

HealthTech NTU PhD Programme in Healthy Society - Project Listing for 2020

S/No	Programme	Project Title	Supervisor	School	Co-supervisor	School	2nd Co-supervisor	School 2	Collaborating Institution
1	Chemical Biology	Understanding the molecular mechanism for the side effect of Relenza and Tamiflu and developing new neuraminidase inhibitor as safe anti-flu therapeutics	Liu Xuewei	SPMS	Yoon Ho Sup	SBS			Tan Tock Seng Hospital
2	Chemical Biology	PANACEA: Towards Computational and Systems Biology-based Personalized Combination Therapy With Application to Cancer	Sourav S Bhowmick	SCSE	Dinesh Kumar Srinivasan	LKCMed	Michael Alan Ferenzci	LKCMed	Singapore General Hospital
3	Chemical Biology	Modification of Traditional Chinese Medicines for New Pharmaceutical and Biological Applications	Robin Yonggui Chi	SPMS	Jaume Torres	SBS			Beijing Hospital of Traditional Chinese Medicines/Beijing Capital Medical University
4	Chemical Biology	Engineering thermostable DNA/RNA dependent RNA polymerases for the large scale synthesis of RNA molecules including miRNAs and siRNAs	Lescar Julien	SBS	Phan Anh Tuan	SPMS			
5	Chemical Biology	Influenza inhibitor design based on novel targets	Mu Yuguang	SBS	Robin Yonggui Chi	SPMS	Richard J Sugrue	SBS	
6	Chemical Biology	Vaccine platform development for infectious diseases	Sierin Lim	SCBE	Richard J Sugrue	SBS	Lisa F. P. Ng	SigN, A*STAR	
7	Chemical Biology	New types of stapled peptides for p53 activation	Steve Zhou	SPMS	Liu Chuan Fa	SBS	Brian Chia	ETC, A*STAR	
8	Chemical Biology	Heterologous Expression of Secondary Metabolite Biosynthetic Pathways of Marine Microorganisms for the Discovery of Bioactive Compounds	Liang Zhao-Xun	SBS	Liu Xuewei	SPMS			
9	Chemical Biology	Membrane extraction of pharmacologically active compounds for managing cardiovascular diseases	James P. Tam	SBS	Wang Rong	CEE			
10	Chemical Biology	Chemical Modification of Biologically Relent Peptides and Proteins: Model Studies	Robin Yonggui Chi	SPMS	Jaume Torres	SBS			Beijing Hospital of Traditional Chinese Medicines/Beijing Capital Medical University
11	Chemical Biology	Development of Novel Radioligands using [11C]CO2	Tan Choon Hong	SPMS	Lim Yee Hwee	LKCMed			Lee Kong Chian School of Medicine
12	Chemical Biology	Unique and Site-Specific "Smart" Imaging Probes for localized labeling and Sensing of Drug Resistant Bacterial Biofilm	Xing Bengang	SPMS	Yang Liang	SBS			
13	Chemical Biology	Discover novel antimicrobial metabolites from marine microorganisms	Liang Zhao-Xun	SBS	Liu Xuewei	SPMS			
14	Chemical Biology	Identification and characterization of antagonists of the human oncofetal HMGA2 protein	Peter Droge	SBS	Tan Meng How	SCBE			National Cancer Centre Singapore
15	Chemical Biology	Development of novel analogues of bistramide A as potent inhibitors of the actin cytoskeleton system and T-cell motility.	Roderick Wayland Bates	SPMS	Navin Kumar Verma	LKCMed	Sumod A. Pullarkat	SPMS	
16	Chemical Biology	Computational Algorithm for drug repositioning (or repurposing)	Kwoh Chee Keong	SCSE	Tan Choon Hong	SPMS			Tan Tock Seng Hospital
17	Chemical Biology	Discover antimicrobial natural products from marine actinomycetes	Liang Zhao-Xun	SBS	Liu Xuewei	SPMS	Yoganathan Kanagasundaram	BII, A*STAR	
18	Chemical Biology	Development of Site-Specific "Smart" Imaging Probes for localized labeling and Sensing of Drug Resistant Bacterial Biofilm	Xing Bengang	SPMS	Yang Liang	SBS			
19	Chemical Biology	Targeting IBV Ribosomal Frameshift Stimulatory RNA Structures	Chen Gang	SPMS	Julien Lescar	SBS	Zhao Yanli	SPMS	
20	Chemical Biology	Development of novel agonists and antagonists targeting RIG-1	Chen Gang	SPMS	Luo Dahai	LKCMed			

HealthTech NTU PhD Programme in Healthy Society - Project Listing for 2020

S/No	Programme	Project Title	Supervisor	School	Co-supervisor	School	2nd Co-supervisor	School 2	Collaborating Institution
21	Chemical Biology	Development of novel mRNA structure-binding antibacterial ligands and structural characterization of the ligand-mRNA complexes associated with ribosome	Chen Gang	SPMS	Gao Yonggui	SBS			
22	Chemical Biology	Understanding the role of the microenvironment factors driving transdifferentiation and secretomics of human mesenchymal stem cells into cancer associated fibroblasts cells	Dalton Chor Yong Tay	MSE	Tan Nguan Soon	SBS	Sze Siu Kwan	SBS	
23	Chemical Biology	Drug Delivery System for Boosting Muscular Performances	Hirota Sato	MAE	Su Haibin	MSE			
24	Chemical Biology	Reversing antimicrobial drug resistance with cationic polymers in gram negative superbugs	Kevin Pethe	LKCMed	Mary Chan	SCBE			Lee Kong Chian School of Medicine
25	Chemical Biology	Discovery of Sialic Acid-Based Influenza Antiviral Agents	Liu Xuewei	SPMS	Yoon Ho Sup	SBS			
26	Chemical Biology	Targeting oxidative phosphorylation for the rational development of sterilizing drug combination for drug-resistant tuberculosis	Kevin Pethe	LKCMed	Gerhard Gruber	SBS	Roderick Wayland Bates	SPMS	
27	Chemical Biology	Role of "Ionic Checkpoint" in the Regulation of T-Lymphocyte Functions	Navin Kumar Verma	LKCMed	Richard D. Webster	SPMS			Lee Kong Chian School of Medicine
28	Chemical Biology	Chemical Modification and Conjugation for Antisense Delivery in Cell and In Vivo	Phan Anh Tuan	SPMS	Dang Thuy Tram	SCBE			National University Cancer Institute Singapore
29	Health Systems Complexity	Prediction and control of epidemic spreading in multi-level complex systems	Xiao Gaoxi	EEE	Cheong Siew Ann	SPMS			Tan Tock Seng Hospital
30	Health Systems Complexity	Multi-agent Technology for Collaborative Health Care	Bo An	SCSE	Ning Chen	SPMS	Peter Sloot	SCSE	Tan Tock Seng Hospital
31	Health Systems Complexity	Design and Verification of Diabetes Management System	Arvind Easwaran	SCSE	Nam-Joon Cho	MSE			National Healthcare Group
32	Health Systems Complexity	Healthcare for aging population	Bu-Sung Lee	SCSE	Theng Yin Leng	WKW			Singapore General Hospital
33	Health Systems Complexity	Towards Network-driven in Silico Target Combination Discovery for Cancer Therapy	Sourav S Bhowmick	SCSE	Dinesh Kumar Srinivasan	LKCMed	Jie Zheng	SCSE	Singapore General Hospital
34	Health Systems Complexity	Elucidating Complex Biofilm Formation	Peter Sloot	SCSE	Karin Emma Josephina Eurenus	SBS	Staffan Kjelleberg	SBS	Lee Kong Chian School of Medicine
35	Health Systems Complexity	Co-evolution of infectious agents and social networks: a new epidemiology modelling approach and applications	Xiao Gaoxi	EEE	Su Haibin	MSE			Singapore General Hospital
36	Health Systems Complexity	Built environment and human health: a multidisciplinary approach	Josip Car	LKCMed	Georgios Christopoulos	NBS	Tan Hao Yang	LKCMed	
37	Health Systems Complexity	eLearning for pre-registration health professionals and beyond	Josip Car	LKCMed	Tan Seng Chee	NIE			Lee Kong Chian School of Medicine
38	Health Systems Complexity	Dynamics of the Innate Immune Response after Oxidative Stress: Translational Clinical studies In silico and in vivo	Peter Sloot	SCSE	Ruud Brands	CI	Josip Car	LKCMed	Lee Kong Chian School of Medicine
39	Health Systems Complexity	Modulation of innate immune responses to diabetes and metabolic syndrome	Annelies Wilder-Smith	LKCMed	Ruud Brands	CI	Peter Sloot	SCSE	Lee Kong Chian School of Medicine
40	Health Systems Complexity	Modeling of Macrophage Lipid Metabolism with Applications in Studying the Crosstalk between Diabetes and Immunity	Xueli Guan	LKCMed	Jie Zheng	SCSE	Yusuf Ali	LKCMed	Tan Tock Seng Hospital

HealthTech NTU PhD Programme in Healthy Society - Project Listing for 2020

S/No	Programme	Project Title	Supervisor	School	Co-supervisor	School	2nd Co-supervisor	School 2	Collaborating Institution
41	Health Systems Complexity	DNA logic gates for health systems complexity	Shu Jian Jun	MAE	Xing Bengang	SPMS			Singapore General Hospital
42	Health Systems Complexity	Computational and Privacy Challenges in Outsourcing Biomedical Data	Arijit Khan	SCSE	Mo Yilin	EEE	Sourav S. Bhowmick	SCSE	Lee Kong Chian School of Medicine
43	Medical Imaging and Signal Analysis	Characterization of islet cell infiltrating lymphocytes in experimental autoimmune diabetes models	Bernhard Otto Boehm	LKCMed	Xing Bengang	SPMS			Khoo Teck Puat Hospital
44	Medical Imaging and Signal Analysis	Imaging-Based Volumetry of Organs	Jianfei Cai	SCSE	Junsong Yuan	EEE			Tan Tock Seng Hospital
45	Medical Imaging and Signal Analysis	Three-dimensional (3D) spectroscopic autofluorescence imaging in endoscopy for tissue characterization	Liu Quan	SCBE	Nadia Magnenat Thalmann	SCSE			National University Hospital
46	Medical Imaging and Signal Analysis	Biophysics of cardiomyopathies	Michael Alan Ferenczi	LKCMed	Xing Bengang	SPMS			The Harley Street Clinic
47	Medical Imaging and Signal Analysis	Signaling Events in Pancreatic Islet Cells During Immune Rejection	Bernhard Otto Boehm	LKCMed	Guillaume Thibault	SBS	Per-Olof Berggren	LKCMed	Singapore Eye Research Institute
48	Medical Imaging and Signal Analysis	Computational modelling, monitoring and treatment of ADHD using MR Images of brain and advanced game engines	Suresh Sundaram	SCSE	P. N. Suganthan	EEE			Ohio State University, USA
49	Medical Imaging and Signal Analysis	In Vivo Non-invasive Measurement of Metabolic Rate of Oxygen (MRO2) and Oxygen Saturation (sO2) by Portable Photoacoustic Imaging Scanner	Zheng Yuanjin	EEE	Zhou Yufeng	MAE			National University Hospital
50	Medical Imaging and Signal Analysis	Flexible 12-Leads Cableless ECG Recording System for Clinical Monitoring	Goh Wang Ling	EEE	Ng Yin Kwee	MAE			National University Hospital
51	Medical Imaging and Signal Analysis	Energy-Efficient, High-Performance 3D Video Codec System Development for Gesture Recognition and Control	Goh Wang Ling	EEE	Ng Yin Kwee	MAE			National University Hospital
52	Medical Imaging and Signal Analysis	Memantine and tPA, combinatorial therapy for Post-Stroke Aphasia: an fMRI study	Zhang Yilei	MAE	Guan Cuntai	SCSE			National University Hospital
53	Medical Imaging and Signal Analysis	Towards Socio- and Neurofeedback Treatments for Schizophrenia	Justin Dauwels	EEE	Guan Cuntai	SCSE			Institute of Mental Health
54	Medical Imaging and Signal Analysis	Cellular and sub-cellular imaging of eye diseases in vivo	Liu Linbo	EEE	Liu Quan	SCBE			Harvard Medical School
55	Medical Imaging and Signal Analysis	Sound based Techniques for the Classification of Excess Fluids in Lungs	Ser Wee	EEE	Vinod Achutavarrier Prasad	SCSE			Tan Tock Seng Hospital
56	Medical Imaging and Signal Analysis	Non-Contact Radar based Imaging Technique for Cardiac-Activity Monitoring	Ser Wee	EEE	Vinod Achutavarrier Prasad	SCSE			Singapore General Hospital
57	Medical Imaging and Signal Analysis	An Integrated Sound based cum Vibrator Approach for the Detection and Therapy of OSA	Ser Wee	EEE	Du Hejun	MAE			Singapore General Hospital
58	Medical Imaging and Signal Analysis	Data-driven Discovery of New Hidden Patterns in EEG for Disease Diagnosis and Brain-computer Interface	Jiang Xudong	EEE	Guan Cuntai	SCSE	Zhang Haihong	I2R, A*STAR	KK Women's and Children's Hospital
59	Medical Imaging and Signal Analysis	Optimal Control Theory for Abatement of Seizures	Justin Dauwels	EEE	Guan Cuntai	SCSE	Sydney Cash	Harvard Medical School	KK Women's and Children's Hospital
60	Medical Imaging and Signal Analysis	Scalable low-cost portable photoacoustic imaging system for noninvasive identification of sentinel lymph node during breast cancer staging	Manojit Pramanik	SCBE	Murukeshan Vadakke Matham	MAE			Tan Tock Seng Hospital

HealthTech NTU PhD Programme in Healthy Society - Project Listing for 2020

S/No	Programme	Project Title	Supervisor	School	Co-supervisor	School	2nd Co-supervisor	School 2	Collaborating Institution
61	Medical Imaging and Signal Analysis	LED based low-cost photoacoustic imaging system for noninvasive angiogenesis monitoring	Manojit Pramanik	SCBE	Claus-Dieter Ohl	SPMS			Tan Tock Seng Hospital
62	Medical Imaging and Signal Analysis	Low power CMOS image sensor for Wireless endoscopy capsules	Chen Shoushun	EEE	Lin Weisi	SCSE			Singapore General Hospital
63	Medical Imaging and Signal Analysis	Delinating Early-Stage Cancerous Tissues from Normal Skin Tissues with In Vivo 3D Confocal Image Reconstruction and Quantitative Assessment	Lin Feng	SCSE	Lin Zhiping	EEE	Ser Wee	EEE	National Skin Centre
64	Medical Imaging and Signal Analysis	Signal Processing Approach for Heart Sound Characterization and Classification	Ser Wee	EEE	Vinod Achutavarrier Prasad	SCSE			Tan Tock Seng Hospital
65	Medical Imaging and Signal Analysis	Decoding Limb Movement Parameters using Motor Imagery-based Brain-Computer Interface for Neural Rehabilitation and Prosthesis Applications	Vinod Achutavarrier Prasad	SCSE	Ser Wee	EEE	Ang Kai Keng	SCSE	Singapore General Hospital
66	Medical Imaging and Signal Analysis	A Portable and Non-invasive CMOS THz Imaging Scanner for Skin/Breast Cancer	Yu Hao	EEE	Liu Quan	SCBE			National Skin Centre
67	Medical Imaging and Signal Analysis	Monitoring brain tissue oxygenation by all-optical photo-acoustic technique	Cuong Dang	EEE	George J. Augustine	LKCMed			National Neuroscience Institute
68	Medical Imaging and Signal Analysis	A reality-based computational model of cerebellum function	Justin Dauwels	EEE	George J. Augustine	LKCMed			Lee Kong Chian School of Medicine
69	Medical Imaging and Signal Analysis	Spin Torque Oscillators as Sensors for Brain Signal Sensing and Imaging	S.N. Piramanayagam	SPMS	Ser Wee	EEE			Lee Kong Chian School of Medicine
70	Medical Imaging and Signal Analysis	Heart Murmur Sound Analysis	Ser Wee	EEE	Vinod Achutavarrier Prasad	SCSE			National Heart Centre Singapore
71	Medical Imaging and Signal Analysis	Computer Brain Interface Based on Eye-tracking and EEG Hybrid Combination for Disabled People with Clinical Applications	Song Qing	EEE	Vinod Achutavarrier Prasad	SCSE			Alexandra Hospital
72	Medical Imaging and Signal Analysis	Using Multifunctional Fiber Probes to Simultaneously Detect and Control Activity in Brain Circuits	Wei Lei	EEE	George J. Augustine	LKCMed			Lee Kong Chian School of Medicine
73	Medical Imaging and Signal Analysis	Content-based Medical Image Retrieval Using Soft Computing Approach	Er Meng Joo	EEE	Ong Yew Soon	SCSE			Singapore General Hospital
74	Medical Imaging and Signal Analysis	Development of a computational method to accurately estimate disease burden in skin diseases	Kong Wai Kin Adam	SCSE	Thng Tien Guan Steven	MSE			
75	Medical Imaging and Signal Analysis	Improve quality of retina imaging in cataract-corneal by laser speckle correlation and inverse problem algorithm	Cuong Dang	EEE	Ha Viet Hoang	SPMS			Singapore National Eye Centre
76	Medical Imaging and Signal Analysis	Ocular changes associated with the progression and treatment of myopia in a chicken animal model	Kong Wai-Kin Adams	SCSE	Pina Marziliano	EEE			Singapore Eye Research Institute
77	Medical Imaging and Signal Analysis	Optical coherence tomography angiography image processing	Kong Wai-Kin Adams	SCSE	Tegoeh Tjahjowidodo	MAE			National University Hospital

HealthTech NTU PhD Programme in Healthy Society - Project Listing for 2020

S/No	Programme	Project Title	Supervisor	School	Co-supervisor	School	2nd Co-supervisor	School 2	Collaborating Institution
78	Medical Imaging and Signal Analysis	Computational Modeling and Simulation of Renal Hemodynamic Alterations: Morphological Evaluation and Prediction of Renal Vascular Disease	Ng Yin Kwee	MAE	Wang Xiaomeng	LKCMed	Thanapong Chaichana	Liverpool Hope University	Tan Tock Seng Hospital
79	Medical Imaging and Signal Analysis	Segmenting Microscopic Images using Machine Intelligence Techniques	Yeo Chai Kiat	SCSE	Soon Ing Yann	EEE			Lee Kong Chian School of Medicine
80	Medical Imaging and Signal Analysis	Brain connectivity underlying distinct cognitive profiles in individuals with psychosis	Sundaram Suresh	SCSE	Ho New Fei	LKCMed	Ser Wee	EEE	Institute of Mental Health
81	Medical Imaging and Signal Analysis	Functional neuroimaging markers for healthy aging and dementia	Jagath C. Rajapakse	SCSE	Balázs Gulyás	LKCMed			Institute of Mental Health
82	Nanomedicine	Nanotoxicity: study of fundamental biochemical mechanisms of toxicity of nanomaterials	Martin Pumera	SPMS	Loo Say Chye Joachim	MSE			Singapore Eye Research Institute
83	Nanomedicine	Controlled Delivery of siRNA using Lipoplexes and Polymeric Nanoparticles for Post-Surgical Scarring in Glaucoma	Subbu Venkatraman	MSE	Sierin Lim	SCBE			Singapore Eye Research Institute
84	Nanomedicine	Simultaneous Diagnosis and Treatment of Skin Cancer using Lanthanide-based Up-converting-Magnetic Nanoparticles via Transdermal Delivery	Timothy Tan Thatt Yang	SCBE	Andrew Tan Nguan Soon	SBS			National Skin Centre
85	Nanomedicine	Nanocage formulation for cutaneous delivery of active compounds	Sierin Lim	SCBE	Ng Kee Woei	MSE			National Skin Centre
86	Nanomedicine	Interfacial Science of Therapeutic Nanoparticles	Nam-Joon Cho	MSE	Khor Khiam Aik	MAE			Stanford University School of Medicine
87	Nanomedicine	Development of novel anti-Dengue antisense therapeutics	Chen Gang	SPMS	Julien Lescar	SBS	Zhao Yanli	SPMS	Tan Tock Seng Hospital
88	Nanomedicine	Synthesis Of Single And Double Walled TiO2 Nanotube Carrier For Bone Morphogenetic Protein Delivery	Tay Beng Kang	EEE	Chen Peng	SCBE			University of Toronto
89	Nanomedicine	Multifunctional Polymeric Nanostructures for Cancer Imaging and Therapy	Wang Mingfeng	SCBE	Zhang Yilei	MAE	He Tao	ICES, A*STAR	National Cancer Centre
90	Nanomedicine	Fundamental studies of sustained release from Nanocarriers	Subbu Venkatraman	MSE	Sierin Lim	SCBE			Tan Tock Seng Hospital
91	Nanomedicine	Breaking the Cold-Chain Requirement of Vaccines and Antibiotics Using Suckerin Protein Encapsulants	Ali Miserez	MSE	Sierin Lim	SCBE			Tan Tock Seng Hospital
92	Nanomedicine	Graphene Quantum Dots for Drug Delivery and Therapy	Chen Peng	SCBE	Tan Lay Poh	MSE			Tan Tock Seng Hospital
93	Nanomedicine	Living electrodes for cardiac tissue regeneration	Terry Steele	MSE	Richard Webster	SPMS			Lee Kong Chian School of Medicine
94	Nanomedicine	A Near-infrared Mediated Upconverting Nanoparticles Antigen Delivery System for Squamous-Cell Carcinomas Immunotherapy Induced by Cytotoxic T-cell Responses	Timothy Tan	SCBE	Tan Nguan Soon Andrew	SBS			National Skin Centre
95	Nanomedicine	Multifunctional Peptide Moiety Conjugated Nanoplatform for Rapid detection and Removal of Bacterial Pathogens	Xing Bengang	SPMS	Yang Liang	SBS			National University Hospital
96	Nanomedicine	Nanotechnology for Oral Insulin 1	Bernhard Otto Boehm	LKCMed	Cleo Choong Swee Neo	MSE			
97	Nanomedicine	Glycocode-oriented Nanocarriers for Anti-cancer Drugs	Liu Xuwei	SPMS	Yoon Ho Sup	SBS			Tan Tock Seng Hospital
98	Nanomedicine	Highly synergistic cancer treatment with nanomagnets	Lew Wen Siang	SPMS	Li Hoi Yeung	SBS			National Cancer Centre Singapore

HealthTech NTU PhD Programme in Healthy Society - Project Listing for 2020

S/No	Programme	Project Title	Supervisor	School	Co-supervisor	School	2nd Co-supervisor	School 2	Collaborating Institution
99	Nanomedicine	Multi-agent based Simulations for Medical Nanorobotics	Liu Sze Yeung, Elvis	SCSE	Juliana Chan	LKCMed			National University Heart Centre Singapore
100	Nanomedicine	Sporopollenin Characterization and Oral Drug Delivery Systems	Nam-Joon Cho	MSE	Miao Yansong	SBS			Stanford University
101	Nanomedicine	Sporopollenin based Oral Protein Delivery Systems	Nam-Joon Cho	MSE	Miao Yansong	SBS			Stanford University
102	Nanomedicine	Particle engineering for high density constructs: Non-covalent adducts for API-excipient constructs	Zaher Judeh	SCBE	Yusuf Ali	LKCMed			Lee Kong Chian School of Medicine
103	Nanomedicine	Developing a novel drug release system for the anti-diabetic drug metformin to treat diabetic patients and subjects with metabolic syndrome	Bernhard Otto Boehm	LKCMed	Subbu Venkatraman	MSE	Tam Zhi Yang	LKCMed	
104	Nanomedicine	Evaluating the therapeutic potential of nano-antibiotics, nano-steroids and nano-mucolytics for chronic lung infection and disease	Sanjay Haresh Chotirmall	LKCMed	Kunn Hadinoto Ong	SCBE	Phil Hansbro	The University of Newcastle	Lee Kong Chian School of Medicine
105	Nanomedicine	Nano Drug Delivery for Treatment of Myocardial Infarction and Coronary Heart Disease	Subbu Venkatraman	MSE	Zhao Yanli	SPMS	Nicolas Foin	NHCS	National Heart Centre Singapore
106	Nanomedicine	Novel Macrophage-coated Nanoghosts for targeted cancer drug delivery	Chan Shuping Juliana Maria	SCBE	Subbu Venkatraman	MSE			National University Hospital
107	Nanomedicine	Stimuli-responsive Multifunctional Glyconanoparticle Platforms for Targeted Drug Delivery Delivery and Cancer Cell Imaging	Liu Xuewei	SPMS	Duan Hongwei	SCBE			Tan Tock Seng Hospital
108	Nanomedicine	Concomitant delivery of radiosensitizing and brachytherapeutic agents for targeted cancer treatment	Zhao Yanli	SPMS	Xu Chenjie	SCBE			National Cancer Center Singapore
109	Nanomedicine	Nano-materials guided protein phase separation for cytoskeleton assembly	Miao Yansong	SBS	Duan Hongwei	SCBE			Lee Kong Chian School of Medicine
110	Nanomedicine	Imaging of Antisense Oligonucleotide Cellular Trafficking and Target Gene Knockdown	Phan Anh Tuan	SPMS	Sara Sandin	SBS			Lee Kong Chian School of Medicine
111	Nanomedicine	Developing Ultrasound Responsive Co-polymers for Noninvasive Treatment of Chronic Venous Insufficiency and Varicose Veins	James Kwan	SCBE	Subbu Venkatraman	MSE	Tuan Minh Nguyen	ICES, A*STAR	Singapore General Hospital
112	Sensing and Diagnostics	Development of novel porous nanoparticles for biodetection	Lee Jong-Min	SCBE	Yoon Yong Jin	MAE			National University Hospital
113	Sensing and Diagnostics	Glaucoma Diagnostic Aid via Machine Learning	Lin Weisi	SCSE	Wang Lipo	EEE			National University Hospital
114	Sensing and Diagnostics	Rapid Malaria Diagnosis using Magnetically Enriched Surface Enhanced Raman Spectroscopy	Liu Quan	SCBE	Peter Preiser	SBS			National University Hospital
115	Sensing and Diagnostics	An integrated medical device for rapid and sensitive diagnostics of bacterial infections in blood sample	Yoon Yong Jin	MAE	Lee Jong-Min	SCBE			National University Hospital
116	Sensing and Diagnostics	Surface Acoustic Wave(SAW) Sensor For Passive Wireless Intraocular Pressure Measurement	Zheng Yuanjin	EEE	Tina Wong Tzee Ling	MSE			Singapore Eye Research Institute
117	Sensing and Diagnostics	Ultrasonic Link IC for Wireless Power & Data Transfer Deep In Body	Goh Wang Ling	EEE	Vinod Achutavarrier Prasad	SCSE			National Neuroscience Institute

HealthTech NTU PhD Programme in Healthy Society - Project Listing for 2020

S/No	Programme	Project Title	Supervisor	School	Co-supervisor	School	2nd Co-supervisor	School 2	Collaborating Institution
118	Sensing and Diagnostics	Microstructured optical fiber laser based mid-infrared supercontinuum generation for medicine applications	Shum Ping Perry	EEE	Sun Handong	SPMS			Singapore General Hospital
119	Sensing and Diagnostics	Concurrent sensing platform for neurodevelopmental disorder	Zhang Yilei	MAE	Albert I. Chen	SBS			Institute of Mental Health
120	Sensing and Diagnostics	Nanomaterials for biosensor development	Lee Jong-Min	SCBE	Moon Seung Ki	MAE			National University Hospital/National University of Singapore
121	Sensing and Diagnostics	Fibre optic based immunoassay for detection of lipoarabinomannan in patients samples for tuberculosis diagnosis	Alfred Tok ling Yoong	MSE	Robert S. Marks	BGU / NTU-CREATE	Brendon J Hanson	DSO	Tan Tock Seng Hospital
122	Sensing and Diagnostics	Dengue Prognosis by a Quantitative Electrochemical Lateral Flow Immunosensor (IgG, IgM and IgA)	Chen Hongyu	SPMS	Robert S. Marks	BGU / NTU-CREATE			Tan Tock Seng Hospital
123	Sensing and Diagnostics	Organic Dye-modified Upconversion Nanophosphors for Bio-imaging of reactive oxygen species	Qichun Zhang	MSE	Xing Bengang	SPMS			National Dental Centre
124	Sensing and Diagnostics	Portable and noninvasive protein sensors for the early detection of Parkinson's disease using field-effect transistors	Zhang Hua	MSE	Chen Peng	SCBE			National Skin Centre
125	Sensing and Diagnostics	A study of wandering patterns and fall risks among people with dementia in Singapore	Chan Syin	SCSE	Annabel Chen	HSS			Khoo Teck Phuat Hospital
126	Sensing and Diagnostics	Fiber optic sensor for monitoring of solid tumor microenvironment and drug delivery	Chan Chi Chiu	SCBE	So Ping Lam	EEE			OncoSolutions Cancer Center
127	Sensing and Diagnostics	Develop nucleic acid aptamer modified nanoplatfrom for early stage clinical cancer diagnosis	Shao Fangwei	SPMS	Shao Huilin	A*STAR	Li Shuzhou	MSE	Massachusetts General Hospital
128	Sensing and Diagnostics	A Portable CMOS ISFET Sensor for High Throughput and Accurate DNA Sequencing	Yu Hao	EEE	Xu Chenjie	SCBE			National Cancer Centre
129	Sensing and Diagnostics	Cuffless measurement of blood pressure and noninvasive assessment of blood flow in high-rate sonography	Zhou Yufeng	MAE	Lin Feng	SCSE			Singapore Health Services
130	Sensing and Diagnostics	On-chip Bio- and Chemical- Sensing Based on Microlaser Cavity Array	Sun Handong	SPMS	Wong Tech Neng	MAE			Lee Kong Chian School of Medicine
131	Sensing and Diagnostics	Development of label-free Optical Fiber Sensor for real-time cell behavior monitoring	Chan Chi Chiu	SCBE	So Ping Lam	EEE			Singapore General Hospital
132	Sensing and Diagnostics	4D Microscopy Camera for Biomedicine	Anand Asundi	MAE	Karen Carmelina Crasta	LKCMed			
133	Sensing and Diagnostics	Wirelessly monitored wearable sensors for monitoring of sweat electrolytes for potential insertion for Internet of Things (IoT)	Li King Ho Holden	MAE	Shabbir M Moochhala	MSE	Tse Man Siu	EEE	Lee Kong Chian School of Medicine
134	Sensing and Diagnostics	Clinical Fiber Probes for Rapid and Accurate Detection of Bacteremia and Fungemia	Wei Lei	EEE	Su Haibin	MSE	Hu Juan Juan	IIR, A*STAR	National University Hospital
135	Sensing and Diagnostics	Novel Surface-Plasmon optical Diagnostic Methods for Biomarkers in Wounds	Ng Kee Woei	MSE	Artur Schmidtchen	LKCMed	Wolfgang Knoll	MSE	Lee Kong Chian School of Medicine
136	Sensing and Diagnostics	Development of aptamer based novel proteomic assay for wound fluid biomarker discovery	Artur Schmidtchen	LKCMed	Newman Sze Siu Kwan	SBS	Wolfgang Knoll	MSE	Lee Kong Chian School of Medicine

HealthTech NTU PhD Programme in Healthy Society - Project Listing for 2020

S/No	Programme	Project Title	Supervisor	School	Co-supervisor	School	2nd Co-supervisor	School 2	Collaborating Institution
137	Sensing and Diagnostics	Development of Prediction Models for Health and Fitness Assessment Using Unobtrusive Sensing Techniques	Er Meng Joo	EEE	Tan Ah Hwee	SCSE	Jason Lee Kai Wei	LKCMed	National University Hospital
138	Sensing and Diagnostics	Development of Non-Invasive Sensors and Devices for Regular Vascular Access (VA) Surveillance	Li King Ho Holden	MAE	Tse Man Siu	EEE			Khoo Teck Phuat Hospital
139	Sensing and Diagnostics	Optofluidic ultra-filter as a virus manipulation toolkits for disease diagnosis	Liu Ai-Qun	EEE	Bo Liedberg	MSE			Lee Kong Chian School of Medicine
140	Sensing and Diagnostics	Development of Smart Photoacoustic Nanoprobes for In Vivo Imaging	Pu Kanyi	SCBE	Xing Bengang	SPMS			Singapore General Hospital
141	Sensing and Diagnostics	Affinity LC/MS for Clinical Diagnostics: Direct Analysis of Biological Samples	Sten Ohlson	SBS	Bernhard Otto Boehm	LKCMed	Yusuf Ali	LKCMed	Lee Kong Chian School of Medicine
142	Sensing and Diagnostics	Development of a non-invasive hydrogel-based pulse signal detector	Shu Jian Jun	MAE	Zhang Qichun	MSE			Singapore General Hospital
143	Sensing and Diagnostics	Protein Aggregation and ROS Mediated Cellular Aging Via Microfluidics	Miao Yansong	SBS	Pu Kanyi	SCBE			Lee Kong Chian School of Medicine
144	Sensing and Diagnostics	Minimally contact based method for diagnosis of cardiovascular disease (CVD): blockage (stenosis) and blood flow	Ng Yin Kwee	MAE	Zheng Yuanjin	EEE	Puneet Seth	SGH	National Heart Centre Singapore
145	Sensing and Diagnostics	Imaging of neurodegenerative diseases using organic semiconducting nanoparticles	Pu Kanyi	SCBE	Cesare Soci	SPMS	Guglielmo Lanzani	The Istituto Italiano di Tecnologia	Singapore General Hospital
146	Sensing and Diagnostics	Exosomal biomarker for diagnosis of neurodegeneration and dementia in early asymptomatic stage	Sze Siu Kwan Newman	SBS	Dalton Chor Yong Tay	MSE			National University Health System
147	Sensing and Diagnostics	Plasma biomarkers for prognosis of vascular complications of diabetes	Sze Siu Kwan Newman	SBS	Dalan Rinkoo	LKCMed			
148	Sensing and Diagnostics	Unified approach for better assessment of coronary heart disease	Yeo Joon Hock	MAE	Ang Keng Cheng	NIE			National Heart Centre Singapore
149	Sensing and Diagnostics	Towards point of care diagnosis and monitoring of trauma-induced coagulopathy using magnetic resonance technology	Russell Gruen	LKCMed	Konstantin Pervushin	SBS			University of Washington
150	Sensing and Diagnostics	Tactile sensor for the physical palpation examination in diagnosing abdominal adhesion	Ng Yin Kwee	MAE	Wang Xiaomeng	LKCMed	Chong Seow Khoon Mark	SCBE	Tan Tock Seng Hospital
151	Sensing and Diagnostics	Ultrasensitive, low cost and point-of-detection surface-enhanced Raman scattering (SERS) kit for rapid screening of drugs and metabolites in urine	Ling Xing Yi	SPMS	Tan Nguan Soon	LKCMed			Lee Kong Chian School of Medicine
152	Systems Biology and Medicine	Examining functional fingerprints of autophagy activity and genome stability in successfully aged nonagenarians (≥90 years old persons) versus nonagenarians with disease	Esther Wong Siew Peng	SBS	Karen Carmelina Crasta	LKCMed			Tan Tock Seng Hospital
153	Systems Biology and Medicine	Targeting the Flavivirus replicase for vaccine and antiviral development	Dahai Luo	LKCMed	Julien Lesccar	SBS			
154	Systems Biology and Medicine	Activation Mechanism of the Unfolded Protein Response during Lipid Disequilibrium	Guillaume Thibault	SBS / LKCMed	Dragoslav Vidovic	SPMS			
155	Systems Biology and Medicine	Polycomb group protein complexes regulated Purkinje cell function	I-Hsin Su	SBS	George J. Augustine	LKCMed			
156	Systems Biology and Medicine	Development of treatment for antibiotic-resistant bacterial infections	Li Hoi Yeung	SBS	Lew Wen Siang	SPMS			Tan Tock Seng Hospital

HealthTech NTU PhD Programme in Healthy Society - Project Listing for 2020

S/No	Programme	Project Title	Supervisor	School	Co-supervisor	School	2nd Co-supervisor	School 2	Collaborating Institution
157	Systems Biology and Medicine	Mechanistic studies of gut microbiota-brain interactions using microfluidics	Li King Ho Holden	MAE	Hou Han Wei	LKCMed	Tse Man Siu	EEE	
158	Systems Biology and Medicine	Structural investigations of the endoplasmic reticulum-associated degradation complex	Guillaume Thibault	LKCMed	Shashi Bhushan	SBS			
159	Systems Biology and Medicine	Hypoxic tumour microenvironment promotes tumorigenesis and cancer stem cell phenotype via epigenetic programming	Newman Sze Siu Kwan	SBS	Karen Carmelina Crasta	LKCMed			
160	Systems Biology and Medicine	Psycho-cognitive parameters associated with the built environment	Georgios Christopoulos	NBS	Tan Hao Yang	LKCMed	Josip Car	LKCMed	Lee Kong Chian School of Medicine
161	Systems Biology and Medicine	A genome-wide study of RNA editing as a novel mechanism of human cancers	Tan Meng How	SCBE	Peter Droge	SBS			National Cancer Centre Singapore
162	Systems Biology and Medicine	Towards Computational Discovery of Interaction Networks in Intracellular Pathogens	Kwoh Chee Keong	SCSE	Peter Preiser	SBS			Tan Tock Seng Hospital
163	Systems Biology and Medicine	Regulation of embryonic stem cells pluripotency and differentiation by biochemical and biophysical cues	Koh Cheng Gee	SBS	Tan Lay Poh	MSE			Tan Tock Seng Hospital
164	Systems Biology and Medicine	Microfluidics approaches for leukocyte sorting and functional characterization In type 2 diabetes patients	Bernhard Otto Boehm	LKCMed	Li King Ho Holden	MAE	Hou Han Wei	LKCMed	Tan Tock Seng Hospital
165	Systems Biology and Medicine	High-speed Genome Scaffolding	Amartya Sanyal	SBS	Anupam Chattopadhyay	SCSE			Tan Tock Seng Hospital
166	Systems Biology and Medicine	Machine Learning approach for biomarker identification and mechanistic insights into metabolic pathways involved in diabetes in the elderly	Bernhard Otto Boehm	LKCMed	Justin Dauwels	EEE	Tam Zhi Yang	LKCMed	
167	Systems Biology and Medicine	Elucidating the sub-Golgi localization code of Golgi glycosylation enzymes	Lu Lei	SBS	Liu Xuewei	SPMS	Song Zhiwei	BIT, A*STAR	KK Women's and Children's Hospital
168	Systems Biology and Medicine	Identifying immunomodulatory DNA of human gut microbiome: a metagenomic approach	Oh Seungdae	CEE	Ruedl Christiane	SBS			Lee Kong Chian School of Medicine
169	Systems Biology and Medicine	Optogenetic examination of neuronal circuits formed by new neurons generated from neural stem cells in the hippocampus	Ayumu Tashiro	SBS	George Augustine	LKCMed			Lee Kong Chian School of Medicine
170	Systems Biology and Medicine	Understanding regulated protein translocation and synapse to nucleus communication during transcription-dependent plasticity of healthy and diseased neurons	Chng Toh Hean	LKCMed	Albert Chen	SBS			Lee Kong Chian School of Medicine
171	Systems Biology and Medicine	Effects of gestational diabetes on cellular function of human umbilical code Wharton's Jelly stem cells	Jagath C. Rajapakse	SCSE	Navin Kumar Verma	LKCMed	Fong Chui Yee	NUHS	National University Health System
172	Systems Biology and Medicine	Enhancer profiling during mitotic slippage-induced senescence for immune surveillance	Karen Crasta	LKCMed	Amartya Sanyal	SBS			National Cancer Center Singapore
173	Systems Biology and Medicine	Potential non-pharmacological management of high anxiety through sensory enrichment	Rupshi Mitra	SBS	Justin Dauwels	EEE			Lee Kong Chian School of Medicine
174	Systems Biology and Medicine	Mathematical modeling and analysis of complex data in biological systems	Kelin Xia	SPMS	Amartya Sanyal	SBS			National University Cancer Institute Singapore

HealthTech NTU PhD Programme in Healthy Society - Project Listing for 2020

S/No	Programme	Project Title	Supervisor	School	Co-supervisor	School	2nd Co-supervisor	School 2	Collaborating Institution
175	Systems Biology and Medicine	Decode the metabolic rewiring during kidney organoid differentiation	Xia Yun	LKCMed	Fang Mingliang	CEE	Walter Arthur Wahli	LKCMed	National University Hospital
176	Systems Biology and Medicine	Phenotyping of Vascular Progenitor Cells to Predict Risk of Stroke	Christine Cheung	LKCMed	Hou Han Wei	MAE			Lee Kong Chian School of Medicine
177	Systems Biology and Medicine	In vivo and in vitro analysis of microvasulature for early diagnosis and treatment of age-related vascular conditions	Christine Cheung	LKCMed	Ng Kee Woei	MSE	Maurice van Steensel	LKCMed	National Skin Centre
178	Systems Biology and Medicine	Systems Biology of Lipid Metabolism of the ESKAPE Group of Pathogens	Guan Xue Li	LKCMed	Zheng Jie	SCSE			Tan Tock Seng Hospital
179	Systems Biology and Medicine	Synaptic interferometry for computation	George J. Augustine	LKCMed	Timothy Liew	SPMS			Lee Kong Chian School of Medicine
180	Systems Biology and Medicine	Analysis of alternative splicing events and factors in human myeloid immune cells and their effects in cell motility and phagocytosis using Artificial Intelligence	Francesc Xavier Roca Castella	SBS	Kong Wai-Kin Adams	SCSE	Li Hoi Yeung	SBS	Tan Tock Seng Hospital
181	Systems Biology and Medicine	Machine learning to interrogate chromatin interactions in cancer	Melissa Fullwood	SBS	Xia Kelin	SPMS			National University Heart Centre Singapore
182	Systems Biology and Medicine	Role of a cerebellar purkinje cell - Molecular layer interneuron inhibitory feedback circuit in motor learning and dementia	George J. Augustine	LKCMed	Albert I. Chen	SBS			Lee Kong Chian School of Medicine
183	Systems Biology and Medicine	Genome engineering of adult stem cells and organoids using CRISPR technology for disease modeling	Tan Meng How	SCBE	Ng Huck Hui	SBS	Teoh Swee Hin	SCBE	National University Hospital
184	Systems Biology and Medicine	Functions of local inhibitory circuits in the claustrum in attention selection	George J. Augustine	LKCMed	Ayumu Tashiro	SBS			Lee Kong Chian School of Medicine
185	Systems Biology and Medicine	The role and impact of neutrophil extracellular traps (NETs) in biofilm-associated wound infections in diabetes	Christine Siu Ling Wong	LKCMed	Kimberly Kline	SBS			School of Mechanical and Aerospace Engineering
186	Therapeutic Medical Devices	Histotripsy for tumor therapy	Claus-Dieter Ohl	SPMS	Manojit Pramanik	SCBE			Johns Hopkins Singapore International Medical Centre, Tan Tock Seng Hospital
187	Therapeutic Medical Devices	Therapeutic Bone Tissue Engineered-Scaffolds Using Trace Elements	Teoh Swee Hin	SCBE	Ng Kee Woei	MSE			Tan Tock Seng Hospital
188	Therapeutic Medical Devices	Neurorehabilitation of hand functional deficits with haptic intervention	Zhang Yilei	MAE	Guan Cuntai	SCSE			Tan Tock Seng Hospital
189	Therapeutic Medical Devices	Modeling and innovating biodegradable cancellous screws for patients with hip fracture	Zhou Kun	MAE	Subbu Venkatraman	MSE			Tan Tock Seng Hospital
190	Therapeutic Medical Devices	Motor Adaptation and Learning in Virtual and Real Environment	Domenico Campolo	MAE	Xiang Liming	SPMS	Etienne Burdet	Imperial College London	Tan Tock Seng Hospital
191	Therapeutic Medical Devices	Investigation and real-time monitoring of bubble cavitation in HIFU ablation	Zhou Yufeng	MAE	Claus-Dieter Ohl	SPMS			Singapore General Hospital

HealthTech NTU PhD Programme in Healthy Society - Project Listing for 2020

S/No	Programme	Project Title	Supervisor	School	Co-supervisor	School	2nd Co-supervisor	School 2	Collaborating Institution
192	Therapeutic Medical Devices	Application of Graphene-based materials as Skirting for Corneal Inlay and Artificial Cornea	Khor Khiam Aik	MAE	Chen Peng	SCBE	Li Hua	MAE	Singapore Eye Research Institute
193	Therapeutic Medical Devices	Design optimization of the mechanical strength and stability of biodegradable stent Based on computational modeling simulation with experimental validation	Li Hua	MAE	Cui Fangsen	A*STAR	Liu Quan	SCBE	National University Health System
194	Therapeutic Medical Devices	Convergence of video and games system for automated rehabilitative exercise	Theng Yin Leng	WKWSCI	Ang Wei Tech	MAE			Tan Tock Seng Hospital
195	Therapeutic Medical Devices	Biodegradable PLA staple with self-tightening function for minimally invasive surgery	Huang Weimin	MAE	Hu Xiao	MSE			National University Hospital
196	Therapeutic Medical Devices	Noninvasive ablation of breast cancer by cylindrical phased array HIFU under sonography guidance	Zhou Yufeng	MAE	Zheng Yuanjin	EEE			KK Women's and Children's Hospital
197	Therapeutic Medical Devices	3D microlens array system	Huang Weimin	MAE	Zheng Jianmin	SCSE			National University Hospital
198	Therapeutic Medical Devices	Nano-bandages to treat infections of the skin	Chen Xiaodong	MSE	Zhang Li-Feng	SBS			National Skin Centre
199	Therapeutic Medical Devices	Drug delivery from nanoparticle coated microbubbles: time reversal acoustics and perfect absorbers	Claus-Dieter Ohl	SPMS	Xu Chenjie	SCBE			Tan Tock Seng Hospital
200	Therapeutic Medical Devices	Robotic Proprioceptive Assessment and Training	Domenico Campolo	MAE	Xiang Liming	SPMS			Tan Tock Seng Hospital
201	Therapeutic Medical Devices	Postural and Gait Control of Functional Walking with Stabilizer	Low Kin Huat	MAE	Cheah Chien Chern	EEE			Tan Tock Seng Hospital
202	Therapeutic Medical Devices	Wearable optical coherence tomography device for blood glucose detection	Liu Linbo	EEE	Teoh Swee Hin	SCBE	Xu Chenjie	SCBE	National Dental Centre
203	Therapeutic Medical Devices	Catheter medical devices for the treatment of soft tissue ailments	Wei Lei	EEE	Terry Steele	MSE			Lee Kong Chian School of Medicine
204	Therapeutic Medical Devices	Stereo Display Table for Virtual Surgery	Lin Feng	SCSE	Sun Xiaowei	EEE	Marius Erdt	Fraunhofer IDM	Ho Kok Sun Colorectal Pte Ltd
205	Therapeutic Medical Devices	Robotic catheter for in vivo fabrication of endovascular stent grafts	Phee Soo Jay Louis	MAE	Terry Steele	MSE			Lee Kong Chian School of Medicine
206	Therapeutic Medical Devices	An automated computerized Traditional Chinese pulse diagnosis system	Shu Jian Jun	MAE	Alex Yan Qingyu	MSE			Singapore General Hospital
207	Therapeutic Medical Devices	Experimental study into the hemodynamics of pressure segmentation in deep venous reflux disease	Yeo Joon Hock	MAE	Ang Keng Cheng	NIE			Tan Tock Seng Hospital
208	Therapeutic Medical Devices	Enhanced chemotherapy to breast cancer by focused ultrasound (FUS)	Zhou Yufeng	MAE	Wang Dongan	SCBE			KK Women's and Children's Hospital
209	Therapeutic Medical Devices	Investigation and real-time monitoring of therapeutic outcome cavitation in HIFU ablation	Zhou Yufeng	MAE	Claus-Dieter Ohl	SPMS			Singapore General Hospital
210	Therapeutic Medical Devices	Enhancing axon regeneration by nanofiber-medicated microRNA delivery for spinal cord injury treatment	Chew Sing Yian	SCBE	Dean Nizetic	LKCMed			Tan Tock Seng Hospital
211	Therapeutic Medical Devices	Retrievable cell encapsulation device for the immuno-isolation of insulin-secreting beta cells in diabetes therapy	Dang Thuy Tram	SCBE	Adrian Teo	SBS			Lee Kong Chian School of Medicine

HealthTech NTU PhD Programme in Healthy Society - Project Listing for 2020

S/No	Programme	Project Title	Supervisor	School	Co-supervisor	School	2nd Co-supervisor	School 2	Collaborating Institution
212	Therapeutic Medical Devices	The Delivery of Nitric Oxide Through Bioinspired Nanoparticles and Liposomes as Next Generation Drug Eluting Stents (DES) and Vascular Interventions	Subbu Venkatraman	MSE	Dinesh Kumar Srinivasan	LKCMed	Huang Yingying	MSE	Northwestern University
213	Therapeutic Medical Devices	Wearable Microneedle Devices for Long-term Home-based Healthcare	Chen Peng	SCBE	Chen Xiaodong	MSE			Tan Tock Seng Hospital
214	Therapeutic Medical Devices	Upcycling of food processing waste into biomaterial based medical devices	Li Hoi Yeung	SBS	Xing Bengang	SPMS			Tan Tock Seng Hospital
215	Therapeutic Medical Devices	Microfluidics for Continuous-Flow Extracellular Vesicles Isolation and Engineering for Drug Delivery	Hou Han Wei	MAE	Phan Anh Tuan	SPMS			Lee Kong Chian School of Medicine
216	Therapeutic Medical Devices	Development of Microneedle-patch based Anti-Obesity Technologies	Chen Peng	SCBE	Wang Xiaomeng	LKCMed			Lee Kong Chian School of Medicine
217	Tissue Engineering	Development of biohybrid scaffolds for biomedical applications	Cleo Choong Swee Neo	MSE	Teoh Swee Hin	SCBE			Tan Tock Seng Hospital
218	Tissue Engineering	Modifying physical properties of the tumour microenvironment can inhibit the propagation, migration and metastasis of breast cancer cells	Cleo Choong Swee Neo	MSE	Tan Nguan Soon Andrew	SBS			National University Health System
219	Tissue Engineering	Graphene reinforced nano-hydroxyapatite composite for bone substitution and repair	Sam Zhang	MAE	Tan Lay Poh	MSE			National University Health System/National University of Singapore
220	Tissue Engineering	Chemical Strategies to Promote 3D Liver Architecture	Nam-Joon Cho	MSE	Tan Choon Hong	SPMS			Stanford University School of Medicine
221	Tissue Engineering	Fully Biocompatible nanocomposites for bone engineering	Dong Zhili	MSE	Khor Khiam Aik	MAE			Singapore Eye Research Institute
222	Tissue Engineering	Model development with experimental validation for characterizing electromechanical constitutive relation of cardiac hydrogel for cardiac tissue regeneration	Li Hua	MAE	Fong Wen Mei Eileen	MSE			National Heart Centre Singapore
223	Tissue Engineering	Development of pro-healing scaffolds: Role of scaffolds in wound healing and tissue regeneration	Cleo Choong Swee Neo	MSE	Tan Nguan Soon Andrew	SBS			Tan Tock Seng Hospital
224	Tissue Engineering	Evaluation of 3D cell culture systems as bioreactors in virus production for use in virus vaccine development and virus isolation from clinical specimens	Richard J Sugrue	SBS	Wang Dongan	SCBE	Tan Boon Huan	DSO	Singapore General Hospital
225	Tissue Engineering	Role of human mesenchymal stem cells and smart scaffolds for bone tissue engineering	Raju V. Ramanujan	MSE	Dinesh Kumar Srinivasan	LKCMed			Tan Tock Seng Hospital
226	Tissue Engineering	Methods for Production and Quality Control of Mesenchymal Stem Cells for Cell-Based Therapies	Nam-Joon Cho	MSE	Miao Yansong	SBS			Stanford University
227	Tissue Engineering	Pie Crusting of Tendons and Ligaments in Total Knee Arthroplasty; An Anatomic and Biomechanical Analysis Using Porcine Tendons and Ligaments	Chou Siaw Meng	MAE	Ng Kee Woei	MSE			Singapore General Hospital
228	Tissue Engineering	Personalized connective tissues (tendon/ligaments) engineering via additive manufacturing of collagen	Li Hoi Yeung	SBS	Yeong Wai Yee	MAE			Tan Tock Seng Hospital
229	Tissue Engineering	Functional <i>in vitro</i> micro-physiological model of the gastrointestinal tract for nutrkinetic applications	Poelar Daniel Puiiu	EEE	Qasem Alramadan	IME, A*STAR	Surajit Bhattacharyya	SBS	Singapore General Hospital

HealthTech NTU PhD Programme in Healthy Society - Project Listing for 2020

S/No	Programme	Project Title	Supervisor	School	Co-supervisor	School	2nd Co-supervisor	School 2	Collaborating Institution
230	Skin Research	Nanofiber and miRNA-induced cellular transdifferentiation for fibrosis treatment	Chew Sing Yian	SCBE	Fong Wen Mei Eileen	MSE			Duke University Medical Center
231	Skin Research	Drug Delivery of Antisense through the Skin	David Laurence Becker	LKCMed	Xu Chenjie	SCBE			
232	Skin Research	Wnts and Connexins in Wound Healing	David Laurence Becker	LKCMed	Esther Wong Siew Peng	SBS			
233	Skin Research	Sub-cellular imaging of skin disease using micro-optical coherence tomography	Liu Linbo	EEE	Xu Chenjie	SCBE			National Skin Centre
234	Skin Research	Microneedles for Keloid Treatment	Michael Alan Ferenczi	LKCMed	Xu Chenjie	SCBE			National Skin Centre
235	Skin Research	Development of Multifunctional Nanoparticle-Based Carriers for Targeted Photodynamic Skin Cancer Therapy	Zhao Yanli	SPMS	Subbu Venkatraman	MSE	Ng Kee Woei	MSE	National Skin Centre
236	Skin Research	To determine whether Ezh2-regulated DC functions are critical for skin immunity	I-Hsin Su	SBS	Woo Wei Meng	LKCMed			Nagoya City University
237	Skin Research	Mediating macrophage behavior by substrate topography and sustained microRNA delivery	Chew Sing Yian	SCBE	Ng Kee Woei	MSE			Duke University Medical Center
238	Skin Research	Role of N-WASP in Squamous Cell Carcinoma (SCC)	Thirumaran Thanabalu	SBS	Chen Wei Ning	SCBE	Tan Nguan Soon Andrew	SBS	National Skin Centre
239	Skin Research	Novel aspects of keratins and associated proteins and peptides in hair	Artur Schmidtchen	LKCMed	Ng Kee Woei	MSE			
240	Skin Research	Characterization of the glycogen synthase kinase 3 β pathway in T-cell migration and effector functions	Navin Kumar Verma	LKCMed	Newman Sze Siu Kwan	SBS	Dermot Kelleher	LKCMed	Lee Kong Chian School of Medicine
241	Skin Research	The role of dermal Hedgehog signaling in hair follicle regeneration and wound healing	Woo Wei Meng	LKCMed	Ng Kee Woei	MSE	David Laurence Becker	LKCMed	Singapore General Hospital
242	Skin Research	Development of printable biomaterials for skin research	Yeong Wai Yee	MAE	Ng Kee Woei	MSE			National Skin Centre
243	Skin Research	Advanced Biomaterials for Skin Regeneration and Sensing	Ng Kee Woei	MSE	Artur Schmidtchen	LKCMed	Wolfgang Knoll	MSE	Lee Kong Chian School of Medicine
244	Skin Research	Skin disease diagnosis by quantum sensing system	Miao Yansong	SBS	Gao Weibo	SPMS			Lee Kong Chian School of Medicine
245	Skin Research	Adaptor protein regulation of LFA-1 signalling for T-cell migration and effector functions	Navin Kumar Verma	LKCMed	Tan Suet Mien	SBS			University of British Columbia
246	Skin Research	Investigating the role of a new Hh pathway regulator, GIPC, in basal cell carcinoma formation	Woo Wei Meng	LKCMed	Thirumaran s/o Thanabalu	SBS			National Skin Centre Singapore
247	Skin Research	Computer-Aided Measurement of Psoriasis Area and Severity Index Score- A Move Towards Standardization	Kong Wai-Kin Adams	SCSE	Xu Hong	HSS			National Skin Centre
248	Skin Research	Development of bioactive scaffold for wound healing applications	Cleo Choong	MSE	Tan Nguan Soon Andrew	SBS			Tan Tock Seng Hospital
249	Skin Research	Development of next generation smart dressing materials for wound healing	Cleo Choong	MSE	Grzegorz Lisak	CEE			Tan Tock Seng Hospital
250	Skin Research	Development of RNA Therapeutics for Chronic Wound Healing	David Becker	LKCMed	Phan Anh Tuan	SPMS			Auckland University
251	Skin Research	Is connexin over-expression implicated in the impaired skin wound healing in human tissues treated with therapeutic radiation and can we rescue the healing?	David Becker	LKCMed	Chew Sing Yian	SCBE	Li Hao	TTSH	Auckland University
252	Skin Research	Metabolite regulation of epithelial wound closure	David Becker	LKCMed	Leah A. Vardy	SBS			National University Health Systems

HealthTech NTU PhD Programme in Healthy Society - Project Listing for 2020

S/No	Programme	Project Title	Supervisor	School	Co-supervisor	School	2nd Co-supervisor	School 2	Collaborating Institution
253	Skin Research	Devising multimodal optical biosensing strategies for studying biomarkers in wound healing	Russell Gruen	LKCMed	Malini Olivo	SCBE	Zee Upton	LKCMed	Lee Kong Chian School of Medicine
254	Skin Research	Photoacoustic imaging for diagnostic applications in wound healing	Russell Gruen	LKCMed	Malini Olivo	SCBE	Zee Upton	LKCMed	Lee Kong Chian School of Medicine
255	Skin Research	Role of N-WASP in atopic dermatitis pathology in Singapore patients	Thirumaran Thanabalu	SBS	Chen Wei Ning William	SCBE			National Skin Centre
256	Skin Research	Pressure-Sensitive Emission-Tunable Upconversion Nanoparticles for Quantification of Intercellular Forces In Diabetic Wounds	Timothy T. Y. Tan	SCBE	Tan Nguan Soon Andrew	SBS			National Skin Centre
257	Skin Research	Bioprinting 3D Living Human Skin Substitutes	Ng Kee Woei	MSE	David Leavesley	LKCMed	Zee Upton	LKCMed	Lee Kong Chian School of Medicine
258	Skin Research	Putting the spotlight on acne and oily skin: photobiology of the sebaceous gland	Wang Qijie	EEE	Maurice van Steensel	LKCMed	Lim Xinhong	LKCMed	Lee Kong Chian School of Medicine
259	Skin Research	Advanced Dressing for Chronic Wound Management	Teoh Swee Hin	SCBE	Peili Teo	ICES, A*STAR	Zee Upton	LKCMed	Lee Kong Chian School of Medicine
260	Skin Research	Are Non-healing Wounds Trapped by NETs?	Russell Gruen	LKCMed	Teoh Swee Hin	SCBE	David Leavesley	LKCMed	Lee Kong Chian School of Medicine
261	Skin Research	Finessing tissue repair and regeneration: rethinking IGF-1 signalling in tissue repair and regeneration	Russell Gruen	LKCMed	Teoh Swee Hin	SCBE	Zee Upton	LKCMed	Lee Kong Chian School of Medicine
262	Skin Research	Senescence-associated inflammation in melanoma cancer progression	Karen Crasta	LKCMed	Newman Sze Siu Kwan	SBS			Lee Kong Chian School of Medicine
263	Skin Research	Role of polyploidy-induced senescent exosomes in skin ageing	Karen Crasta	LKCMed	Newman Sze Siu Kwan	SBS			Lee Kong Chian School of Medicine
264	Skin Research	Role of N-WASP in hair cycle	Thirumaran Thanabalu	SBS	Carlos Clavel	IMB	Woo Wei Meng	LKCMed	National Skin Centre
265	Skin Research	Development of Polymeric Theranostic Patches for Diabetic Wounds	Chen Peng	SCBE	Wang Xiaomeng	LKCMed			Lee Kong Chian School of Medicine
266	Skin Research	Virulence and vulnerability of the human skin opportunistic yeast <i>Malassezia</i> : 3D chromatin organization of benign and pathogenic isolates	Amartya Sanyal	SBS	Thomas Dawson	IMB	Anupam Chattopadhyay	SCSE	Lee Kong Chian School of Medicine
267	Skin Research	Modulation of wound healing response to implanted biomaterials by biologically responsive drug delivery systems	Dang Thuy Tram	SCBE	Ng Kee Woei	MSE			National Skin Centre
268	Skin Research	Home-based diagnostic dressing for automatic detection of infected chronic wounds	Dang Thuy Tram	SCBE	David Laurence Becker	LKCMed			National Skin Centre
269	Skin Research	Novel Gene Silencers and Topical Formulations for Skin Hyperpigmentary Disorders	Navin Kumar Verma	LKCMed	Timothy Tan	SCBE			National Skin Centre
270	Skin Research	Delivery of antisense DNA to chronic wound	Sierin Lim	SCBE	David Laurence Becker	LKCMed			University of Auckland
271	Skin Research	Mechanisms of intracellular persistence by <i>Enterococcus faecalis</i> during chronic wound infection	Kimberly Kline	SBS	David Laurence Becker	LKCMed			Tan Tock Seng Hospital
272	Skin Research	Sustained drug delivery from scaffolds to reduce the extent of burn progression	David Laurence Becker	LKCMed	Chew Sing Yian	SCBE	David Leavesley	LKCMed	Auckland University
273	Skin Research	Molecular characterization of Cancer resistance in Atopic Dermatitis mice	Thirumaran Thanabalu	SBS	Navin Kumar Verma	LKCMed			National Skin Centre

HealthTech NTU PhD Programme in Healthy Society - Project Listing for 2020

S/No	Programme	Project Title	Supervisor	School	Co-supervisor	School	2nd Co-supervisor	School 2	Collaborating Institution
274	Skin Research	Identification of the molecular mechanism of long hair phenotype in triple transgenic mice	Thirumaran Thanabalu	SBS	Woo Wei Meng	LKCMed			National Skin Centre
275	Skin Research	Discovery for Novel Therapeutically Treatment of Skin Fungal Infection	Miao Yansong	SBS	Tan Nguan Soon Andrew	LKCMed			National Skin Centre
276	Skin Research	Deep Learning CNN in Early-Stage Skin Cancer Detection	Lin Feng	SCSE	Lin Zhiping	EEE			National Skin Centre
277	Skin Research	Handy Low-Level Laser for Skin Care	Lin Feng	SCSE	Lin Zhiping	EEE			National Skin Centre
278	Skin Research	Translating Silicon Photonic-Based Mid-Infrared Spectroscopy into a Portable Diagnostic Device for Skin Diseases	Nam Donguk	EEE	Nam-Joon Cho	MSE			National Skin Centre
279	Skin Research	Microneedles-based Locally Effective Drug Delivery System For Fibrotic Skin Disorders	Chen Peng	SCBE	Wang Xiaomeng	LKCMed			Tan Tock Seng Hospital
280	Skin Research	Core-shell Structured Scaffolds for Rapid Re-epithelization of Wounds	Tan Lay Poh	MSE	Hou Han Wei	MAE			Lee Kong Chian School of Medicine
281	Skin Research	Delivery Systems to Target Skin Wound Pathogens	Loo Say Chye Joachim	MSE	Kimberly Kline	SBS			Lee Kong Chian School of Medicine
282	Skin Research	Disrupting skin phototherapy: Wearable upconverting photonics for home-based phototherapy	Timothy Tan	SCBE	Lydia Wong	MSE			National Skin Centre
283	Sustainable Nanotechnology	Respiratory and Cardiovascular Health Risk of Engineered Nanomaterials Released from Printing Equipment: A case study of potential environmental health and safety implications across the life cycle of nano-enabled products	Ng Kee Woei	MSE	Philip Demokritou	HSPH			Lee Kong Chian School of Medicine
284	Sustainable Nanotechnology	Novel methods for assessing nano-microbiome interactions of ingested engineered nanomaterials: Towards safer-by-design, biocompatible nano-materials in food applications from the gut microbial perspective	Fang Mingliang	CEE	Philip Demokritou	HSPH			
285	Sustainable Nanotechnology	Elucidating the adaptive response of human respiratory cells to printer-emitted nanoparticles	Dalton Tay Chor Yong	MSE	Philip Demokritou	HSPH			
286	Sustainable Nanotechnology	Development of sustainable, biodegradable packaging materials for enhancing safety and quality of food	Mary Chan Bee Eng	SCBE	Philip Demokritou	HSPH			
287	Sustainable Nanotechnology	Nano-encapsulation of agrichemicals for sustainable agriculture	Hu Xiao	MSE	Philip Demokritou	HSPH			

Updated on 06-Aug-2019