Mission

- Support high-throughput crystallography with modern instrumentation and robotics.
- Open access for anyone at Duke wanting to pursue structural biology aims.

Leadership / Experience

**Director:** Nathan Nicely, PhD
- Assistant Professor in Medicine / DHVI
- Ten years at Duke
- Experience in diverse topics including immunology, enzymology, pathogenic metabolism, oncology

Services

- Protein production
- Crystallization trials
- Automated imaging of crystallization experiments
- X-ray diffraction and data collection
- Expert staff support

Technology / Instruments / Resources

**Rigaku MicroMax-007**
- Micro focus rotating anode x-ray generator
- VariMax HR (high resolution) optics
- RAXIS IV++ image plate detector
- Inverse phi axis for easy crystal mounting
- X-stream 2000 cryogenic system
- Plexiglass enclosure

**Minstrel HT UV**
- Every drop dual imaged in white and UV light
- Fully automated operation with a manual mode
- Inspection schedule of choice

**Crystal imaging**
- Protein crystals Fluoresce under UV.
- Salt crystals Do not illuminate.
- Crystals in precipitate Revealed by UV.

**Crystallization experiment setups**
- Phoenix robot dispenses 96-well screens all at once
- Oryx4 robot dispenses proteins and protein-reagent mixtures
- Drop volumes of 100-500 nl
- Handles seeds

**Robots**
- Phoenix dispenses one plate in ~3 minutes
- Oryx dispenses one plate in ~20 minutes; typically ~100-500 nl drop volumes
- Gallery incubators House ~200 plates per Gallery
- Minstrel HT UV Images one 96x3 plate in ~30 min
- Varimax HR Runs 24/7

Recent Projects / Publications


Reservations / Service Requests

The shared instruments are available for use by properly trained users at their discretion.

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Contact Us

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