

STAP Chemistry and Life Science Support Group (CLS) – Fall 2024

- Increased cross-training and knowledge exchange between CLS and MSPS
- Good, improved communication and interactions with instrument teams
- CLS has clearly initiated the transition from installation/construction toward first science
- CLS is a solid team effort

SULF

- + Excellent progress with D08 (furniture, electrical) with mechanical/gases/water under evaluation
- + E04 and D04 labs are operational; RML is in non-rad operations pending rad approval from authorities
- + Lab space identified for cell culture and sample storage/handling
- + Basic supplies and equipment operational: LN2, freezers, fume hoods, instrumentation (new CHN analyzer)
- + Continued analytical support to various ESS construction/commissioning projects (e.g., oil for the He cooling loop)
- + Monika, Katrin, Ghazaleh, and Nick are a great (if overworked!) team
- The team has valid concerns about space for safe chemical storage, availability, and cost.
- The budget does not appear to have increased since last year and remains below par compared to other neutron facilities.
- Staffing levels remain low given the amount of work performed by the team and the need for more support personnel for first beam/first science and the transition to a user program.
- Good progress in the sample storage facility that was a bare shell earlier in the year. This is really good work, but still more needs to be done (e.g., ventilation). Do not underestimate the work that remains to be done: a funded plan is needed now.
- **Sample storage (check in, bar coding, inventory, sample holders emptying/cleaning, sample disposal/shipping) will require a full time employee.**

DEMAX

- DEMAX continues to demonstrate excellence with biodeuteration and crystallization, as well as with chemical deuteration with a successful call for proposals and an increasing list of publications
 - Increased interactions with NMX, LOKI and other beam lines demonstrate DEMAX's dedication to the transition to first beam/first science
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- + Very significant efforts by the team to go after grants, push publications, seek scientific collaborations
 - + Actively working on recruiting a biodeuteration scientist (2025) to relieve Zoe at LP3
 - + 62 molecules delivered/36 proposals supported
 - + Transition from Medicon Village and integration of the team into D04 is another success for CLS in general and the DEMAX team in particular
 - + Kudos for working out various approaches to reduce D2O consumption
 - + New GC/MS will improve DEMAX productivity
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- Staffing levels remain low given the workload on Anna, Jia-Fei and Zoe
 - Contracts expiring in 2025/2026 will adversely affect DEMAX operations (Medicon, LP3, ILL,...)
 - **DEMAX cannot afford to lose NMR access. This is a single point of failure for DEMAX/Chemical deuteration.** Contract renewals and/or new solutions must be sought now.

SCSE

- D04 workshop is operational
 - Alice and Harald are making impressive progress in the organization and development of SCSE with increased, regular interactions with beam line teams, completing projects with in-kind partners, and initiating new projects to develop sample environment for reflectometry and chemistry in particular
 - The continued involvement of SCSE with sample environment teams at other neutron sources and attendance to relevant workshops and conferences is another positive development. Alice's participation on the organizing committee of ISSE is to be commended.
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- + Development and testing of the humidity chambers and electrochemistry cells from Estonia (in kind partner)
 - + Collaboration on combined ellipsometry/IR project (in kind partner Linkoping U. Sweden) to support FREIA and ESTIA
 - + Automation of static troughs for FREIA (with postdoc at Lund U.)
 - + Initiated the development of low pressure gas handling manifolds
 - + ISORB: new stick for in situ high pressure gas adsorption (with new intern)
 - + SCSE is increasingly involved with controls and instrumentation -a positive development compared to the situation 6 months ago
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- A team of two (Alice, Harald) is insufficient to support the transition to first beam/first science or to support soft matter/chemistry sample environment at multiple beam lines during operations.
 - Is there a plan in place to replace Hannah Burrall?
 - A large fraction of sample environment under development seems to be focused mostly on reflectometry, and the the SCSE budget appears to be supporting mostly reflectometry. This makes sense for now (tranche 1 Instrument), but the increased involvement of SCSE in the projects listed above (to support chemistry sample environment in particular) ought to be reflected progressively in future budgets.