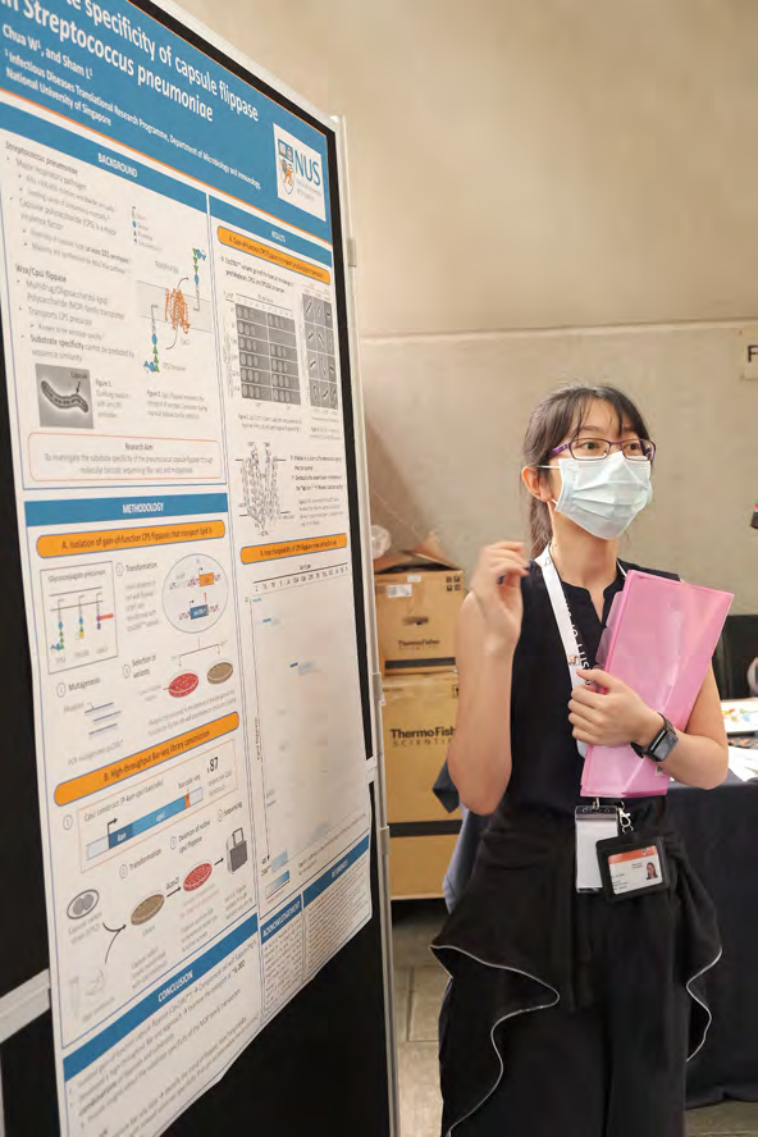

Medical
School
EXIT


EXIT
EXIT


Session Chair


Medical
EXIT

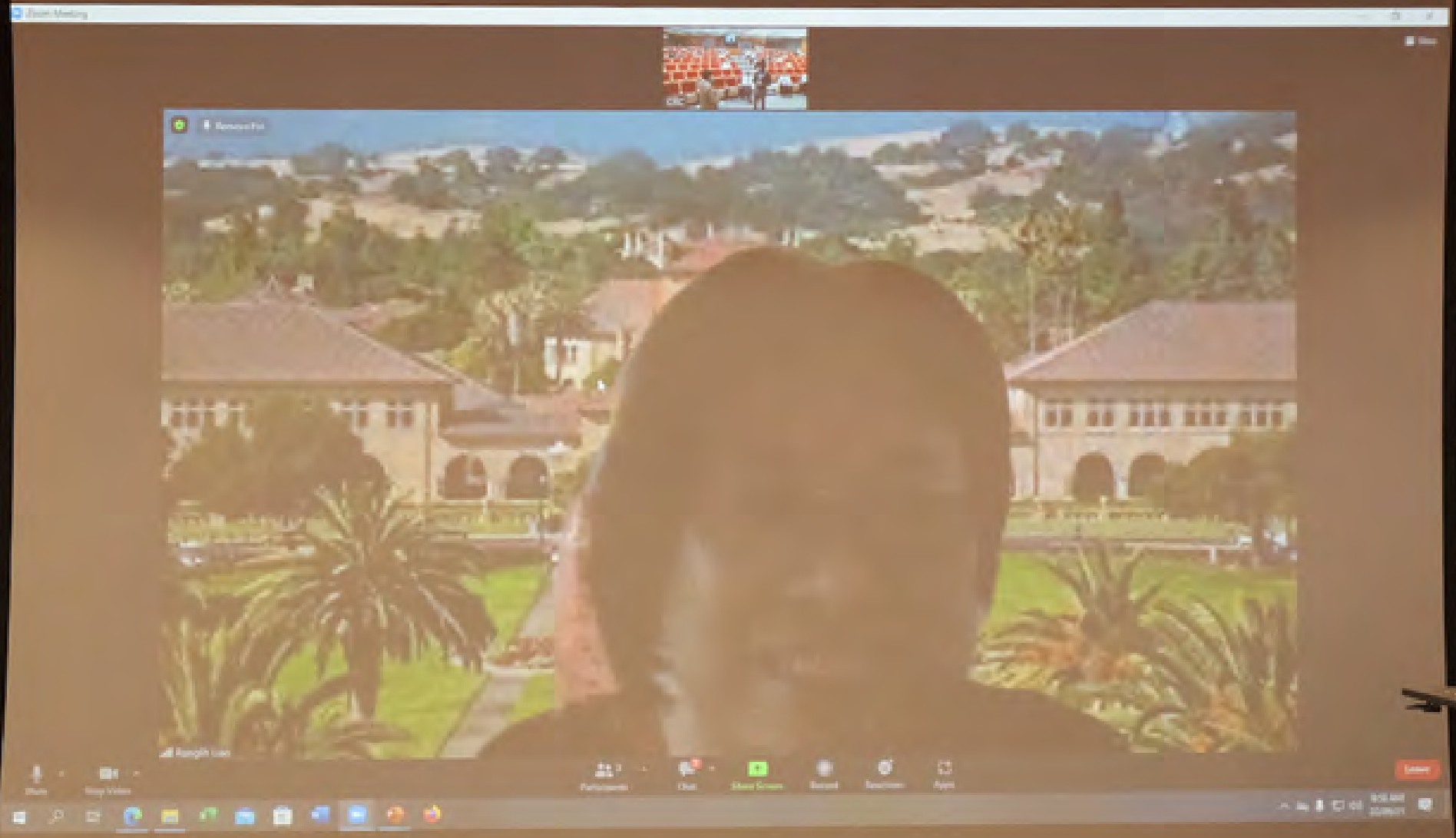

1
A human monoclonal antibody isolated from the IgA repertoire of a chronically exposed, asymptomatic individual mediates protection against Mycobacterium tuberculosis
Introduction & Objectives
Methodology
Results & Discussion
Conclusion & Future Direction
Acknowledgement
References


Streptococcus pneumoniae
BACKGROUND
METHODOLOGY
CONCLUSION
NUS

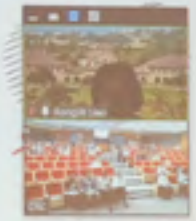

NUS


NUS


NUS



ABSC 2022
10th ANNUAL BIOMEDICAL SCIENTIFIC CONGRESS



Genome-Wide CRISPR screen identifies an NF2-Adherens Junction mechanistic dependency for Cardiac Lineage

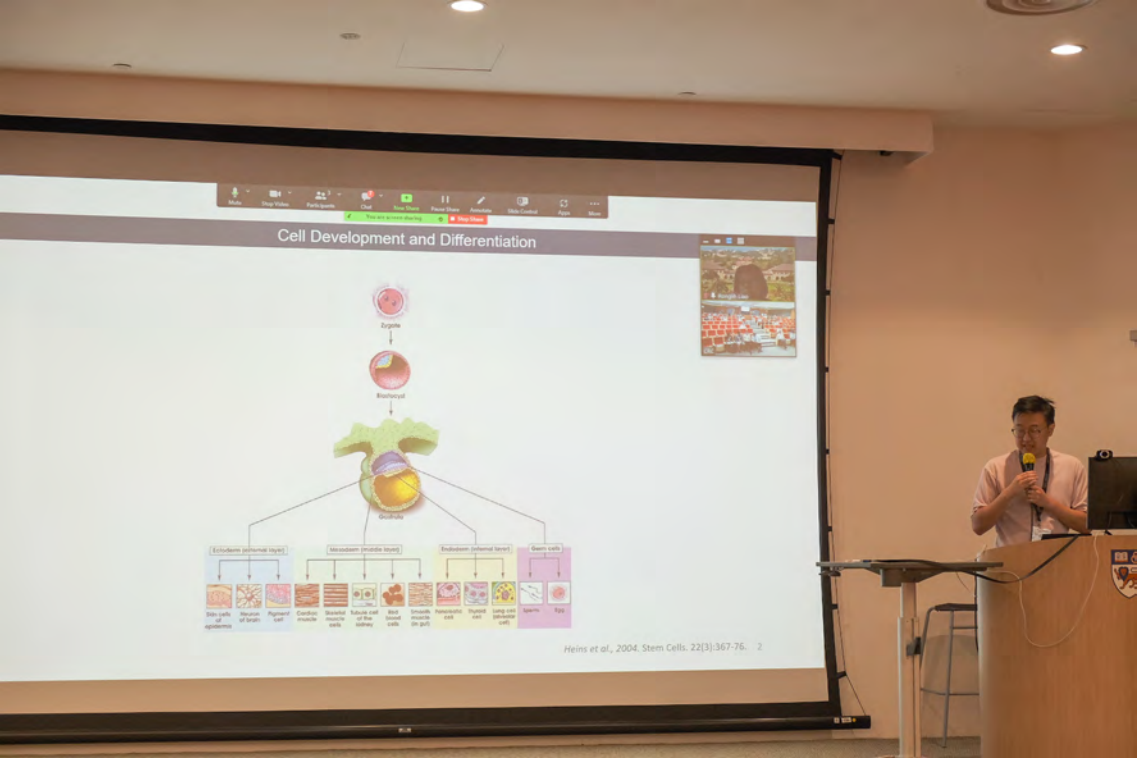
10th Annual Biomedical Scientific Congress
21.09.2022

Mick Lee

Research Fellow
Roger Foo's Laboratory
Yong Loo Lin School of Medicine
Cardiovascular Research Institute (CVD TRP)
Genome Institute of Singapore (A*STAR)

Genome Institute of Singapore

NUS National University of Singapore


Cell Development and Differentiation
Zygote
Blastocyst
Gastrula
Ectoderm (external layer)
Mesoderm (middle layer)
Endoderm (internal layer)
Germ cells
Heins et al., 2004. Stem Cells. 22(3):367-76.


ates
Knight Lab
ad Waddington. 1957.
3
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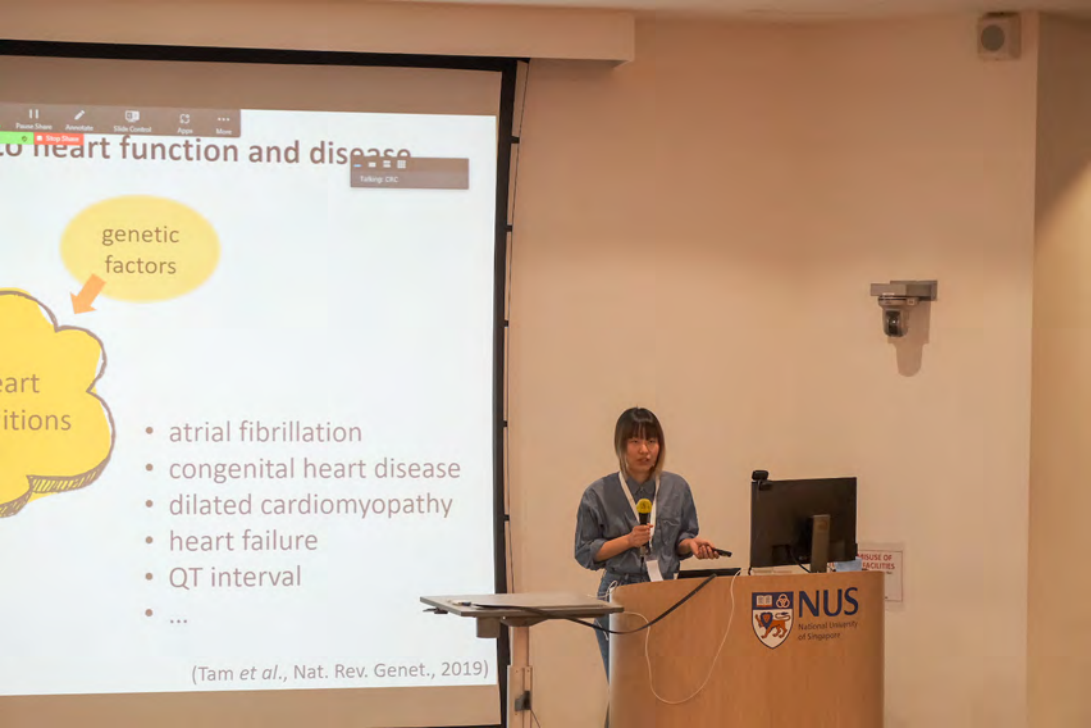
National University
of Singapore


Pause Share
Annotate
Slide Control
Apps
More
Stop Share
Talking: CRC
heart function and disease
genetic factors
art itions
• atrial fibrillation
• congenital heart disease
• dilated cardiomyopathy
• heart failure
• QT interval
• ...
(Tam et al., Nat. Rev. Genet., 2019)
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n and dise
al fibrillation
genital heart disease
ted cardiomyopathy
rt failure
nterval
m et al., Nat. Rev. Genet., 2019)
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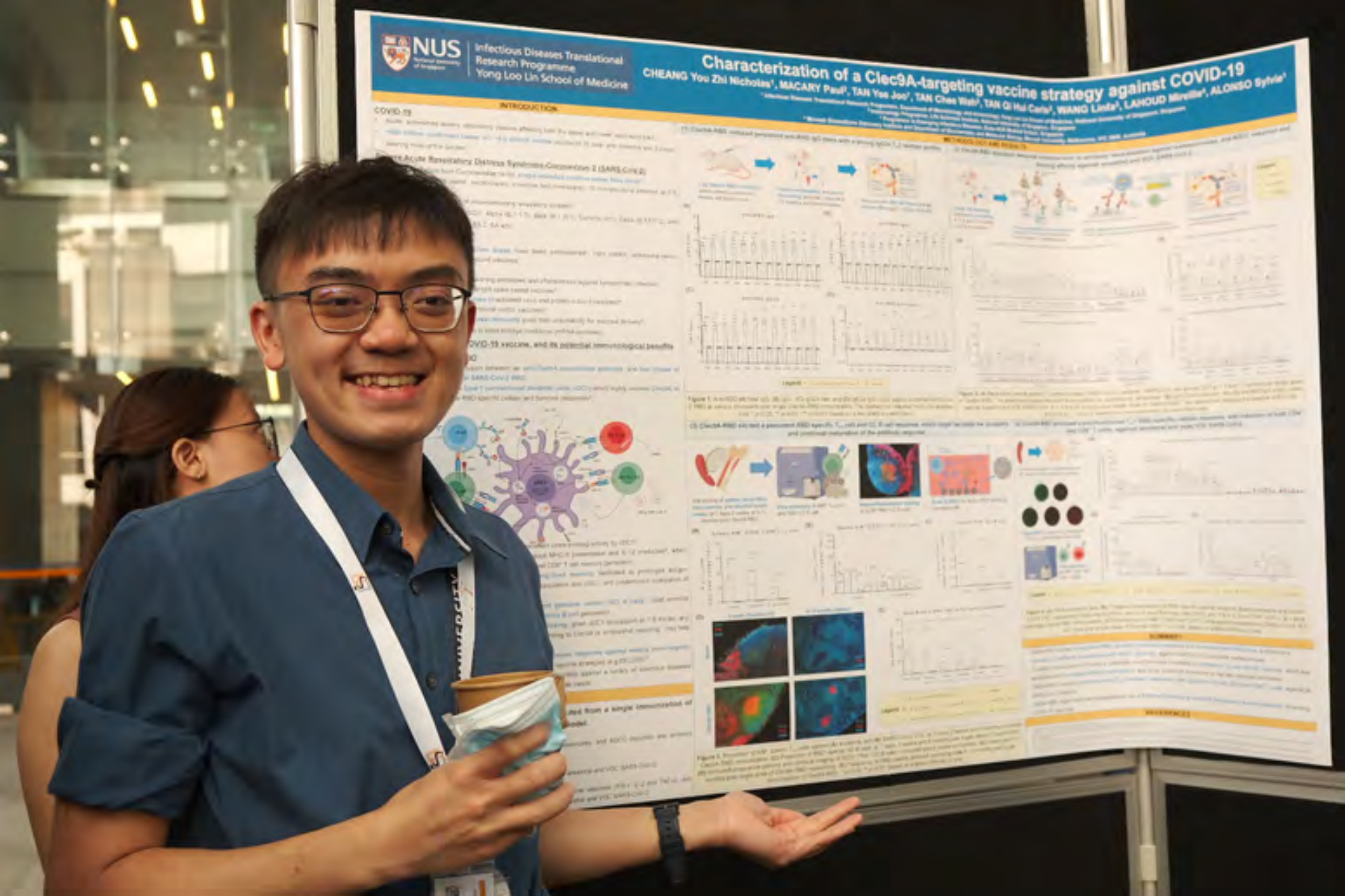
s a known eQTL in heart tissue
MYO19 (Myosin XIX)
Enables actin binding activity
Regulation of cytokinesis and mitochondrial fission
DHRS11 (Dehydrogenase/Reductase 11)
Enables NADP+ activity
Enables 3-keto sterol reductase activity
Steroid biosynthetic process
STOP MISUSE OF TEACHING FACULTY


NUS
Infectious Diseases Translational Research Programme
Yong Loo Lin School of Medicine
Characterization of a Clec9A-targeting vaccine strategy against COVID-19
INTRODUCTION

11

Role of microRNAs in the regulation of CD151 expression in asthma

Wei Liang SIM[1,2], Thai TRAN[1]
Lung Disease Research Laboratory
1. Department of Physiology, Yong Loo Lin School of Medicine, National University of Singapore
2. Infectious Disease Translational Research Programme, National University of Singapore

INTRODUCTION

MATERIALS & METHODS

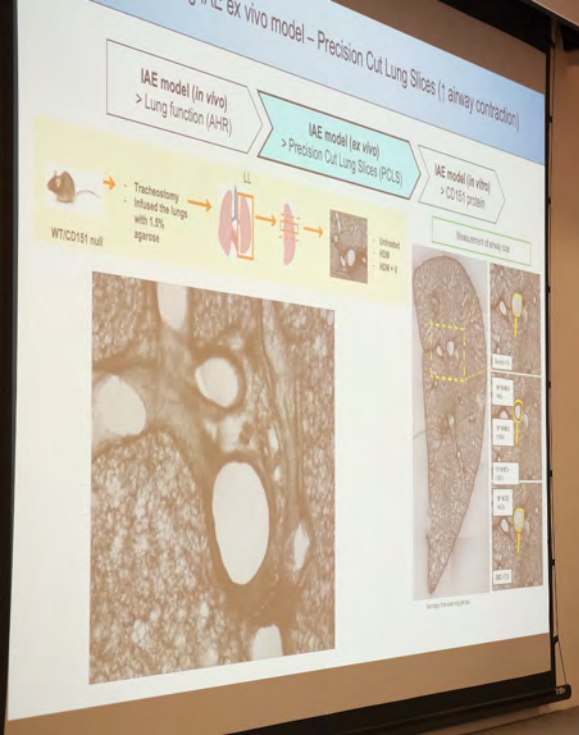
HYPOTHESIS AND AIMS

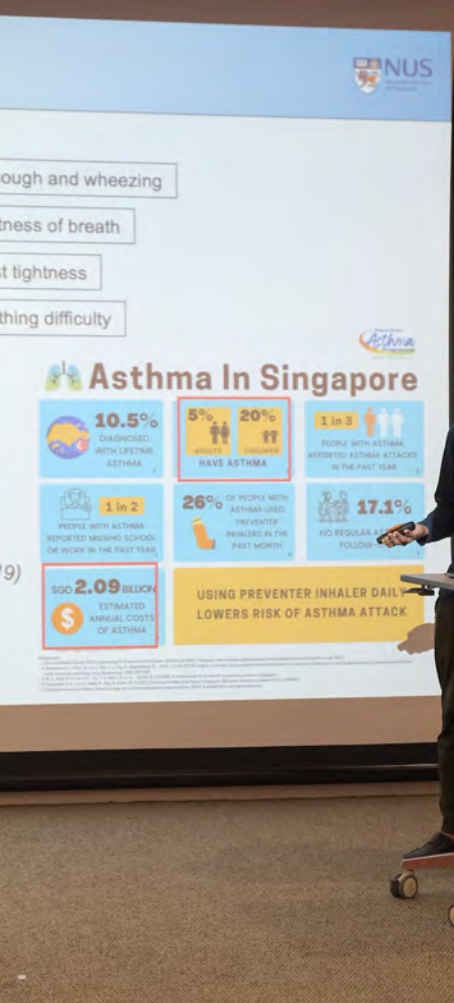
RESULTS & DISCUSSION

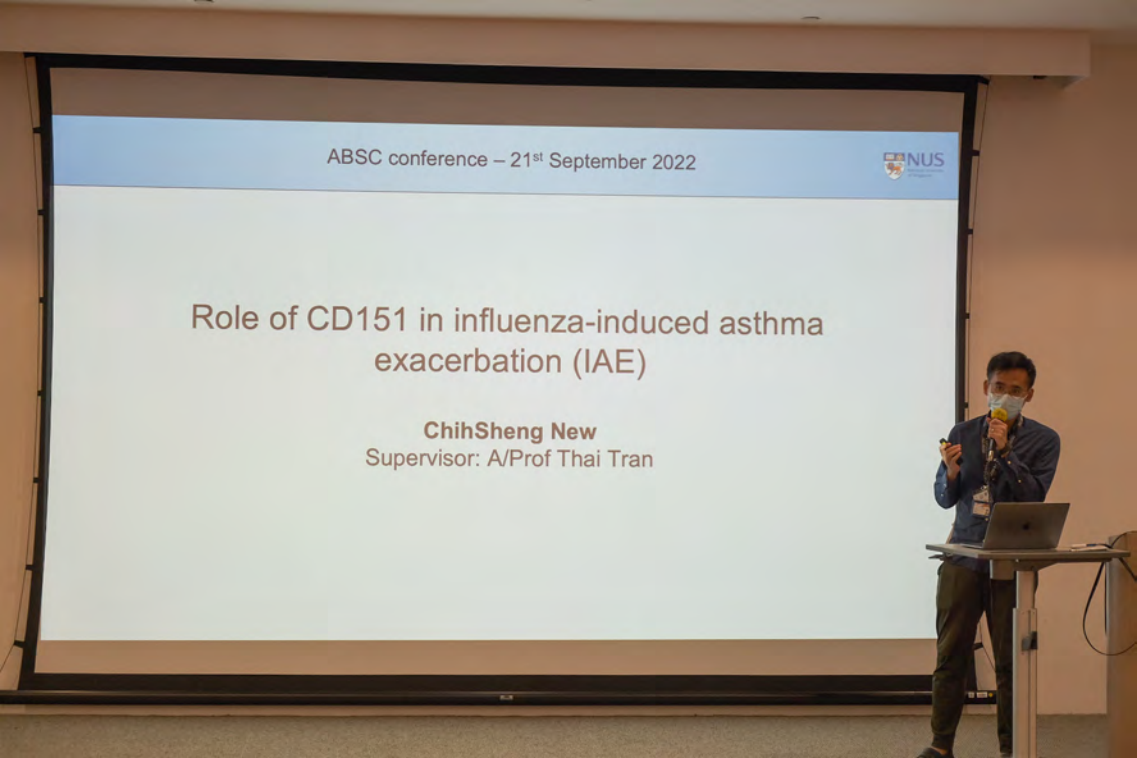
SUMMARY

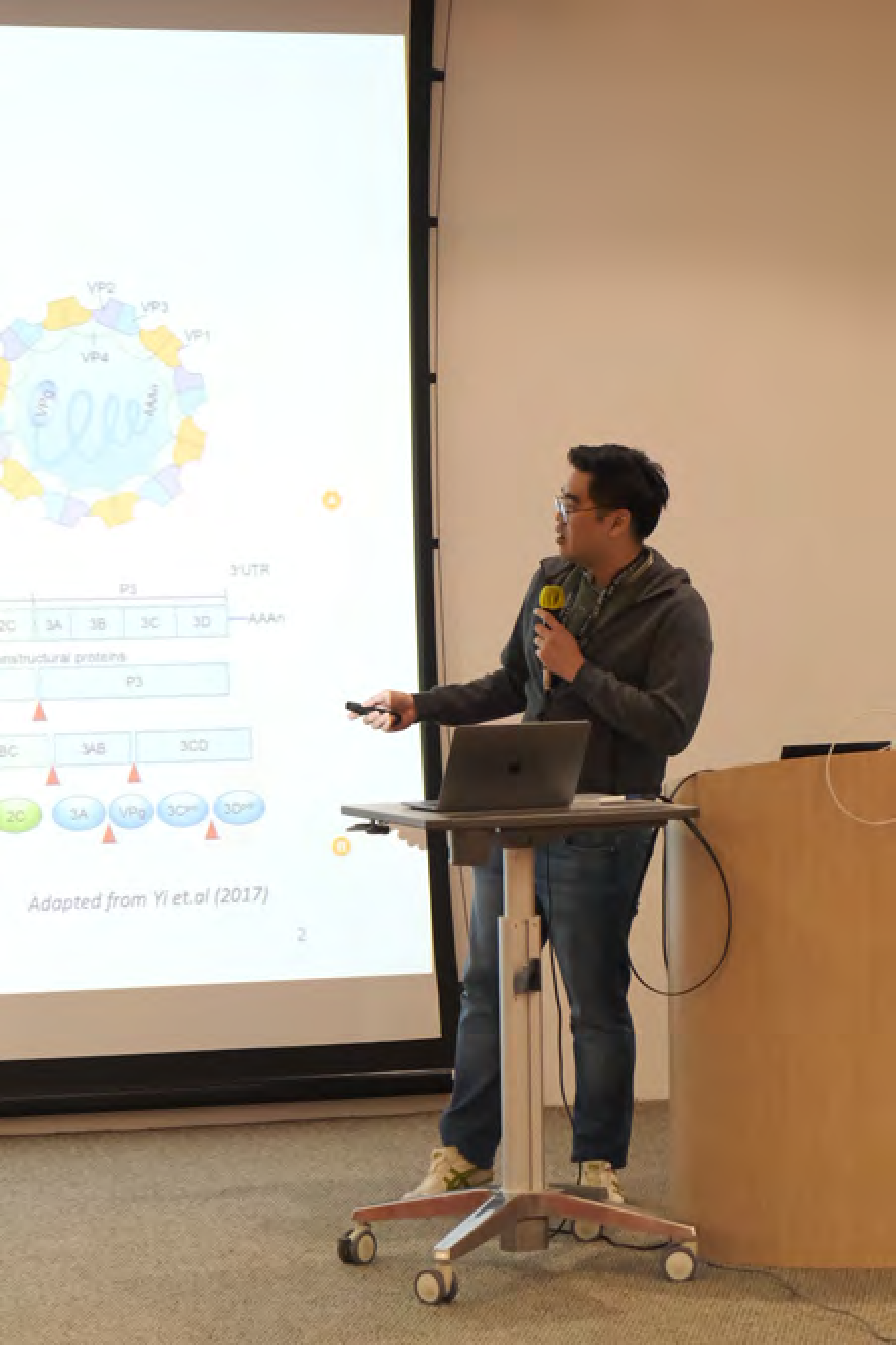
LIMITATIONS & FUTURE DIRECTIONS

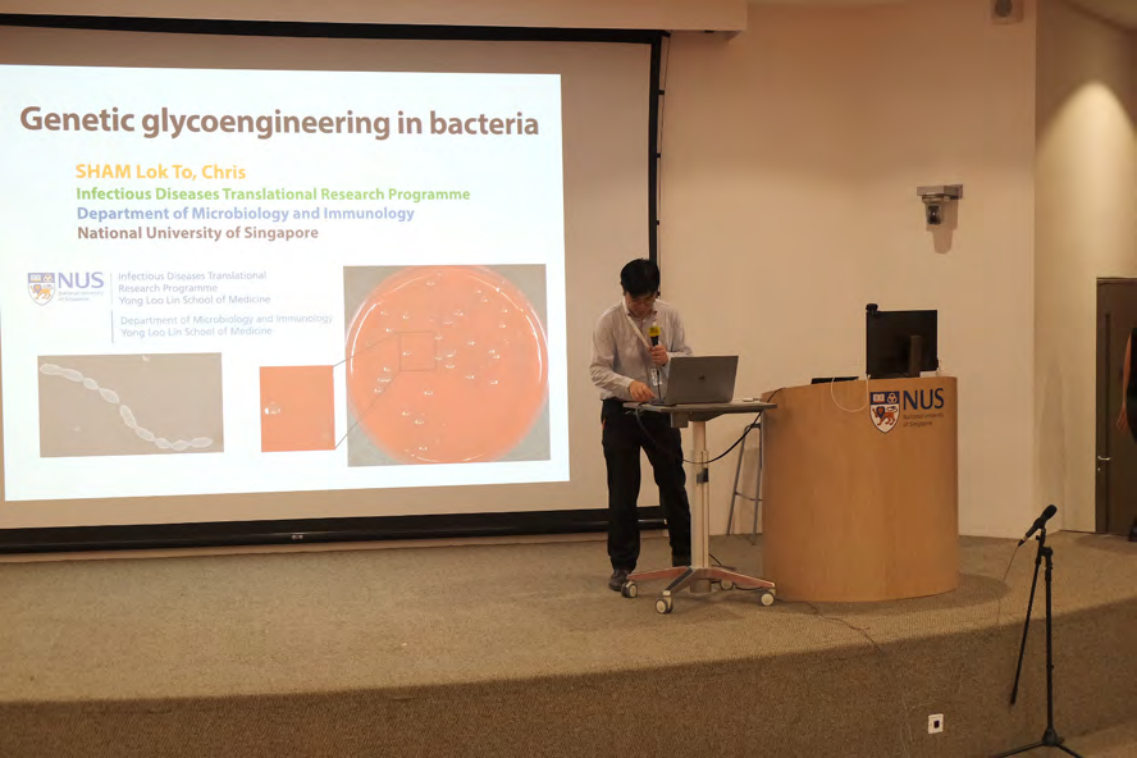

FOYER 1A


IAE ex vivo model – Precision Cut Lung Slices (↑ airway contraction)
IAE model (in vivo)
> Lung function (AHR)
IAE model (ex vivo)
> Precision Cut Lung Slices (PCLS)
IAE model (in vitro)
> CD151 protein
Tracheostomy
Infused the lungs with 1.5% agarose
WT/CD151 null
Untreated
HDM
HDM + II
Measurement of airway size
STOP MISUSE OF TEACHING FACILITIES
EXIT

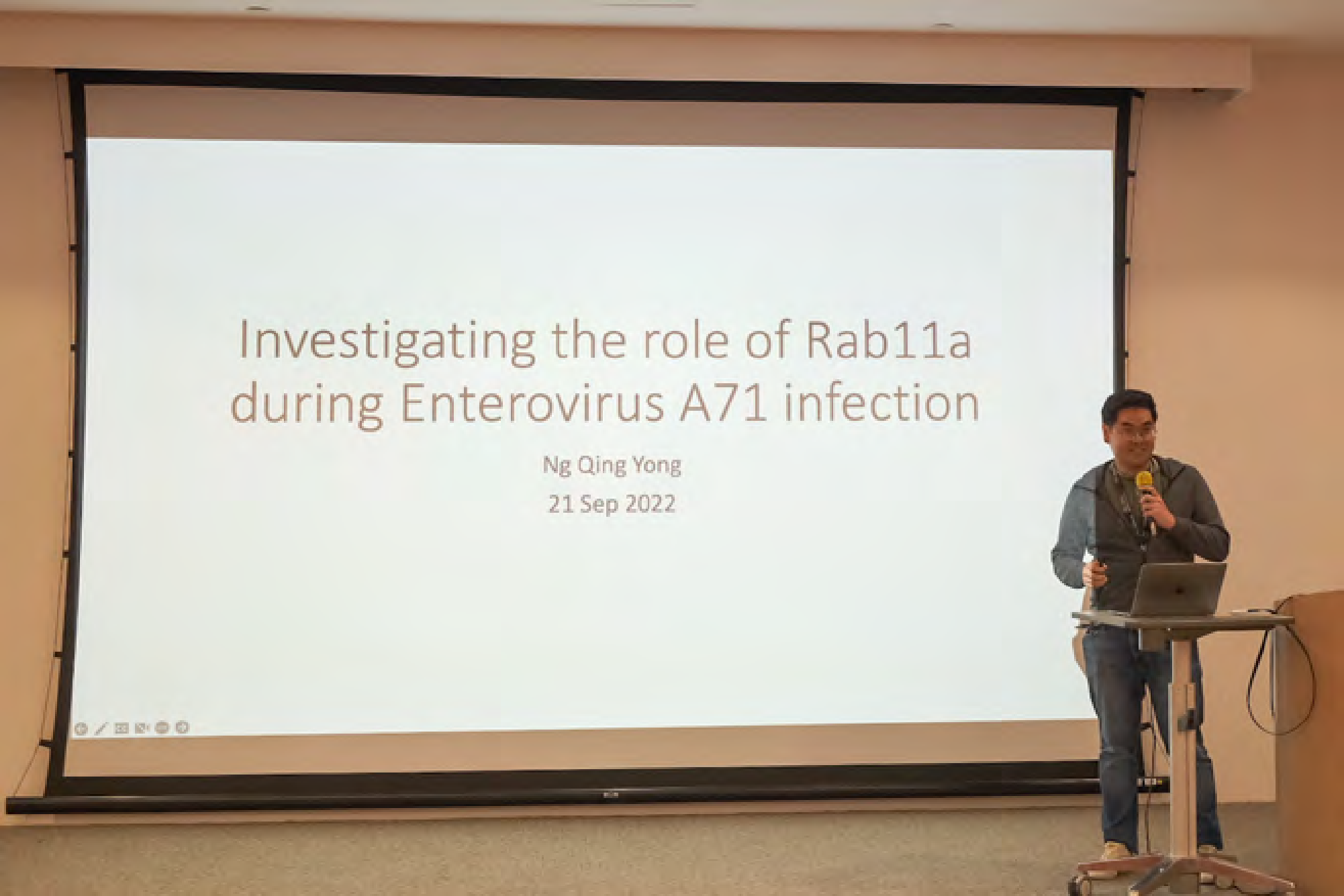

NUS
ough and wheezing
tness of breath
t tightness
thing difficulty
Asthma In Singapore
10.5%
DIAGNOSED WITH LIFETIME ASTHMA
5%
ADULTS
20%
CHILDREN
HAVE ASTHMA
1 in 3
PEOPLE WITH ASTHMA REPORTED ASTHMA ATTACKS IN THE PAST YEAR
1 in 2
PEOPLE WITH ASTHMA REPORTED MISSING SCHOOL OR WORK IN THE PAST YEAR
26%
OF PEOPLE WITH ASTHMA USED PREVENTER INHALERS IN THE PAST MONTH
17.1%
NO REGULAR ASTHMA FOLLOW-UP
SGD 2.09 BILLION
ESTIMATED ANNUAL COSTS OF ASTHMA
USING PREVENTER INHALER DAILY LOWERS RISK OF ASTHMA ATTACK

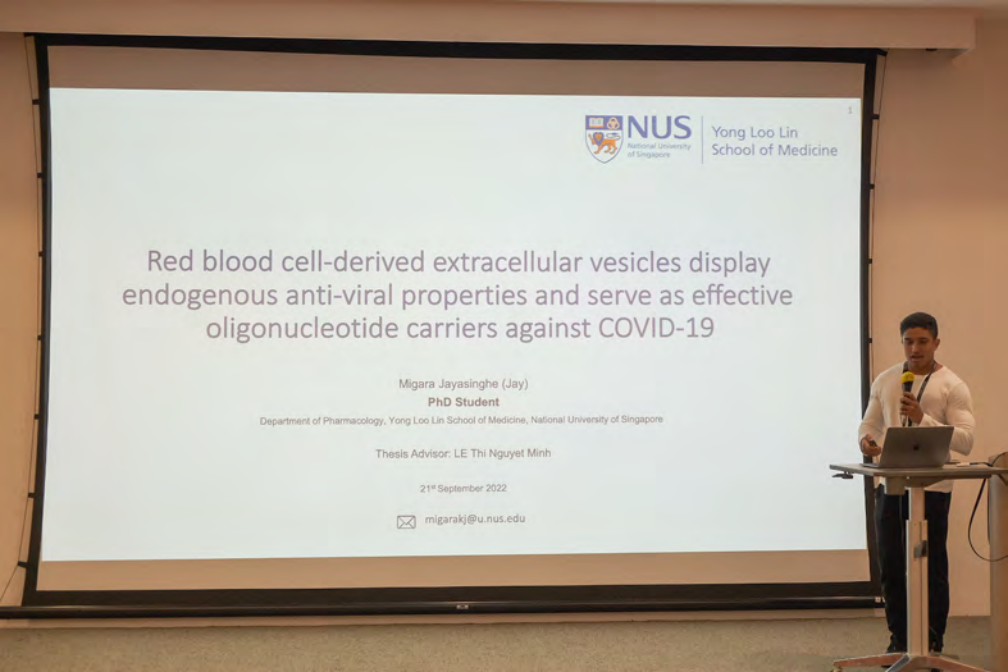

ABSC conference – 21st September 2022
NUS
Role of CD151 in influenza-induced asthma exacerbation (IAE)
ChihSheng New
Supervisor: A/Prof Thai Tran


VP2
VP3
VP1
VP4
VPg
AAAn
3'UTR
P3
2C
3A
3B
3C
3D
AAAn
P3
3AB
3CD
2C
3A
VPg
Adapted from Yi et.al (2017)
2


Genetic glycoengineering in bacteria
SHAM Lok To, Chris
Infectious Diseases Translational Research Programme
Department of Microbiology and Immunology
National University of Singapore
NUS
Infectious Diseases Translational Research Programme
Yong Loo Lin School of Medicine
Department of Microbiology and Immunology
Yong Loo Lin School of Medicine
NUS


gar-coated
BACTERIA
Biorender; Menon AK


Investigating the role of Rab11a during Enterovirus A71 infection
Ng Qing Yong
21 Sep 2022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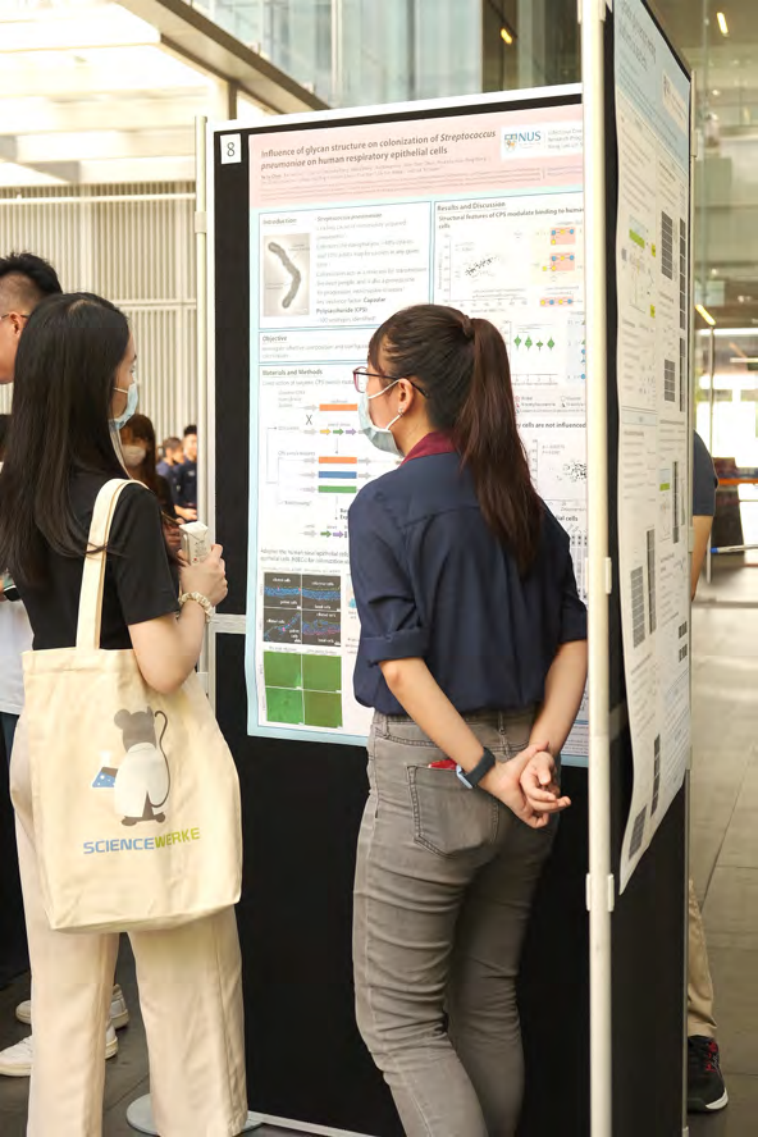
National University of Singapore
Yong Loo Lin School of Medicine
1
Red blood cell-derived extracellular vesicles display endogenous anti-viral properties and serve as effective oligonucleotide carriers against COVID-19
Migara Jayasinghe (Jay)
PhD Student
Department of Pharmacology, Yong Loo Lin School of Medicine, National University of Singapore
Thesis Advisor: LE Thi Nguyet Minh
21st September 2022
migarakj@u.nus.edu


8
Influence of glycan structure on colonization of Streptococcus pneumoniae on human respiratory epithelial cells
Introduction
Objective
Materials and Methods
Results and Discussion
SCIENCEWERKE


4
5
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derived metabolite Urolithin A upregulates autophagy,
biogenesis and extends lifespan in vertebrates


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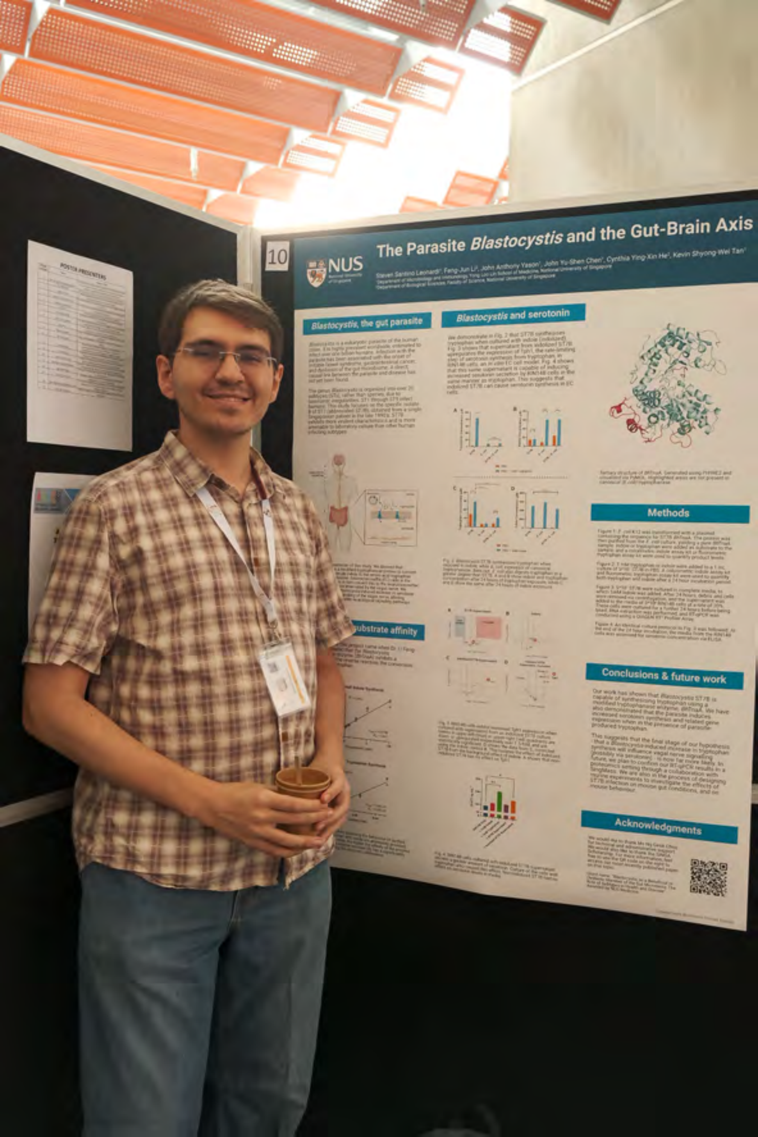
Hematopoietic and
Immune Cell Products
Immunology Research
Lonza
Lonza
za


10
The Parasite Blastocystis and the Gut-Brain Axis
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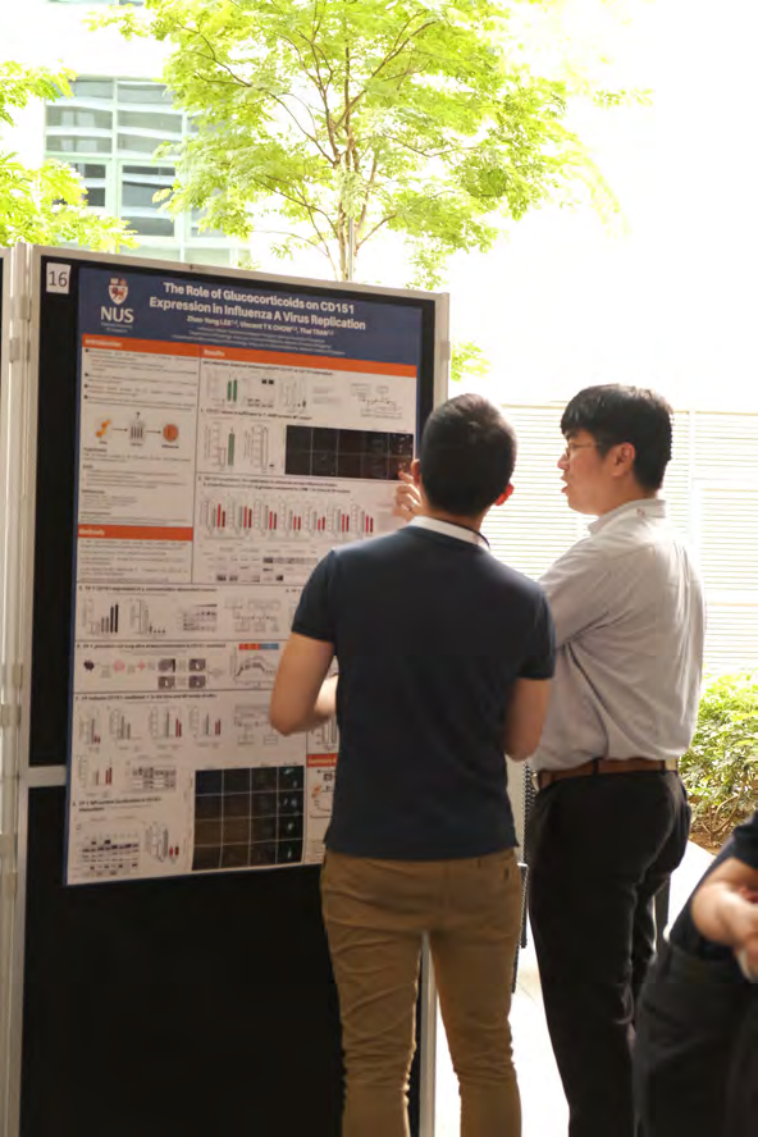
Blastocystis, the gut parasite
Blastocystis and serotonin
substrate affinity
Methods
Conclusions & future work
Acknowledgments
POSTER PRESENTERS


Singleron


16
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The Role of Glucocorticoids on CD151 Expression in Influenza A Virus Replication


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pstream Regulation of Wnt Signaling: Biology and Therapy

21 September 2022
ABSC Scientific Congress

David Virshup
david.virshup@duke-nus.edu.sg

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Upstream Regulation of Wnt Signaling: Biology and Therapy

21 September 2022
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David Virshup
david.virshup@duke-nus.edu.sg


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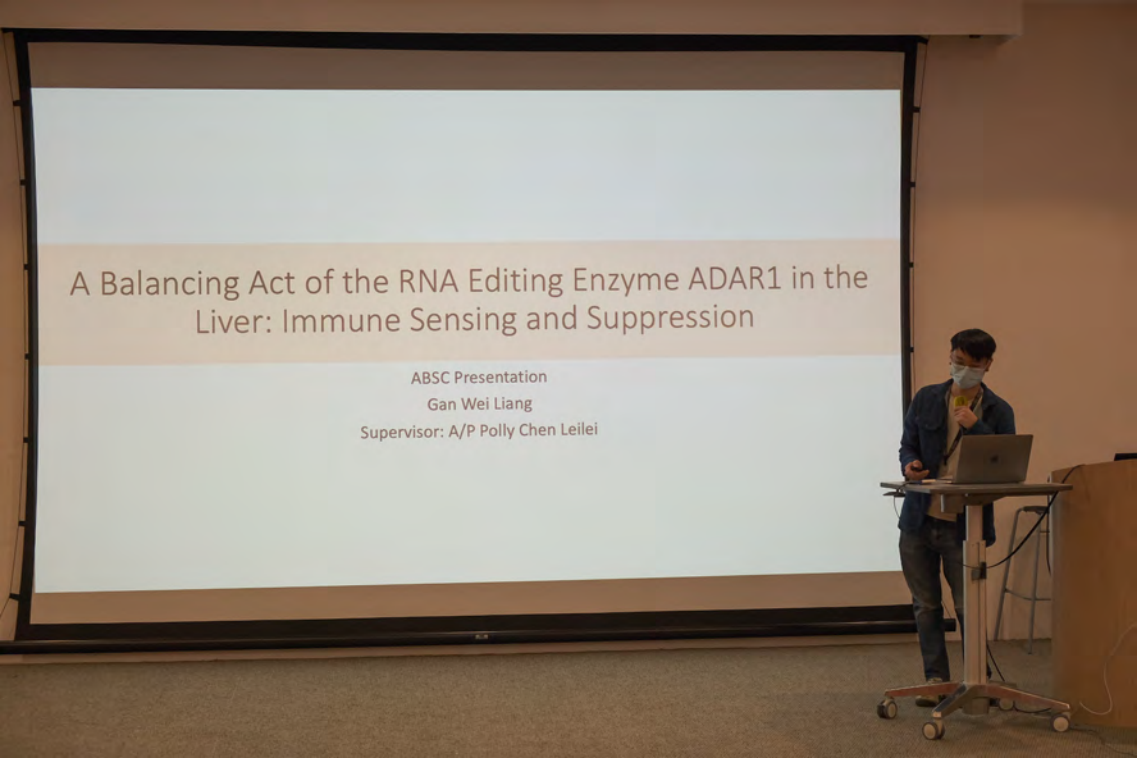
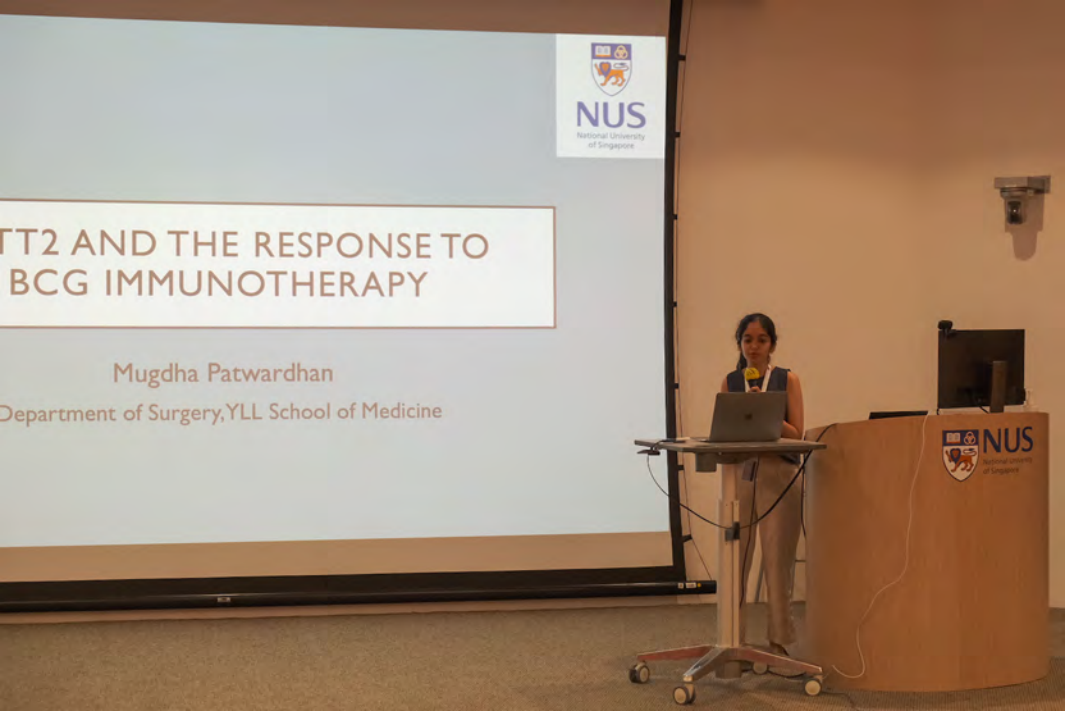

A Balancing Act of the RNA Editing Enzyme ADAR1 in the Liver: Immune Sensing and Suppression
ABSC Presentation
Gan Wei Liang
Supervisor: A/P Polly Chen Leilei


ISG: Interferon stimulated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TT2 AND THE RESPONSE TO
BCG IMMUNOTHERAPY
Mugdha Patwardhan
Department of Surgery,YLL School of Medicine
NUS


STOP MISUSE OF
TEACHING FACILITIES


Building Research Foundations
for Translational Medicine


Chairperson
A/Prof Gan Yunn Haven
Associate Professor, Department of Biochemistry,
Co-Director, Infectious Diseases Translational Research Program,
NUS Medicine
Moderator: Tay Hui Yi
2:20 – 2:35 Oral presentation-5:
Enterovirus 71 Infection
Speaker: Ng Qing Yong
2:35 – 2:50 Oral presentation-6:
Display Endogenous Anti-viral
Oligonucleotide Carriers for SA
Speaker:
2:50 – 3:05 Oral presentation-7:
Exacerbation (IAE). Speaker:
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Chairperson
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Moderator:
Oral presentation-5:
Speaker:
Oral presentation-6:
Speaker:
Oral presentation:
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Longevity Medicine
@Age
Prof. Andrea Maier
VU
Alexandra Hospital
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Products
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and dissociation
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2022
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FOR TRANSLATIONAL MEDICINE
Plenary Speaker
Prof. Sir Konstantin Novoselov
Keynote Speaker:
Invited Speakers:
Cancer Research
Prof. David Wirtz
Healthy Longevity
Prof. Andrea Alcalay
Infectious Diseases
Dr. Chris Sham
21 SEP 2022
CONFERENCE DAY
&
22 SEP 2022
CAREER DAY
@
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2022
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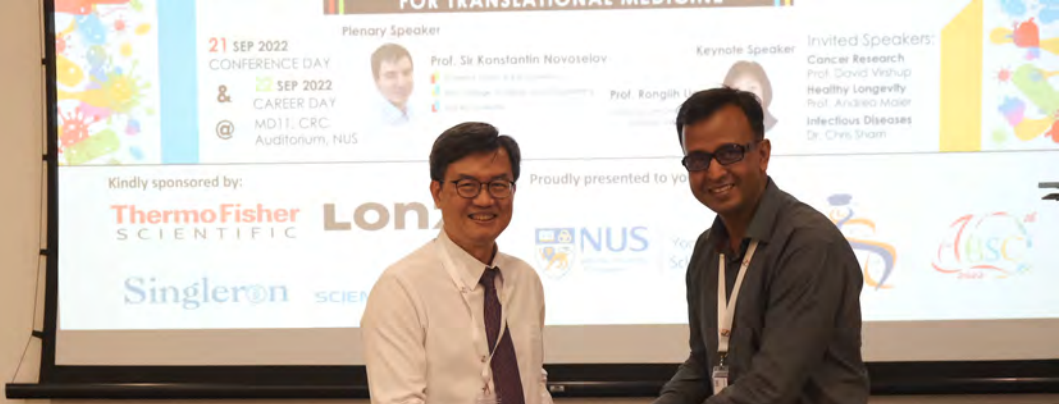
Plenary Speaker
21 SEP 2022
CONFERENCE DAY
&
SEP 2022
CAREER DAY
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Prof. Sir Konstantin Novoselov
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Cancer Research
Prof. David Wishup
Healthy Longevity
Prof. Andrea Maier
Infectious Diseases
Dr. Chris Sham
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Plenary Speaker
21 SEP 2022
CONFERENCE DAY
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22 SEP 2022
CAREER DAY
@
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Auditorium, NUS
Prof. Sir Konstantin Novoselov
Keynote Speaker
Prof. Ronglih Liao
Invited Speakers:
Cancer Research
Prof. David Virshup
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Longevity Medicine
@Age
Prof. Andrea Maier
Alexandra Hospital
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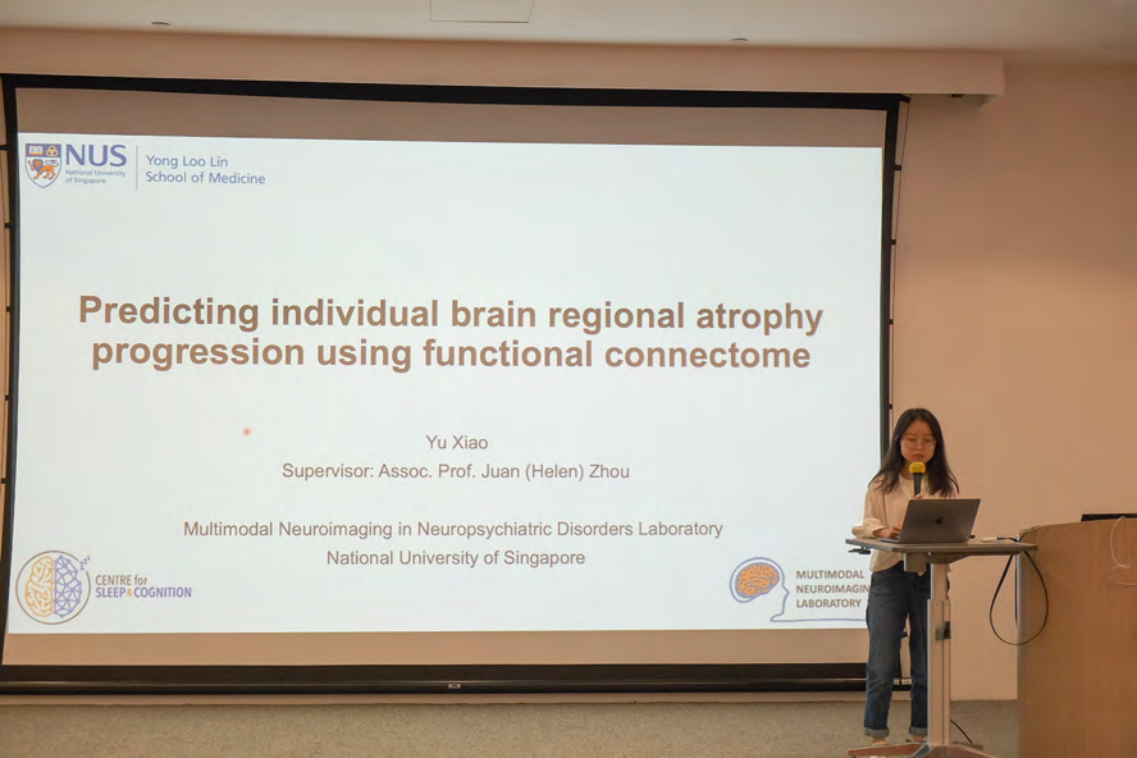
Agency for Science, Technology and Research
NUS
Department of Biochemistry
Yong Loo Lin School of Medicine
Narciclasine Promotes Lipolysis and White Fat Browning in Diet-induced Obese Mice
Belinda X. ONG
Supervisor: Dr. Feng XU
Co-supervisor: A/Prof CHEN Ee Sin
Institute of Molecular and Cell Biology (IMCB), A*STAR
Department of Biochemistry, Yong Loo Lin School of Medicine, NUS
NUS
National University of Singapore


esity epidemic
OBESITY
Increased circulating:
- FFA
- Adipocytokines
Adipose tissue
Increased:
- Lipolysis
- Hypertrophy
- Macrophage recruitment
- Cytokine production
INSULIN RESISTANCE
). Regulators of glucose and lipid metabolism in
rum implications for obesity and type 2 diabetes.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Yong Loo Lin
School of Medicine
Predicting individual brain regional atrophy progression using functional connectome
Yu Xiao
Supervisor: Assoc. Prof. Juan (Helen) Zhou
Multimodal Neuroimaging in Neuropsychiatric Disorders Laboratory
National University of Singapore
CENTRE for SLEEP & COGNITION
MULTIMODAL NEUROIMAGIN LABORATORY


ional atrophy
connectome
hou
lers Laboratory
MULTIMODAL
NEUROIMAGING
LABORATORY


EXIT


Session 4
Session 4 (3:35 – 4:55)
3:35 – 4:10
Scientific Talk: Longevity Medicine: The Path towards Prevention
Prof Andrea Maier
Oon Chiew Seng Professor in Medicine
Co-Director of Centre for Healthy Longevity, NUS Medicine
Chairperson
A/Prof Raymond Seet
Associate Professor, Department of Medicine, NUS Medicine
Moderator: Caroline Robert
4:10 – 4:25
Oral presentation-8: Narciclasine Promotes Lipolysis and White Fat Browning in Diet-induced Obese Mice
Speaker: Belinda Ong
4:25 – 4:40
Oral presentation-9: Predicting Individual Brain Regional Atrophy
4:40 – 4:55
with Neurodeg
Cerebrovascular Disease in Dementia
Speaker:
the QR code to stand a cha
win a prize in the lucky draw


Session 4
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4 (3:35 – 4:55)
4:10
Scientific Talk: Longevity Medicine: The Path towards Prevention
Prof Andrea Maier
Oon Chiew Seng Professor in Medicine
Co-Director of Centre for Healthy Longevity, NUS Medicine
Chairperson
A/Prof Raymond Seet
Associate Professor, Department of Medicine, NUS Medicine
Moderator: Caroline Robert
4:25
Oral presentation-8: Narciclasine Promotes Lipolysis and White Fat Browning in Diet-Induced Obese Mice
Speaker: Belinda Ong
4:40
Oral presentation-9: Predicting Individual Brain Regional Atrophy Progression and Cognitive Decline Using Functional Connectome
Speaker: Yu Xiao
4:55
Oral presentation-10: Lowi Pl
sine Levels are Associated with Neurodegeneration and
r Disease in Dementia
Speaker: Liuyun Wa
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Session 4 (3:35 – 4:55)
3.35 – 4.10
Scientific Talk: Longevity Medicine: The Path towards Prevention
Prof Andrea Maier
Don Chiew Seng Professor in Medicine
Co-Director of Centre for Healthy Longevity, NUS Medicine
Chairperson
A/Prof Raymond Seet
Associate Professor, Department of Medicine, NUS Medicine
Moderator: Caroline Robert
4.10 – 4.25
Oral presentation-8: Nanciclotone Promotes Lipolysis and White Fat Browning in Diet-induced Obese Mice
Speaker: Belinda Ong
4.25 – 4.40
Oral presentation-9: Predicting Individual Brain Regional Atrophy Progression and Cognitive Decline
4.40 – 4.55
Oral presentation-10: Low Plasma
Degeneration and Co
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Progressive Healthcare
Adaptive
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STOP MISUSE OF
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Solving World Most Important Issues
Smart Cities
Progressive Healthcare
Water treatment
Adaptive
Intelligent
Materials
Robotics
Artificial Intelligence
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