

**Title**      **Perspective of laser peening technology to control the durability of structural components**

**Speaker**   **Dr. Yuji Sano**  
Program Manager for ImPACT  
Japan Science and Technology Agency



**Date & Time**   **Tuesday, April 25, 2017    4:00 p.m.**  
**Place**            **I<sup>2</sup>CNER Hall, Ito campus, Kyushu University**

**Abstract**

Laser peening (LP) is an emerging technology which can impart compressive residual stress on metallic materials and thus control the durability of components under external load. Recently, aircraft companies started to use LP to enhance fatigue properties and reduce the weight of components by new design based on surface engineering with LP. However, the actual application of LP was limited due to the difficulties in handling of bulky and fragile laser oscillators. The ubiquitous power laser project was founded by Japanese government as a five-year program until 2018 under the framework of ImPACT, which includes the development of ultra-compact lasers and XFELs (x-ray free electron lasers). The outline of LP technologies, advancement in the ultra-compact lasers for expanding the applicability of LP, and XFELs for diagnosing the underlying physics in LP will be presented.

**About the Speaker**

1975	Bachelor's degree in Physics, Tokyo Institute of Technology
1977	Master's degree in Nuclear Engineering, Tokyo Institute of Technology
1977 - 2014	Research Engineer, Toshiba Corporation
2002	Doctor's degree in Engineering, Osaka University
2008 - 14	Program Officer, Photon Frontier Network, MEXT
2014 -	Program Manager, ImPACT, CSTI

**Host: Professor Atsushi Takahara**

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Contact: Research Support and International Affairs division  
International Institute for Carbon-Neutral Energy Research  
Tel:092-802-6934 Email:wpikenkyu@jimu.kyushu-u.ac.jp

