

15th RAP Seminar

The 15th Seminar on RIKEN Center for Advanced Photonics

Language: Japanese

Date : **Sept.12 (Fri), 2014, 16:00 ~ 17:00**

Location : **Cooperation Center, 3F, W319, Wako Campus, RIKEN**
(理研 和光キャンパス 研究交流棟3階会議室 W319)

Title: **Introduction of RIKEN Center for Sustainable Resource Science (CSRS): Its mission and projects**

環境資源科学研究センターの紹介：ミッションとプロジェクト

Speaker : **Dr. Kazuo SHINOZAKI**
(Director, RIKEN Center for Sustainable Resource Science (CSRS))

篠崎 一雄

(理研 環境資源科学研究センター・センター長)

For the construction of sustainable society, it is crucial for us to shift from an fossil fuel-based society to a bio-based one, by utilizing recyclable biological resources and chemical processing. The challenge of the RIKEN CSRS is to achieve a resource and energy sustainable society through the fusion of different fields, such as plant science, chemistry and chemical biology. In CSRS, we have started four key projects: "Carbon," "Nitrogen," "Metallic Elements" and "Research Platforms". (1) With the first project, Carbon, we are developing technology for enhanced photosynthesis and CO₂ fixation catalysts. Our goal is to develop technology to allow us to freely produce useful resources from CO₂. (2) With our second project, Nitrogen, we are investigating new methods of producing ammonia with fixed nitrogen under milder conditions by developing innovative catalysts. Furthermore, we are conducting research to improve environmental tolerance and disease resistance of crops. (3) In our third project, Metallic Elements, we are developing the technology to recover and use metallic elements efficiently without imposing a load on the environment. (4) In Research Platforms, the Comprehensive Metabolomics Platform and the Chemical Screening Platform will be integrated. We are also investigating the use of biomass as a substitute resource for fossil fuels, and are looking into producing new chemical materials and polymers made from biomass. In this seminar, several projects that need collaboration with RAP will be presented. For example, imaging technologies are needed to monitor plant growth and productivity. Novel technologies are necessary to visualize cellular and intercellular signaling during environmental changes..



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