凝聚态物理-北京大学论坛

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Road Beyond CMOS

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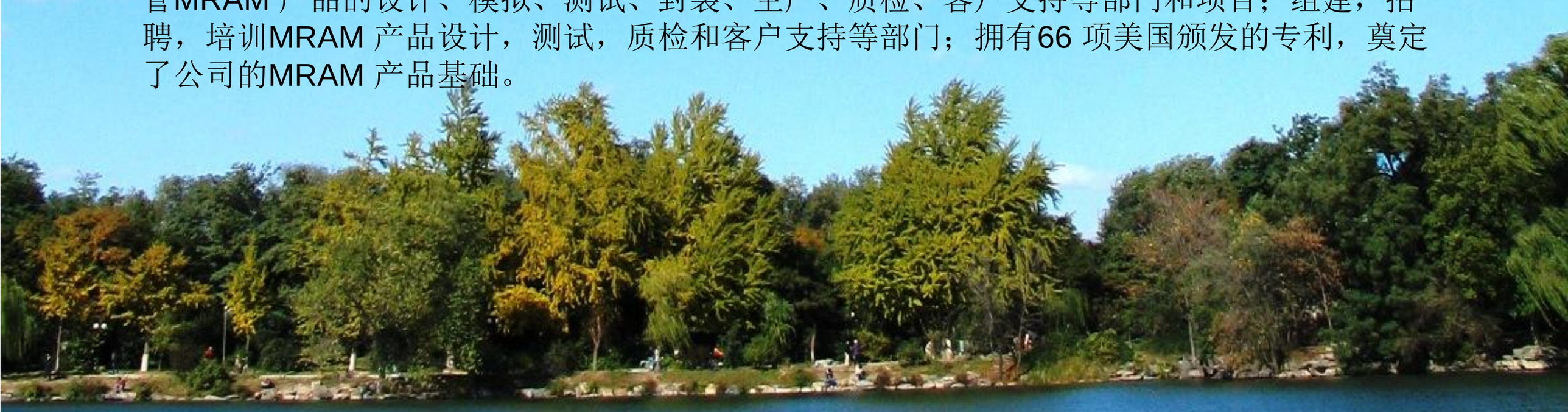
时间：5月14日（星期四）15:00—16:30

地点：北京大学物理大楼中212教室

摘要： For past 50 years, charge based silicon technology and scaling law (Moore's Law) have been the fundamental driver of computational technology, catalyst for the emergence of the Digital Age. In this "no trade-off" era, consistent exponential performance growth is sustained by vigorous feature scaling, while computation is kept utilizing the Boolean logic and Von Neumann architecture system, achieving exact calculation and communication gain through noise suppression. However, as the technology node reaches beyond 10nm, the complexity of Si-based transistor has increased tremendously and become cost-prohibitive, new functional material needs to be developed. All industry-developed countries and world major semiconductor companies are actively searching for the next "Genome" material to replace Si. Currently, the low dimensional physical material system like Graphene, MX2, topological insulator, ultra-thin spintronic thin film system are being eagerly explored as candidates which promises many revolutionary ways of future computing.

闵泰教授:西安交通大学教授，2011年入选中组部千人计划。1993 年在美国明尼苏达大学电机系获得博士学位，之后22 年间一直在国际一流大型企业工作，历任资深总监、总监、经理、主任工程师、高级工程师，取得主要成果包括：研发出新型产品（AMR，Spin-Valve, MRAM)；成功地组建并领导了IMEC 业界领先的sub-20nm STT-MRAM 及Spintronics 技术的研发，发表了IMEC 第一篇IEDM paper 2014；该研发获评IMEC 30 年30 项杰出成果之一；成功地组织并领导了TDK 业界领先新型STT-MRAM 及Field-MRAM 产品的研发和产品化；主管MRAM 产品的设计、模拟、测试、封装、生产、质检、客户支持等部门和项目；组建，招聘，培训MRAM 产品设计，测试，质检和客户支持等部门；拥有66 项美国颁发的专利，奠定了公司的MRAM 产品基础。



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Photoed by Xiaodong Hu