# iMiD 2019

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The 19th International Meeting on
Information Display

EXPLORING / EXPANDING / ENRICHING

| Company Name | SILVACO | Company Logo |
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| **Company Introduction** | Silvaco, Inc. is a leading EDA provider of software tools used for process and device development and for analog/mixed-signal, power IC and memory design. The portfolio also includes tools for power integrity sign off, reduction of extracted netlist, variation analysis and also production-proven intellectual property (IP) cores. Silvaco delivers a full TCAD-to-Signoff flow for vertical markets including: displays, power electronics, optical devices, radiation & soft error reliability, analog and HSIO design, library and memory design, advanced CMOS process and IP development. The company is headquartered in Santa Clara, California, and has a global presence with offices located in North America, Europe, Japan and Asia. For over 30 years, Silvaco has enabled customers to bring superior products to market in the shortest time with reduced cost. Semiconductor fabs and design houses from around the globe have relied on Silvaco's expertise to help develop the "technology behind the chip". Silvaco's mission is to help our customers accelerate the pace of technological innovation and their time to market while reducing their costs in developing the next-generation chips. We strive to understand our customers' challenges to tailor the innovative products, services and support they need to succeed in their technology development and productivity goals. | |

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| **Exhibit Description** | • Power integrity signoff from block (analog, SRAM, custom digital) to full chip level including power, EM/IR and thermal analysis- InVar<br>• Full custom design flow including schematic entry, layout, simulation and verification<br>• Large portfolio of PDKs across many foundries with emphasis on AMS, HV, BCD and CIS processes<br>• 16nm and 10nm FinFET ready Parallel SPICE simulator being extended to support FastSPICE applications<br>• Variation-aware design tools comprising of Fast Monte Carlo, Local mismatch, statistical corners, high sigma analysis and statistical verification of standard cell libraries<br>• Extracted netlist analysis & reduction tools providing parasitic reduction, design analysis & verification, comparison of extracted netlists including parasitics<br>• Automated standard Cell & SRAM characterization environment<br>• 3D parasitic RC extractor used for detailed and accurate FinFET SRAM extraction<br>• SPICE modeling for large set of model types including HiSIM_HV for power devices and UOTFT for organic and oxide TFTs<br>• Pixel and interconnect RC extraction for TFT displays<br><br>3D TCAD products used for large application space, including rapid FinFET prototyping, large structure parallelized simulations for multi-cell IGBTs, robust, stable oxidation simulation for trench MOS power devices and CMOS image sensors, high precision SiC/GaN simulation, advanced etch for 3D NAND Flash and STT MRAM, SEE and total dose reliability simulation |
| **Exhibit Product** | • Victory™ for 2D and 3D TCAD process and device simulation of nanometer CMOS, power devices, automotive applications and atomistic simulation of nano-meter scale devices such as quantum dots<br>• Clever LCD™  Clever LCD, a 3D simulator calculating liquid crystal (LC) director by a finite element field solver for display applications<br>• Gateway™, Expert™, Guardian™ for schematic driven physical layout with scripting and native DRC/LVS for designer productivity<br>• SmartSpice™, SmartSpice Pro™ for fast circuit simulation of advanced nanometer-nodes<br>• InVar Prime™ for quick IR drop and EM analysis used during layout to catch issues such as missing vias<br>• Jivaro™, Belledonne™ for optimization and analysis of extracted netlists and dramatic acceleration of SPICE simulation while maintaining accuracy<br>• VarMan™ for high sigma analysis of analog blocks, standard cells libraries, memories with accelerated SPICE simulation, failure detection and accurate yield estimation<br>• TechModeler™ for creating highly accurate behavioral Verilog-A compact simulation models of novel devices, from a small number of input samples<br>• SIPware™ design IP for IoT, Mobile and Automotive ICs applications with hundreds of production-proven cores, including I3C, CAN-FD, and AMBA-based subsystems, plus the addition of new hard and soft IP from Samsung Foundry<br>• Xena© for enterprise and cloud IP management with fingerprinting features for IP compliance |