



# IRTC NEXUS

We are excited to introduce IRTC NEXUS, the revived newsletter of the Integrated Research and Training Center (IRTC). Formerly known as IRTC Updates, our newsletter has a new name that embodies our mission to connect and share the latest advancements. "NEXUS" highlights our role as the hub for Research, Extension, Production, and Training, reflecting our commitment to collaboration and innovation. Each edition will showcase our achievements, ongoing projects, and future initiatives, uniting the TUP community and partners in our shared journey toward excellence.

## MESSAGE FROM THE UNIVERSITY PRESIDENT

**Dr. REYNALDO P. RAMOS**

It is with immense pride and enthusiasm that I extend my warmest greetings in this inaugural issue of the Integrated Research and Training Center (IRTC) Newsletter. The revival of this publication signifies our renewed commitment to fostering innovation, research, and technological advancement within our institution.

Our mission of excellence in research and development is embodied by the IRTC. With Engr. Nilo M. Arago as the new IRTC Director, we are set to further solidify our leadership in technological innovation and research. Engr. Arago's experience and visionary approach will usher in new research initiatives, collaborative projects, and technological breakthroughs. Under his guidance, the IRTC will continue to transform ideas into tangible solutions addressing real-world challenges.

The importance of research and technology today cannot be overstated. Through our collective efforts, we can drive progress, enhance our educational offerings, and contribute meaningfully to society. I urge all members of the TUP community—students, faculty, and staff—to vengage with the IRTC, support its initiatives, and seize the opportunities it presents.

To our students, your curiosity, creativity, and drive are the catalysts for innovation. Leverage the resources and



expertise at the IRTC to pursue your research interests and contribute to groundbreaking projects. Your active participation is essential in pushing the boundaries of possibility.

To our faculty and researchers, your dedication to advancing knowledge and developing new technologies is key to our institution's success. Let's collaborate, share insights, and mentor the next generation of innovators. Your work enhances our academic reputation and profoundly impacts the broader community.

To our administrative staff, your support is crucial in creating a conducive environment for research and development. Your efforts in facilitating smooth operations and managing resources are deeply appreciated.

Finally, to our industry partners, donors, academic collaborators, and other stakeholders, your continued support is vital, not only to building a healthy network or linkage, but for sustaining a resilient and long-lasting relationship.

As we celebrate the launch of this newsletter and new leadership at the IRTC, let us reaffirm our commitment to excellence, innovation, and collaboration. Together, we can achieve remarkable things and contribute to a brighter, more technologically advanced future.

Let us all embody the spirit of "driven with pure passion and dedication," a core principle of TUP. With this shared commitment, we can elevate our institution by turning challenges into opportunities and fostering global innovation and excellence. Together, we will inspire future generations, make a lasting impact beyond our university, and contribute meaningfully to our country and the world.

## **ENGR. NILO M. ARAGO: LEADING IRTC WITH EXCELLENCE, COLLABORATION, PERSEVERANCE, AND FAMILY VALUES**

Embarking on a journey ignited by an unwavering commitment to excellence, Engr. Nilo M. Arago's rise to leadership at the helm of the Integrated Research and Training Center (IRTC) unveils a narrative woven with grit, resilience, and an indomitable quest for triumph.

From his humble beginnings as a faculty member in the Electronics Engineering Department in 2005, Engr. Arago's career trajectory has been marked with significant milestones and achievements. Transitioning from roles as the College IT Coordinator to heading the ECE department and eventually becoming the Dean of the College of Engineering, Engr. Arago's leadership roles equipped him with invaluable experiences and insights into nurturing a culture of collaboration and innovation.

Throughout his career, Engr. Arago has exemplified a steadfast commitment to his professional duties, while staying firmly rooted in his core values of perseverance and familial devotion. His remarkable achievements, including securing a prestigious research grant from the USAID Stride Program and spearheading successful collaborations on patentable research projects with Philippine Normal University, stand as inspiring testaments to his dedication to pushing boundaries and leading impactful initiatives.

Beyond his professional endeavors, Engr. Arago remains grounded in his personal life, cherishing moments spent with his family. As a devoted father, he finds joy in simple pleasures like watching movies with his children and assisting them with their schoolwork. Balancing the demands of



work and family life, he exemplifies the importance of prioritizing relationships and finding harmony between professional and personal responsibilities.

Approaching challenges with optimism and a smile, Engr. Arago's philosophy revolves around facing adversity with grace, seeking guidance through prayers, and navigating obstacles with resilience and determination. His leadership style is characterized by a collaborative approach, where he views himself not merely as a superior but as a partner, fostering an environment where everyone feels empowered to contribute and thrive.

In his new role as the Director of IRTC, Engr. Arago is driven by a vision to rejuvenate the Center and establish it as a beacon of innovation and collaboration. With a focus on enhancing human resources, modernizing facilities, and embracing digital transformation, he aims to position IRTC

as a dynamic hub of pioneering research, training, and testing services.

In essence, Engr. Arago embodies the values of collaboration, perseverance, and family, which intricately shape his leadership narrative and inspire his vision for the future of IRTC. With his unfaltering dedication and fervent passion, Engr. Arago is primed to elevate IRTC to unprecedented heights of success and excellence, leaving an indelible mark on the history of TUP and extending its influence far beyond.

In essence, Nilo Arago epitomizes the values of collaboration, perseverance, and family, shaping his leadership style and guiding his vision for the future of IRTC. With his unwavering commitment and passion, Nilo is poised to lead IRTC to new heights of success and excellence, leaving a lasting impact on the university and beyond.

## LEGACY BUILDERS: HONORING THE PIONEERING DIRECTORS OF THE INTEGRATED RESEARCH AND TRAINING CENTER

As we celebrate the revival of the Integrated Research and Training Center (IRTC) newsletter, it is an opportune moment to reflect on and honor the dedicated leaders who have guided our institution with wisdom and commitment. The legacy of the IRTC is built on the strong foundation laid by our past directors, whose vision and leadership have shaped our journey and propelled our achievements.

### An Era of Excellence and Dedication

Each director of the IRTC brought unique strengths and perspectives to their role, driving the Center forward and fostering a culture of excellence. Their invaluable contributions have not only bolstered the Center's research capabilities but also strengthened its role in training and development.



**Prof. Perla S. Roxas,**  
(1982-1989, 1994-1995)

**Prof. Perla S. Roxas, (1982-1989, 1994-1995)**, affectionately known as the "Iron Lady" for her unmatched brilliance, grit, and determination, served as the Director of the Integrated Research and Training Center (IRTC) during its formative years. As the pioneer of IRTC, Prof. Roxas played a crucial role in shaping the early foundation of the Center, laying the groundwork for what it has become today.

Under her visionary leadership, Prof. Roxas was instrumental in establishing the Center's engineering programs, which have since grown to become some of the most respected in the region. She spearheaded innovative research initiatives that not only advanced the field of Engineering but also set a high standard for academic excellence. Her efforts led to the development of cutting-edge research facilities and the introduction of advanced training programs that continue to resonate today.

Prof. Roxas's tenure was marked by numerous accomplishments, including the successful launch of key research programs that have been integral to advancing knowledge at the IRTC. She fostered a culture of innovation and inquiry, encouraging faculty, staff, and students to push the boundaries of their research and strive for excellence. Her ability to secure essential funding and establish meaningful collaborations with industry and academic partners was pivotal in positioning the IRTC as a leader in research and training.



**Engr. Nenet C. Graza**  
(1989-1994, 2002-2003, 2004-2006)

**Engr. Nenet C. Graza (1989-1994, 2002-2003, 2004-2006)** Engr. Nenet C. Graza's leadership at the Integrated Research and Training Center (IRTC) across multiple terms reflects a profound testament of commitment and service. Her tenure was marked by an unwavering dedication to advancing research excellence and fostering a dynamic culture of innovation. Engr. Graza was instrumental in spearheading numerous pioneering research initiatives, securing essential funding, and forging key partnerships. Her strategic foresight significantly elevated the Center's capabilities, setting a benchmark for excellence and progress in research and development.

Her innovative approach and tireless efforts set a definitive standard for future generations, inspiring faculty, staff, and students alike to push the boundaries of knowledge. Engr. Graza's legacy at IRTC is characterized by her ability to cultivate an environment that fosters rigorous academic pursuits and supports the professional growth of her colleagues. Her strategic leadership not only elevated research standards but also ensured that the Center remained at the forefront of educational and technological advancements.

The impact of Engr. Graza's contributions echoes deeply within the University, leaving an enduring mark that continues to shape the ongoing pursuit of excellence in research and training at IRTC. Her unwavering dedication and transformative leadership continue to ignite a legacy of innovation and academic excellence, serving as a guiding light for the future of the Center and University as a whole.

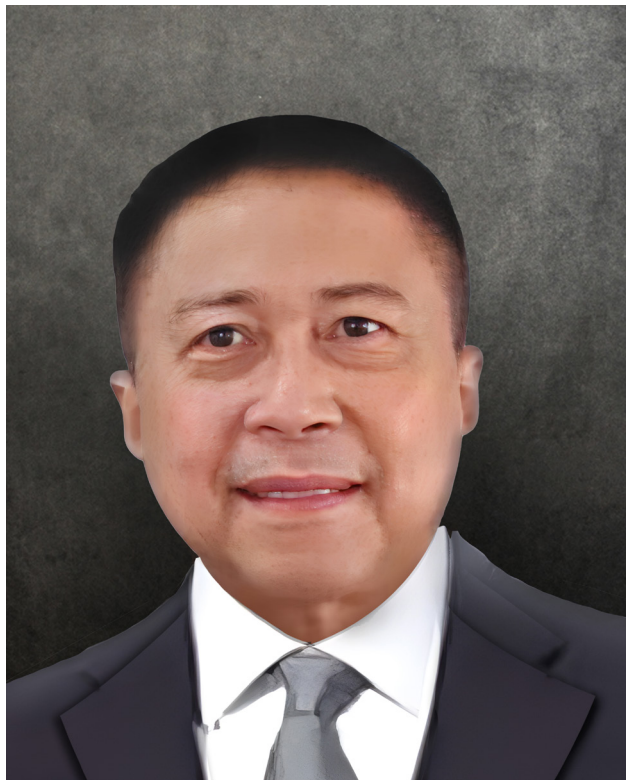


**Dr. Pablo A. Jorillo**  
(1995-2000)

**Dr. Pablo A. Jorillo (1995-2000)** served as the Director of the Integrated Research and Training Center (IRTC) for five years], leading a transformative era marked by significant expansion in training programs. His leadership broadened the Center's impact, enhancing professional skills across diverse fields.

During his tenure, Dr. Jorillo introduced specialized courses and workshops, addressing emerging trends and technologies. He forged strategic partnerships with industry leaders and academic institutions, ensuring the training programs remained relevant and of high quality. He fostered an environment of continuous improvement and innovation, encouraging faculty and staff to pursue advanced training and professional development. His commitment to excellence inspired a culture of lifelong learning and professional growth within the IRTC community.

His leadership brought transformative changes that significantly elevated the IRTC's reputation as a premier center for training and development. His legacy is evident in the enhanced programs and broader impact of the Center's initiatives, benefiting countless professionals across various fields. Dr. Jorillo set a high standard for future generations, establishing a benchmark of excellence to guide ongoing advancements.



**Engr. Loreto A. Aguila  
(2000-2001)**

**Engr. Loreto A. Aguila (2000-2001)** served as the Director of the Integrated Research and Training Center (IRTC) from 2000 to 2001, significantly expanding the reach of the Center's training programs. During his tenure, Engr. placed a strong emphasis on community engagement, fostering stronger connections between the Center and the surrounding community. His efforts ensured that the Center's initiatives had a practical and meaningful impact, promoting a collaborative environment that benefited both the IRTC and the broader community. Through his leadership, the Center was able to extend its influence and enhance its role in driving community-focused development.

Engr. Aguila prioritized practical, hands-on training, ensuring programs provided real-world skills applicable to various professional fields. This approach made students more competent and competitive in the job market. He also initiated outreach programs to share the Center's expertise with local communities through workshops, seminars, and training sessions.

His tenure facilitated the formation of new partnerships for IRTC with local businesses, government agencies, and non-profit organizations, significantly enhancing the Center's programs and strengthening community ties. His contributions have left a lasting imprint, inspiring a continued focus on practical training and community service, ensuring the IRTC's relevance and effectiveness in its endeavors.



**Engr. Bernardo A. Lejano  
(2001-2002)**

**Engr. Bernardo A. Lejano (2001-2002)** revolutionized the Integrated Research and Training Center (IRTC) during his term by introducing cutting-edge technology and innovative methodologies, setting a new standard for research excellence.

Engr. Lejano modernized the IRTC's infrastructure, overseeing the acquisition of advanced research equipment and technologies. This upgrade significantly enhanced the Center's capabilities, allowing for more complex and impactful projects. He also fostered a culture of creativity and critical thinking, promoting interdisciplinary collaboration and methodological rigor. Under his leadership, the IRTC saw several groundbreaking projects that garnered recognition and awards. Engr. Lejano prioritized professional development, organizing training sessions and workshops to keep the team at the forefront of research advancements.

Engr. Lejano's contributions have left a lasting impact, with the technological and methodological foundations he established continuing to benefit the IRTC. Under his dynamic leadership, he charted a course for sustained excellence and progress, leaving behind a legacy of transformative innovation.



**Dr. Dominador S. Pagbilao**  
(2003-2004)

**Dr. Dominador S. Pagbilao (2003-2004)** prioritized interdisciplinary research and global collaboration during his tenure. A notable achievement was the Lahar-Paving Blocks Project, an innovative initiative utilizing volcanic byproducts for sustainable paving blocks. This project not only advanced environmental research but also forged critical international partnerships, significantly boosting the IRTC's global reputation.

Under Dr. Pagbilao's leadership, the IRTC expanded its influence through strategic collaborations with prestigious international universities and research institutions. These partnerships facilitated knowledge exchange and joint research efforts, positioning the Center as a leader in innovative environmental solutions and interdisciplinary studies. Dr. Pagbilao's visionary approach and commitment to excellence established a robust foundation for the IRTC's ongoing pursuit of impactful research and global engagement.

His legacy continues to inspire a culture of innovation and collaboration at the IRTC, where his initiatives in sustainable development and international cooperation remain integral to shaping future endeavors. Dr. Pagbilao's dedication to pushing boundaries in research and fostering global connections underscores his lasting impact on advancing knowledge and addressing global challenges through interdisciplinary approaches.



**Engr. Felipe Ronald M. Argamosa**  
(2006-2015)

**Engr. Felipe Ronald M. Argamosa (2006-2015)**, significantly enhanced the global recognition of the University through pioneering Bio-Fuel Research. His leadership ushered in a transformative era for sustainable energy initiatives nationwide. Under his guidance, the IRTC became a leading entity in bio-fuels research, driving substantial advancements in renewable energy technologies. This culminated in the enactment of Republic Act 9367, the Bio-Fuels Act of 2006, showcasing their impactful contributions to national energy policy.

Engr. Argamosa's adaptive leadership and resilience were fundamental in fostering growth and innovation at the Center. He cultivated a culture of excellence and collaboration, attracting top talent and forging strategic partnerships with industry leaders and government agencies. These collaborations bolstered research capabilities and solidified the IRTC's role as a regional hub for sustainable energy research and development.

Beyond his legislative achievements and research advancements, Engr. Argamosa championed sustainability through educational programs that empowered students and professionals to embrace eco-friendly practices. His initiatives not only tackled environmental challenges but also equipped future generations with the skills needed to drive meaningful change.

Throughout his tenure, Engr. Argamosa's unwavering dedication to advancing sustainable energy solutions set a precedent for excellence at TUP and beyond. His enduring legacy continues to inspire innovation, resilience, and global impact in the pursuit of a more sustainable future.



**Engr. Teodinis P. Garcia**  
(2015-2022)

**Engr. Teodinis P. Garcia (2015-2022)**, profoundly elevated IRTC's global presence through a comprehensive strategy. Over her seven-year tenure, the Center established pivotal partnerships with international institutions, secured essential accreditations, and hosted prominent international conferences that promoted knowledge exchange and collaboration. Her dynamic leadership ensured IRTC's position at the cutting edge of research and training, reinforcing its global reputation.

During her term, Engr. Garcia also prioritized ISO compliance, ensuring that the Center's operations met international standards of quality and efficiency. Her leadership was particularly notable during the COVID-19 pandemic, where she spearheaded sustained research efforts that addressed emerging challenges and contributed to national resilience.

Renowned for her blend of grace, intellect, and empathy, Engr. Garcia earned widespread respect for her readiness to assist wherever needed, nurturing a supportive environment within IRTC. Her commitment to excellence and proactive leadership set a high bar for continued growth and innovation in research, training, and international collaboration, leaving a lasting imprint on the Center.



**Dr. Melito A. Baccay**  
(February 2022 - February 2023)

**Dr. Melito A. Baccay (February 2022 - February 2023)**

Dr. Melito A. Baccay left a remarkable legacy during his brief but significant tenure as Director of the Integrated Research and Training Center (IRTC). His commitment to integrity, professionalism, and global influence was evident as he upgraded the Center's facilities, enhancing the environment for research and training. Through his proactive approach in building local and international partnerships, Dr. Baccay greatly expanded the IRTC's reach and influence, fostering collaborations that enriched research initiatives and extended the Center's global footprint.

Beyond his administrative duties, Dr. Baccay's mentorship was crucial in cultivating a culture of excellence and respect throughout the IRTC and the entire University. He provided unwavering support to faculty, staff, and students, nurturing their growth and celebrating their successes. His leadership, characterized by inclusivity and collaboration, created an environment where innovation and creativity thrived.

Dr. Baccay viewed every challenge as an opportunity for meaningful impact, championing a culture of gratitude and positivity. His dedication to upholding high management standards and fostering a nurturing environment ensured that every member of the IRTC felt valued. Despite his many accolades, he remained humble and focused, dedicating himself to advancing research and training with integrity. His leadership inspired and empowered others, leaving a lasting and profound impact on TUP's culture and future direction.

**Looking Ahead with Inspiration**-As we reflect on our past achievements, we are inspired by the vision and resilience of our past directors. Their collective efforts have positioned the IRTC as a beacon of innovation and excellence, paving the way for future successes and advancements.

**Gratitude and Recognition**-To all the past directors of the IRTC, we express our heartfelt gratitude. Your leadership and commitment have been instrumental in shaping the Center into what it is today. As we continue to uphold and build upon your legacy, we are reminded of the profound impact that visionary leadership can have on our beloved tup, the institution that we deeply value and proudly belong to celebrate your enduring contributions and look forward to a future enriched by your visionary leadership.

**Embracing the Future**-The revival of our newsletter not only marks a celebration of our past but also serves as a platform to share our ongoing journey with the wider community. Together, we honor the past, celebrate the present, and embrace a future guided by collaboration, innovation, and unwavering dedication.

Thank you for your extraordinary contributions and for laying the groundwork for a bright and promising future where your legacy of excellence continues to inspire and guide us forward.

With utmost respect and admiration,

**ENGR. NILO M. ARAGO**

Director, Integrated Research and Training Center

## TUP OFFICIALS FORGE AHEAD WITH STRATEGIC VISION FOR RESEARCH AND EXTENSION

Top officials at the Technological University of the Philippines (TUP) led a vital discussion on May 10, 2024, to develop the 2023-2028 Research and Extension (R&E) Strategic Plan. This crucial event, held at the Administrative Building's Board Room, was spearheaded by TUP President Dr. Reynaldo P. Ramos and Vice President for Research and Extension Dr. Hasmin T. Ignacio. The gathering brought together administrators, faculty, and industry experts to collaboratively shape the university's strategic direction for the next 3-5 years.

This strategic planning session underscores the University's commitment to fostering a forward-looking and innovative research and extension framework. By uniting diverse perspectives from academic and industry leaders, TUP aims to align its research and extension activities with the evolving needs of society and the technological advancements of the future. This collaborative effort is crucial for driving impactful research, enhancing community engagement, and ensuring that TUP remains

at the forefront of educational excellence and societal contribution.

Dr. Ramos and Dr. Ignacio's leadership in this initiative highlights the importance of strategic planning in achieving long-term goals and sustaining the university's mission. Their vision for the 2023-2028 R&E Strategic Plan emphasizes the need for a cohesive and adaptive approach to research and extension, fostering an environment where innovation thrives and meaningful community partnerships flourish.

The development of the R&E Strategic Plan marks a significant milestone in TUP's journey towards academic and research excellence. It reflects the university's proactive stance in anticipating future challenges and opportunities, ensuring that TUP continues to make significant contributions to the academic community and society at large.



# MEED Empowers Future Engineers with Practical Machining and Welding Skills

The Integrated Research and Training Center's Manufacturing and Energy Engineering Department (IRTC-MEED) recently concluded a transformative training program to bridge the gap between theoretical knowledge and practical skills for senior Mechanical Engineering students.

The "Skills Development Training on Basic Machining Operation and Basic Welding," held from March to June 2024 at the MEED Design and Manufacturing Laboratory, was spearheaded by Associate Professor Carlos E. Zapanta, Head of MEED. Through his initiative, coordination, and commitment, the program attracted 85 trainees—42 in machining and 43 in welding.

Under the expert guidance of Prof. Gonzalo C. Salvador Jr. and Mr. Rannie M. Quiambao, the machining segment covered benchwork and lathe machining. The welding segment, led by Mr. Andres D. Maglaqui, provided comprehensive instruction in essential welding techniques. These sessions offered 4<sup>th</sup>-year students critical hands-on experience, preparing them for the engineering industry.

Addressing the challenges posed by the COVID-19 pandemic, this training program effectively bridged the gap between theoretical knowledge and practical application. By offering hands-on experience in machining and welding, it enhanced students' technical competencies, ensuring they are well-prepared and industry-ready.

The successful completion of this program highlights IRTC-MEED's dedication to delivering top-notch, practical education. The collaboration with the College of

Engineering-Mechanical Engineering Department (COE-ME) and the Philippine Society of Mechanical Engineers - TUP Student Unit (PSME-TUPSU) aims to cultivate a skilled engineering workforce for the nation's industrial and technological progress.

## TUP President Issues Implementing Order No. 15 s. 2024: Announcing Newly Appointed University

**Dr. Reynaldo P. Ramos, President of the Technological University of the Philippines (TUP), has issued Implementing Order No. 15 s. 2024, on March 1, 2024.** marking the appointment of several key university officials. The Order, ratified during the First Regular Meeting of the Board of Regents on February 29, 2024, announces the following crucial appointments:

- **Dr. Ryan C. Reyes** – Vice President for Academic Affairs
- **Dr. Hasmin T. Ignacio** – Vice President for Research and Extension
- **Ms. Purabela R. Agron** -Vice President for Administration and Finance
- **Dr. Apollo P. Portes** – Dean, College of Industrial Technology
- **Dr. Lean Karlo S. Tolentino** – Dean, College of Engineering
- **Engr. Nilo M. Arago** - Director, Integrated Research and Training Center

These appointments reflect TUP's commitment to academic and operational excellence, strategic growth, and innovation. The new officials bring a wealth of experience and expertise to their roles, promising a future of boundless opportunities and achievements for the university.

Congratulations to our newly appointed officials! Here's to a transformative era for TUP, driven by visionary leadership and dedicated service.



## TUP Campuses Shine at ITSO Presidents' Summit with Prestigious IP Innovation Awards



The Technological University of the Philippines (TUP) campuses in Manila and Visayas celebrated major victories at the 2024 Innovation and Technology Support Offices (ITSO) Presidents' Summit, held on March 18, 2024, at the Dusit Hotel in Makati. These accolades from the Intellectual Property Office of the Philippines (IPOPHL) underscore TUP's leadership in intellectual property (IP) and innovation.

TUP-Manila earned the Silver Award for its robust IP environment, highlighted by providing over 24 patent search services. This achievement significantly enriches the innovative ecosystem within and beyond the university, showcasing TUP-Manila's commitment to fostering a culture of innovation.

In an even more impressive feat, TUP-Visayas was awarded the Platinum Award for its outstanding contributions to IP and innovation. This top honor cements TUP's reputation as a front-runner in technological advancement and IP management.

The summit, themed "ITSO: Celebrating Collaboration, Cultivating Innovation," emphasized the crucial role of collaboration in driving innovation and leveraging IP to propel progress across various sectors. It served as a platform to celebrate the efforts of institutions like TUP in advancing research and innovation in the Philippines. Moreover, IPOPHL launched new guidelines for the next Innovation Awards, introducing the Palladium Award, which encourages ITSOs to thrive and excel in their IP and innovation efforts. This new category aims to further elevate the standards and expectations for innovation support offices across the country.

The recognition of TUP-Manila and TUP-Visayas highlights their significant contributions to the nation's research and innovation landscape. These awards reaffirm TUP's status as a premier institution dedicated to creating a brighter future through cutting-edge research and technology development.

With these prestigious honors, TUP continues to set the standard for intellectual property innovation, demonstrating a steadfast commitment to excellence and progress in the academic and technological fields.



# TUP Revolutionizes Urban Mobility with “Road Eye Navigation” Project

In a bold move towards enhancing urban mobility and public safety, the Technological University of the Philippines (TUP) has launched the pioneering Future Road Eye Navigation System (FRENS). This innovative project is funded by a generous 2-million-peso grant from Senator Pia Cayetano, who chairs the Senate Committee on Sustainable Development Goals, Innovations, and Futures Thinking. Senator Cayetano's support underscores her commitment to integrating Futures Thinking into the new normal, promoting sustainable development and innovation.

Named as Future Road Eye Navigation System (FRENS), this project marks a significant leap towards developing smart cities in the Philippines. The Phase 1 of FRENS has achieved remarkable success in developing a working prototype and proof of concept for a flood road eye navigation system, positioning TUP at the forefront of intelligent transportation systems.

The ongoing Phase 2 is implemented in a barangay-based setup, showcasing TUP's commitment to pioneering technological solutions for societal challenges. This phased approach, from local communities to city-wide integration and beyond, aims to refine and optimize the system for broader deployment.

FRENS integrates cutting-edge technologies such as intelligent transportation systems, wireless sensor

networks, and artificial intelligence to monitor and predict floods, thereby enhancing road navigation and route determination. This innovation not only advances academic knowledge but also promises tangible benefits for society, particularly in mitigating urban challenges like climate change and rapid population growth.

As FRENS progresses, the prospect of a safer and more efficient urban transportation network in the Philippines comes into sharper focus. Through innovation and collaboration, TUP and its partners are paving the way for a future where technology transforms cities into sustainable, livable spaces.

Overall, this initiative not only solidifies TUP's reputation as a leader in technological innovation but also highlights its proactive role in shaping the future of urban mobility in the Philippines and beyond.

This project is headed by Dr. Melito A. Baccay as Project Leader and is supported by a dedicated team, including IRTC Director Engr. Nilo M. Arago, Engr. Edmund G. Monilar, Engr. Timothy A. Amado, and Engr. Christian A. Arbalate. The team also includes Electronics Engineering students: Christian D. Caballos, Justice M. Colili, Angeline M. Magsino, Romlyn U. Manansala, Andrei Miguel C. Marquez, Carl Justin C. Viernes, Jemimah Aniel C. Climaco, Khen Kyrill R. Dado, Jericho Martin C. Franco, Jomel V. Manalastas, Julius E. Magayon, and John Loyd F. Masipag.



# IRTC Employees Join the 1st TUP-GAD Focal Point System General Assembly: Empowering Gender and Development

The Integrated Research and Training Center (IRTC) took part in the first General Assembly of the Gender and Development (GAD) Focal Point System (GFPS), hosted by the Technological University of the Philippines (TUP), Manila held from May 15 to 17, 2024. This event, set against the picturesque backdrop of Baguio City, aimed to advance gender equality and women's empowerment through knowledge sharing, skill enhancement, and collaborative networking.

The assembly brought together 73 participants, including officials, faculty, and employees from the various sectors of TUP and its campuses in Cavite, Taguig, Visayas, and Quezon, led by Dr. Hasmin T. Ignacio, Vice President for Research and Extension (VPRE) and Dr. Connie C. Aunario, Vice President for Planning, Development, and Special Concerns (VPPDSC). Representing the IRTC were Prof. Emmanuel Luis G. Borjal – TWG, Prof. Jasinne C. Garna – GAD Coordinator, and Ms. Virginia N. Villamar – TWG.

The event focused on formulating the GAD Agenda, finalizing the GAD Planning and Budgeting for FY 2025, and distributing tasks for the development of the GAD Manual Operation. VPPDSC Aunario delivered the Opening Remarks, while Prof. Jennifer P. Alinsunod, Director of Gender and Development, provided the Closing Remarks. Both emphasized the significance of creating a gender-responsive environment.

Participants engaged in comprehensive lectures and workshops on GAD analysis, strategic planning, and budgeting. The event featured practical sessions led by esteemed resource speakers, including Prof. King David J. Agreda, Prof. Arlene L. Estrada, and Prof. Richard P. Perez, all accredited PCW Trainers from Cavite State University (CAVSU) GAD Advocates, CALABARZON GAD Resource Pool. These

sessions culminated in collaborative workshops and presentations, fostering a deeper understanding and commitment to gender-responsive initiatives.

The final day emphasized reflection and commitment, with participants pledging to champion GAD principles in their institutions. The event concluded with the awarding of certificates, highlighting the transformative impact on attendees, especially those from the IRTC. This participation underscores the Center's commitment to integrating a GAD component into all its activities, reinforcing its dedication to fostering a gender-responsive environment and promoting gender equality within its operations and outreach.

By actively engaging in this assembly, the IRTC demonstrates its resolve to implement gender-responsive initiatives, ensuring that GAD principles are interwoven into the fabric of its programs and projects. This commitment reflects the Center's broader goal of promoting an inclusive and equitable environment for all.



# IRTC-CEMD Makes Strides in Community Engagement and Research in 2024

In the first half of 2024, the Construction Engineering and Management Department (CEMD) at the Integrated Research and Training Center (IRTC) of the Technological University of the Philippines (TUP), under the leadership of Engr. Reynaldo A. Baarde, has excelled in community service and innovative research. CEMD has emerged as a vibrant hub of activity and innovation, extending its outreach to serve 199 non-paying students and clients across various TUP campuses and disciplines. Notably, collaborations with institutions such as Mapua University, President Ramon Magsaysay State University, St. Joseph School Manila, and Lyceum of the Philippines Cavite Campus have propelled research in eco-friendly building materials and advanced concrete technologies.

During this period, CEMD facilitated 37 research studies, addressing crucial topics in local and sustainable development, including advancements in concrete technology and agricultural innovations. These efforts underscore TUP's commitment to practical research solutions and interdisciplinary collaboration.

Beyond academic enrichment, CEMD has bolstered financial sustainability through successful consultancy services. Looking ahead, CEMD aims to expand its influence further by enhancing community engagement and spearheading innovative interdisciplinary research initiatives.



In the quest for sustainable energy solutions, the Integrated Research and Training Center (IRTC) has achieved a groundbreaking feat, revolutionizing the potential of coconuts as a renewable energy source.

Initiated in 2002 through a collaborative effort between TUP and NIHON University in Japan, the pioneering study, led by Prof. Rey P. Hizon, Prof. Felipe M. Argamosa, and Prof. Carlos E. Zapanta, together with Dr. Koji Yoshida as host researcher, focused on harnessing Coconut Methyl Ester (CME) as a Petrodiesel Quality Enhancer (PDF). Through their dedicated research, they unveiled CME's remarkable capability to enhance the quality of petroleum diesel fuel, thus reducing environmental impact and optimizing engine performance.

The significance of this research was underscored by its adoption by the Arroyo administration, culminating in the launch of the Coco-Biodiesel Program in San Pablo City, Laguna, in April 2004. This initiative, spearheaded by the Department of Energy and supported by agencies like the Department of Science and Technology (DOST) and the Philippine Coconut Authority (PCA), stands as a testament to the transformative potential of biofuels in addressing global energy demands and environmental challenges.

The impact of IRTC's pioneering work transcends technical innovation. By introducing Coco-Biodiesel into the national energy landscape, the research team has not only provided a cleaner and more efficient fuel alternative but has also

Philippines as a key player in the burgeoning biofuel industry.

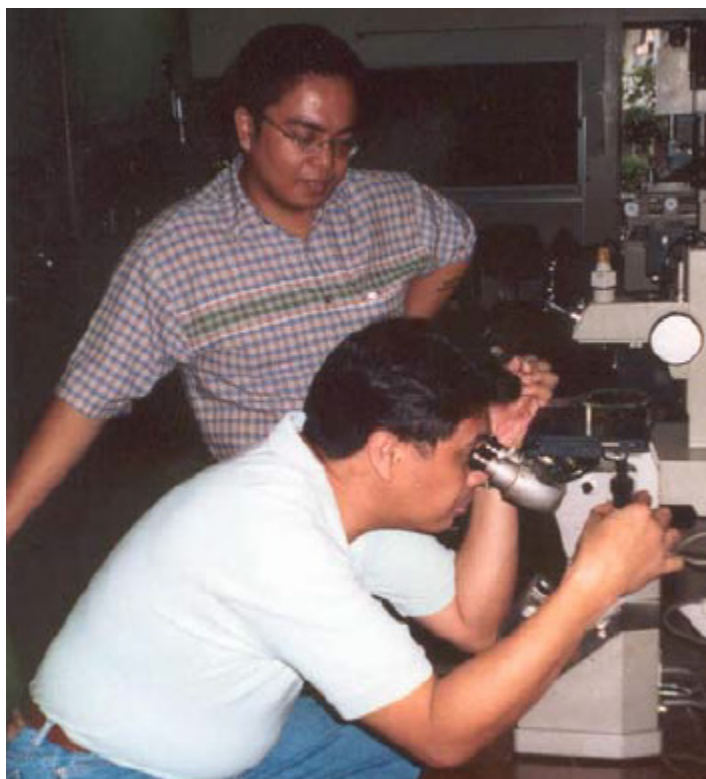
Moreover, the said research conducted by IRTC researchers significantly influenced the passing of the Biofuels Act of 2006 (Republic Act No. 9367). This landmark legislation mandated the nationwide use of biofuels, marking a crucial step towards a sustainable energy future in the Philippines.



By reducing dependence on fossil fuels and promoting renewable energy sources, their pioneering efforts played a key role in shaping national energy policy and advancing environmental sustainability efforts. This achievement manifests the Center's steadfast commitment to fostering innovative solutions that contribute to a greener, more sustainable society.

Unfortunately, despite its monumental impact, the achievement of IRTC researchers in this field remains relatively unknown to the public. It is time to highlight this remarkable feat of innovation and showcase the tireless efforts of these researchers in pioneering sustainable energy solutions.

As the world strides towards a more sustainable future, the contributions of IRTC researchers shine as a beacon of hope, showcasing the transformative power of collaborative research and innovation in shaping a brighter tomorrow. It's time to celebrate and recognize the groundbreaking work of these unsung heroes in the field of sustainable energy.



paved the way for economic growth and agricultural sustainability. Through the creation of a new market for coconut-derived biofuels, the program has empowered local farmers, stabilized copra prices, and positioned the

# TUP Manila Celebrates Faculty Achievement in a Formal Oath-Taking Ceremony

In a remarkable achievement, TUP Manila celebrated the reclassification of 66 distinguished faculty members in accordance with Joint Circular No. 3 (JC3) issued by the Department of Budget and Management, signaling a significant milestone for academic growth. Held on June 10, 2024, this momentous occasion was commemorated through a formal oath-taking ceremony at the IRTC Conference Hall, spotlighting the university's steadfast commitment to fostering academic excellence and professional advancement.

Among the promoted faculty members from the Integrated Research and Training Center (IRTC) were: Melbern Rose C. Maltezo, promoted from Prof. 4 to Prof. 6 Arjun G. Ansay, promoted from Prof. 4 to Prof. 5 Arthur G. Lagbas, promoted from Associate Professor 3 to Associate Professor 4

Jasinne C. Garna, promoted from Instructor I to Instructor 2 University President Dr. Reynaldo P. Ramos presided over the ceremony, emphasizing TUP's unwavering dedication to continuous learning and development. "This reclassification not only honors individual accomplishments but also reflects the University's enduring commitment to educational advancement and innovation," stated President Ramos.

The event concluded with inspiring remarks from Atty. Christopher Mortel, Head of the Human Resource Services (HRMS) who highlighted the fundamental role of the faculty in shaping the university's future. "Your dedication and hard work are fundamental to our institution's success. This reclassification serves as a well-deserved acknowledgment of your invaluable contributions," Atty. Mortel affirmed.

Dr. Hasmin T. Ignacio, Vice President for Research and Extension and Chairperson of the Institutional Evaluation Committee (IEC), along with the committee members, extended their heartfelt congratulations and gratitude to all involved in the reclassification process. They commended the reclassified faculty for their outstanding achievements and unwavering commitment to academic excellence.

This milestone celebration not only honors the remarkable accomplishments of TUP Manila's faculty but also underscores the university's commitment to fostering a culture of excellence and professional development, ensuring a bright future for all its members.



## College of Engineering Leads Successful APPRECIATE 2024 Event, Showcasing Engineering Excellence and Innovation

The College of Engineering at the Technological University of the Philippines (TUP), Manila recently hosted the highly successful Annual Presentation of Project Research in Civil, Electromechanical, Information, and Telecommunications Engineering (APPRECIATE 2024) event on May 30-31, 2024. The event, which drew participation from esteemed industry leaders such as Denso Techno Philippines, Inc. (DTPH), underscores TUP's commitment to offering high-quality education, particularly in the field of engineering. Originally conceived by Engr. Nilo M. Arago in 2015, APPRECIATE has grown into a premier platform for showcasing student innovation and engineering excellence. Engr. Arago, who was then the Head of the Electronics and Communications Engineering Department and later the Dean of the College of

The high-caliber projects presented reflected the Center's commitment to cutting-edge research and development. The Center's support ensured that students had access to the latest technology and resources, enabling them to deliver top-notch presentations and demonstrations.

Representatives from DTPH, led by Mr. Yoshikawa, along with Technical Manager Hirotaka Kawaji and Admin General Manager Ramayana Escobanes, also met with TUP President Dr. Reynaldo P. Ramos and other university officials. This meeting served as a platform to discuss and enhance the partnership between DTPH and TUP, focusing on sustainable programs aimed at promoting employment opportunities for TUP students within the automotive industry.



Engineering, envisioned APPRECIATE as a way to provide engineering students with opportunities to demonstrate their talents through efficient, lifesaving, and real-time research and project studies. Now, as the Director of the Integrated Research and Training Center (IRTC), Engr. Arago takes immense pride in seeing the event flourish into a significant annual gathering that highlights the capabilities of TUP's engineering students.

Engr. Jay Fel C. Quijano, the current Chairman of APPRECIATE 2024, has continued this legacy with dynamic leadership, ensuring the event's continued success. The two-day event featured engaging activities such as booth designs, competitions, and project displays. A highlight was the participation of graduating students who pitched their research and creative projects to a distinguished panel of judges, including Mr. Akihiro Yoshikawa, President of DTPH. This interaction provided invaluable insights for both the panelists and the students, fostering a collaborative environment for learning and innovation. The IRTC played a major supportive role in the success of APPRECIATE 2024 by serving as the venue for the event.



This collaboration underscores TUP's dedication to advancing engineering education and innovation. The event, particularly with the significant contributions from IRTC, highlights the university's commitment to providing valuable opportunities for its students to excel in the industry. APPRECIATE 2024 stands as a testament to TUP's ongoing efforts to foster strong industry connections and promote practical, hands-on experiences that prepare students for successful careers.

Through the continued efforts and unrelenting commitment of the College of Engineering, along with the support of IRTC Director Engr. Nilo M. Arago and APPRECIATE 2024 Chairman Engr. Jay Fel C. Quijano, alongside robust support from TUP and its industry benefactors, APPRECIATE has blossomed into an event that not only showcases student ingenuity but also strengthens the bond between academia and industry. This synergy ensures a bright future for TUP's engineering graduates, equipping them with the skills and connections needed for successful careers.

# Congratulations to the APPRECIATE 2024 Awardees

## Best Project Study

TINIG: A Real-Time Web-Based Sign Language Recognition and Baybayin Translation using Convolutional Neural Network (CNN) Model

## Best Poster

TINIG: A Real-Time Web-Based Sign Language Recognition and Baybayin Translation using Convolutional Neural Network (CNN) Model

## Runner Ups

Property Characterization of Cement-Based Plaster with Recycled Rubber Tire Crumbs as Partial Replacement to Fine Aggregates

Optimization of Nominal Voltage and Automated Power Factor Correction through Raspberry Pi-Controlled System

Development and Implementation of an IoT-Based Flood Monitoring System: A Quantitative and Quasi-Experimental Study Along the Perimeters of TUP Manila Campus

IoT-based Physiological Data for Stress Monitoring and Personalized Stress Reduction Strategies

The Effectiveness of Bambusa Blumeana Leaf Ash as Partial Cement Replacement on Concrete Blocks  
Best Booth Cocoustic 2.0: Arduino-Based Knocking Device for Coconut Maturity Classification and Prediction Using Fast Fourier Transform and C5 Algorithm

## Runner Ups

FRENS (Flood and Road Eye Navigation System): A Flood and Road Monitoring System using Wireless Sensor Network (WSN) and Internet of Things (IoT)

LiverScan+: An Automated Detection and Diagnosis of Focal Liver Lesions through AutoML-Based Triphasic Contrast-Enhanced CT Image Analysis Using Jetson Nano

TINIG: A Real-Time Web-Based Sign Language Recognition and Baybayin Translation using Convolutional Neural Network (CNN) Model

EyeQ: Portable Interactive Virtual Reality Device for Early Detection of Amblyopic Ocular Aberrations in Kindergartners using Quadriwave Lateral Shearing Interferometry (QWLSI)

POCKETREHAB: Gamified Android-Based Physical Rehabilitation Monitoring System with Bluetooth Wearable Sensors

## President's Choice Award

FRENS (Flood and Road Eye Navigation System): A Flood and Road Monitoring System using Wireless Sensor Network (WSN) and Internet of Things (IoT)

LUNAS 2.0: A Portable Touchscreen NPWT Device using Micro Air Pump, Arduino Mega, and Li-ion Battery

Cocoustic 2.0: Arduino-Based Knocking Device for Coconut Maturity Classification and Prediction Using Fast Fourier Transform and C5 Algorithm

## Runner Ups

EyeQ: Portable Interactive Virtual Reality Device for Early Detection of Amblyopic Ocular Aberrations in Kindergartners using Quadriwave Lateral Shearing Interferometry (QWLSI)

Structural Performance of Fabricated Galvanized Iron (GI) Clamp Padded with Nitrile Butadiene Rubber as a Full Culm Bamboo Rafter to Wall Top Plate Connector Design and Fabrication of Diesel Engine Test Bed for Mechanical Engineering Laboratory

Smart Copra Drying: Design of an Arduino-Based System with Forced Convection Solar Air Heat Integration and Dual Power Sources for Enhanced Heating

## INDIVIDUAL AWARDS Presentation Awards

### 1st Place:

Name: MABALOT, Tristan Benjie D.  
Title: Influence of Rice Husk Biochar as Partial Cement Replacement on the Properties of Carbon Sink Concrete

### 2nd Place:

Name: NAVEA, Philip Joshua C.  
Title: EyeQ: Portable Interactive Virtual Reality Device for Early Detection of Amblyopic Ocular Aberrations in Kindergartners using Quadriwave Lateral Shearing Interferometry (QWLSI)

### 3rd Place:

Name: RODRIGUEZ, Lord Jon Ivan C.  
Title: Analysis of the Compressive Strength and Failure Mechanism of the Bamboo Bolted Connection Loaded Perpendicularly to the Fiber of Bambusa Blumeana

## Pitching Awards

### 1st Place:

Name: LAZ, Ronald B.  
Title: TINIG: A Real-Time Web-Based Sign Language Recognition and Baybayin Translation using Convolutional Neural Network (CNN) Model

### 2nd Place:

Name: GARCIA, Krisgail Yvonne G.  
Title: Utilization of Pulverized Mussel Shells as Partial Replacement for Gypsum Powder and Crumb Rubber as Reinforcement in the Production of Gypsum Board

### 3rd Place:

Name: PARICLAS, Sean Christian U.  
Title: LUNAS 2.0: A Portable Touchscreen NPWT Device using Micro Air Pump, Arduino Mega, and Li-ion Battery.

# Monthly Clean-Up Drive: Transforming Our Space for Better Learning

The Director's Office of the Integrated Research and Training Center (IRTC) is proud to announce the successful launch of the Monthly Clean-Up Drive, which began on April 22, 2024. This initiative, held during the first week of each month, aims to maintain and enhance the environment of the IRTC.

## The clean-up drive focuses on several key areas:

- Clearing hallways for safety
- Identifying and condemning unserviceable items or equipment
- Organizing materials systematically
- Initiating room repainting requests as needed
- Our goal is to ensure our training, laboratory, and testing rooms are always ready for seamless use.

The response from all departments has been outstanding, with active participation each month. Departments take turns cleaning specific areas, including classrooms, laboratories, common areas, outdoor spaces, and restrooms. This rotating responsibility ensures comprehensive coverage and engagement.

The collective efforts have significantly improved cleanliness and orderliness within the Center, creating a more conducive environment for research and learning. The Monthly Clean-Up Drive has not only enhanced our physical space but also fostered a stronger sense of community and collaboration among faculty, staff, and students.

We look forward to continuing this initiative and seeing further improvements in our shared spaces. Thank you to everyone for your dedication and hard work in making the IRTC a better place for all.



# President Ramos Approves Dedicated R&E Day for IRTC Starting AY 2024-2025

We are delighted to announce that President Reynaldo P. Ramos has approved the implementation of a dedicated Research and Extension (R&E) Day for the Integrated Research and Training Center (IRTC). Starting in the First Semester of AY 2024-2025, every Friday will be set aside as R&E Day, giving IRTC faculty and staff uninterrupted time to focus exclusively on research and extension activities.

## Key benefits of R&E Day include:

- Enhanced project progress
- Encouraged interdisciplinary collaboration
- Streamlined communication and coordination
- Optimized support services

No classes or testing will be scheduled on Fridays, ensuring full participation. A pilot program will launch the following semester to evaluate effectiveness and gather feedback. This initiative aims to boost research output, improve extension services, and enhance our institution's reputation and impact.

We look forward to your support and collaboration in making R&E Day a success.



# EDITORIAL:

## Fostering a Culture of Collaboration, Integrity, and Unity: The Backbone of TUP's Success

In the vibrant landscape of the Technological University of the Philippines (TUP), where ideas flourish and innovation thrive, our success is not solely the product of individual brilliance, but the collective strength derived from teamwork, integrity, respect, and accountability. These values are more than ideals; they are the pillars upon which our vision of excellence stands.

At the heart of every accomplishment, whether in research, administration, or teaching, lies the spirit of collaboration. Teamwork transcends departmental boundaries, uniting individuals from diverse backgrounds and disciplines in pursuit of common goals. It's the fusion of ideas, the exchange of perspectives, and the collective effort that propels us forward, enabling us to overcome challenges and achieve extraordinary outcomes. By nurturing a culture of collaboration, we harness the full potential of our collective talents, driving innovation and progress across every facet of our university's endeavors.

Integrity is the bedrock of trust and credibility. It is our unwavering commitment to honesty, transparency, and ethical conduct in all interactions, both within and beyond our institution. Upholding integrity means consistently adhering to the highest standards of academic and professional ethics, ensuring our actions are guided by fairness, equity, and accountability. By doing so, we earn the trust and respect of our peers and uphold the reputation of our university as a bastion of excellence.

Respect is the cornerstone of a harmonious and inclusive workplace. It involves recognizing the inherent worth and dignity of every individual, regardless of rank, position, or background. Respect fosters an atmosphere of openness, tolerance, and empathy, where differences are embraced, and diverse perspectives are valued. By cultivating mutual respect, we create an environment conducive to

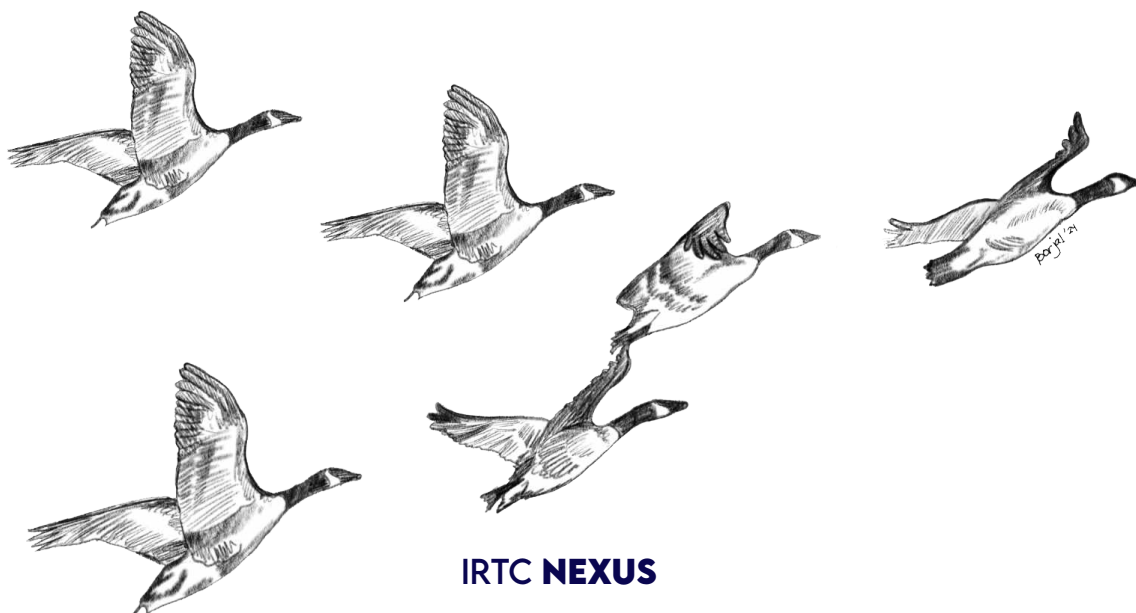
collaboration, innovation, and personal growth, ensuring that every member of our university community feels valued, heard, and empowered to contribute their unique talents and insights.

Accountability is the final piece of the puzzle, ensuring our actions align with our commitments and responsibilities. It means taking ownership of our decisions and their outcomes, whether they result in success or setbacks. Accountability fosters a culture of trust and reliability, where individuals are responsible for their actions and contribute to the university's collective success. By embracing accountability, we demonstrate our dedication to excellence and continuous improvement, driving positive change and realizing our shared vision of academic and institutional advancement.

As we embark on this collective journey toward excellence, let us reaffirm our commitment to fostering a culture of collaboration, integrity, respect, and accountability in every corner of our university. Let us celebrate the diversity of talents and perspectives that enrich our institution and harness the collective strength of our university community to overcome challenges, achieve our goals, and shape a brighter future for generations to come.

Most importantly, despite our differences in beliefs and opinions, we must extend our full support to our university leaders, especially our President. **In unity, we find strength. By supporting our leaders, we contribute to the greater good of our institution and the fulfillment of its mission.**

Together, let us build TUP where teamwork, integrity, respect, and accountability are not just ideals, but lived values that inspire and empower us to reach greater heights of achievement and impact.



# IRTC Hosts Taiwan Initiative Launch to Attract Global Talent



In a significant event held at the IRTC Conference Hall on April 13, 2024, the Technological University of the Philippines (TUP) hosted the launch of a new initiative by Taiwan's Ministry of Education (R.O.C.) and the National Development Council. This pioneering program aims to attract top international talent to Taiwan, reinforcing the country's commitment to educational excellence and innovation.

The initiative, unveiled in collaboration with TUP, underscores Taiwan's strategy to leverage global expertise for economic and technological advancement. By offering scholarships, research grants, and industry collaborations, the program seeks to draw exceptional students from around the world to Taiwan's academic institutions. Key representatives from TUP, the Ministry of Education (R.O.C.), and the National Development Council presented the initiative's objectives and strategies, emphasizing the importance of international talent in driving Taiwan's progress across various sectors.

This event is a follow-up to the study visit in Taiwan during the Taiwan-Philippines Presidents' Forum held at Kun

Shan University on March 26-29, 2024. Selected faculty and administrators from state universities and colleges (SUCs) in the Philippines participated in this significant endeavor. TUP actively supported this initiative through the participation of Dr. Ryan C. Reyes, Vice President for Academic Affairs, who engaged in discussions, networking, and MOU signing ceremonies with representatives from 24 Taiwanese universities.

Attendees at the launch of Taiwan's initiative to attract global talent at the IRTC were introduced to the extensive opportunities available for international students, aimed at fostering cross-cultural exchanges and supporting both academic and professional growth. TUP's role in hosting the event underscores its commitment to cultivating a diverse and inclusive academic environment.

By facilitating connections with Taiwan's industries, TUP ensures that international students can contribute meaningfully to the country's economic growth. This initiative not only promotes global collaboration but also cements TUP's role in advancing educational excellence and international cooperation.

# TUP Strengthens International Ties at Taiwan-Philippines Presidents' Forum

The Technological University of the Philippines (TUP), represented by Dr. Ryan C. Reyes, Vice President for Academic Affairs, made a significant impact at the Taiwan-Philippines Presidents' Forum held at Kun Shan University from March 26-29, 2024. This prestigious event focused on fostering collaboration between Taiwan and the Philippines, with a particular emphasis on introducing the International Network for Training, Education, and Scholarship Exchange (INTENSE) program. INTENSE aims to recruit and cultivate international students in Science, Technology, Engineering, and Mathematics (STEM), finance, semiconductor, technology, and engineering fields.

The program's objective is to foster cross-border academic collaboration, enhance the quality of education, and support research initiatives by facilitating the exchange of students, faculty, and ideas between participating institutions. Through INTENSE, universities collaborate on research projects, develop joint academic programs, and provide students with opportunities for international exposure and professional growth.

Dr. Reyes, along with representatives from ten other Philippine universities, engaged in fruitful discussions, networking, and MOU signing ceremonies with 24 Taiwanese universities. TUP notably signed MOUs with Kun Shan University, Cheng Shiu University, Minghsin University of Science and Technology, and WuFeng University. These agreements lay the groundwork for future research collaborations, faculty development, and academic projects, enhancing the educational landscape of both the Philippines and Taiwan.

The visit, fully funded by the host country, included comprehensive tours of top Taiwanese universities, allowing delegates to gain deeper insights into their academic and research capabilities. Dr. Reyes underscored the importance of these partnerships, stating, "Our participation has opened doors for meaningful collaborations that will significantly enhance our academic and research initiatives."

Through these strengthened international ties, TUP is poised to advance its mission of fostering excellence in education and research, thereby significantly contributing to global knowledge exchange and innovation.



# TUP Takes Global Leap: Powering Forward with Universiti Teknologi Petronas

The Technological University of the Philippines (TUP) takes pride in its recent participation in the Commission on Higher Education (CHED) and Universiti Teknologi Petronas (UTP) Collaboration Workshop, held from May 5-8, 2024. Led by President Reynaldo P. Ramos, Engr. Nilo M. Arago, Director of the Integrated Research and Training Center, and Dr. Lean Karlo Tolentino, Dean of the College of Engineering, TUP joined key figures from Philippine higher education institutions in an exploration of innovative academic and research collaborations.

This international event, organized by CHED-International Affairs Service (IAS) in collaboration with UTP, Malaysia's premier private university, aimed to foster international cooperation and enhance the global visibility of Philippine higher education institutions. Hosted at UTP's sprawling campus in Seri Iskandar, Perak, the workshop featured in-depth discussions on collaborative models, including the 1+3 bachelor's program, the 2+2+1 integrated bachelor's and master's degrees, and the 3+9 PhD program.

UTP showcased its world-class research institutes, such as the Institute of Self-Sustainable Building, the Institute of Health & Analytics for Personalized Care, and the Institute of Autonomous Systems for Autonomous Facilities. Participants had the opportunity to tour UTP's cutting-edge facilities, gaining valuable insights into potential collaboration opportunities.

A focal point of the workshop was student mobility, with UTP presenting various programs such as short-term exchanges, student exchange programs, and research attachment opportunities across the Faculty of Engineering and the Faculty of Science and Information Technology. These programs offer students the chance to collaborate with top researchers in areas like Sustainable Energy, Emerging Digital Technologies, and Sustainable Smart Living.

In addition to student mobility, UTP proposed activities for faculty mobility, including visiting

professor fellowships and staff development training. These initiatives aim to facilitate knowledge exchange and capacity development among faculty members from Philippine institutions. Furthermore, UTP offered consultancy services to assist Philippine higher education institutions in improving their institutional rankings and reputations.

TUP's active participation underscores its dedication to fostering global partnerships and enhancing the quality of education and research. By engaging in such initiatives, TUP is committed to elevating Philippine higher education standards and providing enriched opportunities for its students and faculty.

Other participating institutions included Batangas State University, Guimaras State University, Kalinga State University, Palawan State University, Rizal Technological University, University of Southeastern Philippines, and Western Philippines University. This workshop represents a significant stride forward in advancing educational standards and research capabilities through global collaboration.

collaborations that will significantly enhance our academic and research initiatives." Through these strengthened international ties, TUP is poised to advance its mission of fostering excellence in education and research, thereby significantly contributing to global knowledge exchange and innovation.



# Reviving IRTC: TUP and JAAP Presidents Forge Dynamic Partnership

In a significant move to rejuvenate the Integrated Research and Training Center (IRTC), TUP President Dr. Reynaldo P. Ramos and Atty. Marites A. Barrios-Taran, President of the JICA Alumni Association of the Philippines (JAAP), convened on May 2, 2024, for an important discussion. This collaboration aims to rekindle the partnership between IRTC and the Japan International Cooperation Agency (JICA), promising substantial advancements in research and technology.

This meeting, marking a critical step towards securing support for modernizing IRTC's equipment and enhancing the Center's research capabilities, was spearheaded by Prof. Enrico R. Hilario. Prof. Hilario, a retired faculty member and former Vice President for Administration and Finance at TUP, and Incorporator and Founding Member of the Philippine Japan Fellows Association (PHILJAJFA).

During the meeting, Prof. Hilario underscored the commitment to revitalize IRTC. Joined by Engr. Nilo M. Arago, IRTC Director, and Engr. Ernita R. Calayag, Special Assistant to the Office of the President, the agenda focused on exploring avenues for support and collaboration from JICA, with key discussions centered on seeking assistance

for the modernization of equipment to enhance IRTC's research capabilities.

President Ramos expressed unwavering optimism about the partnership, envisioning groundbreaking innovations to tackle real-world challenges. Atty. Barrios-Taran echoed this sentiment, emphasizing JAAP's steadfast commitment to strengthening ties with TUP. Their shared vision underscores a promising future for collaborative endeavors aimed at advancing research and addressing societal needs effectively.

Established in 1977 and fully developed by 1982, as a JICA funded project in the country, the IRTC has played a pivotal role in engineering programs, nurturing competent Filipino engineers through training and research initiatives. The renewed partnership with JAPP is set to ignite transformative initiatives at IRTC, enhancing the capability in technology transfer and knowledge-sharing across Engineering and related fields. This collaboration holds the promise of elevating the Center's programs and operations, significantly contributing to academic excellence and fostering positive community impact, which provided assistance to the Center to undertake various training programs and research projects.





## Message

**from the Vice President for Academic Affairs,  
DR. RYAN C. REYES**

Congratulations to the Integrated Research and Training Center (IRTC) Team!

I am delighted to join in celebrating the successful revival of the IRTC newsletter. This achievement reflects the dedication and hard work of the entire team. Special commendations go to the remarkable leadership of Vice President for Research and Extension, Dr. Hasmin T. Ignacio and IRTC Director Engr. Nilo M. Arago. Your collective vision and commitment have been instrumental in making this revival possible.

The renewed newsletter promises to be a vital platform for sharing the latest research findings, innovative projects, and community outreach initiatives. I eagerly anticipate the first issue, and the entire TUP community is excited to explore the wealth of knowledge and updates it will bring. This revival marks a new era of communication and collaboration, further solidifying TUP-IRTC's role as a leader in technological research.



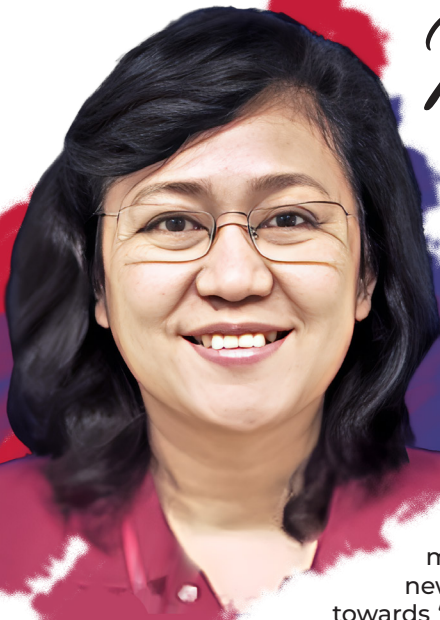
## Message

**from the Vice President for Research and Extension,  
DR. HASMIN T. IGNACIO**

It is with great enthusiasm that I congratulate the TUP community on the revival of the IRTC Newsletter. This initiative represents the collaborative spirit and unwavering commitment that define our institution. At TUP, our commitment to innovation, research excellence, and community engagement propels us forward. Our Research and Extension Sector serves as a vital bridge, transforming ideas into impactful solutions that benefit industry and society alike.

The revival of the IRTC Newsletter will be instrumental in disseminating information about the remarkable accomplishments we will be achieving in the days to come. This publication will serve as a powerful platform to showcase the transformative work being done across our institution.

Through this newsletter, we will be able to showcase our five-year strategic plan and share the latest advancements in our research, the meaningful partnerships we are forging with industry leaders, and the positive impact our extension services are having on critical societal needs. Our international collaborations will also be highlighted, demonstrating the global reach and influence of TUP's work. Sustainability is a guiding principle that is integrated into all of our projects, ensuring that our efforts create lasting value for both the present and the future. As we embrace the concept of "one TUP", I am confident that we will lead transformative advancements in research and community service, driven by the continued dedication and collaboration of our vibrant community. We look forward to the continued success of the IRTC Newsletter and to strengthening the bonds that unite us.



## Message

**from the Vice President for Administration and Finance MS. PURABELLA R. AGRON**

I wish to extend my sincere congratulations on the revival of the newsletter of the Integrated Research and Training Center (IRTC).

As the Vice President for Administration and Finance, I have witnessed the remarkable contributions of the IRTC to our University and the wider community. I reminisce about the Center's heydays in the mid-1980s, a time when the IRTC was a shining example of excellence, hosting international conferences and producing research of global acclaim. Those years, fondly remembered as 'the glory that was,' showcased the Center's commitment to advancing engineering and technology through dynamic activities and significant scholarly achievements. The revival of the IRTC newsletter marks a significant step towards rekindling that vibrant spirit. Under the new leadership of Engr. Nilo Arago, we are poised to embark on a journey towards 'the glory that will be.' This initiative is not just about returning to past successes but building upon them to create an even brighter future. The newsletter serves as a vital tool for communication, collaboration, and innovation, reflecting the Center's ongoing commitment to excellence. To the pioneers who laid the foundation of the IRTC and to those who continue to drive its mission forward, your dedication has not been

in vain. The efforts of the past have paved the way for the achievements of today and tomorrow. The Administrative Sector is fully committed to supporting the IRTC in all its endeavors, ensuring that it remains a source of pride for our University. Let us celebrate this milestone and look forward to a future where the IRTC continues to lead, inspire, and make a lasting impact on the world of research and technology. Your hard work and steadfast dedication are deeply

appreciated, and I am confident that together, we will achieve greatness. Kudos to the IRTC!



## Message

**from the Vice President for Planning, Development, and Special Concerns DR. CONNIE C. AUNARIO**

Congratulations to the Integrated Research and Training Center on the successful revival of your newsletter! This achievement marks a significant milestone in our journey towards becoming a globally recognized university in technological and social innovations for a sustainable future by 2028. The IRTC plays an important role in providing specialized technology education and training, catering to a diverse clientele while extending invaluable services to the community. Leveraging TUP's expertise, the IRTC supports medium, small, and micro-industries through cutting-edge research, industrial calibration, and the development of new technologies. The revitalization of the IRTC newsletter is both timely and crucial, offering a vital platform to showcase groundbreaking research, share insightful updates, and highlight the impactful work of the dedicated IRTC team. This initiative will strengthen communication and engagement across TUP, promoting our latest advancements and success stories. It serves not only to inform our community but also to foster innovation and collaboration, closely aligning with TUP's strategic objectives. This endeavor is a testament to the commitment to excellence and

our mission to make a positive societal impact. Spearheaded by the initiative of the new IRTC Director, Engr. Nilo M. Arago, this effort highlights the diverse expertise and resources of the IRTC, positioning us as leaders in technological innovation and academic excellence. Congratulations once again and thank you for your unwavering dedication to advancing TUP's mission and vision.



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