



CSDB
Collaborative Specialization in
Developmental Biology

Volume 17, Issue 1

April 2024

Greetings everyone!

As we transition to warmer weather, I'm very excited to update you on planned events for the next few months, including our annual retreat in May. You should have received a registration e-mail from Cindy for the retreat: please register and indicate if you will be presenting a poster ASAP so that we can plan accordingly. Our steering committee student reps have been hard at work lining up some very exciting talks for the close of this academic year and the 2024/25 session:

- May 1st: Jeff Farrell
- May 29th: Annual Old Mill Retreat (keynote speaker: Benoit Bruneau)
- Nov 13th: Jen Zallen
- Feb 19th (2025): Oded Rechavi
- March 19th (2025): Marianne Bronner
- April 23rd (2025): Kat Hadjantonakis

I'd like to take this opportunity to thank and highlight the outstanding efforts of one of our newest faculty members, **Olena Zhulyn**, for organizing our highly successful (and first!) DSCB/CSDB alumni event in March. I have heard nothing but highly positive feedback from trainees and PIs following this event. A big thanks to **Najeeb Siddiqui** and **Janice Cheng** from DSCB as well for their hard work in making this event happen. It is always striking to me at these events how speakers highlight that there was no "master plan" that got them to the varied and successful career trajectories they have taken, but that the overall PhD training in problem solving and critical thinking remains invaluable in their work and career progression. A few interviews of our alumni follow below.

Please follow e-mails from CSDB (and our website) for upcoming talks. I highly encourage students to take advantage of the opportunity to interact with our visiting speakers at the trainee lunch or pub event scheduled with each seminar by our outstanding student members of the steering committee. Students - please also add to our suggested speaker list, and take an active role in hosting your suggested speaker! It is a great way to network and (perhaps) line up a future postdoc.

Speaking of which, our student reps (**Charlotte Martin, Zaleena Akheralie, Marynelle Icmat and Una McNally**) all work hard behind the scenes to organize these events and provide invaluable feedback on how CSDB is run. Outside the committee, trainees are encouraged to participate more generally by attending our seminars, suggesting speakers that they feel would add to our program, etc. Students – attendance at these events is a key part of your program!

We are planning to launch the second iteration of our trainee grant competition later this summer (details to follow). Sean Egan will be running a session on grant writing and reviewing June 12th – details to follow shortly.

A reminder that I am aiming to incorporate postdoctoral researchers into our program – please encourage postdocs in your lab to contact Cindy and join our e-mail list. I would like to develop events where postdocs take leadership roles AND get to bolster their “teaching” portfolio at the same time

I’m happy to highlight the following:

New CSDB Faculty:

Ian Rogers

Graduated Students (congrats!):

Sabrina Chau (PhD, Meneghini)

Evelyn Popiel (PhD, Derry)

Samantha Steiner-Mayman (PhD, Ciruna)

Tirthankar Ray (PhD, Harris)

Haoyu Wan (PhD, Bruce)

New CSDB Students (welcome):

Nour Bazzi (PhD, Sawh)

Hope Dewan (MSc, Brill)

Victoria Echezarreta (PhD, Scott)

Shih-Yi Fan (MSc, van der Kooy)

Aastha Gandhi (PhD, Dowling)

Sharanja Premachandran (PhD, Calarco)

Mayu Shimomura (PhD, Hurd)

As always, please feel free to pass on feedback and suggestions to me via e-mail or in person at a CSDB event.

Best,

Ian

Follow us on Twitter: @DevBio_UofT

And on our website: devbio.utoronto.ca

Interview with Lisa Shao

Associate Medical Director, Healthcare Consultancy Group (*MSc, Brill lab*)



What kind of training is required for this role? What is the recruitment process like?

The majority of individuals on my team possess an MSc, PhD, PharmD or MD and do not have any field-specific training prior to starting in the industry. Based on my personal experience, the recruitment process for entry-level positions typically involves an HR screening stage, behavioural interview with the hiring manager, and a writing/editing test. This process varies depending on the company and the specific role applied for.

What is (are) the favourite thing(s) you like about your job?

My favourite thing is being able to continually expand my knowledge of therapeutic areas and leveraging my scientific expertise to address needs in the healthcare field. I love connecting with subject matter experts to gather insights, identify knowledge gaps, and co-create creative educational materials to bridge those gaps.

Least favourite things?

My least favourite aspect is the occasional pressure of tight deadlines, but our teamwork ensures we meet them together!

What is something you did not expect when you started this job?

I was surprised by the exposure I received to the diverse range of projects and therapeutic areas right from the beginning. It has been rewarding to see how the critical thinking and creativity skills honed during graduate school are put to use every single day.

Interviewed by Marynelle Icmat

Interview with Dr. Valeria Di Giovanni

Research Program Manager - Biobank, St. Michael's Hospital (*PhD, Rosenblum lab*)



How did you find out/choose this job?

I saw a posting on LinkedIn. At the time I was on Maternity Leave after the end of my last position, which was a contract. While I wasn't exactly looking for a job at that time, it was a perfect fit for my skill set and it would have been a progression in leadership and pay.

What kind of training is required for this role? What is the recruitment process like?

I needed to have a grad degree (PhD preferred) and a few years of direct experience with certain key skills and people management. The online application asked clear questions like "have you ever worked on a REB protocol" which needed a positive response for me to go on to the interview phase. Working with them. It gives me satisfaction to know that I played a small part in their advancing their research.

What is(are) the favourite thing(s) you like about your job?

I love interacting with research teams to help their projects come together. We have some amazing scientists at Unity Health Toronto and I have learned so much by working with them. It gives me satisfaction to know that I played a small part in their advancing their research.

Least favourite things?

I don't like managing the finances of my group. Money is tight in research and it can be hard to charge my clients but also hard to try to achieve cost recovery.

What is something you did not expect when you started this job?

I was surprised that I spend most of my time on strategy and less on hands on sample collection. I need to try to think of the best way we can promote biobanking at Unity Health and sometimes that means aligning an upcoming grant or application to a patient clinic that is unique to our hospital or to a clinical demand that aligns to our scientific pillars

Interviewed by Marynelle Icmat

Interview with Dr. Abigail Mateo

Associate Director, Diagnostic Project Management, AstraZeneca (*PhD, Derry lab*)

How did you find out about your position?

I found out about this position from a colleague in the Malkin Lab at SickKids. They already had a position at Astra Zeneca and I reached out to them to ask if they could connect me with someone at the company, who is now the manager at Astra Zeneca. Once I got that connection, I applied and was offered an interview.



What kind of training is required for this role? What was the recruitment process like?

I would say that a PhD is not necessarily required but it would definitely make you a competitive applicant and could be used as leverage when negotiating your position. As for the recruitment process, I applied and was then invited by HR for an interview. There was a total of 3 interviews involving case studies.

What is (are) your favourite thing(s) you like about our job?

My favourite this is that I get to work with different people which often leads to collaboration.

What is (are) your least favourite thing(s) you like about our job?

Since Astra Zeneca is a global company, it's difficult to work with people when they are in different parts of the world and accommodating the time difference.

What is something you did not expect when you started this job?

I wasn't really surprised about anything, there was adequate information about the role and the skills set required for my position. However, I would say that in graduate school you are only responsible for yourself and your project and in the real world, you have to work with people and sometimes you have different projects going on, which can be a big change.

Interviewed by Zaleena Akheralie

Interview with Dr. Miranda Hunter

Postdoctoral fellow, Memorial Sloan Kettering, USA (*PhD, Fernandez-Gonzalez lab*)

Describe your current role

I am a postdoctoral fellow in the lab of Rich White at Memorial Sloan Kettering Cancer Center, studying cancer cell biology and mechanobiology using a zebrafish model of melanoma.



How did you choose your post-doc?

Having done my PhD in Drosophila, I wanted to switch to a vertebrate model system. I wasn't initially planning to study cancer, but I really liked Rich when I interviewed with him and thought the zebrafish cancer models in the lab were interesting. It's worked out so far!

What was the recruitment process like?

I reached out to a number of PIs via cold email and interviewed in 4-5 labs in person. The process of obtaining a postdoc is quite informal compared to other careers.

What is(are) the favourite thing(s) you like about your post-doc?

I enjoy the independence, the intellectual freedom and the challenge of the work. I also have really enjoyed the opportunity to participate in a number of collaborations, and meeting new friends through conferences and other professional networks.

Least favourite things?

I've largely had a great experience, but at times it's been challenging working in the intense environment of a top US institution. The realities of the academic job market can also be stress inducing for senior postdocs!

What is something you did not expect when you started your post-doc?

That a postdoc can actually be a fun experience! And that it's possible to maintain a healthy work/life balance but still have a successful and productive postdoc. I love living in NYC and definitely make time to enjoy the city outside of the lab.

Interviewed by Charlotte Martin

Selected Member Publications

Aharon-Yariv A, Wang Y, **Ahmed A, Delgado-Olguín P** (2023) *Integrated small RNA, mRNA and protein omics reveal a miRNA network orchestrating metabolic maturation of the developing human heart* **BMC Genomics** Nov 23;24(1):709.

Chi L, Zhong L, Lee D, Yu X, **Caballero A, Nieman B, Delgado-Olguín P** (2023) *G9a inactivation in progenitor cells with Isl1-Cre with reduced recombinase activity models aspects of Dandy-Walker complex* **Biol Open** Aug 15;12(8):bio059894.

Endo Y, Groom L, Wang SM, Pannia E, **Griffiths NW, Van Gennip JLM, Ciruna B, Laporte J, Dirksen RT, Dowling JJ** (2024) *Two zebrafish cacna1s loss-of-function variants provide models of mild and severe CACNA1S-related myopathy* **Hum Mol Genet** Jan 20;33(3):254-269.

Justice MJ (2024) *Sex matters in preclinical research* **Dis Model Mech** Mar 1;17(3):dmm050759.

Landon-Brace N, Li NT, **McGuigan AP** (2023) *Exploring New Dimensions of Tumor Heterogeneity: The Application of Single Cell Analysis to Organoid-Based 3D In Vitro Models* **Adv Healthc Mater** Oct;12(26):e2300903.

Li YR, **Zúñiga-Pflücker JC** (2023) *Thymus aging and immune reconstitution, progresses and challenges* **Semin Immunol** Nov;70:101837.

Liu J, Malekoltojari A, Asokakumar A, Chow V, Li L, Li H, Grimaldi M, Dang N, Campbell J, Barrett H, Sun J, Navarre W, Wilson D, Wang H, Mani S, Balaguer P, Anakk S, Peng H, **Krause HM** (2024) *Diindoles produced from commensal microbiota metabolites function as endogenous CAR/Nr1i3 ligands* **Nat Commun** Mar 22;15(1):2563.

Meng J, Ahamed T, Yu B, Hung W, Ei Mouridi S, Wang Z, Zhang Y, Wen Q, Boulin T, Gao S, **Zhen M** (2024) *A tonically active master neuron modulates mutually exclusive motor states at two timescales* **Sci Adv** Apr 12;10(15):eadk0002.

Mourad O, Mastikhina O, Khan S, Sun X, Hatkar R, Williams K, **Nunes SS** (2023) *Antisenescence Therapy Improves Function in a Human Model of Cardiac Fibrosis-on-a-Chip* **ACS Mater Au** May 2;3(4):360-370.

O'Brien S, Ubhi T, Wolf L, Gandhi K, Lin S, Chaudary N, Dhani NC, Milosevic M, Brown GW, **Angers S** (2023) *FBXW7-loss Sensitizes Cells to ATR Inhibition Through Induced Mitotic Catastrophe* **Cancer Res Commun** Dec 21;3(12):2596-2607.

Parent SE, Luu O, Bruce AEE, Winklbauer R (2024) *Two-phase kinetics and cell cortex elastic behavior in *Xenopus gastrula* cell-cell adhesion* **Dev Cell** Jan 8;59(1):141-155.

Rossant J (2024) *Why study human embryo development?* **Dev Biol** May;509:43-50.

Rusu B, Kukreja B, Wu T, Dan SJ, Feng MY, Kalish BT (2023) *Single-Nucleus Profiling Identifies Accelerated Oligodendrocyte Precursor Cell Senescence in a Mouse Model of Down Syndrome* **eNeuro** Aug 23;10(8):ENEURO.0147-23.

Tersigni J, Tamim El Jarkass H, James EB, **Reinke AW** (2024) *Interactions between microsporidia and other members of the microbiome* **J Eukaryot Microbiol** Apr 1:e13025.

Thomas EC, **Hopyan S** (2023) *Shape-driven confluent rigidity transition in curved biological tissues* **Biophys J** Nov 7;122(21):4264-4273.

Vargas-Perez H, Minauro-Sanmiguel F, Ting-A-Kee R, Grieder TE, Méndez-Díaz M, Prospéro-García O, **van der Kooy D** (2024) *Rewarding Effects of the Hallucinogen 4-AcO-DMT Administration and Withdrawal in Rats: A Challenge to the Opponent-Process Theory* **Neurosci Lett** Jan 18;820:137597.

Yammine SZ, Burns I, Gosio J, Peluso A, Merritt DM, Innes B, Coles BLK, Yan WR, Bader GD, Morshead CM, van der Kooy D (2023) *Fate Specification of GFAP-Negative Primitive Neural Stem Cells and Their Progeny at Clonal Resolution* **Stem Cells Dev** Oct;32(19-20):606-621.

Yang A, Chidiac R, Russo E, Steenland H, Pauli Q, Bonin R, Blazer LL, Adams JJ, Sidhu SS, Goeva A, Salahpour A, **Angers S** (2024) *Exploiting spatiotemporal regulation of FZD5 during neural patterning for efficient ventral midbrain specification* **Development** March;151(5):dev202545.