

Instrument Center

YAKUSHI, Kyuya	Director
YAMANAKA, Takaya	Technical Associate
TAKAYAMA, Takashi	Technical Associate
FUJIWARA, Motoyasu	Technical Associate
OKANO, Yoshinori	Technical Associate
MIZUKAWA, Tetsunori	Technical Associate
MAKITA, Seiji	Technical Associate
NAKANO, Michiko	Technical Associate
SAITO, Midori	Technical Associate
SAKAI, Yasuko	Secretary
OTA, Akiyo	Secretary



Instrument Center was organized in April of 2007 by integrating the general-purpose facilities of research center for molecular-scale nanoscience and laser research center for molecular science. The mission of Instrument Center is to support the in-house and external researchers in the field of molecular science, who are conducting their researches using general-purpose instruments such as ESR, x-ray diffractometer, fluorescence spectrometer, *etc.* The staffs of Instrument Center maintain the best condition of the machines, and provide consultation for how to use them. The main instruments are NMR (JEOL JNM-LA500, JEO JNM-LA400), mass spectrometer (Voyager DE-STR), powder x-ray diffractometer (Rigaku RINT-Ultima III), and circular dichroic spectrometer (JASCO JW-720WI) in Yamate campus and ESR (Bruker E680, E500, EMX Plus), SQUID magnetometer (Quantum Design MPMS-7, MPMS-XL7minTK), powder (MAC Science MXP3) and single-crystal (Rigaku Mercury CCD, RAXIS IV, 4176F07) diffractometer, dilution refrigerator (Oxford 400 μ)

with superconducting magnet (12 T), thermoanalysis system (TA TGA2950, DSC2920, SDT2960), fluorescence spectrophotometer (SPEX Fluorog11), UV-VIS-NIR (Hitachi U-3500) spectrophotometer, excimer+dye laser (LPX105i), Nd-YAG+OPO laser (GCR-250), and excimer laser (Complex 110F) in Myodaiji campus. Instrument Center provides liquid nitrogen and liquid helium using helium liquefiers. The staffs of Instrument Center provide consultation for how to treat liquid helium, and provide various parts necessary for low-temperature experiments. Instrument Center supports also the network sharing system of the chemistry-oriented instruments, which started in the April of 2007. In the fiscal year of 2007 (April 2007 to March 2008), Instrument Center accepted 27 applications from 27 institutions outside of IMS. The users mainly used SQUID (15), ESR (18), x-ray diffractometer (21), mass spectrometer (2), NMR (3), and Excimer-dye laser (2), where the numbers in parenthesis shows the number of use by external users.



Figure 1. High-Frequency/High-Field ESR Spectrometer (Bruker E680).



Figure 3. Excimer+dye laser (Lambda physics LPX 105i + LPD3002).



Figure 2. Matrix-Assisted Laser Desorption Ionization—Time of Flight Mass Spectrometer (Applied Biosystems Voyager DE-STR).