# Ansys Wins Prestigious Best Paper Award at the IEEE HOST Conference for Pioneering Semiconductor Security Solution

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*Ansys' paper on its solution to enable secure electronic designs won the Best Paper Award at the IEEE International Symposium on Hardware Oriented Security and Trust (HOST), the world-leading hardware security conference*

**/ Key Highlights**

- As explained in the paper, Ansys RedHawk-SC Security delivers pre-silicon data leakage solutions combined with fast and predictively accurate simulation capabilities
- Ansys RedHawk-SC Security is an electronic design automation (EDA) solution to assess semiconductor side-channel, or unintended, data leakage vulnerabilities that result from new hardware, framework, operating systems, and more
- The novel solution is built on the Ansys SeaScape™ open and extensible platform for multiphysics analysis, which enables highly scalable elastic compute and big data analytics across any cloud environment

PITTSBURGH, July 19, 2022 /PRNewswire/ -- Ansys (NASDAQ: ANSS) received the Best Paper Award from the Institute of Electrical and Electronics Engineers' (IEEE) International Symposium on Hardware Oriented Security and Trust (HOST), the world-leading hardware security conference. The winning paper introduces Ansys' latest semiconductor solution, Ansys RedHawk-SC Security, a new electronic design automation (EDA) tool to assess unintended data leakage vulnerabilities while providing fast and predictively accurate simulation integration. Unintended data leakage includes vulnerabilities stemming from power consumption, electromagnetic emission, thermal emission, and other multiphysics phenomena.
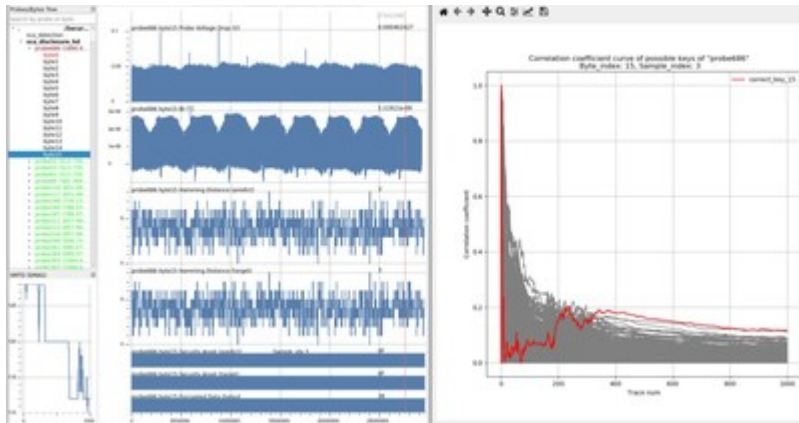


The paper, "Multiphysics Simulation of Electromagnetic (EM) Side-Channels from Silicon Backside with Machine Learning (ML)-Based Auto-Point-Of-Interest (POI) Identification," proposes a novel multiphysics simulation framework introducing Ansys RedHawk-SC Security to assess near-field electromagnetic (EM) side-channel leakage. Ansys RedHawk-SC Security also features built-in security analytics to explain results to designers or engineers unfamiliar with hardware security.

As stated in the paper, designers and engineers can leverage Ansys RedHawk-SC Security to gain a predictively accurate assessment of pre-silicon side-channel data leakage during early stages of chip design to identify the root cause and fix the issue. Further, the solution generates simulation results in hours, saving significant time and cost. Previously, it would require additional time and expenses for design correction and refabrication to "respin" the compromised chips leaking secret data unintentionally.

"IEEE HOST is the premier event aiming to facilitate the rapid growth of hardware-based security research and development, inviting original and innovative contributions in all areas of overlap between hardware and security and highlighting new results," said Professor Mark M. Tehranipoor, fellow of the Association for Computing Machinery (ACM) and IEEE, and general chair for HOST-2022. "Selected from 120+ excellent submissions, Ansys' paper demonstrates the innovation and usability of the novel multiphysics simulation framework introducing Ansys RedHawk-SC Security."

"We are honored to receive this coveted award from IEEE HOST and share our latest security solution for semiconductors," said John Lee, vice president and general manager of the electronics, semiconductor, and optics business unit at Ansys. "We are confident that Ansys RedHawk-SC Security will significantly enhance chip design and hardware security going forward."

The link to the awarding paper can be downloaded from the IEEE Computer Society's Digital Library.

**/ About Ansys**

When visionary companies need to know how their world-changing ideas will perform, they close the gap between design and reality with Ansys simulation. For more than 50 years, Ansys software has enabled innovators across industries to push boundaries by using the predictive power of simulation. From sustainable transportation to advanced semiconductors, from satellite systems to life-saving medical devices, the next great leaps in

human advancement will be powered by Ansys.

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