

2019 Symposium of Center for Semiconductor Technology Research

Tuesday, Nov. 26, 2019

Organizer: Center for Semiconductor Technology Research, National Chiao Tung University

Co-organizer: Ministry of Education/Ministry of Science and Technology, Collaboration Research Center of NCTU-TSMC

Venue: International Conventional Hall 100, MIRC, National Chiao Tung University

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| 09:00-09:30 | Registration | |
| 09:30-09:35 | Opening Remarks | Prof. Chenming Hu Principal Investigator of Center for Semiconductor Technology Research. International College of Semiconductor Technology, NCTU |
| Session Chair: Prof. Chenming Hu | | |
| 09:35-10:15 | IC Technology – What Will the Next Node Offer Us? | Prof. H.-S. Philip Wong Vice President, Corporate Research, TSMC Willard R. and Inez Kerr Bell Professor, Department of Electrical Engineering, Stanford University |
| 10:15-10:55 | Negative Capacitance Transistors | Prof. Sayeef Salahuddin Department of Electrical Engineering and Computer Sciences, UC Berkeley |
| 10:55-11:20 | Coffee break | |
| 11:20-12:00 | Overcoming Fundamental Bottlenecks in Nanoelectronics with 2D Materials | Prof. Kaustav Banerjee Electrical and Computer Engineering, UC Santa Barbara |
| 12:00-13:00 | Lunch | |
| Session Chair: Prof. Pin Su | | |
| 13:00-13:40 | Wafer-Scale 2D Semiconductors: Manufacturing and Exotic Exciton Functionalities | Prof. Linyou Cao Department of Materials Science and Engineering, of Electrical and Computer Engineering, and of Physics, North Carolina State University |
| 13:40-14:10 | Monolithic 3D Integration Technology. | Prof. Po-Tsang Huang (Bug Huang) International College of Semiconductor Technology (ICST), NCTU |
| 14:10-14:40 | Kinetic Physics of Polymorphic Phase Transition between Ferroelectric-Dielectrics and Interfacial Energy Effects on Negative Capacitance FETs | Dr. Ying-Tsan Tang Associate researcher, Taiwan Semiconductor Research Institute (TSRI) |
| 14:40-15:30 | Coffee Break / Poster Presentation | |
| 15:30-16:00 | Material Searching, Contact, and Extreme Performance of Atomic Layer Transistors | Prof. Wen-Bin Jian Department of Electrophysics, NCTU |
| 16:00-16:30 | Instant Cu-to-Cu direct bonding enabled by highly (111)-oriented and nanotwinned Cu | Prof. Chih Chen Department of Material Science and Engineering, NCTU |
| 16:30-17:00 | Steep Subthreshold Swing InGaAs MOSFETs and FinFETs With Bi-directional Sub-60 mV/dec | Dr. Quang-Ho Luc International College of Semiconductor Technology, NCTU |
| 17:00-17:10 | Closing Remarks | |