令和２年９月１日

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九州工業大学
ディペンダブル集積システム研究センター（DISC）
特別講演のご案内

日時：　令和２年９月３日（木）　１４：００～１５：００
形式：　Skype を利用したオンライン講演
Skype Link：　https://join.skype.com/YrMzrHz69vTO

講師：　Prof. Katherine Shu-Min Li (National Sun Yat-Sen University, Taiwan)

題目：　**Wafermap Pattern Recognition with Artificial Intelligence Techniques**

The spatial failure patterns in wafer defect maps can be related to problems in the manufacturing and test process. Therefore, failure pattern recognition can be used for root cause analysis, which is very important for defect diagnosis resolution improvement and yield learning. However, previous studies show that wafers with recognizable failure patterns only account for a small part of all defective wafers. In order to further improve diagnosis resolution with data collected from wafer test, we propose a novel way to present results of various test items in order to facilitate feature extraction. The test results are exhibited in a DNA-like signature such that sources of wafer defects can be effectively and efficiently identified. Since more defect information in test data can be incorporated, more defect types of wafer defects can be identified and predicted with higher accuracy. Experimental results show that the proposed test data oriented method can be used to identify and predict more defect types such that both higher diagnosis resolution and prediction accuracy are achieved.

Katherine Shu-Min Li (S'04, M'06, S.M' 13-now) received the B.S. degree of Computer Science, Rutgers University, New Brunswick, NJ, and the M.S. degree of Computer Science and Ph.D. degree of Electrical Engineering in National Chiao-Tung University, Taiwan, in 2001 and 2006, respectively. She is currently a Full Professor with the Department of Computer Science and Engineering, National Sun Yat-Sen University, Kaohsiung, Taiwan. Her current research interests include Wafermap Pattern Recognition by Machine Learning Techniques, Design for Yield (DfY), Foundry Automation, Interposer Test, 2.5D/3D/SiP IC Test, Microfluidic Chip Synthesis & Test/Diagnosis/Fault Tolerance, Hardware Security & Trojan, Design for Security (DfS), Oscillation Ring Test Schemes, and 5G/RF Test. Dr. Li is a member of IEEE Education and IEEE Circuits and Systems Society, Association for Computing Machinery (ACM), and ACM Special Interest Group on Design Automation, IEEE Women in Engineering (WIE) (Oct. 13-now).

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