

TARIPH Newsletter

The Academic Respiratory Initiative for Pulmonary Health

Bringing research to patients through partnerships

What is TARIPH?

The Academic Respiratory Initiative for Pulmonary Health (TARIPH) is an interdisciplinary research platform committed to improving lung health and bringing research to patients through partnership. TARIPH represents the respiratory research community's collective desire to improve academic respiratory research, particularly in Singapore. Fundamentally, TARIPH seeks to benefit patients with lung disease through research improving their quality of life and outcomes.

Why respiratory disease?

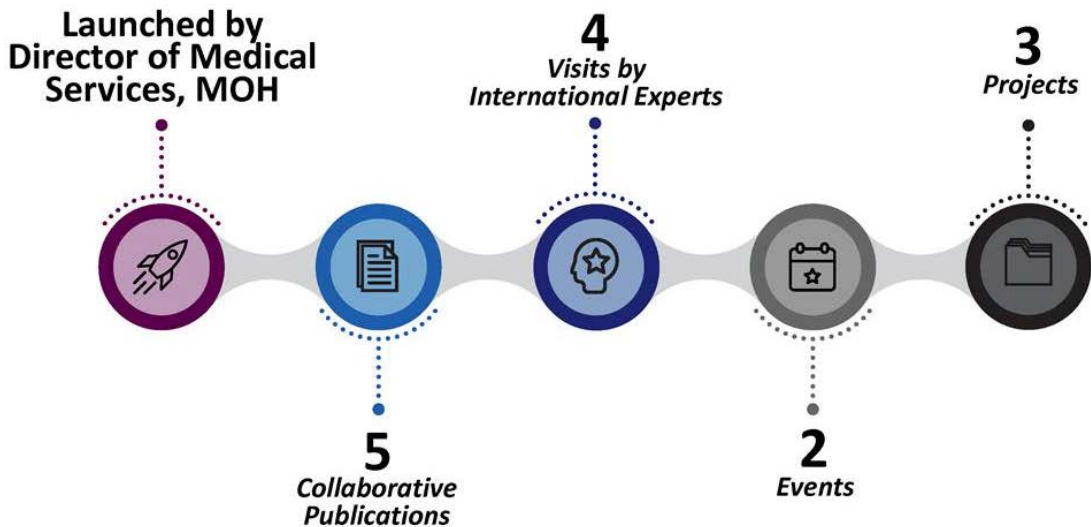
Respiratory diseases are among the leading cause of death and disability globally^[1]. Approximately, 4 million people die prematurely from chronic respiratory disease^[2] while at least 2 billion people are exposed to indoor toxic smoke, 1 billion inhale outdoor pollutant air and 1 billion are exposed to tobacco smoke^[1]. By 2030, respiratory diseases are expected to be the leading cause of death internationally^[3].

In Asia, we face additional challenges such as having three times higher asthma mortality rates compared to other developed nations^[4]. Locally, respiratory diseases including COPD, lung cancer and respiratory tract infection, are key contributors to disease burden in Singapore and is among the 20 leading causes of disability adjusted life years (DALYs) and years of life lost (YLL)^[5]. Our major chronic respiratory diseases: asthma and chronic obstructive pulmonary disease (COPD) illustrate unique endo-phenotypes requiring dedicated research and clinical focus.

What does TARIPH do?

TARIPH serves as a coordinating office for collaborative academic respiratory research in Singapore and across the region. We organize research collaborative workshops, networking events as well as national and international symposia to help bring respiratory researchers from multiple disciplines together. We are passionate in facilitating interdisciplinary initiatives and potential collaborations, in addition to keeping our members updated of the latest events and news across the respiratory research community in Singapore.

Summary of TARIPH Activities since launch



TARIPH Bulletin

Giving the breath of life to TARIPH

The idea of a national academic platform for respiratory health was first proposed and published in *Letter from Singapore* (Chotirmall & Koh, 2018) in January 2018. On 19 March 2018, this idea became reality when Associate Professor Benjamin Ong (Director of Medical Services, Ministry of Health) breathed life into The Academic Respiratory Initiative for Pulmonary Health (TARIPH) as he introduced the initiative at its **Official Launch** event that coincided with **2nd International Symposium on Respiratory Research (ISRR)**.

Respiratory disease is one of the commonest chronic diseases worldwide with >200 million

Recommended Reads by Senior Residents

The Recommended Reads by Senior Residents section features a list of key publications with an accompanying brief summary that have been selected by a group of nominated Senior Residents in Respiratory medicine from each healthcare cluster. These highlighted articles are carefully curated to be read-worthy amidst busy schedules of respiratory researchers, clinicians and fellow residents.

The Senior Residents are supervised by Adj Assoc Prof Mariko Koh, Senior Consultant, Department of Respiratory and Critical Care Medicine, Singapore General Hospital in the selection of suitable

people suffering from asthma[6] and >65 million people with severe obstructive Pulmonary Disease (COPD)[7]. COPD is the third leading cause of death internationally and is likely to become the leading cause of death worldwide by 2030[7]. More than 500,000 Singaporeans and many respiratory disease patients globally live with these debilitating conditions each day[8][9]. TARIPH is envisioned to provide hope to these patients to help them 'breathe better' through translating research into clinical treatment.

TARIPH is the result of the collaborative efforts amongst Singapore's pulmonary research community and brings together academic, research and clinical experts from across Singapore and the healthcare spectrum to benefit Singaporeans living with lung diseases through research. The event featured over 20 established, local and international speakers who spoke about the latest scientific breakthroughs in respiratory medicine.

The 2nd ISRR also saw another key moment, when the six institutions that make up the **Singapore-International Research Consortium (SIRC)** – Nanyang Technological University, Singapore, National University of Singapore, University of Newcastle, University of British Columbia, Karolinska Institutet and Imperial College London signed a Memorandum-of-Understanding, to further international research collaborations and postgraduate student exchanges.

Asthma in Singapore: Unmet Clinical and Research Needs

On 30th August 2018, TARIPH held its inaugural workshop hosted by Adjunct Associate Professor Mariko Koh Siyue from Singapore General Hospital. The workshop was met with an overwhelming response from the local asthma community with >50 TARIPH members, asthma researchers, senior clinicians, heads of departments, nurses and policymakers from healthcare institutions across Singapore, including the Ministry of Health attending. Both overseas and local speakers shared their experiences and research findings on asthma in both clinical and research settings across Singapore. LKCMedicine Visiting Professor Chung Kian Fan, an international thought leader in asthma, who is based at the National Heart and Lung Institute, Imperial College London also shared his expertise in the move toward precision medicine in asthma. The group had fruitful and open discussions about the need for innovation in asthma care and strategic academic approaches for this disease in Singapore over the next 10 years.

Click [here](#) for the programme and [here](#) for more pictures of the event.

Sharing and knowledge exchange by international respiratory experts

Since TARIPH's launch, we have had the opportunity to host and learn from some of the leading international respiratory experts. Assistant Professor Sanjay Chotirmal, co-academic lead of TARIPH Scientific Committee hosted the guests and introduced the various facilities and initiatives including a tour around the Clinical Science Building at Novena where our TARIPH office is based.

International Respiratory Experts whom visited TARIPH:



- **Professor Wisia Wedzicha** – Professor of Respiratory Medicine and Head, Respiratory Clinical Science Division, National Heart and Lung Institute, Imperial College London
- **Professor Antonio Anzueto** – Professor of Medicine at the University of Texas Health Science Center and Chief of the Pulmonary Section for the South Texas Veterans Health Care System, San Antonio, Texas, USA
- **Professor Paul O'Byrne** – Dean and Vice-President (Health), Faculty of Health Sciences at McMaster University
- **Professor Gary Lee** – Professor of Respiratory Medicine, Faculty of Health and Medical Sciences, University of Western Australia

Of the four visiting experts, two of them – Prof Wisia Wedzicha and Prof Gary Lee have gone on to become part of TARIPH's International Advisory Board and we are certain that TARIPH will gain much benefit from their international pedigree, knowledge and experience in respiratory academia.

The full list of members on TARIPH's International Advisory Board can be found in the next article below.

If you are hosting any overseas guest in Singapore who may be interested to share their expertise and knowledge with the TARIPH community, please feel free to contact us at Tariph@ntu.edu.sg for further discussion.

Welcoming TARIPH Leadership

TARIPH is pleased to announce that we have successfully established a committee of leading respiratory researchers from across the clinical and academic communities across Singapore to help lead TARIPH and chart a pathway to better respiratory care, lung health and academic research across Singapore. The TARIPH Scientific Committee serves to coordinate TARIPH's academic activities and are responsible for scientific planning of activities, facilitating and building national and international partnerships, supporting respiratory talent development and outlining a strategic future direction for TARIPH. The committee members are appointed on a fixed term rotational basis.

Scientific Committee Co-Chairs



Asst Prof Sanjay Chotirmal Assoc Prof Fabian Lim

Scientific Committee Members



Adj Assoc Prof John Ababegenaden Adj Assoc Prof Augustine Tee Adj Assoc Prof Mariko Koh Assoc Prof Chew Fook Tim Prof Helen Smith

articles for this academic year.

The recommended reads for this quarter are:

1. [Long-Term Triple Therapy De-escalation to Indacaterol/Glycopyrronium in Patients with Chronic Obstructive Pulmonary Disease \(SUNSET\): A Randomized, Double-Blind, Triple-Dummy Clinical Trial](#) (Am J Respir Crit Care Med. 2018 Aug 1;198(3):329-339.)
2. [Management of Malignant Pleural Effusions. An Official ATS/STS/STR Clinical Practice Guideline](#) (Am J Respir Crit Care Med. 2018 Oct 1;198(7):839-849)

Direct withdrawal of inhaled corticosteroids in COPD patients who did not frequently exacerbate on triple therapy was demonstrated to be safe with no increased exacerbation risks except in patients with blood eosinophils =300 µl, and this together with the previous findings of the WISDOM trial supports a personalised management for patients with COPD.

Since the American Thoracic Society first published their guidelines in 2000 for management of malignant pleural effusion, followed by the British Thoracic Society guidelines in 2010, this latest guideline is a collaborative effort to provide the latest recommendations based on current evidence. It includes clinical questions in PICO format and give practical recommendations based on currently available evidence.

3. [Nintedanib plus Sildenafil in patients with Idiopathic Pulmonary Fibrosis](#). (N Engl J Med. 2018 Nov 1;379(18):1722-1731)
4. [Inhaled Tranexamic Acid for Hemoptysis Treatment: A Randomized Controlled Trial](#). (Chest. 2018 Dec;154(6):1379-1384.)

Despite promise of Sildenafil, addition of Sildenafil to Nintedanib in IPF patients with significantly impaired gas exchange (DLCO < 35%) did not improve quality of life (using St George's Respiratory Questionnaire) relative to Nintedanib alone. Rates of acute exacerbations and all-cause mortality were also similar in both arms.

Apart from treatment of the underlying cause, no effective medical therapy for hemoptysis has been demonstrated to date. This prospective, double-blinded, placebo-controlled randomised controlled trial examines the effectiveness of nebulised tranexamic acid 500mg TDS compared to placebo and found reductions in the volume of expectorated blood, duration of hospitalisation and need for invasive interventions in patients hospitalised for non-massive hemoptysis.

5. [Pulmonary hypertension in chronic lung disease and hypoxia](#) (Eur Respir J. 2018 Dec 13; in press)

Part of a series 'Proceedings of the 6th World Symposium on Pulmonary Hypertension', this article summarizes the multitude of causes of chronic-lung-disease related pulmonary hypertension (PH) and addresses who, when, if and how to screen for PH, and latest evidence for treatment with pulmonary vasoactive agents.

Edited by:



Dr Phua Chee Kiang, Senior Resident, Respiratory and Critical Care Medicine Department, Tan Tock Seng Hospital



Dr Chew Si Yuan, Senior Resident, Respiratory Medicine, Singapore General Hospital



Dr Tan Yi Hern, Senior Resident, Singhealth Respiratory and Critical Care Medicine, Changi General Hospital



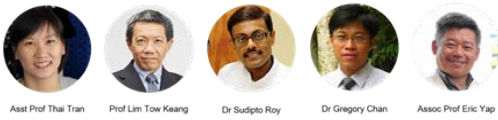
Dr Tan Ze Ying, Senior Resident, Respiratory & Critical Care Medicine, National University Hospital

Updates from Singapore's Respiratory Community

Asthma Public Forum



The Singapore National Asthma Programme (SNAP) organizes asthma forums for the public annually to coincide with World Asthma Day. This year's asthma public forum was held at Changi General Hospital on 9th June 2018. Asthma specialists from various institutions were invited to speak at this event. Adjunct A/Prof Teoh Oon Hoe from KKH's



Asst Prof Thai Tran Prof Lim Tow Keang Dr Sudipto Roy Dr Gregory Chan Assoc Prof Eric Yap

To help ensure global competitiveness and alignment to international trends in respiratory medicine, an International Advisory Board has been appointed to provide international expertise, advice and critical evaluation of TARIPH's academic activities to the Scientific Committee.

International Advisory Board Members



Prof James Chalmers Prof Wisia Wedzicha Prof Christopher Carlsten Dr Sundeep Salvi
 Prof Hilary Pincock Prof Darryl Knight Prof Chung Kian Fan Prof Gary Lee

You may click on the images above to read more about each member.

**5 minutes with.....
 Professor John Abisheganaden**

The "5 minutes with" section is a light-hearted series where five short questions are posed to people from our local respiratory community to uncover interesting things about them. In this issue, we have invited Clinical Associate Professor John Abisheganaden who is the Head of Respiratory and Critical Care Medicine Department at Tan Tock Seng Hospital to share his answers with us.



1. Did you choose your profession or did it choose you?

I was interested in the field of Respiratory (and Critical Care) Medicine and so I deliberately chose it. One key reason why I was attracted to this specialty was that it provided me with both the breadth (wide range of cases that can be managed) and depth (the possibility to deep dive or sub-specialise further) of clinical medicine. One needs to have a long-term view as the training is long and the journey will be challenging.

2. What was one of your most defining moments in life?

There are probably more than one. I would say spending a year abroad at the University of California, San Francisco (UCSF) was one of them. There I experienced cutting edge clinical research in asthma and worked with Professor Homer Boushey who was a world-renowned expert in the field of asthma and airway diseases at the Asthma Clinical Research Center and Division of Allergy and Immunology, UCSF.

3. If you could have dinner with anyone, who would it be?

It's a toss-up between Albert Einstein and Yoda. Both are deep thinkers and wise...

4. Do you prefer coffee or tea?

I used to be very addicted to coffee. Less so now. A definitive study claims that people who drink three cups of coffee may live longer. They also saw their risk of heart death fall by a fifth, Alzheimer's disease by a quarter and liver disease by more than a third. I think this sounds too good to be absolutely true.

5. What do you do in your spare time?

I like to catch up with what's happening outside of medicine, so I like to read especially current news items and what's happening in the rest of the world. Traveling to historical places of interest is also something I would like to do more of. I relax by playing the piano, guitar and going for long walks.

respiratory service gave a talk on "Understanding Childhood Asthma – empowering parents to improve asthma control". Dr Tay Tunn Ren from the department of respiratory and critical care medicine, CGH, spoke about "Myths and misconceptions of asthma". Adjunct A/Prof Mariko Koh from the department of respiratory and critical care medicine, SGH, gave a talk on "Asthma deaths are preventable: what you can do to help yourself and your loved ones". Wrapping up the forum was Mr Malayagam, a patient with asthma, who shared his experience of living with asthma and his brush with death when he was admitted to the intensive care unit for an asthma exacerbation as a result of poor adherence to his asthma medications. The forum was well-received by the public with lively exchanges during the question-and-answer session.

World COPD Day 2018



Changi General Hospital (CGH) conducted their annual World Chronic Obstructive Pulmonary Disease (COPD) Day public outreach activities on 21 November 2018. The activity expanded to new locations in eastern Singapore. Five teams of Nurses, Respiratory Technicians, Doctors and Volunteers went around Heartbeat@Bedok, Our Tampines Hub, and the new Medical Centre at CGH to raise awareness on the dangers of COPD and the importance of having healthy lungs. In the span of a few hours, a new high of more than 240 participants were reached, and pledges were collected from participants to support COPD awareness, and share the knowledge that they have gained with their family and loved ones. Chronic Obstructive Pulmonary Disease (COPD) is an adult lung disease that has long term impact, and though common and progressive, is preventable and treatable. It is related to airway narrowing and lung tissue destruction. Cigarette smoking is a leading risk factor for COPD. As the disease progresses, patients may experience breathlessness, cough, sputum production, tiredness, wheezing or weight loss. It is the 10th most common cause of death in Singapore. Supported by GlaxoSmithKline, the outreach activities included a simple spirometry test to help participants gauge their lung function, and experience how COPD patients are tested.

Have any respiratory-related updates to share with the TARIPH community? Do get in touch with us at tarih@ntu.edu.sg for further details.

Upcoming Events

Flow-Volume Underworld (FVU) 2019 Meeting

Date: 25-26 March 2019, Mon-Tue
 Venue: National University of Singapore
 Yong Loo Lin School of Medicine,
 Clinical Research Centre (CRC) Auditorium, MD11
 10 Medical Drive, Singapore 117597
 Register [here](#). Preliminary program [here](#).

Lecture by Prof Wisia Wedzicha on "COPD Exacerbations"

Date: 29 April 2019, Mon
 Time: 4.30pm – 5.30pm
 Venue: Seminar Room 7-2, Level 7,
 LKCMedicine Novena Campus
 Clinical Sciences Building
 11 Mandalay Road, S308232
 Register [here](#).

Acknowledgements

We would like to thank the following people for their contribution to this issue of the TARIPH newsletter:

- Colleagues from Communications and Outreach department, Lee Kong Chian School of Medicine, for their advice and assistance with proofreading;
- Cindy Yong from Corporate Affairs (Communications), Changi General Hospital, for her contribution of 'World COPD Day' article and picture; and
- Dr Tay Tunn Ren from Department of Respiratory and Critical Care Medicine, Changi General Hospital (CGH) for her contribution 'Asthma Public Forum' article and picture

Join the TARIPH family

This newsletter is sent to all TARIPH members who have indicated their interest. Click [here](#) to subscribe to the newsletter by joining the TARIPH family. For more details about TARIPH, please visit our [website](#) or email TARIPH@ntu.edu.sg.

Please feel free to circulate this newsletter to friends and colleagues who are interested about academic respiratory research and updates.

1. **Chotirmall, Sanjay H.**, Sven-Erik Dahlén, Christopher Carlsten, **W.S. Fred Wong**, Kian F. Chung, Reinoud Gosens, and Darryl A. Knight. "International Research Collaboration: The Way Forward." *Respirology* 23, no. 7 (2018): 654-55. <https://doi.org/10.1111/resp.13327>
2. **Chotirmall, Sanjay H.**, and **Mariko Siyue Koh**. "Letter from Singapore." *Respirology* 23, no. 2 (2018): 228-29. <https://doi.org/10.1111/resp.13210>
3. Eguiluz-Gracia, Ibon, **Tunn Ren Tay**, Mark Hew, Maria M Escribese, Domingo Barber, Robyn E O'hehir, and Maria J Torres. "Recent Developments and Highlights in Biomarkers in Allergic Diseases and Asthma." *Allergy* (2018). <https://doi.org/10.1111/all.13628>
4. Hiles, S. A., E. S. Harvey, V. M. McDonald, M. Peters, P. Bardin, P. N. Reynolds, J. W. Upham, *et al.* "Working While Unwell: Workplace Impairment in People with Severe Asthma." *Clinical & Experimental Allergy* 48, no. 6 (2018): 650-62. <https://doi.org/10.1111/cea.13153>
5. Lee, Joy, **Tunn Ren Tay**, Naghmeh Radhakrishna, Fiona Hore-Lacy, Anna Mackay, Ryan Hoy, Eli Dabscheck, Robyn O'Hehir, and Mark Hew. "Non-Adherence in the Era of Severe Asthma Biologics and Thermoplasty." *European Respiratory Journal* (2018): 1701836. <https://bit.ly/2ThUf0J>
6. Lee, Joy W., **Tunn Ren Tay**, Paul Paddle, Amanda L. Richards, Lisa Pounton, Miriam Voortman, Michael J. Abramson, Ryan Hoy, and Mark Hew. "Diagnosis of Concomitant Inducible Laryngeal Obstruction and Asthma." *Clinical & Experimental Allergy* 48, no. 12 (2018): 1622-30. <https://bit.ly/2Tjp8mf>
7. **Mac Aogáin, Micheál, Ravishankar Chandrasekaran, Albert Yick Hou Lim, Teck Boon Low, Gan Liang Tan, Tidi Hassan, Thun How Ong.** *et al.* "Immunological Corollary of the Pulmonary Mycobiome in Bronchiectasis: The Cameb Study." *European Respiratory Journal* 52, no. 1 (2018): 1800766. <https://bit.ly/2sNgwDA>
8. **Mac Aogáin, Micheál, Pei Yee Tiew, Albert Yick Hou Lim, Teck Boon Low, Gan Liang Tan, Tidi Hassan, Thun How Ong.** *et al.* "Distinct Immuno-Allerotypes' of Disease and High Frequencies of Sensitisation in Non-Cystic-Fibrosis Bronchiectasis." *American journal of respiratory and critical care medicine*, no. ja (2018). <https://doi.org/10.1164/rccm.201807-1355OC>
9. McDonald, Vanessa M, Sarah A Hiles, Kristelle Godbout, Erin S Harvey, Guy B Marks, Mark Hew, Matthew Peters, *et al.* "Treatable Traits Can Be Identified in a Severe Asthma Registry and Predict Future Exacerbations." *Respirology* (2018). <https://doi.org/10.1111/resp.13389>
10. **Ong, Alvin Shao Qiang, Aik Hau Tan, Devanand Anantham, Kiran Sharma, Shera Tan, Therese Sophie Lapperre, Kah Yee Tham, Rehena Sultana, and Mariko Siyue Koh.** "Impact of Simulation Training on Performance and Outcomes of Endobronchial Ultrasound-Guided Transbronchial Needle Aspiration Performed by Trainees in a Tertiary Academic Hospital." *Journal of thoracic disease* 10, no. 9 (2018): 5621. <https://dx.doi.org/10.21037%2Fjtd.2018.08.76>
11. **Poh, Tuang Yeow, Nur A'tikah Binte Mohamed Ali, Micheál Mac Aogáin, Mustafa Hussain Kathawala, Magdiel Ingrid Setyawati, Kee Woei Ng, and Sanjay Hareesh Chotirmall.** "Inhaled Nanomaterials and the Respiratory Microbiome: Clinical, Immunological and Toxicological Perspectives." *Particle and Fibre Toxicology* 15, no. 1 (2018): 46. <http://dx.doi.org/10.1186/s12989-018-0282-0>
12. **Tay, Chee Kiang, Yang Chong Chua, Angela Takano, Madeline Yen Min Chee, Wan-Teck Lim, Cindy Lim, and Mariko Siyue Koh.** "Primary Pulmonary Lymphoepithelioma-Like Carcinoma in Singapore." *Annals of thoracic medicine* 13, no. 1 (2018): 30. https://dx.doi.org/10.4103%2Fatm.ATM_304_17
13. **Tay, Tunn Ren, Joy WY Lee, and Mark Hew.** "Diagnosis of Severe Asthma." *Med J Aust* 209, no. 2 Suppl (2018): S3-S10. <https://bit.ly/2Tjp8mf>
14. **Tran, The-Thien, Celine Vidailiac, Hong Yu, Valerie FL Yong, Dan Roizman, Ravishankar Chandrasekaran, Albert YH Lim.** *et al.* "A New Therapeutic Avenue for Bronchiectasis: Dry Powder Inhaler of Ciprofloxacin Nanoplex Exhibits Superior Ex Vivo Mucus Permeability and Antibacterial Efficacy to Its Native Ciprofloxacin Counterpart." *International journal of pharmaceuticals* 547, no. 1-2 (2018): 368-76. <https://doi.org/10.1016/j.ijpharm.2018.06.017>
15. **Yii, A. C. A., T.-R. Tay, X. N. Choo, M. S. Y. Koh, A. K. H. Tee, and D.-Y. Wang.** "Precision Medicine in United Airways Disease: A "Treatable Traits" Approach." *Allergy* 73, no. 10 (2018): 1964-78. <https://doi.org/10.1111/all.13496>
16. **Yii, Anthony C, Avril Z Soh, Cynthia BE Chee, Yee T Wang,** Jian-Min Yuan, and **Woon-Puay Koh.** "Asthma, Sinusoidal Disease, and the Risk of Active Tuberculosis." *The Journal of Allergy and Clinical Immunology: In Practice* (2018). <https://doi.org/10.1016/j.jaip.2018.07.036>

If there are any publications you would like to highlight here, please send them to Tariph@ntu.edu.sg. Publications listed here should demonstrate collaboration across Singapore or internationally.

We welcome contributions. Please contact the TARIPH secretariat at Tariph@ntu.edu.sg if there are any content you would like us to feature.

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