

# Realization of common platform technology, facilities, and equipment that creates innovative knowledge and products

**Development of Raman spectroscopic techniques for molecular analysis with high sensitivity**

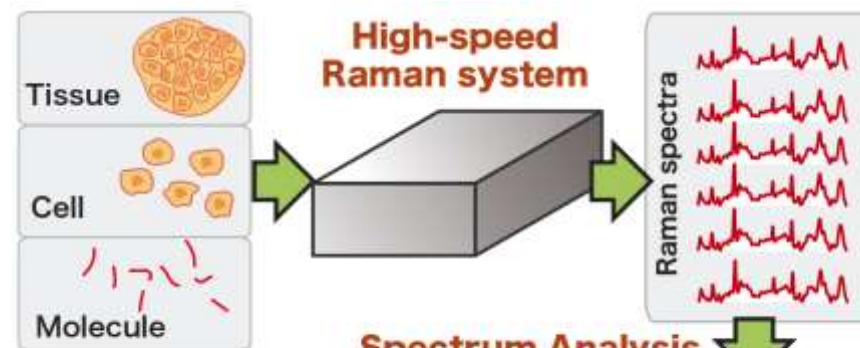
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## Summary :

We will develop Raman spectroscopy techniques for molecular analysis with high sensitivity. The analysis speed will be improved up to 100 times compared to the current micro Raman spectroscopy and realize the high-throughput analysis of biological molecules and living cells. Our techniques will employ newly developed low-noise and high-sensitivity spectroscopic optics and be optimized for analyzing biological molecules. Our research output will allow us to practically utilize Raman spectroscopy for label-free analysis of biological samples and open a new window to understand complex biological systems for biological and medical researches.



### Bio-research

Analysis of cell states  
Drug resistance detection

### Diagnosis

Cell diagnosis, Drug evaluation

### Regenerative medicine

Cell analysis

### Exploration of biological phenomena

Cell diagnosis, classification

**Others** Material analysis

**Practical implementation of Raman spectroscopy for label-free and comprehensive analysis of biological molecules and cells.**

<https://lasie.ap.eng.osaka-u.ac.jp>