Hyper Interdisciplinary Conference in Thailand 2026
Abstracts List

Poster No.	Theme	Presenter	Affiliation
P-02	Bodyguard walker	Jirathada Nailee	Thammasat University

Abstract
In 2025, Thailand entered a complete aging society, with older adults aged 60 and above accounting for over 21% of the population. Knee osteoarthritis affects nearly 50% of elderly individuals, causing pain, limited mobility, and increased fall risk. This innovation presents the Bodyguard Walker, an assistive walking device designed to enhance safety and mobility. It features a shock-absorbing system to reduce knee impact, an ergonomic handle, optimized height, built-in illumination for low-light environments, and a water-detection sensor that provides vibration and sound alerts. The Bodyguard Walker demonstrates strong potential to improve mobility and quality of life among the elderly.

P-03	Development of a Multi-Functional Hand Rehabilitation Device for Post-Stroke Patients	Pakorn Uttayopas	Thammasat University

Abstract
The rapid transition to an aging society has increased the incidence of stroke among older adults, often leading to long-term upper-limb motor impairments and reduced functional independence. Although stroke-related neural damage is frequently permanent, motor recovery can be promoted through neuroplasticity driven by repetitive, task-oriented rehabilitation. However, access to effective therapy remains limited due to the high cost, complexity, size, and limited functionality of existing devices, many of which lack digital monitoring for progress tracking. This work aims to develop a multifunctional hand rehabilitation device that integrates grip training and wrist rotation into a compact, lightweight, and safe system for both clinical and home use. The device incorporates sensors to measure grip force, wrist rotation, and hand orientation, enabling quantitative assessment of rehabilitation performance and supporting accessible long-term rehabilitation.

P-04	Innovative healthy soup cubes for Dysphagia	Kritsanabadin Lemsa	Thammasat University

Abstract
LHANRAK is an interdisciplinary food innovation addressing agricultural waste from downgraded pumpkins and the nutritional needs of elderly people with dysphagia.
The project converts downgraded pumpkins into ready to eat soup cubes that meet IDDSI Level 3 texture standards using guar gum for safe swallowing. The product supports healthy aging and can be prepared within three minutes using hot water. A pilot study at Nan Hospital is currently evaluating safety and user acceptance.
By sourcing directly from local farmers LHANRAK reduces waste, lowers costs and increases rural income creating health, environmental and economic impact aligned with the Sustainable Development Goals.

P-07	SoleSense_AI-Powered Fall Prevention Shoe Insoles	Peera Acharasatian	Thammasat University

Abstract

Falls are a leading cause of injury and mortality among older adults, with walking identified as the activity associated with the highest risk. Existing fall-related technologies primarily focus on post-event detection rather than prevention and often rely on expensive, stationary equipment. This project presents SoleSense, a smart insole system designed to measure plantar pressure dynamically during walking and analyze gait patterns using AI. The system integrates reusable pressure-sensing insoles with a personalized, biodegradable protecting layer, enabling hygienic, cost-effective, and environmentally friendly deployment. Real-time data visualization and AI-driven analysis allow early identification of abnormal gait patterns. SoleSense is designed for portability and ease of use enabling one-stop preventive services for elderly care. By improving access to gait assessment and reducing healthcare burden, SoleSense offers a scalable solution to fall-risk reduction in aging societies.

P-08	Arm Rehealth	Methasit kiatchaipar	Thammasat University

Abstract
This abstract summarizes the design and development of the "Arm Rehealth" device, an innovative solution for post-stroke upper limb rehabilitation.Problem & Need: Stroke is a leading cause of disability worldwide, with over 250,000 new cases annually in Thailand alone. Approximately 60-70% of survivors suffer from upper limb weakness, severely impacting their Activities of Daily Living (ADL). Current robotic rehabilitation devices are often prohibitively expensive (up to 4 million Baht), complex to set up, and limited in their range of motion.Technical Innovation: The Arm Rehealth device utilizes a Symmetrical Reflection Mechanism that enables bilateral arm training. It allows the patient's less-affected side to assist and control the movement of the affected side across an extensive 3D workspace with 3 Degrees of Freedom (3DoF). The system features gravity compensation and 3-axis force sensors that provide real-time augmented performance feedback to both patients and therapists.

P-10	Meditation Centers as Informal LTC Infrastructures for Foreign Retirees in Thailand	Aungkana Kmonpetch	Thammasat University

Abstract
This study examines how selected meditation centers function as informal long-term care (LTC) infrastructures within Thailand's silver economy, using the CARE framework (Community, Accessibility, Respect, Economy) as an analytical lens. Data were collected through field observations, document analysis, and interviews with monks and institutional actors, focusing on organizational practices and care-related arrangements. The findings identify three ideal-typical configurations of meditation centers as informal care spaces: community-oriented mindfulness retreats, traditional temples providing low-intervention spiritual containment, and community-based centers facilitating long-stay integration. The study contributes to aging and silver economy research by conceptualizing meditation centers as culturally embedded informal care infrastructures that complement formal LTC systems, offering analytically transferable insights beyond Thailand.

P-11	PillPill	Chonchaya Thaworn	Thammasat University

Abstract
This project introduces a Smart Pillbox system integrated with a mobile application, designed to tackle medication non-adherence and errors among the elderly. Key features include: 1) A dual-layered alert system combining standard alarms with real-time recording of family voice messages within about 15 minutes and flashing LED indicators; 2) Smart sensors to ensure the correct compartment is accessed; 3) A tracking system utilizing Bluetooth, WiFi, and geofencing to prevent loss or misplacement; and 4) AI-driven data collection that analyzes medication habits and displays them via a dashboard. This innovation not only improves medication discipline but also

reduces anxiety for family members, fostering stronger emotional connections through remote care technology.

P-14	Royal Jelly–Based Supportive Cream for Chronic Skin Conditions in Aging Skin	Mataporn Kiatweeraporn	Thammasat University

Abstract

Royal jelly is a creamy, white glandular secretion produced by worker honeybees (Apis mellifera) solely to feed the queen bee and young larvae. It is distinct from honey and bee pollen. Delayed wound healing is a major clinical challenge in the elderly, largely driven by age-related physiological changes. These changes include impaired inflammatory regulation, reduced fibroblast activity, diminished collagen synthesis, and increased susceptibility to infection. Consequently, chronic wounds such as pressure ulcers, diabetic foot ulcers, and venous leg ulcers are highly prevalent in aging populations, leading to prolonged morbidity, reduced quality of life, and increased healthcare burden.
Objective:
This study aims to describe the scientific rationale and therapeutic potential of a topical Royal Jelly Cream as a supportive intervention for chronic wound healing in elderly patients, focusing on its multi-target bioactive properties.

P-15	Lifeable : A Flexible Employment Platform for Older Adults and Pre-Retirement Individuals.	Ratinan Danpan	Thammasat University

Abstract
LifeAble is a social innovation platform developed to address the challenges of an aging society by creating flexible and age-appropriate employment opportunities for older adults aged 55–70. The platform enables users to select work based on their skills, experience, health conditions, and available time, with a strong focus on part-time and work-from-home. Lifeable categorizes jobs into professional skill-based roles and life-experience-based tasks, allowing older adults to generate income, maintain self-worth, and remain socially engaged. The research and platform aim to support the silver economy, reduce inequality, and promote sustainable quality of life in aging populations.

P-17	Reinventing Pelvic Health in Aging Women Through a Non-Pharmaceutical Wearable Approach.	Abigail Ogunyemi	Thammasat University

Abstract
This innovation focuses on interdisciplinary research in women's health, aging, and non-drug pain management. Pelvic floor dysfunction significantly affects aging and post-menopausal women, yet current solutions often remain clinical, stigmatized, or inaccessible. This project introduces a dignity-centered, wearable intervention for daily use, based on evidence linking heat therapy, gentle support, and guided muscle engagement to improved pelvic comfort.

The business is feasible and scalable, utilizing low-cost medical textiles and proven thermal technology for affordable production. Its modular design adapts to various income settings, offering options from basic to enhanced models. Building on prior experience in women's pain management and existing community partnerships, this project is well-positioned for rapid prototyping and scaling in aging societies.

P-18	Application Scan life	Mr. Thirapat Hora	Thammasat University

Abstract
"Scan Life" is a novel mobile health intervention designed to address the lack of personalization in traditional anti-drug media. The application leverages facial scanning technology to generate a dynamic avatar, visually simulating the physical decay associated with drug addiction. Beyond this visualization, the platform integrates an educational database on toxic substances and a gamified reward system to encourage consistent user engagement. Crucially, it serves as a gateway to professional support networks. By transforming abstract health warnings into a tangible personal reality, "Scan Life" effectively heightens risk perception and empowers users to make informed, healthy life choices.

P-19	Chefsure	Korn Kanjanakul	Sherapis

Abstract
Chefsure presents a novel approach to sodium-free flavor enhancement through the integration of kokumi peptide technology, electrolyte imbalance modulation, and amino acid compounds derived from Thai herb. This research explores the development of a functional seasoning system that delivers sustained umami depth and mouthfulness without the use of sodium chloride or potassium-based substitutes. By leveraging enzymatic hydrolysis and targeted fermentation, bioactive amino acids extracted from selected Thai herb are used to enhance flavor perception, complexity, and natural taste continuity. Experimental evaluations demonstrate improved palatability, flavor persistence, and overall sensory acceptance compared to conventional low-sodium seasonings. The findings indicate that kokumi-driven electrolyte modulation combined with herbal amino acid synergy offers a promising pathway for next-generation health-oriented flavor solutions.

P-20	Herbal feed additive made from Thai herbs	Kanokwan Kampranlan	Thammasat University

Abstract
Livestock is among the major sources of methane emissions, a very potent greenhouse gas whose global warming potential is much higher than carbon dioxide. Diseases such as ruminal bloat decrease cattle health and productivity; hence, there is increased usage of antibiotics and other chemicals leading to antimicrobial resistance and residues. The product CowEco+ is an innovation of a herbal feed additive developed from selected Thai herbs for improving rumen health and lowering methane emissions from mature cattle. The formulation is encapsulated to stabilize it for more extended shelf life and controlled release so that the bioactive compound can be discharged effectively. The methane reduction will be tested using gas chromatography together with animal health and digestive efficiency evaluations. The product CowEco+ intends to eliminate bloating problems in addition to reducing antibiotic use in livestock sustainability towards greenhouse gas emission reduction with increased farmer

P-22	Prototype filter with steam spraying and dust monitoring system	Intukron Wonganu	Saohai Wimolwitthayanukul School

Abstract

P-23	SweetRevolution: Revolutionized enzyme technology to convert fruit sugar into prebiotics	Ketthida Cheevarungnap	InnoPhytoTech Co., Ltd.

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Abstract
SweetRevolution presents an enzyme-based technology that converts excess sucrose in fruits into prebiotic compounds, offering a sustainable and science-driven approach to sugar reduction. The technology is optimized for real fruit matrices, enabling functional enhancement through fructooligosaccharide (FOS) formation and achieving up to 80% sugar reduction depending on fruit type. This approach addresses public health concerns related to high sugar intake while creating added value from surplus and downgraded fruits.
The technology has been validated at laboratory scale and translated into early-stage functional food prototypes, including reduced-sugar beverages and desserts suitable for demonstration and further development. By integrating food science, biotechnology, and circular economy principles, SweetRevolution bridges enzyme research with practical applications, collaborative opportunities, and clear pathways toward commercialization.

P-24	Transforming multi-generational human capital to drive towards a silver Economy	Pornprasit Denmoree	Revitalize Innovation Company Limited

Abstract
This research aims to: 1) study the need for entrepreneurship courses, 2) design and develop a new course and 3) compare learning outcomes between online learning without AI and online learning with AI. Data collection tools included questionnaires and tests. Data analysis involved percentages, means, standard deviations, t-tests, one-way ANOVA, paired-sample t-test. The sample consisted of 759 participants from six age groups: 1) 20-29, 2) 30-39, 3) 40-49, 4) 50-59, 5) 60-69, and 6) 70 up, and five occupational categories: 1) manufacturing, 2) trade, 3) service, 4) community and 5) others, using a random sampling method. The trial period is one year.
The research results are as follows:
1) The demand for new course ;additional knowledge(25.91 %), increase knowledge and skills (19.09 %) .
2) The developed entrepreneurship course consists of 3 modules.
3) Teaching method 2, which incorporates AI, resulted in higher average scores for learners compared to teaching method 1.

P-25	Vital Rest (Smart Pet Bed)	Pannathorn Sathirasattayanon	Thammasat University

Abstract
Vital Rest is the first veterinary-grade smart pet bed designed to monitor the health of aging pets without wearables. Targeted at the growing "Pet Economy," our device utilizes non-invasive Sensor Fusion technology to detect early signs of chronic illness, such as Osteoarthritis (OA) and heart disease. It is also valuable for pet hospitals, providing non-contact monitoring for pets after surgery.
By combining mmWave radar to track vital signs (heart/lung function) through fur and bedding, along with a pressure matrix to map weight distribution and sleep posture, we provide owners with a "Pain Index" and actionable health insights. This data allows for early intervention and continuous home monitoring, solving the medical anxiety owners face between vet visits. Our solution empowers pet parents to become proactive health guardians, transforming a standard sleeping spot into a life-saving diagnostic tool.

P-26	PDRN Extraction from Sea Grapes for Health and Cosmetic Use	Nissayapawee Thantrakulmun	Thammasat University

Abstract
This study explores Caulerpa lentillifera (sea grapes), particularly undergraded raw materials, as a

sustainable source of polydeoxyribonucleotide (PDRN) for cosmetic applications. A PDRN-rich extract was obtained with a yield of 2.92% and showed characteristics consistent with nucleic acid–based compounds. The extract exhibited bioactivity, with a total phenolic content of 47.66 µg GAE/mL and notable antioxidant capacity, demonstrated by ABTS and DPPH assays (ABTS IC_{50} = 9.09 mg/mL). These results indicate potential in reducing oxidative stress related to skin aging and inflammation. Overall, the findings highlight the suitability of sea grape–derived PDRN for skincare applications, while the utilization of undergraded sea grapes supports waste reduction, adds value to marine resources, and promotes sustainable income for Thai farmers in line with bio-circular-green economy principles.

P-27	Rosy O-melo: Development of Functional Collagen Gummy Enriched with Roselle and Pomelo	Asst. Prof. Dr.Watcharacha Krongkeha	Thammasat University

Abstract
The growing demand for functional foods has encouraged the development of products that provide health benefits while remaining convenient and enjoyable to consume. This research presents Rosy O-melo, a functional gummy formulated from roselle and pomelo and enriched with collagen. Roselle contributes natural antioxidants and vitamin C, while pomelo provides dietary fiber and phytochemicals, enhancing both nutritional value and sensory quality. Collagen is incorporated to support skin, joint, and bone health. The gummy format improves consumer acceptance compared to conventional supplements such as capsules or powders. In addition, the use of local Thai agricultural resources supports sustainable food innovation and value-added processing. The results demonstrate the potential of Rosy O-melo as a functional food product suitable for further development, research extension, and commercialization.

P-28	An AI-powered platform Shortening Renewable Energy Site Search and Selection using Satellite Imagery	Tinthai Bootseeta	RIFFAI

Abstract
RIFFAI has achieved significant progress in developing an end-to-end AI platform for renewable energy site search and selection. The solar farm segmentation model accurately identifies suitable locations for solar deployment, achieving an Intersection over Union (IoU) of 85.86% and a Dice Coefficient of 92.39%. For distributed energy applications, the rooftop solar energy projection model demonstrates 90% accuracy, effectively translating geometric and environmental features into reliable energy yield estimates.
The rooftop segmentation model is under active development and has shown promising early performance, with an initial Dice Coefficient of 80.32%. The platform integrates global multispectral satellite imagery, the Global Building Atlas, and 40 years of historical weather data, enabling scalable and location-agnostic analysis. A functional MVP demo website has been completed, demonstrating the full innovation pipeline, ready for real-world validation and deployment.

P-30	Accelerating Your Preclinical Research Through Integrated Expertise and Global Networks	Sean Tok Shui Liang	Vivogenia

Abstract
The transition from therapeutic discovery to clinical implementation is a critical juncture where many promising candidates face significant scientific, regulatory, and strategic challenges. For small biotechs and startup pharmaceutical companies, navigating the complex landscape of preclinical research requires not only specialized laboratory capabilities but also high-level strategic oversight to ensure that data packages meet stringent regulatory requirements.

By functioning as a dedicated extension of the client's team, Vivogenia provides the project management and scientific rigor necessary to accelerate development timelines and improve the probability of success in the target patient population. This session will demonstrate how a

centralized, expert-led preclinical strategy can effectively mitigate risks and empower biotech innovators to advance their therapeutic pipelines with confidence.

P-32	GABY 25: Solar IoT Automated Tilapia Feeder & Water Quality Monitor	Yzlan Fhil R Ines	Bongabon Senior High School

Abstract
As the global population nears 10 billion, aquaculture—specifically tilapia farming—is essential for food security. In the Philippines, tilapia accounts for 20% of aquaculture production, yet farmers struggle with manual feeding methods that are inefficient and costly, with feed exceeding 60% of expenses. Traditional practices often lead to poor water quality and reduced profitability. To address these gaps, this study introduces GABY25, a solar-powered, IoT-controlled automated feeding device with an integrated water quality monitoring system. Unlike previous prototypes, GABY25 combines programmable, precision feeding via a web interface with a hydraulic recirculation system featuring pH, temperature sensors, and UV-A light treatment. By optimizing feed distribution and maintaining the breeding environment, GABY25 offers a sustainable, technology-driven solution to enhance fish growth, reduce waste, and secure livelihoods in the fisheries sector.

P-33	DocQmenZ	Onsuda Merat	DocQmenZ

Abstract
DocQmenZ was developed based on the recognition of the common document management challenges faced by many businesses and organizations. These documents are complex, time-consuming, and lack a clear system. Documents that should be tools supporting business operations have become burdensome, especially those related to grant applications, regulatory compliance, and formal reviews.

DocQmenZ is designed as an AI-powered Document Operating System to elevate document creation from a file-based task into an intelligent, structured, and repeatable process. The platform transforms complex requirements and regulations into understandable workflows, guiding users from data preparation and document creation to compliance checks. At the heart of DocQmenZ is the integration of AI technology with expert knowledge and experience to empower users, reduce errors, and minimize redundancy. The primary target audience includes startups, SMEs, and organizations that manage regulatory documents, with the goal of creating a new standard for document management to increase efficiency and support sustainable growth.

P-35	SilverPlay : A Gamified Digital Health Platform for Active and Healthy Aging	Benoit Michel	

Abstract
SilverPlay is a gamified digital health platform designed to promote active aging among older adults aged 60 and above by integrating physical, cognitive, and emotional well-being into an engaging interactive experience. The platform utilizes a hand-squeezing input device to control in-game actions, transforming simple physical movements into meaningful gameplay that enhances hand strength, muscle engagement, coordination, and reaction speed. Through obstacle-based challenges inspired by a classic “bouncing horse” toy, SilverPlay combines intuitive mechanics with non-competitive gamification to encourage sustained participation without social pressure. The system supports cognitive stimulation by improving attention, visual processing, and adaptive responses, while also fostering emotional and social well-being through shared, enjoyable activities that promote intergenerational interaction. Grounded in research-based gamification, age-friendly user experience design, and health behavior science, SilverPlay aims to establish an accessible, evidence-based approach to healthy aging and improved quality of life.

P-37	Legacy Lifepath™ for Healthy Aging: A Purpose-Centered Framework for Active Aging	Mike Reis	

Abstract
Most legacy programs focus on documenting the past through life stories, memories, photographs, and digital archives. While meaningful, these approaches often reinforce a backward-looking narrative that unintentionally frames aging as decline or preparation for death.

Legacy Lifepath™ for Healthy Aging reframes legacy as a living, forward-focused process that supports identity, purpose, and contribution throughout later life. Informed by two years of frontline experience working with older adults and families in U.S. senior living communities, the framework addresses a common but under-recognized challenge in aging: the loss of role, meaning, and future orientation during life transitions.

Rather than asking, “What did my life mean?” Legacy Lifepath™ asks, “Who am I becoming, and how do I continue contributing?” The model helps older adults maintain identity continuity, engage in purposeful roles, and actively build a living legacy through mentorship, creativity, and community participation.

Designed as a low-cost, scalable, non-clinical framework, Legacy Lifepath™ can be implemented through community centers, universities, NGOs, and aging-in-place programs as a preventative complement to traditional healthcare and wellness services.

P-38	Aviza pop: Siam Herb Cola Health Beverage	Associate Professor Dr. Napamanee Kornthong	

Abstract

P-39	Effectiveness of a Capacity Development Program for Personnel in Drug Addiction Treatment and Rehabilitation Centers	Poolsawat Tiangnoo	

Abstract

P-40	KnowaterLeak	Dr. Takatsugu Kobayashi	Tenchijin

Abstract
Tenchijin, Inc. is a Tokyo-based space technology startup founded in 2019 that uses satellite data and AI to address environmental and social challenges on Earth. A JAXA-backed company, Tenchijin integrates earth observation data with advanced analytics to support decision-making in areas such as water infrastructure management, agriculture, renewable energy siting, and disaster risk reduction. Its flagship platform, Tenchijin COMPASS, visualizes land and environmental conditions to uncover risks and opportunities that are difficult to detect from the ground. The company’s mission is to optimize human activity by connecting space, Earth, and society in more sustainable ways.

P-41	Harnessing Silkworm Science to Build Healthier, Sustainable Systems.	SATO RYO	Morus

Abstract
Morus Inc. is a Tokyo-based *biotechnology startup* founded in 2021 that focuses on developing sustainable, silkworm-derived biomaterials and nutrition solutions to address global health and food security challenges. Drawing on traditional sericulture and modern research—especially with partners like Shinshu University—Morus creates high-functionality ingredients such as MorSilk® Powder, rich in essential amino acids and unique nutritional components, for food, health, and industrial applications. The company also supports joint research, OEM development, and international expansion, including a Singapore subsidiary, to advance its mission of combining tradition with innovation for a healthier planet.

P-42	GripX:Hand muscle strength training system with soft pneumatic glove	Roongtip Dunagkaew	GripX

Abstract
Age-related decline in neurological and musculoskeletal systems reduces motor control and hand strength in older adults, limiting independence. Conventional hand exercises improve function but cannot precisely regulate resistance. To overcome this, we developed a portable, affordable pneumatic glove system that provides adjustable resistance, real-time data recording, automated analysis, and cloud-based storage for self-administered training. A prototype was tested in initial clinical trials with older adults, showing reliable performance, improved grip strength, enhanced fine motor coordination, and effective progress tracking compared to traditional methods. These findings support the glove's feasibility as a therapeutic and recreational tool, with clinical trial data soon to be published to validate its efficacy and potential for broad rehabilitation use.

P-43	Integrated hardware-software AMR system enabling heavy-load autonomous cartage and smart warehouse operations.		IndustryAlpha

Abstract
Industry Alpha Inc. transforms the heart of Japan's manufacturing by delivering deep-tech smart factory and warehouse automation solutions. Based in Tokyo, the company develops ultra-low-profile autonomous mobile robots (AMRs) and full integration software to optimize workflows, reduce labour strain and usher in next-generation industrial efficiency. Recognised in the "Sugoi Venture 100", it leads real-world factory innovation.

P-44	Solvent-free decaffeination that preserves varietal flavors, enabling premium Japanese decaf beans, capsules, and RTD beverages.		Storyline

Abstract
STORYLINE Inc. is a Tokyo-based coffee venture specializing in naturally decaffeinated beans and beverages for health-conscious consumers. Combining meticulous sourcing with gentle, solvent-free extraction, the company preserves origin character while removing caffeine. STORYLINE supplies cafés, retailers, and D2C customers across Japan with roasted beans, RTD drinks, and capsules, championing transparency, sustainability, and delicious coffee that fits wellness and sleep-friendly lifestyles.

P-45	Robot-based muscle-sensing platform gauges soft tissue state, fatigue and injury risk in real time.	Hiromichi Endo	tagle Co., Ltd.

Abstract
tagle Co., Ltd., operating from Fukushima, offers sports-tech solutions focused on athlete safety and performance. With its innovation in “robotic palpation” sensing, the company quantifies muscle fatigue, monitors physical condition and supports tailored training to prevent injury. Powered by compact sensor systems and data analytics, tagle empowers athletes and coaches to unlock peak performance while protecting health.

P-46	Eco-friendly cellulose coatings that preserve paper and leather, boosting durability while protecting heritage and sustainability.	Chutiparn Lertvachirapaiboon	Re-Bonding Co., Ltd.

Abstract
Re-Bonding Co., Ltd. is a Thai materials-innovation company developing eco-friendly cellulose coatings that extend the life of paper, leather, and other natural materials. By merging biotechnology with sustainable chemistry, the company enhances durability and preservation without harmful additives. Their mission is to protect cultural and industrial materials while supporting Thailand’s shift toward a circular, low-impact economy.

P-47	EV Energy Aggregator and Virtual Power Plant	Worapoj CHOSEN	Chosen

Abstract
This project develops a digital platform for smart EV charging and energy aggregation designed to support grid stability and scalable EV adoption. By integrating real-time charging management, data analytics, and interoperability standards, the system optimizes energy demand while reducing operational risks for utilities and charging operators. The project is validated through collaboration with key public-sector partners, including the Provincial Electricity Authority (PEA) and the National

Innovation Agency (NIA), ensuring regulatory alignment and real-world applicability. With a focus on cross-border interoperability and ASEAN-wide scalability, the solution enables seamless EV charging, supports renewable energy integration, and provides a foundation for future regional energy trading and decarbonization initiatives.

P-48	WheelSense: AI Motion Tracking System with Smart Home Controller for Elderly and Disabilities People	Parawadee	Surasak Saengdao

Abstract
WheelSense is an AI-driven HealthTech prototype designed as a personal AI caregiver for wheelchair users, particularly elderly individuals and people with disabilities living independently at home. The system integrates sensor fusion, machine learning, and real-time mobility analytics to monitor wheelchair movement, analyze daily living behavior, and enable intelligent responses through smart home automation.

P-49	Hydrolyzed Rice Bran Protein	Pasakorn Niratbhand	Plant Origin

Abstract
Plant Origin's innovation creates value across multiple dimensions. Environmentally, the company upcycles an abundant agricultural byproduct without requiring new farmland, animal agriculture, or fermentation inputs, significantly lowering resource intensity compared to traditional protein sources. Economically, it unlocks new revenue streams for rice mills and agricultural ecosystems, converting low-value byproducts into premium ingredients. Nutritionally, the protein's small peptide structure supports fast absorption and positions it well for applications in alternative protein, protein enrichment, and gero-nutrition for aging populations.

P-50	YAYA AI Care Assistant	Khamin	YAYA

Abstract
YAYA AI Home Care Assistant is an intelligent platform transforming elderly care in Thailand from reactive to proactive. As the nation enters a super-aged era, YAYA integrates AI and IoT through a unified AI Gateway that links with CCTV, sensors, and wearable devices. Its machine learning models analyze movement and behavior to detect real-time emergencies like falls and identify long-term health risks. The system provides actionable insights via an intuitive dashboard, helping caregivers make timely, data-driven decisions while easing workload and improving safety, dignity, and quality of life for older adults.

P-51			Blue Oak

Abstract

P-52	Reinventing Urban Aging Creative Well-Being through System Design	Miss Kritsadis Jitpenthai	Faculty of Decorative Arts, Silpakorn University

Abstract
Rapid urbanization and demographic aging are widening the gap between policy intentions, fragmented urban systems, and the lived realities of older adults in Bangkok. While existing responses largely emphasize infrastructure and welfare provision, urban well-being in later life is also shaped by participation, social connection, and access to everyday public life. This design research investigates how urban well-being systems can be reoriented to better support the young-old population in dense metropolitan contexts.

The study is grounded in sustained field engagement with older residents, in-depth interviews with key public and private stakeholders involved in policy, planning, and service delivery, and comparative analysis of local and international practices. Rather than applying a predefined framework, the research adopts a co-design and system design approach that treats older adults as knowledge partners in the generation of insights. Through iterative workshops, exploratory prototyping, and reflective evaluation, the study identifies critical enabling conditions and structural barriers affecting participation and creative well-being. The research aims to inform more integrated, responsive, and age-inclusive urban well-being systems, offering transferable lessons for aging cities beyond the Thai context.

P-53	Wolffia globosa as a Platform for Sustainable Agriculture and Future Food Systems	Metha Meetam	Advanced Greenfarm

Abstract
Wolffia globosa, commonly known as pham, is a small freshwater aquatic plant traditionally consumed in northern and northeastern Thailand. To enable large-scale cultivation and commercialization of Wolffia, cross-disciplinary research—spanning plant biology, precision agriculture, nutrition science, food science, and environmental technology—has been employed, resulting in the spin-off startup Advanced Greenfarm. The company has engineered pond-based artificial cultivation systems and industrial processing technologies tailored to Wolffia's unique biology, and has introduced health-oriented Wolffia food products under the brand FLO WOLFFIA. The platform integrates automation and digital monitoring for real-time control of growth conditions and harvesting, reducing labor intensity while maintaining quality and safety. Our technologies and product development align with climate-first and climate-resilient agricultural practices, offering a sustainable pathway toward future food systems.

P-54	Nature-inspired Bioactives for Food Safety & Consumer Care	Avinanda Banerjee	HealBac

Abstract
Nature defends itself through complex biochemical cascades that remain largely untapped for industrial applications. HealBac's platform replicates this biological defense mechanism using fat cells challenged with bacteria to stimulate secretion of novel bioactives. Through this system, we have identified potent antimicrobial peptides effective in food preservation, aquaculture, and veterinary applications, as well as extracellular vesicles with skin-rejuvenating properties. Both classes of molecules are naturally derived, clean-label, and scalable, addressing global demands for sustainable food safety and consumer wellness. Our approach exemplifies how mimicking natural immunity can unlock new frontiers in biotechnology and commercial innovation.

P-55	Bederly — Smart Healthcare Innovation for Enhanced Home Care	Natchanok Sritho	Bederly

Abstract
Bederly is a healthcare technology startup dedicated to improving the quality of life for caregivers and individuals with limited mobility, especially those who are bedridden or elderly. The company develops and supplies smart beds that integrate Internet of Things (IoT) and embedded system technologies to enhance control, comfort, and functionality. These beds support remote operation via smartphones and offer adjustable features to assist with positioning, turning, and overall patient care, reducing physical strain on caregivers while improving the daily experience of users. Originating from research conducted at a leading university and supported by interdisciplinary expertise, Bederly emphasizes user-centered innovation and sustainable well-being. The company's mission is to create meaningful technological solutions that meet real-life lifestyle needs, fostering greater convenience, independence, and dignity in home healthcare environments.

	L Grant	Ms. Priyavadana Meyyapan	Leave a Nest

Abstract
The Leave a Nest Grant (L-Grant) is a global research support initiative by Leave a Nest Co., Ltd. designed to help young researchers, graduate students, and early-stage scientific entrepreneurs pursue their curiosity and innovative ideas. It provides flexible funding as a career springboard to support original research and experimental work that contributes to "advancing science and technology for global happiness." The program includes research and entrepreneur tracks, with selection based on communication, originality, vision, and enthusiasm, and currently features awards such as the S.T. Corporation and Life-Tech grants across regions.

	Resilience Project	Ms. Ruchira Karjee	Leave a Nest

Abstract
The Leave a Nest Resilience Project is an initiative organized by Leave a Nest Co., Ltd. that aims to build flexible and tolerant social systems capable of supporting both everyday life and emergencies by harnessing deep-technology solutions. The project brings together startups, partner companies, and research institutions to co-develop and implement resilience-oriented technologies and infrastructure, addressing vulnerabilities exposed by natural disasters and societal risks. It focuses on cross-industrial collaboration to strengthen disaster management, infrastructure, and community resilience through innovative solutions and partnerships.

	Reliable Adhesive Solutions Built on Japanese Engineering Excellence.		Soken Chemicals

Abstract
Soken Chemical Asia Co., Ltd. is a *Thailand-based subsidiary* of Japan's Soken Chemical & Engineering group, established in 2008 in Phanthong, Chonburi. It specializes in the manufacture and sale of acrylic pressure-sensitive adhesives and adhesive tapes, as well as related fine particles and specialty functional materials for industrial use, serving sectors such as electronics, automotive, and appliances across Southeast Asia. The company integrates Japanese adhesive technology with local production and quality standards and holds ISO 9001 certification for quality management. It operates as part of the broader Soken Group with an international presence.