



2013 年度テニユアトラック教員着任セミナー

日時：2013 年 6 月 7 日（金） 17:00～18:00

場所：湘南校舎 12 号館 5 階 第 1 会議室

講演要旨 Abstract

『Nanostructured Materials: from Preparation to Devices』

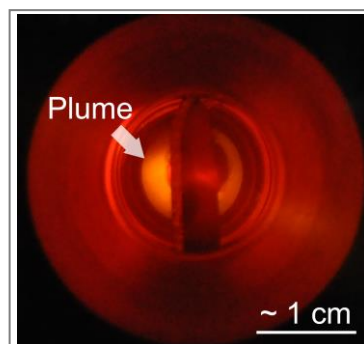
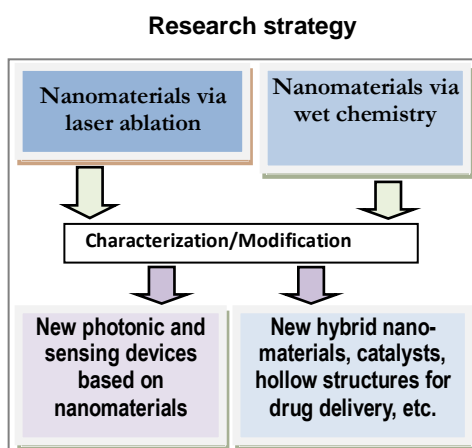
創造科学技術研究機構

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Owing to their special structure and unique properties, various nanomaterials have recently attracted a lot of attention in both industry and academia. They have already found applications in catalysis, nanocomposites, biomedicine, solar cells, energy generation and storage related devices, etc. In addition, most recent and future advancements in the development of novel synthetic techniques for nanomaterial preparation are expected to result in a remarkable variety of new applications in personal healthcare, security systems, food safety and so on.

The present research project aims at (i) preparing novel nanomaterials with diverse morphologies and chemistries, (ii) studying their formation and properties, and (iii) design and fabrication of devices (such as, e.g., gas and photonic sensors) utilizing the prepared nanomaterials as components. The main goal is thus to develop unique nanomaterials and use them in new devices. It is a research program with a strong interdisciplinary and multidisciplinary nature combining physics and optics, chemistry and materials science, surface analysis and engineering, nanotechnology, and device fabrication.

The talk will focus on the main research strategies and synthetic approaches of the newly established laboratory (i.e., laser ablation in liquid and wet-chemistry routes), as well as on the main plans, milestones and challenges of the program. Main nanostructures (such as nanoparticles, core/shell nanoparticles, hollow nanoparticles, nanorods, nanoflakes, etc.) and devices targeted in the project will be discussed. Finally, the potential impact of the research will be commented.



Plasma plume during laser ablation of a Zn plate (at center), as seen through a sapphire window and optical filter.