

■ Program

- 09.00 **Welcome**
Urs Sennhauser
- 09.05 **Experimental Presentation:
Basics on Electrostatic Charge Separation
in Conductive and Triboelectrical Materials –
A Brief Historical Review on Electrostatics
Including Experimental Demonstrations**
Peter Jacob
- 10.15 **Coffee break**
- 10.40 **Surface ESD (ESDFOS) in Microstructures:
Failures and Diagnostics, how to distinguish
from other failure evidence**
Peter Jacob
- 11.00 **How to measure Electrostatic Charging? –
Measurement Equipment and Methods for
Process Equipment Auditing**
Reinhold Gärtner
- 11.30 **Surface Resistance Measurements on Process
Equipment Components and Materials**
Rainer Pfeifle
- 11.50 **Introduction into Process Equipment Auditing**
Reinhold Gärtner
- 12.20 **Practical Experiences in Process Auditing and
Introduction into Existing Standards (overview)**
Peter Jacob
- 12.40 **Lunch break**
- 13.50 **Special Risks in
Semiconductor Assembly Processing**
(short presentations by Peter Jacob
and Reinhold Gärtner)
Cleaning, Wafer Mounting on foil,
Backgrinding, Dicing, Detaping, Pick & Place,
Die and Wire Bonding
- 14.25 **Special Risks in
Semiconductor Flat Module Processing**
Reinhold Gärtner
- 14.45 **Front-End-Processes: ESD-protection in
Wafer Fabs – Why Do We Need it?**
Particle attraction by charged objects;
reticle damage, ESD induced EMI case studies
Reinhold Gärtner
- 15.05 **Split Experiment-planning**
Peter Jacob
- 15.15 **ESD Monitor-Wafers and
Indirect Charge Monitoring**
Joachim Reiner
- 15.45 **Coffee break**
- 16.10 **Useful Methods Against Tool-related ESDFOS,
with Experimental Demos**
Peter Jacob
- 16.50 **Audit-Reporting – Proposals for Standardisation**
Peter Jacob
- 17.00 **Discussion**
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■ Tutors

Dr Reinhold Gärtner

Infineon, Munich

Dipl. Ing. Peter Jacob

Empa, Dübendorf and EM Microelectronic Marin SA

Dipl. Ing. Rainer Pfeifle

Warmbier, Hilzingen

Dr Joachim Reiner

Empa, Dübendorf