

# Curriculum Vitae



Name: Mr. Aung Myat  
Address: Blk 224 # 08-263, Choa Chu Kang Central  
Singapore 680224  
Contact: 90264410  
Email: [mpeam@nus.edu.sg](mailto:mpeam@nus.edu.sg);  
[zephyr923@gmail.com](mailto:zephyr923@gmail.com)  
Nationality: Myanmar  
NRIC: S8166522B  
Religion: Buddhist  
Marital status: Married  
Date of Birth: 09.05.1981

## **Academic Qualifications**

BEng (2004), Yangon Technological University (YTU)

M.sc (2006), National University of Singapore (NUS)

Ph.D (2011), National University of Singapore (NUS) (Thesis submitting)

## **Career History**

### **Research Engineer (Oct-2011 – present)**

I am currently working on the production of highly porous activated carbon using very low rank raw coal by the physical activation method.

### **Brief description of Production of highly porous activated from very low rank raw coal**

Activated carbon (AC) is a form of functionalized carbon that has been processed to make it highly porous, i.e. having a large surface area. On account of its high degree of micro-porosity, a single gram (g) of AC can have a surface area in excess of 500 square meters (m<sup>2</sup>), and some samples may achieve 3000 m<sup>2</sup>. The surface area of the AC achieved in current research is as high as 1200 m<sup>2</sup>/g. The next step is to do the chemical activation of AC which could obtain the surface as high as 3300 m<sup>2</sup>/g

## **Research Engineer (Aug-2006-Sept-2011):**

Working on Temperature Cascaded Cogeneration Plant (TCCP) (Performance analysis and optimization of waste heat activated devices equipped with Capstones Micro-turbine)

### **Brief description of TCCP Cogeneration system**

The TCCP basically produces both electricity and thermal energy is extracted from the exhaust gas to fire some thermally activated systems to generate variety of thermal energy such as Steam, cooling and dehumidification. The objective of this system is to maximize the utilization of waste energy from exhaust gas. The cogeneration system implemented here is a temperature cascaded configuration of the exhaust gas emanating from the Capstone C 30 micro-turbine in order to maximize the energy recovery from the exhaust gas. The predicted results were well agreed with the experimental investigation. The entropy generation analysis was carried out using the Gibbs free energy approach. The author introduced the specific entropy generation which is the ratio of system entropy generation and the energy produced from the cogeneration system. Genetics Algorithm (GA) was introduced to optimize both operational conditions such as coolant flow rates, heating fluid flow rates and the configuration of the area of heat transfer of the heat exchangers so as to reduce the specific entropy generation. The minimization of the specific entropy generation of the cogeneration plant along with GA tool was performed and it was found out that the optimal energy utilization factor (EUF) for the cogeneration plant is about 70% while the specific entropy generation is minimal.

### **Selected Publications**

1. **Aung Myat**, Kyaw Thu, Young-Deuk Kim, A. Chakraborty, Chun Won Gee and Ng KC, A Second Law analysis and entropy generation minimization of an absorption chiller, **Applied Thermal Engineering**, Volume 31, Issues 14-15, Pages 2405-2413,2011
2. **Aung Myat**, Kyaw Thu and Ng Kim Choon, Performance Analysis of Absorption Refrigeration System (ARS), **International Meetings of Advanced Thermal fluids, November 30, 2010 Singapore.**

3. ***Aung Myat***, Kyaw Thu, Kim Choon Ng, Performance Analysis And Entropy Generation For Multi-beds Adsorption Cooling System, **International Sorption Heat Pump Conference, April 5-8, 2011, Padua, Italy.**
4. ***Aung Myat***, Kyaw Thu, Kim Choon Ng, Optimization of Multi-beds regenerative Adsorption Cooling System, **The 8th Asia Pacific Conference on Sustainable Energy & Environmental Technologies, 10–13 July 2011 , Adelaide, Australia**
5. ***Aung Myat***, Kyaw Thu, Kim Choon Ng, An entropy generation and genetic algorithm optimization of two-bed adsorption cooling cycle, **Proceedings of the Institution of Mechanical Engineers, Part E, Journal of Process Mechanical Engineering, 2010 (Document in print)**
6. ***Aung Myat***, Kyaw Thu, Anutosh Chakraborty and Kim Choon Ng, A waste heat-driven multi-bed desiccant dehumidifier (MBDD): Performance and entropy generation minimization analysis, **The 9th International Conference on Sustainable Energy Technologies. August 24-27, 2010 Shanghai, China**
7. ***Aung Myat***, Kim Choon Ng, Hideharu Yanagi and Kyaw Thu, Experimental investigation on the performance of a waste heat-driven advanced desiccant dehumidifier without moving parts, **The 5th Asian Conference on Refrigeration and Air-conditioning, June 7-9, 2010, Tokyo, JAPAN.**
8. Muhammad Wakil Shahzad, Kim Choon Ng, Kyaw Thu, ***Aung Myat***, An Improved Film Evaporation Correlation for Saline Water at Sub-atmospheric Pressures, **International Meetings of Advanced Thermal fluids**, October 3-4, 2011 Meleka.
9. ***Aung Myat***, Kyaw Thu, Young-Deuk Kim, Ng Kim Choon, **Pperformance Investigation Of A Cogeneration Plant With The Efficient And Compact Heat Recovery System. International Meetings of Advanced Thermal fluids**, October 3-4, 2011 Meleka.
10. ***Aung Myat***, Ng Kim Choon, Kyaw Thu and Yound Deuk-kim, **Performance testing of waste heat driven novel Zeolite adsorption cooling system, 9<sup>th</sup> international Conference on Clean energy**, 2-5 November, 2011, Taichung, Taipei, (Accepted)

### **Selected Publications on pending**

- 1 ***Aung Myat***, Kyaw Thu and Kim Choon Ng, The numerical simulation of A Temperature Cascaded Cogeneration Plant equipped with efficient design of heat recovery system, **Applied Energy (Under review).**

- 2 ***Aung Myat***; Kyaw Thu, KC Ng, Second Law analysis of A waste heat-driven multi-bed desiccant dehumidifier and minimization of entropy generation, **International Journal of Heat and mass transfer** , 2011 (Under review)
- 3 ***Aung Myat***, Kyaw Thu and Kim Choon Ng, An optimal performance investigation of Nano powered Zeolite coated Adsorption cooling system, **Applied Energy**, 2011 (under review).
- 4 ***Aung Myat***, Kyaw Thu and Kim Choon Ng, The experimental investigation of A Temperature Cascaded Cogeneration Plant equipped with efficient design of heat recovery system, **ASME, Engineering for Gas Turbines and Power (Manuscript under preparation)**.
- 5 ***Aung Myat***, Kyaw Thu and Kim Choon Ng, Optimization of A Temperature Cascaded Cogeneration Plant equipped with efficient design of heat recovery system using Entropy generation analysis, **ASME, Engineering for Gas Turbines and Power (Manuscript under preparation)**.
- 6 Young-Deuk Kim, Kyaw Thu, ***Aung Myat*** and Ng Kim Choon, Numerical Simulation of Solar Assisted Multi Effect Distillation (MED) Desalination Systems, **Conference and Exhibition on DESALINATION AND THE ENVIRONMENT, 23-26 April 2012, Barcelona, Spain**

### **Selected Patent**

1. Method and apparatus for the waste-heat driven desiccant dehumidifier, **PCT/09246 (2010)**. Kim Choon Ng, ***Aung Myat***, Kyaw Thu, Hideharu Yanagi, Bidyut Baran. Saha and Ivan Leong.

### **Previous Professional working Experience**

#### **1. Ministry of Rail Transportation (Myanmar);**

**Experience**                      eight months (May 2004-December 2004)

Experience in Diesel Locomotive Factory,

Reason for leaving:              To attend Master of Science in National University of Singapore

### **Computational Skill**

MS office

Comsol Multi Physics

Fortran Power station 4.0 with IMSL Powerful Library Tool

Ansys, Fluent

Solid work 3D modeling and 2D layout.

CAD drawings.

Microsoft Visio process piping and instrumentation.