### **REGISTRATION FORM**

No	Name of Participants	M'ship No	Fee (RM)	
i)				
ii)				
iii)				
iv)				
v)				
		Total Payable		
	MUST BE FULLY PAID BEFORE THE CLOSING DATE ent. ACCOUNT NO. : 176-302-860-2 UNITED OVE			
Enclo	sed herewith a crossed cheque No:	for the sum of	f RM	
issued in favour of "The Institution of Engineers Malaysia, Negeri Sembilan Branch" an				
	ed 'A/C payee only'. I/We understand that the fe			
	ir application is accepted by the Organising Comr			
	ail to attend the seminar, the paid registration fee		cancenation term. II	
1/ ۷ ۷ Θ 1	all to attend the seminar, the paid registration fee	wiii not be retunded.		
Conta	ct Person :	Designation	:	
Name	of Organisation :			
Addre	ss:			
Telep	hone No. : (O) _		(Fax)	
	(H) _		(HP)	
Email	:			
Date :				
		Signature & S	Stamp	
	e: Closing date: 13 <sup>th</sup> March 2014. Please fax to sembilan@gmail.com	06-6314619 or email	to	
	REGISTRATI	ON FEE		

REGISTRATION FEE		
IEM MEMBER	NON-MEMBER	
RM200	RM250	



### THE INSTITUTION OF ENGINEERS MALAYSIA NEGERI SEMBILAN BRANCH

One Day Workshop on (

BEM APPROVED CDP/PDP Hours = 6.5 Ref. No: IEM14/NS/086/W

# Industrial Heat Exchanger

Operation and Maintenance to minimise fouling and corrosion

No. 77-A-1, Jalan Haruan 5/3, Oakland Commerce Square, 70300 Seremban, Negeri Sembilan

Tel: 06-6311011 Fax: 06-6314619

Email: iemnsembilan@gmail.com Website: www.iemns.org.my 1st April 2014 Tuesday 09.00am-5.00pm IEMNS Building

CLOSING DATE: 27TH MARCH 2014

#### IMPORTANT NOTES

- Closing Date: 27TH MARCH 2014
- Payment can be made via CASH / CHEQUE / BANK-IN TRANSMISSION / ONLINE TRANSFER / MONEY ORDER / POSTAL ORDER / LO / WALK-IN.
- FULL PAYMENT must be settled before comemencement of course, otherwise participant will
  not allowed to enter the hall. If a place is reserved and intended participant fail to attend the course,
  fee is to be settled in full. If participant made payment and failed to attend the course, the fee paid
  is non-refundable.
- The Organising Committee reserves the right to alter or change the programme due to unforeseen circumstances.



## THE INSTITUTION OF ENGINEERS MALAYSIA NEGERI SEMBILAN BRANCH

### SYNOPSIS

### **BIODATA**

Heat exchangers are widely used in industries both for cooling and heating of large scale industrial process fluid. The design of the used heat exchangers can be tailored to suit a process depending on the type of fluid, its phase, temperature, density, viscosity, pressures, chemical composition and various other thermodynamic properties. In the wake of energy crisis efficient heat recovery or dissipation of heat has become a challenge to the Engineers and Scientists.

For efficiency, heat exchangers are designed to maximise the surface area of the wall between the two fluids, while minimising resistance to fluid flow through the exchanger. The exchanger's performance can also be affected by the addition of fins or corrugations in one or both directions, which increase surface area and may channel fluid flow or induce turbulance. Online monitoring of industrial heat exchangers is done by tracking the overall heat transfer coefficient, from its flowrates and temperatures, that tends to decline over time due to fouling.

Maintenance of turbular heat exchangers can be performed by several methods such as acid cleaning, sandblasting, high-pressure water jet, bullet cleaning, or drill rods. In large-scale cooling water systems for heat exchangers, water treatment such as purification, addition of chemicals, and testing, is used to minimise fouling of the heat exchanger equipment. Other water treatment is also used in steam systems for power plants etc to minimise fouling and corrosion of the heat exchanger and other equipment.

### **SCHEDULE & OUTLINE**

TIME	PROGRAMME	
09.00am - 09.30am	Light Breakfast / Registration	
09.30am – 10.45am	Session 1 Introduction to Heat Exchanging Equipment in Industry. Heat Exchanger's Design	
10.45am – 11.15am	Tea Break	
11.15 am – 12 45pm	Session 2 Fouling and Fouling Mitigation. Problems in Heat Exchanger Operation and Solutions.	
12.45pm - 2.00pm	Lunch	
2.00pm – 3.30pm	Session 3 Maintenance of Heat Exchangers. Corrective/ Breakdown Maintenance. Preventive and Predictive Maintenance.	
3.30pm – 4.00pm	Tea Break	
4.00pm – 5.00pm Problems and Solutions, Q & A Session Certificate Presentation		

DR. KAZI SALIM MD. NEWAZ holds a Master and Doctorate Degrees in the field of Chemical and Materials Engineering from University of Auckland, New Zealand.

He has more than 20 years engineering service experience in Petrochemical industries. He was a Head of Engineering and Construction of a Chemical plant producing Sulfuric Acid and Single Super Phosphate. He also worked as a Consultant of Crown Agents Services Limited, a British Company, where he was involved in gas pipelines layout and installation, gas drilling environment management etc. He has also worked as Plant Manager of a Hydrogen Peroxide plant of capacity 60 ton per day.

Currently, he works as an academic staff and researcher at the Department of Mechanical Engineering, Faculty of Engineering, Universiti Malaya, Malaysia. Dr. Kazi is a Corporate Member of Institution of Mechanical, UK (MIMechE) and a Chartered Engineer, UK (CEng).



IR. DR. ABU BAKAR MAHAT holds a Master and Doctorate Degrees in the field of Manufacturing Technology from University of Manchester Institute of Science and Technology (UMIST), United Kingdom. He has substantial industrial experience that covers many technical and management functions particularly on the design, planning, construction, operations and maintenance of industrial plants.

Currently, he is a Consultant/ Professor (Industry) at the Department of Mechanical Engineering, Faculty of Engineering, Universiti Malaya. His last employment was as Director of Commercial and Business Division, Universiti Kuala Lumpur.

Last but not least, he is a highly respectable and reputable professional in the field of Mechanical and Manufacturing as Corporate Member of IEM (MEIM), registered Professional Engineer with BEM (PEng), Corporate Member of Institution of Mechanical Engineer, UK (MIMechE) and a Chartered Engineer, UK (CEng)