Theme: Material Informatics & Deep Learning

- Sub theme: Material Informatics and Deep Learning for Development of High Dielectric Materials for MLCC

MLCC is the most important device that determines the performance and reliability of electronic products. A variety of attempts have been made to develop high dielectric constant materials. However, there is a limit to the development of a new composition of the dielectric materials by trial and error experiments, and it is necessary to consider new techniques to find new candidates of the dielectric materials.

We are especially interested in finding new high dielectric materials based on material informatics or deep learning to boost the performance of dielectric materials. We anticipate that we will successfully complete the project with innovative ideas.

· Material informatics techniques to find a new composition of high dielectric materials by predicting a dielectric constant of candidate materials based on DFT(Density Functional Theory) calculations and Machine Learning

· Virtual screening techniques based on Deep Learning to derive a relationship between micro-structure of dielectric materials and an electric constant.

※ The topics are not limited to the above examples and the participants are encouraged to propose original idea.

※ Funding : Up to USD $150,000 per year