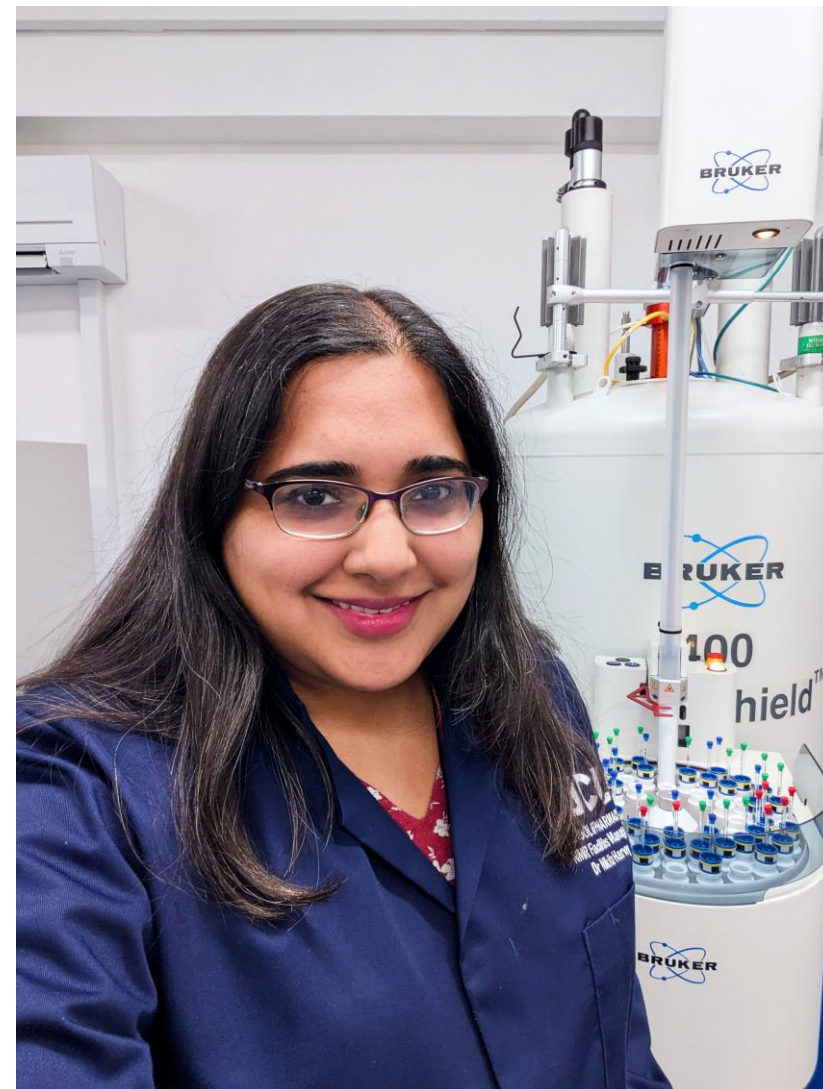


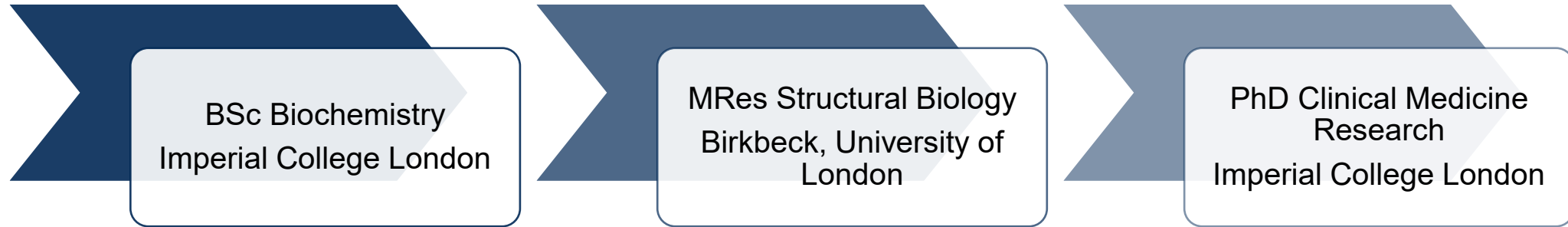
Experiences as a new NMR Facility Manager

Nikita Harvey
NMR Facility Manager
UCL School of Pharmacy
nikita.harvey@ucl.ac.uk

 [nickynak3.bsky.social](https://bsky.app/profile/nickynak3.bsky.social)



Background: some degrees



- BSc Biochemistry research project: Optimising buffer conditions for NMR on protein subunit (Rivka Isaacson)
- MRes Structural Biology: Expression and cryo-EM of kinesin-13 driven microtubule depolymerisation (Carolyn Moores)
- Laboratory Assistant at Hammersmith Medicines Research: Processing and analysis of human blood/urine samples for Phase I and II clinical trials
- Part-time PhD: Optimising DOSY experiment for metabolic profiling (Jia Li, John Lindon, Beatriz Jiménez)

Background: 10 years as an NMR Technician

- Sample preparation, NMR data acquisition and quality control for over 30 large-scale human **metabolomics** studies including blood, urine, CSF, faecal extract, breast milk, vaginal fluid, saliva
- Cryofills and troubleshooting for <11 NMR spectrometers
- R&D work on various methods such as SMOIESY development, optimisation of plasma lipid preparation, STD experiments
- Trained individual users at the spectrometer
- Taught lectures and practical sessions on annual IIPTC Hands-on NMR for Metabolic Profiling course
- Obtained accreditation as Registered Scientist (RSci)
- Also obtained PhD part-time

Imperial College
London



2023-?: NMR Facility Manager at UCL School of Pharmacy



- 400 MHz and 600 MHz Avance Neo spectrometers (upgraded 2022)
- Majority of users doing pharmaceutical and biological chemistry
- Some users handling macromolecules e.g. Chris Waudby, Zoë Waller
- TRAC listed, intended to be cost-recovering
- ~70-80 users



State of the lab



First Steps

- New chairs and storage
- Claim unrecovered user money
- H&S: Update Risk Assessments, Local Rules
- Cryofills: replace ancient gloves and unpressurised IN_2 dewar

- Colin James had left 2 years

was on
sick leave
together
refurb

No recharges since the refurb

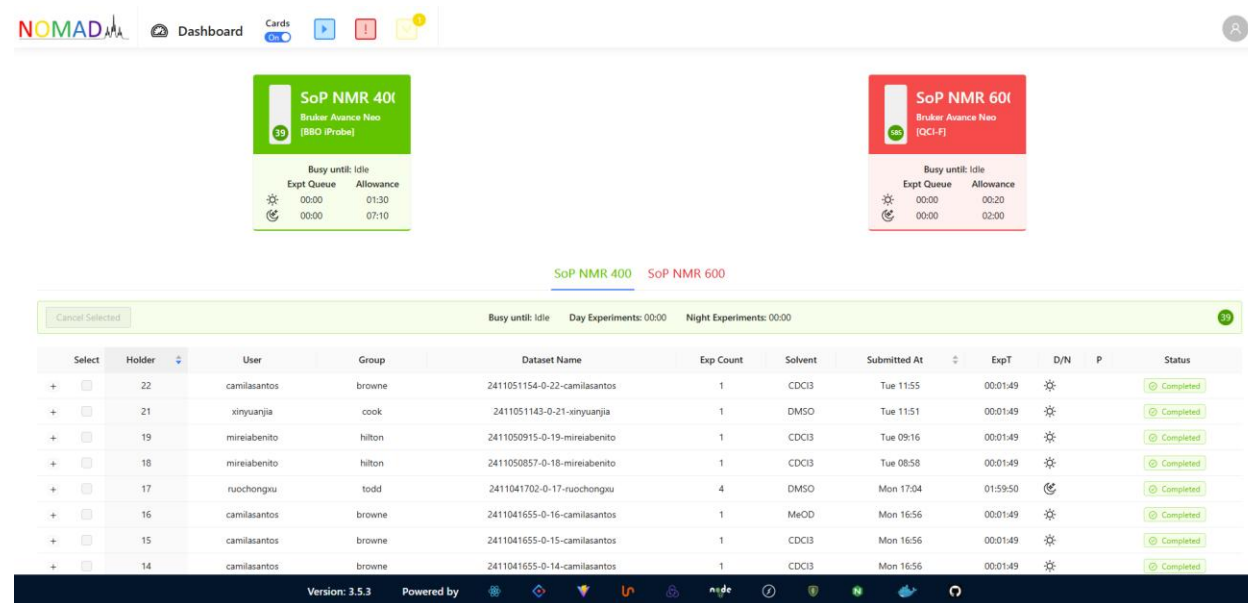
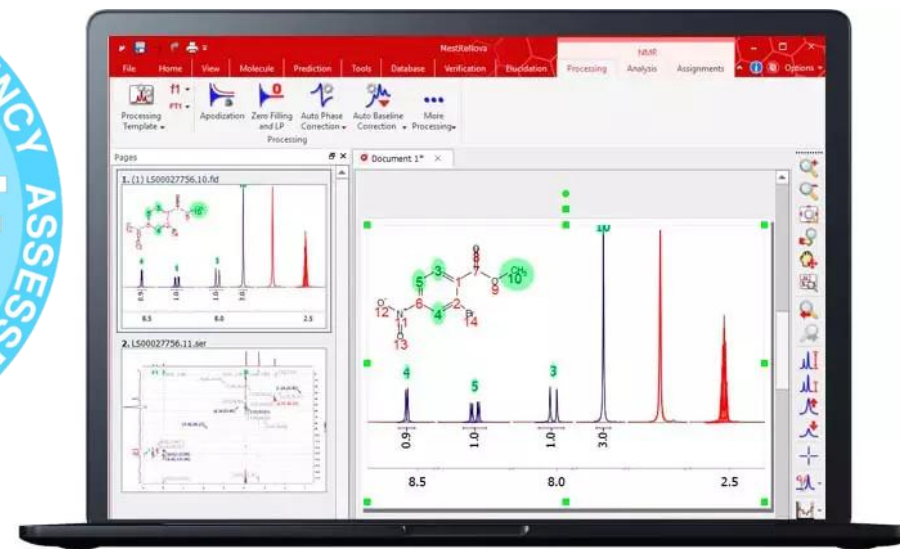
Strategy

- Observe current system to see what needs improving
- Start going to conferences and talking to other MRMs 😊
- Talk to users: what do they want?
- Talk to other technicians at SoP, particularly other facility managers
- Talk to Head of Research Dept

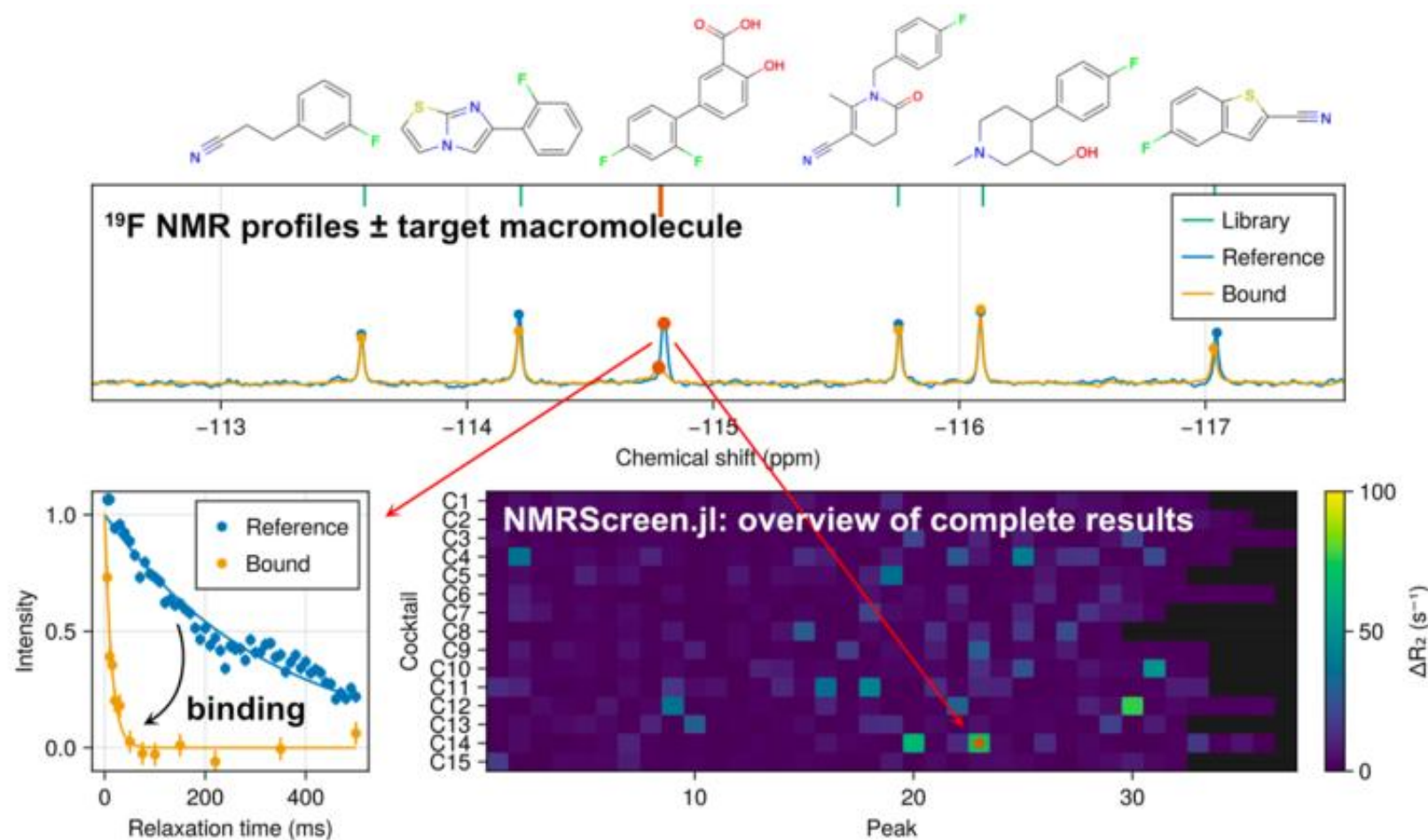


Improvements so far

- NOMAD running on 400, installed on 600
- Set up campus MestReNova licence
- LEAF Bronze, applied for Silver
- Updated website
- Implemented Clustermarket for 600 MHz spec booking
- Running frequent inductions and training sessions
- Resumed charges and TRAC
- SampleJet consumables available in SoP Stores



^{19}F Fragment Screening Service



Developed with Chris Waudby

- 450 fluorinated ligand fragments prepared in 15 cocktails
- 1D ^{19}F profiles and perfect-echo T_2 ^{19}F 2Ds to check for binding
- 5 screens run so far, more to come

Contact me if you are interested in using our screening service

What's next?

- Liquid helium recapture/recycling
BUT where to recycle in London?
- Replacement for Clustermarket
- Implement teaching for PhD students



Special thanks to Chris Waudby,
his lab group, and the School of
Pharmacy technician team for
making me feel welcome at SoP

Thanks also to this community!

