"Everything about Semiconductor Process Simulation" GIST Professor Sung-Min Hong's new book 《Introduction to Computational Electronics - Semiconductor Process》

- A complete guide to semiconductor process simulation, including core concepts, major techniques, and practical examples... A comprehensive guide to semiconductor process simulation techniques, including CMOS process applications.

▲ 《Introduction to Computational Electronics - Semiconductor Process》 author GIST Professor Sung-Min Hong

As semiconductor process technology is rapidly developing, a book introducing simulation techniques essential for accurately understanding the semiconductor device manufacturing process has been published.

The Gwangju Institute of Science and Technology (GIST, President Kichul Lim) announced that Professor Sung-Min Hong of the School of Electrical Engineering and Computer Science has published a new book, 《Introduction to Computational Electronics - Semiconductor Process》, through the university's publishing division, GIST PRESS.

This book, consisting of a total of 8 chapters, covers a wide range of topics from the basic concepts of semiconductor process simulation to actual CMOS process applications. It also explains the principles of core semiconductor process technologies such as oxidation process, diffusion process, ion implantation process, thin film deposition process, and etching process, and suggests methods for analyzing them using computer simulation.

In particular, it introduces in detail important numerical analysis techniques in practice, including simulation techniques that have recently attracted attention, such as the Monte Carlo technique and the level-set method. Another feature is that it is structured so that readers can write semiconductor process simulation codes by following the examples included in the book.

The author, Professor Sung-Min Hong, received his Ph.D. in electrical and computer engineering from Seoul National University, and after conducting research in Germany and the United States, he is currently an associate professor at GIST.

His main research areas are semiconductor process and device simulation, and he is currently working as an associate editor for the international academic journal IEEE Transactions on Electron Devices.

Professor Hong published 《Introduction to Computational Electronics》 through GIST PRESS in 2021. At the time, he was disappointed that he could not cover semiconductor process simulation, but he covered it in depth in this new book.

Professor Hong said, "I explained the core concepts necessary to understand and utilize semiconductor process simulation, and organized it so that readers can experience it directly through practical examples. This book focuses on introducing the basic principles of process simulation, so it will be of great help to students who are new to semiconductor process simulation as well as engineers who use commercial programs in practice."

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