ACCESS
☐ F Signs and Placards  Locate and discuss all posted signs and placards (Hazard Info Placard, contact info, PPE)
☐ E8 Hutch Access  Train user for Beamline Hutch Search and Secure and Breaking Security. Be aware of moving door hazards
☐ F Safety Approval Form  Users must review SAF; review controls and other training for SAF or beamline
☐ F Lead Experimenter  Lead Experimenter must ensure that safety, training, and reporting requirements are completed

EMERGENCIES
☐ F FLOCO/Control Rm  Discuss process to contact a Floor Coordinator (FLOCO) and the Control Room for assistance
☐ F Beamline Staff  Discuss process to contact Beamline Staff for assistance and operations (emergency contact info, phones)
☐ F Emergencies  Discuss where to go and who to contact during an emergency. Locate exits and fire alarm pull boxes
☐ F Emergency Lights  May come on for self-test with lights and buzzer
☐ F Eye Wash/Shower  Locate eye wash/shower
☐ F Spill Station  Locate spill control station
☐ F Emergency Beam Stop  Locate emergency beam stop buttons, discuss purpose and operation
☐ F Radiation Monitors  Identify radiation monitor locations, move away from area, call control room if area monitors sound off
☐ F Oxygen Monitors/Alarms  Locate hatch ODH monitors, discuss alarm response, verify green light is on, discuss LOB receiving room access
☐ E8 Gas Alarms  Discuss any gas systems and alarms in the area, and the appropriate response to alarms

BEAMLNE EQUIPMENT
☐ F Config Control  Identify the configuration control signs and follow configuration control policy
☐ F Mezzanine Access  Access to mezzanine, areas above hut roof, staircase is not permitted
☐ F User Authorization  User is authorized to operate ONLY the equipment the user has been trained on - review operation and hazards
☐ E8 User Labyrinth  Discuss proper steps and precautions to take for use of the user labyrinth
☐ B1 Electrical Outlets  Note outlet colors; do not plug equipment into sensitive or UPS outlets w/o beamline staff approval
☐ B End Station Equip  Point out Red Cables or High Voltage (HV) Supply for end station equip (do not touch)
☐ B1 Equip Stop Buttons  Review operations for equipment stop buttons and when to use them
☐ B Ergonomics  Use caution when moving around equipment and under beam pipes, changing chambers, during equipment alignment (limited space, low pipe, trip hazards, awkward positions, personnel injury, equipment damage)
☐ B CryoCooler  If cryocooler will be used, review operations for water use and shut-off valves
☐ B CryoStat  User ☐is ☐is not authorized to make changes to cryostat; if authorized, review operations
☐ B Detector  Review detector location, operations, hookups, cables, fill frequency, cautions for high voltage and equip damage
☐ B High Temp Apparatus  User ☐is ☐is not authorized to change apparatus and temp controls (review operations; prevent burns)
☐ B Laser Present  Laser present at this beamline (avoid direct eye exposure)
☐ B Lenses  Review location and operations for lens focusing
☐ B1 Mirror  Review mirror location, operations [Grating Change ☐Yes ☐NA] [Adjustment ☐Yes ☐NA] [Rotation ☐Yes ☐NA] [Tilt ☐Yes ☐NA]
☐ B1 Monochromator  Review operations for energy ranges, set up, and operation of monochromator drive, motors, bearings, gas feeds, power, software; User ☐is ☐is not authorized to adjust monochromator
☐ B1 Optical System  Review optical system set up, operations, water gauge for optics system, mirror, camera
☐ B1 Sample Chamber  Review operations for sample chamber and mounter; User ☐is ☐is not authorized to modify sample chamber or add new equipment to existing flanges (if authorized, review requirements and extension policy)
☐ B Shutter  Review location, operations, indicators, and required sequence for beamline shutter controls
☐ B Spectrometer  Review spectrometer operations and limits
☐ B1 Vacuum (End Sta Eqp)  User ☐is ☐is not authorized to perform vacuum work and bleed ups on end station equipment; if authorized, review location, indicators, and operations
☐ B Water System  Review location, indicators, alarms, trips, and operations for system and shut off
☐ B WebCam  Be aware of WebCams and/or Remote Monitoring

BEAMLNE OPERATIONS
☐ B Computer Operations  Review operations for computer operations, control software, data acquisition software, machine status
☐ B Computer Software  Do not install any computer software on beamline computers
☐ B Computer Data  Review data storage, data transfer, and back up process
☐ B Passthrough Beamlines  Review operations for passthrough beamlines
☐ EB Unattended Ops  User ☐is ☐is not requested to attend beamline at all times, as per SAF. Discuss process
Esh & Hazards

☐ E8 Cryogen Fill Station
For Cryogen Filling Station, NSLS-II training and PPE required; BNL cryogen training recommended

☐ E8 Chemicals
Discuss use, labeling, storage, spills, labs, disposal, and transportation of chemicals

☐ E8 Cryogen Use
For cryogen/cryostat use, discuss fill operations, ODH, demonstrate use, wear PPE (eye and skin protection)

☐ E8 Cryogen Dewar Fills
Liquid Nitrogen is filled by beamline staff only

☐ E8 Cryogen Transfer Lines
Discuss dewar autofill process, ODH; if user is authorized to operate transfer lines, review operations

☐ E8 LN2 Shut Off
Review operations for LN2 shutoff buttons and when to use them

☐ E9 Electrical Work 50V
No work on exposed electrical components >50V without appropriate electrical training

☐ E9 Electrical Connections
User is not authorized to adjust any high voltage, motor connections or in-hutch beamline electronics

☐ E9 Electrical Equipment
User is not permitted to modify or service any electrical equipment on the beamline or perform any bake-outs

☐ E9 Electrical Breakers
In case of power failure, contact the FLOCO or Beamline Staff

☐ E9 Electrical Pwr Supplies
Review process to check power supplies and cables; User ☐ ☐ ☐ ☐ is not authorized to change PS; User ☐ ☐ ☐ is not authorized to power down PS; if authorized, review operations

☐ E8 Red & Yellow Tags
Provide information about any beamline equipment or systems that are yellow or red tagged

☐ E8 Gas
Show location, operations, use, fills, storage of gas (inc cabinets if any), emergency response actions, and if authorized: valve operations, gas interlocks, switching cylinders, operating transfer lines

☐ E8 Ladders
Review step ladder use if needed; if ladder required, discuss set up, safety and 3-point rule

☐ E8 Lifting
If lifting objects <30 lbs, keep weight close to the body (between shoulders and knees); If lifting objects =/>30 lbs, use lifting and/or mechanical aids or two person lifts

☐ E8 Magnetic Fields
Magnetic fields present at this beamline - Users with medical devices/implants should stay 1’ away from source

☐ E8 Nano Materials
Review approved locations and controls for nanomaterial use

☐ E8 Ventilation
Review use and operations for ventilation system and alarms, if present

☐ E8 Food
Food consumption is permitted in designated food areas (LOBs)

Lab/Tech Areas & Sample Prep

☐ E8 Lab Use
Discuss use of lab (including forms and PPE) and/or tech space (non-lab) area

☐ E8 Sample Prep
Discuss location for sample prep; prepare samples only where instructed

☐ E8 Soldering Station
Avoid skin contact with soldering iron to prevent burns to the skin; advise of process for solder scrap

Wastes

☐ E8 Hazardous Wastes
Do not generate hazardous wastes without talking with beamline staff. Anyone generating Hazardous Waste must have Lab Standard and Hazardous Waste Generator training.

☐ E8 Waste Location
Show relevant waste collection areas and discuss training requirements (sharps, razor blades, pipet tips, broken glass, hazardous waste Satellite Accumulation Area/SAA)

☐ E8 Sharps
Place cover slips, tips, needles in sharps container

Close Out

☐ B1 Samples (Take Home)
Take samples back to home institution

☐ B2 Samples (Storage)
Review storage process for samples

☐ B3 Samples (Store or Ship)
Discuss with beamline staff whether to store samples or ship back to home institution and confirm before leaving

☐ B Shipping Haz Mat
Review shipping process for hazardous materials

☐ B Data Log Book
Complete entries in Experiment Data Logbook

☐ F End of Run Form
Complete the End of Run form for NSLS-II

☐ F Systems & Equip
Power down systems and turn off equipment voltages as required, perform PC security check

☐ B1 Shut Down/Secure BL
Secure beamline and inform the Beamline Staff experiment is complete

☐ B2 Shut Down/Contact Staff
Secure beamline and contact the Beamline Staff to disable the shutters before you leave

☐ F Housekeeping
Check housekeeping (beamline area neat, clean, free of hazards), recycling, tools returned or stored

☐ F1 Publications
Send a copy of your publication to ✅NSLS-II User Administration ✅the beamline


During initial form development: If there is a number next to the designation (e.g., B1, B2, etc), select the most appropriate content.
NSLS-II Beamline Specific Training Form 21-ID-1

Course Code PS-BST-21-ID-1
Rev Date: 6/2/2018

<table>
<thead>
<tr>
<th>PRINT User Name</th>
<th>Life #</th>
<th>User Signature</th>
<th>Date</th>
<th>Trainer's Signature</th>
<th>(\checkmark) Training Entered</th>
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Instructions to Trainer:

(1) Provide training for each checkbox to each user listed on the SAF as they arrive and complete the information below. If a checkbox does not apply, cross out that line. Training is valid for 1 year at this beamline only. (2) Send completed forms to NSLS-II Training, Building 745, immediately after all users listed on the SAF (who plan to arrive for this run) have been trained. Training will be entered in the user's training history.

Instructions to User:

Ensure your name and life number are correct and sign the space below that you understand the instructions provided to you in this training.

SAF #

Kaznatcheev, Konstantine
Sadowski, Jerzy
Vescovo, Elio

[ ] Beamline Specific  [ ] Determined by ESH  [ ] Determined by ESH and Beamline  [ ] Required by Facility for ALL Beamlines

During initial form development: If there is a number next to the designation (e.g., B1, B2, etc), select the most appropriate content.