

University Surgical Cluster

RESEARCH

Grants (Year 2022)

No	Research Title	Principal Investigator (PI) / Co-Investigator (Co-I) / Collaborator	Actual Funding to USC	Funding Source
Breast Surgery				
1	BREAst screening Tailored for HER ("BREATHE") - Pilot study of a risk-based breast cancer screening approach in Singapore [BREATH CIP]	PI – Mikael Hartman Site-PIs – Chin Chi Hui, Sujith Wijeranthne, Oh Han Boon Co-PI – Li Jingmei, Philip Iau , Desmond Ong	\$ 1.5 million	NUH PRECISE CIP Grant Award
2	Development of Novel Therapeutics and Biomarker-Directed Strategies in Refractory Solid Tumors and Haematological Malignancies	PI – Yeoh Khay Guan Theme PI – Mikael Hartman	\$ 800,000	MOH NMRC Centre Grant Programme Category 1 (\$ 20 million)
3	Genetic Origin of Adverse Drug Reactions in Singaporean Breast Cancer Patients	PI – Mikael Hartman	\$ 100,000	NUS Yong Loo Lin School of Medicine
Cardiac, Thoracic & Vascular Surgery				
1	Developing A Naturally Designed Surgical Tricuspid Valve	PI – Md Faizus Sazzad Mentor: Theodoros Kofidis	\$ 400,000	Summit Programme in Innovation (SPIN)
2	M2CardAGE: Molecular and Mechanobiology Underpinning Cardiac Ageing - Theme 1 Co-PI	Co-PI – Theodoros Kofidis		MOE, Tier 3 (\$ 9,205,800)
3	DREAMS-OT Trial: Delirium Reduction through Early Activation in Motivating and Sleep Promoting Routines: A randomized controlled trial of Occupational Therapy for ICU patients after Coronary Artery Bypass Graft (CABG) surgery	Co-I – MacLaren Graeme, Ramanathan Kollengode Ramaswamy, Chang Guohao		NMRC, CNIG (\$ 244,239)
4	Can Gait Parameters Obtained Through 3D-printed Smart Insole/Footwear Predict Mild Cognitive Impairment?	Co-I – Ho Pei		NMRC, HLCA (\$ 69,576)
5	Population screening for early diabetic foot disease with improved accessibility using digital imaging and artificial intelligence (PODIA initiative)	Co-I – Ho Pei		A*STAR Singapore Biodesign (\$ 48,500)
Colorectal Surgery				
1	Nanoprobe-based Mutation Assays for Precision Medicine in Colorectal Cancer Treatment	PI – Emile Tan Co-I – Yanbing Zu, Tan Ker Kan , Jackie Ying, Isaac Seow En, Victor Koh, Hong Lyn Tan, Thean Lai Fun	\$ 7,000	NHIC Innovation to Develop (I2D) Grant (\$ 300,000)
2	Reducing Inflammatory Syndrome in Surgery-Colorectal (RISIS-CR)- Trial	PI – Ti Lian Kah Co-I – Tan Ker Kan		NMRC, HLCA (\$ 65,980)
3	Early detection and prevention of colorectal cancer – development of miRNA biomarker panel and discovery of microbiome signatures	PI – Yeoh Khay Guan Co-I – Tan Ker Kan		ASTAR, Mirexes, Amili, IAF ICP (\$6,250,640)
Endocrine & Thyroid Surgery				
1	Transforming Clinical Care of Patients with Chronic Disease through Precision Medicine, Person-Centred Care and Complex Interventions - FC 3 lead	PI – Ngiam Kee Yuan (Facility Core Lead)	\$ 1,000,000	NMRC CG
2	Pharmacy - Inpatient Medication Supply	PI – Ngiam Kee Yuan	\$ 509,000	RCA with Cloud Plus Pte Ltd
3	IMPLEMENTATION OF AUTOMATED DETECTION OF CALCIUM ABNORMALITIES TO IMPROVE TREATMENT OF HYPERPARATHYROIDISM	PI – James Lee Wai Kit Co-I – Ngiam Kee Yuan, Mohammad Shaheryar Furqan	\$ 458,100	MOH Health Innovation (MHI) Fund
4	NUHS HOLOMEDICINE ANALYTICS & SURGICAL ASSISTANCE PLATFORM (THE "PROJECT") UNDER THE 5G INNOVATION PROGRAMME (TRANCHE 2)	PI – Ngiam Kee Yuan Co-I – Gao Yujia	\$ 2,078,405	IMDA, INFO-COMMUNICATIONS MEDIA DEVELOPMENT AUTHORITY

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General Surgery				
1	Magnetic Adjunct Treatment to Enhance Chemotherapeutic Outcome in Patients with Breast Cancer	PI – Alfredo Franco-Obregón Co-Is – Tai Yee Kit, Chan Ching Wan , Chan Ka Wing Karen Collaborators – Ali Asgar Bhagat, Ivan Goh	\$ 296,920	NHIC Innovation to Develop (I2D) Grant
2	Characterization of Magnetically Induced Dental Pulp Stem Cell Secretome Promoting Regeneration of Injured Human Motoneurons	PI – Alfredo Franco-Obregón Co-Is – John Chua, Vinicius Rosa, Rufaihah Abdul Jalil Collaborators – Miina Ohman	\$ 350,000	NUHS Seed Fund Sep 2021
3	TRPC1 channel as a prognostic & predictive marker of magnetic- and chemo-sensitivity in Breast Cancer	PI – Alfredo Franco-Obregón	\$ 30,000	NUSMed N2CR-PCM Internal Seed Grant
4	Preclinical Evaluation of Novel Probiotics Delivery in Health and Disease	PI – Wang Jiong Wei Co-I – Li Dan	\$ 250,000	MOE Reimagine Research Scheme – Category A
5	Targeted Regulation of Ceramide Metabolism in Non-alcoholic Steatohepatitis	PI – Wang Jiong Wei Co-Is – Mark Muthiah, Federico Tesio Torta, Liu Bin Collaborator – Gerrit Storm	\$ 242,000	MOE Tier 1
6	Local and global immunomodulation by conventional type 1 dendritic cells in myocardial infarction	PI – Wang Jiong Wei	\$ 1,425,291	NMRC OF-IRG
7	Tackling & Reducing Glaucoma Blindness with Emerging Technologies (TARGET) - Theme 4 Co-I	Co PI – Wang Jiong Wei Co PI – <i>Tina Wong (SERI)</i>	\$ 1,386,698	NMRC OF-LCG (\$ 5,141,098)
8	Adeno-Associated Virus Gene therapy for Type 2 Diabetes- Comparison of Monotherapy using AAV-GLP1 or AAV-GIP versus Combinational Therapy with AAV-GLP1 and AAV-GIP	PI – Gan Shu Uin Co-Is – Lee Kok Onn, Sia Kian Chuang	\$ 150,000	NUHS Seed Fund Sep 2021
9	Probability Models to Infer Cell Type Contribution and Site of Origin for Total Molecular Changes in Omics Data	PI – Choi Hyung Won Co-I – Federico Tesio Torta Collaborators – Markus Wenk, Mark Chan, Wang Jiong Wei	-	MOE Tier 2 (\$ 729,560)
10	Impact of age on the response to immunotherapys	PI – Ratha Mahendran Co-I – Edmund Chiong	\$ 250,000	MOE Tier 1/NUHS Seed Fund
11	A study of probiotic (Lactaseibacillus paracasei strain shirota) intervention on gut microbiota and cognitive functioning in older adults with a mild cognitive impairment	PI – Rathi Mahendran Co-I – Ratha Mahendran	-	Yakult Honsha Co Funded Research (\$ 413,417)

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Hepatobiliary & Pancreatic Surgery				
1	Role of tumour-associated microbiota and the impact on the pre-metastatic niche in colorectal liver metastases	PI – Glenn Bonney Co-I – Tan Ker Kan	\$ 50,000	NUSMed, Joint NCIS CG and N2CR Seed Funding
2	Precision Therapy for Gastric and Hepatocellular Cancer	PI – Yong Wei Peng Co-I – Glenn Bonney, Jimmy So	-	NMRC, CSA SI (\$ 1,950,000)
Neurosurgery				
1	Evaluation of ex vivo drug combination optimization platform in recurrent glioblastoma	PI – Andrea Wong Co-I – Yeo Tseng Tsai	-	NUHS Seed Fund Mar 2021 Call (\$150,000)
2	Targeting miRNA-138 in recurrent Glioblastoma (MIRaGe)	PI – Balamurugan A Vellayappan Co-I – Yeo Tseng Tsai, Vincent Nga	-	NMRC CNIG (\$ 258,700)
3	PEACE – Preparation for End-Of-Life with Advance Care Education	PI – Gerald Koh Choon Huat Co-I – Mervyn Lim, Vincent Nga Collaborator- Yeo Tseng Tsai	\$ 529,154	NMRC (NIC) on Active and Confident Ageing Phase 1B – Grant Call on Caregiving Ecosystem (\$ 2,735,264)
Upper Gastrointestinal Surgery				
1	Multiplexed Wireless Localization and Powering of Ingestible Microdevices with Bio-adaptive Wave Control Technologies	PI – John Ho Co-I – Jimmy So Collaborator – Denys Nikalayev	-	National Research Foundation (\$ 449,566)
2	Development of Humanized mouse peritoneal metastasis model for immunotherapeutic biology and drug discovery	PI – Daryl Chia Mentor – Jimmy So	\$ 116,000	ExxonMobil Scholarship Fund ExxonMobil-NUS Research Fellowship for Clinicians
3	Exploring the metabolic mechanisms that connect obesity with carcinogenesis through a unique pre-malignant bioresource	PI – Asim Shabbir Co-I – Jimmy So, Kim Guowei, Daryl Chia	\$ 100,000	NUSMed N2CR-ECI Internal Seed Grant
4	Developing orthotopic gastric cancer peritoneal metastasis models in humanized mouse platforms to assess its recapitulation of clinical tumour-microenvironment phenotypes	PI – Daryl Chia Co-I – Jimmy So	\$ 150,000	NUHS Seed Fund
Urology				
1	Using Red Blood Cell Extracellular Vesicles to Deliver Plasmids Encoding Cytokines to Reduce Bladder Tumor Growth and Stimulate Immune Activation	PI – Wu Qinghui Co-Is – Edmund Chiong, Ratha Mahendran, Le Thi Nguyet Minh	\$ 150,000	NUHS Seed Fund Sep 2021 Call