

## NMRC Awarded Projects Competitive Research Grants - November 2019 Grant Calls

### Clinician Scientist Individual Research Grant (CIRG) 19 November Grant Call

| Application ID | Project ID | Project Title   | PI name             | Host institution                 |
|----------------|------------|---|---------------------|----------------------------------|
| CIRG19nov-0001 | MOH-000525 | ASCL1 as an oncogenic master transcription factor and therapeutic target in neuroblastoma   | Takaomi Sanda       | National University of Singapore |
| CIRG19nov-0004 | MOH-000526 | Study designs and analytic methods for improving the evaluation of vaccines and other preventive measures against infectious diseases by using within-unit comparison | Cheung Yin Bun      | Duke-NUS Medical School          |
| CIRG19nov-0006 | MOH-000527 | Defining the super-enhancer landscapes in multiple myeloma and its clinical implication   | Chng Wee Joo        | National University of Singapore |
| CIRG19nov-0015 | MOH-000528 | Targeting the epigenetic circuits in MLL1-rearranged leukemia for telomerase inhibition   | SHANG LI            | Duke-NUS Medical School          |
| CIRG19nov-0020 | MOH-000529 | Biologics development for immunomodulatory therapy in multiple myeloma  | Makoto Yawata       | National University of Singapore |
| CIRG19nov-0024 | MOH-000530 | Understanding the pathogenesis of a foodborne strain of Group B Streptococcus unique to Singapore and Southeast Asia  | Swaine Chen         | National University of Singapore |
| CIRG19nov-0030 | MOH-000531 | A Biomechanical Sensing Model of Scleral Remodeling in High Myopia  | Hoang Quan Van Manh | Singapore Eye Research Institute |
| CIRG19nov-0031 | MOH-000495 | Precision medicine using single cell genomics, transcriptomics, proteomics and lipidomics in fluid biopsies to diagnose and manage primary vitreoretinal lymphoma     | Anita Chan          | Singapore Eye Research Institute |
| CIRG19nov-0042 | MOH-000532 | The role of the maternal and infant microbiome/metabolome unit on the development of atopic dermatitis in early life – an integrated multi-omics approach             | Lee Bee Wah         | National University of Singapore |
| CIRG19nov-0044 | MOH-000533 | Cytokine-induced rat model of minimal change nephrotic syndrome: mechanism of interleukin-27-induced podocyte injury  | Yap Hui Kim         | National University of Singapore |

### Clinician Scientist Individual Research Grant - New Investigator Grant (CNIG) 19 November Grant Call

| Application ID | Project ID | Project Title   | PI name              | Host institution                 |
|----------------|------------|---|----------------------|----------------------------------|
| CNIG19nov-0007 | MOH-000583 | Determining the differences in hepatic insulin resistance in Indian and Chinese men   | Lim Yuan Ling Amanda | National University Hospital     |
| CNIG19nov-0011 | MOH-000582 | The Role of Caveolin-1 in Inner Retina Neurovascular Coupling in Experimental Glaucoma  | Rachel Chong Shujuan | Singapore Eye Research Institute |
| CNIG19nov-0006 | MOH-000589 | Characterizing the Genome and Epigenome of Congenital Heart Disease and Functional Validation for Disease-related Variants [PROfiling the Genome and Epigenome of coNgenital heart disease study (PROGENY)] | Chen Ching Kit       | National University of Singapore |
| CNIG19nov-0014 | MOH-000591 | Developmental Programming of Chronic Kidney Disease- Role of Renal Inflammation   | Lu Liangjian         | National University Hospital     |
| CNIG19nov-0017 | MOH-000592 | Biomarkers of Homologous Recombination Deficiency to Predict Outcomes in Patients with Triple Negative Breast Cancer Treated with Olaparib or Olaparib – Immunotherapy Combination                          | Tan Jing Ying Tira   | National Cancer Centre Singapore |

### Clinical Trial Grant - Investigator Initiated Trial) 19 November Grant Call

| Application ID   | Project ID | Project Title  | PI name    | Host institution                 |
|------------------|------------|--|------------|----------------------------------|
| CTGIIT19nov-0002 | MOH-000723 | Early oral step-down versus continued intravenous antibiotic therapy for uncomplicated Gram-negative bacteraemia | David Lye  | Tan Tock Seng Hospital           |
| CTGIIT19nov-0004 | MOH-000722 | A Biomarker Enrichment Phase II trial of 177Lu-DOTATATE in Metastatic Nasopharyngeal Carcinoma                   | Daniel Tan | National Cancer Centre Singapore |

### Open Fund - Individual Research Grant (OFIRG) 19 November Grant Call

| Application ID  | Project ID | Project Title  | PI name                        | Host institution                        |
|-----------------|------------|--|--------------------------------|---|
| OFIRG19nov-0015 | MOH-000521 | Molecular control of totipotency and cell fate plasticity  | Tee Wee Wei                    | Institute of Molecular and Cell Biology |
| OFIRG19nov-0053 | MOH-000522 | A patented antibody for traumatic brain injury   | Liao Ping                      | National Neuroscience Institute         |
| OFIRG19nov-0066 | MOH-000523 | Modulation of chimeric antigen receptor T cell (CAR-T) signalling to enhance anti-cancer T cell function                                       | Nicholas Robert John Gascoigne | National University of Singapore        |
| OFIRG19nov-0096 | MOH-000524 | Investigate the viral/host determinant(s) for the vertical transmission of flaviviruses using mouse models                                     | Satoru Watanabe                | Duke-NUS Medical School                 |
| OFIRG19nov-0037 | MOH-000542 | Cilia and airway disease: Genes, mechanisms and therapeutic strategy   | Sudipto Roy                    | Institute of Molecular and Cell Biology |
| OFIRG19nov-0019 | MOH-000558 | Host cytokine modulation in the amelioration of HFMD neurological complications  | John Chua Jia En               | National University of Singapore        |
| OFIRG19nov-0021 | MOH-000559 | Functional dissection of SV2C as a novel Parkinson's disease associated gene   | Foo Jia Nee                    | Nanyang Technological University        |
| OFIRG19nov-0041 | MOH-000560 | Defining the role of NF1 in brain tumor microenvironment   | Ho Ai-wei, Ivy                 | National Neuroscience Institute         |
| OFIRG19nov-0050 | MOH-000561 | ASC as a new target for fighting inflammatory diseases   | Wang Linfa                     | Duke-NUS Medical School                 |
| OFIRG19nov-0055 | MOH-000562 | Mapping the signaling pathways coupling mitochondrial functions with the invasive hyphal growth in the fungal pathogen <i>Candida albicans</i> | Wang Yue                       | Institute of Molecular and Cell Biology |
| OFIRG19nov-0063 | MOH-000563 | Identifying circuit & molecular pathways that underlie tremor using models of Spinocerebellar ataxia 3   | Sherry Shiyong Aw              | Institute of Molecular and Cell Biology |
| OFIRG19nov-0081 | MOH-000564 | Direct and multiplexed analysis of circulating RNAs  | Huilin Shao                    | National University of Singapore        |
| OFIRG19nov-0090 | MOH-000565 | FluCluster-AI - Innovations in virus transmission cluster analysis   | Sebastian Maurer-Stroh         | Bioinformatics Institute                |
| OFIRG19nov-0105 | MOH-000566 | Targeting Host-Pathogen Synergy in Wound Infection   | Guillaume Thibault             | Nanyang Technological University        |
| OFIRG19nov-0112 | MOH-000567 | Contribution of arterial resident macrophage in abdominal aortic aneurysm development  | Veronique Angeli               | National University of Singapore        |
| OFIRG19nov-0114 | MOH-000568 | PIM1 Integrates PPAR $\gamma$ Signaling with Epigenomic Reprogramming to Promote Brown Fat Development and Function                            | Xu Feng                        | Institute of Molecular and Cell Biology |

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| OFIRG19nov-0116 | MOH-000569 | Identifying Novel Epigenetic Alterations in Asian Patients with Breast Cancer for Improved Risk Prediction and Molecular Classification | Ann Lee-Lim Siew Gek | National Cancer Centre Singapore |
| OFIRG19nov-0089 | MOH-000570 | Molecular profiling using CRISPR-Cas9 to reveal the unique metastatic features in human hepatocellular carcinoma.                       | Hui Kam Man          | National Cancer Centre Singapore |
| OFIRG19nov-0106 | MOH-000571 | The role of cytoskeletal microtubule remodeling as a tractable therapeutic target in cancer metastasis                                  | Tam Wai Leong        | Genome Institute of Singapore    |

### Open Fund - Young Individual Research Grant (OFYIRG) 19 November Grant Call

| Application ID   | Project ID | Project Title   | PI name             | Host institution                        |
|------------------|------------|---|---------------------|---|
| OFYIRG19nov-0001 | MOH-000534 | In vivo studies of development of ALT tumors and their response to novel ALT-targeted therapies                                     | Maya Jeitany        | Nanyang Technological University        |
| OFYIRG19nov-0005 | MOH-000535 | Novel enterovirus A71 host dependency factors as broad-spectrum host-directed antiviral therapy targets                             | Tan chee wah        | Duke-NUS Medical School                 |
| OFYIRG19nov-0073 | MOH-000536 | Landscape of transcriptionally active chromatin in brain health and malignancies  | Chen Ye             | National University of Singapore        |
| OFYIRG19nov-0008 | MOH-000537 | DAP3 Reshapes the Cancer Transcriptome as a Master Regulator of RNA Processing: Mechanistic Understanding and Therapeutic Potential | Han Jian            | National University of Singapore        |
| OFYIRG19nov-0016 | MOH-000538 | Role of GAS1-ROCK2 axis in the regulation of liver metabolism under pathological conditions   | Liu Chungang        | Institute of Molecular and Cell Biology |
| OFYIRG19nov-0019 | MOH-000539 | Developing a protease-substrate tracking tool for determining altered protease landscape in cancer                                  | Alli Shaik Asfa     | Institute of Molecular and Cell Biology |
| OFYIRG19nov-0059 | MOH-000540 | Microfluidic Droplet-Based High-Throughput Functional Screening of Single B Cells for Monoclonal Antibody Discovery                 | Tay Zirui Matthew   | A*STAR Infectious Diseases Labs         |
| OFYIRG19nov-0067 | MOH-000543 | Evolution of human cells following essential gene inactivation  | Katherine Larrimore | Skin Research Institute of Singapore    |
| OFYIRG19nov-0028 | MOH-000544 | Targeting a novel mutant TP53-BCAR1 complex to inhibit cancer metastasis  | GUO KUNYAO, ALVIN   | Duke-NUS Medical School                 |
| OFYIRG19nov-0066 | MOH-000545 | Regulation of the tricarboxylic acid cycle by one-carbon metabolism in Epstein-Barr virus-driven transformation                     | Wang Liang Wei      | Singapore Immunology Network            |
| OFYIRG19nov-0024 | MOH-000546 | The regulation and function of BAX $\beta$ , a potent inducer of apoptosis, in cancer.  | Chin Hui San        | Duke-NUS Medical School                 |
| OFYIRG19nov-0010 | MOH-000547 | Optimal treatment target identification from longitudinal electronic medical records  | Willem van den Boom | National University of Singapore        |

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| OFYIRG19nov-0051 | MOH-000548 | Elucidating molecular mechanisms of cellular viral-hijacking to validate known and novel therapy targets  | Guillaume Robert Carissimo | A*STAR Infectious Diseases Labs           |
| OFYIRG19nov-0020 | MOH-000549 | Mammalian embryonic pluripotency: Characterization of a candidate gene linked to monozygotic twinning.  | Franziska Paul-Shushan     | Institute of Molecular and Cell Biology   |
| OFYIRG19nov-0033 | MOH-000550 | Machine learning to estimate effects of in vitro fertilization and other assisted reproductive technologies on early adolescent cardiometabolic health                    | Jonathan Huang             | Singapore Institute for Clinical Sciences |
| OFYIRG19nov-0074 | MOH-000551 | Clone Wars: Investigating clonal interactions and their functional contribution to gastric tumorigenesis and development  | Teresa Ho                  | p53 Laboratory                            |
| OFYIRG19nov-0053 | MOH-000552 | Investigating the Role of Top-Down Cortical Control in Feeding Behavior and Energy Homeostasis  | Ng Yi Han                  | National University of Singapore          |
| OFYIRG19nov-0075 | MOH-000553 | Testing a bio-behavioural toolbox designed to promote self-regulatory eating behaviours in childhood  | Keri McCrickerd            | Singapore Institute for Clinical Sciences |
| OFYIRG19nov-0054 | MOH-000554 | Neural circuitry underlying compulsive-eating behavior  | Hasan Mohammad             | Institute of Molecular and Cell Biology   |
| OFYIRG19nov-0056 | MOH-000555 | Illuminating neuromodulatory role of primary cilia cAMP signaling in central satiety control  | Phua Siew Cheng            | Institute of Molecular and Cell Biology   |
| OFYIRG19nov-0069 | MOH-000556 | Autologous neutrophil-infused PCL-TCP scaffold for bone tissue engineering: therapeutic efficacy in a clinically relevant rabbit mandibular model and molecular mechanism | Thanuja DK Herath          | National Dental Centre Singapore          |
| OFYIRG19nov-0045 | MOH-000557 | Regulation of mitochondrial dynamics and function by O-GlcNAc transferase (OGT) in brown adipose tissue   | Ong Qunxiang               | Institute of Molecular and Cell Biology   |