

University Surgical Cluster
RESEARCH

Grants (Year 2023)

No	Research Title	Principal Investigator (PI) / Co-Investigator (Co-I) / Collaborator	Actual Funding to USC	Funding Source
Breast & Trauma Surgery				
1	Deployment of AI Assistant for Breast Cancer Screening	PI – Mikael Hartman Co-I – Serene Goh Si Ning	\$ 991,600	NHIC I2A
2	Reducing false-positive diagnoses and biopsies from breast screening: a novel noninvasive and clinically integrable ultrasound-guided optoacoustic imaging system	PI – Yong Geng Goh Co-I – Mikael Hartman	-	NMRC, CIA INV (\$ 325,000)
3	Using AI to enhance efficiency of breast cancer screening and to improve detection of challenging breast lesions on mammogram	PI – Serene Goh Si Ning Co-I – Asim Shabbir , Mikael Hartman (mentor)	\$ 400,000	NCSP2.0, NUHS
4	Effectiveness of Microporous Polysaccharide Hemosphere Absorbable Hemostat (ARISTA) in the Prevention of Seroma Post Mastectomy: A Pilot Randomized - Controlled Trial	PI – Lui Su Ann	\$ 30,722	Becton Dickinson Holdings Pte Ltd, Investigator-Sponsor Study Agreement
5	AI Assistant for Breast Cancer Screening	PI – Mikael Hartman Co-I – Serene Goh Si Ning	\$ 50,400	FATHOMX PTE LTD
Cardiac, Thoracic & Vascular Surgery				
1	Transformative Nanotechnologies for Molecular Profiling of Extracellular Vesicles	PI – Tam John Kit Chung	-	CRP, NRF (\$ 5,471,499)
2	Spatial Multiome Cartography in Human Thymus to Guide NextGen Cell-based Therapies (SPECTRA)	Co-PI – Tam John Kit Chung	-	CRP, NRF (\$ 6,513,520)
3	Development and Validation of a Blood Test for Screening and Early Detection of Multiple Cancers Based on Circulating Cell Free Nucleic Acid Profiles– Lung Cancer in Phase 1A, 1B, 1C and 1D” – a sub-study of the CADENCE study	PI – Tam John Kit Chung	\$ 2,871,600	MIRXES, Research Collaboration Agreement
4	One-stop integrative platform for fast-track screening of species and tissue tropism of unknown respiratory disease threats (Disease X), and for emerging respiratory pathogen surveillance	Co-I – Tam John Kit Chung	-	NCID PREPARE (\$ 1,498,250)
5	AirJeWells: human pulmonary alveoli in a dish to study lung homeostasis	Co-I – Tam John Kit Chung	-	MOE Tier 1/NUHS Seed Fund (\$ 246,500)
Colorectal Surgery				
1	Validation of STAG2 as a pre-driver mutation in colorectal cancer oncogenesis using patient-derived human colonic organoid	PI – Chan Kok Hong, Dedrick Co-I – Asim Shabbir	\$ 360,000	NUHS NCSP 2.0
2	First-In-Human Feasibility Study For A Colonic Endoscopic Intraluminal Support Structure (CEISS) In Colonic Polypectomy	PI – Kaan Hung Leng	\$ 250,000	NMRC, CIA INV
3	Can non-invasive haemoglobin measurement be used as a triaging tool to expedite colonoscopy? An exploratory study	PI – Tan Kah Hwee Jarrod Co-I – Lee Kai Yin , Tan Ker Kan (mentor)	\$ 100,000	NUHS HPHSR Seed Grant
4	23hr laparoscopic colectomy: From dream to reality? A step wise approach	PI – Tan Ker Kan Co-I Bettina Lieske, Lee Kai Yin, Ng Jing Yu, Jarrod KH Tan	\$ 2,740,000	HCSA SI, NMRC
5	Giving the right treatment for the right patient. To define frailty in elderly cancer patients and to understand their preferences for care	PI – Melissa Ooi Gaik Ming Tan Ker Kan (mentor)	-	HCSA INV, NMRC (\$ 650,000)
6	STCC Platform 5 Impact and Population Health	PI – Tan Ker Kan	\$ 919,248	Singapore Translational Cancer Consortium (STCC) Research Funds to NUS
7	Understanding weight management issues beyond the obese individuals: How spouses perceive obesity and their relationship.	PI – Bryan Buan Tan Ker Kan (mentor)	\$ 100,000	NUHS HPHSR Seed Grant
8	EXXONMOBIL-NUS RESEARCH FELLOWSHIP FOR CLINICIANS	PI – Jarrod KH Tan	\$ 70,000	NUSMed (\$ 100,000)
9	Validation of Accelerated Crypt Fixation in Colon Organoids – A Pilot Study Towards a Conduit Gene Concept in Colorectal Cancer.	PI – Chan Kok Hong, Dedrick	\$ 60,000	N2CR-CSDU CLINICIAN-SCIENTIST (CS) PILOT GRANT

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Endocrine & Thyroid Surgery				
1	Evaluation of AI as a Medical Device for NUH	<i>PI</i> – Ngiam Kee Yuan	\$ 260,000	CERTITUDE SINGAPORE PTE. LTD, Research Collaboration Agreement (\$ 260,000)
2	Deep learning pipeline for augmented reporting of MRI whole spine	<i>PI</i> – <i>Mentor</i> – Ngiam Kee Yuan	-	NMRC, CIA INV (\$ 316,290)
3	Precision BRAin COnnectivity Profiling of Learning Difficulties for future therapeutic strategy using network-targeted neurostimulation (BRACOLD)	<i>Co-I</i> – Ngiam Kee Yuan, Mohammad Shaheryar Furqan	-	TA, NMRC (\$ 379,360)
4	Developing a Core Real World Dataset for Economic Evaluations of Oncology Therapies (RODEO)	<i>PI</i> – Ngiam Kee Yuan	\$ 90,000	HPHSR CLINICIAN SCIENTIST AWARD (SI CATEGORY), NMRC
General Surgery				
1	Engineering of collapsible cell-encapsulating scaffolds to enhance cultured meat production	<i>Co-I</i> – Alfredo Franco-Obregon	\$ 175,200	NRF-White Space, A*STAR (\$ 482,640)
2	The expansion and storage of magnetically-induced secretome for the food, regenerative medicine and general tissue cultivation industries	<i>PI</i> – Alfredo Franco-Obregon <i>Co-I</i> – Tai Yee Kit	\$ 256,880	NUS Gap Funding
Hepatobiliary & Pancreatic Surgery				
1	Simultaneous inhibition of mutant KRAS and activation of RIG-I pathway for the treatment of pancreatic cancer	<i>PI</i> – Le Thi Nguyet Minh <i>Co-I</i> – Glenn Bonney	\$ 120,000	Open Fund Individual Research Grant (OF-IRG), NMRC (\$ 1,240,000)
Neurosurgery				
1	PREdiction and PAThophysiology of Cognitive Health in Spontaneous IntraCerebral Hemorrhage	<i>PI</i> – Mervyn Lim <i>Co-I</i> – Nga Diong Weng Vincent, Asim Shabbir	\$ 400,000	NCSP 2.0, MUSMed
2	Pilot Study: To study the cumulative effects of transcutaneous spinal cord stimulation (tSCS) with robotic gait training in trunk muscle activity and walking index in chronic spinal cord injury	<i>Co-I</i> – Yeo Tseng Tsai	-	MOE Tier 1/NUHS Seed Fund (\$ 150,000)

Grants (Year 2023) - cont

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Upper Gastrointestinal Surgery				
1	Improving weight loss in healthy adults with overweight and obesity: An artificial intelligence-assisted dietary prediction and prevention system with continuous glucose monitoring	PI –Dr Jocelyn(Nursing) Co-I – Gao Yujia, Asim Shabbir	-	NMRC PHRG-NIG (\$ 130,000)
2	Evaluating a novel locoregional immune-modulator in an immune-resistant mouse model of peritoneal metastasis	PI – Chia Kai Ann, Daryl	\$ 229,001	NMRC RTF
3	Development and Validation of a Blood Test for Screening and Early Detection of Multiple Cancers Based on Circulating Cell Free Nucleic Acid Profiles - Gastric Cancer in Phase 1A, 1B, 1C and 1D - a sub-study of the CADENCE study	PI – So Bok Yan, Jimmy	\$ 2,819,100	MIRXES LAB PTE LTD, Research Collaboration Agreement
4	Development of Humanized mouse peritoneal metastasis model for immunotherapeutic biology and drug discovery	PI – Co-I – Chia Kai Ann, Daryl	\$ 30,000	NMRC, Seed Funding
5	The development of the combinational immunotherapy for unresectable advanced or recurrent gastric cancer - in conjunction with the Singapore Gastric Cancer Consortium 14th Annual Scientific Meeting	PI – So Bok Yan, Jimmy	\$ 19,000	JSPS-NUS Joint Research Project
6	Singapore-Japan bilateral joint research seminar: The development of the combinational immunotherapy for unresectable advanced or recurrent gastric cancer - in conjunction with the Singapore Gastric Cancer Consortium 14th Annual Scientific Meeting	PI – So Bok Yan, Jimmy	\$ 38,000	JSPS-NUS Joint Research Seminar
Urology				
1	Development and Validation of a Blood Test for Screening and Early Detection of Multiple Cancers Based on Circulating Cell Free Nucleic Acid Profiles– Prostate Cancer in Phase 1A, 1B, 1C and 1D'	PI – Chiong Edmund	\$ 3,287,100	RCA between NUS, NUH and MIRXES LAB PTE. LTD.