S/N	Status of Project	College/School	NTU Faculty In-charge	NTU Faculty's Email	Collaborating Company	IPP Project Title	Brief description of IPP Project	Programme Type	Admission Requirement (e.g. With background in biotechnology)	Estimated Start & End date of project
1	Active with PhD student assigned	School of Social Sciences	Assoc Prof Xu Hong	xuhong@ntu.edu.sg	Essilorluxotttica Asia Pacific Pte. Ltd.	Visual Perception and Virtual Reality	The project works on the simulated indoor/outdoor environment in Virtual Reality (VR) and how it affects the progression of myopia similar to the corresponding real-world conditions. How does VR impact visual perception and is this impact different for myopes and emmetropes? How do the VR goggles initially designed for adults impact children's vision? The project investigates these research questions by conducting experiments in VR on both children and young adult populations. Subjects will be asked to perform tasks in VR simulated indoor and outdoor environments while various measurements will be taken before, during, and after the tasks. The measurements will include but are not limited to axial lengths, choroidal thickness, accommodation- and convergence-related parameters, eye movements, memory tasks, visual fatigue, etc.	PhD	Bachelor's degree (with Psychology) with minimum 2nd Class Upper or equivalent. Good Master's qualifications and background in Psychology. GRE is required if candidate did not graduate from local autonomous universities.	15 Jan 2024 to 14 Jan 2028
2	Active with PhD student assigned	Lee Kong Chian School of Medicine	Maurice Adrianus Monique van Steensel	maurice_vansteensel@ntu.edu.sg	Johnson & Johnson Pte Ltd	Identification of skin metabolite biomarkers for senescence as an early manifestation of ageing, and their potential role in vivo	This project aims to identify novel biomarkers for skin senescence and use there to develop innovative anti-ageing approaches.	PhD	As per LKCMed PhD programme admissions.	11/01/2021 - 10/01/2025
3	Active and open for student applications	School of Mechanical and Aerospace Engineering	Lai Changquan	cqlai@ntu.edu.sg	NTI Nanofilm	Development of Novel Optics in Augmented Reality Displays	The project is to develop a cost-effective method for scaled-up fabrication of metalens structures using a modified Laser Interference Lithography technique.	PhD	1. Singapore Citizen or PR 2. 1st or 2nd upper class honours (Highest Distinction or Distinction) 3. willing to be bonded to NTI Nanofilm company for 3 years after graduation.	Already started. Funding runs through 2028.
4	Active with PhD student assigned	School of Mechanical and Aerospace Engineering	CHAN SIEW HWA	mshchan@ntu.edu.sg	Seatrium (Sembcorp Marine previously)	Techno-economic and environmental assessment of strategies for hydrogen as a source of fuel for propulsion	For this IPP project, the objective is to investigate the viability of hydrogen as a source of energy for the main power propulsion. It is to achieve maritime and marine decarbonization. Techno-economic and environmental assessment and impacts will be applied to study the viability before a real ship is built incorporating hydrogen power solution.	PhD	Must meet NTU Admission Criteria (Offer of Admission By NTU) Singaporean or Permanent Residence, at least a 2nd upper or better, and enrolled as a Full time NTU PhD student.	11/01/2021 to 10/01/2025
5	Active and open for student applications	College of Computing and Data Science	Yu Han	han.yu@ntu.edu.sg	Alibaba	Privacy Preservation Through Efficient Federated Learning	In this project, we aim to develop techniques and software tools for supporting trustworthy federated learning-based training and fine-tuning of large-scale foundation models (e.g., LLaMA, LlaVA, GPT, etc.) on distributedly owned private domain data.	PhD	Bachelor's and/or Master's degree in computer science/engineering or mathematics. Prior relevant research experience preferred.	2024-2028
6	Active and open for student applications	College of Computing and Data Science	Chng Eng Siong	aseschng@ntu.edu.sg	Alibaba	NLP: Versatile Pretrained Large Models for Automatic Speech Recognition	In this project, we will work on LLM to support under-resourced languages and domain.	PhD	Good first degree in CS, EEE. Relevant background in ML, NLP and Speech processing.	1 March 2024~ 28 Feb 2027
7	Active with PhD student assigned	School of Civil and Environmental Engineering	Prof Zhou Yan	Zhouyan@ntu.edu.sg	Conny Tech Pte Ltd	Biogas upgrading with carbon capture and energy recovery	Development of novel membrane contactor system for enhanced in-situ H2 assisted biogas upgrading	PhD	Masters programme	July 2022 – July 2024
8	Active with PhD student assigned	School of Chemistry, Chemical Engineering and Biotechnology	Tan Meng How	mh.tan@ntu.edu.sg	Illumina Singapore Pte Ltd	Deep learning to understand the interplay between RNA editing and splicing in healthy and disease states	Deep learning to understand the interplay between RNA editing and splicing in healthy and disease states	PhD	Meet NTU Admission Criteria Singaporean or Permanent Residence, at least a 2nd upper or better, and enrolled as a Full time NTU PhD student.	22/08/2023 - 21/08/2027
9	Active with PhD student assigned	School of Chemistry, Chemical Engineering and Biotechnology	Ling Xing Yi	xyling@ntu.edu.sg	Wilmar International Limited	Surface-enhanced Raman spectroscopy (SERS) sensor for food contaminant analysis	Surface-enhanced Raman spectroscopy (SERS) sensor for food contaminant analysis	PhD	Must meet NTU Admission Criteria Singaporean or Permanent Residence, at least a 2nd upper or better, and enrolled as a Full time NTU PhD student.	08/08/2022 - 07/08/2026
10	Active with PhD student assigned	School of Chemistry, Chemical Engineering and Biotechnology	Atsushi Goto	agoto@ntu.edu.sg	Wilmar International Limited	Synthesis and characterization of novel bio-based polyesters	Synthesis and characterization of novel bio-based polyesters	PhD	Must meet NTU Admission Criteria (Offer of Admission By NTU) Singaporean or Permanent Residence, at least a 2nd upper or better, and enrolled as a Full time NTU PhD student.	08/08/2022 - 07/08/2026
11	Active with PhD student assigned	School of Materials Science and Engineering	Chen Zhong	aszchen@ntu.edu.sg	Infineon Technologies Asia Pacific Pte Ltd	Epoxy Mold Compounds for High Voltage Applications	Understanding of the EMC compositions is needed to facilitate new package and product developments as well as to improve reliability of future devices.	PhD	Bachelor /Masters in Materials Science /Engineering	13/01/2025 - 12/01/2029
12	Active with PGR student assigned	School of Materials Science and Engineering	Alex Yan	alexyan@ntu.edu.sg	Infineon Technologies Asia Pacific Pte Ltd	Investigate into mechanisms of Li Ion battery aging and degradation. Develop degradation models based on lump circuit and data driven deep learning	mechanisms of Li Ion battery aging and degradation.	PhD	Bachelor /Masters in Materials Science /Engineering	06/01/2022 - 05/01/2026
13	Active with PGR student assigned	School of Biological Science	Professor Julien Lescar	julien@ntu.edu.sg	Singzyme Pte Ltd	Development and validation of antibody-drug conjugates as anticancer therapeutics against a pancreatic cancer associated tumor antigen	Brief description of IPP Project: Dysregulation of enzymatic activities are a key event in cancer. with a role in invasion and metastasis. Several antigens are involved in various stages of cancer development and progression, both directly through enzymatic activity and indirectly via regulation of cellular downstream signalling pathways. Several antigens associated to pancreatic cancer are overexpressed and therefore constitutes both a potential novel marker of tumour development and progression, but also a possible molecular target for anticancer therapeutics. The Ph.D. project will consist in producing several therapeutic and diagnostic/theranostic candidates targeting a pancreatic cancer associated tumor antigen and in performing subsequent validation using a combination of tools in molecular and cell biology, in biochemistry, structural biology and cancer biology.	PhD	This Ph.D. position will be funded by EDB-IPP program with Singzyme Pte Limited. The candidate should be a Singaporean or Permanent Resident. The project is suitable for candidates having a degree and some experience in biochemistry/molecular or cell/cancer biology. The candidate must have a keen interest to join a biotech with a vibrant atmosphere, which aims to bring its cutting edge enzyme-based bioconjugation technology to develop antibody drug conjugates as novel cancer therapeutics.	January 13, 2025 to January 12, 2029

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14	Active with PGR student assigned	School of Materials Science and Engineering	Alex Yan	alexyan@ntu.edu.sg	Infineon Technologies Asia Pacific Pte Ltd	Investigate into mechanisms of Li Ion battery aging and degradation. Develop degradation models based on lump circuit and data driven deep learning	mechanisms of Li Ion battery aging and degradation.	PhD	Bachelor /Masters in Materials Science /Engineering	06/01/2022 - 05/01/2026
15	Active with PGR student assigned	School of Materials Science and Engineering	Lam Yeng Ming	ymlam@ntu.edu.sg	Advanced Micro Devices (Singapore) Pte Ltd	TEM In-situ Electrical Characterization & Defect Isolation of Microprocessors	TEM In-situ Electrical Characterization & Defect Isolation of Microprocessors	PhD	Bachelor /Masters in Materials Science /Engineering	01/01/2022 - 31/12/2025
16	Active with PGR student assigned	School of Materials Science and Engineering	Lam Yeng Ming	ymlam@ntu.edu.sg	Awak Technologies Pte Ltd	Development of novel sorbent materials for selective removal of uremic toxins and correction of acid-base homeostasis in next generation wearable kidney devices	Development of novel sorbent materials for selective removal of uremic toxins and correction of acid-base homeostasis in next generation wearable kidney devices	PhD	Bachelor /Masters in Materials Science /Engineering	11/01/2021 - 10/01/2025
17	Active with PGR student assigned	School of Materials Science and Engineering	Ng Kee Woei	kwng@ntu.edu.sg	Nanofilm Technologies International Limited	Diamond Coatings for Dental Applications	Diamond Coatings for Dental Applications	PhD	Bachelor /Masters in Materials Science /Engineering	01/01/2022 - 31/12/2025
18	Active with PGR student assigned	School of Materials Science and Engineering	Dalton Tay	Cytay@ntu.edu.sg	Cuprina Pte Ltd	Bullfrog collagen derivatives as novel drug delivery platforms	Bullfrog collagen derivatives as novel drug delivery platforms	PhD	Bachelor /Masters in Materials Science /Engineering	14/08/2023 - 13/08/2027
19	Active with PGR student assigned	School of Materials Science and Engineering	Lee Pooi See	pslee@ntu.edu.sg	GlobalFoundries Singapore Pte Ltd	Thermal Management for Heterogenous Integration	Thermal Management for Heterogenous Integration	PhD	Bachelor /Masters in Materials Science /Engineering	14/08/2023 - 13/08/2027
20	Active with PGR student assigned	School of Materials Science and Engineering	Gan Chee Lip	clgan@ntu.edu.sg	Advanced Micro Devices (Singapore) Pte Ltd	Fundamental studies of Xenon Plasma Focused Ion Beam (Xe PFIB) interaction with active region of advanced FinFET and GAA transistors in failure analysis of semiconductor device	Fundamental studies of Xenon Plasma Focused Ion Beam (Xe PFIB) interaction with active region of advanced FinFET and GAA transistors in failure analysis of semiconductor device	PhD	Bachelor /Masters in Materials Science /Engineering	01/01/2024 - 31/12/2027
	Active with PGR student assigned	School of Electrical and Electronic Engineering	Assoc Prof Teo Hang Tong Edwin	htteo@ntu.edu.sg	Continential	Development of Haptic and Morphing Structures for Automotive Industry	In this project, we will study the feasibility of using conventional and non-conventional actuator materials such as electroactive polymers (EAP), piezoelectric materials and combination of these technologies particularly for haptic and morphing surfaces for applications in automotive human machine interface (HMI). Dielectric elastomers are promising EAPs with outstanding mechanical properties suitable particularly for haptic devices. They however are suffering from large operating voltage which limits their applications. In this research, by using ceramic based nano-additives of high dielectric constant, we will try to decrease the operation voltage of the EAPs. Piezoceramics are another class of actuators capable of operating at low operating voltages. They however are typically suffering from high process temperature. In this project, we will evaluate low temperature processes to growth and implement piezoelectric based actuators for automotive haptic devices. We will examine both pyrolysis techniques and low temperature and/or local sintering techniques to tackle the high sintering temperature of the piezoceramics.	PhD	NIL	Aug 2020 to Dec 2024
	Active with PGR student assigned	School of Electrical and Electronic Engineering	Assoc Prof Chen Tupei	echentp@ntu.edu.sg	GlobalFoundry	Development of On-chip Electrostatic Discharge (ESD) Protection for Automotive Applications	Design of on-chip ESD protection for BCD circuits	PhD	Microelectronics	Aug 2022- Aug 2026
	Active with PGR student assigned	School of Electrical and Electronic Engineering	Asst Prof Wen Bihan / Assoc Prof Lin Zhiping	bihan.wen@ntu.edu.sg / ezplin@ntu.edu.sg	Xylem	Data-driven Models For Analyzing Smart Sensors And Meters In Water Distribution Networks	Advancements in sensor and communication technologies have allowed for the ubiquitous deployment of sensors in water systems and beyond, to record and relay time series data with high frequency. In this project, we propose to develop the advanced machine learning tools to monitor, process and analyze a large amount of sampled time-series data that are collected from flow meter devices such as residential and commercial meters.	PhD	Nil	15-12-2021 to 14-12-2025
	Active with PGR student assigned	School of Electrical and Electronic Engineering	Assoc Prof Christopher H. T. Lee	chtlee@ntu.edu.sg	Panasonic Industrial Devices Singapore	Development of novel motors using addictive manufacturing and multiphysics optimization techniques	Because AM technology is in its infancy, it currently has limited practical application. Only a few research groups, such as those at the University of Nottingham, have examined the fabrication of motor parts using 3D printing. These have the potential to offer higher efficiency, power density, and cost-effectiveness than their conventional counterparts. Nevertheless, to the best of our knowledge, few 3D-printed motors have been assembled worldwide. In this proposed project, we aim to fabricate electric motors using 3D printing methods, to verify this approach and the practicality of our design. The ideas for reducing the size and weight of the motor section are as follows. A detailed analytical modelling tool is developed to implement with finite element analysis, considering multiphysics domain optimization, e.g., electromagnetic, thermal, acoustic, and vibration. Comprehensive analysis can then be performed based on the developed modelling. A suitable pole-pair combination, including an appropriate winding arrangement and motor dimension optimization, will be investigated. To verify the effectiveness of the developed tool, various motor types will be developed and analyzed. We will also fabricate the proposed motors with the desired characteristics and demonstrate the effectiveness of the AM methods.	PhD	Nil	01/08/2023-31/07/2027
	Active with PGR student assigned	School of Electrical and Electronic Engineering	Assoc Prof Siek Liter	elsiek@ntu.edu.sg	Global Foundries	Low-voltage Low-power Switching DC-DC Voltage Regulator for Mobile Purposes	Design of low-power DC-DC Converter Integrated Circuit for mobile application with the 55nm BCDlite process	PhD	The student background would need to have a very strong analog/mixed-signal IC Design knowledge and inclination.	11/08/2020 - 10/08/2024, extended to Aug 2025
	Active with PGR student assigned	School of Electrical and Electronic Engineering	Assoc Prof Siek Liter	elsiek@ntu.edu.sg	ST Microelectronics	Battery Management System - Integrated Circuits (BMS-IC)	Design of the BMS integrated circuit dealing with charge balancing between batteries	PhD	The student background would need to have a very strong analog/mixed-signal IC Design knowledge and inclination.	01/08/2021 - 31/07/2025

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	Active with PGR student assigned	School of Electrical and Electronic Engineering	Assoc Prof Siek Liter	elsiek@ntu.edu.sg	ST Microelectronics	Battery Management System - Integrated Circuits (BMS-IC)	Design of the BMS integrated circuit dealing with battery charger with charge monitoring	PhD	The student background would need to have a very strong analog/mixed-signal IC Design knowledge and inclination.	01/08/2022 - 31/07/2026
	Active with PGR student assigned	School of Electrical and Electronic Engineering	Assoc Prof Siek Liter	elsiek@ntu.edu.sg	ST Microelectronics	Low power ADC for image sensor	Design of an integrated circuit that has low power low voltage high speed ADC for the image sensor applications	PhD	The student background would need to have a very strong analog/mixed-signal IC Design knowledge and inclination.	12/08/2024-11/08/2028
	Active with PGR student assigned	School of Electrical and Electronic Engineering	Assoc Prof Andy Khong	andykhong@ntu.edu.sg	Micron	Creating a Pipeline to Develop Knowledge Graphs with Large Language Models	To develop large language models for recommendation systems.	MEng	Nil	1/1/2024- 31/12/2025
	Active with PGR student assigned	School of Electrical and Electronic Engineering	Assoc Prof Kim Tae Hyoung	thkim@ntu.edu.sg	Infineon	High Efficient Computing in Memory with Process Variation Compensated Data Converter	• Design of a new innovative high efficient, low power data converters for crossbar array of resistive memories and other memory types. • New proprietary state of the art calibration scheme that compensate for process variation. • Theoretical evaluation of reliability and variation tolerance of the proposed data converter design. • Demonstration of the influence of variation based on real fabricated and characterized cells. • Comprehensive comparison done with the state-of-the-art data converter design.	PhD	UG from EEE or relevant major	Aug. 2024 ~ July 2028
	Active and open for student applications	School of Electrical and Electronic Engineering	Assoc Prof Tan Eng Leong	eeltan@ntu.edu.sg	Thales Alenia Space & Thales Solutions Asia	Physics-based modelling of ionospheric plasma dynamics for accurate positioning and navigation	Physics-based modelling of ionospheric plasma dynamics for accurate positioning and navigation	PhD	EDB-IPP	Jan 2025 ~ Dec 2028
	Active and open for student applications	School of Electrical and Electronic Engineering	Professor Erick Lansard	erick.lansard@ntu.edu.sg	Thales Alenia Space & Thales Solutions Asia	Earth Observation from Near-Equatorial Orbits	Earth Observation from Near-Equatorial Orbits	PhD	EDB-IPP scheme	Jan 2025 ~ Dec 2028
	Active and open for student applications	School of Electrical and Electronic Engineering	Assoc Prof Tan Eng Leong	eeltan@ntu.edu.sg	Global Foundries	RF LNA/PA	RF LNA/PA	PhD	EDB-IPP	Jan 2025 ~ Dec 2028
	Active and open for student applications	School of Electrical and Electronic Engineering	Prof Wang Qijie	qjwang@ntu.edu.sg	GlobalFoundries	Advanced optical IoT sensor development	Advanced optical/magnetic sensor development	PhD	Nil	Jan 2025 ~ Dec 2028