MEDICAL STUDENTS’ GUIDE TO RESEARCH MENTORS

Curves compared by Two Way RM ANOVA

\[ t_p<0.0001; \ **p<0.01; \ *p<0.05 \text{ with Bonferroni’s test for multiple comparisons} \]

DukeNUS Medical School
- Foreword -

The purpose of this booklet is to provide information on the research opportunities available to Duke-NUS MD students, and to help them identify mentors for their research projects. This booklet includes all researchers who have been approved by the Research Curriculum Review Committee to Duke-NUS medical students during their research experience.

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For more information, please see our NUS Personal Data Protection Privacy Statement at this link: http://www.nus.edu.sg/legal-information-notices#pdpa on how we handle personal data.

Mentors and co-mentors approved by the Research Curriculum Review Committee after July 2014 are included in this booklet upon written consent of use of their information.

- Important notes on mentors and co-mentors -

Approved Mentors take primary responsibility of the mentee during his/her research experience.

Approved Co-Mentors take primary responsibility of the mentee during his/her research experience, but are expected to identify an approved Mentor who will oversee his/her mentoring of the mentee.

For a most up-to-date list of approved mentors and co-mentors, students may refer to the Duke-NUS Approved Mentors and Co-Mentors List available on the Learner’s Wiki. Alternatively, they may contact the research curriculum coordinator, Ms. June Lee (june.lee@duke-nus.edu.sg).
BY ALPHABETICAL ORDER

Approved Research Mentors

1.  Albani, Salvatore
2.  Ang, Beng Ti Christopher
3.  Ang, Marcus
4.  Ang, Seng Bin
5.  Augustine, George J.
6.  Aung, Tin
7.  Barathi, Veluchamy A.
8.  Bertolletti, Antonio
9.  Beuerman, Roger W.
10. Bian Jinsong
11. Casey, Patrick J.
12. Chacko, Ann-Marie
13. Chan, Angelique
14. Chan, Derrick Wei-Shih
15. Chan, Jerry Kok Yen
16. Chan, Ling Ling
17. Chay, Oh Moh
18. Cheah, Peh Yean
19. Chee, Michael
20. Chen, William Wei Ning
21. Cheng, Ching-Yu
22. Cheung, Yin Bun
23. Chew, Fook Tim
24. Chew, Suk Peng Valerie
25. Chia, John Whay Kuang
26. Chia, Shi Lu
27. Chin, Calvin
28. Chiong, Edmund
29. Choo, Su Pin
30. Chow, Pierce
31. Chow, Wan Cheng
32. Chowbay, Balram
33. Chua, Terrance Siang Jin
34. Chuah, Charles
35. Coffman, Thomas M.
36. Compton, Scott
37. Cook, Stuart A.
38. de Silva, Deidre Anne
39. Devanand, Anantham
40. Dhansakaran, Vijaykrishna
41. Fenwick, Eva
42. Finkelstein, Eric
43. Fong, Kok Yong
44. Fung, Daniel Shuen Sheng
45. Gan, Yunn Hwen
46. Gandhi, Mihir
47. Goh, Cynthia
48. Goh, Yeow Tee
49. Gooley, Joshua
50. Halliwell, Barry
51. Hausenloy, Derek
52. Hsieh, Po Jang Brown
53. Hu, Jiancheng
54. Hwang, William Ying Khee
55. Iqbal, Jabed
56. Itahana, Koji
57. Iyer, N Gopalakrishna
58. Jafar, Tazeen Hasan
59. Je, Hyunsoo Shawn
60. Kandiah, Nagaendran
61. Koh, Joyce Suang Bee
62. Koh, Siyue Mariko
63. Koh, Woon Puay
64. Krishnan, Manoj N.
65. Kuan, Win Sen
66. Kumar, Prakash
67. Lam, Carolyn Su Ping
68. Lee, Caroline Guat Lay
69. Lee, Haur Yuez
70. Lee, Sang Hyun
71. Lee, Ser Yee
72. Lee, Shu Yen
73. Lee, Ti Shih
74. Lee, Yung Seng
75. Leow, Melvin Khee Shing
76. Leung, Katy Ying Ying
77. Li, Jialiang
78. Li, Shang
79. Liao, Ping
80. Lie, Denny Tjiauw Tjoen
81. Lim, Chwee Ming
82. Lim, Darren Wan-Teck
83. Lim, Kah Leong
84. Lim, Soon Thye
85. Lim, Swee Han
86. Ling, Khoon Lin
87. Liu, Nan
88. Lo, Yew Long
89. Loh, Thomas Kwok Seng
90. Lok, Shee Mei
91. Low, Hsiu Ling Andrea
92. Low, Jenny Guek Hong
93. Low, Kin Huat
94. Malhotra, Chetna
95. Malhotra, Rahul
96. Matchar, David B.
97. Mehta, Jodhbir
98. Ng, Quan Sing
99. Ng, Wai Hoe
100. Ng, Yee Sien
101. Ngeow, Joanne
102. Ong, Biauw Chi
103. Ong, Eng Hock Marcus
104. Ong, Sin Tong
105. Ooi, Eng Eong
106. Østbye, Truls
107. Pervez, Shazib
108. Pettersson, Sven
109. Quah, Stella R.
110. Quek, Richard Hong Hui
111. Rajadurai, Victor Samuel
112. Rozen, Steve
113. Sabanayagam, Charumathi
114. Sabapathy, Kanaga
115. Sahlen, Anders Olof
116. Saw, Seang Mei
117. Sia, Alex Tiong Heng
118. Silver, David L.
119. Smith, Gavin J.
120. Sng, Ban Leong
121. Soo, Khee Chee
122. St. John, Ashley L.
123. Sung, Min
124. Sung, Sharon Cohan
125. Tai, Bee Choo
126. Tai, E Shyong
127. Tan, Bien Soo
128. Tan, Chieh Suai
129. Tan, Ene Choo
130. Tan, Eng King
131. Tan, Hiang Khoon
132. Tan, Iain Bee Huat
133. Tan, Kok Hian
134. Tan, Emilie John
135. Tan, Louis Chew-Seng
136. Tan, Ngiap Chuan
137. Tan, Patrick
138. Tan, Poh Lin
139. Tan, Swee Yaw
140. Tan, Thiam Chye
141. Tang, Mark Boon Yang
142. Tang, Phua Hwee
143. Tay, Kiang Hiong
144. Tay, Shian Chao
145. Teh, Bin Tean
146. Tenen, Daniel
147. Teo, Irene
148. Teo, Melissa Ching Ching
149. Tey, Hong Liang
150. Thike, Aye Aye
151. Thumboo, Julian
152. Toh, Han Chong
153. Tong, Louis Hak Tien
154. Vandongen, Antonius
155. Vasudevan, Subhash
156. Virshup, David
157. Wang, Hongyan
158. Wang-Casey, Mei
159. Wong, Hee Kit
160. Wong, Tien Yin
161. Wong, Ting Hway
162. Wong, Tzee Ling Tina
163. Yen, Paul Michael
164. Yeo, Cheo Lian
165. Yeo, Khung Keong
166. Yeo, Seng Jin
167. Yeoh, Allen Eng Juh
168. Yong, Eu Leong
169. Yoon, Sungwon
170. Yu, Sidney Wing Kwong
171. Zhong, Liang
172. Zhou, Juan Helen
173. Zhou, Lei
Approved Research Co-Mentors

1. Chen, Yu Helen
2. Cheung, Carol Yim Lui
3. Chew, Kelvin Tai Loon
4. Chew, Sophia Tsong Huey
5. Goh, Brian Kim Poh
6. Hwang, Nian Chih
7. Lee, Jan Hau
8. Lek, Ngee
9. Loh, Amos
10. Ozdemir, Semra
11. Yang, Yong
12. Yeo, George Seow Heong
BY SPECIALTY / DISCIPLINE

Anaesthesiology
Ong, Biauw Chi
Sia, Alex Tiong Heng
Sng, Ban Leong
Chew, Sophia Tsong Huey
Hwang, Nian Chih

Cancer and Stem Cell Biology
Casey, Patrick J.
Chacko, Ann-Marie
Chan, Jerry Kok Yen
Chia, John Whay Kuang
Chiong, Edmund
Choo, Su Pin
Chow, Pierce
Chowbay, Balram
Hu, Jiancheng
Itahana, Koji
Iyer, N Gopalakrishna
Lee, Caroline Guat Lay
Lee, Sang Hyun
Li, Shang
Lim, Darren Wan-Teck
Lim, Soon Thye
Ng, Quan Sing
Ngeow, Joanne
Ong, Sin Tiong
Pervaiz, Shazib
Pettersson, Sven
Quek, Richard Hong Hui
Rozen, Steve
Soo, Khee Chee
Tan, Hiang Khoon
Tan, Iain Bee Huat
Teh, Bin Tean
Tenen, Daniel
Teo, Melissa Ching Ching
Toh, Han Chong
Virshup, David
Wang-Casey, Mei
Yu, Sidney Wing Kwong

Cardiovascular and Metabolic Disorders
Chin, Calvin
Chua, Terrance Siang Jin
Coffman, Thomas M.
Cook, Stuart A.
Hausenloy, Derek
Lam, Carolyn Su Ping
Sahlen, Anders Olof
Silver, David L.
Tan, Swee Yaw
Yen, Paul Michael
Yeo, Khung Keong
Zhong, Liang

Dermatology
Lee, Haur Yueh
Tang, Mark Boon Yang
Tey, Hong Liang

Emergency Medicine
Kuan, Win Sen
Lim, Swee Han
Liu, Nan

Emerging Infectious Diseases
Bertoletti, Antonio
Dhanasekaran, Vijaykrishna
Krishnan, Manoj N.
Lok, Shee Mei
Low, Jenny Guek Hong
Ooi, Eng Eong
Smith, Gavin J.
St. John, Ashley L.
Vasudevan, Subhash

Endocrinology
Leow, Melvin Khee Shing
Tai, E Shyong
Lek, Ngee

Family Medicine / Continuing Care / Public Health
Ang, Seng Bin
Koh, Woon Puay
Tan, Ngiap Chuan

Haematology / Rheumatology and Immunology / Inflammation / Allergy
Albani, Salvatore
Chew, Fook Tim
Chew, Suk Peng Valerie
Chaah, Charles
Fong, Kok Yong
Gan, Yunn Hwen
Goh, Yeow Tee
Hwang, William Ying Khee
Leung, Katy Ying Ying
Low, Hsiu Ling Andrea
Health Services and Systems Research

Chan, Angelique                  Malhotra, Rahul                  Teo, Irene
Finkelstein, Eric                Matchar, David B.                 Thumboou, Julian
Goh, Cynthia                     Ong, Eng Hock Marcus              Yoon, Sungwon
Jafar, Tazeen Hasan               Østby, Truls                      Ozdemir, Semra
Malhotra, Chetna                 Quah, Stella R.

Internal Medicine

Chow, Wan Cheng                  Ling, Khoon Lin

Neuroscience and Behavioural Disorders

Ang, Beng Ti Christopher         Kandiah, Nagaendran                Sung, Sharon Cohan
Augustine, George J.             Kumar, Prakash                    Tan, Eng King
Chan, Derrick Wei-Shih           Lee, Tih Shih                      Tan, Louis Chew-Seng
Chee, Michael                    Liao, Ping                         Vandongen, Antonius
De Silva, Deidre Anne            Lim, Kah Leong                    Wang, Hongyan
Fung, Daniel Shuen Sheng         Lo, Yew Long                       Zhou, Juan Helen
Gooley, Joshua                   Ng, Wai Hoe                        Chen, Yu Helen
Hsieh, Po Jang Brown             Saw, Seang Mei
Je, Hyunsoo Shawn                Sung, Min

Obstetrics and Gynaecology / Maternal Foetal Medicine

Tan, Kok Hian                     Yong, Eu Leong
Tan, Thiam Chye                   Yeo, George Seow Heong

Ophthalmology

Ang, Marcus                       Lee, Shu Yen                      Zhou, Lei
Aung, Tin                         Mehta, Jodhibir                   Cheung, Carol Yin Lui
Barathi, Veluchamy A.             Sabanayagam, Charumathi
Beuerman, Roger W.                Tong, Louis Hak Tien
Cheng, Ching-Yu                   Wong, Tien Yin
Fenwick, Eva                      Wong, Tzee Ling Tina

Orthopaedic Surgery / Hand Surgery / Sports Medicine

Chia, Shi Lu                      Tay, Shian Chao
Koh, Joyce Suang Bee             Wong, Hee Kit
Lie, Denny Tijauw Tjoen           Yeo, Seng Jin

Otorhinolaryngology

Lim, Chwee Ming                   Loh, Thomas Kwok Seng

Paediatrics / Neonatology / Developmental Medicine

Lee, Yung Seng                    Tan, Ene Choo                      Yeo, Cheo Lian
Rajadurai, Victor Samuel          Tan, Poh Lin                      Yeoh, Allen Eng Juh

Radiological Sciences

Chan, Ling Ling                   Tang, Phua Hwee
Tan, Bien Soo                     Tay, Kiang Hiong
<table>
<thead>
<tr>
<th>Department</th>
<th>Name</th>
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<tbody>
<tr>
<td>Rehabilitation Medicine</td>
<td>Ng, Yee Sien</td>
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<td>Renal Medicine</td>
<td>Tan, Chieh Suai</td>
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<td>Respiratory and Critical Care Medicine</td>
<td>Chay, Oh Moh</td>
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<td>Devanand, Anantham</td>
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<td>Surgery</td>
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<td>Goh, Brian Kim Poh</td>
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<td>Loh, Amos</td>
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<td>Others</td>
<td>Bian Jinsong</td>
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<td>Chen, William Wei Ning</td>
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<td>Compton, Scott</td>
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<td>Yang, Yong</td>
</tr>
</tbody>
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Approved Research Mentors
Albani, Salvatore  MD, PhD

Professor, Duke-NUS Medical School  
Professor, SingHealth Duke-NUS Paediatrics Academic Clinical Programme  
Director, SingHealth Translational Immunology and Inflammation Centre  
Senior Clinical Scientist, KK Women’s and Children’s Hospital  

Contact: 6576 7131  
Email: salvatore.albani@singhealth.com.sg  
Website: -

Research Summary

STIIC established as a joint initiative of SingHealth and Duke-NUS aims to catalyse the growth of multidimensional interdisciplinary professionals to prepare them for a wide range of careers focussed on improving human health. We aim to identify and bridge unmet needs of several clinically important conditions, a few wide ranging examples are tumour microenvironment, Rheumatological disease, heart failure etc. The research team and laboratory at STIIC has varied expertise in the field of Immunology, Inflammation and Bioinformatics. We have a workflow (Immunomics) that will be customised to a project’s needs and enable high throughput analysis of patient samples. Instruments that lend themselves to these analyses include CyTOF (for mass cytometry analysis) and Nanostring (for pathway analysis). We encourage students who train with us to be able to choose from various projects that are currently being undertaken at STIIC such that it can be aligned with their research interests. One of the potential projects that a student can expect to undertake within a timeframe of up to 10 months could be one that investigates immunological profiles and perturbations in the tissue micro environment. This is based on the premise that the peripheral blood could potentially reflect the immune populations that infiltrate tissue under various conditions. We seek to investigate this by deep immunophenotyping and barcoding cells to identify relevant biosignatures that would have a translational potential. Clinical samples could be from patients with Rhematological disease, Tumour etc.

Past and Current Duke-NUS MD Research Students

Ang Chieh Hwee (Class of 2016)

Student Publications

NA
Ang, Beng Ti Christopher  
MBBS, FRCSEd (Gen Surg), FRCSGlasg(Gen.Surg), FRCSEd (Neurosurgery), FAMS (Neurosurgery)

Associate Professor, Duke-NUS Medical School
Senior Consultant and Head, Department of Neurosurgery, National Neuroscience Institute (SGH Campus)

Contact: -  
Email: beng_ti_ang@nni.com.sg  
Website: -

Research Summary

Our group has established a method of cryopreservation that facilitates the establishment of a brain tumor stem cell repository. We have isolated brain tumor stem cells from patient tumor samples, which are capable of re-creating tumor masses in mice. These implanted cells in the mouse brain eventually form tumors with morphology identical to that seen on pathological analysis of patient specimens. These tumor cells-of-origin display genetic profiles totally distinct from the tumor bulk. Importantly, different patients with similar tumor tissue pathology on microscopic examination display very different genetic profiles in their cells-of-origin, the cancer stem cells. This has major implications as current treatment strategies are largely decided based upon classification systems tailored according to morphological characteristics of the tumor. The different genetic profiles of such tumor stem cells might explain variability of treatment response and points to the existence of different genetic brain tumor subtypes which one is unable to discern based on current classification systems. As such, we now have a stable collection of such cells to enable investigative efforts in drug screening. Our lab is also engaged in deciphering chemoresistance mechanisms and in discovery of novel markers for identification of these cells.

Past and Current Duke-NUS MD Research Students

Vincent Tay (Class of 2011)

Student Publications

NA
Ang, Marcus

Assistant Professor, Duke-NUS Medical School
Consultant, Cornea and Refractive Service, SNEC
Clinical Lecturer, NUS
Hon. Consultant, Moorfields Eye Hospital, London, UK

Contact: 62277255
Email: marcus.ang@snec.com.sg
Website: https://www.researchgate.net/profile/Marcus_Ang2?ev=hdr_xprf&_sg=pzsNf6e34U4uDb4EPxO9zFqWj8ZCL1V3Ey-hV

Research Summary

Marcus Ang is currently Consultant and Clinician Investigator at SNEC and SERI, with a Masters in Clinical Investigation (NUS). Marcus’ research projects have a special emphasis on translational clinical research, searching for a direct clinical impact to improve outcomes in patients. His research areas traverse several aspects in Ophthalmology, namely: Health services research in Ophthalmology, Cornea transplantation, Ocular imaging and Ocular Device Innovation. Marcus has over 80 publications in peer-reviewed journals (including more than 10 in the top impact factor journal Ophthalmology IF = 6.70; and majority first author in journals IF> 3.0 such as BJO, IOVS and AJO). He has also co-authored more than 5 book chapters. He is currently PI of several national grants, most recent from NMRC and NHIC in 2016. He also has several awards from local as well as international organizations, with recognition for his presentations at international meetings.

Past and Current Duke-NUS MD Research Students

Saideep Bose (Class of 2012)

Student Publications


Ang, Seng Bin  MBBS, MMED (Family Medicine)(S'pore), Dip (Family Med)(NUS), Dip OM (S'pore), Dip (Family Practice Dermatology)(NUS), NCMP, MCFP (S), FCFP (S)

Adjunct Assistant Professor, Duke-NUS Medical School
Head & Consultant, Family Medicine Service, KK Women’s and Children’s Hospital
Head, Menopause Unit, KK Women’s and Children’s Hospital
Associate Program Director, Family Medicine, SingHealth Residency Program
Clinical Physician Faculty Member, Obstetrics & Gynaecology, SingHealth Residency Program

Contact: -
Email: ang.seng.bin@kkh.com.sg
Website: -

Research Summary

My research interest includes devices, clinical as well as health services research. Projects in the coming year includes a specially manufactured garment for use in children with severe eczema, osteoporosis prevalence study in the community, Melasma prevalence and progression in pregnant women, Sexuality issues in the Singapore Woman, etc.

Past and Current Duke-NUS MD Research Students
Angela Frances Yap Hui Wen (Class of 2017)
He Huiling (Class of 2018)

Student Publications

NA
Augustine, George J. PhD
Adjunct Professor, Programme in Neuroscience and Behavioral Disorders, Duke-NUS Medical School
Professor and Principle Investigator, Synaptic Mechanisms and Circuits Laboratory, Lee Kong Chian School of Medicine, Nanyang Technological University
Research Director, Institute for Molecular and Cell Biology, A*STAR

Contact: 6778 2012
Email: george.augustine@ntu.edu.sg
Website:

Research Summary

One of the most striking features of the brain is the abundant synaptic connections between nerve cells. These connections allow very rapid signalling between nerve cells and serve as the fundamental mechanism for information processing and storage in the brain. Our laboratory is interested in the function of these synaptic connections and we are studying 3 important questions within this general area:

Molecular basis of neurotransmitter release from neurons

The rapid secretion of chemical signals (neurotransmitters) serves as the basis for communication between neurons. We are identifying the proteins that are involved in the synaptic vesicle trafficking reactions underlying neurotransmitter secretion, with particular emphasis on proteins involved in exocytosis and endocytosis. Our current research is largely focussed on the functions of synapsins, a family of proteins whose functions include cross-linking vesicles into a “reserve pool”. The questions we are pursuing include: (1) Why are there so many different synapsin isoforms? and (2) What unique functions do these isoforms serve at different types of synapses?

Signal transduction pathways underlying long-lasting synaptic plasticity

Synaptic signaling is “plastic”, meaning that communication between neurons can get stronger or weaker depending on the previous history of neuronal activity. Such plastic changes in synaptic transmission are thought to be important for dynamic changes in brain function and, in particular, may serve as the basis for memory. We are studying one such form of synaptic plasticity, termed cerebellar long-term synaptic depression (LTD). The questions we are tackling include: (1) What are the signals that initiate LTD? and (2) How does neuronal gene expression change to make LTD permanent?

Optogenetic mapping of brain circuit

Synaptic circuits between neurons form the “wiring” that allows the brain to process information. Optogenetics has revolutionized our ability to elucidate the function of these circuits: with light-activated ion channels, such as channelrhodopsins, we can photostimulate genetically-defined populations of neurons. Likewise, genetically-encoded fluorescent sensors, such as Clomeleon, allow us to detect the resulting responses in postsynaptic neurons. Together, these optogenetic technologies create tremendous opportunities for understanding how the brain works and for determining how brain circuitry goes awry during various neurological and psychiatric diseases. The questions we are addressing are: (1) What is the function of a specific brain circuit? and (2) What is the spatial organization of this circuit? We currently are focusing on circuits in the cerebellum, somatosensory cortex, claustrum, hippocampus, and thalamus.

In these projects, our lab employs a wide range of techniques including electrophysiology, molecular biology, optical microscopy, computational approaches, and optogenetics.

Past and Current Duke-NUS MD Research Students
NA

Student Publications
NA
Aung, Tin  MBBS(S’pore), FRCS(Ed), FRCPTh(UK), MMed(Ophth), FAMS, PhD(Lond)

Academic Vice Chair (Research), Ophthalmology & Visual Sciences Academic Clinical Program (ACP), SingHealth/Duke-NUS School of Medicine  
Joint Professor, Duke-NUS Medical School  
Executive Director, Singapore Eye Research Institute;  
Deputy Medical Director (Research), Singapore National Eye Centre;  
Senior Consultant and Head, Glaucoma Dept, Singapore National Eye Centre;  
Professor, Dept of Ophthalmology, Yong Loo Lin School of Medicine, National University of Singapore

Contact: -  
Email: aung.tin@snec.com.sg  
Website: -

Research Summary

Professor Aung is Director of the Singapore Eye Research Institute, with his main research interests being angle closure glaucoma and the molecular genetics of eye diseases. With >350 publications, Prof Aung has been awarded >US$15 million in competitive research grant funding. He has received numerous awards including the Singapore Translational Research (STaR) Investigator Award in 2014, the NMRC-Clinician Scientist Awards in 2005 and 2008, the President's Science Award in 2009, the Nakajima (2007) and De Campo Awards (2013) from the Asia Pacific Academy of Ophthalmology and the Alcon Research Institute Award in 2013.

Prof Aung is a member of the Editorial Boards of Ophthalmology, Journal of Glaucoma, Eye, Graefe's Archive for Clinical and Experimental Ophthalmology, and 6 other journals. He also serves as a member of the Board of Governors of the World Glaucoma Association and a Board member of the Asia-Pacific Glaucoma Society and the Asian Angle Closure Glaucoma Club.

Past and Current Duke-NUS MD Research Students

Foo Li Lian (Class of 2012)  
He Yingke (Class of 2013)  
Wei Xin (Class of 2014)  
Png Ziyun Owen (Class of 2016)

Student Publications


Barathi, Veluchamy A.  PhD

Adjunct Assistant Professor, Programme in Neuroscience and Behavioral Disorders, Duke-NUS Medical School
Senior Research Scientist and Head, Ocular Disease Model Research Platform, Singapore Eye Research Institute
Adjunct Assistant Professor, Department of Ophthalmology, Yong Loo Lin School of Medicine, National University of Singapore

Contact: -
Email: amutha.b.veluchamy@seri.com.sg
Website: ResearchGate Profile

Research Summary

- Animal models of Ocular Diseases and Eye growth patterns
- Myopia, Glaucoma, Diabetic Retinopathy and AMD
- Retina and scleral biology in biochemistry, molecular and pharmacological aspect
- Molecular characterization of anti-muscarinic therapy for myopia using specific muscarinic receptor knockout mouse model
- The investigation of transglutaminase-2 function in the development of experimental myopia in mouse
- Rabbit model of corneal wound healing

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Bertoletti, Antonio  MD

Professor, Programme in Emerging Infectious Diseases, Duke-NUS Medical School
Principle Investigator, Singapore Institute for Clinical Sciences, A*STAR

Contact: 6601 3574
Email: antonio@duke-nus.edu.sg
Website: Bertoletti Lab

Research Summary

Information related to the research and lab composition can be found at www.bertolettiLab.com.

Briefly: Hepatitis B virus (HBV) infection is a preferential “Asian affair”; of the 350 million people suffering from chronic HBV infection worldwide, approximately 75% are in Asia. Research in my laboratory focuses on understanding the role of T cells in HBV pathogenesis and on developing immune therapeutic strategies for treating chronic HBV infection and HBV related HCC. Different methodological approaches (high dimensional flow cytometry, gene expression profile, laser microdissection) are utilized to analyze the HBV-specific T cell repertoire and the function of HBV-specific CD8 T cells in different clinical conditions. We are particularly interested to redefine the function of T cells in the liver environment and understand the molecular mechanisms responsible for T cell exhaustion. In addition, the laboratory is actively developing strategies to restore HBV-specific immunity in chronic HBV patients or to increase the bioavailability of cytokines/drugs into infected hepatocytes. Selection of virus-specific CD8 T cells from patients allows isolation of their T cell receptors that are then used to engineer TCR-directed T cells for T cell immunotherapy.

Past and Current Duke-NUS MD Research Students

Karen Nadua (Class of 2011)
Lin Huixin Sarah (Class of 2013)
Alfonso Tan Garcia (Class of 2014)

Student Publications


Beuerman, Roger W.  PhD

Adjunct Professor, Programme in Neuroscience and Behavioral Disorders, Duke-NUS Medical School
Senior Scientific Director, Singapore Eye Research Institute
Adjunct Professor, Department of Ophthalmology, Yong Loo Lin School of Medicine, National University of Singapore
Adjunct Professor, School of Chemical and Biomedical Engineering, Nanyang Technological University

Contact: -
Email: roger.wilmer.beuerman@seri.com.sg
Website: ResearchGate Profile

Research Summary

Development of novel antimicrobials for use in ophthalmology, proteomic studies revealing biomarkers of eye disease, and myopia.

Past and Current Duke-NUS MD Research Students

Soon Chian Myau (Class of 2012)

Student Publications

NA
Bian, Jinsong  MBBS, PhD

Associate Professor, Department of Pharmacology, Yong Loo Lin School of Medicine, National University of Singapore

Contact: 6516 5502
Email: phcbjs@nus.edu.sg
Website: -

Research Summary

Dr Bian conducts basic and translational research with a focus on identifying new therapeutic targets for treatment of cardiovascular diseases. His research interests include the biological functions of endogenous biological gases (e.g. H2S and NO) and molecular regulation of HERG K+ channels and Na+/K+ ATPase. Specifically, he is interested in studying the cell signal transduction pathways responsible for the cardioprotection induced by ischemia or pharmacological pre- or post-conditioning and identifying the involvement of new endogenous mediators, triggers and protein kinases. Regulation of ion channel function plays a pivotal role in cardiac myocyte excitability. Hormones and endogenous mediators are involved in determining channel responses to changing cardiovascular demands. By using state-of-the-art techniques, Dr. Bian also investigate how hormones regulate HERG potassium channel expression, trafficking and function in the physiological and pathological situations. Dr. Bian has received over S$3 M funding support and published over 40 papers in the leading journals in the past five years.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Casey, Patrick J. PhD
Senior Vice Dean, Research, Duke-NUS Medical School
Professor, Programme in Cancer and Stem Cell Biology, Duke-NUS Medical School
James B. Duke Professor of Pharmacology and Cancer Biology, Duke University Medical Center
Professor of Biochemistry, Duke University Medical Center

Contact: 6516 7251
Email: patrick.casey@duke-nus.edu.sg
Website: Google Scholar Profile

Research Summary

My lab focuses on the area of transmembrane signaling mediated through guanine nucleotide-binding regulatory proteins (G proteins). Many of these signaling pathways are involved in control of cell growth. There are two major areas of research ongoing in the lab. The first is the covalent modification of G proteins by isoprenoid lipids via a process termed prenylation, and in particular the impact of the processing on Ras family G proteins. Most of this work is now done in collaboration with the laboratory of Asst. Professor Mei Wang.

The second general area of research involves identification of the signaling pathways controlled by specific types of G proteins. We have linked members of one subfamily of G proteins, termed G12 proteins, to cellular processes of adhesion and migration via cell-surface cadherins and the Rho GTPase, and have obtained evidence that upregulation of expression of G12 proteins is important in metastatic progression of several types of cancer. Our current research focuses on determining the mechanism of this upregulation of G12 expression during cancer progression and in identifying the signaling pathways that contribute to the ability of these proteins to drive aberrant cell growth and metastatic invasion.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Chacko, Ann-Marie  PhD  
Assistant Professor, Programme in Cancer and Stem Cell Biology, Duke-NUS Medical School  
Head, Laboratory for Translational and Molecular Imaging (LTMI) (a Duke-NUS core facility)  
Adjunct Assistant Professor, School of Materials Science and Engineering, Nanyang Technological University  
Contact: 6601 1671  
Email: ann-marie.chacko@duke-nus.edu.sg  
Website: https://www.duke-nus.edu.sg/cscb/content/ann-marie-chacko  
https://www.duke-nus.edu.sg/research/research-facilities/ltmi  
https://scholar.google.com/citations?user=r8GwC00AAAAJ&hl=en

Research Summary

As an Assistant Professor in the Duke-NUS Programme in Cancer and Stem Cell Biology, and Head of the Duke-NUS Laboratory for Translational and Molecular Imaging (LTMI), Prof. Chacko’s goals are to advance state-of-the-art small animal imaging platforms for translational applications. A major thrust of LTMI is to develop new, and apply existing in vivo molecular imaging agents to study cancer biology, infectious disease, and brain and immune function, with an Asian disease-centric focus. LTMI offers PET/SPECT and ultra-high resolution CT, bioluminescence, and fluorescence imaging modalities, complemented with in vitro/ex vivo services including cell-based assays, biodistribution, and dosimetry. Dr. Chacko also guides companion radiochemistry and radiolabeling services made available in-house and in nearby GMP facilities. LTMI functions both as a core facility for Duke-NUS researchers and as a hub for emerging imaging research and technology development across Singapore, accessible to the broader research community including other academic institutes and industry groups through contract work and collaborations.

Prof. Chacko has more than 15 years of experience in translational imaging research. Her independent research program at Duke-NUS is dedicated to the development and preclinical characterization of molecularly-targeted systems as diagnostics and/or therapeutics. These systems include small molecules, peptides, proteins, and nanomaterials, with a particular focus in cancer, inflammation, and infectious disease. She is the author of 24 scientific publications including original research and review articles, with an additional 20 peer-reviewed publications in conference proceedings. Asst. Prof. Chacko is committed to educating a new generation of translational scientists through mentorship of graduate and medical students. She also currently supervises clinician-scientists from SGH Medical Oncology, Infectious Disease, and Nuclear Medicine Departments. Asst. Prof. Chacko has experience teaching undergraduate and graduate level coursework, as well as residency fellows on subjects ranging from Organic and General Chemistry, Biochemistry Metabolism to CNS Drug Delivery and Nuclear and Optical Molecular Imaging. She will continue to contribute to the educational and research development of junior scientists wherever possible.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

Chacko AM*, Watanabe S, Herr KJ, Kalimuddin S, Serrano RMF, Ong, J, Tham JY, Reolo M, Cherug YB, Low, JGH, Vasudevan SG. 18F-FDG as an Inflammation Biomarker for Imaging Dengue Virus Infection and Treatment Response. JCI Insight 2017 (*Corresponding author)
Chan, Angelique  PhD

Associate Professor, Programme in Health Services and Systems Research, Duke-NUS Medical School
Associate Professor, Department of Sociology, Faculty of Arts and Social Sciences, National University of Singapore
Director, Tsao Foundation Ageing Research Initiative, Department of Sociology, Faculty of Arts and Social Sciences, National University of Singapore

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Website: ResearchGate Profile

Research Summary

• Aging and Demography
• Program impact evaluation
• Health of older persons

Past and Current Duke-NUS MD Research Students

Pakiam Jillian Ann (Class of 2015)
Jeffrey Siow Yong Ming (Class of 2017; Co-mentor)

Student Publications

NA
Chan, Derrick Wei-Shih  BMBS (UK), B Med Sci (UK), MRCPCH (UK), MCI, CSCN

Adjunct Associate Professor, Duke-NUS Medical School
Senior Consultant and Head, Department of Paediatrics (Neurology Service), KK Women's and Children’s Hospital

Contact: 6394 1278
Email: derrick.chan.ws@kkh.com.sg
Website: -

Research Summary

Dr Chan conducts clinical research on children with epilepsy with a focus on epidemiology, clinical presentation and semiology, neurophysiology and therapeutics. He also has an interest in biomechanics and the role of technology in seizure monitoring. His recent work extends the epidemiological data on paediatric epilepsy in Singapore and computer vision in seizure detection. He is working to develop the role of computer vision in epilepsy, anticonvulsant dosing regimens and developing educational materials in teaching of caregivers of children with epilepsy.

Past and Current Duke-NUS MD Research Students

Huang Junjie Chester (Class of 2015)
Maya Nakamura (Class of 2016)
Sanbhmani Sheru (Class of 2018)

Student Publications

NA
Chan, Jerry Kok Yen MB, BCh, BaO (Hons), MA, MRCOG(UK), FRCOG(UK), PhD, FAMS

Associate Professor, Program in Cancer and Stem Cell Biology, Duke-NUS Medical School
Senior Consultant, Department of Reproductive Medicine, KK Women's and Children's Hospital
Research Director, KK Research Centre
Adjunct Associate Professor, Principal Investigator - Experimental Fetal Medicine Group, Yong Loo Lin School of Medicine, National University of Singapore
Honorary Associate Professor, University of Queensland Centre for Clinical Research, University of Queensland, Australia

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Website: Google Scholar Profile

Research Summary

Dr Chan is a Clinician-Scientist working in the field of Reproductive Medicine encompassing a broad area of research. His laboratory focuses on the discovery and characterization of perinatal stem cells, and developing them for both fetal and post-natal transplantation strategies. His lab is also developing a stem cell model for the study of endometriosis in the field of reproductive medicine. He is currently the Research Director at KK Women’s and Children’s Hospital, and have mentored 15 PhD students, 5 post-doctoral fellows, 16 other bachelor degree and research attachment students, amassing a total of 102 peer reviewed journal papers, 9 book chapters, 64 awards, 38 published abstracts and 5 patents.

Past and Current Duke-NUS MD Research Students
NA

Student Publications
NA
Chan, Ling Ling  MBBS, FRCR, FAMS

Adjunct Associate Professor, Programme in Neuroscience and Behavioral Disorders, Duke-NUS Medical School
Senior Consultant, Department of Diagnostic Radiology, Singapore General Hospital

Contact: - 
Email: chan.ling.ling@sgh.com.sg
Website: -

Research Summary

The main thrust of Dr Chan’s research involves the application of advanced MRI and CT techniques, including MR spectroscopy and MRI diffusion tensor imaging to evaluate neurological diseases and their clinical progression. Two of her key projects include the use of MRI diffusion tensor imaging (DTI) and MR tractography to evaluate white matter tracts in patients with gait problems, and long term case control prospective DTI study to identify potential radiologic marker of clinical progression in Parkinson’s disease.

Her group has previously demonstrated in a large, prospective, case control study that the FA value in the substantia nigra on DTI was lower in PD compared with healthy controls, and correlated inversely with the clinical severity of PD. They are currently conducting longitudinal studies to assess the clinical utility of serial FA measurements of the substantia nigra in objective quantification of disease progression and monitoring of the therapeutic response.

Past and Current Duke-NUS MD Research Students

Ng Kia Min (Class of 2014) 
Tan Wen Qi (Class of 2015)

Student Publications

Chay, Oh Moh  MBBS, M Med (Paeds), FAMS, FRCPCH (UK), FAMS

Senior Consultant, Department of Paediatrics (Respiratory Medicine Service), KK Women’s and Children’s Hospital
Campus Director, Education, KK Women’s and Children’s Hospital

Contact: 6394 1120
Email: chay.oh.moh@kkh.com.sg
Website: -

Research Summary

Research focus on respiratory disorder particularly on Childhood Asthma. Past research include clinical trials, respiratory infection and obstructive sleep apnoea.

Current has oversight of a database on Bronchial Asthma with about 4000 patients. My focus will be to leverage on the outcome of these patients to further enhance the care of children with high disease burden asthma and to better utilise limited resources.

Other research interest include environmental health issues and impact of post natal depression on wheezing.

Will be also focusing on educational research especially in area of inter professional education, interpersonal skill and communications

Past and Current Duke-NUS MD Research Students

Wang Hao (Class of 2014; Co-Mentor)
Ser Ping Han (Class of 2017)
Angela Frances Yap Hui Wen (Class of 2017; Co-mentor)
Ong Shu Zhen Alicia (Class of 2018)

Student Publications

NA
Dr Cheah conducts translational research on colorectal cancer (CRC) with a focus on genomics. Her recent work has entailed the discovery of new tumor suppressors for APC mutation-negative familial CRC syndromes via high-density genotyping arrays; potential biomarkers for early-onset non-syndromic CRC patients as well as early stage CRC via genome-wide expression profiling. Her laboratory completed a genome-wide association study (GWAS) to search for susceptibility loci associated with differential response to environmental insults in Chinese sporadic colorectal carcinomas. Dr. Cheah has been a PI on over 10 NMRC//BMRC, SingHealth and Singapore Cancer Society grants, and she has authored over 40 papers and 3 book chapters.

Past and Current Duke-NUS MD Research Students

Tan Si Yun Melinda (Class of 2012)

Student Publications

NA
Chee, Michael  MBBS (S'pore), FRCP(UK), FAMS

Director, Centre for Cognitive Neuroscience, Duke-NUS Medical School
Professor, Programme in Neuroscience and Behavioural Disorders, Duke-NUS Medical School

Contact: 6516 4916
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Website: Google Scholar Profile / Cogneuro Lab

Research Summary

My team and I study human cognition in the context of sleep restriction and cognitive aging. We seek to further human cognitive performance and improve public health through understanding the neural and psychological basis of performance degradation in these settings. We exploit our knowledge of these mechanisms in meso-scale intervention studies. In the coming year we will have two limbs of research, one working with high school adolescents to improve their sleep habits and another on healthy elderly, characterizing sleep fragmentation and its contribution to accelerated cognitive decline. In both these age groups we will test specific interventions. These include creative ways of reallocating time use in the young and acoustic stimulation to boost slow wave sleep in the old. You will be part of a team with research skills ranging from sleep science to cognitive aging, functional brain imaging, EEG and statistical analysis of longitudinal epidemiological data.

Past and Current Duke-NUS MD Research Students

Ong Shi Wei (Class of 2014)

Student Publications

NA
Chen, William Wei Ning  PhD

Professor, School of Chemical and Biomedical Engineering, Nanyang Technological University

Contact: 6316 2870
Email: wnchen@ntu.edu.sg
Website: -

Research Summary

Professor Chen's research is highly inter-disciplinary with a strong focus on cellular bioengineering platforms for pharmaceutical and environmental applications. His current research is in the area of metabolic and microbial engineering toward production of valuable chemicals including biofuels, as well as environmental engineering for resource recovery and sustainable food production. His research in converting food waste to high value food ingredients using microbial engineering was covered in a recent episode of Future Forward by Channel News Asia (Jan 2015), in which he also shared his views on sustainable food supply.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Cheng, Ching-Yu  MD, MPH, PhD

Associate Professor, Ophthalmology and Visual Sciences Clinical Academic Program (Eye ACP), Duke-NUS Medical School
Senior Clinician Scientist, Singapore Eye Research Institute
Head, Ocular Epidemiology Research Group and Statistics Unit, Singapore Eye Research Institute
Clinician Scientist, Singapore National Eye Centre

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Website: Google Scholar Profile

Research Summary

A/Prof Cheng directs the Singapore Epidemiology of Eye Diseases (SEED) Program, a large multi-disciplinary research program focusing on epidemiology, imaging and genetics on eye diseases. The SEED Program has built up one of the largest epidemiological and genetic databases (n>10,000) for eye diseases in the world. He takes the leading role in several major international eye genetics consortia, such as the Genetics of AMD in Asians (GAMA) Consortium, International Glaucoma Genetics (IGGC) Consortium, Consortium for Refractive Error And Myopia (CREAM), and Cohorts for Heart and Aging Research in Genomic Epidemiology (CHARGE) - Eye Consortium. The collaborative work has led to several high-impact publications in leading genetic journals, including Nature Genetics and American Journal of Human Genetics. He is the PI of more than $2.5 million in grant funding from the NMRC and A*STAR in Singapore and has authored >200 papers. He is an awardee of the prestigious NMRC Clinician Scientist Award.

Past and Current Duke-NUS MD Research Students

Chong Yong He (Class of 2017; Co-mentor)

Student Publications

NA
Cheung, Yin Bun PhD

Professor, Center for Quantitative Medicine, Duke-NUS Medical School
Adjunct Professor of International Health, University of Tampere, Finland

Contact: 6576 7379
Email: yinbun.cheung@duke-nus.edu.sg
Website: blog.nus.edu.sg/cheungyb

Research Summary

Prof Cheung is a paediatric epidemiologist and biostatistician. He studies maternal and child health, statistical methodology in nutrition and infection research, and patient-reported outcomes. His recent work includes the studies of child growth and child development in Asian and African populations, statistical models for estimation of vaccine efficacy and immunogenicity, and quality of life in cancer patients. Prof Cheung has been a principal investigator on 5 NMRC grants, and has authored over 200 scientific publications.

Past and Current Duke-NUS MD Research Students

Swati Jain (Class of 2014)
Quek Jia Ling Jovina (Class of 2016)
Ho Xin Yi Cassandra (Class of 2017)

Student Publications

Chew, Fook Tim  PhD

Associate Professor, Department of Biological Sciences, National University of Singapore
Vice Dean, Undergraduate Studies and Student Life, Faculty of Science, National University of Singapore

Contact: 6516 1685
Email: dbsct@nus.edu.sg
Website: -

Research Summary

Our group is interested in understanding the underlying basis of allergic diseases. We are currently taking a large scale genetic epidemiological approach to uncover the potential pathways and interactions influencing the pathogenesis and development of these complex diseases. This includes large-scale genome wide association studies, functional candidate gene evaluations, gene-gene (epistasis) and gene-environment studies. Candidates involved in this work will be exposed to large scale cross sectional epidemiological studies, followed by clinical and laboratory based evaluation of some of the underlying candidate genes in relation to disease phenotypes and presentations. The current focus is to further characterize the potential influence of gene-splicing, large scale methylation, miRNA influence as well as differential expression of the candidate genes as influenced by the allele specific backgrounds of individuals affected by the disease of interest.

Past and Current Duke-NUS MD Research Students

Rachel Fok Yu Ting (Class of 2012)

Student Publications

NA
Chew, Suk Peng Valerie PhD

Assistant Professor, Duke-NUS Medical School Singapore
Senior Research Scientist, SingHealth Translational Immunology and Inflammation Centre (STIIC)

Contact: 6576 7183
Email: valerie.chew.s.p@singhealth.com.sg
Website: ResearchGate Profile

Research Summary

Dr Chew is the key researcher leading the project on understanding the impact of tumor immune-microenvironment on clinical outcome in patients with hepatocellular carcinoma (HCC). She led the discovery of an unique 14-immune genes signature in HCC which could accurately predicts patient survival (Chew et.al. Gut 2012). The work has also been extended to testing the key immune modulators: toll like receptor-3 in preclinical HCC models (Chew et.al. JNCI 2012, Ho et.al. Oncotarget 2015). Her current work in STIIC extended to multidimensional deep immunophenotyping and immunomonitoring of HCC microenvironment using several cutting edge multiplex technologies such as Time of Flight Mass Cytometry (CyTOF) and next-generation sequencing. This powerful approach led to the identification of multiple immune subsets with clinical relevance.

Her work has gained recognition with multiple grant awards and publications in high impact journals including Gut, JNCI and Nature Genetics.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Chia, John Whay Kuang  MBBS, MRCP (UK), FAMS  
(Medical Oncology)

Senior Consultant, Department of Medical Oncology, National Cancer Centre Singapore
Adjunct Assistant Professor, Department of Medicine, National University of Singapore

Contact: 6436 8177
Email: John.Chia.Whay.Kuang@nccs.com.sg
Website: -

Research Summary

Dr Chia's major interest has been to advance the field of cancer therapeutics through clinical trials and he is actively involved in numerous Phase I, II and III investigator-initiated clinical studies. He holds several clinical research grants and has published research papers in the fields of inflammation, immunotherapy and gynecological cancers.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Chia, Shi Lu  MBBS, DFDC (CAW), FRCS (Surg), FRCS (Ortho & Trauma), DIC, PhD

Adjunct Assistant Professor, Duke-NUS Medical School
Deputy Head (Research) & Senior Consultant, Department of Orthopaedic Surgery, Singapore General Hospital
Clinical Lecturer, Yong Loo Lin School of Medicine, National University of Singapore

Contact: -
Email: chia.shi.lu@sgh.com.sg
Website: -

Research Summary

His current research interests include arthritis, cartilage biology, cartilage tissue engineering and artificial joint design.

Past and Current Duke-NUS MD Research Students

Zhou Zhihong (Class of 2013)
Zhu Meng (Class of 2015)

Student Publications


Chin, Calvin  MD, MCI, PhD

Assistant Professor, Duke-NUS Medical School
Consultant, National Heart Centre Singapore

Contact: 6704 8962
Email: cchin03m@gmail.com
Website: -

Research Summary

My research focuses on understanding the mechanisms driving left ventricular hypertrophy and myocardial fibrosis. This involves the use of cardiovascular imaging techniques, biochemical markers and genetic profiling. Recently, we had examined the mechanistic and prognostic roles of high sensitivity plasma cardiac troponin I and 12-lead electrocardiograms in patients with calcific aortic stenosis. My current work focuses on patients with hypertensive heart disease. The ultimate goal is to identify novel biomarkers of cardiac decompensation for targeted therapies, before heart failure ensues. Students involved in my research will be exposed to cutting-edge imaging and analysis techniques.

Past and Current Duke-NUS MD Research Students

Cai Jiashen (Class of 2017; Co-Mentor)
Kwan Woo Paik (Class of 2018)

Student Publications

NA
Chiong, Edmund

Associate Professor, Yong Loo Lin School of Medicine, National University of Singapore
Senior Consultant, National University Health System
Associate Chairman, Medical Board (Research), National University Hospital

Contact: 6772 5642
Email: surce@nus.edu.sg
Website: https://www.researchgate.net/researcher/11708814_Edmund_Chiong

Research Summary

My principal research activities are in the field of bladder cancer, a disease that is the 10th most common cancer in men in Singapore and the 5th most common worldwide, affecting more than 800,000 people. Intravesical therapies (especially BCG) for superficial bladder cancer represent one of the most successful achievements in the treatment of cancer and are at the forefront of research in immunotherapy for solid organ cancers. I am one of the investigators in the Bladder Cancer Workgroup, Dept of Surgery, NUS, which studies the mechanisms of action of Bacillus Calmette-Guérin (BCG) therapy, gene therapy and other therapies for bladder cancer. I am particularly interested in investigating the genetic factors that influence clinical response to BCG therapy.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Choo, Su Pin  MBBS, MRCP(UK), FAMS

Senior Consultant and Chief of Gastrointestinal Oncology, Division of Medical Oncology, National Cancer Centre Singapore
Deputy Head, Clinical Trials and Epidemiological Sciences, National Cancer Centre Singapore
Adjunct Principal Investigator, SingHealth Investigational Medicine Unit
Adjunct Assistant Professor, Yong Loo Lin School of Medicine, National University of Singapore

Contact: 6436 8197
Email: choosupin@nccs.com.sg
Website: ResearchGate Profile

Research Summary

My main area of clinical specialization is in gastrointestinal cancers which span solid tumours from the oesophagus, stomach, intestines to anus and from the hepatobiliary system. I am actively involved in running clinical trials for these cancers with particular interest in hepatocellular carcinoma and gastric cancers. Some of my trials are investigator-initiated studies that were borne from pre-clinical work done by my collaborators. I also have a special interest in Phase I trials combining novel therapies in all cancers and I run the Early Clinical Research Unit in National Cancer Centre Singapore (NCCS). I also oversee the gastrointestinal clinical database which collects data on colorectal, gastric and pancreatic cancer patients seen in NCCS.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Chow, Pierce  MBBS, MMed (Surg), FRCSE, FAMS (Gen Surg), PhD

Professor, Duke-NUS Medical School
Senior Consultant Surgeon, Surgical Oncology, National Cancer Centre Singapore
Senior Consultant Surgeon, HPB and Transplant Surgery, Singapore General Hospital
Senior Clinician Scientist, National Medical Research Council, Singapore
Associate Faculty, Genome Institute of Singapore

Contact: 6576 2151
Email: pierce.chow@duke-nus.edu.sg
Website: ResearchGate Profile

Research Summary

Prof Chow leads the Program in Clinical and Translational Liver Research at the National Cancer Center Centre and is Protocol Chair of the Asia-Pacific Hepatocellular Carcinoma Trials Group. His research interests are in hepatocellular carcinoma, steato-hepatitis and novel therapeutic platforms.

1. Clinical Trials and outcomes research in hepato-pancreato-biliary cancers
2. The genomics and immunology of hepatocellular carcinoma and applications to personalized medicine
5. Metabolic liver disease and the microbiome

Past and Current Duke-NUS MD Research Students

Chia Ghim Song (Class of 2011)          Chia Yun Ling Caroline (Class of 2016)
Lim Miao Shan (Class of 2011)          Chin Fu Wen, Kenneth (Class of 2016; Co-Mentor)
Lim Kheng Choon (Class of 2011)        Yang Jiajing Edwin (Class of 2016; Co-Mentor)
Andrew Khor Yu Keat (Class of 2014)   Goh Kian Leong (Class of 2018; Co-mentor)
Zhu Guili (Class of 2014)              Eshani Nastassia Mathew (Class of 2018)

Student Publications


Chow, Wan Cheng

Senior Consultant, Department of Gastroenterology & Hepatology, Singapore General Hospital
Chairman, Division of Medicine, Singapore General Hospital

Contact: 6326 6199
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Website: -

Research Summary

Various clinical trials in treatment of chronic hepatitis B and C, including phase 1 trials in therapeutic vaccines.

Past and Current Duke-NUS MD Research Students

Lin Huixin Sarah (Class of 2013; Co-Mentor)
Soh Yi Min, Benjy (Class of 2017)

Student Publications

NA
Chowbay, Balram PhD

Adjunct Professor, Office of Clinical Sciences, Duke-NUS Medical School
Director, SingHealth Clinical Pharmacology Laboratory, Academia
Principal Clinical Pharmacologist, Laboratory of Clinical Pharmacology, National Cancer Centre Singapore
Adjunct Professor, School of Chemical and Biological Engineering, Nanyang Technological University

Contact: 6436 8320
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Website: Google Scholar Profile

Research Summary

My research areas are in the applications of pharmacokinetics (PK) and pharmacodynamics (PD) principles in the optimisation of drug dosages as well as application of pharmacogenetic tools to explain variabilities in the PK/PD of therapeutic agents. I have a special interest in studying the pharmacogenetics of genes involved in expressions of drug metabolising enzymes, drug transporters and drug targets in different Asian ethnic groups.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Chua, Terrance Siang Jin MBBS, MRCP(UK), M Med (Int Med), FRCP(Lond), FAMS, FRCPE, FACC(USA)

Adjunct Professor, Duke-NUS Medical School
Academic Chair, SingHealth Duke-NUS Cardiovascular Academic Clinical Program
Medical Director and Senior Consultant, Department of Cardiology, National Heart Centre Singapore
Deputy Group Director, Medical, SingHealth

Contact: 6436 7518
Email: terrance.chua.s.j@nhcs.com.sg
Website: -

Research Summary

Dr Chua's main interests are in cardiac imaging, (particularly nuclear cardiology and cardiac CT), and the epidemiology of myocardial infarction and coronary artery disease. He is involved in supporting the work of the Singapore Cardiac Data Bank, a national database of major cardiac procedures and conditions (such as coronary angioplasty, bypass surgery, heart failure) in all public hospitals that has been collecting data since 2000.

Past and Current Duke-NUS MD Research Students

Ignasius Aditya Jappar (Class of 2012)  
Rachel Ng Qiao Ming (Class of 2013)  
Tay Yu Ling (Class of 2014)  
Apurva Thanju (Class of 2014)  
Tan Xian-li Olivia (Class of 2015)  
Goh Jian Min, Jasmine (Class of 2016)  
Tan Shih Jia, Janice (Class of 2016; Co-Mentor)  
Francine Tan Chiu Lan (Class of 2017)

Student Publications

Chuah, Charles MB, ChB (UK), FRCP (Edin), MMed (Int Med), M.D. (London)

Assistant Professor, Programme in Cancer and Stem Cell Biology, Duke-NUS Medical School
Senior Consultant, Department of Haematology, Singapore General Hospital
Clinical Senior Lecturer, Yong Loo Lin School of Medicine, National University of Singapore
Director, Molecular Laboratory, Department of Haematology, SGH
Director, Myeloproliferative Disorders/Chronic Myeloid Leukaemia Program, Department of Haematology, SGH
Director, Department of Clinical Research, Singapore General Hospital
Director, Junior Clinician-Scientist/Clinician Researcher Program, Academic Clinical Program for Medicine, SingHealth-Duke-NUS

Contact: 6321 4855
Email: charleschuah@duke-nus.edu.sg
Website: -

Research Summary

Dr Chuah was awarded the National Medical Research Council Clinician Scientist Award in 2007 and 2010. He is currently holding research grants from A*STAR/BMRC and SingHealth Foundation and is a principal investigator in nineteen multi-centre clinical trials. He has authored or co-authored more than thirty six publications in peer-reviewed scientific journals including Nature, Nature Medicine, Nature Genetics, New England Journal of Medicine, PNAS, Blood, Leukemia and Journal of Clinical Oncology. Dr Chuah is a member of the Scientific Review Panel of the NMRC. He is in the editorial board for Annals Academy of Medicine, Singapore and is a reviewer for the Singapore Medical Journal, Cancer Letters, International Journal of Hematology, Leukemia, Leukemia Research and Annals of the Academy of Medicine, Singapore. His research interests include mechanisms of resistance and targeted therapy in chronic myeloid leukaemia.

Past and Current Duke-NUS MD Research Students

Cao Jinyi (Class of 2016)

Student Publications

NA
Coffman, Thomas M. MD

Dean, Duke-NUS Medical School
Professor and Program Director, Programme in Cardiovascular and Metabolic Disorders, Duke-NUS Medical School
James R. Clapp Professor of Medicine, Duke University Medical Center
Director, Cardiovascular Research Center, Duke School of Medicine

Contact: 6601 1069
Email: thomas.coffman@duke-nus.edu.sg
Website: -

Research Summary

Diabetic nephropathy, the role of the kidney in hypertension, prostanoids as mediators of hypertension and kidney injury.

Past and Current Duke-NUS MD Research Students

Maeda Momoe (Class of 2014)

Student Publications

NA
Compton, Scott PhD

Associate Professor and Associate Dean, Medical Education, Research and Evaluation (MERE), Duke-NUS Medical School

Contact: 6601 1565
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Website: Google Scholar Profile

Research Summary

My research has primarily focused on clinical and educational issues related to palliative and end-of-life care provided in emergency medicine settings.

- Development and evaluation of educational methods for promoting emergency physicians’ end-of-life communication skills in time-limited, acute-care settings.
- Assessment of the effect witnessing failed resuscitations on the bereavement outcomes of family members of cardiac arrest patients.
- Determinants of cardiac arrest outcomes.

Past and Current Duke-NUS MD Research Students

Sanchez Daniel John Gutierrez (Class of 2016)
Wu Jiawei Sean (Class of 2017)

Student Publications

NA
Cook, Stuart A.  *MBBS, MRCP, PhD*

Professor, Programme in Cardiovascular and Metabolic Disorders, Duke-NUS Medical School  
Senior Consultant, National Heart Centre Singapore  
Professor of Clinical and Molecular Cardiology, Imperial College  
Associate Director and Genetics Theme Lead, Brompton and Harefield Biomedical Research Unit

**Contact:** 6601 2584  
**Email:** stuart.cook@duke-nus.edu.sg  
**Website:** -

**Research Summary**

My group, in collaboration with world-leading laboratories, has developed and applied unbiased, integrated systems genetics and genomics approaches combined with high-resolution cardiovascular phenotyping to identify new genes and mechanisms for cardiac hypertrophy and dysfunction. To date, my discovery-based research has been largely carried out in genetically tractable rat and mouse systems with translational to human tissues and cohorts as a central dogma, which has proved highly successful. In addition, the group has used genome-wide association (GWAS) in humans to identify new loci and genes for dilated cardiomyopathy (DCM), the commonest indication for heart transplantation.

With the maturation of next generation sequencing technologies I have developed dedicated informatics, databases and statistical genetics to uncover new insights into heart failure biology. These advances are enabling a greater emphasis on discovery and diagnostics-based research in humans that can now be performed in cohorts of patients with inherited cardiac diseases and ischemic heart failure and control subjects phenotyped using cardiac MRI that I have assembled. These cohorts will be interrogated using targeted resequencing, whole exome sequencing and whole genome sequencing in combination with conventional GWAS with bedside-to-bench translation for mechanistic studies. While these approaches are in their early stages we have already identified Titin as the commonest genetic cause of DCM, which increases the clinical diagnostic yield of DCM by up to 100%.

**Past and Current Duke-NUS MD Research Students**

Mervin Goh Feng Ji (Class of 2015)  
Dypti Lulla (Class of 2016)  
Cai Jiashen (Class of 2017)

**Student Publications**

NA
De Silva, Deidre Anne  MBBS, MRCP(UK), FAMS  
(Neurology)

Associate Professor, Duke-NUS Medical School  
Director (Clinical Research/SGH), SingHealth Duke-NUS Neuroscience Academic Clinical Programme  
Senior Consultant, Department of Neurology, National Neuroscience Institute (SGH Campus)  
Clinical Tutor, National University of Singapore

Contact: 6326 5003  
Email: gnrdsd@sgh.com.sg  
Website: -

Research Summary

Dr De Silva is a neurologist who conducts clinical and translational research in stroke. Her areas of research interests include the Asian pattern of stroke, intracranial large artery disease, small cerebral artery disease, acute reperfusion treatment, advanced stroke imaging, novel vascular risk factors such as aortic stiffening, and retinal microvascular changes in stroke. Dr De Silva has been awarded the 4 National Medical Research Council administered grants as Principal Investigator. She has first authored more than 60 peer-reviewed publications. She has supervised junior and associate consultants, clinical stroke fellows, neurology senior residents, internal medicine junior residents and medical students for research.

Past and Current Duke-NUS MD Research Students

Eunizar Omar (Class of 2011)  
Chua Jia Hui (Class of 2013)  
Melissa Tan Si Hui (Class of 2014)  
Lim Shu Han (Class of 2017)

Student Publications


Devanand, Anantham *MBBS, MRCP (UK), AKC (Lond), FAMS*

Assistant Professor, Duke-NUS Medical School
Senior Consultant, Department of Respiratory and Critical Care Medicine, Singapore General Hospital
Associate Program Director, Singhealth Internal Medicine Residency

Contact: 6321 4700
Email: anantham.devanand@sgh.com.sg
Website: -

Research Summary

Dr Devanand’s main research interest is in diagnostic thoracic endoscopy. There are three major projects that are currently underway. An endoscopy database captures comprehensive data on all procedures to facilitate evaluation of diagnostic yield, complication rates, technical issues and patient satisfaction. Navigational bronchoscopy has been acquired through a HSDP grant to provide a ‘GPS’ system to help endoscopists locate peripheral lung lesions that are not visible in the bronchi. We hope to define the sensitivity of this technology. Duke-NUS has also provided support for a fibred confocal microscopy project. This technology provides in vivo cellular level imaging of the lung parenchyma and is being evaluated in a pilot project to map an atlas of interstitial lung disease. In addition, Dr Devanand is working with Allergy Center and the SGH COPD service on the acquisition of bronchial thermoplasty and bronchoscopic lung volume reduction respectively.

Past and Current Duke-NUS MD Research Students

Meng Peng (Class of 2016)
Liu Xiang (Class of 2017)
Cao Qi (Class of 2017; Co-mentor)
Lau Pui Kheng, Priscilla (Class of 2018; Co-mentor)

Student Publications

NA
Dhanasekaran, Vijaykrishna PhD

Associate Professor, Programme in Emerging Infectious Diseases, Duke-NUS Medical School
Visiting Scientist, Department of Pathology, Singapore General Hospital, SingHealth
Visiting Scientist, World Health Organization Collaborating Centre for Reference and Research on Influenza, Melbourne, Australia

Contact: 6601 1261
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Website: Google Scholar Profile

Research Summary

Our research lies in the intersection of biomedicine, epidemiology and evolutionary molecular sequence analysis to understand the factors that regulate the evolution and diversity of pathogens and pathogen communities. We especially focus on the integration of pathogen sequence data with clinical, epidemiological and immunological data that are routinely generated through large-scale disease surveillance of infectious pathogens using phylogeny (evolutionary tree)-based methods in order to improve disease control.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Fenwick, Eva  PhD

Assistant Professor, AMRI and CHIC, Duke-NUS Medical School
Assistant Professor, Singapore Eye Research Institute

Contact: 6576 7356
Email: efenwick@duke-nus.edu.sg
Website: https://www.linkedin.com/in/eva-fenwick-9557b5111

Research Summary

Dr Fenwick’s research interests lie in health services research, epidemiology, and patient-centred outcomes in vision and diabetes; development of outcome measures using modern psychometric theory (Rasch analysis, item banking and computer adaptive testing); health literacy in diabetes and eyes; and vision and quality of life outcomes in aged care; qualitative methodology (focus groups, semi-structured interviews and cognitive interviewing); diet and physical activity in diabetes and diabetic eye diseases. Dr Fenwick is currently developing a series of item banks and computer adaptive testing systems for the major blinding eye conditions in Singapore. Dr Fenwick has been PI on several small grants in Australia and Singapore and Co-I on 4 large NMRC grants, and she has authored nearly 80 papers and 5 book chapters.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Finkelstein, Eric A. PhD, MHA

Executive Director, Lien Centre for Palliative Care, Duke-NUS Medical School
Professor, Program in Health Services and Systems Research, Duke-NUS Medical School
Director, NIHA Research Program, NUS

Contact: 6516 2338
Email: eric.finkelstein@duke-nus.edu.sg
Website: Google Scholar Profile

Research Summary

Eric A. Finkelstein, Ph.D., M.H.A. is the Professor of Health Services and Systems Research at the Duke-NUS Medical School and the Executive Center Director of the Lien Centre for Palliative Care. He also holds appointments at NUS School of Public Health and Duke University Global Health Institute. His research focuses on the economic causes and consequences of health behaviors, with a primary emphasis on the use of traditional and behavioral economic incentives to influence those behaviors in ways to improve the public's health. Recent research also focuses on studies to better understand the complicated decisions that revolve around end of life care. He has published over 150 manuscripts and 2 books in these areas, and also successfully commercially an Obesity Cost Calculator for employers and insurers. Based on google scholar, he has an h-index of 45 and his publications have been cited over 13,000 times, including in the landmark Supreme Court decision upholding the U.S. Affordable Care Act (aka Obamacare). In 2015, he was selected by Thomson Reuters as one of the World's Most Influential Scientific Minds.

Past and Current Duke-NUS MD Research Students

Saideep Bose (Class of 2012)  Tan Gui Fang, Edlyn (Class of 2018; Co-mentor)
Wang Hao (Class of 2014)  Andalib Hossain (Class of 2016)
Chen Pin Yu, Petty (Class of 2015; Co-Mentor)  Wu Hong King (Class of 2017)
Andalib Hossain (Class of 2016)  CHIA May Fen, Yvonne (Class of 2017; Co-mentor)

Student Publications


Fong, Kok Yong  MBBS (S'pore), M Med (Int Med), FAMS (Rheumatology), FRCP (Edin)

Professor, Duke-NUS Medical School
Chairman, Medical Board, Singapore General Hospital
Senior Consultant, Department of Rheumatology and Immunology, Singapore General Hospital
Adjunct Professor, Yong Loo Lin School of Medicine, National University of Singapore

Contact: 
Email: fong.kok.yong@sgh.com.sg
Website: 

Research Summary
NA

Past and Current Duke-NUS MD Research Students
Tan Tze Chin (Class of 2011)
Huang Youyi (Class of 2016)

Student Publications
NA
Fung, Daniel Shuen Sheng MBBS, MMed
(Psychiatry), FAMS

Adjunct Associate Professor, Programme in Neuroscience and Behavioral Disorders, Duke NUS Medical School
Chairman, Medical Board, Institute of Mental Health
Senior Consultant, Department of Child and Adolescent Psychiatry, Institute of Mental Health
Adjunct Associate Professor, Yong Loo Lin School of Medicine, National University of Singapore
Adjunct Associate Professor, Lee Kong Chian School of Medicine, Nanyang Technological University

Contact: 6389 3646
Email: daniel_fung@imh.com.sg
Website: Google Scholar Profile

Research Summary

Dr Fung conducts clinical research on disruptive behaviour disorders (E.g. Attention Deficit Hyperactivity Disorder) and emotional disorders (E.g. Anxiety disorders). His recent work involves a randomized controlled trial of fatty acids supplementation and social skills training for children and adolescents with disruptive behaviour disorders. His current interests include serious games and new media interventions for psychiatric disorders in children and adolescents.

Past and Current Duke-NUS MD Research Students

Lim Wei Shyan (Class of 2012)
Pavaani Thiagayson (Class of 2013)
Kwok Li Ping Sharon (Class of 2015)
Lau Tsz Wing (Class of 2018)

Student Publications

Gan, Yunn Hwen PhD

Associate Professor, Department of Biochemistry, Yong Loo Lin School of Medicine, National University of Singapore

Contact: 6516 3678
Email: bchganyh@nus.edu.sg
Website: ResearchGate Profile

Research Summary

Research in Dr Gan’s laboratory focuses on host pathogen interactions, host susceptibility factors to infectious diseases and the immune responses to bacterial pathogens. The main pathogen under study is *Burkholderia pseudomallei*, a Gram-negative bacterium endemic in Singapore, rest of Southeast Asia and Northern Australia. The team is internationally recognized as one of the leaders in melioidosis research, having discovered various virulence pathways in the bacteria and established the susceptibility factors which predispose diabetics to the disease. The team is also examining mechanisms underlying diabetic susceptibility to *Klebsiella pneumoniae* in causing liver abscesses and the design of novel immunotherapeutics against multi-drug resistant bacterium *Acinetobacter baumannii*.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Gandhi, Mihir
Manager, Quantitative Services & Collaborations, Centre for Quantitative Medicine, Duke-NUS Medical School
Head of Biostatistics, Singapore Clinical Research Institute

Contact: 65088309
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Website: https://scholar.google.com/citations?user=9MvdXdEAAAAJ

Research Summary

Mihir Gandhi’s research specialization is applied statistics in clinical research related oncology, child growth and development, and health-related quality of life. He has been the trial statistician for several hepatocellular carcinoma trials (AHCC03, AHCC05, AHCC06, and AHCC07) from Asia-Pacific Hepatocellular Carcinoma Trials Group. These are phase II and phase III multi-country trials. He was also involved in providing statistical support for two phase II child nutritional trials conducted in Singapore and a large-scale cohort study on assessing child growth and development in Malawi. He is an active researcher in area of health-related quality of life in several patient populations such as cancer, heart diseases, rheumatoid arthritis, and stroke. He has published more than 35 research papers in peer-reviewed local and international journals.

Past and Current Duke-NUS MD Research Students

Goh Kian Leong (Class of 2018)

Student Publications

NA
Goh, Cynthia  MBBS, PhD, FAMS, FRCP

Associate Professor, SingHealth Duke-NUS Oncology Academic Clinical Programme
Deputy Chairperson, Lien Centre for Palliative Care, Duke-NUS Medical School
Senior Consultant, Division of Palliative Medicine, National Cancer Centre Singapore

Contact: 6436 8183
Email: dpmgoh@nccs.com.sg
Website: -

Research Summary

Dr Cynthia Goh conducts clinical research into treatments for pain, other symptoms and quality of life of patients near the end of their lives at the Division of Palliative Medicine, National Cancer Centre Singapore. She also leads a team that does health services research, looking into how Singaporeans wish to be cared for at the end of their lives, and the influence ethnicity and religion has on this.

Past and Current Duke-NUS MD Research Students
NA

Student Publications
NA
Goh, Yeow Tee  *MMed (Int Med)*

Adjunct Associate Professor, Duke-NUS Medical School  
Senior Consultant, Department of Haematology, Singapore General Hospital  
Acting Chairman, Division of Research, Singapore General Hospital  
Director, Clinical Trials and Research Centre, Singapore General Hospital  
Director, Research Quality Management, Singhealth  
Clinical Senior Lecturer, National University of Singapore

**Contact:** 6576 2429  
**Email:** goh.yeow.tee@sgh.com.sg  
**Website:** -

### Research Summary

A/Prof Goh’s specializes in translational research involving hematologic malignancies (notably in Chronic Myeloid Leukemia, Multiple Myeloma and Lymphoma), with focus on the use of novel agents, anti-infectives and supporting therapies. His research interest also includes conditioning regimens, immunoreconstitution and cell processing in hematopoietic stem cell transplantation. In recent years, A/Prof Goh has also ventured into immunotherapy research for hematologic malignancies, focusing primarily in the role of memory and regulatory T cells and augmentation of cytotoxic T-cell response. A/Prof Goh is a prolific clinical researcher, who is the PI and Co-I in over 63 clinical trials to date. Among which, he is the overall PI in an investigator-initiated regional phase 2 trial involving a novel combination of 2 drugs for the treatment of Peripheral or NK/T cell Lymphoma. A/Prof Goh is also the PI and recipients of grants from NMRC (Overall-Lead PI; Centre Grant), A*Star and SCS.

### Past and Current Duke-NUS MD Research Students

Yap Kok Chong Bernard (Class of 2016)  
See Kee Yon Lionel (Class of 2016; Co-Mentor)  
Loo Jiawei, Aloysius (Class of 2018)

### Student Publications

Gooley, Joshua J.  PhD

Associate Professor, Programme in Neuroscience and Behavioural Disorders, Duke-NUS Medical School
Adjunct Associate Professor, Department of Physiology, National University of Singapore
Adjunct Senior Lecturer, School of Psychological Sciences, Monash University

Contact: 6516 7430
Email: joshua.gooley@duke-nus.edu.sg
Website: -

Research Summary

Our laboratory focuses on understanding the role of circadian rhythms and sleep in regulating human physiology and performance. We study the effects of light on circadian, endocrine, and alerting responses. In other studies, my team is examining the interaction of circadian rhythms and homeostatic sleep pressure on cognition and metabolism. The long-term goal of this research is to develop countermeasures for fatigue, and to develop new approaches for treating or diagnosing circadian rhythm sleep disorders.

Past and Current Duke-NUS MD Research Students

Tan Shu Hui Sara (Class of 2013)
Zhou Yi (Class of 2015; Co-Mentor)

Student Publications


The Thomson Reuters lists Prof Halliwell as one of the world’s most highly-cited researchers in Agricultural Sciences, Biology & Biochemistry and Pharmacology. His book *Free Radicals in Biology and Medicine* published by Oxford University Press, and now in its fifth edition, is regarded worldwide as an authoritative text in the field. His laboratory is also ranked number 1 worldwide by highest citation score in Free Radical Research.

### Past and Current Duke-NUS MD Research Students

Fong Sheng (Class of 2015)

### Student Publications


4. Gruber J, Chen CB, **Fong S**, Ng LF, Teo JW, Halliwell B. *Caenorhabditis elegans*, what we can and cannot learn from ageing worms? *Antioxid Redox Signal*. 2015 June.
Hausenloy, Derek  *MBChB, PhD, FRCP, FESC, FACC*

Professor, Programme in Cardiovascular Metabolic Disorders, Duke-NUS Medical School
Senior Consultant Cardiologist and Clinician Scientist, National Heart Research Institute Singapore, National Heart Research Centre Singapore
Professor, Cardiovascular Medicine, University College London
Consultant Cardiologist, New Barts Heart Centre

**Contact:** 6601 5121  
**Email:** derek.hausenloy@duke-nus.edu.sg  
**Website:** Google Scholar Profile

**Research Summary**

Prof Hausenloy conducts both basic and clinical research in the area of ischaemic heart disease and heart failure, the leading cause of death and disability in Singapore and worldwide. His research focus is on discovering novel therapies for protecting the heart against the detrimental effects of acute ischemia/reperfusion injury (IRI) in order to prevent the onset of heart failure. He uses a translational approach to cardioprotection ranging from cellular and animal models of acute IRI to proof-of-concept clinical studies in acute myocardial infarction patients, and finally to large multicenter randomized clinical trials focused on clinical outcomes. He is also interested in both small animal and clinical cardiac PET and MRI imaging in the context of acute myocardial infarction and cardioprotection. Prof Hausenloy has been PI on over 30 research grants, and he has authored over 140 papers.

**Past and Current Duke-NUS MD Research Students**

Lim Mei Xing (Class of 2018)

**Student Publications**

NA
Hsieh, Po-Jang Brown PhD

Assistant Professor, Programme in Neuroscience and Behavioral Disorders, Duke-NUS Medical School

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Email: pojang.hsieh@duke-nus.edu.sg
Website: -

Research Summary

I am interested in understanding how the human brain is able to perceive and experience the world. In particular, our lab studies the human neural bases of perception, attention, and consciousness with functional brain imaging (fMRI), neural decoding methods, and psychophysical techniques.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Hu, Jiancheng PhD

Assistant Professor, Duke-NUS Medical School
Principal Investigator, Division of Cellular and Molecular Research, National Cancer Centre Singapore

Contact: 62237241
Email: hu.jiancheng@nccs.com.sg
Website: www.scholar.google.com.sg/citation?user=icfG4hwAAAAJ&hl=en&oi=ao

Research Summary

Dr Hu’s research focuses on: (1) how oncogenic protein kinases, particularly Raf family kinases, drive cancer development; (2) the molecular basis that underlie Intrinsic and acquired resistance of kinase inhibitors in clinic treatment of cancers; (3) the development of novel kinase inhibitors. His major contributions to the research community in last 5 years include: (1) Unraveled molecular mechanism underlying dimerization-mediated transactivation of Raf kinases; (2) Created effective mutagenesis methods to separate the allosteric/scaffold function from the catalytic function of protein kinases, which are being widely used to dissect the function of other protein kinases.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Hwang, William Ying Khee  MBBS, M Med (Int Med), MRCP (UK), FAMS, FRCP (London)

Associate Professor, Programme in Cancer and Stem Cell Biology, Duke-NUS Medical School
Head and Senior Consultant, Department of Haematology, Singapore General Hospital
Medical and Laboratory Director, Singapore Cord Blood Bank
Director, Hematopoietic Stem Cell Transplant Programme, Singapore General Hospital
Director, SingHealth Transplant
President, Singapore Society of Haematology
President, World Marrow Donor Association

Contact: 6321 4855
Email: william.hwang.y.k@sgh.com.sg
Website: -

Research Summary

Dr Hwang conducts clinical and laboratory research on hematopoietic stem cells and their use in clinical transplantation. He is Director of the Hematopoietic Stem Cell Transplant Programme in the Singapore General Hospital and also runs the Hematopoietic Stem Cell laboratory at Duke-NUS. He has been actively publishing on the outcomes of hematopoietic stem cell transplantation from the perspective of the transplant centre as well as donor registries as cord blood banks. Together with two post-doctoral research scientists in his laboratory, he has been exploring ways to effectively expand hematopoietic stem cells for clinical transplantation. Dr Hwang has secured over $2 million in funding and authored over 70 papers in journals like Cell Stem Cell, Journal of Clinical Oncology, Leukemia, Cytotherapy, Biology of Blood and Marrow Transplantation, Bone Marrow Transplantation, Methods, American Journal of Hematology and many more.

Past and Current Duke-NUS MD Research Students

Ong Li Ming (Class of 2011)
Anne Wong Ann May (Class of 2011)

Student Publications


**Iqbal, Jbed  MD, AM.BD.**

Assistant Professor, Duke-NUS Medical School  
Senior Consultant, Department of Anatomical Pathology, Singapore General Hospital  
Associate Program Director, Pathology Residency Programme, SingHealth  
Director of Research, SingHealth Duke-NUS Pathology Academic Clinical Programme (PATH ACP)

**Contact:** 6326 5945  
**Email:** jabed.iqbal@singhealth.com.sg  
**Website:** Google Scholar / SGH / PATH ACP / Breast Research Programme in PATH ACP

**Research Summary**

Dr Iqbal has been studying cellular immune response in triple negative breast cancers (TNBC) an aggressive subtype of breast cancer which are known to be strongly immunogenic. His research interest is in studying the integral immune response biomarkers and their interaction with tumor hypoxia which is intimately associated with cancer progression. He is studying the role of hypoxia-induced proteins and related proteins regulating the immune response pathway in TNBC. Dr Iqbal also studies immune checkpoint molecules (eg PD1, PDL1) in different subtypes of breast cancer using both human tumor samples and cancer cell lines. The objective is to identify optimal immune checkpoint biomarkers predictive of effective immunotherapy in TNBC. His other interests include regulation of gene expression and viral-induced (HPV) breast neoplasms.

Dr Iqbal is recipient of the NMRC transition award (TA) and co-investigator in multiple breast cancer research projects. He has authored more than 35 research papers.

**Past and Current Duke-NUS MD Research Students**

NA

**Student Publications**

NA
Itahana, Koji  PhD

Assistant Professor, Programme in Cancer & Stem Cell Biology, Duke-NUS Medical School

Contact: 6516 2554
Email: koji.itahana@duke-nus.edu.sg
Website: ResearchGate Profile

Research Summary

Dr. Itahana conducts extensive research on apoptotic cell death and cancer metabolism to understand the underlying mechanisms of resistance of cancer cells against chemotherapy and radiotherapy. Using proteomics approach and gene expression array approach, his group has identified several key molecules involved in the regulation of apoptosis and metabolism by ARF and p53, both of which are critical tumor suppressors and mutated or deleted in a half of cancers. These include novel binding partners of either p53 or ARF, and transcriptional targets of p53. Third-year medical students will study one of these proteins and investigate whether these proteins are involved in apoptosis and cancer metabolism. If the results from these in vitro studies are promising, using cancer patient samples, the student will study the expression levels and mutation status of these proteins and their relationship with prognosis of patients by collaborating with clinicians at SGH, NCC, and NUH.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Iyer, N Gopalakrishna  *MBBS (Hons), PhD (Cambridge), FRCSEd, FAMS*

Adjunct Assistant Professor, Programme in Cancer & Stem Cell Biology, Duke-NUS Medical School
Department of Surgical Oncology, National Cancer Centre, Singapore
Principal Investigator, Cancer Therapeutics Research Laboratory, National Cancer Centre, Singapore

**Contact:** 6436 8294  
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**Website:** -

### Research Summary

Dr Iyer conducts clinical and translational research on individualizing treatment in patients with head and neck cancers. His current work involves the use of high-throughput technology including expression microarray and next-generation sequencing to identify potential biomarkers that correlate with prognosis and outcome in patients with head and neck squamous cell cancers. He is also interested in the identification of novel pathways and compounds to target cancer cells in various in vitro models including cancer stem cells. He is also involved in several clinical projects including coordinating the translational science efforts of an international phase 3 trial which determines the role of EGFR inhibitors in head and neck cancer.

### Past and Current Duke-NUS MD Research Students

Chen Sixian (Class of 2014)  
Nguyen Thien Khanh (Class of 2014)

### Student Publications

Jafar, Tazeen Hasan  MBBS, MPH, FNKF

Professor, Programme in Health Services and Systems Research, Duke-NUS Medical School

Contact: 6601 2582
Email: tazeen.jafar@duke-nus.edu.sg
Website: -

Research Summary

Dr Jafar conducts epidemiological research and population based trials on chronic non-communicable disease (NCD) with a focus on hypertension, kidney disease and associated risk factors. Dr Jafar has led and participated in several NIH funded studies including meta-analysis of individual patient data on ACE inhibitors in non-diabetic kidney disease, and analysis of national survey data. Her recent work has entailed the evaluation of strategies for control of hypertension in low income communities with home health education and physician training, as well as risk factors associated with NCDs. She will be working with physicians in the polyclinics on strategies to enhance cardiovascular health among patients with hypertension and additional risk factors in Singapore. She also has an extensive global health research agenda. She has published in high impact journals and serves on many editorial boards.

Past and Current Duke-NUS MD Research Students

Seow Yuan Bin Dominique (Class of 2015)
Eui Whan Moon (Class of 2018)

Student Publications

Je, Hyunsoo Shawn  PhD

Assistant Professor, Program in Neuroscience and Behavioral Disorders, Duke-NUS Medical School
Adjunct Assistant Professor, Department of Physiology, Yong Loo Lin School of Medicine, National University of Singapore

Contact: 6601 1260  
Email: shawn.je@duke-nus.edu.sg  
Website: Google Scholar Profile

Research Summary

Synapses are fundamental units of neuronal connectivity in the brain. Our laboratory investigates synapse for principles of learning and memory, for processes underlying animal behaviours, and for pathological mechanisms of various neurological and psychiatric disorders including autism, schizophrenia, and Alzheimer’s disease. There are three major aspects of research in our laboratory – 1) the role of BDNF/TrkB signalling in animal behavior, 2) the molecular and cellular mechanisms underlying autism and schizophrenia, and 3) cutting-edge molecular and genetic tools for neuroscience research.

Selected publications since 2010:


Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Kandiah, Nagaendran  MBBS, MRCP (UK), FAMS  
(Neurology)

Assistant Professor, Duke-NUS Medical School
Senior Consultant, Department of Neurology, National Neuroscience Institute (SGH Campus)

Contact: 6357 7171  
Email: Nagaendran_Kandiah@nni.com.sg  
Website: -

Research Summary

Dr Kandiah is actively involved in cognitive neurology research. His main research interests include mild cognitive impairment, vascular dementia and Parkinson’s Disease dementia. His research projects involve cognitive psychometrics, neuroimaging, genetics and other biomarkers for dementia. He currently holds 3 national grants from NMRC and Singhealth Foundation. Ongoing projects include a study investigating the longitudinal correlation of MRI to cognitive performance among patients with early Parkinson’s disease and another evaluating the longitudinal cognitive and neuroimaging evolution of acute cerebral infarcts. He has numerous publications in this field and is a reviewer for several peer reviewed journals.

Past and Current Duke-NUS MD Research Students

Poh Yen Yeong (Class of 2015)  
Zhang Yuan Helen (Class of 2015; Co-Mentor)

Student Publications

NA
Koh, Joyce Suang Bee  MBBS, FRCS (Edin), FRCSEd (Orth), FAMS

Adjunct Assistant Professor, Duke-NUS Medical School  
Senior Consultant, Department of Orthopaedic Surgery, Singapore General Hospital  
Clinical Teacher, Yong Loo Lin School of Medicine, National University Singapore

Contact: 6321 4045  
Email: joyce.koh.s.b@sgh.com.sg  
Website: -

Research Summary

My research specialization is in the field of orthopaedic trauma. I am involved in a wide range of projects from biomechanical and anatomical research (with a special interest in implant design and analysis) to multinational clinical trials involving current and novel treatments in my area of clinical specialization.

Past and Current Duke-NUS MD Research Students

Andrew Chou Chia Chen (Class of 2015)  
Muhamad Zulhakim Bin Aman (Class of 2018; Co-mentor)

Student Publications

NA
Koh, Siyue Mariko  MBBS, MRCP (UK), FCCP

Associate Professor, Duke-NUS Medical School
Senior Consultant, Department of Respiratory and Critical Care Medicine. Singapore General Hospital
Director of Allergy Clinic, Singapore General Hospital
Senior Clinical Lecturer, Yong–Loo-Lin School of Medicine, Singapore

Contact: 6321 4700
Email: mariko.koh.s.y@sgh.com.sg
Website: SGH Webpage

Research Summary

Dr Koh has a database of > 400 subjects with Severe asthma and Difficult- to- treat asthma and conducts clinical research with a focus on severe asthma phenotypes (clinical and inflammatory) and new therapeutics (medications and novel bronchoscopic technique i.e. Bronchial Thermoplasty). Her recent work has entailed the evaluation of airway inflammation and potential biomarkers for different phenotypes of severe asthma (with collaborators from POLARIS, A*STAR and NUS). She is currently exploring potential international collaboration with members of ASAN (Australasian Severe Asthma Network). She has obtained competitive grants of over S$2.3 million as PI, has authored over 30 papers, 1 book chapter and is in the Editorial Board of several journals and an Associate Editor of BMC Pulmonary Medicine.

Past and Current Duke-NUS MD Research Students

Cao Qi (Class of 2017)
Lau Pui Kheng, Priscilla (Class of 2018)

Student Publications

NA
Koh, Woon Puay  MBBS, PhD

Professor, Duke-NUS Medical School
Professor, Saw Swee Hock School of Public Health, National University of Singapore

Contact: 6601 3147
Email: woonpuay.koh@duke-nus.edu.sg
Website: -

Research Summary

Koh Woon-Puay is an epidemiologist and the site-principal investigator in the Singapore Chinese Health Study, an NIH-funded, 63,000-strong cohort of middle-aged and elderly Chinese Singaporeans established for the long-term study of dietary and other environmental determinants of chronic diseases common among Singaporeans. For the past few years, together with local and overseas co-investigators, Dr Koh has examined potential disease-protective dietary factors that are consumed especially among Chinese in Singapore, and has co-authored over 180 scientific papers in peer-reviewed international journals, including several noteworthy and novel scientific contributions of reports on diet, lifestyle and genes in relation to cancer risk in leading international conferences and top cancer journals. Dr Koh is also a co-investigator in population-based studies that investigate diet, lifestyle and genetic factors as determinants of mammographic densities and in the etiology of cardiovascular disease, diabetes mellitus and osteoporotic hip fractures.

Past and Current Duke-NUS MD Research Students

See Kee Yon, Lionel (Class of 2016)
Tan Bobby (Class of 2018; Co-mentor)

Student Publications

NA
Krishnan, Manoj  PhD

Assistant Professor, Programme in Emerging Infectious Diseases, Duke-NUS Medical

Contact: 6516 2666
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Website: -

Research Summary

My laboratory broadly studies virus-host interactions, and the regulation of innate immunity and inflammatory signaling pathways. A particular focus of our research is to define the role of ubiquitin ligases in host response to viral infection, and inflammation. We are also actively engaged in discovering small molecule modulators of the ubiquitin ligases regulating immune and inflammatory pathways as potential drug candidates to control infection, inflammation and autoimmune diseases.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Kuan, Win Sen  MBBS, MRCSEd (A&E), MCI, FAMS

Consultant, Emergency Medicine Department, National University Hospital, National University Health System, Singapore
Assistant Professor, Department of Surgery, Yong Loo Lin School of Medicine, National University of Singapore

Contact: 6772 2452
Email: win_sen_kuan@nuhs.edu.sg
Website: ResearchGate Profile

Research Summary

- Sepsis
- Respiratory diseases
- Cardiovascular biomarkers

Past and Current Duke-NUS MD Research Students

Swati Jain (Class of 2014; Co-Mentor)
Koh Yiwen (Class of 2016)

Student Publications

Kumar, Prakash  MBBS (Malaysia), M Med (Int Med) (Malaysia), MRCP (UK), FAMS (Neurology), FRCP (Edin), FRCP (Glasg)

Associate Professor, Duke-NUS Medical School
Senior Consultant, Department of Neurology, National Neuroscience Institute (SGH Campus)
Program Director, Neurology Senior Residency, SingHealth
Clinical Senior Lecturer, Yong Loo Lin School of Medicine, National University Singapore

Contact: 6326 5003
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Website: -

Research Summary

Assoc Prof Kumar’s areas of clinical and research interest include motor and non-motor problems in Parkinson’s disease and other movement disorders, Deep Brain Stimulation programming as well as Clinical Neurophysiology. He has published extensively in these areas.

Past and Current Duke-NUS MD Research Students

Lim Jing Wei (Class of 2012; Co-Mentor)
Mark Tan Min Jian (Class of 2017)

Student Publications

NA
Lam, Carolyn Su Ping  MBBS, MRCP, MS, FACC, FESC

Associate Professor, Programme in Cardiovascular and Metabolic Disorders, Duke-NUS Medical School
Senior Consultant, Department of Cardiology, National Heart Centre Singapore
Chairperson of Asia Pacific Association of Women’s Cardiovascular Disease

Contact: -
Email: carolyn_lam@nuhs.edu.sg
Website: -

Research Summary

Dr Lam’s research is focused on heart failure, especially the syndrome of heart failure with preserved ejection fraction, as well as sex differences in cardiovascular disease, hemodynamics, echocardiography, biomarkers and clinical trials.

Past and Current Duke-NUS MD Research Students

Michelle Chan Mei-Yi (Class of 2014)
Yvonne Chia May Fen (Class of 2017)

Student Publications


Lee, Caroline Guat Lay  PhD

Associate Professor, Programme in Cancer and Stem Cell Biology, Duke-NUS Medical School
Associate Professor, Department of Biochemistry, Yong Loo Lin School of Medicine, National University of Singapore
Principal Investigator, Laboratory of Liver Cancer Functional Genomics, National Cancer Centre

Contact: 6516 3251
Email: caroline.lee@duke-nus.edu.sg
Website: -

Research Summary

Our laboratory focus on utilizing computational, genetical, molecular and cellular biological tools to elucidate the molecular and cellular pathways that may lead to the carcinogenesis process as well as to understand genetic variations that may account for differences in our response to drugs as well as susceptibility to complex diseases including cancer. Current ongoing projects include:

1) Cancer Functional Genomics
2) Population Genetics / Pharmacogenetics

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Lee, Haur Yueh  MBBS, MRCP(UK), MMed (Int Med), FAMS (Dermatology)

Adjunct Assistant Professor, Duke-NUS Medical School
Consultant and Head, Department of Dermatology, Singapore General Hospital
Clinical Senior Lecturer, Yong Loo Lin School of Medicine, National University Singapore

Contact: 6326 6866
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Website: -

Research Summary

Dr Lee has an interest in severe cutaneous adverse drug reactions, autoimmune blistering conditions and medical dermatology. His main research focuses on the epidemiology, biomarkers and interventional studies for severe adverse reactions such as Stevens-Johnson syndrome/Toxic epidermal necrolysis and DRESS syndromes (Drug reaction, eosinophilia, systemic signs). There are active collaborations with other research partners in A*Star and our unit is part of a regional study group (SEA-SCAR; South-east Asian Severe cutaneous adverse reactions). Other research interests include the characterization and prognostication of neutrophilic dermatoses, autoimmune blistering conditions and cutaneous vasculitis.

Past and Current Duke-NUS MD Research Students

Chua Shunjie (Class of 2015)
He Huiling (Class of 2018; Co-Mentor)

Student Publications

NA
Lee, Sang Hyun  PhD

Assistant Professor, Programme in Cancer and Stem Cell Biology, Duke-NUS Medical School

Contact: 6601 1406
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Website: -

Research Summary

First observed over 110 years ago, abnormal chromosome content, also known as aneuploidy, is the most common characteristic of human solid tumors. Indeed, in contrast to normal cells, various cancer cell lines show frequent gain and loss of whole chromosomes, known as chromosomal instability (CIN). The mitotic phase of the cell cycle is the period for equal segregation of replicated sister chromatids and cytokinesis to generate two genetically identical daughter cells. Although the mechanisms how human cancer cells establish such an altered chromosomal state remains unknown, an error in a mitotic process is considered as a direct cause of aneuploidy and CIN. Thus, our researches are focused on understanding the molecular mechanisms of the mitotic defects on CIN and tumorigenesis. Moreover, we are interested in identifying novel anti-mitotic targets and exploring the mechanism how targeting those mitotic proteins would compromise tumor development.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Lee, Ser Yee  
MBBS, M.Med(Surgery), M.Sc, FAMS, FRCSED

Adjunct Associate Professor, Duke-NUS Medical School  
Senior Consultant, Department of Hepatopancreatobiliary and Transplant Surgery, Singapore General Hospital  
Senior Clinical Lecturer, Yong Loo Lin School of Medicine, National University of Singapore

Contact: 6326 5564  
Email: lee.ser.yee@singhealth.com.sg  
Website: https://www.researchgate.net/profile/Ser_Lee

Research Summary

Dr. Lee Ser Yee’s subspecialty is in Hepatopancreatobiliary surgery (HPB surgery), Liver transplantation, Minimally-Invasive Surgery (Laparoscopic and Robotic surgery) and Surgical Oncology. He has also mentored many juniors in various clinical and translational research projects, from undergraduate to postgraduate levels. He has authored more than 90 scientific publications including top international journals such as Annals of Surgery, Nature, Annals of Surgical Oncology, HPB, Hepatology, Gastroenterology and JACS. His scientific work is well cited and he has delivered more than 110 scientific presentations at medical conferences worldwide, many as an invited speaker. He has written and edited 2 surgical books and 70 book chapters. He also sits on the Editorial Board and is a Reviewer for more than 30 international peer-review medical journals. His clinical interest lies in minimally-invasive HPB surgery and research interests revolves around the clinical and translational aspects of HPB cancers and diseases. He also works in close collaboration with the scientists in National Cancer Centre Singapore and Duke-NUS Medical School. He also collaborates on projects with renowned international centers such as Memorial Sloan Kettering Cancer Center, Mayo Clinic and Amsterdam Medical Centre, Netherlands.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Lee, Shu Yen  MBBS, MMed(Ophth), FRCS(Ed), FAMS

Adjunct Associate Professor, Duke-NUS Medical School
Senior Consultant, Vitreo-Retinal Service, Singapore National Eye Centre

Contact: -
Email: lee.shu.yen@snec.com.sg
Website: -

Research Summary

Adj Assoc Prof Lee has research interests in vitreoretinal diseases. She has been involved in clinical studies on retinal detachment, retinal complications of myopia and anti-VEGF therapies. She has also participated in collaborative research in animal work on gene therapy.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Lee, Tih Shih  

Associate Professor, Programme in Neuroscience and Behavioural Disorders, Duke-NUS Medical School  
Associate Professor, Psychiatry and Behavioral Sciences, Duke University  
Senior Consultant, Department of Psychiatry, Singapore General Hospital  

Contact: 6516 7461  
Email: tihshih.lee@duke-nus.edu.sg  
Website:  

Research Summary  
Genomic and proteomic characterization of the human hippocampus in temporal lobe epilepsy. Genome-wide expression analysis and molecular characterization of dementia and other neuropsychiatric disorders. Brain-Computer Interface treatment of Attention Deficit and Hyperactivity Disorder.  

Past and Current Duke-NUS MD Research Students  
Cheryl Ann Teh (Class of 2012)  

Student Publications  
Lee, Yung Seng  MBBS, MMed(Paeds)(S’pore), PhD, MRCP(UK), FRCPCH, FAMS

Associate Professor, Department of Paediatrics, Yong Loo Lin School of Medicine, NUS
Senior Consultant, Department of Paediatrics, Khoo Teck Puat-National University Children’s Medical Institute
Principal Investigator, Singapore Institute for Clinical Sciences, A*STAR

Contact: 6772 4420
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Website: ResearchGate Profile

Research Summary

His current research interests are appetite regulation, obesity, metabolic disorders, and growth. He is a theme Principal investigator of the birth cohort study (GUSTO) of the Translational Clinical Research programme on developmental pathways to metabolic diseases, and his current research activities revolve around these projects.

GUSTO is Singapore’s largest and most comprehensive birth cohort study which provided unique opportunities to study developmental plasticity and the role of epigenetics. A/P Lee research focus is on the impact of maternal and prenatal factors on the subsequent growth of the offspring, and developmental origins of taste and food preference, and appetite regulation.

Past and Current Duke-NUS MD Research Students

Zhou Yi (Class of 2015)

Student Publications

NA
Leow, Melvin Khee Shing  MBBS, MMed (Int Med), FACP, FACE (USA), FAMS, FRCP (Edin)

Adjunct Associate Professor, Office of Clinical Sciences, Duke-NUS Medical School
Associate Professor, Lee Kong Chian School of Medicine, Nanyang Technological University
Clinical Associate Professor, Yong Loo Lin School of Medicine, National University Singapore
Clinical Investigator, Singapore Institute for Clinical Sciences, A*STAR
Senior Consultant Endocrinologist, Department of Endocrinology, Tan Tock Seng Hospital
Deputy Director, Singapore Clinical Nutrition Research Centre
Associate Staff (Consultant), Department of Medicine, National University Health System
Visiting Consultant - Changi General Hospital

Contact: -
Email: melvin.leow@duke-nus.edu.sg
Website: ResearchGate Profile

Research Summary

The Clinical Metabolic Physiology laboratory and the Clinical Nutrition Research Centre where A/Prof Leow works are devoted to translational and clinical research to elucidate the pathophysiological basis of metabolic disorders. The major focus of his research group is to understand the control over energy balance, neuroendocrine function and metabolism that is exerted through critical brain centers and feedback loops between key metabolic tissues and organ systems. This research group undertakes studies that encompass metabolic / endocrine physiology, clinical nutrition, food science and clinical trials which have the collective goal of understanding better the contribution of developmental and environmental factors to the emergent pattern of metabolic disease in Singapore. A/Prof Leow’s research interests include adipocyte biology, epigenetic programming in metabolic disorders, thyroid disorders, endocrine manifestations and complications of systemic disorders, mathematical modeling of endocrine physiology and molecular endocrinology.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Leung, Katy Ying Ying *MB.ChB, FHKAM (MED)*

Assistant Professor, Duke-NUS Medical School  
Senior Consultant, Department of Rheumatology & Immunology, Singapore General Hospital  
Clinical Senior Lecturer, Yong Loo Lin Medical School, National University Singapore

**Contact:** 6326 5276  
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**Website:** Google Scholar Profile

**Research Summary**

Currently we diagnose knee OA late when they develop XR changes. There is no drug that is capable of delaying the progression of OA knee. The current management of OA knee is palliative, we give patients pain killers until their cartilages are all gone and we offer joint replacement surgery. There is a huge unmet need in the management of care in these patients.

We use biochemical, inflammatory biomarkers to identify subjects with knee pain who has MRI cartilage defects and see what factors that predict progression over 2 year period. This may help discovery of biomarkers that assist an early diagnosis of OA knees. This group of patients with early OA knee may be more responsive to treatment.

We test drug that has potential of delaying the progression of OA knee and try to understand the mechanism via blood, urine and synovial fluid biomarkers.

**Past and Current Duke-NUS MD Research Students**

Maria Noviani (Class of 2015) *(Not for Research Year project)*  
Cheryl Ann Ma Pei Wen (Class of 2018)

**Student Publications**

Li, Jialiang PhD

Associate Professor, Centre for Quantitative Medicine, Duke-NUS Medical School
Associate Professor, Department of Statistics and Applied Probability, National University of Singapore

Contact: 6516 8932
Email: stalj@nus.edu.sg
Website: Google Scholar Profile

Research Summary

Dr. Li conducts methodology development research in various fields in biostatistics, including diagnostic medicine, survival analysis and longitudinal data analysis. Dr. Li is also interested in collaborative research and has been working on genetics, nutritional sciences, ophthalmology, heart disease, kidney disease, diabetes, psychiatry, etc. He is the PI of two NMRC grants and has been PI or Co-I on various grants. Dr. Li has authored over 90 peer-reviewed papers and is currently on the editorial board of Biometrics and Lifetime Data Analysis. He received 2011 Young Scientist Award from NUS.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Li, Shang  *MD, PhD*

Assistant Professor, Programme in Cancer and Stem Cell Biology, Duke-NUS Medical School

**Contact:** 6601 1259  
**Email:** shang.li@duke-nus.edu.sg  
**Website:** -

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**Research Summary**

The continued proliferation of human cells depends on the proper maintenance of the genomic information encoded in the 46 linear human chromosomes. The stability of these linear chromosomes depends on telomeres, which are maintained by telomerase.

Up-regulation of telomerase is found in more than 85% of human cancers, while telomerase insufficiency can cause early onset of human aging, highlighting the crucial role of telomerase regulation in both cancer therapy and human aging. On the one hand, we would like to inhibit overexpressed telomerase in tumor cells; on the other hand, we need to maintain the telomerase activity of normal stem cells to prevent early onset of aging.

My research goal is to elucidate mechanisms underlying the regulation of telomerase activity in cancer cells and normal stem cells, and to develop novel approaches for therapeutic intervention of human cancer and early onset of aging. Using both yeast and mammalian systems, I will focus on both (1) the regulation of telomerase activity by post-translational modification of telomerase and telomerase-related factors, and (2) the transcriptional regulation of human telomerase reverse transcriptase.

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**Past and Current Duke-NUS MD Research Students**

NA

**Student Publications**

NA
Liao, Ping  PhD

Adjunct Assistant Professor, Duke-NUS Medical School
Principal Investigator and Head, Calcium Signalling Laboratory, National Neuroscience Institute (TTSH Campus)

Contact: 6357 7611
Email: ping_liao@nni.com.sg
Website: -

Research Summary

My lab is working on TRP channels in ischemic stroke. A lot of animal work is required in the study for operating on rodents to create stroke model. The operation is done under microscopy which is a good training process for medical students. Furthermore, other techniques are needed in the study, including RT-PCR, immunostaining, western blot, and animal behavior study etc. Our lab is properly funded to carry out relevant studies.

Past and Current Duke-NUS MD Research Students

Lee Rui Zhi (Class of 2018)

Student Publications

NA
Lie, Denny Tjiauw Tjoen  

**MBBS, FRCS (Edin), FAMS**

Senior Consultant, Department of Orthopaedic Surgery, Singapore General Hospital

**Contact:** -  
**Email:** denny.lie.t.t@sgh.com.sg  
**Website:** -

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**Research Summary**

- Clinical Outcome studies of the surgeries of the knees, shoulders and ankles  
- Shoulder kinematics, to map out kinematics in daily activities and thus achieve a better understanding what is normal arc of motion and what constitutes abnormal motion. This has led to a patent designed rig.  
- Shoulder tendon research to understand strain in the tendons and how surgery can restore this strain pattern  
- Knee kinematics to measure rotation in-vivo, which I believe is the instability the sports patients experience. This would lead to better understanding of knee instability, improved knee surgeries and a new scoring system.  
- Gap formation in tendon repair, to validate the strength of current repair techniques

**Past and Current Duke-NUS MD Research Students**

Rahul Jawa (Class of 2016)  
Hang Guanqi (Class of 2017)

**Student Publications**

NA
Lim, Chwee Ming  
**MBBS (Singapore), MRCS (Edin), M Med (Otorhinolaryngology) (Singapore)**

Assistant Professor, Yong Loo Lin School of Medicine, National University of Singapore  
Consultant Head and Neck Surgeon, Department of Otolaryngology-Head and Neck Surgery, National University Hospital Singapore

**Contact:** 6772 5371  
**Email:** chwee_ming_lim@nuhs.edu.sg  
**Website:** ResearchGate Profile

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**Research Summary**

Dr Lim is a clinician investigator at the National University of Singapore. His main research focus is on immunology and immunotherapy in head and neck cancer. He runs a lab working on enhancing immune effects and understanding these mechanisms in virally driven head and neck cancer. His other area of research is on robotic and medical device research in optimizing surgical and post treatment care for head and neck cancer patients. He has published around 20 papers, 2 book chapters and holds 3 existing grants to fund his research.

**Past and Current Duke-NUS MD Research Students**

Xiong Jiaqing (Class of 2015; Co-Mentor)  
Hu Chunyan (Class of 2017)  
Chong Wei Kin (Class of 2018)

**Student Publications**

NA
Lim, Darren Wan-Teck  MBBS, MRCP (UK)

Associate Professor, SingHealth Duke-NUS Oncology Academic Clinical Programme
Senior Consultant, Department of Medical Oncology, National Cancer Centre Singapore
Director, Investigational Medicine Unit, SingHealth

Contact: 6436 8200
Email: dmolwt@nccs.com.sg
Website: -

Research Summary

My research interests lie in head, neck and lung cancer. I am also actively involved in the development of biomarker correlative clinical trials. As such current projects include developing tissue and imaging biomarkers, biomarker allocated clinical trials and novel technologies to study biomarkers in cancer.

Past and Current Duke-NUS MD Research Students

Ang Siok Hoon (Class of 2013)
Szymon Mikulski (Class of 2013)
Zeng Wanling (Class of 2015)

Student Publications

NA
Lim, Kah Leong  PhD

Associate Professor, Programme in Neuroscience and Behavioural Disorders, Duke-NUS Medical School
Principal Research Scientist, Neurodegeneration Research Laboratory, National Neuroscience Institute (TTSH Campus)
Associate Professor, Department of Physiology, National University of Singapore

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Website: ResearchGate Profile

Research Summary

The long term primary goal of my lab is to elucidate the molecular events underlying Parkinson’s disease (PD), with the view to develop novel therapies aimed at effectively treating the disease. To realize this goal progressively, our research work focuses on achieving the following inter-related objectives.

1. MECHANISMS – To identify and characterize key players/events that contribute to PD pathogenesis
2. MODELS – To generate reliable preclinical models of PD that would facilitate drug discovery efforts
3. MEDICINE – To develop therapeutic strategies based on the knowledge gleaned from our research work

Our other interest is to explore the relatively poorly characterized but intriguing relationship between PD and cancer. This is a novel angle that we have taken, which we believe might shed important insights into the (paradoxically) shared mechanism that underlies the opposite cellular fates of the two seemingly disparate diseases. We are collaborating with A/Prof Ang Beng Ti and Dr Carol Tang from the Neuro-oncology Program to address this.

Past and Current Duke-NUS MD Research Students
NA

Student Publications
NA
Research Summary

We have built a strong lymphoma research team at the National Cancer Centre, with collaborators from DUKE-NUS and various institutions from Singapore. We strongly believe that in lymphoma, especially in T-cell lymphoma which is most prevalent among Asians and not common in Western countries, we can make a significant impact by discovering and developing novel biomarkers to detect, diagnose and follow-up the cases. Equally important, we are keen to identify potential novel therapeutic targets that can be further studied and developed into novel therapy for the patients. In our group, students participate in the many ongoing projects ranging from retrospective dataset analysis, prospective epidemiological study and translational research. Some examples include

1. Examine the clinical and pathological profile of lymphoid malignancies in Singapore with respect to mode of presentation, clinical features, histologic and immunophenotypic distribution. We also prospectively follow-up this patient series to describe and compare cumulative survival, rate of remission, minimal residual disease. We have a database of more than 2000 lymphoid malignancies.
2. Participate in an ongoing prospective epidemiological lymphoma study.
3. Participate in studies that interrogate B cell lymphomas using interphase FISH for genetic alterations and correlating to clinical outcomes
4. Participate in studies that seek to characterize the genomic profile of lymphoma in Asian patients by a) examining mutation landscape of using high-throughput exome sequencing and paired-end tag sequencing technologies, b) gene expression as well as copy number profiling using Affimetrix microarray technology.
5. Participate in studies that validate biomarkers identified against a large number of archival patient material and a clinical database to identify those of particular clinical significance for diagnosis, prognostication or stratification for clinical management.
6. Participate in functional studies and pre-clinical studies that test potential therapeutic targets identified from (4) and (5).

Past and Current Duke-NUS MD Research Students

Jang Jia Hui Isabelle (Class of 2014; Co-mentor)
Sharon Harvinder Kaur Dhillon (Class of 2016)

Student Publications

NA
Lim, Swee Han  MBBS, FRCSEd (A&E), FRCP Edin, FAMS (Emergency Med)

Adjunct Associate Professor, Duke-NUS Medical School
Senior Consultant, Department of Emergency Medicine, Singapore General Hospital
Clinical Associate Professor, Yong Loo Ling School of Medicine, National University of Singapore

Contact: 6326 5706
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Website: ResearchGate Profile

Research Summary

NA

Past and Current Duke-NUS MD Research Students
Tan Chong Yew (Class of 2016)
Lian Wanxi Tracy (Class of 2017)

Student Publications

NA
Ling, Khoon Lin  MBBS (Spore), MRCP (UK), MMed (Int Med), DPhil (Oxon), FAMS

Adjunct Associate Professor, Duke-NUS Medical School  
Senior Consultant and Head, Department of Gaeroenterology & Hepatology, Singapore General Hospital  
Adjunct Assistant Professor Yong Loo Lin School of Medicine, National University of Singapore

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Website: -

Research Summary

Dr Ling is a gastroenterologist with an interest in the immunology of chronic inflammatory diseases in the gastrointestinal tract. His current research evaluates the immune response in Helicobacter pylori gastritis and inflammatory bowel disease and how this may predispose patients to gastrointestinal cancers. Dr Ling is a recipient of the NMRC Clinician Scientist award and receives grant funding from NMRC and BMRC.

Past and Current Duke-NUS MD Research Students

Esther Chang Wei Yin (Class of 2012)  
Tay Wei Lin (Class of 2012)  
Jan Chng Xue Ren (Class of 2013)  
Zhang Zewen (Class of 2013)  
Valerie tan Hui Fen (Class of 2013)  
Anuradha Pandey (Class of 2015)  
Soh Yi Min, Benjy (Class of 2017; Co-mentor)

Student Publications

NA
Liu, Nan  PhD
Adjunct Assistant Professor, Centre for Quantitative Medicine, Duke-NUS Medical School
Principal Research Scientist, Department of Emergency Medicine, Singapore General Hospital
Principal Research Scientist, SingHealth Health Services Research Centre

Contact: 6576 7148
Email: liu.nan@duke-nus.edu.sg
Website: https://scholar.google.com.sg/citations?user=ceF698kAAAAJ&hl=en

Research Summary

Dr. Liu is actively working on studies related to emergency care, medical devices, and health services research. He has been developing novel risk stratification tools for emergency department chest pain patients by incorporating heart rate variability, clinical vital signs and 12-lead ECG measures. These new tools could risk stratify patients more accurately in a shorter time, allowing discharge of low-risk chest pain patients in approximately a few minutes instead of the current a few hours, thus saving time and cost while reducing ED overcrowding. Dr. Liu has been the Principal Investigator on several national and institutional grants, and he has invented a US patent and published more than 50 peer-reviewed research papers. Dr. Liu won the 2015 SingHealth Publish! Award. He also received 2015 Meritorious Paper Award (top 2% in 1200 submissions) from Computers in Biology and Medicine (An Elsevier Journal).

Past and Current Duke-NUS MD Research Students

Ting Boon Ping (Class of 2013; Co-mentor)
Marcus Lee Aik Beng (Class of 2015; Co-mentor)
Mas’Ud Iibnu Samsudin (Class of 2018)

Student Publications


Associate Professor, Duke-NUS Medical School
Senior Consultant and Head, Department of Neurology, National Neuroscience Institute (SGH Campus)
Adjunct Associate Professor, Yong Loo Lin Medical School, National University of Singapore

Contact: 6325 5003
Email: gnryl @sgh.com.sg
Website: -

Research Summary

- Functional neurophysiology of cord compression
- Mechanisms of cervical whiplash
- Cortical plasticity changes in spinal cord dysfunction
- Transcranial magnetic stimulation in motor control
- Neuromuscular transmission in demyelinating neuropathies
- Optical imaging of cortical and cerebellar activity.

Past and Current Duke-NUS MD Research Students

Andrew Green (Class of 2012)

Student Publications

Loh, Thomas Kwok Seng  MBBS (S’pore), FRCS (Glasg)

Senior Consultant and Head, Department of Otolaryngology (ENT) - Head & Neck Surgery, National University Hospital
Associate Professor, Department of Otolaryngology, Yong Loo Lin School of Medicine, National University of Singapore

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Website: -

Research Summary

His main research is in the area of early diagnosis on nasopharyngeal carcinoma (NPC).

Past and Current Duke-NUS MD Research Students

Xiong Jiaqing (Class of 2015)

Student Publications

NA
Lok, Shee Mei PhD

Associate Professor, Programme in Emerging Infectious Diseases, Duke-NUS Medical School

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Website: ResearchGate Profile

Research Summary

Assistant Professor Lok is one of the recipients for the prestigious National Research Foundation fellowship. Dengue Virus (DENV) infects approximately 100 million people each year. Increased travel, together with global climate change will result in further geographical expansion of the territory of the dengue mosquito vector, Aedes aegypti. There is an urgent need to develop safe and effective dengue therapeutics and vaccine.

In vitro experiments have shown that non-neutralizing antibodies can enhance DENV infection of Fc receptor bearing macrophages, one of the natural host cells for the virus. This suggested that the presence of non-neutralizing epitopes in a vaccine could potentially increase the chances that a person who had received the vaccine would develop the severe form of the disease, dengue hemorrhagic fever. For this reason, a more promising approach for engineering an effective DENV vaccine is to focus on including neutralizing epitopes. Thus, mapping of neutralizing epitopes is a necessary component of DENV vaccine research. Furthermore, understanding the neutralization mechanism of antibodies and the entry of DENV into the host cells also could aid in the design of targeted therapeutics.

The research in her laboratory therefore, focuses on the understanding of the pathology of dengue virus infection and the mechanism of neutralization by antibodies and other molecules so as to facilitate the development of suitable vaccines and therapeutics. A combination of molecular, immunological, biochemical and structural techniques (x ray crystallography and cryoEM image reconstruction techniques) will be used to achieve these aims.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Low, Hsiu Ling Andrea

Assistant Professor, Duke-NUS Medical School
Senior Consultant and Head, Dept of Rheumatology & Immunology, Singapore General Hospital
Clinical Senior Lecturer, Yong Loo Lin School of Medicine, National University of Singapore

Contact: 6326 5904
Email: andrea.low.h.l@singhealth.com.sg
Website: https://www.sgh.com.sg/Others/Pages/DoctorDetails.aspx?_id=3885034E-F8BF-4BED-8687-1FE2536C5B2D&name=Dr+Low+Hsiu+Ling,+Andrea&institute=SingaporeGeneralHospital

Research Summary

Dr Andrea Low spearheaded the national systemic sclerosis (SSc) research workgroup comprising Rheumatologists from SGH, Tan Tock Seng Hospital (TTSH) and National University Health System (NUHS), with a focus on the early diagnosis and treatment of SSc, cardiopulmonary and gastrointestinal outcomes. The SSc workgroup has an ongoing prospective SSc database since 2008, including bi-specimen samples. There are ongoing multi-centre investigator-initiated therapeutic trials in SSc (probiotics and autologous haematopoietic stem cell transplant in SSc in collaboration with the SSc workgroup, Haematology department, SGH and USA). She has established collaborations with STIIC, Duke-NUS, NTU and GIS on clinical translational work to discover novel biomarkers and drug targets, and the role of the micro-biome in SSc.

Past and Current Duke-NUS MD Research Students

Tan Tze Chin (Class of 2011; Co-mentor)

Student Publications


Low, Jenny Guek Hong  MBBS, MRCP (UK), MPH

Adjunct Assistant Professor, Duke-NUS Medical School
Senior Consultant, Department of Infectious Diseases, Singapore General Hospital

Contact: 6321 3479
Email: jenny.low@sgh.com.sg
Website: -

Research Summary

Dr Jenny Low is a Board Certified senior consultant with the department of Infectious Diseases in Singapore General Hospital. She also has a Master of Public Health from Johns Hopkins University and has been active in dengue clinical research for more than ten years. Concurrently, she is also the co-director of the Health Services Research Unit in the Division of Research in SGH. She led the early dengue infection and outcome (EDEN) study that detailed, in several publications, clinical dengue in adults. She was the lead clinical investigator in the first proof-of-concept clinical trial on the use of celgosivir as an anti-dengue drug (CELADEN) in Singapore. She is also the lead clinical investigator for the open-label proof-of-concept trial of Japanese encephalitis and yellow fever vaccinations to test the role of pre-existing cross-reactive antibodies in influencing vaccine efficacy.

Past and Current Duke-NUS MD Research Students

Tan Boon Hian (Class of 2014; Co-mentor)
Toh Liying (Class of 2014; Co-mentor)
Wang Xiaohui (Class of 2016)
Rene Gatsinga (Class of 2018; Co-mentor)

Student Publications

Low, Kin Huat  PhD

Professor, Division of Mechatronics and Design, School of Mechanical and Aerospace Engineering, Nanyang Technological University, Singapore

Contact: 6790 5755
Email: mkhlow@ntu.edu.sg
Website: -

Research Summary

Prof Low’s recent research projects relevant to bio-engineering include the following topics:

- Design and development of dispensers for retort tray meal automation
- Motion Planning for Task Manipulation and Handling
- Perching Aircraft Research and Development (DSOCL09292)
- Programme on Aviation System Block Upgrade and Air Traffic Management modernisation
- Programme on Aviation System Block Upgrade and Air Traffic Management modernisation
- Project CRANEV
- Prototype Development of Assistive Leg Device for Partial-Paralysis Patients
- Task-based Cooperative UAVs in Specified Environments

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Malhotra, Chetna  MBBS, MD, MPH

Assistant Professor, Lien Centre for Palliative Care and Program in Health Services and Systems Research, Duke-NUS Medical School Singapore

Contact: 6516 5692
Email: chetna.malhotra@duke-nus.edu.sg
Website: ResearchGate Profile

Research Summary

Dr Malhotra’s research focuses on end-of-life and palliative care of patients with cancer and non-cancer life limiting illnesses. Her recent work has entailed eliciting treatment preferences of general population, patients and their caregivers and treatment recommendations from physicians through discrete choice experiments. In her ongoing work, she is evaluating the effectiveness of advance care planning in meeting preferences of patients with advanced heart failure. She is also evaluating the quality of communication between patients and their physicians, including the extent to which physicians express empathy and the patients are involved in making decisions for their own treatment. She is involved with a longitudinal study and a multi-country survey of patients with advanced cancer focusing on several domains of their quality of life, extent of symptom management and perceived quality of care among patients.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Malhotra, Rahul  MBBS, MD, MPH

Assistant Professor, Programme in Health Services and Systems Research, Duke-NUS Medical School

Contact: 6516 6721
Email: rahul.malhotra@duke-nus.edu.sg
Website: Google Scholar Profile

Research Summary

Dr. Malhotra’s current research mainly focuses in two areas, namely health of older adults and obesity. His research in the area of health of older adults includes that on risk factors and consequences of chronic diseases, life-course influences on older adult health outcomes and physical, mental and social facets of care giving for the elderly. His research in the area of obesity includes characterization of weight trajectories over the life course. He also maintains a research interest in maternal and child health, and health of vulnerable population groups in developing country settings. He has authored or coauthored over 40 peer reviewed papers in the medical and public health literature. Journals in which he has published include International Journal of Epidemiology, Journal of the American Geriatrics Society, Quality of Life Research, and Hypertension Research.

Past and Current Duke-NUS MD Research Students

Ee Tat Xin (Class of 2011; Co-mentor)
Koh Hui Shan (Class of 2011; Co-mentor)
Kouk Leong Jin (Class of 2012; Co-mentor)
Neo Ghim Hoe (Class of 2012; Co-mentor)
Wu Lin Chieh (Class of 2013; Co-mentor)
Ku Chee Wai (Class of 2013; Co-mentor)
Noda Misa (Class of 2014)
Huang Shiqi Joan (Class of 2015)
Glenn Goh (Class of 2015; Co-mentor)
He Song (Class of 2015; Co-mentor)
Siew Jia Yun Shayna (Class of 2015; Co-mentor)
Carmen Lim Zhiruo (Class of 2016; Co-mentor)
Jeffrey Siow Yong Ming (Class of 2017)
I Gusti Ngurah Prawira Suartha Oka (Class of 2017; Co-mentor)

Student Publications

Matchar, David B.  MD, FACP, FAHA

Professor and Programme Director, Programme in Health Services and Systems Research, Duke-NUS Medical School
Professor, Medicine, Duke University
Senior Fellow, Center for the Study of Aging and Human Development

Contact: 6516 2584
Email: david.matchar@duke-nus.edu.sg
Website: Google Scholar Profile

Research Summary

My research relates to clinical practice improvement - from the development of clinical policies to their implementation in real world clinical settings. Most recently my major content focus has been cerebrovascular disease. Other major clinical areas in which I work include the range of disabling neurological conditions, cardiovascular disease, aging, and complex/chronic illness.

Methodologically, my work relies on analytic strategies such as meta-analysis, simulation, decision analysis and cost-effectiveness analysis; the goal is to balance methodological rigor with the practical needs of decision makers. Illustrative current projects include development of simulations of various aspects of the Singapore health system, trials of innovative approaches to care (e.g. integrated transitional care, falls prevention, apps for management of insulin), and population survey studies to assess health and social service needs.

I remain clinically active part time in Internal Medicine in the US.

Past and Current Duke-NUS MD Research Students

Alfred Ka-Shing Wong (Class of 2016)

Student Publications

NA
Mehta, Jodhibir  BSc, MBBS, M.D, FRCOphth, FRCS(Ed)

Head and Senior Consultant, Corneal and External Eye Disease Service, Singapore National Eye Centre
Adjunct Associate Professor, Department of Ophthalmology, Yong Loo Lin School of Medicine, National University of Singapore

Contact: 6322 7478
Email: jodhibir.s.mehta@snec.com.sg
Website: Google Scholar Profile

Research Summary

A/Prof Mehta’s research interests cover all aspects of corneal external disease and refractive surgery from basic science, translational and clinical research. These include laboratory based research investigating new stem cell based therapies e.g. culturing of human corneal endothelial cells and studies on patients with corneal genetic disorders. Translational research involves the development of an artificial cornea device, new instruments for corneal transplantation to improve patient outcomes, and effects of femtosecond lasers in corneal/refractive surgery as well as development of novel drug delivery devices.

His clinical based research involves research into imaging devices for the cornea, case comparative cohorts of new selective tissue transplantation procedures. He is also lead PI for Singapore for a large multicentre infectious keratitis study.

Past and Current Duke-NUS MD Research Students

Zhang Ting (Class of 2012)
Benjamin Mo-Yan Wu (Class of 2016)

Student Publications


Research Summary

Functional imaging describes the use of radiological techniques to evaluate tissue biology, in addition to high quality anatomical images. A myriad of imaging techniques, including MRI, CT, PET and USS have been developed that allows quantitative and semi-quantitative measurements of various facets of tumour physiology and biology, including metabolism, angiogenesis, cellular proliferation and hypoxia. Our group is actively involved in pre-clinical applications of functional imaging, as well as developing functional imaging as a biomarker in early phase clinical trials.

The unique nature of functional imaging research will allow the student to appreciate the multi-disciplinary interactions between diagnostic radiologists, medical and radiation oncologists, physicists and basic scientists. The student will gain experience in the design and day-to-day running of early phase cancer trials, acquire knowledge on various imaging techniques and interpretation of radiological images, and learn about the physics and mathematics of tracer kinetic modelling.

Past and Current Duke-NUS MD Research Students

Szymon Mikulski (Class of 2013; Co-mentor)
Teo Qiao Qi (Class of 2015)

Student Publications

Ng, Wai Hoe  MBBS, MD (NUS), FRACS (Neurosurgery), FAMS (Neurosurgery)

Associate Professor, Duke-NUS Medical School
Academic Chair, SingHealth Duke-NUS Neuroscience Academic Clinical Programme
Medical Director, National Neuroscience Institute
Senior Consultant, Department of Neurosurgery, National Neuroscience Institute

Contact: 6357 7191
Email: wai_hoe_ng@nni.com.sg
Website: -

Research Summary

1. Brain Tumour Research- focus on gliomas
2. Surgical navigation and imaging
3. Neurotechnology (MedTech)

Past and Current Duke-NUS MD Research Students

Md. Tauseef Khalid (Class of 2016)
Chan Yuan-Lang Brian (Class of 2017)

Student Publications

NA
Ng, Yee Sien  MBBS (S’pore), MRCP (UK), FAMS

Associate Professor, Duke-NUS Medical School
College Master, Seah Cheng Siang College, Duke-NUS Medical School
Senior Consultant, Department of Rehabilitation Medicine, Singapore General Hospital, SingHealth
Clinical Senior Lecturer, Yong Loo Lin School of Medicine, National University of Singapore
Physician Faculty, General Medicine Residency and Rehabilitation Medicine Senior Residency

Contact: 6326 6667
Email: ng.yee.sien@sgh.com.sg
Website: Google Scholar Link

Research Summary

Dr Ng does clinical research widely on rehabilitation, medicine and disability. His areas of work include:

1. Disease and disability epidemiology including predictors of outcome of patients with stroke, traumatic brain injury, minimally responsive states, general internal medicine and various neurologic and musculoskeletal disabling disorders.

2. Physiology of common syndromes in rehabilitation including spasticity and tone disorders, frailty, deconditioning, and gait disorders with the use of EMG and gait analysis.

3. Medical therapeutics involving both pharmacological and non-medical modalities. This includes the use of neurostimulants and antidepressants; together with the use of rehabilitation modalities including non-invasive brain stimulation and music therapy.

4. Rehabilitation and Medical Technology specifically the use of rehabilitation robotics, electrical stimulation and virtual reality.

The Department of Rehabilitation Medicine has ongoing clinical databases in general rehabilitation and traumatic brain injury with ongoing collaborations with Faculties of Engineering and Computer Sciences in Singapore’s tertiary institutes and polytechnics.

Past and Current Duke-NUS MD Research Students

Tan Chunzhen (Class of 2014)  Tan Wan Ying (Class of 2018)
Choo Wan Li Amanda (Class of 2015)  
Choo Min (Class of 2015, Co-mentor)  
Chong Xiao Yun (Class of 2016)  
Low Jia Wen Glenn (Class of 2017)

Student Publications


Ngeow, Joanne  MBBS, MRCP, MPH

Assistant Professor, Oncology Academic Clinical Program
Head and Consultant, Cancer Genetics Service, Division of Medical Oncology, NCCS

Contact: 6436 8172
Email: Joanne.Ngeow.Y.Y@singhealth.com.sg
Website: Google Scholar Profile

Research Summary

Dr Joanne Ngeow, MBBS, MRCP, MPH, is Consultant, Division of Medical Oncology at the National Cancer Centre Singapore. Dr Ngeow currently leads the Cancer Genetics Service at the National Cancer Centre Singapore with an academic interest in hereditary cancer syndromes and translational clinical cancer genomics. She was awarded consecutive fellowships by the National Medical Research Council and the Ambrose Monell Foundation to complete formal clinical and bench training in Cancer Genomic Medicine at the Genomic Medicine Institute, Cleveland Clinic, Ohio. She is an Editorial Board Member for Endocrine Related Cancer. Dr Ngeow was awarded the NMRC Transition Award in 2014 aimed at understanding how gene-environmental interactions predisposes to cancer initiation and progression. Available projects suitable for students range from health system and services research on the role of genetic testing in Singapore/ Asia as well as translational research projects exploring novel cancer susceptibility genes in familial cancer.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Ong, Biauw Chi

Associate Professor, Duke-NUS Medical School
Senior Consultant, Department of Anaesthesiology, Singapore General Hospital
Chairman Medical Board, Sengkang Health
Clinical Associate Professor, Yong Loo Lin School of Medicine, NUS

Contact: 63214220 / 63265887
Email: ong.biauw.chi@singhealth.com.sg
Website: -

Research Summary

My interest is in patient safety and clinical quality improvement including looking at patient flow, outcomes and optimizing resources as well as access to care. My interest are also in safety in medication delivery, process improvement, hard wiring excellence and human factors. Previous work includes looking at medication delivery and errors before and after implementation of electronic ordering and closed loop medication processes. Other areas of interest include looking at admission patterns to various high resource areas like OT and ICUs, and also into cancellations and optimization of these resources.

Past and Current Duke-NUS MD Research Students

Low Tiong Keng William (Class of 2017)
Tsang Yun Yi Laura (Class of 2018)

Student Publications

NA
Ong, Eng Hock Marcus  MBBS, FRCS, MPH

Associate Professor, Programme in Health Services and Systems Research, Duke-NUS Medical School
Senior Consultant, Director of Research and Clinician Scientist, Department of Emergency Medicine, Singapore General Hospital
Director, Health Services Research and Biostatistics Unit, Division of Research, in SGH
Director, Unit for Prehospital Emergency Care in Ministry of Health, Singapore
Senior Consultant, Hospital Service Division, Ministry of Health

Contact: 6321 3590
Email: marcus.ong.e.h@singhealth.com.sg
Website: Google Scholar Profile

Research Summary

A/Prof Ong has been actively involved in research, education and clinical services for more than 10 years. His research studies focus predominantly on pre-hospital emergency care, medical devices, and health services research. His research has addressed issues such as out-of-hospital cardiac arrest (OHCA), improving ambulance deployment, acute myocardial infarction, etc. In addition, he was awarded the Clinician Scientist Award by the National Medical Research Council for his Pan-Asian Resuscitation Outcomes Study and has received multiple accolades for his research work. A/Prof Ong has published over 100 papers in international and local peer-reviewed journals such as Journal of the American Medical Association, American Journal of Medicine, Critical Care Medicine, Resuscitation, Annals of Emergency Medicine, American Journal of Emergency Medicine, Singapore Medical Journal, Annals of the Academy of Medicine Singapore etc.

Past and Current Duke-NUS MD Research Students

Lai Hsuan (Class of 2014)  Chin Yun Xin (Class of 2017)
Sumitro Harjanto (Class of 2015)  Lian Wanxi, Tracy (Class of 2017; Co-mentor)
Marcus Lee Aik Beng (Class of 2015)  Chia Theng Xin, Shermain (Class of 2018; Co-mentor)
Ho Shu Fang (Class of 2016)  Mas’Uud Ibnu Samsudin (Class of 2018; Co-mentor)
Tan Chong Yew (Class of 2016; Co-mentor)  Annisa Dewi Utami Rakun (Class of 2018)

Student Publications

Research Summary

The research themes of this laboratory are translational in nature, and centre on gaining a better understanding of the basic pathophysiology of human malignancies in order to improve the management and treatment of patients with cancer.

Several projects in the laboratory are guided by the overarching hypothesis that dysregulated mRNA translation is essential to cellular transformation. This hypothesis is supported by prior work from our group and others which have demonstrated that the aberrant activation of several signaling pathways associated with the oncogenic state (including MAPK and PI3K/Akt) impinge on the cellular machinery that regulates both cap-dependent and cap–independent mRNA translation. These observations suggest that dysregulated translation contributes to cellular transformation via altering the expression of genes that control cellular proliferation and/or death. Importantly, these data indicate that therapeutic targeting of dysregulated translation is a valid strategy to test in the cancer clinic.

Specific projects in the laboratory include: investigating the role of cap-dependent and cap-independent translation in various human malignancies, the identification and development of small molecules which can target aberrant mRNA translation in cancer cells, and determining the identity of genes which are dysregulated at the level of translation. Other preclinical projects include the use of novel approaches to identify the molecular signature of drug resistance in primary human cancer tissues, as well as the genetic abnormalities that confer stem cell-like properties to human cancers, including the ability to self-renew. Finally, our group is also conducting an international Phase I study testing the feasibility and efficacy of targeting the mTOR kinase (a central regulator of eukaryotic mRNA translation) in patients with drug-resistant chronic myelogenous leukaemia.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Research Summary

The global emergence of epidemic dengue is fueled by an incomplete understanding of the determinants of both immunity and pathogenesis. Our laboratory aims to contribute to an improved understanding of dengue by positioning itself at the interface between clinical epidemiology, virology and immunology. Specifically, we are interested in elucidating: (1) how antibodies either protect against or enhance dengue virus infection and (2) what viral factors determine the outcome of infection or transmissibility and hence explain its epidemiological phenotype. By elucidating these mechanisms, we hope to contribute to the development of effective vaccines or therapeutics.

While the primary focus of the laboratory is on dengue, we also take advantage of the opportunities presented in prospective clinical studies to examine the etiology of acute febrile illnesses.

Past and Current Duke-NUS MD Research Students

Shera Chaterji (Class of 2011)  Toh Liying (Class of 2014)
Ryan Wu Songlian (Class of 2013)  Chew Jun Jie (Class of 2016)
Tan Boon Hian (Class of 2014; Co-mentor)  Wang Xiaohui (Class of 2016; Co-mentor)

Student Publications


Østbye, Truls  
*MD, MPH, PhD, FFPH (UK)*

Professor, Programme in Health Services and Systems Research, Duke-NUS Medical School  
Professor and Director of Global Health, Community and Family Medicine, Duke University

**Contact:**  
**Email:** truls.ostbye@duke.edu / truls.ostbye@duke-nus.edu.sg  
**Website:** Google Scholar Profile

**Research Summary**

Prof. Østbye, a chronic disease epidemiologist and public health researcher, has a special interest in obesity, diseases of the elderly and global health. In Singapore, his current research includes studies of: health and lifestyles of elderly Singaporeans, physical, mental and social facets of care giving for elderly Singaporeans, risk factors for threatened and complete miscarriages, and evaluation of workplace health promotion programs. His current research in the USA includes studies of: obesity in the postpartum period and in children, use of clinical preventive services, cognitive decline, health and social support among the elderly, doctor-patient communication, and occupational health surveillance among health care workers. His global health projects include those of health and illness among textile workers in Sri Lanka, febrile illness in Sri Lanka and secondary analysis of DHS Indian datasets for maternal and child health outcomes. He currently is the PI of two R01 grants from the NIH and he has authored or coauthored over 250 peer reviewed papers in the medical and public health literature.

**Past and Current Duke-NUS MD Research Students**

<table>
<thead>
<tr>
<th>Name</th>
<th>Class Year</th>
<th>Mentors</th>
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<tbody>
<tr>
<td>Wu Lin Chieh</td>
<td>2013</td>
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<tr>
<td>Ku Chee Wai</td>
<td>2013</td>
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<tr>
<td>Noda Misa</td>
<td>2014; Co-mentor</td>
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<tr>
<td>Glenn Goh</td>
<td>2015</td>
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<td>He Song</td>
<td>2015; Co-mentor</td>
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<td>Siew Jia Yun Shayna</td>
<td>2015; Co-mentor</td>
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<td>Carmen Lim Zhiruo</td>
<td>2016</td>
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<td>I Gusti Ngurah Prawira Suartha Oka</td>
<td>2017</td>
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<td>Jeffrey Siow Yong Ming</td>
<td>2017; Co-mentor</td>
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<tr>
<td>Guo Ying</td>
<td>2017</td>
<td>Co-mentor</td>
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<tr>
<td>Sandra Lynn Jaya</td>
<td>2018</td>
<td>Co-mentor</td>
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<tr>
<td>Shi Qi Zhu</td>
<td>2018</td>
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</tbody>
</table>

**Student Publications**

Pervaiz, Shazib  MBBS, PhD

Professor, Programme in Cancer and Stem Cell Biology, Duke-NUS Medical School
Professor, Department of Physiology, Yong Loo Lin School of Medicine, National University Singapore
Professor, Graduate School for Integrative Sciences and Engineering, National University of Singapore
Professor, Singapore-MIT Alliance

Contact: 6516 6602
Email: Shazib_Pervaiz@nuhs.edu.sg
Website: ResearchGate Profile

Research Summary

- Receptor and non-receptor Death Signaling
- Regulation of Cell Death Signaling in Cancer Cells
- Reactive Oxygen Species and Cell Fate Decisions
- Bcl-2 Family and Mitochondrial Physiology
- Redox Status and Cancer Stem Cells
- Autophagy and Cancer
- Novel Drug Discovery

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
**Pettersson, Sven MD, PhD**

Professor, Metabolic Disease, Lee Kong Chian School of Medicine, Nanyang Technological University  
Principal Investigator, Microbiota Host Interactions, Nutrigenomics & Metabolism Laboratory  

**Contact:** 6576 7335  
**Email:** Sven.Pettersson@ki.se  
**Website:** -

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**Research Summary**

We are interested in how microbes influence host physiology. More specifically, we are studying the gut-brain communication and aiming to identify the signaling pathways and metabolites by which microbes, localized in the gut, can impact on neurological development and function. We are using animal models where mice are kept under germ-free conditions thus allowing for controlled and defined microbe-host interactions. We are also using ex-vivo tissue cultures to study microbe-cell interactions. To obtain meaningful information from the complex bacteria-host communication, a systems biology approach has been established. This includes use of metagenomic, metatranscriptomic profiling of the bacteria and metabonomics using mass spectrometry and NMR.

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**Past and Current Duke-NUS MD Research Students**

Yang Jiajing Edwin (Class of 2016)

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**Student Publications**

NA
Quah, Stella R. *PhD, MSc*

Adjunct Professor, Programme in Health Services and Systems Research, Duke-NUS Medical School

**Contact:** 6469 3564  
**Email:** stella.quah@duke-nus.edu.sg  
**Website:** Google Scholar Profile

### Research Summary


### Past and Current Duke-NUS MD Research Students

NA

### Student Publications

NA
Quek, Richard Hong Hui  MBBS, MRCP (UK)

Senior Consultant and Deputy Head, Department of Medical Oncology, National Cancer Centre Singapore
Program Director, Medical Oncology Residency, SingHealth / National Cancer Centre Singapore

Contact: 6436 8000
Email: dmorqhh@nccs.com.sg
Website: -

Research Summary

Dr Quek’s chief research interest is primarily focused on translational therapeutics, developing new molecularly targeted therapeutics in both sarcoma and lymphoma in an academic environment. Since returning from his fellowship at the Centre for Sarcoma and Bone Oncology in Dana-Farber Cancer Institute (DFCI), he initiated the development of National Cancer Centre Singapore’s efforts in developing a soft tissue/bone and gastrointestinal stromal tumor (GIST) sarcoma database; the first of its kind in Singapore. From this robust database system, the research team has analyzed and reported on various unique subsets of sarcomas, correlating preclinical findings with patient outcome measures. Additionally, Dr Quek serves as Principal Investigator in various Phase II/III studies testing new drug compounds in patients with advanced sarcomas and GIST.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Rajadurai, Victor Samuel  MBBS, MD (Paeds), MRCP, DCH, FAMS

Adjunct Associate Professor, Duke-NUS Medical School
Head & Senior Consultant, Department of Neonatology, KK Women's and Children's Hospital
Clinical Associate Professor, Yong Loo Lin School of Medicine, National University of Singapore

Contact: 6394 1228
Email: victor.Samuel@kkh.com.sg
Website: -

Research Summary

Assoc Prof Rajadurai's research interests include pulse oximetry of newborn, perinatal asphyxia, inhaled nitric oxide therapy, chronic lung disease of prematurity, neonatal nutrition, newborn screening and newer modes of neonatal ventilation.

Past and Current Duke-NUS MD Research Students

Shruthi Suryaprakash (Class of 2016)
Ian Wang Huang (Class of 2017)

Student Publications

NA
Rozen, Steve *PhD*

Professor, Programme in Cancer and Stem Cell Biology, Duke-NUS Medical School  
Director, Duke-NUS Centre for Computational Biology, Duke-NUS Medical School  
Associate Professor Track V, Psychiatry and Behavioral Sciences, Duke University Medical Center

**Contact:** 6516 4945  
**Email:** steve.rozen@duke-nus.edu.sg  
**Website:** ResearchGate Profile

### Research Summary

Our laboratory works in the areas of genome-scale biology and bioinformatics. We apply advanced computational and quantitative analysis to genome-scale data, especially next-generation sequencing data in pursuit of questions in cancer biology. Areas of particular interest are cancer classification, detection of signatures of mutagenic exposures in tumors, and the roles of alternative splicing in cancer.

In bioinformatics, we develop approaches for analyzing and interpreting high-dimensional, genome-scale data sets, such as those generated by next-generation sequencing and by gene-expression arrays.

Technologies for generating genome-scale data are improving exponentially and are increasingly central in biological research. In bioinformatics, our goal is to develop robust tools that can use these genome-scale data to generate new insights into biological processes.

### Past and Current Duke-NUS MD Research Students

NA

### Student Publications

NA
Sabanayagam, Charumathi  MBBS, MD, MPH, PhD

Regular-Rank Assistant Professor, Duke-NUS Ophthalmology and Visual Sciences Academic Clinical Programme
Clinician Scientist, Singapore Eye Research Institute
Assistant Professor, Department of Ophthalmology, National University of Singapore

Contact: 6322 4541
Email: Charumathi.sabanayagam@seri.com.sg
Website: Google Scholar Profile

Research Summary

Dr. Charu’s current research focuses on the epidemiology of diabetes mellitus, chronic kidney disease (CKD), risk factors and impact of CKD on eye in particular diabetic retinopathy (DR) and age-related macular degeneration (AMD) in Asian populations. Currently, she is evaluating the longitudinal association of retinal imaging markers with CKD in Asian adults and also working on participant level meta-analyses on the association of retinal microvascular abnormalities with outcomes like prediabetes, metabolic syndrome and CKD. She has published >80 peer reviewed papers (36 as first author and 15 as senior author). Her research work has been published in leading international journals including American Journal of Epidemiology, American Journal of Kidney Diseases, Diabetologia and Journal of Clinical Endocrinology and Metabolism. She has mentored/co-mentored fellows at SERI, Registrars/Residents at SNEC and NUS medical students on research projects. 11 of her mentees’ work have been published in international peer reviewed journals.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Sabapathy, Kanaga  *PhD, FRCPath*

Professor, Programme in Cancer and Stem Cell Biology, Duke-NUS Medical School  
Professor and Head, Division of Cellular & Molecular Research, National Cancer Centre Singapore  
Principal Investigator, Laboratory of Molecular Carcinogenesis, National Cancer Centre Singapore  
Research Director, Singhealth/Duke-NUS Oncology Academic Clinical Programme (ONCO ACP), SingHealth  
Research Director, Institute of Molecular and Cell Biology  
Contact: 6436 8349  
Email: cmrksb@nccs.com.sg  
Website: https://www.duke-nus.edu.sg/content/sabapathy-kanaga

**Research Summary**

The focus of the Sabapathy laboratory is to understand the molecular mechanisms contributing to carcinogenesis - the process of cancer formation, and the alterations that lead to therapeutic resistance, with the aim of finding ways to combat cancer and enhance treatment response.

As cells are constantly exposed to a variety of signals including growth promoting factors and detrimental stresses, cell fate determination has to be constantly and correctly made such that an appropriate response ensues. Defects in signaling mechanisms will inadvertently lead to altered cell fate responses resulting in both altered physiological processes and the development of pathological conditions such as cancer. The determination of cell fate is a tightly orchestrated process regulated by the interplay of various cellular signaling cascades.

Our laboratory studies several transcription factors that regulate cell fate, including TP53, which is the most mutated gene in ALL human cancers, and its homologue, TP73, which is upregulated in many cancers, using biochemical and genetic techniques and animal models. In addition, we utilize mouse models for hepatocellular carcinoma and liposarcomas to gain mechanistic understanding of their development to find better ways to detect them early, and to effectively treat them.

**Past and Current Duke-NUS MD Research Students**

NA

**Student Publications**

NA
Sahlén, Anders Olof  MD, PhD, MRCP

Adjunct Associate Professor, Duke-NUS Medical School
Consultant, Department of Cardiology, National Heart Centre Singapore
Associate Professor of Cardiology, Karolinska Institutet, Stockholm, Sweden

Contact: 6704 8870
Email: anders.olof.sahlen@nhcs.com.sg
Website: -

Research Summary

Dr. Sahlén trained and worked in Sweden and England as a Noninvasive Cardiologist. His research interests include different aspects of echocardiography including clinical echo and its methodology, as well as its application to circulatory physiology. His recent work includes various aspects of registry research and, after joining National Heart Centre Singapore in January 2014 as a Consultant, Dr. Sahlén has become involved the development of clinical Cardiology registries in Singapore. He is currently Deputy Scientific Lead for the NHRIS Core for Biostatistics and Databases, and involved in registry research both in Singapore and overseas. He co-supervises a registered PhD student at the Karolinska Institutet in Sweden and has earlier supervised both a PhD student (dissertation in 2012) and two graduate students (2011). He is the coordinating investigator for a large registry study looking at antithrombotic treatment in ACS and is a co-investigator for several other studies.

Past and Current Duke-NUS MD Research Students

Michael Seng Che Hao (Class of 2018)

Student Publications

NA
Saw, Seang Mei  MBBS, MPH, PhD, FAMS, FARVO

Professor, Program in Neuroscience and Behavioral Disorders, Duke-NUS Medical School
Professor, Epidemiology, Saw Swee Hock School of Public Health, National University of Singapore
Head, Myopia Unit, Singapore Eye Research Institute

Contact: 6516 4976
Email: seang_mei_saw@nuhs.edu.sg
Website: ResearchGate Profile

Research Summary

Epidemiology, gene-environment interaction, genetics of myopia and other eye diseases. Epidemiology, and quality of life of chronic diseases.

Past and Current Duke-NUS MD Research Students
Zhang Bei (Class of 2018)

Student Publications
NA
**Sia, Alex Tiong Heng** MBBS, MMed (Anaes), FAMS

Adjunct Professor, Duke-NUS Medical School  
Adjunct Professor, NUS Faculty of Engineering  
Clinical Associate Professor, Yong Loo Lin School of Medicine, National University of Singapore  
Senior Consultant, Department of Women’s Anaesthesia, KK Women’s & Children’s Hospital

**Contact:** 6394 2319  
**Email:** alex.sia.th@kkh.com.sg  
**Website:** Google Scholar Profile

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**Research Summary**

The principal area of Alex Sia's research specialization is in the individualization of pain chronic and labour pain management. There are 2 components to this – research on the possible predictors of the one's propensity to developing chronic pain after surgery, including genetic and environmental factors as well as the use of smart closed loop medication for pain management. The other area of his research is in the maintenance of haemodynamic stability in the perioperative period by exploring the contributions of genetic variations of the adrenoceptors and by employing a novel system of drug administration as a therapeutic tool.

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**Past and Current Duke-NUS MD Research Students**

- Tan Hon Sen (Class of 2013)  
- Li Shengjin (Class of 2014)  
- Wang Hao (Class of 2015)  
- Zhang Qianpian (Class of 2015)  
- Lee Man Xin (Class of 2016)  
- Du Wei (Class of 2017)  
- Ho Xun Kiat, Duncun (Class of 2018; Co-mentor)  
- Tan Jian'an, Daryl (Class of 2018)

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**Student Publications**


Silver, David L.  PhD

Associate Professor, Programme in Cardiovascular and Metabolic Disorders, Duke-NUS Medical School

Contact: 6601 2172
Email: david.silver@duke-nus.edu.sg
Website: Google Scholar Profile

Research Summary

Our research group is focused on molecular mechanism of lipid transport, the function of lipids in blood-brain barrier function and brain growth, and more recently autoimmune disorders. A particular focus of our research is on studying the function of Mfsd2a, a transporter we identified to be expressed at the blood-brain barrier that transports lipids essential for brain growth and function in humans. This recent work has provided both fundamental information on human brain growth and function and a platform to develop novel therapeutic agents to treat neurological disease. Our laboratory is multidisciplinary utilizing biochemistry, molecular genetics in mice and humans, and molecular and cellular biology. Ultimately, our goals are to translate our findings into potential therapeutic treatments for neurological diseases and develop novel clinical nutrition for improving brain growth and function. Students and research fellows working in the lab can expect to acquire skills in molecular biology, protein biochemistry, lipid biochemistry, in vitro cell culture assays, and in physiological and biochemical analyses of genetically engineered mice. Prof. Silver’s research has been published in top-tier scientific journals such as Nature, Nature Genetics, Journal of Clinical Investigation, and Proceedings of the National Academy of Sciences, USA.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Smith, Gavin J.  
PhD, MASM

Associate Professor, Programme in Emerging Infectious Diseases, Duke-NUS Medical School
Associate Research Professor, Duke Global Health Institute, Duke University, Durham, NC, United States
Faculty Member, Graduate School for Integrative Sciences and Engineering, National University of Singapore, Singapore
Visiting Scientist, WHO Collaborating Centre for Reference and Research on Influenza, VIDRL, Melbourne, Australia
Member, NIAID/NIH Center of Excellence for Influenza Research and Surveillance, St Jude Children’s Research Hospital, Memphis, TN, USA

Contact: 6601 1109
Email: gavin.smith@duke-nus.edu.sg
Website: Google Scholar Profile

Research Summary

My research program focuses on the ecology, genetic and antigenic evolution, molecular diagnostics, pathogen discovery, population dynamics, molecular epidemiology and interspecies transmission of emerging infectious diseases. To achieve this, I conduct field surveillance studies on both human and animal populations aimed at collection and characterization of viruses for disease detection, prevention and control and for use in ecological and evolutionary studies. My research aims to explicitly link surveillance efforts with research into pathogenesis and host response to address the research priorities including the integration of ecological and phenotypic data for evolutionary hypothesis testing; the epidemiological and evolutionary dynamics of human respiratory viruses; evolution and transmission in animal species; and interspecies transmission and disease emergence.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Dr Sng Ban Leong, is the Deputy Head and Senior Consultant at the KK Women’s and Children’s Hospital, Women’s Anaesthesia. He is an Assistant Professor at the Duke-NUS Medical School and also a Clinician-Scientist Mentor and Core Faculty in the Singhealth Anaesthesiology Residency Programme. He recently received the National Medical Research Council (NMRC) Clinical Trials Grant for obstetric epidural delivery system research, NMRC Transition Award for chronic pain research, NHIC I2D Grant for opioid delivery system research and Singhealth Foundation Grant for vasopressor delivery system research. He completed the Masters in Clinical Investigation with the National Research Foundation-MOH Healthcare Research Award and Fellowship in Pain Medicine with the Healthcare Manpower Development Plan award. His research interests include obstetric epidural anaesthesia and analgesia, opioid analgesia, closed-loop systems and chronic post-surgical pain.

Past and Current Duke-NUS MD Research Students

Wang Hao (Class of 2015; Co-mentor)            Du Wei (Class of 2017; Co-mentor)
Zhang Qianpan (Class of 2015; Co-mentor)       Yeo Junjie (Class of 2017; Co-mentor)
Pham Thi Phuong Tu (Class of 2016)             Gan Yuan Ying (Class of 2018; Co-mentor)
Lee Man Xin (Class of 2016; Co-mentor)         Sng Dawei, David (Class of 2018)
Tay Wen Shu, Terence (Class of 2016; Co-mentor) Tan Jian'an, Daryl (Class of 2018; Co-mentor)
Ching Yin Ying (Class of 2017)

Student Publications


Soo, Khee Chee  MBBS, MD, FRACS, FACS, FAMS

Senior Vice Dean, Clinical, Academic and Faculty Affairs, Duke-NUS Medical School
Benjamin Sheares Professor of Academic Medicine, Duke-NUS Medical School
Academic Chair, SingHealth Duke-NUS Oncology Academic Clinical Programme
Director, National Cancer Centre Singapore
Deputy CEO, Research and Education, Singapore Health Services
Visiting Senior Consultant, Department of Surgery, Singapore General Hospital
Professor, Surgery, Yong Loo Lin School of Medicine, National University of Singapore

Contact: 6516 1766
Email: kheechee.soo@duke-nus.edu.sg
Website: -

Research Summary

Prof Soo has wide ranging research interests in the conduct of clinical trials for new cancer treatments as well as in the field of biophotonics and its role as a new imaging modality for the early detection of cancer.

Past and Current Duke-NUS MD Research Students

Maryanne Chew Romero (Class of 2013)
Li Ke (Class of 2016)

Student Publications

NA
St. John, Ashley L.  PhD

Assistant Professor, Programme in Emerging Infectious Diseases, Duke-NUS Medical School
Pathology Department, Duke University

Contact: 6601 1096
Email: ashley.st.john@duke-nus.edu.sg
Website: ResearchGate Profile

Research Summary

The research program in the St. John lab is currently focused on studying how the initial inflammatory events of infection shape downstream immune protection or pathology, particularly in the context of viral pathogens such as dengue virus. Opportunities for basic, translational, and clinical research projects are available. This lab employs approaches including the use of animal models and techniques in cellular immunology to functionally test the impact of immune mediators on immunosurveillance for viral pathogens, cellular activation and trafficking within lymph nodes, and protective immunological memory and immune pathology. Studying primary immune processes and immunosurveillance events for pathogens that impact adaptive immunity is a key aim of our work and one that has implications for vaccine design and the development of novel immunotherapeutics.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Sung, Min

Senior Consultant, Department of Child and Adolescent Psychiatry, Institute of Mental Health
Program Director, Neurobehavioral Clinic, Child Guidance Clinic
Clinical Senior Lecturer, Yong Loo Lin School of Medicine
Clinical Teacher, Lee Kong Chian School of Medicine

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Website: -

Research Summary

Dr Sung's area of interest in research is in Autism Spectrum Disorders, such as on clinical aspects of diagnosis, mental health comorbidities and intervention. She has authored papers on Anxiety, Cognitive Behavioural Therapy, Caregiver Stress and assessment instruments in Autism Spectrum Disorders. Dr Sung has mentored Residents, Medical Officers and medical students from the Yong Loo Lin School of Medicine in research projects leading to publications.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Sung, Sharon Cohan  PhD

Assistant Professor and Deputy Head, Clinical Health Services Implementation, Duke- NUS Medical School
Senior Clinical Psychologist, Department of Child and Adolescent Psychiatry, Institute of Mental Health, Singapore

Contact: 6576 7365
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Website: ResearchGate Profile

Research Summary

My research is focused on improving identification, assessment, and treatment for mood and anxiety disorders throughout the lifespan, with an emphasis on empirically supported treatment approaches (e.g., cognitive behavioral and mindfulness-based therapies). Current clinical research projects include a study of virtual-reality exposure therapy for children with selective mutism, a study to determine optimal screening methods for emergency medicine patients with panic disorder, and a study investigating the efficacy of stepped-care for panic patients presenting to emergency medicine.

Past and Current Duke-NUS MD Research Students

Pavaani Thiagayson (Class of 2013, Co-mentor)

Student Publications

Tai, Bee Choo PhD

Associate Professor, Saw Swee Hock School of Public Health, National University of Singapore

Contact: 6516 4973
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Website:

Research Summary

- Competing risks and correlated multiple failure time data
- Design and analysis of clinical trials

Past and Current Duke-NUS MD Research Students

Daniel He Xin-Ping (Class of 2012)

Student Publications

NA
Tai, E Shyong MD

Associate Professor, Programme in Cardiovascular and Metabolic Disorders, Duke-NUS Medical School
Senior Consultant and Head, Division of Endocrinology, National University Health System
Associate Professor, Division of Endocrinology, Department of Medicine, Yong Loo Lin School of Medicine, National University of Singapore

Contact: 6772 4371
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Website: ResearchGate Profile

Research Summary

I am interested in obesity and metabolic diseases from a variety of angles. 1) the pathogenesis of these disorders including genetics diet, physical activity, psychosocial distress; 2) the identification of individuals at high risk of these disorders; and 3) the impact of these disorders in terms of chronic complications, health care utilization, quality of life and death.

I am involved in human studies which may take 2 major forms:

1. Large epidemiologic surveys with extensive phenotyping which exploit biochemistry and genomics platforms
2. Small studies involving intensive physiologic measurements including hyperinsulinemic clamps, imaging and meal challenges.

Past and Current Duke-NUS MD Research Students

Nur Shadrina Binte Ahmad (Class of 2018)

Student Publications

NA
Tan, Bien Soo  MBBS, FRCR, FAMS

Adjunct Professor and Academic Chair, SingHealth Duke-NUS Radiological Sciences
Academic Clinical Programme
Senior Consultant, Department of Diagnostic Radiology, Singapore General Hospital
Clinical Associate Professor, Yong Loo Lin School of Medicine, National University of
Singapore

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Website: -

Research Summary

The Interventional Radiology Centre at SGH is the largest interventional radiology service in the region, and is very active in research, with several investigator initiated prospective clinical trials in progress. The high volume of workload means that there is a huge bank of data available for retrospective studies, looking at outcomes of interventional radiology procedures.

The Duke-NUS student will find numerous opportunities in participate in research in the exciting field of interventional radiology. The research projects will also be designed such that the one year timeline will be sufficient for the student to complete the project.

Among the areas of research available are:

1. Hemodialysis access interventions and outcomes.
3. Interventional radiology techniques in the field of Oncology and their outcomes.
4. Interventional radiology techniques in the field of urology.
5. Interventional radiology techniques in the field of obstetrics and gynecology.

Past and Current Duke-NUS MD Research Students

Wong Hui Lin Claudia (Class of 2015)
Kevin Khaw Beng Chin (Class of 2016)
Goh Xi Tai, Winfred (Class of 2018)

Student Publications

NA
Tan, Chieh Suai

Adjunct Assistant Professor, Duke-NUS Medical School
Consultant, Department of Renal Medicine, Singapore General Hospital

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Website: https://scholar.google.com.sg/citations?user=wKpGBWsAAAAJ&hl=en&cstart=0&pagesize=20

Research Summary

Dr Tan set up the multi-disciplinary interventional nephrology suite in Singapore General Hospital and has a special interest in endovascular therapies for maintenance of hemodialysis vascular accesses. His recent research evaluated the use of colour digital subtraction angiography for dialysis access intervention and the use of drug eluting balloons to improve the patency of dialysis accesses. He is the PI of the National Kidney Foundation grant to develop stents for dialysis access and has published papers and book chapters in the field.

Past and Current Duke-NUS MD Research Students

Alicia Ong Huiying (Class of 2017)

Student Publications

Alicia Ong et al. Assessment of dysfunctional hemodialysis vascular accesses during angioplasty using Syngio iflow: (Research Day 2016 – Best Poster Presentation Award)
Tan, Ene Choo PhD

Adjunct Associate Professor, SingHealth Duke-NUS Paediatrics Academic Clinical Programme
Chief Research Scientist, KK Women’s and Children’s Hospital

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Website: ResearchGate Profile

Research Summary

Our group is interested in the genetics of congenital disorders and clinically significant traits. Phenotypes of interest include congenital anomalies, developmental disorders, pain perception and neuropsychiatric disorders. Current projects include the detection of genetic abnormalities which include chromosomal imbalance and the identification of mutations and polymorphisms which contribute to specific phenotypic presentations. Besides bench research, there is also opportunity for bioinformatics and genome analysis work.

Students can be involved in different stages of research such as performing laboratory experiments and initial sequence or gene expression data generation, analysis of new or existing lab data, discovery work from mining of data, correlation of clinical data with laboratory findings, and creation of databases for specific genes/syndromes, phenotypic abnormalities and associated genetic alterations. Projects may be entirely laboratory-based, clinical data collection or data analysis.

Past and Current Duke-NUS MD Research Students

Tay Wen Shu, Terence (Class of 2016)
Yeo Jun Jie (Class of 2017)
Gan Yuan Ying (Class of 2018)

Student Publications

NA
Tan, Eng King  MBBS, MRCP(UK), FRCP(Edin), FAMS  
(Neurology)

Professor and Deputy Director, Programme in Neuroscience and Behavioural Disorders, Duke-NUS Medical School  
Academic Vice Chair, Research, SingHealth Duke-NUS Neuroscience Academic Clinical Programme  
Senior Consultant Neurologist, Department of Neurology, National Neuroscience Institute (SGH Campus)  
Research Director, National Neuroscience Institute  
Honorary Professor, Lee Kong Chien School of Medicine  
Associate Designated Institutional Official (ADIO) SingHealth Clinician Scientist Residency  
Chairman, Ministry of Health, Research accreditation of mentors and centers  
Chief Editor, Annals of Academy of Medicine, Singapore  
Co-director USA Parkinson Foundation International Center of Excellence  

Contact: 6326 5003  
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Website: -

Research Summary

Dr Tan leads a consortium in translational clinical research in Parkinson's disease and related neurodegenerative disorders. PD is the most common neurodegenerative condition seen at the National Neuroscience Institute and is the main neurodegenerative condition where significant impact on patients’ quality of life can be achieved with improved care. Dr Tan’s group is involved in the identification of genes involved in Parkinson's disease (PD) and related degenerative diseases with a focus on whole-genome and exome analysis and massive parallel sequencing. Building on these potential genetic discoveries, his group investigates the interaction of the various molecular pathways using various in vitro and in vivo models (Mouse, Drosophila, Zebra Fish), with the aim at identifying early markers and to explore potential therapeutic interventions through the selection of viable targets. The program involves participation from >40 local and international research and clinical institutions and pharmaceutical companies. The team is also involved in various pharmaceutical drug trials. Students and trainees in the program are exposed to a wide spectrum of laboratory and clinical (bench to bedside) research activities.

Past and Current Duke-NUS MD Research Students

Yong Mind Hui (Class of 2012)  
Lim Jing Wei (Class of 2012)  
Swe Swe Thet Paing (Class of 2014)  
Ng Kia Min (Class of 2014; Co-mentor)  
Heng Xiao Wei (Class of 2015)  
Cheng Yu-Ching (Class of 2015)

Student Publications

Tan, Hiang Khoon  MBBS, FRCSEd, MD, PhD, FAMS

Adjunct Associate Professor, Duke-NUS Medical School
Senior Consultant and Deputy Head, Department of Surgical Oncology, National Cancer Centre Singapore
Director, Community Outreach and Philanthropy, SingHealth Duke-NUS Oncology Academic Clinical Programme
Academic Vice Chair (Research), SingHealth Duke-NUS Surgery Academic Clinical Programme

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Website: -

Research Summary

My research interest is in the prognostic/risk stratification in head and neck carcinomas. I am particularly interested in the utilization of epigenetic/genetic changes to predict metastatic potential or treatment response. I am also interested in clinical trials that can answer pertinent clinical questions. Furthermore the conduct of these trials confers excellent opportunities to execute correlation translational studies to address gaps of knowledge that often exists between advances in bench top science and bed side experience. Last but not least, I am an early adaptor of new surgical techniques or devices that may improve the surgical outcome of Head and Neck patients.

Past and Current Duke-NUS MD Research Students

Nguyen Thien Khanh (Class of 2014)
Tan Hong Yu (Class of 2017)
Koh Shu Qing (Class of 2018)

Student Publications

NA
Tan, Iain Bee Huat  
**MBBS, MRCP (UK), PhD**

Consultant, Department of Medical Oncology, National Cancer Centre Singapore  
Program Director, GI Oncology Research Program, Department of Medical Oncology, National Cancer Centre Singapore  
Disease Champion, GI Cancers, SingHealth / Genome Institute of Singapore POLARIS Program

**Contact:** 6436 8574  
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**Website:** Google Scholar Profile

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**Research Summary**

My main area of clinical specialization is **Colorectal** and **Stomach Cancer**. My translational research focuses on 3 areas:

1. **Real Time diagnostics (Developing –omics assays for clinical deployment):** We use omics technology to develop “fit-for-purpose” -omics technologies to transform current and future patient management across the clinical continuum of care. We use **Non-invasive blood based assays:** We perform real-time assessment of the evolution of disease biology and interactions with time and treatment with genomic assays performed on blood samples. Simply put, circulating assays enable us to evaluate disease biology on a regular and non-invasive basis.

2. **Metastasis:** (co-led with Dr. Clarinda Chua, NCCS) We use patient derived tumor models to pathways that abrogate metastasis.

3. **Immuno-oncology:** A collaborative effort with deep immunophenotyping and cytotoxicity experiments with patient derived immune cells and tumor models

Beyond assay development, I am also actively involved in running clinical trials for Digestive Track cancers.

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**Past and Current Duke-NUS MD Research Students**

Chen Yuan Yi Constance (Class of 2017)  
Bok Ke Xin (Class of 2018)

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**Student Publications**

NA
Tan, Kok Hian  MBBS, FRCOG, M Med (O&G), FAMS, MBA

Senior Associate Dean, Academic Medicine, Duke-NUS Medical School
Professor, SingHealth Duke-NUS Obstetrics & Gynaecology (OBGYN) Academic Clinical Programme
Group Director, Academic Medicine, SingHealth
Head, Perinatal Audit & Epidemiology, KK Women’s and Children’s Hospital (KKH)
Senior Consultant, Maternal Fetal Medicine, KK Women’s and Children’s Hospital

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Website:

Research Summary

Dr Tan is interested in improving health and pregnancy outcomes for mothers by creating new ways of predicting, assessing and reducing adverse risk factors and outcomes. His research interests include Perinatal Epidemiology, Maternal Fetal Medicine, Cochrane Pregnancy and Childbirth Reviews, Pregnancy Cohort Studies, Extracellular Vesicles, Exosomes & Biomarkers.

Opportunities for students are Perinatal & Maternal Fetal Medicine Epidemiology projects relating to antenatal & postnatal practices as well as adverse outcomes like birth defects, preeclampsia and preterm labour. These are based on KKH databases and high obstetric patient load. Other opportunities include involvement in large birth cohorts studies like GUSTO & NORA on pregnancy biomarkers; and collaborative studies with A*Star and NTU on extracellular vesicles; and with Cochrane Collaboration on systematic reviews.

Past and Current Duke-NUS MD Research Students

Chen Pin Yu, Petty (Class of 2015)  
Feng Tingting (Class of 2016)  
Yeong Huiqing (Class of 2017)  
Nur Atiqah Binte Adam (Class of 2018)

Student Publications

NA
Tan, Emile John

Co-Director, Health Services Research, Surgery Academic Clinical Programme
SingHealth-Duke-NUS Academic Medicine Partnership

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Website: https://www.sgh.com.sg/Others/Pages/DoctorDetails.aspx?id=683B36B5-6C06-4FEE-92D5-70DFF88E026C&name=Emile+John+Tan+Kwong+Wei&institute=SingaporeGeneralHospital

Research Summary

Dr Tan is a Colorectal Surgeon with interests in colorectal cancer, metabolic effects of surgery and pelvic floor disease. Currently he has a special interest in health services and outcomes research, and was previously project manager to the United Kingdom National Bowel Cancer Audit project. He maintains a keen interest in evidence synthesis, including systematic review and meta-analysis.

Cancer: His recent work includes research on the physical, emotional and quality of life outcomes of long-term survivorship of colorectal cancer treatment, and the ageing process in relation to this. He is also actively collaborating with Oncology in the study of neoadjuvant chemotherapy vs chemoradiotherapy in the treatment of advanced rectal cancer.

Functional GI: Study of the metabolic consequences of chronic gastro-intestinal functional disorders, with a special interest in neuromodulation outcomes.

Dr Tan is also involved in collaborations with Gastroenterology and Traditional Chinese Medicine (TCM) practitioners in the treatment of functional bowel disorders.

Cardiovascular: Additional collaboration include multi-disciplinary research on the theme of Cardiovascular emergencies, with work concentrating on device development of early warning sensor systems in the acute setting.

Dr Tan has been PI on national and international grants and has published widely in the field of surgery.

Past and Current Duke-NUS MD Research Students

Shih Shan Wei, Shannon (Class of 2018)

Student Publications

NA
Research Summary

The Parkinson’s disease and Movement Disorders Programme at NNI is a translational research programme that seeks to understand the cause, clinical characteristics, and disease progression of these disorders so as to enable better treatment and management for these conditions. One major research component is to understand the progression of PD in our population through the use of our PD database. The database which contains more than 2,770 PD patients was established in the year 2002 and contains prospectively collected clinical and treatment data from the initial and subsequent follow-up visits of all PD patients evaluated at the Centre. We have also commenced in 2014 an on-going prospective PD longitudinal (PALS) study where newly diagnosed PD patients and normal controls are followed-up for assessment of cognitive function, motor signs and non-motor symptoms. MRI brain scans, serum and DNA are also analysed to perform correlation studies and identify biomarkers for disease progression.

Past and Current Duke-NUS MD Research Students

Reinoso Marie Giselle Cordero (Class of 2014)
Wee Jian-Ting, Natalie (Class of 2016)

Student Publications


Tan, Ngiap Chuan  MBBS, MMed(FM), FCFPS, MCI(NUS), FAMS

Adjunct Associate Professor, Duke-NUS Medical School
Director, Department of Research, SingHealth Polyclinics
Faculty, Fellowship of College of Family Physicians Singapore Training Programme

Contact: 63777136
Email: tan.ngiap.chuan@singhealth.com.sg
Website: http://scholar.google.com.sg/citations?hl=en&user=wUvyLQ4AAAAJ&sortby=pubdate

Research Summary

Dr Tan conducts clinical research on patients with chronic diseases, especially those with type 2 diabetes mellitus, hypertension, dyslipidemia, chronic renal disease, asthma, COPD and gout. His research interests include family medicine and health service research, primary prevention strategies, qualitative research, development and evaluation of innovations in primary care. He co-anchors the Health Engagement and Action Lab for ambulatory primary care in the Health Service Research Institute, SingHealth-Duke NUS Academic Medical Center and publishes over 75 publications in peer-reviewed journals.

Dr Tan works with academics and non-medical professionals to develop and validate point-of-care devices and other innovations to advance the frontier of Family Medicine. He is the principal investigator of clinical drug and vaccine trials and studies in SingHealth Polyclinics and also coaches the trainees in their FM Fellowship research projects under the College of Family Physicians Singapore.

Past and Current Duke-NUS MD Research Students

Glenn Goh (Class of 2015; Co-mentor)
I Gusti Ngurah Prawira Suartha Oka (Class of 2017; Co-mentor)
Eui Whan Moon (Class of 2018; Co-mentor)

Student Publications

Tan, Patrick  *MD, PhD*

Professor, Programme in Cancer and Stem Cell Biology, Duke-NUS Medical School  
Senior Group Leader, Genome Institute of Singapore  
Senior Principal Investigator, Cancer Science Institute of Singapore  
Adjunct Principal Investigator, National Cancer Centre Singapore

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**Website:** -

Research Summary

**Genomic Oncology of Stomach Cancer**

Our research focuses on developing genomic approaches to unlock the molecular and clinical diversity of gastric cancer (aka stomach cancer) - the second highest cause of global cancer mortality. At present, most gastric cancer (GC) patients are clinically treated with uniform "one-size-fits-all" surgery and chemotherapy regimens. However, individual gastric tumors can often vary in their genetic aberrations, which can regulate disease aggressiveness and treatment response. To improve clinical outcomes for GC patients, our group is developing methods to classify different GC patients into distinct subgroups based on their molecular profiles, identifying specific “Achilles Heel” genes required for cancer development in each subgroup, and translating these discoveries into optimized and tailored subgroup-specific treatments.

Over the past decade, our group has made important contributions to the GC field. We have defined transcriptional subtypes of GC (Tay et al, 2003; Tan et al., 2011) and translated these findings into an industry- international multi-centre clinical trial. We identified the first recurrent fusion genes in GC (BRAF fusions and CD44-SLC1A2) (Palanisamy et al., 2010 in collaboration with Arul Chinnaiyan; Tao et al., 2011), and reported the first comprehensive studies of somatic copy number alterations and epigenetic alterations in GC (Deng et al., 2012; Zouridis et al., 2012). In collaboration with Prof Teh Bin Tean and A/Prof Steve Rozen, we have also reported pioneering studies in applying next-generation sequencing to GC and other cancers endemic to Asia (Zang et al., 2012; Ong et al., 2012). Our group is a core pillar of the Singapore Gastric Cancer Consortium, a national multi-disciplinary team of >20 leading clinicians and researchers working together to improve our basic and clinical understanding of GC.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Tan, Poh Lin  MBBS (Singapore), MMED (Paediatric, Singapore), FRCPCH (UK)

Senior Consultant, Khoo Teck Puat - National University Children’s Medical Institute, National University Hospital
Associate Professor, Department of Paediatrics, Yong Loo Lin School of Medicine, National University of Singapore
Senior Consultant, Division of Paediatric Oncology & Blood / Marrow Transplant, Department of Paediatrics, National University Hospital
Clinical Medical Director, Paediatric Haematopoietic Progenitor Cell Transplant Programme, National University Health System
Associate Program Director, ACGME-I Paediatric Post-Graduate Program, National University Health System
Program Director, Advanced Clinical Fellowship in Paediatric Blood / Marrow Transplant, National University Health System
Program Director, Diploma in Paediatric Cancer Care, College of Paediatric and Child Health, Academy of Medicine, Singapore

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Website: https://scholar.google.com.sg/citations?user=m3sMwjoAAAAJ&hl=en

Research Summary

Dr Tan conducts clinical research in the field of pediatric hematopoietic cell transplant (malignant and non-malignant diseases) with a focus on stem cell graft engineering, immunotherapy (cellular and biologics), immune reconstitution, late effects and quality of life (of patients/ families and donors). She is primarily interested in translational research where clinical research questions are asked from bedside and studied at the bench; and findings at the bench is translated back to bedside as swiftly and robustly as possible so as to benefit patients.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Tan, Swee Yaw  

Adjunct Associate Professor, Duke-NUS Medical School  
Senior Consultant, Department of Cardiology, National Heart Centre Singapore  
Director, Cardiovascular Rehabilitation and Preventive Cardiology, National Heart Centre Singapore

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**Website:** ResearchGate Profile

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**Research Summary**

Cardiac CT  
Cardiac calcium scoring  
Cardiac rehabilitation and epidemiology

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**Past and Current Duke-NUS MD Research Students**

Ignasius Aditya Jappar (Class of 2012; Co-mentor)  
Rachel Ng Qiao Ming (Class of 2013; Co-mentor)  
Tay Yu Ling (Class of 2014; Co-mentor)  
Goh Jian Min, Jasmine (Class of 2016; Co-mentor)  
Tan Shih Jia, Janice (Class of 2016)  
Fernandina Stella Setiawan (Class of 2017)

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**Student Publications**

Tan, Thiam Chye  MBBS (S'pore), MMed (O&G) (S'pore)

Associate Professor, SingHealth Duke-NUS Obstetrics & Gynaecology(Obgyn) Academic Clinical Programme

Deputy Campus Director, Education Office, KK Women's and Children's Hospital

Head and Senior Consultant, Obstetrics & Gynaecology (Inpatient Services), KK Women's and Children's Hospital

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Website: -

Research Summary

My area of research is clinical research in benign diseases in Obstetrics and Gynaecology, especially in reproductive endocrinology, first trimester miscarriages as well as wound healing studies.

Past and Current Duke-NUS MD Research Students

Ee Tat Xin (Class of 2011; Co-mentor)  He Song (Class of 2015)
Koh Hui Shan (Class of 2011; Co-mentor)  Siew Jia Yun Shayna (Class of 2015)
Kouk Leong Jin (Class of 2012; Co-mentor)  Lek Sze Min (Class of 2016)
Neo Ghim Hoe (Class of 2012; Co-mentor)  Sandra Lynn Jaya (Class of 2018)
Wu Lin Chieh (Class of 2013; Co-mentor)  Shi Qi Zhu (Class of 2018; Co-mentor)
Ku Chee Wai (Class of 2013; Co-mentor)

Student Publications


Tang, Mark Boon Yang  *MBBS, MRCP (UK), MMed(Int Med), FRCP (Edin), FAMS*

Senior Consultant, National Skin Centre Singapore
Director of Research, National Skin Centre Singapore
Head, Eczema Clinic, National Skin Centre Singapore

**Contact:** 6253 4455
**Email:** marktang@nsc.com.sg
**Website:** -

**Research Summary**

My research interests include:

1. **Atopic eczema** – This is a high burden, highly prevalent chronic inflammatory skin disease affecting up to 20% of school going children in Singapore. We have an ongoing collaboration with the Prof Birgit Lane’s group at the Institute of Molecular Biology, A*STAR, focused on investigating the genetic basis of atopic eczema. In particular, our work has been vital in elucidating key novel, population specific mutations in the filaggrin gene, the strongest genetic risk factor for atopic eczema. Our large cohort of atopic eczema patients remain a valuable resource for ongoing basic science and clinical research projects.

2. **Chronic ulcer and wound healing** – I have ongoing collaborative research projects with researchers at NTU focused on basic science work and the development of new wound dressing products.

3. **Immunobullous diseases** – I am involved in several research projects investigation various aspect of autoimmune blistering skin diseases. We have a large cohort of patients with various immunobullous diseases which will allow further research work in this area.

4. **Cutaneous T cell lymphoma** – This is a niche area of research for us as we are the major referral centre for such cases in Singapore. We have an ongoing database and conduct mainly epidemiological research in this area.

**Past and Current Duke-NUS MD Research Students**

Sophie Carrie Cai Shan (Class 2014)

**Student Publications**

Tang, Phua Hwee  MBBS, FRCR, MMed Diagnostic Imaging

Adjunct Assistant Professor and Research Director, Adult and Paediatric Body Imaging, SingHealth Duke-NUS Radiological Sciences Academic Clinical Programme

Senior Consultant, Department of Diagnostic and Interventional Imaging, KK Women’s and Children’s Hospital, Singapore

Clinical Senior Lecturer, NUS Yong Loo Lin School of Medicine, Singapore

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Email: tang.phua.hwee@kkh.com.sg
Website: -

Research Summary

Dr Tang aims to improve the detection and diagnosis of disease by developing, evaluating and implementing new imaging methods in a safe and cost effective manner, particularly in the field of magnetic resonance imaging (MRI). She is evaluating the use of arterial spin labelling in assessment of cerebral perfusion as this method does not require an intravenous injection of exogenous contrast and instead uses radiofrequency waves to label flowing blood in the neck, acquiring the signal when the blood reaches the brain.

She is also investigating methods to improve the quality of MRI scans of children, including use of an interactive video by the children prior to MRI and will be embarking on a project on motion correction in collaboration with Singapore Bioimaging Consortium, A*STAR.

Dr Tang was given the SingHealth Residency Outstanding Faculty Award for outstanding and dedicated contribution to Medical Education for Academic Year 2013/2014.

Past and Current Duke-NUS MD Research Students

Hou Wenlu (Class of 2014)
Wei Lei (Class of 2015)
Ong Yan Zhi (Class of 2018)

Student Publications

NA
Tay, Kiang Hiong  MBBS, FRCR, FAMS

Associate Professor and Academic Vice Chair, Clinical Services Operations, SingHealth Duke-NUS Radiological Sciences Academic Clinical Programme
Head & Senior Consultant, Dept of Diagnostic Radiology, Singapore General Hospital
Director, Interventional Radiology Center, Singapore General Hospital
Associate Professor, Yong Loo Lin School of Medicine, National University of Singapore

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Website: -

Research Summary

My current research focus is on interventional radiology. I am running several projects related to lower limb angioplasty (including a randomize trial of drug eluting balloon angioplasty vs conventional angioplasty for below knee peripheral arterial disease), endovascular aortic repairs, dialysis access interventions and interventional oncology. I am also working with NTU to develop a novel biodegradable embolization plug which has begun in vivo testing in animal models. My various research projects are in various phases of implementation and this would enable the student to experience the entire research cycle from start to end in a short time frame. The student will have the opportunity to propose a research question, do the relevant literature review and statistical work up, write up a grant proposal, make an IRB submission, recruit patients, assist in the interventions, patient follow up, manage a database, data analysis, submit abstracts to scientific meetings, poster/oral presentations and finally writing up the manuscript for publication.

Past and Current Duke-NUS MD Research Students

Syed Aftab (Class of 2013)
Tan Zehao (Class of 2015)
Ni Wenwen (Class of 2018)

Student Publications


Tay, Shian Chao  MBBS, FRCS (Edin & Glasg), FAM (Hand Surg), MBiomedSci (Mayo)

Adjunct Associate Professor, Duke-NUS Medical School
Senior Consultant Hand Surgeon and Director of Wrist, Singapore General Hospital
Program Director, Singhealth Hand Surgery Residency Program
Director, Biomechanics Laboratory @ Academia
Director, Biomechanics Research, Singhealth Surgery Academic Clinical Programme

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Email:  tay.shian.chao@sgh.com.sg
Website:  -

Research Summary

Dr. Tay is interested in translational and clinical research that has impact on clinical and surgical practice. Besides numerous retrospective clinical studies, Dr Tay has ongoing prospective studies and randomized clinical trials on trigger finger and other conditions of the hand and wrist.

In the laboratory, he is involved in the following – investigation into carpal and distal radioulnar joint instability, flexor tendon research, study of trigger finger pathoanatomy and pathomechanics using ultrasound, synovial fluid kinematics of the wrist joint, surgical implant and surgical suture performance, to name a few.

Past and Current Duke-NUS MD Research Students

Liu Xuan (Class of 2014)
Hay Aik Siew Robyn (Class of 2015)
Leow Su Chen, Geraldine (Class of 2016)
Chuang Xue Ling (Class of 2017, Co-mentor)
Chang Min Kai (Class of 2018)

Student Publications


Teh, Bin Tean  MD, PhD

Professor, Programme in Cancer and Stem Cell Biology, Duke-NUS Medical School
Principal Investigator, NCCS-VARI translational research laboratory, National Cancer Centre Singapore
Senior Principal Investigator, Cancer Science Institute of Singapore, National University Singapore

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Research Summary

Recent whole-genome and whole-exome sequencing efforts have revealed that chromatin enzymes (CE) are among the most frequently mutated gene class in both solid and hematological malignancies. We have previously identified CE mutations in human cancers including those of kidney (Daglish, et al., Nature, 2010; Varela et al., Nature, 2011), bile duct, (Ong et al., Nature Genet, 2012; Chan-on et al., 2013), stomach (Zang et al., Nature Genet, 2012) and urothelial cancer (Song et al., Sci Transl Med, 2013). These mutations include loss-of-function (LOF) mutations in CE such as PBRM1, ARID1A, MLL3, SETD2, and UTX. To date, whether these mutated genes can serve as potential therapeutic targets remain unknown. Our laboratory focuses on synthetic lethality studies and drug screening using cancer cell lines harbouring these mutations. Using in vitro and in vivo cancer models, we also study the effects of CE inhibitors and their mechanism of action.

Past and Current Duke-NUS MD Research Students

Jang Jia Hui Isabelle (Class of 2014)
Koh Kay Nguan, Kelvin (Class of 2016; Co-mentor)

Student Publications

NA
Tenen, Daniel  MD

Director, Cancer Science Institute of Singapore, National University of Singapore
Programme Leader and Senior Principal Investigator, Cancer Stem Cells Programme, Cancer Science Institute of Singapore
Distinguished Professor of Medicine, National University of Singapore
Program Leader, Blood Program, Harvard Stem Cell Institute, Harvard Medical School

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Website: ResearchGate Profile / CSI

Research Summary

Professor Tenen’s laboratory focuses on gene regulation, normal differentiation, and cancer and leukemia. Current focus is the role of RNA in regulation of normal hematopoietic cells and cancer. (1) These include identification of a long noncoding antisense RNA (Ebralidze, Genes Dev, 2008) which restricts expression of master regulatory genes such as PU.1 in lineages in which PU.1 must be suppressed, such as T cells; recent results indicate that knockdown of these antisense RNAs can result in upregulation of tumor suppressors in leukemic cells, a potential therapeutic approach. (2) The role of RNA editing in cancer (Chen, Nat Med, 2013). This is a paradigm shift, in that it demonstrates how non-DNA mutational mechanisms can lead to genetic changes in cancer. (3) We are studying how RNA regulates epigenetic marks like DNA methylation, and that RNA can be utilized to induce gene specific demethylation (Di Ruscio, Nature, 2013).

Past and Current Duke-NUS MD Research Students

Wong Sook Yee (Class of 2011)

Student Publications

NA
Teo, Irene PhD

Assistant Professor, Lien Centre for Palliative Care, Health Services and Systems Research, Duke-NUS Medical School
Clinical Psychologist, National Cancer Centre Singapore

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Website: http://www.ncbi.nlm.nih.gov/sites/myncbi/1hsohy5xRUNAG/bibliography/48990509/public/?sort=date&direction=descending

Research Summary

Dr. Teo's research and clinical interests include coping and adjustment to emotional distress, body image changes, and disease symptoms (e.g., pain, fatigue) in the areas of oncology and pain. She is interested in development of psychosocial interventions aimed at alleviating distress for patients and their families. Her recent research examined the feasibility and acceptability of a symptom management program using CBT and mindfulness approaches for patients with advanced cancer. Through the Lien Centre for Palliative Care, Dr. Teo is also involved in a multi-site cohort study examining the psychosocial well-being of advanced cancer patients and their caregivers at the end of life.

Past and Current Duke-NUS MD Research Students

Tan Gui Fang, Edlyn (Class of 2018)

Student Publications

NA
Teo, Melissa Ching Ching  *MBBS, MMed (Surg), FRCSEd, FAMS, MPH*

Adjunct Associate Professor, Duke-NUS Medical School
Director, Strategic Initiatives, SingHealth Duke-NUS Oncology Academic Clinical Programme
Director, Centre for Peritoneal and Pelvic Disease
Head & Senior Consultant, Department of Surgical Oncology, National Cancer Centre Singapore
Visiting Consultant, Department of General Surgery, Singapore General Hospital
Visiting Consultant, Department of Gynaecologic Oncology, KK Women's and Children's Hospital
Clinical Senior Lecturer, Yong Loo Lin School of Medicine, National University of Singapore

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**Website:**

**Research Summary**

My current research interests include

1. Gastrointestinal cancers and peritoneal metastases
2. Pelvic malignancies
3. Retroperitoneal sarcomas
4. Gastrointestinal Stromal Tumours (GIST)
5. Melanomas

Our team exploits techniques for genomic sequencing aimed at deriving the underlying molecular signatures accountable for the propagation of various aspects and stages of the above disease subtypes. The ability to obtain unique tumour samples separated in time and space during surgery allows our group to correct for tumour heterogeneity and evolution. We are keen to correlate the molecular phenotype with important clinical parameters such as prognosis to allow for selection of patients for therapy. Importantly, the molecular features of these diseases are analysed to allow for derivation of novel therapeutic strategies that can potentially impact clinical care.

**Past and Current Duke-NUS MD Research Students**

Koh Kay Nguan, Kelvin (Class of 2016)  
Wang Weining (Class of 2018)

**Student Publications**

NA
Tey, Hong Liang  MBBS, FRCP(Edin), MRCPS(Glasg), FAMS, Dip.(Geriatric Med.)

Consultant Clinician Researcher and Research Director, National Skin Centre, Singapore

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Website: Google Scholar Profile

Research Summary

Dr Tey conducts translational research in the areas of skin imaging, neuro-dermatology (itch and sweat disorders) and medical dermatology. He is the PI of multiple grants, an awardee of the NMRC Transition Award and has authored over 120 international publications, including a book (The Black Book of Clinical Examination).

Past and Current Duke-NUS MD Research Students

Ruan Xucong (Class of 2017)

Student Publications

NA
Thike, Aye Aye  MBBS, MMedSci, PhD

Assistant Professor, Duke-NUS Medical School
Senior Medical Lab Scientist, Department of Anatomical Pathology, Singapore General Hospital

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Website:  Breast Research Programme in PATH ACP/ PubMed

Research Summary

Dr. Aye is a research pathologist with a keen interest in breast pathology, and has been involved in studying breast cancer for over 10 years, with many peer-reviewed publications in this field. Her current research activities focus on triple negative breast cancers, Ductal Carcinoma in Situ (DCIS) of the breast, phyllodes tumours and invasive breast cancers in intradepartmental projects as well as local and international collaborations. She also supervises NUS (Honours, Masters and PhD) students’ projects in the area of immunoscoring. She is also helping medical students from NUS and young medical doctors to give realistic goals in medical research and ownership of the paper. She is currently working on biomarker discovery in metaplastic carcinoma of the breast, and role of tumour infiltrating lymphocytes (TILs) in predicting recurrence and progression of Ductal Carcinoma in situ (DCIS) of the Breast.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Thumboo, Julian  MBBS (S'pore), MMed (Int Med), MRCP (UK), FAMS (Rheumatology), FRCP (Edin)

Professor, Programme in Health Services and Systems Research, Duke-NUS Medical School
Academic Vice Chair, Research, SingHealth Duke-NUS Medicine Academic Clinical Programme
Senior Consultant and Head, Department of Rheumatology & Immunology, Singapore General Hospital
Adjunct Professor, Department Of Medicine, Yong Loo Lin School Of Medicine, National University of Singapore

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Website: -

Research Summary
Prof Thumboo's research interest is in the areas of Rheumatology, Systemic Lupus Erythematosus and Osteoarthritis and Patient Reported Outcomes.

Past and Current Duke-NUS MD Research Students
Celeste Ong Lay Kheng (Class of 2013)  Rahul Jawa (Class of 2016; Co-mentor)
Esther Low Su Hui (Class of 2014)  Hang Guanqi (Class of 2017; Co-mentor)
Sun Wenxin (Class of 2014)  Choo Wei Tak (Class of 2018; Co-mentor)
Heng Li-Mei Lisa (Class of 2016)  Shih Shan Wei, Shannon (Class of 2018; Co-mentor)
Huang Youyi (Class of 2016; Co-mentor)

Student Publications
NA
Toh, Han Chong  BSc (London), MB Bchir (Cambridge), FRCP Edin, FAMS

Associate Professor, Programme in Cancer and Stem Cells Biology, Duke-NUS Medical School
Senior Consultant and Deputy Director, Division of Medical Oncology, National Cancer Centre Singapore
Adjunct Principal Investigator, Institute of Molecular and Cell Biology, A*STAR

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Website: -

Research Summary

Dr Toh’s interests are in gastrointestinal cancers and cell and immunotherapy. He leads the Cancer Vaccine and Cell Therapy Laboratory at the NCC as an Associate Investigator and has obtained 10 competitive grant awards. His projects revolve around clinical trials in reduced intensity blood stem cell transplant, dendritic cell cancer vaccines, adoptive T cell therapy, cytokine therapy and new drugs and targeted therapy for solid tumours, especially for hepatocellular carcinoma. He is also studying the stromal, biomarker discovery and immune signatures in hepatocellular carcinoma.

In 2009, he was recognized by being awarded the National Clinician Scientist Award for his ongoing work in using adoptive T cell therapy in a novel clinical study in patients with advanced nasopharyngeal cancer. His postdoctoral fellow, Dr Marissa Teo, is the first Singaporean to be awarded the International UNESCO-L’Oreal Women in Science Fellowship Award for the work on adoptive T cell therapy. He is also a Council Member of the Singapore Medical Association (SMA) and Editor, SMA News. He has been past President of the Singapore Society of Oncology and Past Chairman, Chapter of Medical Oncology, Academy of Medicine.

Past and Current Duke-NUS MD Research Students

Charmain Heah Ya Ting (Class of 2013)          Tan Yu Bin (Class of 2018)
Chen Kaina (Class of 2015)                      
Huang Lu (Class of 2015)                       
Bok Ke Xin (Class of 2018; Co-mentor)

Student Publications

Tong, Louis Hak Tien  *MBBS(S’pore), FRCS(Ed), DM(Nott), PhD(S’pore)*

Associate Professor, Duke-NUS Medical School
Senior Consultant, Corneal and External Eye Disease Service, Singapore National Eye Center
Head, Ocular Surface Research Group, Singapore Eye Research Institute
Co-Head, Ocular Inflammation & Immunology Research Group, Singapore Eye Research Institute
Head, Research Training & Development, Singapore Eye Research Institute
Adjunct Associate Professor, Yong Loo Lin School of Medicine, National University of Singapore

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Website: Google Scholar Profile

**Research Summary**

Dr Tong conducts clinical research on dry eye patients with a focus on new therapeutics (eg, mucomimetics, autologous plasma tears) and new diagnostic modalities (eg, tear proteomics, Meibomian gland imaging). His recent work includes the translational in-vitro and in-vivo research into ocular surface inflammation, and the immunology of autoimmune diseases. His recent research also involves transcript profiling, microRNA and signal transduction in pterygium. He is developing a network of physicians and scientists who participate in multidisciplinary solutions to ocular surface disease. Dr Tong is PI of the CSA, a MOH and a few industry grants, co-PI of 2 other NMRC grants and a Singhealth grant, authored over 160 papers, 10 book chapters and sits on the diagnosis subcommittee of the international dry eye workshop II.

**Past and Current Duke-NUS MD Research Students**

Melbin Emerson Sy Co (Class of 2013)
Sim Hui Shan (Class of 2014)

**Student Publications**


Van Dongen, Antonius PhD

Associate Professor, Programme in Neuroscience and Behavioural Disorders, Duke-NUS Medical School

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Website: www.vandongan-lab.com

Research Summary

The VanDongen laboratory studies the mechanisms underlying the processes of learning and memory, at the molecular, cellular and systems level. Our current focus is on the immediate-early gene Arc, which plays an essential role in memory consolidation. We have shown that efficient Arc translation requires coincident activation of the NMDA receptor and fear/reward signaling pathways. We have localized Arc protein to the nucleus, where it associates with PML bodies, sites of epigenetic transcription regulation, and with Tip60, a histone-acetyltransferase implicated in Alzheimer's disease, suggesting that Arc mediates formation of long term memories through epigenetic regulation of gene expression. A second project investigates how information is processed, encoded and stored in networks formed by neurons growing in vitro, using a combination of optogenetics and multi-electrode array recording techniques. These experiments have demonstrated that generic cortical microcircuits have fading and hidden memory processes, and are able to process complex spatio-temporal information. This optogenetic MEA platform allows us to investigate the molecular and physiological basis of disorders in memory, cognition, and perception. These projects are supported by an in silico drug development program which identifies small molecules with efficacy at therapeutic targets identified by our research program.

Past and Current Duke-NUS MD Research Students

Choo Min (Class of 2015)

Student Publications

NA
Vasudevan, Subhash PhD

Professor, Programme in Emerging Infectious Diseases, Duke-NUS Medical School

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Website: -

Research Summary

The Vasudevan lab at Duke-NUS will work in the following research areas:

1. Therapeutics for emerging infectious diseases
2. Protein-protein and protein-RNA interactions (characterising the interactome of flaviviruses using yeast-two hybrid technology as well as biochemically using immuneprecipitation and other proteomics techniques).

Structure and function studies of multifunctional viral proteins in order to understand in precise detail the mechanism of action of processes catalysed by enzyme targets of disease causing viruses – this will ultimately help understand the mode of action of new drugs and also identify potential resistant mutants that could help to improve drug design.

Past and Current Duke-NUS MD Research Students

Tan Boon Hian (Class of 2014)
Wong Ziyang Dennis (Class of 2014)
Rene Gatsinga (Class of 2018)

Student Publications

Virshup, David  

Professor and Programme Director, Programme in Cancer and Stem Cell Biology, Duke-NUS Medical School  
Professor of Pediatrics, Duke University  
Joint Professor, Department of Biochemistry, NUS  
Adjunct Investigator, Institute of Medical Biology, A*STAR  

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Research Summary  

Wnt signaling is a highly conserved pathway important in stem cell maintenance, cell proliferation, cancer and development. The Virshup laboratory studies Wnt signaling pathways with an emphasis on Wnt secretion. We have developed novel, specific and potent drugs that prevent Wnt secretion by inhibiting the O-acyltransferase enzyme, PORCN. We are interested in understanding which patients will benefit from Wnt inhibitors, what happens to cancers treated with Wnt inhibitors, and what drugs might synergize with Wnt inhibitors. Techniques include molecular and genetic analysis, and cell culture and mouse based models.  

Past and Current Duke-NUS MD Research Students  

Tina Tan (Class of 2011)  
Constance Chen Yuan Yi (Class of 2017; Co-mentor)  

Student Publications  

Wang, Hongyan  PhD

Associate Professor, Programme in Neuroscience and Behavioral Disorders, Duke-NUS Medical School
Associate Professor, Department of Physiology, Yong Loo Lin School of Medicine, National University of Singapore

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Website: Duke-NUS Webpage

Research Summary

The choice of self-renewal versus differentiation is a fundamental issue in stem cell and cancer biology. Recently, Drosophila melanogaster neural stem cells, larval brain neuroblasts, were emerged as an excellent model for study stem cell self-renewal and tumorigenesis. We are focused on identifying brain tumour suppressors and underlying mechanisms by which they prevent tumour formation in larval brains. Currently, we are interested in addressing the following key questions: What mutations trigger neural stem cells to become cancer stem cells? How asymmetric divisions of neural stem cells are regulated? What are the mechanisms that prevent more mature cells from dedifferentiating back into neural stem cells? Our work will provide important insights into the molecular mechanisms underlying neural stem cell self-renewal and differentiation and may ultimately contribute to better therapies for various types of cancers including human brain tumours.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Wang-Casey, Mei  MD, PhD

Assistant Professor, Programme in Cancer and Stem Cell Biology, Duke-NUS Medical School

Honorary Joint Associate Professor, Department of Biochemistry, Yong Loo Lin School of Medicine, National University Singapore

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Research Summary

The focus of the basic research aspect of the lab is to advance the understanding of the role(s) that specific prenylated proteins play in cellular signaling and cancer development. In this setting, inhibitors of prenylation serve as useful tools in identifying important players in cell signaling. We have found that inhibition of Icmt, the enzyme for the last step of prenylation modification, induced excessive autophagy and cell death, in addition to G1 cell cycle arrest. Suppression of autophagy rescues cancer cells from cell death, suggesting that autophagy induction by inhibiting Icmt promotes cancer cell death (Wang et al., J.Biol.Chem.2008 Jul 4; 283(27):18678-84). Since evading apoptosis is an important part of tumorigenesis, inducing cancer cell death through an alternative route such as autophagic cell death can be a novel approach therapeutically. Considerable effort in the lab is focused on the identification of the CAAX protein(s) through which the efficacy of Icmt inhibition is mediated by induction of autophagy and cell death.

The focus of the translational aspect of our research is to further advance the preclinical evaluation of potent and selective small molecule inhibitors of Icmt and one of the enzymes involved in the isoprenoid addition step, protein geranylgeranyltransferase I (GGTase-I), as anticancer agents. The scope of the research includes: (i) the investigation of the in vivo efficacy against proliferation and metastasis of these compounds using animal models; to this end, our studies have shown that cysmethynil has in vivo antiproliferative efficacies against multiple human cancers using a xenograft mouse model (Figure 3), (Wang et al, 2008; Wang et al., under review). (ii), the identification of new and better inhibitors in collaboration with our colleagues in NUS (SIN Pat. Appl. No. 2009077280; manuscripts under review); and (iii), the investigation of the pharmacokinetics and ADME/Tox properties of these small molecule inhibitors (Wang et al., J Chromatogr B Analyt Technol Biomed Life Sci. 2009 Feb 15:877(5-6):553-7.).

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Wong, Hee Kit  
MBBS(S’pore), MMED(Surg), FRCS(Glas), MCh(Orth) Liv., FAMS

Professor, Department of Orthopaedic Surgery, Yong Loo Lin School of Medicine, National University of Singapore
Chair, University Orthopaedics, Hand and Reconstructive Microsurgery Cluster (UOHC), National University Health System (NUHS), Singapore
Senior Consultant, University Spine Centre, UOHC, NUHS

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Research Summary

Professor Wong’s research interests are in translational and clinical research. Prominent among his recent basic science studies is the identification and validation of reference markers for neuropathic pain, the biology and biomechanics of spinal fusion, pre-clinical application of architecturally optimized bioresorbable scaffolds as bone graft substitutes in spinal reconstructive surgery, and evaluation of carriers for stem cells and growth factors in spinal fusion. Prof Wong’s ongoing clinical studies are focused in the areas of adolescent spinal deformity, adult and complex spinal deformity surgery, and minimally invasive spinal surgery.

Past and Current Duke-NUS MD Research Students

Wang Ming (Class of 2013)

Student Publications


Wong, Tien Yin  MBBS, MMED(Ophth), MPH, PHD, FRCSE, FRANZCO, FAMS

Provost's Chair Professor
Vice Dean, Office of Clinical Sciences, Duke-NUS Medical School
Head, Academic Medicine Research Institute (AMRI), Duke-NUS Medical School
Medical Director, Singapore National Eye Centre
Senior Consultant, Medical Retinal Department, Singapore National Eye Centre
Senior Principal Clinician-Scientist, Singapore Eye Research Institute

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Website: -

Research Summary

Diabetic retinopathy, age-related macular degeneration, retinal diseases, ocular imaging, and epidemiology.

Past and Current Duke-NUS MD Research Students

Ong Shin Yeu (Class of 2012)
Goh Kang Hao James (Class of 2016)
Chong Yong He (Class of 2017)
Melissa Chan Mei-Hsia (Class of 2018; Co-mentor)
Lee Liang Qi (Class of 2018)

Student Publications


Wong, Ting Hway
Adjunct Assistant Professor, Duke-NUS Medical School
Clinical Senior Lecturer, Yong Loo Lin School of Medicine, NUS

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Website: http://www.sgh.com.sg/Others/Pages/DoctorDetails.aspx?id=A5B6D8F9-C67A-408C-9FC7-99FC5ABF24DF&name=Wong+Ting+Hway&institute=SingaporeGeneralHospital

Research Summary
1. Injury outcomes in older patients
2. Emergency surgery in aging populations

Areas of research (injury outcomes in older patients, health services research, and emergency surgery in aging populations) are an “area of need” for research that the international community is only just beginning to realize the importance of. Current projects range from outcome prediction (mortality, long-term function), caregiver burden, and frailty in surgical patients.

Past and Current Duke-NUS MD Research Students
Chia Theng Xin, Shermain (Class of 2018)

Student Publications
-
Wong, Tzee Ling Tina

Associate Professor, Duke-NUS Medical School  
Senior Consultant, Glaucoma Service, Singapore National Eye Centre  
Head, Ocular Therapeutics and Drug Delivery Group, Singapore Eye Research Institute

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Website: -

Research Summary

A/Prof Wong conducts clinical research on glaucoma patients with a focus on quality of life with glaucoma, new therapeutics (medications and surgical treatments). In addition A/Prof Wong has a lab in Singapore Eye Research Institute (SERI) that focuses on the mechanisms and pathophysiology of ocular wound healing as well as the discovery and evaluation of novel therapeutic targets to combat ocular scarring and fibrosis. Sophisticated animal models are used to evaluate therapeutics and clinical responses and supported by an extensive range of in vitro cell culture techniques.

Sustained drug delivery platforms to provide a more targeted approach to therapeutics delivery is also a major interest of A/Prof Wong and her group.

A/Prof Wong has a strong collaboration with School of Materials Science and engineering, NTU as well as the Laboratory for Translational and Molecular Imaging, Duke NUS that fits into the current program in the SERI lab.

Past and Current Duke-NUS MD Research Students

Wu Hong King (Class of 2017; Co-mentor)

Student Publications

-
Yen, Paul Michael  MD

Professor, Programme in Cardiovascular and Metabolic Disorders, Duke-NUS Medical School

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Website: Google Scholar Profile

Research Summary

Our laboratory has had a long-standing interest in transcriptional regulation by thyroid hormone receptors (TRs) and other hormone receptors. In particular, we are interested in the recruitment of specific co-factors to thyroid hormone response elements (TREs) and concomitant changes in histone acetylation and methylation in the promoters of individual target genes and the entire genome. Recently, we observed that negative regulation of the glycoprotein hormone α subunit target gene by thyroid hormone surprisingly involves histone acetylation at specific sites. cAMP activates transcription via the same promoter region but involves histone acetylation at other sites. Additionally, we have observed that positive regulation of various target genes by thyroid hormone involves different histone modifications. We currently are using siRNA as well as histone acetyltransferase (HAT) and histone deacetylase (HDAC) inhibitors to determine the critical modifications that determine negative and positive regulation of target genes. We also plan to use ChIP-on-chip and ChIP seq technology to determine the prevalence of such changes across the genome. These studies will be extended to ligand-mediated regulation of other nuclear hormone receptors, including PPAR, LXR, and FXR which play important roles in metabolism and cholesterol regulation.

We also are interested in the cell signaling and cell cycle regulation by PI-3 kinase regulatory subunits, particularly p55 PI3K. Our recent studies have shown that the amino-terminus of p55PI3K (N24) interacts with Rb to regulate cell cycle progression. Using adenovirus expressing N24 and HIV-TAT fusion proteins that contain N24, we have found that N24 peptide inhibits cell proliferation in a wide range of cancer cell lines, and blocks tumor growth in several in vivo cancer models. We currently are studying the mechanisms of N24 effects on cell proliferation, tumor growth, metastasis, and cell redifferentiation. We also plan to screen chemical libraries to find peptidomimetics that may be useful in the treatment of human cancer.

Past and Current Duke-NUS MD Research Students

Aw Kang Lie Darius (Class of 2014)
Sun Jingfeng (Class of 2016)
Jann Adriel Chua Sy (Class of 2017)
Tan Hong Yu (Class of 2017; Co-mentor)
Koh Shu Qing (Class of 2018; Co-mentor)

Student Publications


Yeo, Cheo Lian  MBBS, MMed (Paediatrics), FAMS

Adjunct Associate Professor, Duke-NUS Medical School
Visiting Senior Consultant, Department of Child Development, KK Women’s & Children’s Hospital
Adjunct Associate Professor, Yong Loo Lin School of Medicine, National University of Singapore

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Website: -

Research Summary

Dr Yeo conducts clinical research on high risk infants, in particular very low birth weight infants focusing mainly on effects of therapies and outcome. She is Program Director of the National Neonatal Resuscitation Program, an initiative developed to improve acute care of newborns. She has conducted funded projects on immediate and long term outcome of very low birth weight infants with varying medical challenges. She is co-PI of a national neonatal network database project that facilitates performance tracking and improvement initiatives for care of high risk newborns. Her latest project on evaluation of neurological behaviour in late preterm newborn infants using the Hammersmith Neurological Assessment remains active at enrolment of eligible patients.

Her interest in research in medical education is seen in her effort at addressing the effects of frequency of neonatal resuscitation training on knowledge, skills and confidence level of staff involved in care of newborn infants.

Past and Current Duke-NUS MD Research Students

Joanne Chin En Yi (Class of 2017)  
Hwarng Yung Hsin Gwen (Class of 2018)

Student Publications

NA

Adjunct Associate Professor, Duke-NUS Medical School
Director, Cardiology Senior Residency Programme, SingHealth Duke-NUS Cardiovascular Academic Programme
Senior Consultant, Department of Cardiology, National Heart Centre Singapore
Scientific Lead, Databases and Biostatistics Core, National Heart Research Institute Singapore
Clinical Senior Lecturer, Yong Loo Lin Medical School, National University of Singapore

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Website: -

Research Summary

Dr Yeo conducts research in 2 main areas. The first is to explore long-term outcomes (clinical, cost-effectiveness, quality-of-care) in patients with coronary artery disease and/or heart failure. In this area, he has established a multicenter collaborative effort involving all restructured hospitals in Singapore, which will allow longitudinal study across a large number of patients in Singapore. Early analysis has explored the role of age, gender, race, and compliance to medical therapy in influencing long-term outcomes in patients who undergo percutaneous coronary intervention. He has published a number of outcomes research papers related to this field. He is also interested in percutaneous therapies for mitral regurgitation. This includes the use of novel therapies such as the MitraClip and the Carillon for the treatment of severe mitral regurgitation. He has co-edited an Atlas on the MitraClip therapy and is leading an Asia-Pacific Registry involving Singapore, Malaysia, Hong Kong and Australia.

Past and Current Duke-NUS MD Research Students

Sashen Aponso (Class of 2015)
Freda Jawan (Class of 2016)
Billy Yonathan Wijaya (Class of 2017)

Student Publications

NA
Yeo, Seng Jin  MBBS, FRCS

Adjunct Associate Professor, Duke-NUS Medical School
Senior Consultant & Director, Adult Reconstruction Service, Department of Orthopaedic Surgery, Singapore General Hospital

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Website: -

Research Summary

Dr Yeo conducts clinical research on orthopaedic patients with a focus on knee arthroplasty and other adult reconstruction joint replacement surgery. His recent research evaluated outcomes of unicompartmental knee arthroplasty (UKA) in patients with preoperative genu recurvatum. His other current research interest is in knee kinematics using fluoroscopy and gait analysis. Dr Yeo has been PI for number of clinical trials as well as authored more than 60 papers.

Past and Current Duke-NUS MD Research Students

Zhou Zhihong (Class of 2013)
Zhu Meng (Class of 2017; Co-mentor)
Yeh Ze Yang Jared (Class of 2018)

Student Publications

Yeoh, Allen Eng Juh  MBBS, Mmed (Pediatrics)

Senior Consultant, Department of Paediatrics, National University Hospital
Associate Professor, Department of Paediatrics, Yong Loo Lin School of Medicine, National University of Singapore
Viva-Goh Foundation Associate Professor, Paediatric Oncology, National University of Singapore

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Website: -

Research Summary

Assoc Professor Allen Yeoh's research interests are in the treatment and biology of childhood haematologic malignancies. He is currently the principal investigator of the multi-centre Malaysia-Singapore ALL and AML trials competitively funded by NMRC and A*STAR/Singapore Cancer Syndicate. Currently these trials have been highly successful with > 80% and >60% projected cure. He is the first Singapore doctor to receive the American Society of Hematology Merit Award for his pioneering work in gene expression profiling in leukaemia. This work was one of the highest cited articles in this field for 2003.

He is also actively involved in genome wide association studies using cutting edge chip technologies from Affymetrix and Illumina. He has profiled more than 140 children with ALL on gene expression profiling using Affymetrix HG-U133 Plus2.0 as well as genotyping SNPs on Illumina Human1M-Duo chips. His aim is to discover biomarkers for treatment response in the Malaysia-Singapore studies so as to improve cure rate.

Past and Current Duke-NUS MD Research Students

Cecilia Kwok Sze Nga (Class of 2011)
Sharon Poh Shuxian (Class of 2013)
Wong Hai Liang Marc (Class of 2015)

Student Publications


Yong, Eu Leong  MBBS (S'pore), MMED (O&G, S'pore), MRCOG, PhD (S'pore)
Head and Senior Consultant, Department of Obstetrics and Gynaecology, National University Hospital

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Website: -

Research Summary
Steroid/nuclear receptors and human disease, and Herbal Drug discovery programme.

Past and Current Duke-NUS MD Research Students
Yu Dawen (Class of 2016)
Tng Han Ying (Class of 2018)

Student Publications
NA
Yoon, Sungwon  

Assistant Professor, AMRI, Office of Clinical Sciences / Programme in Health Services and Systems Research, Duke-NUS Medical School

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Website: https://www.duke-nus.edu.sg/content/yoon-sung-won

Research Summary

Dr. Yoon is a public health researcher and behavioral scientist. Her research interest is focused on understanding individual and population behavior of public health significance to inform health services planning and evaluation. She has a particular interest in psychosocial adaptation patterns and health service optimization in patients with cancer and chronic conditions; health services research in primary care; and behavioral health. She is currently undertaking five research projects in collaboration with clinicians on topics ranging from effective chronic kidney management in primary care and population health survey on cardiovascular disease knowledge, attitude and practice to quality of life of colorectal cancer survivors. She has received 15 competitive funding as PI and Co-I.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Yu, Sidney Wing Kwong PhD

Senior Principal Research Scientist, Department of Nuclear Medicine & PET, Singapore General Hospital
Adjunct Principal Investigator, National Cancer Centre Singapore

Contact: 6326 5666
Email: sidney.yu.w.k@sgh.com.sg
Website: -

Research Summary

I specialized in translational research in nuclear medicine, particularly in imaging and internal radiation therapy of HCC. This includes

- Radiolabeling of a chemicals/protein/peptide/antibody
  Radiolabeling refers to the incorporation of a radioisotopes onto a molecule without changing its physiochemical properties. This will employ different organic chemistry and coordination chemistry techniques, but with the constraint of radiation hazard and radiation decay.

- Imaging of radiolabeled molecules in animal models
  Non-invasive imaging allows a longitudinal study of radiolabeled molecules In-vivo over time. Imaging provides static distribution pattern of radiolabeled molecules, and yields dynamic time-activity curve from which various pharmacokinetic data can be derived.

- Calculation of radiation dosage to tumors

- Radiation exposure is an important aspect in imaging. It is most desired that the exposure to whole body is as low as possible, but the exposure to tumor be as high as possible, hence Careful planning and accurate dosimetry calculation is essential.

Past and Current Duke-NUS MD Research Students

Chin Fu Wen, Kenneth (Class of 2016)
Christopher Colin Neoh (Class of 2018)

Student Publications

NA
Zhong, Liang  PhD

Adjunct Assistant Professor, Programme in Cardiovascular and Metabolic Disorders, Duke-NUS Medical School
Theme Principal Investigator, National Heart Research Institute of Singapore, National Heart Centre Singapore

Contact: 6704 2237
Email: zhong.liang@duke-nus.edu.sg / zhong.liang@nhcs.com.sg
Website: Google Scholar Profile

Research Summary

Dr Zhong conducts translational research on i) CMR feature-tracking for heart disease; ii) Regional right ventricular structure-function relationship in pulmonary hypertension; and iii) FFR in coronary artery disease. His recent research evaluated the clinical value of combining computational modeling and hemodynamics to better diagnose ischemic coronary stenosis. Dr Zhong has been awarded over 6 NMRC grants and A*STAR grants, and he has authored over 4 patents, 50 papers, 10 book chapters and over 100 abstracts/articles in prestigious international conferences.

Past and Current Duke-NUS MD Research Students

Lin Sen (Class of 2018)

Student Publications

NA
Zhou, Juan Helen  *PhD*

Assistant Professor, Programme in Neuroscience and Behavioural Disorders, Duke-NUS Medical School
Principal Investigator, Clinical Imaging Research Center, A*STAR

**Contact:** 6601 2392  
**Email:** helen.zhou@duke-nus.edu.sg  
**Website:** https://sites.google.com/site/mneuroimaginglab/home

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**Research Summary**

Our lab studies the human neural bases of cognition and the associated vulnerability patterns in neuropsychiatric disorders, mainly focusing on neurodegenerative diseases (e.g. Alzheimer's disease and frontotemporal dementia), attention deficit hyperactivity disorder, and Schizophrenia. Multimodal neuroimaging and psychophysical techniques are employed, including magnetic resonance imaging (MRI), functional MRI, diffusion tensor imaging, and electroencephalograph. We are interested in examining the network-level structural and functional brain connectivity in vivo by statistical or computational methods. Based on the network-based neurodegeneration hypothesis, we examine the abnormal brain networks in subjects with dementia or mild cognitive impairment. Ongoing projects are focusing on healthy elderly and subjects at preclinical stages as well as the effect of intervention techniques using multimodal neuroimaging and neuropsychological measures. Our long-term goal is to investigate the interactions among brain network dynamics, behaviours, diseases, and genotypes to develop noninvasive biomarkers for differential diagnosis, disease monitoring, and treatment design.

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**Past and Current Duke-NUS MD Research Students**

Thomas Adi Kurnia Susanto (Class of 2014)  
Terrence Tay WS (Class of 2016; Co-mentor)  
Ching Yin Ying (Class of 2017; Co-mentor)

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**Student Publications**

Zhou, Lei  PhD

Assistant Professor, Duke-NUS Medical School
Head and Senior Principal Research Scientist, Ocular Proteomics Laboratory, Singapore Eye Research Institute
Assistant Professor, Dept. of Ophthalmology, Yong Loo Lin School of Medicine, NUS

Contact: 65767284
Email: zhou.lei@seri.com.sg
Website: -

Research Summary

Dr Zhou applies cutting-edge mass spectrometry and proteomics/metabolomics technologies for eye research. One of his research interests is to identify metabolites biomarkers/risk factors in diabetic retinopathy (DR), age-related macular degeneration (AMD) and other eye diseases using liquid chromatography-mass spectrometry (LC-MS) based metabolomics. He pioneered the comprehensive analysis of the human tear fluid proteome and metabolome and enabled major advances in disease diagnosis using tear proteins. He has close to 70 peer-reviewed publications and several patents.

Past and Current Duke-NUS MD Research Students

Nicodemus Oey (Class of 2012, Co-mentor)

Student Publications

Approved Research Co-Mentors
Chen, Yu Helen  M.D., MBBS, M Med (Psychiatry), Grad Dip (Dynamic Psychotherapy), FAMS

Adjunct Associate Professor, Duke-NUS Medical School
Senior Consultant, Head, Department of Psychological Medicine, KK Women’s & Children’s Hospital

Contact: 63942205
Email: Helen.chen.y@singhealth.com.sg
Website: -

Research Summary

Dr Chen has a special interest in perinatal psychiatry and women’s mental health. She conducts clinical research on peripartum patients with a focus on screening and epidemiology, as well as intervention outcomes. She has also collaborated with neuroscientists and obstetricians in examining the impact of maternal mental health on pregnancy outcomes, fetal and child development.

Past and Current Duke-NUS MD Research Students

Pavaani Thiagayson (Class of 2011; co-mentor)

Student Publications

Cheung, Carol Yim Lui  PhD

Assistant Professor, Centre for Quantitative Medicine, Duke-NUS Medical School
Research Scientist and Head, Singapore Advanced Imaging Lab on Ocular Research (SAILOR), Singapore Eye Research Institute
Adjunct Assistant Professor, Department of Ophthalmology, Yong Loo Lin School of Medicine, National University of Singapore

Contact: -
Email: carol.cheung.y.l@seri.com.sg
Website: ResearchGate Profile

Research Summary

Dr. Cheung is currently a Research Scientist with a focus on ocular imaging as a biological approach to study human diseases and population-based studies on eye diseases at the Singapore Eye Research Institute (SERI). Her main research interest is the development and application of advanced ocular imaging analysis which can impact on important translational clinical outcomes. Her recent work entails developing and validating new diagnostic modalities for prediction of eye and cardio-metabolic diseases using novel imaging techniques. Her research on ocular imaging may improve the understanding of early disease changes, and may allow the prediction, early detection and diagnosis of eye, cardiovascular and metabolic diseases via ocular imaging, leading to a better targeted and more effective screening, independent of conventional risk factors and current diagnostic modalities.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Chew, Kelvin Tai Loon  *MBBC* (Ireland), *M*SpMed (Australia)

Director & Senior Consultant, Changi Sports Medicine Centre, Changi General Hospital  
Senior Consultant, Singapore Sports Medicine Centre, Novena Medical Centre  
Clinical Lecturer, Orthopaedic Surgery, Yong Loo Lin School of Medicine, National University of Singapore  
Specialist Physician Faculty, SingHealth Family Medicine Residency  

Contact: 6850 3502  
Email: kelvin_chew@cg.com.sg  
Website: -

Research Summary

Dr Chew's areas of research specialization in Sports Medicine are: sports injury biomechanics, musculoskeletal diagnostics with special interest in ultrasound diagnostics, and efficacy of clinical therapeutics in musculoskeletal medicine. Current research projects at Changi Sports Medicine Centre that medical students can be involved in relate to the ultrasound evaluation of tendon disorders in athletes as well as research on event medical coverage such as Formula 1 or mixed martial arts international competition injury prevention and injury rates.

Past and Current Duke-NUS MD Research Students

Tao Chan Eric (Class of 2016)  
Muhamad Zulhakim Bin Aman (Class of 2018)

Student Publications

NA
Chew, Sophia Tsong Huey  MBBS, MMed (Anaes), FANZCA, FAMS

Adjunct Assistant Professor, Programme in Cardiovascular and Metabolic Disorders, Duke-NUS Medical School
Senior Consultant, Department of Anaesthesiology, Singapore General Hospital

Contact: 6321 4220
Email: gancth@sgh.com.sg
Website: ResearchGate Profile

Research Summary

Ethnicity and acute kidney injury after cardiac surgery in the Asian population, genetic and biochemical markers of injury and long term risk of ESRD.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Goh, Brian Kim Poh  
MBBS, MRCSEd, MMed (Surg), MSc, FRCSEd, FAMS

Adjunct Associate Professor, Duke-NUS Medical School
Senior Consultant, Department of HPB and Transplant Surgery, Singapore General Hospital

Contact: -
Email: brian.goh@sgh.com.sg
Website: -

Research Summary

Presently, my research is focused mainly on clinical outcomes after pancreatic and liver resections and oncological outcomes of liver and pancreatic malignancies. I have published extensively in this field and have numerous on-going (> 10) projects. I perform mainly clinical cohort studies and systematic reviews in this field and have mentored several surgical trainees and medical students in the past.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Hwang, Nian Chih  MBBS, FFARCSI, FAMS

Professor, Duke-NUS Medical School
Senior Consultant and Director of Cardiothoracic Anaesthesia Service, Department of Anaesthesiology, Singapore General Hospital
Head, Department of Cardiothoracic Anaesthesia, National Heart Centre Singapore
Associate Professor, Department of Anaesthesia, Yong Loo Lin School of Medicine, National University of Singapore

Contact: 6321 4220
Email: hwang.nian.chih@sgh.com.sg
Website: -

Research Summary

1. This is a prospective study to evaluate long term morbidity and mortality outcomes of patients after abdominal surgery (CIRB: 2015/2468).
2. The main objective of which is to derive and recommend a stratified risk prediction model for patients who undergo abdominal surgery in SGH.
   a. Currently, we apply established risk prediction models when counselling the patient about perioperative risks, morbidity and mortality. Depending on the risk prediction, our whole system of healthcare professionals put in different levels of effort in ensuring best patient outcome. This is in addition to the infrastructure and policies that are part of our healthcare provision (laminar flow, antibiotics before incision and repeated doses to ensure minimal inhibitory concentrations, aseptic procedures, glycaemic control throughout hospital stay, and other best practices in OT, ICU, HD, and general wards).
   b. Through this CIRB-approved prospective observational project, we will
      i. Track the (observed) outcome of patients at 3 months, 6 months and one year after abdominal surgery,
      ii. Compare the observed outcome against the calculated (expected) risks, and
      iii. Derive and validate risk prediction model(s), for patients undergoing surgery in SGH over 3- to 4-year period.
3. As an observational prospective study looking at M and M outcomes and no interventions are required, consent from the patient has been waived by CIRB.
4. The following are included in this study:
   a. All patients who undergo abdominal surgery: Hepatobiliary, upper and lower GI track, urology and gynaecology.
   b. Laparotomy, minimally invasive surgery (laparoscopic and robotic assisted) abdominal surgery, obstetrics, gynaecology and urology operations
   c. Elective, urgent and emergency, abdominal surgery.
5. John C. Allen, Assistant Professor in Office of Clinical Sciences - Centre for Quantitative Medicine at Duke NUS Medical School will assist me in deriving the risk prediction models.

Past and Current Duke-NUS MD Research Students

Choo Wei Tak (Class of 2018)

Student Publications

NA
Lee, Jan Hau  MBBS, MRCPCH (UK), MCI

Adjunct Assistant Professor, Duke-NUS Medical School
Consultant, Children's Intensive Care Unit, KK Women’s and Children’s Hospital

Contact: 6394 1778
Email: lee.jan.hau@kkh.com.sg
Website: Google Scholar Profile

Research Summary

Clinical research in pediatric critical care. Research interest mainly in acute respiratory distress syndrome, utilization of database and systematic reviews involving clinical outcomes in the pediatric intensive care unit.

Past and Current Duke-NUS MD Research Students

Tan Bobby (Class of 2018)

Student Publications

NA
Lek, Ngee FRCPCH, MBBS (Hons), MSc, BSc (Hons)

Adjunct Assistant Professor, Duke-NUS Medical School
Senior Consultant, Paediatric Endocrinology and Diabetes, KK Women’s and Children’s Hospital

Contact: 6394 1133
Email: lek.ngee@kkh.com.sg
Website: -

Research Summary

Paediatrics, child health, growth and development; paediatric endocrinology and diabetes; developmental origins of health and disease.

Past and Current Duke-NUS MD Research Students

Zhou Yi (Class of 2015; Co-Mentor)
Quek Jia Ling Jovina (Class of 2016; Co-Mentor)
Cassandra Ho Xin Yi (Class of 2017; Co-Mentor)

Student Publications

NA
Dr Loh's areas of interest are clinical and translational research in paediatric solid tumours. In particular, his lab focuses on the development of models of paediatric solid tumors for the conduct of preclinical trials of novel potential treatment strategies. He also interested in the discovery of biomarkers for prognostication and therapeutic stratification of paediatric solid tumours, particularly neuroblastoma, osteosarcoma, and paediatric renal tumours, using 'omics and next-generation sequencing platforms.

Dr Loh leads the VIVA-KKH Paediatric Brain and Solid Tumour Programme, a collaboration between KK Hospital, St Jude Children’s Research Hospital, and the VIVA Foundation for Children with Cancer. This programme brings together clinicians and scientists with particular interests in this area to cooperate on advancing the care and research of paediatric brain and solid tumours in Singapore.
Ozdemir, Semra  PhD

Assistant Professor, Programme in Health Services and Systems Research, Duke-NUS Medical School
Lien Centre for Palliative Care

Contact: 6601 3575
Email: semra.ozdemir@duke-nus.edu.sg
Website: -

Research Summary

Dr. Ozdemir’s main research area is medical decision making and health economics. Her research focuses on understanding how individuals make health-related decisions and developing interventions to help individuals make better decisions. She has developed numerous discrete-choice experiment surveys to quantify patient and caregiver treatment preferences, and physician treatment recommendations in a variety of therapeutic areas, including cancer, end-stage renal disease, Crohn’s disease, multiple sclerosis and bipolar disorder. Her research has been published in both economics and medical journals, including the Journal of Health Economics, Health Economics, Value in Health, Risk Analysis, Gastroenterology, and Medical Care.

Research Interests: medical decision making, health economics, behavioral economics, stated-preference methods, end-of-life and palliative care, and chronic disease.

Past and Current Duke-NUS MD Research Students

Andalib Hossain (Class of 2016;Co-mentor)
Wu Hong King (Class of 2017;Co-mentor)

Student Publications

NA
Yang, Yong PhD

Adjunct Assistant Professor, Centre for Quantitative Medicine, Duke-NUS Medical School
Head, Department of Epidemiology, Medical Board, Singapore General Hospital

Contact: 6326 6230
Email: yang.yong@sgh.com.sg
Website: -

Research Summary

Dr Yang Yong conducts hospital epidemiological and clinical research on infection disease and chronic diseases with the usage of hospital discharge database and other sources of data for the past 10 years. His recent work has entailed “The effect of chronic liver disease on venous thromboembolism among medically managed patients in Singapore General Hospital”, “The effect of comorbidity on hospital mortality in patients with SLE from an Asian tertiary hospital”, “The burden of diabetes mellitus in elderly patients from an Asian tertiary hospital”, “The effect of comorbidity and age on hospital mortality and length of stay in patients with sepsis” and “Respiratory dysfunction in sepsis patients – the protective effect of diabetes mellitus”. He is developing a comprehensive hospital discharge database, which may be used to conduct epidemiological and clinical research in various fields. Dr Yang has authored over 30 papers in peer-reviewed international journals.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA
Yeo, George Seow Heong  MBBS, FRCOG, FAMS

Adjunct Professor, Duke-NUS Medical School
Chief of Obstetrics, Division of Obstetrics & Gynaecology, KK Women’s & Children’s Hospital
Director, Antenatal Diagnostic Centre, KK Women’s & Children’s Hospital
Head, Obstetric Ultrasound & Prenatal Diagnosis Unit, KK Women’s & Children’s Hospital
Professor, Yong Loo Lin School of Medicine, National University of Singapore

Contact: 6394 8417
Email: dr.george.sh.yeo@gmail.com
Website: Google Scholar Profile

Research Summary

My current and future research is as follows:

1. Studying maternal demographic, anthropometric, socio-economic, obstetric, biochemical, and fetal data to understand and predict adverse pregnancy outcomes. This is achieved by analysing research data generated from existing studies with reliable research methodologies and linked to readily available service data
2. Special interest in fetal biometry and fetal growth restriction
3. Using single-cell technology to identify novel biomarkers exclusively expressed on fetal cells
4. Understanding the contribution of Down syndrome to Alzheimer’s disease and identifying possible targets for treatment
5. Studying circulating cell-free fetal DNA for non-invasive prenatal diagnosis of chromosomal abnormalities and early prediction of pre-eclampsia
6. Overseeing database design, data capture and quality control of several antenatal, perinatal and postnatal databases that are supporting the current key clinical services.

Past and Current Duke-NUS MD Research Students

NA

Student Publications

NA