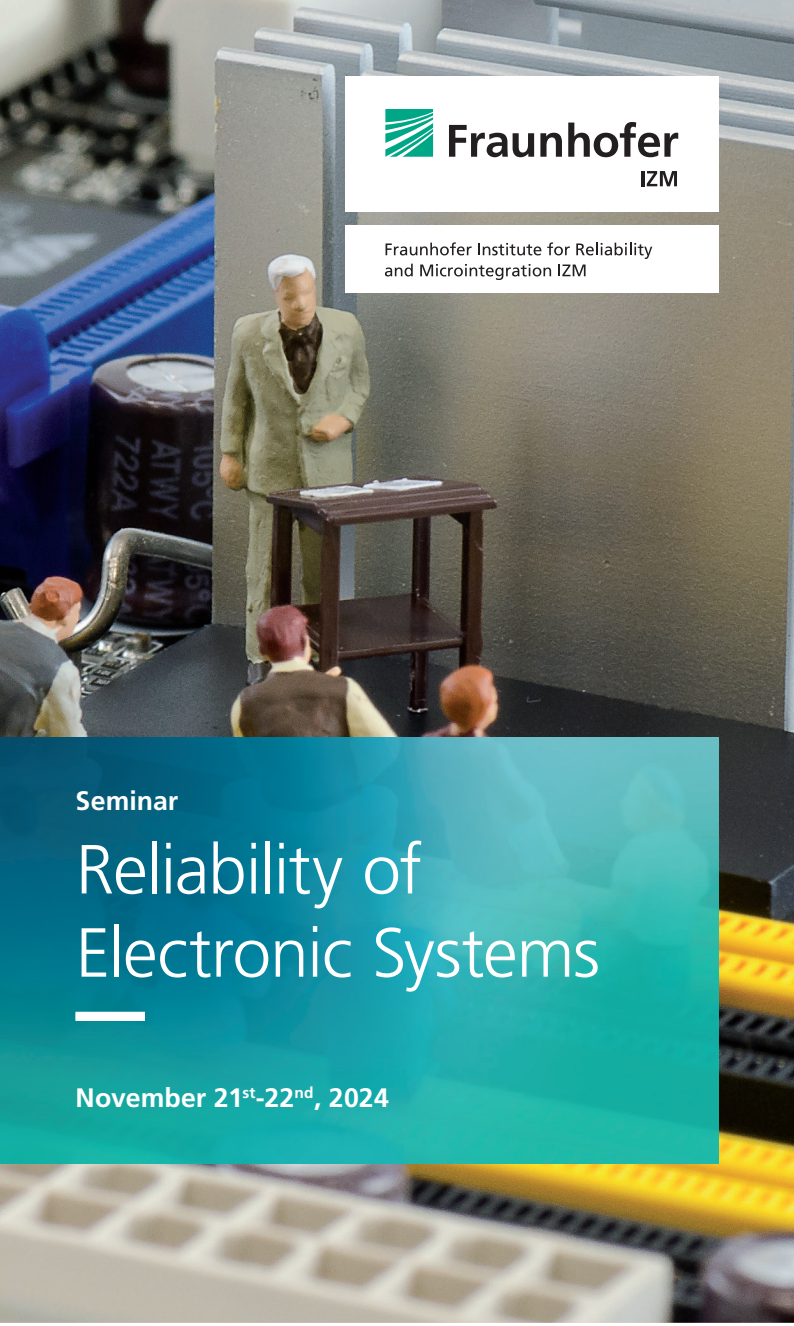


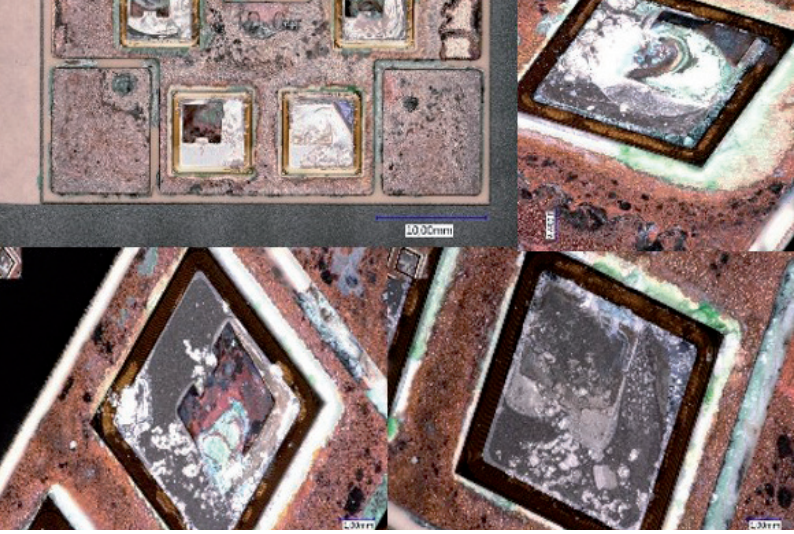
Fraunhofer IZM

Fraunhofer Institute for Reliability and Microintegration IZM

Seminar

Reliability of Electronic Systems

November 21st-22nd, 2024



Corroded DCB after moisture and and ionic load

Overview & Topics

Due to shorter development times and higher demands on electronic components and systems, reliability assessment is playing an ever increasingly important role. Fraunhofer IZM is therefore organizing a two-day seminar, in which the participants will be provided with relevant knowledge and methods along the product development process.

Topics are:

- Definitions and introduction to important terms
- Methods for system assessments
- Stress impacts and resulting failure mechanisms
- Empirical and analytical failure modelling
- Systematics of FE simulation
- Implementation of realistic stress tests
- Analyzing and interpreting of test results
- Handling of reliability characteristics/parameters
- Assuring reliability by condition monitoring
- Analytical measurement methods

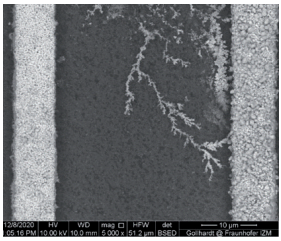
Detailed Seminar Description

This two-day event will be hosted by reliability specialists of the department Environmental and Reliability Engineering at Fraunhofer IZM in Berlin. The overall focus of the seminar is the long-term transfer of knowledge.

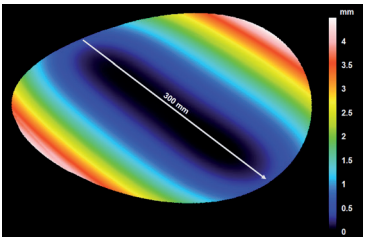
Participants will gain knowledge about scientific foundations and methods concerning the reliability assurance during the development and production of electronic systems.

During the first day of the seminar, a general understanding of common terms and definitions of reliability management will be established. Based on this, physical and chemical boundary conditions will be explained and useful methods will be introduced that will help to improve device and system reliability. Moreover, the scientific view on application-specific load profiles and how to translate them into reliability tests are parts of the first day of the seminar.

On the second day of the seminar, capabilities and limits of numerical simulation are outlined as this has become an indispensable tool at the early stage of electrical product development. The importance of structural analysis and material characterization for quantitative reliability prediction will be discussed. Also, different methods for gathering information via testing and field data analysis will be presented. The content includes furthermore workshops, giving the participants the chance to apply the acquired knowledge under supervision of reliability experts.



Dendrite growth due to electrochemical migration



Simulation result of the warpage of a silicon wafer after several process steps

Key Facts

Registration: Please register via the online tool on the event website (see link or code). The max. number of participants is 30. The minimum number needed is 7.
www.izm.fraunhofer.de/en/news_events

Date: Thursday, Nov 21: 10 a.m. - 5 p.m. followed by a organized dinner event; Friday, Nov. 22: 9 a.m. - 5:00 p.m.

Location: Fraunhofer Institute for Reliability and Microintegration IZM, Gustav-Meyer-Allee 25, 13355 Berlin, Germany.

Attendance Fee: 985 € (exempt from sales tax, § 4 No. 22 UStG). Seminar documents as well as lunch, drinks and a dinner event are included.

Who should attend: The seminar is primarily aimed at engineers in the fields of development, technology, production, manufacturing and quality assurance.

Contact

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