

Brooke Hindle Post-doctoral Fellowship

Recipient 2020

Sangwoon Yoo, *Seoul National University*

For “Crafting Innovation: The Technical Achievements of Operators and Maintainers in South Korea’s Semiconductor Assembly Lines”

Sangwoon Yoo’s research examines how operators and maintainers of manufacturing equipment on Samsung Electronics’ semiconductor production lines contributed to the company’s rise to global success. His goal is to modify common innovation narratives and to place South Korean factory work in the context of East Asia’s cultural history of learning as well as its specific material network. Yoo contributes to recent discussions in the history of technology about the significance of ‘maintainers’ by asking us to acknowledge their role as innovators.

Using workers’ technical notes, training materials, and personal diaries created between the 1980s and 2000s, Yoo analyzes the influence of South Korean cultural practices and material contexts on how workers solved technical problems they encountered. His sources offer him unique insights into the ways that workers in the high-tech sector acquire and transfer knowledge, specifically how they use recorded knowledge in creating tacit knowledge. In addition, Yoo extends our understanding of the international division of labor between developed and developing countries. He shows that South Korean operators and maintainers helped improve the Japanese-made equipment by sharing their knowledge with Japanese suppliers. In short, Yoo’s work will provide an empirical foundation for topics that had remained somewhat elusive in the historiography of semiconductor technology.

Yoo will use the Hindle Fellowship to write two articles, one focused on the operators’ practices in the context of Korea’s culture of learning and solidarity, the other on the larger impact of workers’ recommendations for Japanese-made manufacturing equipment. This work will no doubt widen our understanding of the nature of innovation by incorporating the role of shop floor workers’ everyday practices.