

MONTHLY UPDATE

DEPARTMENT OF BIOCHEMISTRY

MARCH 2019

TEACHING SUPPORT SPECIAL EDITION

March is a busy time in the Department as we welcome all the new postgraduate students into the research laboratories. Their enthusiasm livens up the Department and I look forward to hearing about the successes (and failures!) of their research projects later in the year. The seminar programme and journal club are now under way for another year so be sure to come along and listen and learn.

It is also the time of the year where the needs of the many undergraduate students dominate as we ensure course books and laboratory manuals are printed, lectures are revised and there is someone scheduled to give every lecture and laboratory class. This year we have also had the opportunity to celebrate the dedication of our teaching staff and many of you will have attended Kaye's 25th Anniversary morning tea. Many generations of students have benefitted from Kaye's wisdom and we enjoyed hearing some of the stories related to the dramas that have unfolded in her office. It was a great success and the photos we posted to Facebook have been very popular!

Following on from that, I thought for our March newsletter it would be good to profile our teaching support, both staff and processes. A huge amount of work goes on behind the scenes in order for our papers to proceed in the smooth way that they do, and if it weren't for our undergraduate laboratory preparation team, demonstrators and professional practice fellows many things would fall through the gaps.

Thanks to Bronwyn for putting this together.

Catherine



PREP ROOM



From left: Sandra Jeffery, Amirah Mohamad, Nurit Reichman, Pam Wyber, and Mike McArthur.

The Prep Room staff have an enormous responsibility, the success of every undergraduate laboratory rests on their shoulders. There is no “We’ll fix it next time” for them, no “I think we probably have enough reagent”. As Nurit says, they “back up the back up of the back up of the back up”. Every single experiment performed in the undergraduate labs has first been performed in the Prep Room, and it has been repeated again every time a new batch of reagents is needed. Nothing is left to chance. Nurit takes great pride in never having had a failed undergrad experiment in her time as Prep Room manager. The Prep Room staff are here working while most of us are in the shower or eating breakfast - a 9am laboratory class means starting no later than 8am (earlier for some), and that hour from 8–9 is hectic - do not try to stop one of them for a chat!

Nurit grew up in Israel, and left high school with a lab technician diploma. After school she spent two years in the army working in HR (in those days they didn’t let women shoot people, thank goodness - she hates guns), then worked for a subsidiary of Sigma in toxins, proteins, and quality control. She and her husband and daughter emigrated to New Zealand in 1990, and she initially worked as a technician in George Petersen’s lab, before joining the Prep Room as second in charge under Steve Rogal. When Steve left, Nurit was promoted, and the rest is history. Nurit finds running a successful lab immensely satisfying, especially the development of new protocols. Experiments that work well when performed by a single scientist do not necessarily scale up to the volumes needed for 1500 BIOC 192 students, and this is something Nurit has an intuitive grasp of. The sheer volumes of reagents needed can be prohibitive. To demonstrate, Nurit showed me her method for ensuring that a batch of 60 litres of buffer is completely homogeneous when the largest container you have is “only” 25 litres. Remember that moving 25 litres of buffer means lifting at least 25kg!

Amirah is originally from Malaysia, but she went to university in Edinburgh, whence she graduated with an MRes in Natural Sciences. Her first job was as a research technician in reproductive biology, then she met a nice Kiwi man, married him, and took some time off to have a family. This was followed by a move to New Zealand, where she sent out CVs everywhere she could think of. “I just wanted a job, even if it was working in McDonald’s” she said. Luckily for us, the first person to respond was Nurit, and Amirah has been working here ever since. She joked that one of the first questions Nurit asked was about her muscles - those 25 litre containers of buffer need to be moved on a regular basis.

Sandra is a qualified hairdresser who got sick of hairdressing. Having a family was her first post-hairdressing job, then she started working as a cleaner for the university, first in Registry, then here. When the job of glassware cleaning and came up she thought that sounded a lot more interesting than floors and toilets so she applied and was accepted. Since then she has graduated to doing all the labelling, maintaining equipment, cleaning the pipettes, spectrophotometers and cuvettes, and doing the stocktaking. Sandra is also the person who will be autoclaving all of those new red Biohazard waste bags for you.

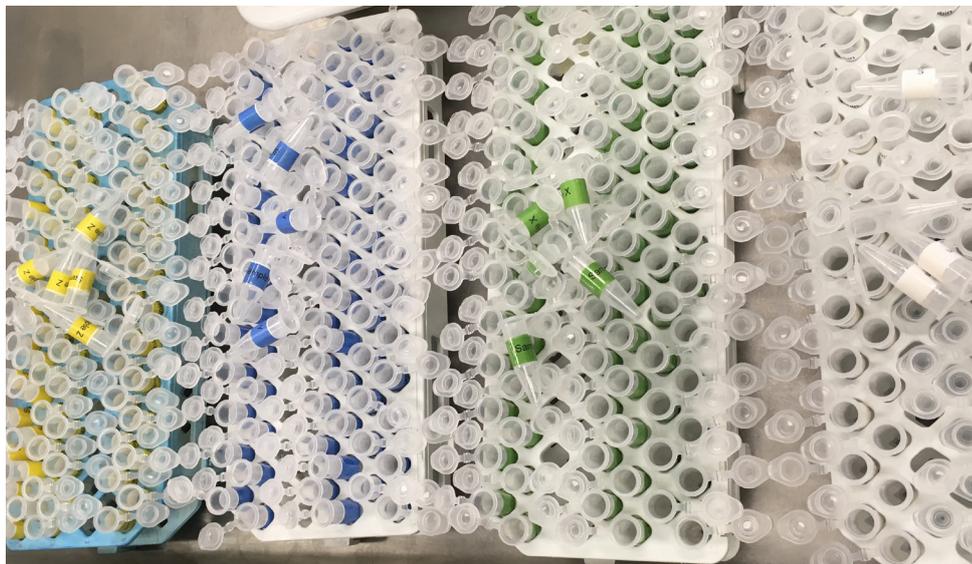
Pam came to us after her job of assembling dishdrawer motors at Fisher & Paykel moved to Asia. She took over what had previously been Sandra's glassware cleaning job, and she just adores it. It appeals to her love of organisation, she appreciates the companionship, and she gets university holidays off - apart from the nine weeks of deep cleaning around the Department during summer of course.

Mike has been one of ours right from the beginning - he has left a few times, but he always comes back. He began in the Department as a technical trainee straight from high school, while studying for his NZCS (New Zealand Certificate of Science) at polytech nightschool. On his first day at work he dropped a bottle of potassium permanganate, and left purple footprints everywhere he went! Mike has had a number of different roles in Biochemistry; he probably has a better idea than anyone else how the place really works. He has worked in the store, in what is now Nigel's job; he did a BSc, so he knows what it's like being a student; he has worked in several research laboratories (for Sigurd, Mike Legge, and Marion Maw), during which he also married and helped his wife produce three children. In between his stints in Biochemistry he has also worked in Pharmacology, in the HUBS labs, as a technical writer for ADI, and at the National Poisons Centre. Mike is happy to talk to any students who would like to explore technical writing as a career too.

Despite (or maybe because of) all the hard work, the Prep Room staff are a cheerful bunch of people, they all say they value the camaraderie and being part of a team.

A FEW REPRESENTATIVE STATISTICS FROM THE PREP ROOM:

Each year there are 60,000 gloves used, 4000 lab benches wiped down, 200 litres of dishwashing liquid used (by Pam), and over 10,000 eppendorf tubes filled and labeled (by Sandra). Pam will wash 1000 test tubes per 200-level lab session, and, as previously mentioned, buffer is prepared in 60 litre batches. They even speak about PCR products in millilitre volumes!



COMPETITION

A chocolate fish (or equivalent) to the first person who can figure out the method Nurit developed to ensure 60 litres of buffer is completely homogeneous, using containers no larger than 25 litres. Sam Jamieson need not enter, and should keep his insider knowledge to himself!

DEMONSTRATORS

Demonstrators are a critical component of the Biochemistry teaching programme. Demonstrators assist in the teaching and administration of laboratory classes for all undergraduate papers, and everyone has a story about their favourite demonstrator who helped them master the art of pipetting, running gels, making buffers etc. In addition to providing practical laboratory skills training and help with theoretical science in the lab classes, they mark assignments and other written course work.

In the last year we employed ~70 demonstrators, who between them did approximately 4200 hours of hands on demonstrating, giving one-on-one attention to students in the laboratory.

It is a great benefit to students for them to have someone close to their own age helping them. Many of the demonstrators remember the problems they had as undergraduates, and this gives them a unique perspective when it comes to helping students. The undergraduates also get an inside look at the range of research being done in the department as they chat with the demonstrators about their projects.

But the benefits are not all unidirectional. The best way to learn something is to teach it! Demonstrating hones skills such as communication, patience and organisation, which are all important skills, and of course being a demonstrator is a good way to earn money! Some of our best demonstrators go on to have a career in teaching.

PROFESSIONAL PRACTICE FELLOWS

The Biochemistry PPFs have different roles in the department, but they all take pride in providing excellent academic and pastoral support for our undergraduate students. The BIOC192 team, especially, are very aware of the concerns that first year students (particularly HSFY students) face, so their office is always open to these students if they have any worries or need advice on where to seek help. As Annika says “If we can’t help them, we know who can!”

SHARLEEN RAE

Sharleen (usually known as “Shar”) is the PPF in charge of our 300-level teaching, and before her MSc in Biochemistry under Mary Thompson, did a B.A. in History at Otago, and a Diploma of Primary School Teaching at what was then the Dunedin College of Education.

Shar was a “mature” Masters student, having already spent several years as a full-time mother/part-time primary teacher. She has been working here as a part time teaching lab supervisor, and more recently as a full-time Professional Practice Fellow, since graduating in 2010.

In addition to being the 300 level PPF, Shar takes 100- and 200-level lab classes, and employs all of the demonstrators for the undergraduate labs.

She works hard to encourage students into postgraduate study by fostering a sense of belonging in the department. Shar is always on the look-out for future demonstrators, so she tries to get to know as many students coming through as possible, to see who might show a talent and passion for teaching. (No, that’s not the only reason she was friendly to you, she is a naturally gregarious person).



Shar is the undergraduate kaiāwhina, which she says has been very good for her personally as she is not Māori herself, and she is continually learning about Māori tikanga and ways of supporting our Māori students. She also works a lot with high school students who come into the department for short programmes such as Hands on at Otago and Science Academy, and day trips for local Year 13 students and Pacific Island Year 7-8 students.

In the last few years Shar has acted, stage managed, and production managed at the East Otago Musical Theatre, and is currently the Wardrobe Mistress for *The Addams Family* in May which, she says, “is going to be an AMAZING show and I think there should be a department trip to see it.”

She is a very keen spin fisher, “I can catch trout but the salmon have eluded me this season so far.”

KAYE WILSON

Kaye, our 200-level professional practice fellow, obtained her BSc in Biochemistry at Otago and then spent a year at College of Education in Dunedin to gain a DipTchg.

From there she taught Chemistry, Biology, Maths and Science at Otago Girls High School, moving on to be head of science there. She has also taught in various other high schools including Blue Mountain College in Tapanui, on a very part time basis as she began her family.

Kaye's career took a pause until her third child was four and then, in 1994, she returned to the Department as a half time teaching fellow, employed particularly to liaise with high schools. She began the outreach programme bringing high school students into the department and organising professional development days and conferences for teachers.

Kaye was also heavily involved with Hands on Science and the Science and Technology fairs, judging them at the national level.

Over the years Kaye's focus has changed to teaching and giving pastoral care to our undergrad students, latterly



the second year students. She says "Students have such stressful and busy lives outside of university and I help them manage workloads, to work around illness and other issues in their lives.

"I love my role as a PPF. The students are a breath of fresh air. I especially enjoy seeing a shy student or perhaps one who has struggled through high school, find their passion and blossom into a confident, passionate, knowledgeable person."

Outside of work, Kaye plays a lot of bridge, and has quite a large garden which she spends a lot of time tending.

ANNIKA BOKOR

Annika's BSc(Hons) and PhD were done here at Otago under the supervision of Russell Poulter, her Honours degree in both Biochemistry and Genetics. During her PhD study she also managed to produce two sons. She has taught here for the last eight years, finding her passion for teaching after a stint as an assistant research fellow.

Annika is the BIOC 192 course coordinator and lectures and supervises labs in CELS 191, BIOC 221, and ELM2. She is an extremely popular teacher (several years ago the students created a Facebook fan page for her), and attributes this in part to English being her third language - she is able to explain things in simple terms the students find very easy to understand. She really appreciates being able to spend most of her time on teaching-related activities. She says "I love to inspire students to learn by making each teaching session fun, exciting and memorable."

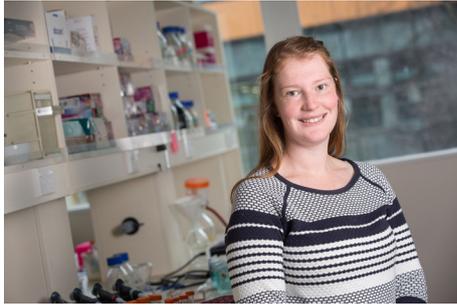


Outside work Annika is heavily involved in her older son's swimming, and coaching his football team.

Annika is available as an advisor for all BIOC 192 students, and can be a good initial contact for any type of enquiries from 200-level students while they familiarise themselves with their 200-level papers and the 200-level PPF, "our lovely Kaye".



NICOLE POWER



Nicole gained her BSc (Hons), and PhD here with Steph Hughes in the Department of Biochemistry. Working with Steph naturally means there was a good hunk of neuroscience included in her studies.

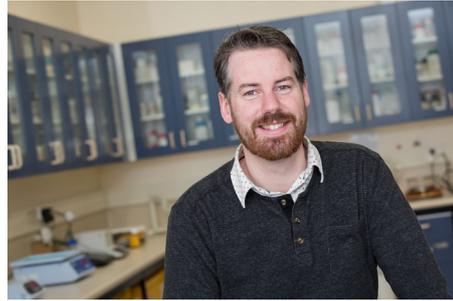
After finishing her PhD, Nicole worked as an Assistant Research Fellow with Steph, and tutored at the Maori Centre, Pacific Island Centre and Halls of Residence, then worked as a Teaching Fellow in several HSFY papers. In the middle of all that she took a bit of time off to have a baby.

Nicole became a permanent Professional Practice Fellow in the Department of Biochemistry in mid 2018. In semester one she supervises some of the 200-level labs, and takes some lectures and tutorials, but her main job is as a key member of the BIOC 192 team. She supervises laboratories and tutorials for BIOC 192. Nicole is the first point of contact for our first year students who have queries about the course.

Nicole says “I like the interaction with students, helping them learn concepts, and making Biochemistry exciting and engaging. It’s great seeing students who come in for regular help succeed at the end of semester.”

Nicole’s main interests outside work are going on adventures with her 2-year-old and her husband, baking, and reading.

BEN PETERS



Ben is another of our graduates, having done his BSc(Hons) and PhD in Lynette Brownfield’s lab. He is a reasonably fresh graduate - he has been working here for just one year, having spent six “wonderful” months as a full-time Dad after his PhD study.

Ben is the third leg of the BIOC 192 team, along with Annika and Nicole. He also supervises some 200-level and 300-level lab classes. He is the only plant biochemist in the PPF team, and takes a keen interest in bioinformatics and statistics, providing much needed expert support in those areas.

About his job, Ben says “Being a professional practice fellow gives me a good balance of teaching and learning. I really enjoy coming along to seminars and journal clubs to learn about the latest research. I think it makes teaching all the more enjoyable when I can share with young curious minds the latest breakthroughs that are happening right here in this department.”

Ben takes an interest in politics, and has recently been working with The Opportunities Party (TOP) to write better GMO legislation that he hopes will make it easier to carry out research in New Zealand. He says “As a Christian I love to debate and engage in discussions around the philosophy of science and religion.”

