

## **Virtual Hard X-Ray Collaboration Seminar Series**

**Date:** Thursday 8<sup>th</sup> July 2021

**Title:** Sample delivery methods for SFX users at PAL-XFEL

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### **Abstract:**

Sample delivery technique is quite essential to perform serial crystallography experiments using XFEL or synchrotron light sources. At the SFX endstation of PAL-XFEL, various sample delivery instruments have been developed and provided to users since 2017. Including conventional delivery methods like liquid jet and CMD (carrier matrix delivery) injectors, recently, unique fixed target sample delivery methods are available for user operations. The 2D fixed target system is designed to be operated utilizing nylon meshes (pore size: ~ 60  $\mu\text{m}$  or less) holding microcrystals against gravity. It provides more efficient SFX experimental environments regardless of the crystal size and buffer characteristics. For more reduced sample consumption, 1D fixed target system has been developed based on micro tubing (ID: 100  $\mu\text{m}$ , OD: 126  $\mu\text{m}$ ) parts, which has a special advantage on keeping hydrated condition readily for protein crystals as well. This talk will give a current status of the microcrystal delivery systems for SFX users including related sample chambers in operation at PAL-XFEL