The Singapore National Research Foundation (NRF) Fellowship Scheme is a competitive programme that seeks to attract, recruit and root outstanding young scientists from around the world to conduct independent research in Singapore.

The Singapore NRF Fellowship Scheme aims to build up a pool of bright, passionate researchers in various fields of science and technology to help us advance our scientific and technological edge.

**CLASS OF 2022**

**Dr FERNANDO Palamandadige Basura Chinath**  
*Agency for Science, Technology and Research (A*STAR)*  
*Institute of High Performance Computing (IHPC)*

Research Title: Learning why do we do what we do through abductive and deductive understanding of human actions using Neurosymbolic AI  
Homepage: [https://basurafernando.github.io/](https://basurafernando.github.io/)

**Dr Julius FREDENS**  
*National University of Singapore*  
*Yong Loo Lin School of Medicine*

Research Title: Advancing DNA-Delivery for Gene Therapy  
Homepage: [https://medicine.nus.edu.sg/bch/faculty/julius-fredens/](https://medicine.nus.edu.sg/bch/faculty/julius-fredens/)

**Dr Kyle MORGAN**  
*Nanyang Technological University*  
*Asian School of the Environment (ASE)*

Research Title: Back to the future: Integrating multiscale coral reef functions in Southeast Asia  
Homepage: [](#)

**Dr LUM Yanwei**  
*National University of Singapore, Department of Chemical and Biomolecular Engineering / A*STAR, Institute of Materials Research and Engineering (IMRE)*

Research Title: Developing innovative toolkits for elucidating the fundamentals of electrochemical CO2-to-chemicals conversion  
Homepage: [https://lumyanwei.wixsite.com/lumresearch/](https://lumyanwei.wixsite.com/lumresearch/)
<table>
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<tr>
<th>Name</th>
<th>Institution</th>
<th>Department/Program</th>
<th>Research Title</th>
<th>Homepage</th>
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<tr>
<td>Dr Prashant Nalini VASUDEVAN</td>
<td>National University of Singapore</td>
<td>Department of Computer Science</td>
<td>Fine-Grained Cryptography</td>
<td><a href="https://www.comp.nus.edu.sg/~prashant/">https://www.comp.nus.edu.sg/~prashant/</a></td>
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<tr>
<td>Dr Sandip BASAK</td>
<td>Nanyang Technological University</td>
<td>School of Biological Sciences</td>
<td>Understanding the molecular mechanism of olfactory receptors in insects</td>
<td><a href="https://www.ntu.edu.sg/sbs/research/research-directory/sandip-basak">https://www.ntu.edu.sg/sbs/research/research-directory/sandip-basak</a></td>
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<tr>
<td>Dr Steven TOUZARD</td>
<td>National University of Singapore</td>
<td>Department of Materials Science and Engineering,</td>
<td>Building quantum networks of superconducting circuits mediated by telecom</td>
<td><a href="https://twitter.com/steventouzard?lang=en">https://twitter.com/steventouzard?lang=en</a></td>
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<td>Department of Physics and The Centre for Quantum</td>
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<td>Dr SUN Xuyang Alfred</td>
<td>Duke-NUS Medical School</td>
<td>Neuroscience and Behavioural Disorders Programme</td>
<td>Constructing physiological human neural models to deconstruct PD</td>
<td><a href="https://www.duke-nus.edu.sg/nbd/the-team/faculty-members/details/Detail/alfred-sun-xu-yang">https://www.duke-nus.edu.sg/nbd/the-team/faculty-members/details/Detail/alfred-sun-xu-yang</a></td>
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<td>Dr Tong LING</td>
<td>Nanyang Technological University</td>
<td>School of Chemical and Biomedical Engineering</td>
<td>All-optical electrophysiology: function-associated cellular deformations as</td>
<td><a href="https://www.tonglinglab.com">https://www.tonglinglab.com</a></td>
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<td>intrinsic biomarkers for all-optical functional imaging at the cellular scale</td>
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<td>Department of Materials Science and Engineering</td>
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<td>Unconventional Spin Transport in Layered Quantum Materials for Low-power</td>
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<td>Electronics</td>
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CLASS OF 2021

Dr Andrew HOLLE
National University of Singapore
Department of Biomedical Engineering / Mechanobiology Institute

Research Title: Confinement Mechanochemistry: A New Paradigm for Spatiotemporally Controlling Stem Cell Differentiation
Homepage: https://www.mbi.nus.edu.sg/andrew-holle/

Dr LIANG Kaicheng
Agency for Science, Technology and Research (A*STAR)
Institute of Bioengineering and Bioimaging (IBB)

Research Title: Comprehensive intra-operative assessment of tissue pathology in vivo and ex vivo with high-speed endoscopic microscopy and machine learning
Homepage: https://liangresearch.com/

Dr WEE Lei Caroline
Agency for Science, Technology and Research (A*STAR)
Institute of Molecular and Cell Biology (IMCB)

Research Title: You Are What You Eat: Gene-Diet Interactions Regulating Appetite and Food Choice
Homepage: www.carolineweelab.com

Dr Luo Xinwei Sarah
Agency for Science, Technology and Research (A*STAR)
Institute of Molecular and Cell Biology (IMCB)

Research Title: Defining a bidirectional liver-brain axis in metabolic regulation
Homepage: http://www.sarahluo.com/

Dr Li Qianxiao
National University of Singapore
Department of Mathematics

Research Title: A Dynamical Systems Approach to Deep Learning and its Applications in Science
Homepage: https://blog.nus.edu.sg/qianxiaoli/

Dr Li Boyang
Nanyang Technological University
School of Computer Science and Engineering

Research Title: Constructing Event-level Narrative Intelligence from the Ground Up
Homepage: www.boyangli.org
Dr WANG lei
National University of Singapore
Department of Chemical and Biomolecular Engineering

Research Title: Controlling Electrocatalytic Carbon Dioxide Reduction: Towards Sustainable Fuels and Chemicals Production
Homepage: https://blog.nus.edu.sg/wanglab/

Dr SHOU Zheng
National University of Singapore
Department of Electrical and Computer Engineering

Research Title: Towards Next-generation Video Intelligence: Training Machines to Understand Actions and Complex Events
Homepage: https://sites.google.com/view/showlab

Dr Sergey KOZLOV
National University of Singapore
Department of Chemical and Biomolecular Engineering

Research Title: Rational Design of Catalysts Enhanced by Nanoscale Metal-Oxide Interactions
Homepage: https://blog.nus.edu.sg/compnanocat/

Dr CHANG Guoqing
Nanyang Technological University
School of Physical and Mathematical Sciences

Research Title: Theoretical and Numerical Study of Topological Materials for Applications in Next-Generation Quantum Technologies
Homepage: https://sites.google.com/view/guoqingchang/home

Dr Kedar HIPPALGAONKAR
Nanyang Technological University
School of Materials Science and Engineering

Research Title: Thermoelectric Materials by Design: Understanding and Extrapolating from Non-Equilibrium Charge and Heat Transport
Homepage: https://www.ntu.edu.sg/mse/about-us/our-people/faculty-staff/kedar

Dr Philipp HARMS
Nanyang Technological University
School of Physical and Mathematical Sciences

Research Title: Geometry, probability, and deep learning
Homepage:
CLASS OF 2020

Dr Pieremanuele CANEPA
National University of Singapore
Department of Materials Science and Engineering

Research Title: Designing Functional Interfaces of Batteries Using Theory and Computation
Homepage: https://caneparesearch.org/

Dr Hortense LE FERRAND
Nanyang Technological University
School of Mechanical and Aerospace Engineering

Research Title: Additive manufacturing of resilient, strong and functional composites through bio-inspired microstructures.
Homepage: https://hortenseleferrand.wixsite.com/hortenseleferrand

Dr Christopher LEE
Nanyang Technological University
School of Electrical and Electronic Engineering

Research Title: Development of Novel Electric Machine Systems with Gearless Structure for Emerging Applications
Homepage: https://dr.ntu.edu.sg/cris/rp/rp00563

Dr Yvonne GAO
National University of Singapore
Department of Physics

Research Title: Enabling Scalable Quantum Computation via a Programmable Quantum Router
Homepage: https://www.physics.nus.edu.sg/faculty/yvonne-y-gao/

Dr YANG Bo
Nanyang Technological University
School of Physical and Mathematical Science

Research Title: Interplay between Geometry and Topology: Effective Theories and Novel Manipulations in Low-dimensional Strongly Correlated Topological Materials
Homepage: https://research.ntu.edu.sg/expertise/academicprofile/Pages/StaffProfile.aspx?ST_EMAILID=YANG.BO&CategoryDescription=Physics
Dr QIAO Yuan
_Nanyang Technological University_
_School of Physical and Mathematical Science_

Research Title: A Chemical Biology Approach to Investigate the Structures and Functions of Blood Peptidoglycan-ome in Human

Homepage: [https://www.yqiaolab.com/home](https://www.yqiaolab.com/home)

Dr Gloryn CHIA
_National University of Singapore_
_Department of Pharmacy_

Research Title: Engineering Personalized Cancer Vaccines Using Pluripotent Stem Cells-Derived Red Blood Cells As Artificial Antigen Presenting Cells

Homepage: [http://pharmacy.nus.edu.sg/profile_glorynchia/](http://pharmacy.nus.edu.sg/profile_glorynchia/)

Dr Jun NISHIYAMA
_Duke-NUS Medical School_
_Neuroscience and Behavioural Disorders Programme_

Research Title: Decoding Protein–Protein Interactions in Single Dendritic Spines

Homepage: [https://www.duke-nus.edu.sg/directory/detail/nishiyama-jun](https://www.duke-nus.edu.sg/directory/detail/nishiyama-jun)

Dr Perrine HAMEL
_Nanyang Technological University_
_Asian School of the Environment_

Research Title: Designing resilient and inclusive cities in Asia-Pacific

Homepage: [https://www.perrinehamel.com/](https://www.perrinehamel.com/)
<table>
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<tr>
<th>Name</th>
<th>Institution</th>
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<tr>
<td>Dr Yao Yingjie Angela</td>
<td>National University of Singapore</td>
<td>Department of Computer Science</td>
<td>Efficient Modelling and Learning for Video Understanding</td>
<td><a href="https://www.comp.nus.edu.sg/cs/bio/ayao/">https://www.comp.nus.edu.sg/cs/bio/ayao/</a></td>
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<tr>
<td>Dr Arnab Bhattacharyya</td>
<td>National University of Singapore</td>
<td>Department of Computer Science</td>
<td>Efficient Algorithms with Provable Guarantees for Causal Inference</td>
<td><a href="https://www.comp.nus.edu.sg/cs/bio/arnab/">https://www.comp.nus.edu.sg/cs/bio/arnab/</a></td>
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<tr>
<td>Dr Kuldeep S. Meel</td>
<td>National University of Singapore</td>
<td>Department of Computer Science</td>
<td>Provably Verified and Explainable Probabilistic Reasoning</td>
<td><a href="https://www.comp.nus.edu.sg/cs/bio/meel/">https://www.comp.nus.edu.sg/cs/bio/meel/</a></td>
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CLASS OF 2019

Dr Aron MELTZNER
Nanyang Technological University
Asian School of the Environment

Research Title: Sea-level and land-level change in Southeast Asia: A geological approach to quantifying hazard from rising seas and earthquakes
Homepage: https://earthobservatory.sg/people/aron-meltzner

Dr CHEN Qing Lian, Patricia
National University of Singapore
Department of Psychology

Research Title: Scalable Interventions to Cultivate Strategically Self-Regulated Learners
Homepage: https://www.patriciachen.com/

Dr Franklin ZHONG Lei
Nanyang Technological University
Lee Kong Chian School of Medicine

Research Title: Targeting innate immune sensors to develop novel immune-modulatory therapeutics
Homepage: http://www.lkcmedicine.ntu.edu.sg/aboutus/Faculty-and-Staff/Pages/Franklin-Zhong.aspx

Dr Jonathan SCARLETT
National University of Singapore
Department of Computer Science

Research Title: Robust Statistical Learning Under Model Uncertainty
Homepage: https://www.comp.nus.edu.sg/~scarlett/

Dr LIM Ci Wen Charles
National University of Singapore
Department of Electrical & Computer Engineering

Research Title: Framework for Practical Quantum Communication with Untrustworthy Devices
Homepage: https://www.ccwlim.com/
Dr Qian HE  
National University of Singapore  
Department of Materials Science & Engineering  
Research Title: Electron Microscopy for Catalyst Discovery and Innovation  
Homepage: https://www.eng.nus.edu.sg/mse/staff/he-qian/

Dr SHAM Lok To, Chris  
National University of Singapore  
Department of Microbiology & Immunology  
Research Title: Exploiting capsule synthesis pathway in Streptococcus pneumoniae to identify new antimicrobial compounds.  
Homepage: http://medicine.nus.edu.sg/mbio/About-Us/Academic-Staff.html

Dr YU Jing  
Nanyang Technological University  
School of Materials Science & Engineering  
Research Title: Bio-inspired adhesives for wet environment: Molecular Designs to Applications  
Homepage: http://research.ntu.edu.sg/expertise/academicprofile/Pages/StaffProfile.aspx?ST_EMAILID=YUJING&CategoryDescription=NanotechnologyNanoScience
CLASS OF 2018

Dr Vincent TAN  
*National University of Singapore*  
*Department of Electrical and Computer Engineering*

Research Title: Fundamental Performance Limits for Statistical Learning Algorithms  
Homepage: [https://www.ece.nus.edu.sg/stfpage/vtan](https://www.ece.nus.edu.sg/stfpage/vtan)

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Dr LOH Huanqian  
*National University of Singapore*  
*Department of Physics*

Research Title: Designing Novel Quantum Materials at the Microscopic Level with Ultracold Molecules  

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Dr NG Shi Yan  
*Agency for Science, Technology and Research (A*STAR)*  
*Institute of Molecular and Cell Biology*

Research Title: Investigating Altered Metabolic Pathways in Neurodegeneration using Organoids  

---

Dr LI Yinghui  
*Nanyang Technological University*  
*School of Biological Sciences*

Research Title: Role of non-canonical NF-κB signaling in the transcriptional and epigenetic reprogramming of malignant cancers  
Homepage: [http://research.ntu.edu.sg/expertise/academicprofile/Pages/StaffProfile.aspx?ST_EMAILID=LIYH&CategoryDescription=BiomedicalSciencesLifeSciences&print=1](http://research.ntu.edu.sg/expertise/academicprofile/Pages/StaffProfile.aspx?ST_EMAILID=LIYH&CategoryDescription=BiomedicalSciencesLifeSciences&print=1)

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Dr Matteo SEITA  
*Nanyang Technological University*  
*School of Mechanical and Aerospace Engineering*

Research Title: Layerwise microstructure scanner: A new technology for online materials assessment in additive manufacturing  
Homepage: [http://www.ntu.edu.sg/home/mseita/](http://www.ntu.edu.sg/home/mseita/)

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Updated as at December 2021
Dr David LALLEMANT
Nanyang Technological University
Earth Observatory of Singapore

Research Title: Analytics for Dynamic Urban Risk and Disaster Impact Modeling
Homepage: http://david-lallemant.com/

Dr Georgios PILIOURAS
Singapore University of Technology and Design
Engineering Systems and Design

Research Title: Algorithmic Prediction and Practical Control of Large Scale Population Dynamics
Homepage: http://people.sutd.edu.sg/~georgios/
CLASS OF 2017

Dr Derrick ONG
National University of Singapore
Yong Loo Lin School of Medicine
Research Title: Mechanisms of Aberrant Brain Stem Cell Behavior: Implications in Aging and Gliomagenesis
Homepage: http://medicine.nus.edu.sg/phys/Staff_Fac_Acad_Ong.html

Dr LI Jingmei
Agency for Science, Technology and Research (A*STAR)
Genome Institute of Singapore
Research Title: Identification of women at high-risk of breast cancer in Singapore: Towards more effective primary prevention

Dr CHEN Qingfeng
Agency for Science, Technology and Research (A*STAR)
Institute of Molecular and Cell Biology
Research Title: Development of Humanized Mouse Model to Study Human Specific Immune Responses, Pathogenesis and Drug Discovery of Human Systemic Lupus Erythematosus
Homepage: https://www.a-star.edu.sg/imcb/Science/Investigators/Pls/Pls-Profile/ResearchListID/21

Dr SEH Zhi Wei
Agency for Science, Technology and Research (A*STAR)
Institute of Materials Research and Engineering
Research Title: Multivalent Energy Storage for a Sustainable Future: A Quest beyond Lithium-Ion Technologies
Homepage: http://www.zwseh.com/

Dr Lena HO
Duke-NUS Medical School
Research Title: Finding Gems in Disguise: Novel Peptides and Hormones from Long Non-Coding RNAs Significance, Utility and Therapeutic Potential
Homepage: https://www.duke-nus.edu.sg/content/lena-ho
Dr Thomas YEO
National University of Singapore
Department of Electrical and Computer Engineering
Research Title: Unsupervised Machine Learning of Mental Disorder Factors From Magnetic Resonance Imaging
Homepage: https://sites.google.com/site/yeoyo02/

Dr John HO
National University of Singapore
Department of Electrical and Computer Engineering
Research Title: Small-scale Wireless Devices for Bioelectronic Therapies
Homepage: https://www.ece.nus.edu.sg/stfpage/hsyj/index.html

Dr Benjamin Tee
National University of Singapore
Department of Materials Science & Engineering
Research Title: Nature-inspired digital devices and networks for multi-scale environment sensing
Homepage: http://www.benjamintee.com/

Dr Yair ZICK
National University of Singapore
Department of Computer Science
Research Title: Data-Driven Strategic Collaboration

Dr Xavier BRESSON
National University of Singapore
School of Computing
Research Title: Unifying Spectral Networks and Sparse Representations for Big Data Science
Homepage: https://www.comp.nus.edu.sg/cs/bio/xavier/

Dr Bent WEBER
Nanyang Technological University
School of Physical and Mathematical Sciences
Research Title: Atomic Manipulations in 2D Materials for Quantum Computation Applications
Homepage: http://weber-lab.com/
Dr Manvendra SINGH  
*Duke-NUS Medical School*  
Cardiovascular and Metabolic Disorders Program  

**Research Title**: Role of Hippo Signalling in the Epicardium: Expanding the Outer Limit of Heart Repair  
**Homepage**: [https://www.duke-nus.edu.sg/cvmd/content/manvendra-singh](https://www.duke-nus.edu.sg/cvmd/content/manvendra-singh)

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Dr GU Mile  
*Nanyang Technological University*  
School of Physical and Mathematical Sciences  

**Research Title**: Enhancing the Efficiency of Modelling and Simulating Complex Systems via Quantum Mechanics  
**Homepage**: [http://www.milegu.org](http://www.milegu.org)

---

Dr FOO Jia Nee  
*Nanyang Technological University*  
Neuroscience and Mental Health Programme, Lee Kong Chian School of Medicine  

**Research Title**: Genetic and genomic approaches to unlock the secrets of neurological diseases  
**Homepage**: [http://www.lkcmedicine.ntu.edu.sg/aboutus/Faculty-and-Staff/Pages/Foo-Jia-Nee.aspx](http://www.lkcmedicine.ntu.edu.sg/aboutus/Faculty-and-Staff/Pages/Foo-Jia-Nee.aspx)

---

Dr Caroline BOUVET DE MAISONNEUVE  
*Nanyang Technological University*  
Earth Observatory of Singapore  

**Research Title**: Assessing the Volcanic Hazard for Singapore  
**Homepage**: [http://www.earthobservatory.sg/people/caroline-bouvet-de-maisonneuve](http://www.earthobservatory.sg/people/caroline-bouvet-de-maisonneuve)

---

Dr Justin SONG  
*Nanyang Technological University*  
School of Physical and Mathematical Sciences  

**Research Title**: Topological electronics and opto-electronics (TEAO): van der Waals heterostructures as a platform for new valley, spin, energy, and charge manipulation in devices  
**Homepage**: [https://sites.google.com/site/justincsong/](https://sites.google.com/site/justincsong/)
Dr TEE Wee Wei  
*Agency for Science, Technology and Research (A*STAR)*  
*Institute of Molecular and Cell Biology*

Research Title: DNA Topological and Epigenetic Regulation in Neurodevelopment and Disease  
Homepage: [https://wwteelab.com/](https://wwteelab.com/)

---

Dr Hady Wirawan LAUW  
*Singapore Management University*  
*School of Information Systems*

Research Title: Dimensionality Reduction for Recommender Systems: Unified Latent Co-representation of Multi-Modal Preference Signals  
Dr Yvonne TAY  
*National University of Singapore*  
*Cancer Science Institute of Singapore*  
Research Title: MicroRNA and competing endogenous RNA crosstalk: Post-transcriptional regulatory networks in cancer pathogenesis and therapeutics  
Homepage: [http://bch.nus.edu.sg/bchtmsy.htm](http://bch.nus.edu.sg/bchtmsy.htm)

Dr KIM Young-Jin  
*Nanyang Technological University*  
*School of Mechanical & Aerospace Engineering*  
Research Title: Ultra-precision Dimensional Metrology using Femtosecond Laser Frequency Combs

Dr GAO Weibo  
*Nanyang Technological University*  
*School of Physical & Mathematical Sciences*  
Research Title: Quantum manipulation of hybrid solid state system  
Homepage: [http://www1.spms.ntu.edu.sg/~weibogroup/](http://www1.spms.ntu.edu.sg/~weibogroup/)

Dr TAM Wai Leong  
*Agency for Science, Technology and Research (A*STAR)*  
*Genome Institute of Singapore*  
Research Title: Integrated strategies to target the vulnerabilities of cancer stem cells  

Dr Daniel MESSERSCHMIDT  
*Agency for Science, Technology and Research (A*STAR)*  
*Institute of Molecular and Cell Biology*  
Research Title: Mechanisms of epigenetic reprogramming and its implications in complex human diseases  
Homepage: [https://www.a-star.edu.sg/imcb/Science/Investigators/Pls/Pls-Profile/ResearchListID/69](https://www.a-star.edu.sg/imcb/Science/Investigators/Pls/Pls-Profile/ResearchListID/69)

Dr KOH Tong Wey  
*Temasek Life Sciences Laboratory Limited*  
*Developmental Biology*  
Research Title: Investigating the Interactions between Type 2 Diabetes and Neurodegeneration  
CLASS OF 2013

Dr Joseph FITZSIMONS  
*Singapore University of Technology and Design*  
*Engineering Product Development (EPD)*

Research Title: Methods for Verifying Quantum Computation

Dr Takaomi SANDA  
*National University of Singapore*  
*Cancer Science Institute of Singapore*

Research Title: Novel Therapeutics Targeting the Core Regulatory Circuits in Human T-cell Acute Lymphoblastic Leukemia

Homepage: [https://www.csi.nus.edu.sg/ws/team/pi/takaomi-sanda](https://www.csi.nus.edu.sg/ws/team/pi/takaomi-sanda)

Dr Sylvain BARBOT  
*Nanyang Technological University*  
*Earth Observatory of Singapore*

Research Title: Physics-Based and Data-Driven Predictive modelling of the Earthquake Cycle in Sumatra

Dr Melissa FULLWOOD  
*Nanyang Technological University*  
*Cancer Science Institute of Singapore*

Research Title: Harnessing the Power of Next-Generation DNA Sequencing: Characterization of Human Transcriptomes and Transcriptome Regulation Mechanisms in Gastric Cancer

Homepage: [http://fullwoodlab.com/](http://fullwoodlab.com/)

Dr Judith HUBBARD  
*Nanyang Technological University*  
*Earth Observatory of Singapore*

Research Title: Assessing seismic hazards in Southeast Asia by characterizing the geometries and slip histories of active faults

Homepage: [https://sites.google.com/site/judithahubbard/](https://sites.google.com/site/judithahubbard/)

Dr QUEK Su Ying  
*National University of Singapore*  
*Department of Physics*

Research Title: Spin Transport across Interfaces in Emerging Materials - Towards Materials Design for Next Generation Data Storage Applications

Homepage: [http://www.physics.nus.edu.sg/staff/queksy.html](http://www.physics.nus.edu.sg/staff/queksy.html)
Dr LIU Zheng  
*Nanyang Technological University*  
*Division of Materials Science*

**Research Title**: Synthesis, Characterizations and Performance of Novel Two-dimensional Atomic Layers: Hexagonal Boron Nitride (h-BN) and Molybdenum Disulfide (MoS2)

**Homepage**: [http://www3.ntu.edu.sg/home/z.liu/index.html](http://www3.ntu.edu.sg/home/z.liu/index.html)

---

Dr Timothy SAUNDERS  
*National University of Singapore*  
*Mechanobiology Institute, Singapore*

**Research Title**: Using biophysics to probe the mechanisms of scaling and robustness in development

**Homepage**: [http://mbi.nus.edu.sg/timothy-saunders/](http://mbi.nus.edu.sg/timothy-saunders/)

---

Dr Karen CRASTA  
*Nanyang Technological University*  
*Lee Kong Chian School of Medicine*

**Research Title**: Molecular mechanisms that dictate cell fate following treatment with anti-mitotic drugs

---

Dr LAN Shau-Yu  
*Nanyang Technological University*  
*Division of Physics & Applied Physics*

**Research Title**: Quantum sensor using guided matter waves in optical fibers

**Homepage**: [http://www1.spms.ntu.edu.sg/~physics/Home/Faculty/Lan_Shau_Yu.html](http://www1.spms.ntu.edu.sg/~physics/Home/Faculty/Lan_Shau_Yu.html)

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Dr Troy LEE  
*Nanyang Technological University*  
*Center for Quantum Technologies*

**Research Title**: Quantum query complexity, communication complexity, and semidefinite programming: exploring the limits of efficient computation

---

Dr Mikinori KUWATA  
*Nanyang Technological University*  
*Division of Earth Sciences*

**Research Title**: Atmospheric Organic Aerosol in the Changing Environment of Southeast Asia

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*Updated as at December 2021*
CLASS OF 2012

Dr Shaffique ADAM
Yale-NUS College
Research Title: Harnessing Interacting Dirac Fermions for Future Technology
Homepage: https://sites.google.com/site/shaffiqueadam/home

Dr CHONG Yidong
Nanyang Technological University
Division of Physics and Applied Physics
Research Title: Enhancement of optical absorption in coherent photonic structures
Homepage: http://web.spms.ntu.edu.sg/~ydchong/index.html

Dr Nathalie GOODKIN
Nanyang Technological University
Earth Observatory of Singapore
Research Title: The Oceanographic Perspective: Reconstructing seasonal climate variations in the Indo-Pacific using coral geochemical records

Dr LING Xing Yi
Nanyang Technological University
Division of Chemistry and Biological Chemistry
Research Title: Engineering Plasmonic Nanocrystal Super-lattices for Emerging Optical Properties and Sensing Applications
Homepage: http://www3.ntu.edu.sg/home/xyling/index.htm

Dr Katsutomo OKAMURA
Temasek Life Sciences Laboratory Limited
Genome Structural Biology
Research Title: Mechanisms of miRNA biogenesis: Substrate recognition by the miRNA processing enzymes and regulation of miRNA stability
Dr Thomas PEYRIN
Nanyang Technological University
Division of Mathematical Sciences

Research Title: Analysis and Conception of Symmetric Key Cryptography Primitives
Homepage: https://sites.google.com/site/thomaspeyrin/

Dr SUN Lei
Duke-NUS Medical School
Cardiovascular & Metabolism Disorders Program

Research Title: Regulation of Brown Fat Development by Non-coding RNAs
Homepage: https://www.duke-nus.edu.sg/content/sun-lei

Dr Fumio MOTEGI
Temasek Life Sciences Laboratory Limited
Cell Biology

Research Title: The Mechanisms of Breaking Cellular Symmetry in Metazoan Development
Homepage: http://www.tll.org.sg/group-leaders/motegi-fumio/

Dr Slaven GARAJ
National University of Singapore
Department of Physics

Research Title: Graphene nanopore platform for single-molecule DNA analysis and physical DNA sequencing
Homepage: http://nanopore.science.nus.edu.sg/
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<th>Name</th>
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<th>Department</th>
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<td>Dr CHO Nam-Joon</td>
<td>Nanyang Technological University</td>
<td>Division of Materials Technology</td>
<td>Combating Infectious Diseases: Engineering Strategies for Molecular Virology</td>
<td><a href="https://www.namjooncho.com/">https://www.namjooncho.com/</a></td>
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<td>Dr Emma HILL</td>
<td>Nanyang Technological University</td>
<td>Earth Observatory of Singapore</td>
<td>Towards a better understanding of climate change and natural hazards in and around Southeast Asia through geodetic data combination</td>
<td><a href="http://www.earthobservatory.sg/people/emma-hill">http://www.earthobservatory.sg/people/emma-hill</a></td>
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<td>Dr Pakorn (Tony) KANCHANAWONG</td>
<td>National University of Singapore</td>
<td>Department of Bioengineering</td>
<td>Mechanotransduction by Integrin-mediated Cell Adhesions</td>
<td><a href="http://mbi.nus.edu.sg/pakorn-tony-kanchanawong/">http://mbi.nus.edu.sg/pakorn-tony-kanchanawong/</a></td>
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Dr Mankei TSANG  
*National University of Singapore*  
*Department of Electrical and Computer Engineering*  

**Research Title:** General Theory of Quantum Sensors: Estimation, Control, and Fundamental Limits  
**Homepage:** [https://sites.google.com/site/mankeitsang/home/mankei](https://sites.google.com/site/mankeitsang/home/mankei)

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Dr WANG Xianfeng  
*Nanyang Technological University*  
*Earth Observatory of Singapore*  

**Research Title:** Tracking hydro-climate variation in the tropical Indo-Pacific with highly resolved cave records  
**Homepage:** [http://www.earthobservatory.sg/people/wang-xianfeng](http://www.earthobservatory.sg/people/wang-xianfeng)

---

Dr WU Min  
*National University of Singapore*  
*Mechanobiology Institute, Singapore*  

**Research Title:** Regulation of Endocytosis by Curvature-Generating Proteins and the Actin Cytoskeleton  
**Homepage:** [http://wulab.tiddlyspot.com/](http://wulab.tiddlyspot.com/)

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Dr ZHAO Yu  
*National University of Singapore*  
*Department of Chemistry*  

**Research Title:** New Catalysis Concepts and Methods for More Efficient and Economical Chemical Synthesis And Improvement of Chemistry Tools for Biological Labeling  
**Homepage:** [https://zhaoyugroup.sg/](https://zhaoyugroup.sg/)

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Dr Kimberly Ann KLINE  
*Nanyang Technological University*  
*Singapore Centre on Environmental Life Sciences Engineering (SCElse)*  

**Research Title:** Localized Virulence Factor Assembly in Gram Positive Bacteria: Mechanism of Coordination and Therapeutic Targeting  
**Homepage:** [http://kimberlyklinelab.com/](http://kimberlyklinelab.com/)
CLASS OF 2010

Dr GAO Yonggui
Nanyang Technological University
Division of Structural Biology & Biochemistry

Research Title: Structure and functional interactions of translational factors with ribosome by X-ray crystallography
Homepage: http://www.ntu.edu.sg/home/ygao/Site/Home.html

Dr LEE Sang Hyun
Duke-NUS Medical School
Cancer & Stem Cell Biology Program

Research Title: The mechanisms of chromosomal instability in human cancers and development of novel anti-mitotic cancer therapies

Dr Christian NIJHUIS
National University of Singapore
Department of Chemistry

Research Title: Self-assembled organic-inorganic nanostructures to solve longstanding problems in Physics
Homepage: https://www.chemistry.nus.edu.sg/people/academic_staff/Nijhuis.htm

Dr Adam SWITZER
Nanyang Technological University
Earth Observatory of Singapore

Research Title: Geological records of coastal hazards in southeast Asia
Homepage: http://www.earthobservatory.sg/people/adam-switzer

Dr TEO Yik Ying
National University of Singapore
Department of Statistics & Applied Probability

Research Title: Modeling complex interactions in the genetics and genomics of common phenotypes and infectious diseases
Homepage: https://sph.nus.edu.sg/about/faculty-directory/teo-yik-ying
Dr Joanne YEW
Temasek Life Sciences Laboratory Limited
Research Title: Understanding the role of chemical communication in insect social behavior: Identifying new pheromones, neural circuits and metabolic pathways using novel mass spectrometry methods

Dr YU Ting
Nanyang Technological University
Division of Physics & Applied Physics
Research Title: Tailoring electronic structure of graphene for nanoelectronic, photonic and phononic applications
Homepage: http://www1.spms.ntu.edu.sg/~yuting/

Dr Ronen ZAIDEL-BAR
National University of Singapore
Mechanobiology Institute, Singapore
Research Title: Linking cell-cell adhesion with the actin cytoskeleton: Combining genetics and mechano-manipulations to discover novel adaptors in cadherin-based adhesion

Dr ZHAO Yanli
Nanyang Technological University
Division of Chemistry and Biological Chemistry
Research Title: Light- and pH-operated mechanized nanoparticles as controllable drug delivery systems
Homepage: http://www.ntu.edu.sg/home/zhaoyanli/index.html

Dr Swaine CHEN
National University of Singapore
Department of Medicine
Research Title: Novel evolutionary approaches to studying host-pathogen interactions and infectious diseases
CLASS OF 2009

Dr LOK Shee Mei
Duke-NUS Medical School
Emerging Infectious Diseases Program

Research Title: Identification of dengue therapeutics and determination of its neutralization mechanisms using a combination of immunological, biochemical and structural techniques

Homepage: https://www.duke-nus.edu.sg/content/lok-shee-mei

Dr WANG Hongyan
Duke-NUS Medical School
Neuroscience & Behavioral Disorders Program

Research Title: Analyzing molecular machinery that regulates neural stem cell self-renewal and differentiation in Drosophila larval brains

Homepage: https://www.duke-nus.edu.sg/content/wang-hongyan

Dr CHI Yonggui Robin
Nanyang Technological University
Division of Chemistry & Biological Chemistry

Research Title: New strategies for selective and site-selection protein modification via local environment and proximal residue-directed cooperative organic catalysis under mild, non-toxic and biocompatible conditions

Homepage: http://www.ntu.edu.sg/home/robinchi/

Dr CHEN Xiaodong
Nanyang Technological University
Division of Materials Technology

Research Title: Nanostructured-Biomaterial hybrid systems for bioelectronics

Homepage: http://www.ntu.edu.sg/home/chenxd/index.html

Dr Naohiko YOSHIKAI
Nanyang Technological University
Division of Chemistry & Biological Chemistry

Research Title: Development of cooperative transition metal catalysis for carbon-carbon bond formation

Homepage: http://www3.ntu.edu.sg/home/nyoshikai/yoshikai_group/Home.html
Dr XIONG Qihua
Nanyang Technological University
Division of Physics & Applied Physics

Research Title: Optical properties of novel nanomaterials and field effect transistor nanopore devices for single molecular detection and DNA sequencing

Dr Frederique OGGIER
Nanyang Technological University
Division of Mathematical Sciences

Research Title: Information theoretical security for wireless communications
Homepage: http://www1.spms.ntu.edu.sg/~frederique/index.html

Dr Edith ELKIND
Nanyang Technological University
Division of Mathematical Sciences

Research Title: Algorithmic aspects of coalitional games

Dr Hilmi Volkan DEMIR
Nanyang Technological University
Division of Microelectronics

Research Title: Nanostructured white LEDs of nanocrystal quantum dot emitters for high quality mesopic solid state lighting
Homepage: http://research.ntu.edu.sg/expertise/academicprofile/Pages/StaffProfile.aspx?ST_EMAILID=HVDEMIR
CLASS OF 2008

Dr Gijsbert Marnix GROTENBERG
National University of Singapore
Departments of Microbiology and Biological Sciences
Research Title: Conditional ligands for class I MHC products; application to epitope discovery for Dengue and respiratory syncytial virus-specific CD8+ T-cells

Dr Cynthia HE Yingxin
National University of Singapore
Department of Biological Science
Research Title: Morphological and molecular characterization of a bi-lobed structure required for organelle biogenesis and cytokinesis in Trypanosoma brucei
Homepage: http://www.dbs.nus.edu.sg/lab/cynthia/index.html

Dr Eugene MAKEYEY
Nanyang Technological University
Division of Molecular & Cell Biology
Research Title: Understanding molecular mechanisms of post-transcriptional control in neuronal differentiation: a link between microRNAs, alternative pre-mRNA splicing and mRNA quality control

Dr Barbaros ÖZYILMAZ
National University of Singapore
Department of Physics
Research Title: Phase Coherent Charge and Spin Transport in Nanostructured Graphene and Ferromagnet Hybrid Devices
Homepage: http://graphene.nus.edu.sg/barbaros/

Dr Christos PANAGOPoulos
Nanyang Technological University
Division of Physics & Applied Physics
Research Title: Novel Quantum Phases on the Border of Magnetism
Homepage: http://phynelab.org/Staff/christos-panagopoulos/
Dr YEO Yee Chia  
*National University of Singapore*  
*Department of Electrical and Computer Engineering*

Research Title: Strain Engineering for Next-Generation Semiconductor Manufacturing  
Homepage: [https://www.ece.nus.edu.sg/staff/bio/yeoyc.html](https://www.ece.nus.edu.sg/staff/bio/yeoyc.html)

Dr ZHOU Jianrong Steve  
*Nanyang Technological University*  
*Division of Chemistry and Biological Chemistry*

Research Title: Asymmetric Catalytic [4+1] Cycloadditions between Dienes and Carbene Precursors