Covid19 Epidemic and Vaccination Modelling
91	Oscar M. Lopez Donor: Pilipinas Shell Petroleum Corporation	Rollon, Analiza P. (ChE)	N Recovery Using Biogenic Materials as Nuclei and Carrier Materials
92	Manuel V. Pangilinan Donor: PLDT Smart Foundation	Nerves, Allan C. (EEE)	Locational Marginal Price Forecasting in Electricity Markets
93	PLDT Smart Foundation Donor: PLDT Smart Foundation	De Guzman, Jaybie A. (EEE)	Towards User-Aware Spatial Privacy Controls with 3D Point Cloud Regeneration
94	Power Contractors Donor: Power Contractors, Inc.	Orillaza, Jordan Rel C. (EEE)	Voltage Sag Analysis with Protection Devices
95	Mantaring-Gervasio Donor: Rafael Mantaring - Rizalina Gervasio	De Leon-Gusad, Maria Theresa A. (EEE)	Power Management Unit for Piezoelectric Energy Harvesters
96	Policarpio & Nenita Alberto Donor: RASA Surveying & Realty Corp.	Reyes, Rosalie B. (GE)	Sea Surface Temperature Monitoring Using Remotely Sensed and in Situ Measurements
97	RASA Surveying Donor: RASA Surveying & Realty Corp.	Macapinlac, Oliver T. (GE)	Monitoring and Assessment of LGU-Level Land Development
98	Atty. Raul C. Villanueva Donor: Raul Villanueva & Kingson Mgt & Dev Corp	Buño, Kelvin C. (CS)	On Distributed P Systems and Problems
99	Fortunato Tanseco De La Peña Donor: Renato M. Tanseco	Martinez, Iris Ann G. (IE)	Improving Productivity of Natural Systems via the Bottleneck Analysis and Rate Improvement Performed in Manufacturing Systems
100	Engr. Ronaldo Ison Donor: Ronaldo S. Ison	Aquino, Diocel Harold M. (CE)	Benefit Cost Analysis of Retrofitting Public Hospital Buildings
101	Quintin & Norma Calderon Donor: Rosario S. Calderon / Brent Marelli	Vergel, Karl B. N. (CE)	Estimation of Road Transportation Emissions of the Philippines
102	Juan Jr. & Rosario Halili-Quintos Donor: Rosehall Management Consultants	Pilario, Karl Ezra S. (ChE)	Prediction of Moisture Content in Vacuum Dryers using Autoregressive Gaussian Process Models
103	San Roque Power Corp. Donor: San Roque Power Corporation	Tan, Wilson M. (CS)	Progressive Advancement of Transportation Networks Through the Integration of Vehicular Onboard Technologies with Online Platforms
104	Jose P. Segovia Donor: Segovia & Co., Inc.	Odulio, Carl Michael F. (EEE)	Multiple String LED Driver with Independent Dimming Control Using an LCC Resonant Converter Operating at the Constant Current Frequency
105	Federico E. Puno A Donor: Semirara Mining & Power Corp.	Villalba, Imee Bren O. (CE)	Evaluating the Storm Surges and Storm Waves of Historical Typhoons in San Pedro Bay using ADCIRC-SWAN
106	Federico E. Puno B Donor: Semirara Mining & Power Corp.	Macuha, Richmark N.	Review of Ecological Impact Assessment Standards of Run-of-River Hydropower Plant

107	Semirara Mining Corp. Donor: Semirara Mining Corporation	Razonado, Ivy Ann C. (MMM)	Chitosan-Clay Nanocomposites for Packaging Applications
108	Semirara Mining Corp. (Comp. Science) Donor: Semirara Mining Corporation	Adorna, Henry N. (CS)	Basic Research in Unconventional & Conventional Computing (BRUCC): Models and Tool for Hard Problems
109	Semirara Mining Corp. (Wall Mining) Donor: Semirara Mining Corporation	Clemente, Eligia D. (MMM)	Effect of Grout Mixture with Partial Basalt Silt Replacement in the Pull-out Capacity of Fully-Grouted Rock Bolts
110	SR Metals Donor: SR Metals, Inc.	Maniaul, Joy Marisol F. (MMM)	Electrochemical Study of Zinc Cementation
111	Don Benito Yao MetE Centennial Donor: Steelasia Mfng Corp/Steelasia Foundation	Mena, Manolo G. (MMM)	Recovery of Gold from Refractory Molybdenites
112	Team Energy Donor: Team Energy Foundation	Tio, Adonis Emmanuel D.c. (EEE)	Effect of Net Metering and Rooftop PV on Electricity Theft Detection
113	Crisostomo A. Ortigas Donor: UP Alumni Engineers, Inc	Cruz, John Kenneth A. (MMM)	Characterization of Sediments Along Boac River, Marinduque
114	UPAE Donor: UP Alumni Engineers, Inc	Zuñiga, Philip Christian C. (CS)	Interoperability in Health Systems
115	UPAE Engg Centennial Donor: UP Alumni Engineers, Inc	Caro, Jaime D.i. (CS)	Immersive Technology Applications in Healthcare
116	Vidal A. Tan Donor: UP Alumni Engineers, Inc	Valdez, Adrian Roy L. (CS)	Optimal Resource Allocation in Pandemic
117	UP Kem Global - Dr. Luz Salonga Donor: UP Kem Global And Alex Sy	De Luna, Mark Daniel G. (ChE)	Degradation of tetracycline antibiotics by Fe ²⁺ -catalyzed percarbonate oxidation
118	Dr. Leonardo Q. Liongson and UPERDFI Donor: UPERDFI and V. Villagracia	Soriano, Roberto S. (CE)	Policy Development for Philippine Urban Centers Under Groundwater Stress
119	V & L Aesquivel Donor: Virgil Aesquivel	Sison, Luis G. (EEE)	Facilitator Training and Technopreneurship Classes for Engineering Undergraduate Students
120	Dr. Meliton V. Ordillas, Jr. Donor: WITCO Construction & Devt. Corporation	Baladad, Karlo Leandro D. (MMM)	Upgrading of Bauxite Ore using Potential Ore Beneficiation Techniques
CATEGORY 1 (₱ 80,000)			
121	Benguet Management Corp. Donor: Benguet Management Corp.	De Leon, Mark Jeffry D. (MMM)	Development of a Cold Atmospheric Pressure Plasma Device
122	Benguet Corporation Donor: Benguet Management Corp.	Hernandez, Nestine Hope S. (CS)	A Simulation of Reaction Systems in P Systems
123	Cristy Hernandez Donor: Cristy Hernandez Family	Galeon, Florence A. (GE)	Vegetation Effect in Urban Land Values
124	HRCC Donor: Hydro Resources Contractors	Resurreccion, Joanna Z. (IE)	Analyzing the Impacts of Dependent Demand-Driven Changes on Economic Sectors due to a Pandemic using Input Output Analysis
125	Jesus Ferrer Donor: Jesus Ferrer Family	Gabud, Roselyn S. (CS)	Extracting information on habitats and reproductive conditions of Dipterocarps using Machine Reading Comprehension
126	Jose Ma. Diago De Castro Donor: Jose Ma. Diago De Castro Family	Arriola, Nicolette Ann A. (EEE)	Traffic Sign Recognition System on Philippine Roads using CNN
127	Marubeni UP Centennial Donor: Marubeni Phils. Corporation	Adolacion, Jay R. T. (ChE)	Single-cell RNA-seq analysis of microglial heterogeneity in mouse brain and spinal cord cells
128	Quezon Power Donor: Quezon Power (Philippines)	Yap, Christian Angelo A. (EEE)	Fault Location and Classification using Machine Learning Methods
129	UPIEAA Donor: UP Industrial Engineering Alumni Assn	Lorenzo, Simon Anthony D. (IE)	Testing count optimization in pooled testing methodologies

Annex 3: List of Teaching and Research Awards (AY 2021-2022)

Teaching and Research Award		Awardee (Dept/Inst)	Research Title
1	Beta Epsilon Fraternity Alumni Association	Musico, John Kenneth B. (CE)	Suitability Analysis for Evacuation Centers in Makilala, Cotabato Using Geographic Information System (GIS)
2	DMCI Homes	Baniqued, Julius Rey D. (CE)	Comparison of Existing Non-Expert Seismic Screening Tools in Terms of Evaluating Risk to Life and Risk to Property
3	DMCI Homes	Baytamo, John Ian V. (ME)	Pressure Coefficient Determination of NACA 688xx Airfoils for Tidal Turbines
4	DMCI Homes	Guevara, Trishia C.	Exploring the Monitoring and Information Systems used by the Housing and Land Use Department
5	DMCI Homes	Jeremias, Jayson Sime D. (ChE)	Removal of Copper from Metal Plating Wastewater
6	DMCI Homes	Mabaquiao, Luis Carlos S. (CS)	Comparison of Dark Object Subtraction (DOS) and 6SV Atmospheric Model Correction in LANDSAT Images for PM 10 Estimation in Metro Manila
7	DMCI Homes	Pacer, Jihan S. (CE)	Large Eddy Simulation of Wind Flow on 1 storey Residential Gable Structures
8	DMCI Project Developers	Deang, Michael Sean P. (ChE)	Citric Acid Production from Fermentation of Cassava Bagasse
9	DMCI Project Developers	Del Carmen, Dale Joshua R. (EEE)	Touchless Application Control Using RGBD Camera
10	DMCI Project Developers	Nalzar, Paul Jake B. (ChE)	Kinetics Modeling of Hydrogel Blends for Agricultural Applications
11	Meralco	Vergara, Karl Adrian P. (CS)	Spatial Multi-criteria Decision Analysis for Assessing Achievement of Sustainable Development Goals (SDGs) in the Philippines
12	NHRC	Alcantara, Matthew Travis M. (CE)	Implementation of a Modified Ramberg-Osgood Power law - derived J2 Plasticity model for Strain Softening Soils
13	Philex	Cabanlig, Francesca Valerie T. (MMM)	Removal of Cr(VI) Using Polyaniline Reduced Graphene Oxide as Electrode Material for Capacitive Deionization
14	PNOC	Elazegui, Erica Erin E. (CS)	Mobility Tracking using Geospatial Tools and Applications
15	UPERDFI	Ang Dy Pay, Georgiana (IE)	Perceived Stress, Fatigue and Workload of Undergraduate Industrial Engineering Students in the Remote Learning Setup amidst the COVID-19 Pandemic
16	UPERDFI	Arocena, Virgel M. (ME)	Parametric Study for Performance and Efficiency Improvement for Regenerative Liquid Ring Pumps
17	UPERDFI	Arranz, Christian G. (MMM)	Integrating Sustainability and Technology Into Philippine Mining Engineering Education
18	UPERDFI	Clemente, Jhoirene B. (CE)	Advice Complexity for Some Online Problems
19	UPERDFI	Colegio, Karlo Daniel Q. (CE)	GPU-Accelerated Finite Element Analysis of Steel Beam Columns under Combined Compression and Bi-axial Bending
20	UPERDFI	Franco, Lizabeth Ann D. (IE)	Combining Explicit and Implicit Preferences for use in Task Assignment
21	UPERDFI	Juayong, Richelle Ann B. (CS)	Immersive Technology Systems for Patients with Neurological Conditions
22	UPERDFI	Junio, Jessica M. (CE)	Evaluation of Mechanical Properties of Loadbearing Concrete Hollow Blocks using Gold Mine Tailing as Partial Substitute to Sand
23	UPERDFI	Lustrero, Franco Danilo C. (MMM)	Flotation of Loaded Fine Activated Carbon from Cyanidation Tails using Anionic Collectors
24	UPERDFI	Lustro, Julius Rhoan T. (ME)	Investigation of Boundary Crisis in Plate Couette Flow
25	UPERDFI	Macugay, Joshua Kae B. (MMM)	Electrospun Membranes for Biomedical Applications
26	UPERDFI	Oyales, Mitch-Irene Kate G. (MMM)	Fracture Behavior of Filled Rubber Vulcanizate
27	UPERDFI	Pechardo, Jason (MMM)	Development of limonene-based Transdermal Drug Delivery Patch
28	UPERDFI	Plamenco, Dean Ashton D. (CE)	Hybrid Heuristics in Resource Constrained Project Scheduling
29	UPERDFI	Regidor, Hanna Czarise E. (MMM)	Potential Atmospheric Leaching of Philippine Bauxite Ore
30	UPERDFI	Rosete, Maricar M. (MMM)	"Effect of Cold-bath Quenching on Electrophoretically Deposited Bi-2212 Films with Various Supporting Electrolytes"
31	UPERDFI	Sabino, Maria Patricia Rouelli G. (EEE)	In-Memory Computing for Machine Learning and Security Applications
32	UPERDFI	Sadie, Homer T. (CE)	Review on Causes of Construction Delays for Infrastructure Projects in Metro Manila

33	UPERDFI	Salvilla, John Nikko V. (ChE)	Ethanol Fermentation Behavior of Two Evolutionary Engineered, Xylose-Utilizing Strains of <i>Saccharomyces cerevisiae</i> in Glucose Xylose Mixtures
34	UPERDFI	Tamargo, Ramuel John I. (ChE)	Levoglucosone as a Sustainable Alternative Medium for the Clean Multi-component Synthesis of Pyridine based Polyaromatics

Annex 4: List of Scholarships and Study Grants (AY 2021-2022)

	Student	Course	Year
SCHOLARSHIPS			
ALVAREZ FOUNDATION			
1	Golpe, Rodney	BS ECE	3rd Yr
2	Serra, Andre Mikhail	BS EE	3rd Yr
ANALOG DEVICES, INC.			
3	Alegre, Raine Kayla	BS ECE	2nd Yr
4	Bartolo, Brian Lenmark	BS CoE	3rd Yr
5	Bernante, Aaron John	BS ECE	3rd Yr
6	Camarillo Jr., Christopher	BS ECE	2nd Yr
7	De Mesa, Mico Irvin	BS ECE	3rd Yr
8	Limlingan, Gabriel	BS ECE	2nd Yr
9	Marturillas, John Rey	BS ECE	2nd Yr
10	Molines, Jeremy	BS ECE	2nd Yr
11	Obar, Trixi Emmanuelle	BS ECE	3rd Yr
12	Rajagopanan, Ramona	BS ECE	2nd Yr
APOLONIO AND LORNA YSON			
13	Pagcu, Michael Vincent	BS CHE	2nd Yr
(+ 1 SLOT)			
CONCEPCION HIDALGO SANDOVAL MEMORIAL FOUNDATION			
14	Labay, Renz Joshua B.	BS ME	5th Yr
15	Ordillano, Marion P.	BS GE	4th Yr
FILMINERA RESOURCES CORPORATION			
16	Abraham, Zyre Jasper L.	BS EM	3rd Yr
17	Curioso, Paul Aldrin R.	BS EM	3rd Yr
18	Miguel, Keith Jeremy B.	BS EM	3rd Yr
GT FOUNDATION, INC.			
19	Celeste, Joseph Lawrence G.	BS CE	3rd Yr
20	Eusebio, Jana Rafaela B.	BS CHE	3rd Yr
21	Gala, Ma. Julie Anne L.	BS EE	3rd Yr
22	Frilles, Raymond	BS CE	4th Yr
23	Murillo, Jan Ailen V.	BS MATE	3rd Yr
24	Reyes, James Marco M.	BS COE	3rd Yr
25	Rojo, Dan Gabriel G.	BS EE	3rd Yr
26	Trillado, Hana Mae	BS COE	3rd Yr
27	Urfano, Ellris Kristian Nuel L.	BS ECE	3rd Yr
28	Yap, Sharlene A.	BS CE	3rd Yr
GOKONGWEI BROTHERS FOUNDATION, INC.			
29	Bernardino, John Rennel	BS CE	2nd Yr
30	Rempillo, Rowill Christian R.	BS ME	2nd Yr

	HUAWEI TECHNOLOGIES PHILIPPINES		
31	Bayani, Martina Meg	BS CoE	3rd Yr
32	Herrera, Jorelle Aaron	BS EE	3rd Yr
33	Mendoza, Pio Lauren T.	BS ECE	6th Yr
34	Muro, Almira Asrid F.	BS CoE	3rd Yr
35	Sombrito, Sean Arthur E.	BS CoE	3rd Yr
36	Tiong, Cyril James	BS EE	3rd Yr
37	Tuason, Philip Luis Iii	BS EE	3rd Yr
38	Wong, Jansen Roel	BS CoE	3rd Yr
KAYAN CHAN			
39	Ellivera, Darene	BS IE	5th Yr
40	Cacas, Hannah Belle	BS IE	3rd Yr
41	Olandez, John Denzel	BS IE	5th Yr
42	Talledo, Charles Russel	BS IE	2nd Yr
METRO PACIFIC TOLLWAYS CORPORATION			
43	Brutas, Evan Joseph	BS CE	5th Yr
44	Corsado, Marian, Gupong	BS MatE	4th Yr
45	Salvador, Aldrin B.	BS CE	3rd Yr
(+ 2 SLOTS)			
PAYENGG FORWARD (MICHAEL GONZALEZ)			
46	Aquino, Christian James Klein M.	BS CE	3rd Yr
47	Fajardo, Kyla Camille	BS CE	3rd Yr
48	Geli, Jurell Dela Roca	BS CE	5th Yr
49	Malunay, Crista Jenna	BS CE	5th Yr
50	Morasa, Danneri Blu N.	BS CE	2nd Yr
PGATECH			
51	Bulawan, John Robert	BS CE	5th Yr
PHILSAGA MINING CORPORATION			
52	Cua, David Janrey	BS MetE	5th Yr
53	Ramirez, Paolo Aiman	BS MeTE	4th Yr
54	Rastrullo, Jayvee	BS MeTE	4th Yr
55	Reyes, Joanna	BS MeTE	2nd Yr
56	Villaruel, John Chris	BS EM	3rd Yr
PHIL GOLD PROCESSING AND REFINING CORP.			
57	Ramos, Keirvin Cloi	BS MetE	3rd Yr
58	Troyo, Lloyd Emmanuel	BS ME	2nd Yr
(+ 2 SLOTS)			
ROBERT CHENG URATEX			
59	Angeles, Paul Dominic	BS ChE	1st Yr
60	Antido, Margie Lou	BS CE	2nd Yr

61	Salar, Marc Andrei	BS EE	3rd Yr
62	Sequito, Nicole Kate	BS MetE	3rd Yr
63	Ularde, Jerlyn Yofelle	MS ME	5th Yr
TOKENNEWS PH CONSULTANCY, INC.			
64	Cavan, Antonio	BS CS	4th Yr
65	Isidro, Rogiella Beatrice	BS CS	4th Yr
Student Course Year			
Study Grants			
AMANTE A. AGUILAR (1 SLOT)			
DENSO TEN SOLUTIONS PHILIPPINES			
66	Tiongson, Jan Mikhail	BS ECE	5th Yr
EDWIN COSETENG			
67	Gonzales, Ivan Joseph	BS CE	7th Yr
ERIBERTA ROCHA GRANADA			
68	Yeung, Carl Joshua M.	BS ChE	4th Yr
FELICIO FAMILY			
69	Manalo, Marie Lourdes	BS ECE	5th Yr
JOSE L. ALBANO			
70	Alviar, Peter Andrei	BS ME	5th Yr
TAU ALPHA			
71	Nuñez, Ma. Kathleen	BS ECE	4th Yr
THINKING MACHINES DATA SCIENCE, INC.			
72	Leal, Lois Anne	BS CS	3rd Yr

UPAE STUDY NOW PAY LATER			
73	Masa, Mary Grace	BS CE	3rd Yr
74	Ramirez, Paolo Aiman	BS MetE	4th Yr
75	Pesa, Robert Allan	BS ECE	5th Yr
76	Arellano, Kaye	BS CE	3rd Yr
77	Benamer, Honeylyn (Uplb)	BS ChE	5th Yr
78	Bongcawil, Kyla Camille (Uplb)	BS ChE	2nd Yr
79	Valiente, Alyanna Marie (Uplb)	BS CE	5th Yr
80	Pimentel, Gabriel Antonio (Uplb)	BS CE	5th Yr
UP ALUMNI ASSOCIATION OF BRITISH COLUMBIA			
81	Conquilla, Jerico	BS GE	2nd Yr
82	Flores, Charlene	BS CoE	2nd Yr
VICENTE AND SOCORRO PATERNO FAMILY			
83	Datuin, Michaela May	BS GE	6th Yr
84	Dumagpi, Anton Paul C.	BS MetE	6th Yr
85	Estacio, Angelo Balao	BS GE	5th Yr
86	Marterior, Ayrah Andrea M.	BS MatE	7th Yr
YIN YONG LAO			
87	Bustamante, Czarina A.	BS ChE	3rd Yr
88	Cacal, Vina Cielo Clarisse S.	BS ChE	2nd Yr

Annex 5: List of Thesis Support Grants (AY 2021-2022)

TSG Awardee Course Year			
ATTY. MA ELENA RAMIRO			
1	Cruz, Chester, Escobar	BS CE	4th Yr
2	Ong, Tian Ruy, Ano	BS CE	4th Yr
3	Joseph, Eartha Jane, Bulisig	BS CE	5th Yr
CENON M. CAROLINO			
4	Murillo, Jan Ailen V.	BS MATE	3rd Yr
FRONTLEARNERS			
5	Eustacio, Richmond, Rementizo	BS CE	5th Yr
6	Mabanta, Glorie Mae, Manantan	BS CoE	5th Yr
GRACIANO CALANOG, JR.			
7	Dumagpi, Anton Paul C.	BS MetE	6th Yr
8	Catus, Daniella Marie, Beltran	BS MatE	5th Yr
9	Cua, David Janrey	BS MetE	5th Yr
10	Ang, Margaret Ellen, Go	BS MatE	5th Yr
LONGRIDGE CONSTRUCTION, INC.			
11	Alejandro, Sheen Dale, Milan	BS CE	5th Yr
12	Hemedes, Agustin Joseph, Amoranto	BS CE	4th Yr
13	Baduria, Monica, Nazzaro	BS CE	5th Yr

LR TIQUI CONSTRUCTION			
14	Santiago, Sophia Lewren, Cabalce	BS CE	4th Yr
15	Lontoc, Geline, De Leon	BS CE	4th Yr
MAJESTIC EARTH CORE VENTURES			
16	Reandino, Christian Jay, Dismaya	BS EM	5th Yr
MRBII CONSTRUCTION, INC.			
17	Lomeda, Ma Jaed Beatrice, Ablang	BS CE	4th Yr
18	Budol, Jessica, Volante	BS CE	5th Yr
UP ALUMNI ASSOCIATION GREATER LOS ANGELES			
19	Legaspi, John Harold, Luhan	BS CE	4th Yr
20	Tenerife, Krizza, Bernales	BS CE	5th Yr
21	Mantal, Ma Rosella, Bernadit	BS CE	4th Yr
22	Valeza, Catherine, Chavez	BS CE	4th Yr
23	Angeles, Jayvee, San Jose	BS CE	5th Yr
24	Degaños, Levi Azriel, Garcia	BS CE	4th Yr
25	Eugenio, Jedferson, Osorio	BS CE	4th Yr
WEBFOCUS SOLUTIONS			
26	Custodio, Jasper James, Boado	BS CE	4th Yr
27	Valenciano, Jomarie, Orbista	BS CE	4th Yr

Due to the remote learning setup (i.e., limited field work and experimentation for thesis and capstone projects) during the pandemic, the need for thesis support grants temporarily declined.

Annex 6: Faculty, Staff, and Student Awards (AY 2021-2022)

Faculty, Staff and REPS Awards

Award	Awardee
Outstanding Engineering Instructor	John Ian V. Baytamo
Limcaoco Young Instructor Award For Teaching Excellence	Erica Erin E. Elazegui
Outstanding Engineering Researcher Award	Mary Donnabelle L. Balela
Outstanding Young Researcher	Jem Valerie D. Perez

Outstanding Engineering Professor Award	Rinlee Butch M. Cervera
Administrative Award	Rhudelene C. Serrano
Administrative Award	Aloha D. Nacu
Administrative Award	Judith G. Martinez
Research Extension and Professional Staff (REPS) Award	Aileen U. Mappala

Student Awards

Award	Donor	Recipient
Artemio F. Disini Academic Excellence Award in Mining Engineering	Artemio F. Disini	Reandino, Christian Jay Dismaya, BS Mining Engineering
Dominador Ilio Award for Most Outstanding All-Around Engineering Student	Beta Epsilon Alumni, Inc.	Blanco, Sabrina Nicole Tejano, BS Chemical Engineering
Dr. Luis Pascual Award for Excellence in Industrial Engineering	Jaime and Elise del Rosario	Onglao, Maria Andrea Kristina Saquido, BS Industrial Engineering
Dr. Rufino C. Lirag Chemical Engineering Award for Leadership and Service	Priscilla Lirag	Baguion, Ralph Justine Herrera, BS Chemical Engineering
Garrick Yao Memorial Award for Service	Yao Family	Ong, Andrew Brandon Ling, BS Civil Engineering
IMEP Academic Excellence Award in Materials Engineering	Institute of Materials Engineers of the Philippines	Ang, Margaret Ellen Co, BS Materials Engineering
Jose C. Torres Award for Excellence in Electrical Engineering	Rowena Torres-Ordoñez	Duero, Edward Vincent Manal, BS Electrical Engineering
Joseph Que Sanchez Academic Excellence Award in Computer Engineering	Jennifer Lynn Cua	Quizon, Lawrence Roman Africa, BS Computer Engineering
Professor Emeritus Evangel Quiwa Award of Excellence in Computer Science	Mary Rose de la Cruz	Tan, Gene Audrey Uy, BS Computer Science

Professor Emeritus Norberto Villa Award for Excellence in Geodetic Engineering	UP Geomatics Alumni Association	Tongco, Gian Nathan Acurantes, BS Geodetic Engineering
Professor Teoderico Festin Award for Excellence in Chemical Engineering	Rowena Torres-Ordoñez	Go, Kobi Christian Sy, BS Chemical Engineering
Quintin K. Calderon Award for Excellence in Civil Engineering	Rosario S. Calderon	Cristobal, Joseph Patrick Robles, BS Civil Engineering
Rosita Cua Academic Excellence Award for Best Female in Computer Engineering	Jennifer Lynn Cua	Soriano, Patricia Dolores Mendoza, BS Computer Engineering
SMEP Academic Excellence Award in Metallurgical Engineering	Society of Metallurgical Engineers of the Philippines	Andres, Armand Gabriel Pullo, BS Metallurgical Engineering
UP Alumni Engineers Presidential Award for Outstanding Leadership	UP Alumni Engineers Incorporated	Coleta, Charmaine Bautista, BS Geodetic Engineering
UPEEE Alumni Association Award for Academic Excellence in Electronics And Communications Engineering	UPEEE Alumni Association	Diño, Federico Jose Gloria, BS Electronics and Communications Engineering
Vicente "Tek" Hedriana All-Around M.E. Award	Rogelio Murga	Bautista, Kim Wesley Maducdoc, BS Mechanical Engineering
Vicente T. Paterno Award for Excellence in Mechanical Engineering	Judy Paterno-Benares	Morallo, Raphael Antonio Villamiel, BS Mechanical Engineering

Annex 7: Dr. Francis Chua Innovation Awards - Undergraduate Project Competition 2021

Design Category

Award	Winners, Adviser (Dept/Inst)	Project
1st Place ₱50,000	Fulin Li, Kim Bautista; advised by Joseph Reyes (ME)	Development of a Compact Separator and Counter
2nd Place ₱30,000	Daphne Karen Arenas; Marinelle F. Bagayan; advised by Jhud Mikhail Aberila (ChE)	DAMMO: Co-production of Bioammonia and Hydrogen from Napier Grass
Finalist ₱10,000	Glorie Mae M. Mabanta; Stephen John A. Destura; advised by Jhoanna Pedrasa and John Audie Cabrera (EEE)	Wireless Sensor Networks for Telerehabilitation of Parkinson's Disease using Rhythmic Auditory Stimulation
Finalist ₱10,000	Ken Harvey B. Dela Cruz; advised by Jhoanna Pedrasa and John Audie Cabrera (EEE)	Smart Implementation of Alternate Wetting and Drying Using Wireless Sensor System
Finalist ₱10,000	Isidro Luis, B, Borromeo; advised by Jason Pechardo (MMM) and Athena Presto (CSSP)	Development of a Portable Kubeta for Disaster Evacuation Centers in the Philippines

Research Category

Award	Winners, Adviser (Dept/Inst)	Project
1st Place ₱50,000	Sabrina Nicole T. Blanco; Hazel Angelica J. Go; Patricia Ysabel N. Joson; advised by Arthur Gonzales III (ChE)	A comprehensive chemical database of Philippine plants for molecular modeling applications
2nd Place ₱30,000	Ma. Lorena Isabel C. Miranda; Mich-Adrian D. Gomeceria; advised by Jem Valerie Perez (ChE)	Fabrication of Paper-based Silver Nanoparticle (AgNP) Sensors for Smartphone-based Colorimetric Detection of Cu (II) in Water
Finalist ₱10,000	Margaret Ellen Go Ang; Daniella Marie, B, Gatus; advised by Richard Espiritu (MMM)	A Molecular Dynamics Study on the Hydrophysical Properties and Ionic Conductivity of Cellulose Acetate-based Anion Exchange Membranes for Fuel Cell Applications
Finalist ₱10,000	Arizeo C. Salac; Ralph Justine H. Baguion; advised by Jhud Mikhail Aberilla (ChE)	Sustainability Assessment of Renewable Desalination in Remote Islands in the Philippines
Finalist ₱10,000	Karina Kylle, L, Ang; Jimuel Jr., N, Celeste; advised by Vena Pearl Bongolan (CS)	COVID-19 Agent-Based Model: An Epidemiologic Simulator Applied in Vaccination Scenarios for Quezon City, Philippines

**UP Engineering Research
and Development Foundation, Inc.**
(A Nonstock, Not-for-profit Organization)

Financial Statements
December 31, 2021 and 2020

and

Independent Auditor's Report



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INDEPENDENT AUDITOR'S REPORT

The Board of Trustees
UP Engineering Research and Development Foundation, Inc.

Report on the Audit of the Financial Statements

Opinion

We have audited the financial statements of UP Engineering Research and Development Foundation, Inc. (the Foundation), which comprise the statements of assets, liabilities and fund balances as at December 31, 2021 and 2020, statements of revenues and expenses, statements of changes in fund balances and statements of cash flows for the years then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of the Foundation as at December 31, 2021 and 2020, and its financial performance and its cash flows for the years then ended in accordance with Philippine Financial Reporting Standards for Small and Medium-sized Entities (PFRS for SMEs).

Basis for Opinion

We conducted our audits in accordance with Philippine Standards on Auditing (PSAs). Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of our report. We are independent of the Foundation in accordance with the Code of Ethics for Professional Accountants in the Philippines (Code of Ethics) together with the ethical requirements that are relevant to our audit of the financial statements in the Philippines, and we have fulfilled our other ethical responsibilities in accordance with these requirements and the Code of Ethics. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with PFRS for SMEs, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Foundation's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Foundation or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Foundation's financial reporting process.



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Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with PSAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit in accordance with PSAs, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Foundation's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Foundation's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Foundation to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

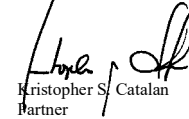
We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.



Report on the Supplementary Information Required Under Revenue Regulations No. 34-2020 and No. 15 2010

Our audits were conducted for the purpose of forming an opinion on the basic financial statements taken as a whole. The supplementary information required under Revenue Regulations No. 34-2020 and No. 15-2010 in Note 9 to the financial statements is presented for purposes of filing with the Bureau of Internal Revenue and is not a required part of the basic financial statements. Such information is the responsibility of the management of UP Engineering Research and Development Foundation, Inc. The information has been subjected to the auditing procedures applied in our audit of the basic financial statements. In our opinion, the information is fairly stated, in all material respects, in relation to the basic financial statements taken as a whole.

SYCIP GORRES VELAYO & CO.



Christopher S. Catalan
Partner

CPA Certificate No. 109712

Tax Identification No. 233-299-245

BOA/PRC Reg. No. 0001, August 25, 2021, valid until April 15, 2024

SEC Partner Accreditation No. 109712-SEC (Group A)

Valid to cover audit of 2021 to 2025 financial statements of SEC covered institutions

SEC Firm Accreditation No. 0001-SEC (Group A)

Valid to cover audit of 2021 to 2025 financial statements of SEC covered institutions

BIR Accreditation No. 08-001998-109-2020, November 27, 2020, valid until November 26, 2023

PTR No. 8853479, January 3, 2022, Makati City

April 29, 2022



UP ENGINEERING RESEARCH AND DEVELOPMENT FOUNDATION, INC.
(A Nonstock, Not-for-profit Organization)
STATEMENTS OF ASSETS, LIABILITIES AND FUND BALANCES

	December 31	
	2021	2020
ASSETS		
Current Assets		
Cash and cash equivalents (Note 4)	₱28,366,230	₱23,254,381
Receivables (Note 5)	9,639,986	10,736,493
Other current assets	240,000	240,000
Total Current Assets	38,246,216	34,230,874
Noncurrent Assets		
Investments (Note 6)	288,403,327	288,858,861
Property and equipment	24,520	-
Total Noncurrent Assets	288,427,847	288,858,861
TOTAL ASSETS	₱326,674,063	₱323,089,735

LIABILITIES AND FUND BALANCES

Current Liabilities		
Accounts payable and other current liabilities (Note 7)	₱2,583,629	₱3,983,749
Fund Balances (Note 8)		
General funds	66,066,058	60,998,066
Endowed funds	253,278,052	253,758,052
Special funds	4,746,324	4,349,868
Total Fund Balances	324,090,434	319,105,986
TOTAL LIABILITIES AND FUND BALANCES	₱326,674,063	₱323,089,735

See accompanying Notes to Financial Statements



UP ENGINEERING RESEARCH AND DEVELOPMENT FOUNDATION, INC.

(A Nonstock, Not-for-profit Organization)

STATEMENTS OF REVENUE AND EXPENSES
YEARS ENDED DECEMBER 31, 2021 AND 2020

	2021				2020			
	General Funds	Endowed Funds	Special Funds	Total	General Funds	Endowed Funds	Special Funds	Total
REVENUE								
Donations	₱1,247,850	₱-	₱29,233,972	₱30,481,822	₱63,600	₱1,667,600	₱22,634,789	₱24,365,989
EXPENSES								
Professorial chairs	-	480,000	15,300,000	15,780,000	-	8,620,000	8,830,000	17,450,000
Scholarship grants	-	-	5,648,913	5,648,913	-	-	4,462,479	4,462,479
College of Engineering - modernization cost	-	-	4,285,178	4,285,178	-	-	1,170,000	1,170,000
Teaching and research grants	-	-	1,800,000	1,800,000	-	2,210,000	30,000	2,240,000
Salaries and benefits	1,083,905	-	561,182	1,645,087	450,800	-	-	450,800
Maintenance and operating	468,122	-	549,340	1,017,462	1,143,506	1,559,437	1,829,435	4,532,378
Faculty and student awards	-	-	395,000	395,000	-	150,000	78,667	228,667
College of Engineering - research and development	-	-	270,363	270,363	241,461	-	1,949,877	2,191,338
Representation and travel	95,831	-	27,540	123,371	70,765	-	483,199	553,964
	1,647,858	480,000	28,837,516	30,965,374	1,906,532	12,539,437	18,833,657	33,279,626
OTHER INCOME (EXPENSES)								
Interest income (Notes 4 and 6)	7,743,703	-	-	7,743,703	8,115,912	-	-	8,115,912
Dividend income	392,097	-	-	392,097	364,083	-	-	364,083
Miscellaneous	91,168	-	-	91,168	3,766	-	327,603	331,369
Foreign exchange gain (loss) - net	18,364	-	-	18,364	(32,905)	-	-	(32,905)
Realized loss on redemption of investment	-	-	-	-	(7,511,540)	-	-	(7,511,540)
	8,245,332	-	-	8,245,332	939,316	-	327,603	1,266,919
EXCESS (DEFICIENCY) OF REVENUE OVER EXPENSES BEFORE FINAL TAX	7,845,324	(480,000)	396,456	7,761,780	(903,616)	(10,871,837)	4,128,735	(7,646,718)

Forward



	2021				2020			
	General Funds	Endowed Funds	Special Funds	Total	General Funds	Endowed Funds	Special Funds	Total
PROVISION FOR INCOME TAX - Final	(P501,798)	P-	P-	(P501,798)	(P735,650)	P-	P-	(P735,650)
EXCESS (DEFICIENCY) OF REVENUE OVER EXPENSES	7,343,526	(480,000)	396,456	7,259,982	(1,639,266)	(10,871,837)	4,128,735	(8,382,368)
OTHER COMPREHENSIVE LOSS								
<i>To be reclassified to profit or loss in subsequent periods:</i>								
Unrealized changes in fair value of investments (Note 6)	(2,275,534)	-	-	(2,275,534)	(12,622,346)	-	-	(12,622,346)
TOTAL COMPREHENSIVE INCOME (LOSS)	(P5,067,992)	(P480,000)	P396,456	P4,984,448	(P14,261,612)	(P10,871,837)	P4,128,735	(P21,004,714)

See accompanying Notes to Financial Statements.



UP ENGINEERING RESEARCH AND DEVELOPMENT FOUNDATION, INC.
(A Nonstock, Not-for-profit Organization)
STATEMENTS OF CHANGES IN FUND BALANCES
FOR THE YEARS ENDED DECEMBER 31, 2021 AND 2020

	General Funds (Note 8)	Endowed Funds (Note 8)	Special Funds (Note 8)	Total
BALANCES AT DECEMBER 31, 2019	P75,259,678	P264,629,889	P221,133	P340,110,700
Excess (deficiency) of revenue over expenses	(1,639,266)	(10,871,837)	4,128,735	(8,382,368)
Other comprehensive income	(12,622,346)	-	-	(12,622,346)
Total comprehensive income (loss)	(14,261,612)	(10,871,837)	4,128,735	(21,004,714)
BALANCES AT DECEMBER 31, 2020	60,998,066	253,758,052	4,349,868	319,105,986
Excess (deficiency) of revenue over expenses	7,343,526	(480,000)	396,456	7,259,982
Other comprehensive loss	(2,275,534)	-	-	(2,275,534)
Total comprehensive income (loss)	5,067,992	(480,000)	396,456	4,984,448
BALANCES AT DECEMBER 31, 2021	P66,066,058	P253,278,052	P4,746,324	P324,090,434

See accompanying Notes to Financial Statements.



UP ENGINEERING RESEARCH AND DEVELOPMENT FOUNDATION, INC.*(A Nonstock, Not-for-profit Organization)***STATEMENTS OF CASH FLOWS**

	Years Ended December 31	
	2021	2020
CASH FLOWS FROM OPERATING ACTIVITIES		
Excess (deficiency) of income over expenses before final tax	₱7,761,780	(₱7,646,718)
Adjustments for:		
Interest income (Notes 4 and 6)	(7,743,703)	(8,115,912)
Dividend income	(392,097)	(364,083)
Foreign exchange loss - net	18,364	32,905
Realized loss on redemption of investment	-	7,511,540
Deficiency of revenue over expenses before working capital changes	(355,656)	(8,582,268)
Decrease in receivables	1,096,507	1,122,396
Increase (decrease) in accounts payable and other current liabilities	(1,400,121)	1,518,507
Net cash used in operating activities	(659,270)	(5,941,365)
CASH FLOWS FROM INVESTING ACTIVITIES		
Acquisition of debt and equity securities	(64,202,225)	(20,509,643)
Proceeds from disposal and maturity of investments	62,382,225	29,024,435
Interest received	7,241,906	7,380,262
Dividends received	392,097	364,083
Acquisition of property and equipment	(24,520)	-
Net cash from investing activities	5,789,483	16,259,137
EFFECT OF EXCHANGE RATE CHANGES ON CASH AND CASH EQUIVALENTS		
	(18,364)	(32,905)
NET INCREASE IN CASH AND CASH EQUIVALENTS	5,111,849	10,284,867
CASH AND CASH EQUIVALENTS AT BEGINNING OF YEAR (Note 4)	23,254,381	12,969,514
CASH AND CASH EQUIVALENTS AT END OF YEAR (Note 4)	₱28,366,230	₱23,254,381

See accompanying Notes to Financial Statements.**UP ENGINEERING RESEARCH AND DEVELOPMENT FOUNDATION, INC.***(A Nonstock, Not-for-profit Organization)***NOTES TO FINANCIAL STATEMENTS****1. Corporate Information and Objectives, and Authorization for Issuance of the Financial Statements**Corporate Information and Objectives

The UP Engineering Research and Development Foundation, Inc. (the "Foundation") was incorporated in the Philippines and is registered with the Philippine Securities and Exchange Commission (SEC) on August 3, 1972 as a nonstock, not-for-profit organization organized primarily to establish and provide a private institutional medium that will initiate, sponsor, promote, assist or conduct programs and projects geared towards research and development in the various fields of engineering and other related sciences or fields of endeavor. No part of the excess of revenues over expenses or assets of the Foundation inures to or belongs to any officer, member or private individual. The Foundation's registered office address is Room 218, Juinio Hall, UP Campus, Diliman, Quezon City.

The Foundation has been granted by the Bureau of Internal Revenue (BIR) an exemption from payment of income tax as a corporation organized purely for scientific purposes as contemplated by Section 30(E) of the National Internal Revenue Code, as amended in 1998.

The Foundation was granted by the Philippine Council for NGO Certification (PCNC) the status of a certified donee institution on April 20, 2004. Such accreditation is in accordance with the provisions of Revenue Regulations (RR) No. 13-98 effective January 1, 1999. Accordingly, donations received shall entitle the donor/s to full or limited deduction pursuant to Section 34 (H) (1) or (2) and exemption from donor's tax pursuant to Section 101 (A) (3) of the National Internal Revenue Code of 1997, subject to the representations and commitments set forth in the application for accreditation filed with the PCNC.

On December 18, 2014, the Foundation applied for the renewal of its accreditation as a certified donee-institution with the PCNC. On April 1, 2015, the BIR issued the Foundation a Certificate of Registration as a donee-institution under RR No. 13-98, valid until November 3, 2017 subject to extension until February 18, 2020. On December 7, 2017, the Foundation received the renewal of registration from the Department of Science and Technology (DOST 17-FR-06) good for another three years. As stated on the certificate of registration issued by the BIR, such renewal automatically extended the Foundation's accreditation as a donee-institution until February 2020. However, due to the lockdown starting in March 2020, PCNC was not able to conduct the in-person renewal process. But, with PCNC's endorsement for temporary extension, this registration was extended by BIR until December 31, 2020, and then granted another extension until June 30, 2021. The in-person renewal process was carried out by PCNC in September 2021. Subsequently, the Foundation received its PCNC Certificate of Accreditation for five years on October 27, 2021 valid until October 26, 2026, and its BIR Certificate of Registration # 168-2021 on November 26, 2021, good for three years until July 8, 2024.

Authorization for Issuance of the Financial Statements

The financial statements of the Foundation as at December 31, 2021 and 2020 and for the years then ended, were approved for issuance by the Adhoc Committee, as authorized by the Board of Trustees, on April 29, 2022.



2. Summary of Significant Accounting Policies and Financial Reporting Practices

Basis of Preparation

The financial statements of the Foundation have been prepared under the historical cost basis, except for financial assets measured at fair value. The financial statements are presented in Philippine peso (Peso), which is the Foundation's functional and presentation currency. All amounts are rounded to the nearest Peso, except when otherwise indicated.

Statement of Compliance

The Foundation's financial statements have been prepared in accordance with the Philippine Financial Reporting Standard for Small and Medium-sized Entities (PFRS for SMEs).

Summary of Significant Accounting Policies

The significant accounting policies that have been used in the presentation of the financial statements are summarized below. These accounting policies have been applied to all the years presented, unless otherwise stated.

Current versus Noncurrent Classification

The Foundation presents assets and liabilities in statements of assets, liabilities and fund balances based on current/non-current classification. An asset is current when it is:

- Expected to be realized or intended to be sold or consumed in normal operating cycle;
- Held primarily for the purpose of trading;
- Expected to be realized within 12 months after the reporting period; or
- Cash or cash equivalent unless restricted from being exchanged or used to settle a liability for at least 12 months after the reporting period.

All other assets are classified as noncurrent.

A liability is current when:

- It is expected to be settled in normal operating cycle;
- It is held primarily for the purpose of trading;
- It is due to be settled within 12 months after the reporting period; or
- There is no unconditional right to defer the settlement of the liability for at least 12 months after the reporting period.

The Foundation classifies all other liabilities as noncurrent.

Cash and Cash Equivalents

Cash is comprised of cash in banks. Cash equivalents are short-term, highly liquid investments that are readily convertible to known amounts of cash with original maturities of up to three months or less from dates of acquisition, and that are subject to an insignificant risk of change in value.

Receivables

Receivables include those arising from advances, interest and others. Receivables arising from advances for administration and projects are recognized initially at original invoice amount while interest receivable are recognized at the nominal amount of interest that would be received from financial institutions. Where credit is extended beyond normal credit terms, receivables are measured at amortized cost using the effective interest rate (EIR) method. At the end of each reporting date, the carrying amounts of receivables are reviewed to determine whether there is any objective evidence that the amounts are not recoverable. If so, an impairment loss is recognized immediately in excess of revenue over expenses under the statements of revenues and expenses and the carrying value of the



receivable is reduced through the use of an allowance account. Amounts which the Foundation deems fully uncollectible are directly written off against the related receivables.

If there is objective evidence that an impairment loss on receivables has been incurred, the amount of the loss is measured as the difference between the asset's carrying amount and the present value of estimated future cash flows (excluding future credit losses that have not been incurred) discounted at the receivables' original effective interest rate (i.e., the effective interest rate computed at initial recognition).

Basic Financial Instruments

The Foundation's basic financial instruments are composed of financial assets and financial liabilities. Financial assets consist of the Foundation's cash and cash equivalents, accrued interest receivables and investments. Financial liabilities consist of accounts payable, accrued expenses, unearned income and trust fee payables.

Initial recognition and measurement

The Foundation recognizes a financial asset or a financial liability only when it becomes a party to the contractual provisions of the instrument. A financial asset or financial liability, except for those designated at fair value through profit or loss (FVPL), is initially measured at their transaction price including transaction costs, unless the arrangement constitutes, in effect, a financing transaction. If the arrangement constitutes a financing transaction, the Foundation measures the financial asset or financial liability at the present value of the future payments discounted at a market rate of interest for a similar debt instrument.

Subsequent measurement

At the end of each financial reporting period, the Foundation measures a financial asset or financial liability, as follows, without any deduction for transaction costs which the Foundation may incur on sale or disposal:

- debt instruments are measured at amortized cost using EIR method. Debt instruments that are classified as current assets or current liabilities shall be measured at the undiscounted amount of the cash or other consideration expected to be paid or received (i.e. net of impairment) unless the arrangement constitutes, in effect, a financing transaction. If the arrangement constitutes a financing transaction, the Foundation measures the debt instrument at the present value of the future payments discounted at a market rate of interest for a similar debt instrument. Interest income earned from debt instruments are recognized as interest income of the Foundation;
- commitments to receive a loan that permit the issuer to prepay a debt instrument or permit the holder to put it back to the issuer before maturity shall be measured at cost less any impairment; and
- investments in non-convertible preference shares and non-puttable ordinary or preference shares are measured at fair value. If the shares are publicly traded or their fair value can otherwise be measured reliably, the investments are measured at fair value with changes in fair value recognized in additions to or deductions from fund balances in the statement of revenue and expenses. All other investments are measured at cost less any impairment.

The amortized cost of a financial asset or financial liability is the present value of future cash flows discounted at the effective interest rate and the related interest income or expense is equal to the carrying amount of the financial asset or financial liability at the beginning of the financial reporting period multiplied by the effective interest rate.



Offsetting of Financial Instruments

Financial assets and financial liabilities are offset and the net amount reported in the statements of assets, liabilities and fund balances if there is a currently enforceable legal right to offset the recognized amounts and there is intention to settle on a net basis, or to realize the asset and settle the liability simultaneously. The Foundation assesses that it has a currently enforceable right of offset if the right is not contingent on a future event, and is legally enforceable in the normal course of business, event of default, and event of insolvency or bankruptcy of the Foundation and all of the counterparties.

Impairment of Financial Assets

The Foundation assesses at each financial reporting date whether there is objective evidence of impairment for financial assets that are measured at amortized cost. If there is objective evidence of impairment, the Foundation recognizes an impairment loss as deductions from the fund balances in the statements of revenue and expenses immediately. A financial asset or a group of financial assets is deemed to be impaired if, and only if, there is objective evidence of impairment as a result of one or more events that have occurred after the initial recognition of the asset (an incurred "loss event") and that loss event (or events) has an impact on the estimated future cash flows of the financial asset or the group of financial assets that can be reliably estimated. Evidence of impairment may include indications that the contracted parties or a group of contracted parties is experiencing significant financial difficulty, default or delinquency in interest or principal payments, the probability that they will enter bankruptcy or other financial reorganization, and where observable data indicate that there is measurable decrease in the estimated future cash flows, such as changes in arrears or economic conditions that correlate with defaults.

Derecognition of Financial Assets and Financial LiabilitiesFinancial assets

A financial asset (or, where applicable, a part of a financial asset or part of a group of similar financial assets) is primarily derecognized (i.e., removed from the Foundation's statements of assets, liabilities and fund balances) when:

- The rights to receive cash flows from the asset have expired; or
- The Foundation has transferred its rights to receive cash flows from the asset or has assumed an obligation to pay the received cash flows in full without material delay to a third party under a 'pass-through' arrangement; and either (a) the Foundation has transferred substantially all the risks and rewards of the asset, or (b) the Foundation has neither transferred nor retained substantially all the risks and rewards of the asset, but has transferred control of the asset.

When the Foundation has transferred its rights to receive cash flows from an asset or has entered into a pass-through arrangement, it evaluates if, and to what extent, it has retained the risks and rewards of ownership. When it has neither transferred nor retained substantially all of the risks and rewards of the asset, nor transferred control of the asset, the Foundation continues to recognize the transferred asset to the extent of its continuing involvement. In that case, the Foundation also recognizes an associated liability. The transferred asset and the associated liability are measured on a basis that reflects the rights and obligations that the Foundation has retained.

Continuing involvement that takes the form of a guarantee over the transferred asset is measured at the lower of the original carrying amount of the asset and the maximum amount of consideration that the Foundation could be required to repay.

Financial liabilities

A financial liability is derecognized when the obligation under the liability is discharged or cancelled or expires. When an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an



exchange or modification is treated as the derecognition of the original liability and the recognition of a new liability. The difference in the respective carrying amounts is recognized in the statements of revenue and expenses.

The Foundation recognizes as additions to or deductions from the fund balances in the statements of revenue and expenses any difference between the carrying amount of the financial liability, or part of a financial liability, extinguished or transferred to another party and the consideration paid, including any non-cash assets transferred or liabilities assumed.

Fund Balances

The Fund Balances account represents the cumulative balance of excess or deficiency of revenue over expenses. General funds are funds created to sustain the administrative activities of the Foundation. Endowed funds are funds established to continuously support and assist the research and development activities of the Foundation. Special funds are funds intended for research and development and engineering-related purposes. Any income arising from the funds are recognized as income by the Foundation.

Revenue

Revenue is recognized to the extent that it is probable that the economic benefits will flow to the Foundation and the revenue can be reliably measured. The Foundation assesses its revenue arrangements against specific criteria in order to determine if it is acting as a principal or an agent. The Foundation has concluded that it is acting as a principal in all of its revenue arrangements. The following recognition criteria must also be met before revenue is recognized:

Revenue from donations

Donations and grants are recognized on the date of receipt. All donations and grants received are considered available for general use unless specifically restricted by the respective donors or grantors.

Revenue from projects, and research and development activities

Revenue is recognized upon collection.

Interest income

Interest income is recognized as the interest accrues.

Dividend income

Dividend income is recognized when the Foundation's right to receive the dividend is established.

Expenses

Expenses are recognized in the statements of revenue and expenses when a decrease in future economic benefits related to a decrease in an asset or an increase of a liability has arisen that can be measured reliably. Expenses are recognized in the period in which they are incurred.

Foreign Currency Transactions

Transactions in currencies other than the Peso are initially recorded using the exchange rate prevailing at the transaction date. Outstanding monetary assets and liabilities denominated in foreign currencies are restated at the functional currency closing exchange rate at the financial reporting date.

Provisions and Contingencies

Provisions are recognized when the Foundation has a present obligation (legal or constructive) as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the obligation.



Contingencies are not recognized in the financial statements, but disclosed unless the possibility of an outflow of resources embodying economic benefits is remote. A contingent asset is not recognized in the financial statements but disclosed in the notes to financial statements when an inflow of economic benefits is probable.

Events After the End of Reporting Period

Events after the end of financial reporting period that provide additional information on the Foundation's financial position at the end of the reporting period (adjusting events) are reflected in the financial statements. Events after the end of financial reporting period that are not adjusting events are disclosed in the Notes to Financial Statements when material.

3. Significant Judgments, Accounting Estimates and Assumptions

The preparation of the financial statements in accordance with PFRS for SMEs requires management to make judgments, estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. The judgments, estimates and assumptions used in the financial statements are based on management's evaluation of the relevant facts and circumstances as of the date of the financial statements.

Accounting assumptions, estimates and judgments are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances.

Judgments and Estimates

In the process of applying the Foundation's accounting policies, management has made the following judgments, apart from those involving estimations, which have the most significant effects on amounts recognized in the financial statements:

Determination of functional currency

Based on the economic substance of the underlying circumstances relevant to the Foundation, the functional currency of the Foundation has been determined to be the Peso. It is the currency that mainly influences the Foundation's revenues and expenses.

Classification of basic financial instruments

The Foundation exercises judgment in classifying a basic financial instrument, or its component parts, on initial recognition as either a financial asset, a financial liability or an equity instrument in accordance with the substance of the contractual arrangement and the definition of a financial asset, a financial liability or an equity instrument. The substance of a basic financial instrument, rather than its legal form, governs its classification in the statements of assets, liabilities and fund balances.

Impairment of financial assets measured at cost and amortized cost

The Foundation treats financial assets measured at cost and amortized cost as impaired when there is objective evidence of impairment. The assessment whether there is an objective evidence of impairment involves significant judgment. In making this judgment, the Foundation evaluates and determines whether the contracted parties or a group of contracted parties is experiencing significant financial difficulty, default or delinquency in interest or principal payments, whether it is probable that they will enter bankruptcy or other financial reorganization, and where observable data indicate that there is measurable decrease in the estimated future cash flows, such as changes in arrears or economic conditions that correlate with defaults. If there is objective evidence of impairment, the Foundation shall recognize an impairment loss directly as deduction from the fund balances in the statements of revenue and expenses. There were no indications of impairment in 2021 and 2020.



Estimation of allowance for doubtful accounts

Allowance for doubtful accounts are recognized for accounts specifically identified to be doubtful of collection. Recoverability of specific receivables is evaluated based on the best available facts and circumstances, the relationship of the debtor with the Foundation and the length of such relationship, and the debtor's payment behavior and financial condition. The Foundation reviews the age and status of receivables, and identifies accounts that are to be provided with allowances on a continuous basis.

Allowance for doubtful accounts amounted to nil as of December 31, 2021 and 2020. The carrying values of receivables amounted to ₱9.6 million and ₱10.7 million as of December 31, 2021 and 2020, respectively (see Note 5).

4. Cash and Cash Equivalents

	2021	2020
Cash in banks	₱10,728,904	₱7,417,110
Cash equivalents	17,637,326	15,837,271
	₱28,366,230	₱23,254,381

Cash in banks earns interest at the respective bank deposit rates. Cash equivalents consist of short-term investments made for varying periods of up to three months depending on the immediate cash requirements of the Foundation and earn interest at the respective short-term investment rates.

Interest income earned from cash in bank amounted to ₱0.01 million in 2021 and 2020, respectively.

5. Receivables

	2021	2020
Advances for:		
Projects	₱2,203,616	₱3,360,124
Administration	50,000	50,000
Employee	60,000	-
Accrued interest (Note 6)	7,294,025	7,294,025
Others	32,344	32,344
	₱9,639,985	₱10,736,493

The advances for projects are funds advanced for the purchase of supplies used for research and for related purposes.



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6. Investments

As of December 31, 2021:

	Philippine National Bank (PNB) Company	Metropolitan Bank and Trust Company (MBTC)	In-house Managed	Total
Debt securities:				
Government bonds	P-	P-	₱78,741,965	₱78,741,965
Corporate notes	1,120,000	20,490,236	43,530,533	65,140,769
Accumulated fair value changes	-	(8,839,457)	-	(8,839,457)
	1,120,000	11,650,779	122,272,498	135,043,277
Equity securities:				
Shares of stocks	-	-	29,798,858	29,798,858
Accumulated fair value changes	-	-	(245,000)	(245,000)
			29,553,858	29,553,858
Mutual funds	-	-	115,564,109	115,564,109
Accumulated fair value changes	-	-	8,242,083	8,242,083
			123,806,102	123,806,102
	₱1,120,000	₱11,650,779	₱275,632,548	₱288,403,327

As of December 31, 2020:

	Metropolitan Bank and Trust Company (MBTC)	In-house Managed	Total
Debt securities:			
Government bonds	₱10,552,450	₱86,189,515	₱96,741,965
Corporate notes	20,490,236	60,530,533	81,020,769
Accumulated fair value changes	(5,759,166)	-	(5,759,166)
	25,283,520	146,720,048	172,003,568
Equity securities:			
Shares of stocks	-	10,002,704	10,002,704
Mutual funds	-	97,483,672	97,483,672
Accumulated fair value changes	-	9,368,917	9,368,917
		116,855,293	116,855,293
	₱25,283,520	₱263,575,341	₱288,858,861

The movement of the Foundation's total investment portfolio follows:

	2021	2020
Balance at beginning of year	₱288,858,861	₱317,507,539
Acquisitions	64,202,225	20,509,643
Retirement	(62,382,225)	(36,535,975)
Fair value changes for the year, including those recycled through profit or loss	(2,275,534)	(12,622,346)
Balance at end of year	₱288,403,327	₱288,858,861

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Presented below are the movements in the accumulated fair value changes and allowance for probable losses of investments:

	MBTC	In-house Managed	Total
As at December 31, 2019	₱916,986	₱15,315,111	₱16,232,097
Unrealized gain on changes in fair values	(6,676,152)	(5,946,194)	(12,622,346)
As at December 31, 2020	(5,759,166)	9,368,917	3,609,751
Unrealized loss on changes in fair values	(3,080,291)	(881,834)	(3,962,125)
As at December 31, 2021	(₱8,839,457)	₱8,242,083	(₱352,3274)

Interest income from these investments amounted to ₱7.7 million and ₱8.1 million in 2021 and 2020, respectively. Accrued interest receivable amounted to ₱7.3 million as of 2021 and 2020 (see Note 5). Fair values of investments in equity securities are based on the quoted market prices at the close of business at the end of the reporting period.

7. Accounts Payable and Other Current Liabilities

	2021	2020
Accounts payable	₱1,167,800	₱1,154,540
Accrued expenses	336,038	1,281,340
Unearned income	840,000	1,320,816
Trust fee payables	109,943	109,943
Withholding taxes	85,451	4,525
Social Security System (SSS), Philhealth, Pag-ibig and Home Development Mutual Fund (HDMF) contributions	44,397	112,585
	₱2,583,629	₱3,983,749

Accounts payables are non-interest bearing and are normally payable 30 to 60-day credit term.

Accrued expenses pertain to accrual of professorial chair, faculty awards and student's scholarship.

Unearned income pertains to donation already received from donors of professorial chair awards that will be released in future years.



8. Fund Balances

General Funds

These are funds created to sustain the administrative activities of the Foundation, research and development projects of Intel Philippines (Intel) and non-research and development projects of National Hydraulic Research Center (NHRC), National Engineering Center (NEC) and UP College of Engineering (UPCOE). General funds consist of the following:

	2021	2020
Project Fund	₱68,284,593	₱65,745,631
General Fund	(5,945,655)	(7,789,351)
Intel Fund	3,727,120	3,041,786
	₱66,066,058	₱60,998,066

Endowed Funds

These are funds established to continuously support and assist the research and development activities of NHRC, NEC and UPCOE, professorial chairs, technology development and strategic studies, teaching and research grants, scholarships, faculty development and the implementation of awards and incentives. These are perpetual in nature and self-sustaining since these are interest-bearing funds. Endowed funds consist of the following:

	2021	2020
Professorial Chair Trust Fund	₱166,925,519	₱167,241,868
NEC Research and Development Fund	19,688,855	19,726,168
Student Scholarships and Awards Fund	17,415,583	17,448,588
UPCOE Research and Development Fund	12,554,782	12,578,575
Technology Development and Strategic Studies Fund	10,982,838	11,003,652
NHRC Research and Development Fund	6,780,899	6,793,750
Special-Purpose Fund	6,480,134	6,492,415
Faculty Development Fund	6,119,772	6,131,370
Faculty Awards Fund	4,030,469	4,038,107
Teaching Grants Fund	2,043,772	2,047,645
Department of Chemical Engineering	255,429	255,914
	₱253,278,052	₱253,758,052

Special Funds

These are funds intended for research and development and engineering-related purposes. These consist of the following funds:

	2021	2020
UPCOE Modernization Fund	₱ 1,763,999	₱1,616,654
UPCOE - Institute of Civil Engineering	912,418	836,205
Engkansya	674,175	617,862
Annual Scholarships and Student Awards Fund	662,129	606,822
Road applications of cement project	253,514	232,338
Tau Alpha Student Loan Guarantee	132,386	121,328
Special Honorarium	31,579	28,941

(Forward)



	2021	2020
IE 298 Class Hackathon	₱30,848	₱28,271
UPCOE Industrial Engineering/Mechanical Engineering	178,296	163,404
UPCOE - Industry and Government Linkage with Academe Program (IGLAP)	13,176	12,076
UPCOE - Department of Mining, Metallurgical and Materials Engineering (DMMME)	7,822	7,168
Others	85,982	78,799
	₱4,746,324	₱4,349,868

9. Supplementary Information Required Under RR No. 34-2020 and No. 15-2010

Requirement under RR 34-2020

The Foundation is not covered by the requirements and procedures for related party transactions specifically on the submission of the Information Return on Transactions with Related Party (BIR Form No. 1709) provided under Section 2 of Revenue Regulations No. 19-2020, as amended by Revenue Regulations No. 34-2020.

Requirement under RR 15-2010

The Foundation reported and/or paid the following types of taxes in 2021:

a. Withholding Taxes

The details of the Foundation's withholding taxes paid in 2021 are as follows:

Expanded withholding taxes	₱109,570
Withholding taxes on compensation and benefits	3,852
	₱113,422

b. Taxes and License Fees

In 2021, the Foundation paid annual registration fee amounting to ₱500.

c. Documentary Stamp Tax

There has been no payment of any documentary stamp tax on loan instruments or other transactions subject thereto during the year ended December 31, 2021.

d. Tax Assessment and Cases

The Foundation has not received any Final Assessment Notice or Formal Letter of Demand from the BIR for its open years. Likewise, the Foundation has no other pending tax cases outside the administration of the BIR as of December 31, 2021.





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