Centre for Management Technology®
into our 25th year

A 2-day intensive course on

Practical Cleanroom Facilities & Technologies

For Facilities Engineers, Maintenance Engineers, Design Engineers, Production And Manufacturing Engineers, Architects, Property And Asset Managers, Technicians And All Personnel Involved In Cleanrooms

22-23 October 2008 · JW Marriott Hotel, Kuala Lumpur

COURSE HIGHLIGHTS

- Overview Of Cleanroom Technology
- Cleanroom Controlled Environment Concepts
- Micro Contamination (Particulate)
- Creating A Cleanroom
- Facilities And Services
- Vibration
- Cleanroom Codes And Legislation
- Ultra-Pure Water
- Production Materials
- Waste Treatment
- People And Contamination

Participants are advised to bring along their scientific calculators

INTRODUCTION

Cleanrooms are widely used in industries these days, especially in electronic and semiconductor manufacturing plants. The requirements of a cleanroom are very stringent. Different design, construction and maintenance methodologies are involved as compared to conventional systems.

The course is designed for participants who have little or no knowledge of the theory of Cleanrooms. This course is also designed to introduce the participants to the various cleanroom terminologies frequently used etc. The overall objective is to give the participants a functional knowledge of cleanroom theory.

Day 1
Wednesday, **22 October 2008**

9:00 **OVERVIEW OF CLEANROOM TECHNOLOGY**
- The need for a Cleanroom
- History of Cleanrooms
- Cleanroom in the Semiconductor and Pharmaceutical Industries
- Overview of the Wafer Fabrication Process
- The Cleanroom as a System and Unit Operations

10:30 Morning Coffee

Program topics, speakers and schedules published herein are confirmed as at printing time. Please refer to the event's timetable page at **www.cmtevents.com** for the most up-to-date information.

10:45 **CLEANROOM CONTROLLED ENVIRONMENT CONCEPTS**
- Cleanroom Basics
- Particulate Standards
- Gas and Vapour Standards
- Contamination

11:45 **MICRO CONTAMINATION (PARTICULATE)**
- The nature of Particulate Contamination
- Particulate Contamination Flow
- Particulate Contamination Sources
- Particulate Transport and Retention
- Contamination Monitoring
- Identification for Particulate Contamination

1:00 Lunch & Zohor

2:00 **CREATING A CLEANROOM**
- Construction Materials
- Construction Practices
- Air Flow Basics
- Typical Cleanroom Layout
- Configurations, Designing for Cleanroom Class Level

3:00 **FACILITIES AND SERVICES**
- Electrical Systems
- Power Conditioning
- Compressed Air
- Wet Side and Dry Side Air

3:30 Afternoon Tea

3:45 **VIBRATION**
- External Vibration (Natural and Man-made)
- Internal Vibration

5:00 End of Day 1

Day 2

Thursday, **23 October 2008**

9:00 **CLEANROOM CODES AND LEGISLATION**
- Fire Protection and Smoke Removal

10:30 Morning Coffee

10:45 **ULTRA-PURE WATER**
- The Uses of Ultra-Pure Water
- Raw Water Constituents
- Water Quality Standards

11:45 **PRODUCTION MATERIALS**
- Bulk Chemical Storage and Distribution Systems
- Hazardous Production Materials
- Safe Storage
- Handling and Use of Wet Chemicals and Gases
- Personal Protective Equipment

1:00 Lunch & Zohor

2:00 **WASTE TREATMENT**
- Acid Waste Neutralization Plant
- Hydrofluoric and Phosphoric Acid Waste Treatment

3:30 Afternoon Tea

3:45 **PEOPLE AND CONTAMINATION**
- Apparel
- The Use of Apparel
- Work Practices and General Behaviour

5:00 End of Course

AFTER ATTENDING THIS COURSE, YOU WILL RETURN TO YOUR JOB…

1. *Developing a working knowledge of cleanrooms.*
2. *Differentiating between the different classes of cleanrooms.*
3. *Understanding better the design, construction, operations and maintenance requirements of cleanrooms.*
4. *Implementing strategies and methodologies to create an effective cleanroom maintenance programme.*
5. *Increasing your knowledge and skills in identifying and addressing cleanroom operational problems at all levels.*
6. *Implementing mechanisms to measure cleanroom performance at all levels.*
7. *Analysing and understanding the impact of cleanroom knowledge on the maintenance stretegy.*
8. *Developing and implementing an effective cleanroom maintenance budget.*
9. *Using life cycle costing techniques to deliver best practice cleanroom maintenance.*
10. *Implementing maintenance plans that are cost effective and aligned to the organisation's strategic goals.*
11. *Improving performance by developing detailed specifications with service partners.*
12. *Establishing a cleanroom maintenance team.*

METHODOLOGY

Lecturers, Discussion, Exercises & Calculations to ensure participants have a better understanding to improve their efficiency level.

REGISTRATION

Practical Cleanroom Facilities & Technologies

Name
Position
Email
Name
Position
Email
Tel Fax

Company
Address
City/Postcode Country
Approving Manager's Name
Position
E-mail

Update your details at www.cmtevents.com

081085 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Fees: The full Registration Fee includes cost of all sessions, luncheon, coffee/tea & documentation.

	1 Person	Group fee for 3 or more* (from the same company)
Regular Fee	**RM2,095**	**RM1,795 (MIN SAVINGS OF RM900)**

** Terms and conditions apply.*

Cancellations, Refunds & Transfers: A full refund will be promptly made for all written cancellations 3 weeks before the meeting. Thereafter, cancellations are not refundable. A substitute may be made at any time.

Cheques : Crossed & payable to **"Centre for Management Technology Sdn Bhd"**

Photocopy Registration Form to Preserve Brochure Copy. October 2008

TO REGISTER

Online: **www.cmtevents.com**
Email: **adminkl@cmtsp.com.sg**
Fax: (603) 2162 6393
Tel: (603) 2162 7322
Post to: Lot 7.03, 7th Floor, North Block, The Ampwalk, 218 Jalan Ampang, 50450 Kuala Lumpur

CERTIFICATE OF COMPLETION

A Certificate of Completion will be awarded upon successful completion of each course. This serves as evidence of your personal and professional commitment to you career.

COURSE TIMING
Registration: 8.30 am, Course Begins: 9.00 am,
Morning Coffee: 10.30 am, Lunch: 1.00 pm to 2.00 pm,
Tea Break: 3:30 pm, Course Ends: 5.00 pm

TELEGRAPHIC TRANSFER

Account Name:	**Centre for Management Technology Sdn Bhd**
A/C No:	**3 - 0903390 - 12**
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TT must include additional RM10 for Beneficiary's Bank charges. ***Delegates must bear all bank charges and local taxes (if applicable). Fees must be NETT of ALL charges.***

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Register online ~ www.cmtevents.com

LEARN FROM THE BEST

Ir. N. JAYASEELAN, BACHELOR OF ENGINEERING (HONS) MECHANICAL

JAYASEELAN has about 25 years of working experience in various industries, which includes being a General Manager for a Facility Management Company involved in the management of various facilities. Jayaseelan was also responsible in the design, operation and maintenance of cleanrooms for four large manufacturing plants. He has vast theoretical and practical knowledge of the various M&E equipment used in industry.

He was a recipient of the Association of Overseas Technical Scholarships (AOTS) award on two occasions, awarded by the Ministry of Economy, Trade and Industry of Japan. **Jayaseelan was also a member of the working group to draw up the energy efficiency and energy conservation guidelines for pumps and compressors for Malaysian industries organised by the Institution of Engineers, Malaysia, Pusat Tenaga Malaysia, and the Ministry of Energy, Water and Communications (KTAK).**

He also actively writes technical articles for various international journals and magazines.

Jayaseelan is a Graduate Member of the Board Of Engineers *(BEM)*, Malaysia, a Corporate Member of the Institution of Engineers, Malaysia *(IEM)*, a Member of the Institution of Mechanical Engineers, United Kingdom *(IMechE)*, an Associate Member of the American Society of Heating, Refrigeration and Air Conditioning Engineers *(ASHRAE)* and a Member of the American Society of Mechanical Engineers *(ASME)*.