Training

YIELD IMPROVEMENT FOR INTEGRATED CIRCUITS IN WAFER FAB AND ASSEMBLY

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INTRODUCTION

Yield improvement is one of the most critical goals of all semiconductor operations. This course provides an introduction to semiconductor yield and yield management and addresses the main types of yield loss, defects, systematics, and parametric. Participants will also learn about yield loss mechanisms, both in wafer fabrication and during device packaging, and will also be given exposure to yield management methods, including in-line process control, data mining, defect control, and failure analysis. Whether you are a manager, an engineer, or a technician in the semiconductor field or if you are supplying tools to the semiconductor industry, this program will provide some practical applications that will help you improve your daily operations.

TARGET AUDIENCE

Process Engineers, Product Engineers, NPI Engineers, RD Engineers, and Development Engineers who are involved in Semiconductor Test and Assembly and Wafer Fab.

TRAINING OUTLINE

1. **Introduction**
    a. **Overview of Semiconductor Manufacturing**
    b. **Basic Statistics**
2. **Yield Loss Models**
    a. **Defect Yield Loss: Poisson, Murphy, Seeds, and Bose-Einstein**
    b. **Systematic Yield Loss**
    c. **Parametric Yield Loss**
    d. **Design for Manufacturing (DFM)**
    e. **Metrology**
    f. **Test Structures**
3. **Yield Loss Mechanisms**
    a. **Wafer Fab: Isolation, Gate, Silicide/Contacts, Al BEOL, Cu BEOL**
    b. **Device Packaging:**
        i. **Dicing**
        ii. **Die Attach**
        iii. **Wirebond**
        iv. **Solder Bumps**
        v. **Molding Compound**
        vi. **Wafer Level Chip Scale Package (WLCSP)**

TRAINING OUTLINE *(cont)*

4. **Yield Management**
    a. **Fab Discipline**
    b. **In-line Process Control**
    c. **Data Mining:**
        i. **Electrical Data**
        ii. **Metrology**
        iii. **Wafer Maps/Spatial Data**
        iv. **Correlation Techniques**
    d. **Statistical Process Control (SPC)**
    e. **Defect Control**
    f. **Failure Analysis**

DURATION

2 Days (9.00 am – 5.00 pm)

TRAINING DATE(S) & VENUE

23 – 24 October 2017 @ PSDC, Penang

COURSE FEE

RM2,900/participant (excluding 6% GST). Course fees are HRDF claimable.

TRAINER'S PROFILE

DR JEFFERY GAMBINO – ON SEMICONDUCTOR

Dr Gambino received his Bachelor of Science degree in Materials Science from Cornell University, Ithaca, New York, in 1979, and his PhD degree in Materials Science from the Massachusetts Institute of Technology, Cambridge, Massachusetts, in 1984. He joined IBM, Hopewell Junction, NY, in 1984, where he worked on silicide processes for Bipolar and CMOS devices.

In 1992, he joined the DRAM development alliance at IBM's Advanced Semiconductor Technology Center, Hopewell Junction, NY. While there, he developed contact and interconnect processes for 0.25-, 0.175-, and 0.15-mm DRAM products. In 1999, he joined IBM's manufacturing organization in Essex Junction, VT where he has worked on copper interconnect processes for CMOS logic technology, Cu Pillar, WLCSP, 3D Packaging and latest FinFET Process Technology. He has published over 90 technical papers and holds over 100 patents.

ADMINISTRATIVE DETAILS

Cancellation Policy:
The PSDC reserves the right to cancel or postpone the program but with due notice to the participating company. For any cancellation or postponement of training by the participating company, a written notification by email must be sent to the PSDC. Cancellation/postponement charges are calculated based on the following:

Receipt of Cancellation/Postponement Notification	***Charges/Penalty***
Seven (7) working days prior to the commencement of training	*Nil*
Less than seven (7) working days prior to the commencement of training	*50% of package fee*
On the day of the training	*Full package fee*

Online Registration:
To register, log on to http://www.psdc.org.my or contact our sales personnel below.

Enquiries:
For further information, please contact: Elly Leong (ext 523/ellyleong@psdc.org.my)
Yuki Lee (ext 517/yukilee@psdc.org.my)

To find out more, call our **Corporate Training Team ext 523/577/514/517/596** or email to **corptraining@psdc.org.my**

1, Jalan Sultan Azlan Shah, Bandar Bayan Baru,
11900 Bayan Lepas, Penang, Malaysia

T +604-643 7909 **E** admin@psdc.org.my **W** www.psdc.org.my