88th RAP Seminar

The 88th Seminar on RIKEN Center for Advanced Photonics

Language: Japanese

Date: **July 19 (Fri), 16:00 - 17:00, 2024**

Location: **1F Seminar Room, Sendai Campus, RIKEN**
(理研　仙台地区　１階セミナー室)

Wako Campus: W319, 3F, Cooperation Center, TV relay
(和光 ： 研究交流棟3階会議室 W319 (TV会議))

Title: **Beyond Automation: Realizing Breakthroughs with Excited-state Controls for Ultra-precision machining**

全自動実験が可能にするもの：光励起状態を活用した精密加工制御に向けて

Speaker: **Dr. Shuntaro TANI**

Digital Twin for Light-Matter Interaction RIKEN ECL Research Team
RIKEN Cluster for Pioneering Research (CPR)
RIKEN Center for Advanced Photonics (RAP)

谷　峻太郎

理研ECL研究チームリーダー
理研 開拓研究本部 谷光励起デジタルツイン理研ECL研究チーム
理研 光量子工学研究センター 光励起デジタルツイン理研ECL研究チーム

Pre-registration

Laser fields provide us with unique abilities to manipulate bonding electrons that glue atoms together to constitute a material. Such excited-state controls can enable various kinds of material processing with laser pulses. However, the physics of highly-excited states is yet to be fully understood, and bridging the gap in understanding the multi-scale nature of these irreversible processes remains a challenge. In this seminar, I will introduce our research aimed at understanding the basic mechanisms of laser-based material processing, as well as the construction of predictive digital twins using deep neural networks. Additionally, I will discuss how automated experiments will bridge the hierarchy of multidisciplinary science and advance laser-based ultra-precision machining.

Contact: rap-seminar_contact@riken.jp (ext. 98-21355)