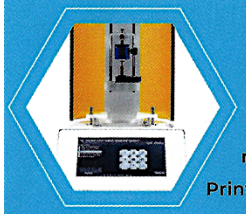
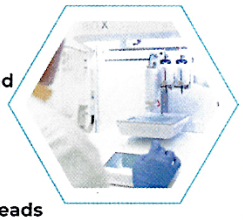
ADDITIVE MANUFACTURING



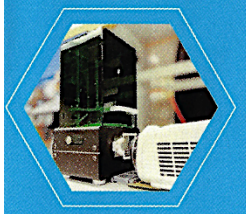
CELLINK LUMEN X SLA

- Prints living cells
- DLP printer leverages digital micromirror device (DMD) for high resolution (50µm XY, 5µm z) prints.
- Prints with a 385 nm light source using an STL (stereolithography file)

CELLINK BIO X



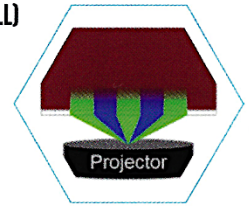
- Extrusion 3D printer with different printheads offering flexibility to print hydrogels, thermoplastics, and bio inspired materials
- Printheads: Pneumatic, Electromagnetic Droplet (EDM), Temperature-control pneumatic, thermoplastic and syringe pump heads



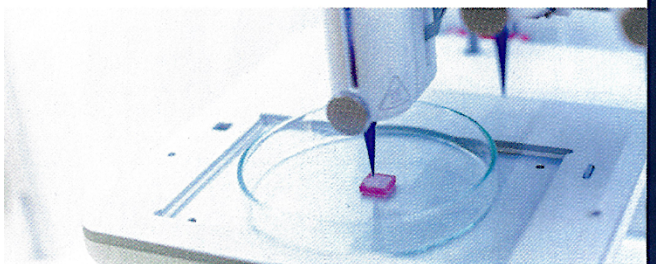
MONO1 & MONO3 DLP PRINTERS

- Wavelengths: mono1: 405 nm mono3: 460, 525, 615 nm
- XY resolution: 20-45 µm
- Print speed: 420 µm/min

SOLUTION MASK LIQUID LITHOGRAPHY (SMALL)



- One-step multi-material 3D printing with visible light
- Wavelength 480-700nm



BECOMING A USER

BIOPACIFIC MIP RESOURCES ARE FREE OF CHARGE TO U.S. BASED USERS WITH APPROVED PROPOSALS

STEP 1 — PROPOSAL SUBMISSION
Rolling submissions
Proposal submission via: biopacificmip.org
Consult with the technical team before submission

STEP 2 — FEASIBILITY REVIEW
Resource assessment:
Equipment
Materials
Staffing

STEP 3 — MERIT REVIEW
by external committee
KEY CRITERIA:
Intellectual Merit
Broader Impacts
Alignment with mission
Knowledge hub growth
Diversity

STEP 4 — EXECUTION
Policies and Forms
Travel logistics
Scheduling
Funding available to enhance diversity of participation

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LIVING BIOFOUNDRY

THERMOFISHER SYNTHETIC BIOLOGY AUTOMATION SYSTEM

- Automated, high-throughput platform for gene assembly, amplification, transformation, strain growth, and metabolite analysis

- Enables the production of bio-based monomers and polymers with precise repeat units, domains and chirality directly from microorganisms.

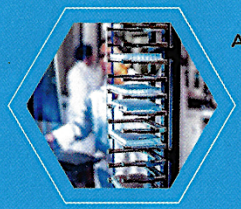
AUTOMATED SYNTHESIS

CHEMSPEED AUTOMATED CHEMISTRY PLATFORM

- Automated library synthesis for ATRP, ROMP, RAFT, and photo-controlled polymerizations
- Parallel synthesis reactors for photo-, high-pressure, high and low-temp reactions

VAPOURTEC R-SERIES FLOW CHEMISTRY SYSTEM

- Column reactor, PFA reactor, High temp SS reactor, Cooled reactor
- Electro-chemical reactor, Photo-chemical reactor (365, 405, 450 nm LEDs)
- Inline Flow FTIR, Inline 60 MHz NMR



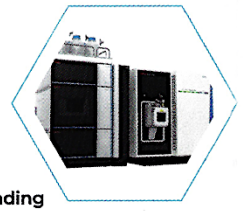
- Accelerates from 10s of samples per week to >500 samples per-week
- Automated liquid handling
- Automated incubators

GYROS PROTEIN TECHNOLOGIES SYMPHONY X SOLID PHASE SYNTHESIZER

- Employs 40 unique monomers and 24 reaction vessels
- Automatic cleavage and reagent recovery
- Scale up to 2 grams of resin per vessel

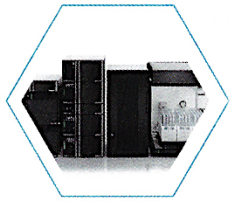
THERMOFISCHER TSQ ALTIS INLINE TRIPLE QUADRUPOLE UHPLC/MS/MS

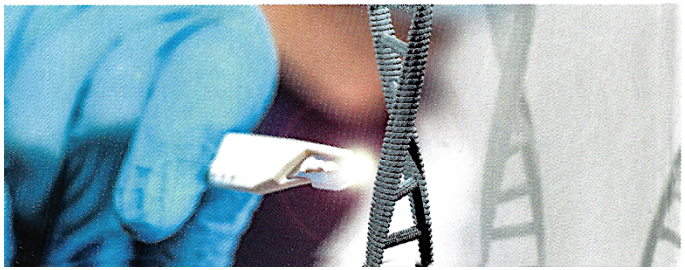
- 5-2000 m/z mass range w/ Active Ion Mgmt
- 6 channel high-pressure solvent blending



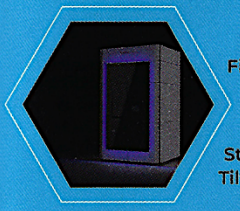
SHIMADZU NEXERA REVERSE-PHASE ANALYTICAL/PREPARATIVE HPLC-MS

- Dual prep and analytical flow paths with dedicated UV-VIS and PDA detectors
- Inline mass spectrometry for both analytical and prep





HIGH THROUGHPUT CHARACTERIZATION



THERMOFISHER MICROED

- First-of-its-kind TFS Spectra 300C TEM Operating from 30kV to 300kV for microED & 4D STEM
- State-of-the-Art Single Tilt and Double Tilt Cryo-Transfer Holders plus Cryobox

HIGH-THROUGHPUT MICRORHEOLOGY TOOL

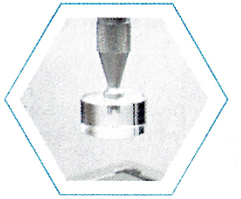
- Passive, high-throughput method for automated microrheology
- Coupled with a software that increases throughput by 30X for data acquisition and 60X for analysis for microscale volumes of fluids and soft solids

NEXT GENERATION X-RAY

- High-brilliance X-ray source. Equivalent to a 2nd generation synchrotron
- Sample environments that allow for kinetic SAXS measurements upon mixing of complex fluids (mix-SAXS)

TEXTURE TECHNOLOGIES TEXTURE ANALYZER

- Mechanical testing capabilities for soft materials
- ~1mN of force via a 50N load cell



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