

Advanced Semiconductor R&D Using Synchrotron Radiation (NanoTerasu)

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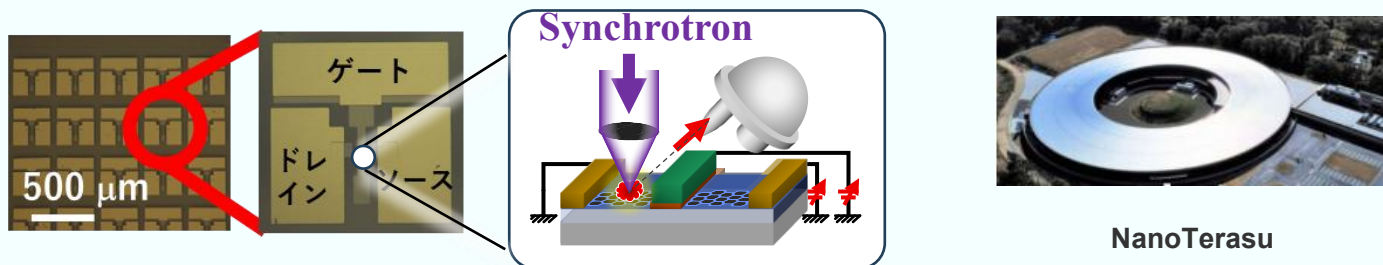
Period: Second semester — day and class period to be arranged

First meeting: Fri., Oct. 2, 16:45, Global Connect Hub 2F G222, Research Institute of Electrical Communication

[Background] Semiconductor devices are key technologies supporting AI computing and next-generation mobility. However, as devices become smaller and structures more complex, many phenomena no longer operate as predicted by theory. It is difficult to identify their causes using conventional electrical-characterization methods alone.

[Approach] Device-operation analysis using high-brilliance synchrotron radiation, including NanoTerasu, is attracting attention. This method can distinguish element-specific differences, provide nanometer-scale spatial resolution, and nondestructively observe electronic states inside devices—advantages not available with other techniques.

[Training] Students will learn what synchrotron radiation is and what it can reveal. They will observe synchrotron-radiation experiments at NanoTerasu and analyze actual samples, gaining hands-on experience with cutting-edge device analysis.



NanoTerasu