

## OS23-4 **Phytochemical Genomics: A Basis for Redesign of Plant Natural Products Biosynthesis**

○齊藤 和季<sup>1,2</sup>

<sup>1</sup>千葉大・院薬, <sup>2</sup>理研・環境資源研究セ

---

Phytochemical genomics is a recently emerging sector in plant science, which elucidates the genomic basis of the biosynthesis and the function of plant metabolites. Phytochemical genomics is a basis for redesign of plant natural products, which are estimated to reach 200,000 or 1,000,000 compounds. Phytochemical genomics has been mostly advanced in *Arabidopsis thaliana*, a model plant for plant genomics, by means of combination of genomics, transcriptomics and metabolomics. Recently, a number of similar investigations in medicinal plants have been carried out to discover the genes and the metabolic networks for the biosynthesis of bioactive plant specialized metabolites. In this presentation, I will discuss a general perspective on phytochemical genomics from *A. thaliana* to medicinal plants and its application in the research program of redesign of natural products biosynthesis.