

THE

IMMUNOLOGS

Programme News

There are a few new and exciting projects in the NUSMed ITRP pipeline!

Dr Nguyen Nam Long will be starting a new project on his longstanding research area of interest in lipids, 'Mechanistic transports of sphingolipids in the lysosomes'; while Dr Frank Tay will be spearheading a clinical study on 'Identifying biomarkers to diagnose NSAID hypersensitivity using a combined transcriptomics and metabolomics approach', with a focus on aspirin.

Associate Professor Veronique Angeli will be further developing her research into the interactions between adipose tissues and lymphatic vessels with her project on 'Deciphering the mechanism(s) underlying adipose tissue remodelling in secondary lymphedema'.

Congratulations everyone, and the ITRP wishes you every success in your research endeavours!



News From Around The World

Adenovirus vaccine therapy with CD137L promotes CD8+ DCs-mediated multifunctional CD8+ T cell immunity and elicits potent anti-tumor activity (Ding et. al., Pharmacological Research, 14 Dec 2021)

Identification of neoantigens in two murine gastric cancer cell lines leading to the neoantigen-based immunotherapy (Nagaoka et. al., Cancers, 27 Dec 2021)

SARS-CoV-2 spreads through cell-to-cell transmission (Zeng et. al., Proceedings of the National Academy of Sciences, 4 Jan 2022)

IL-10 and IL-35 as inflammation regulators in patients with allergic rhinitis and mild atopic asthma (Naydenova et. al., American International Journal of of Biology and Life Sciences, 6 Jan 2022)

Gasdermin D pores are dynamically regulated by local phosphoinositide circuitry (Santa Cruz Garcia et. al., Nature Communications, 10 Jan 2022)

Characterization of immunoreactive and immunotolerant CD4+ T cells in breast cancer by measuring activity of signaling pathways that determine immune cell function (Wesseling-Rozendaal et. al., Cancers, 19 Jan 2022)

Exploring the relationship between systemic lupus erythematosus and osteoporosis based on bioinformatics (Han et. al., Lupus, 22 Jan 2022)

The natural cytotoxicity receptor NKp44 (NCR2, CD336) is expressed on the majority of porcine NK cells ex vivo without stimulation (Mair et. al., Frontiers in Immunology, 28 Jan 2022)

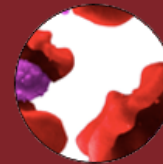
Upcoming Events



Tuesday | 15 February 2022 | 12-1PM
Dr Loh Jia Tong
NUSMED ITRP Seminar Series: The emerging roles of Dok-3 in neutrophils



Wednesday | 23 February 2022 | 4PM-4.45PM
NUSMED ITRP Research in Progress: Defining the biochemical and biophysical characterization of pathogenic alloantibodies in kidney transplant recipients



23-25 February 2022
OPEN FOR REGISTRATION: 5th SingMalNet (Singapore Malaria Network) Meeting



6-9 March 2022
Keystone Symposia on Molecular and Cellular Biology
OPEN FOR REGISTRATION: Innate Immune Memory: From Evolutionary Roots to Human Disease
&
Myeloid Cells: From Birth to Immunity and Disease



Tuesday | 15 March 2022 | 12-1PM
Dr Agnieszka Banas
NUSMED ITRP Seminar Series: March 2022



20-24 March 2022
Keystone Symposia on Molecular and Cellular Biology
OPEN FOR REGISTRATION: Cancer Immunotherapy: Decoding the Cancer Immunity Interactome

Programme Publications

J Matsuo, D Douchi, Khine Myint, Naing Naing Mon, A Yamamura, K Kohu, DL Heng, S Chen, Nur Astiana Mawan, N Nuttonmanit, Y Li, S Srivastava, SWT Ho, NYS Lee, HK Lee, M Adachi, A Tamura, J.Chen, H Yang, M Teh, JB-Y So, WP Yong, P Tan, KG Yeoh, LSH Chuang, S Tsukita, Y Ito (Oct 2021) Iqgap3-Ras axis drives stem cell proliferation in the stomach corpus during homeostasis and repair. *Gut*.
DOI: 10.1136/gutjnl-2020-322779

ACY Chan, HY Wong, YF Chong, PS Lai, HL Teoh, AYY Ng, JHM Hung, YC Chan, KWP Ng, J Vijayan, JY Ong, B Chandra, CH Tan, NH Rutt, TM Tan, Nur Hafiza Ismail, E Wilder-Smith, H.Schwarz, H Choi, VK Sharma, A Mak (Nov 2021) Novel autoantibodies in idiopathic small fiber neuropathy. *Annals of Neurology*.
DOI: 10.1002/ana.26268

P Kongsuphol, H Jia, HL Cheng, Y Gu, Bhuvaneshwari D/O Shunmuganathan, MW Chen, SM Lim, SY Ng, PA Tambyah, Haziq Nasir, X Gao, D Tay, S Kim, R Gupta, X Qian, MM Kozma, K Purushotorman, ME McBee, PA MacAry, HD Sikes, PR Preiser (Nov 2021) A rapid simple point-of-care assay for the detection of SARS-CoV-2 neutralizing antibodies. *Communications Medicine*
DOI: 10.1038/s43856-021-00045-9

M Tripathi, BK Singh, EA Liehn, SY Lim, K Tikno, D Castano-Mayan, C Rattanasopa, P Nilcham, Siti Aishah Binte Abdul Ghani, Z Wu, Syaza Hazwany Azhar, J Zhou, S Hernández-Reséndiz, GE Crespo-Avilan, RA Sinha, B Livingston Farah, Kyaw Thu Moe, DA De Silva, V. Angeli, MK Singh, RR Singaraja, DJ Hausenloy, PM Yen (Jan 2022) Caffeine prevents restenosis and inhibits vascular smooth muscle cell proliferation through the induction of autophagy. *Autophagy*
DOI: 10.1080/15548627.2021.2021494

SH.Tay, MMX Toh, YL Thian, BA Vellayappan, A-M Fairhurst, YH Chan, F Aminkeng, LD Bharwani, Y Huang, A Mak, ASC Wong (Jan 2022) Cytokine release syndrome in cancer patients receiving immune checkpoint inhibitors: A case series of 25 patients and review of the literature. *Frontiers in Immunology*
DOI: 10.3389/fimmu.2022.807050

CW Png, WJJ Lee, SJ Chua, F Zhu, Gastric Consortium, KG Yeoh, Y.Zhang (Jan 2022) Mucosal microbiome associates with progression to gastric cancer. *Theranostics*
DOI: 10.7150/thno.65302

M Li, X Zhang, KS Ang, J Ling, R Sethi, NYS Lee, F Ginhoux, J.Chen (Jan 2022) DISCO: a database of Deeply Integrated human Single-Cell Omics data. *Nucleic Acids Research*
DOI: 10.1093/nar/gkab1020

NS Tan, M Mukherjee, HF.Lim, V.Angeli, P Nair, SY Lim, A Rouers, YY Hwang, CH Thiam, WSD Tan, W Liao, WSF Wong, MF Liew, A Larbi, K Fink, DY Wang (Feb 2022) Expansion of a double-negative (CD27-IgD-) B cell population in the sputum of severe eosinophilic asthmatic patients. *Journal of Allergy and Clinical Immunology*
DOI: 10.1016/j.jaci.2021.12.730

Looking For A Job?

1) The Bioinformatics Platform at the Immunology Translational Research Programme, NUS, utilizes state-of-the-art methods in pipelines and workflow to analyze data to gain biological insights. The platform works with a number of medium to high throughput technologies like microbiome metagenomics, single-cell omics, next generation sequencing (RNA-seq, DNA-seq, etc), Luminex multiplex assays, Microarrays, Nanostring and Flow/Mass cytometry and integrates them together with other heterogenous datasets to derive meaningful understandings. We are currently looking for a Research Fellow to analyze these biological data using computational methods.

You will:

- Work with internal and external collaborators to understand biological problems and translate them to actionable computational analytical tasks.
- Execute computational analytical tasks to generate results for interpretation and report generation.
- Communicate and discuss analysis results with collaborators.
- Survey and evaluation of computational methodologies for incorporation into analysis workflows.
- Maintain and manage servers

You should have:

- PhD in Bioinformatics/Computational biology, Statistics, Mathematics, Data science, Computer Science/Engineering or related disciplines.
- Proficient in the Linux operating system
- Proficient in programming languages such as Unix shell scripts, R, Python and Java
- Able to work independently and keen to pick up new skills
- Strong organizational and communication skills.
- Knowledge or willingness to learn biology and statistics

Interested applicants should send their CV to tserene@nus.edu.sg, with 'ITRP: Bioinformatics RF Position' as the email subject title.

2) Curiox is seeking an experienced researcher in life sciences / immunology to conduct exciting research in assay development using Laminar Wash, to be based in Singapore. The successful candidate must be independent, resourceful and self-motivated, while having a collaborative mind to communicate with existing and potential collaborators, as well as internal departments such as R&D, sales and applications.

You will:

- Lead, plan and execute experiments to develop assays for mass and flow cytometry as well as single cell genomics using Laminar Wash™ and future instrument development
- Identify, develop and optimize cellular assays which can benefit from LW
- Carry out collaborative research projects with LW technology
- Bring new ideas to the Curiox team for new applications, product line extensions and new products
- Oversee and participate actively in the development of new applications from the field
- Follow current assay trends to identify gaps and needs for new products that would suit the Laminar Wash technology
- Mentor junior research associates / scientists if applicable
- Opportunity for short- to mid-term or full-time deployment to Curiox Research Center in Seoul, South Korea possible if interested

You should have the following qualities:

- Proven excellence in the delivery of technical presentations, scientific discussions and seminars/webinars
- Scientific knowledge of the immunoassay and cell biology. Hands on experience with high parameter flow cytometry required while experience with single cell genomics is desirable.
- Scientific knowledge and experience in troubleshooting and assay development and communicating this information internally among R&D, sales and marketing teams
- Highly motivated, proactive, and action-oriented with a strong sense of urgency to deliver successful research findings
- Ability to identify and promote product value and benefits within a variety of new applications and settings
- Comfortable with technical/application discussions, with ability to identify and solve problems effectively.
- Ability to work independently, as well as a part of a dynamic and diverse team.
- Ability to work in a fast-paced, dynamic environment, including flexibility with schedule and function.
- Self-directed with strong work ethic and initiative
- Minimum of 3+ years of life science research experience, preferably related to immunology / immune oncology
- Minimum MSc in life sciences (PhD in the field of biology and/or life sciences desirable)

Interested applicants should send their resume or inquiry by email to hr@curiox.com. Please use "SG32" in the subject of the email. Due to the high volume of applications, only qualified candidates will be contacted.

3) The Immunology Translational Research Programme is looking for a Laboratory Executive to assist with laboratory, administrative and research operations for the Programme.

Laboratory Operations

- Understand all applicable health & safety regulations, training & reporting requirements, and standard operating procedures associated with workshop safety
- Assist in regulated chemical and biological inventory
- Support lab manager to identify hazardous conditions, to determine safe procedures and controls, and to implement and enforce standard safety procedures
- Assist to review, and create the risk assessment and standard operating procedures that are specific to the Programme's requirement
- Assist in developing, niche procedure or specific equipment procedure safety documentation
- Conduct regular housekeeping in all work areas and ensuring that the place is safe, clean, and uncluttered
- Maintain laboratory equipment and ensure the validity of the calibration and comply with the safety regulation.
- On a need to basis, provide safety training to students, supervise and manage students in the lab to ensure that safety procedures are followed at all times
- Housekeeping of safety tools, e.g. Biological and Chemical Spills kits, Safety shower and safety eyewash.
- Abide and ensure laboratory safety requirement and procedure is met for the program on a daily basis

Administrative duties:

- Responsible for the programme's purchases ranging from consumables, equipment, licensing or maintenance contracts and maintain a systematic and proper record of all purchases
- Ensure proper purchase requisitions, goods delivery, and prompt payment of supplies

Research duties:

- Plan and support laboratory experiments while maintaining adherence to protocols and safety regulations

You should possess the following qualifications:

- Bachelor of Science (preferably in Life Science)
- Minimum one year of relevant laboratory management experience
- Strong troubleshooting and analytical skills
- Resourceful, independent, able to learn fast, and work well with others in a team
- Meticulous in record and inventory keeping with excellent organizational skills
- Good written and verbal communication skills

Interested parties may send their CV to tserene@nus.edu.sg, with 'ITRP: Laboratory Executive' as the email subject title.