



Greetings everyone!

As we transition away from summer, I am very excited to welcome you to a new academic year for the Collaborative Specialization in Developmental Biology (CSDB, not to be confused with CSB or DSCB at SickKids...). We have several talks planned for this fall, starting this week with **Germano Cecere** on September 28th. Please follow e-mails from CSDB for upcoming talks. I highly encourage students to take advantage of the chance 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.

Speaking of which, our student reps (**Jeffrey Stulberg, Charlotte Martin, Zaleena Akheralie and Marynelle Icmat**) all work very hard behind the scenes to organize these events and provide invaluable feedback on how CSDB is run. Jeff will be stepping down after a long run on the committee, so I encourage students who feel they have contributions to make to CSDB to apply when the call goes out. Similarly, trainees are strongly encouraged to participate by attending our seminars as much as possible, suggesting speakers that they feel would add to our program, etc. Students – attendance at these events is a key part of your program!

Our upcoming planned events:

September 28th: Germano Cecere (4PM, MSB4171, co-sponsored with the Toronto RNA Club)

October 4th: Arnold Kriegstein (3PM, PGCR Auditorium, co-sponsored with NMH at SickKids)

October 25th: Jessica Goodheart (3PM, CCB Red Room, co-sponsored with CSB)

November 27th: Nadav Ahituv (to be confirmed)

December: CSDB social event, TBD

January 25th: Ahilya Sawh

February 2024: Todd Blankenship (to be confirmed)

March 2024: Melissa Mann (to be confirmed)

with an April speaker and the May Old Mill Retreat currently being planned. Flyers will be added to the website as plans are finalized. We are also planning to launch the second iteration of our trainee grant competition later this semester (details to follow), and are working with DSCB at SickKids to have a careers-focused event with DSCB alumni **March 26th** (details also to follow). This will expand on the roundtables we had at the retreat last year, with a career-centric focus.

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.

For 2023 to date, I’m happy to highlight the following:

New CSDB Faculty:

Madeline Hayes

Ahilya Sawh

Olena Zhulyn

New CSDB Students (welcome!):

Zi Qi Lin (MSc; Cox)

Claire Turke (PhD; Reinke)

Cherry Wan Ya Liu (MSc; Scott)

Marie Rachel (PhD; Ciruna)

Una McNally (MSc; Harris)

Maria Fahim (MSc; Scott)

Sifa Quibria (MSc; Bruce)

Donna Guan (MSc; Bruce/Harris)

Graduated Students (congrats!):

Nicole Lindsay-Mosher (PhD; Pearson)

Jonathan Palozzi (PhD; Hurd)

Gordana Scepanovic (PhD; Fernandez-Gonzalez)

Amanda Charlesworth (PhD; Claycomb)

Adrian Loe (PhD; Kim)

Mallory Wiggins (PhD; Pearson)

Michele Ly (MASc; Fernandez-Gonzalez)

Denise Rebello (PhD; Ciruna)

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

Selected Publications

Ahmed M, Muffat J, Li Y (2023) *Understanding neural development and diseases using CRISPR screens in human pluripotent stem cell-derived cultures* **Front Cell Dev Biol** Apr 10;11:1158373.

Almeida SM, Ivantsiv S, Niibori R, Dunham WH, Green BA, Zhao L, Gingras AC, **Cordes SP** (2023) *An interaction between OTULIN and SCRIB uncovers roles for linear ubiquitination in planar cell polarity* **Dis Model Mech** Aug 1;16(8):dmm049762.

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Cadavid JL, Latour S, Nowlan F, Co IL, Landon-Brace N, Wouters BG, Grünwald BT, Nitz M, Jackson HW, **McGuigan AP** (2023) *An Engineered Paper-Based 3D Coculture Model of Pancreatic Cancer to Study the Impact of Tissue Architecture and Microenvironmental Gradients on Cell Phenotype* **Adv Healthc Mater** Jun;12(14):e2201846.

Chau S, Gao J, Diao AJ, Cao SB, Azhieh A, Davidson AR, **Meneghini MD** (2023) *Diverse yeast antiviral systems prevent lethal pathogenesis caused by the L-A mycovirus* **Proc Natl Acad Sci U S A** Mar 14;120(11):e2208695120.

Chi L, Zhong L, Lee D, Yu X, Caballero A, Nieman B, **Delgado-Olguin 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.

Chidiac R, **Angers S** (2023) *Wnt signaling in stem cells during development and cell lineage specification* **Curr Top Dev Biol** ;153:121-143.

Chorna T, **Brill JA** (2023) *Immunofluorescence as a Method to Study Golgi Organization in Larval Salivary Glands of Drosophila melanogaster* **Methods Mol Biol** 2557:29-37.

Derry WB (2023) *Role of developmental pathways in disease* **FEBS J** Jul;290(13):3296-3299.

Dervovic D, Malik AA, Chen ELY, Narimatsu M, Adler N, Afiuni-Zadeh S, Krenbek D, Martinez S, Tsai R, Boucher J, Berman JM, Teng K, Ayyaz A, Lü Y, Mbamalu G, Loganathan SK, Lee J, Zhang L, Guidos C, **Wrana J**, Valipour A, Roux PP, Reimand J, Jackson HW, **Schramek D** (2023) *In vivo CRISPR screens reveal Serpinb9 and Adam2 as regulators of immune therapy response in lung cancer* **Nat Commun** May 31;14(1):3150.

Goissis MD, Bradshaw B, Posfai E, **Rossant J** (2023) *Influence of FGF4 and BMP4 on FGFR2 dynamics during the segregation of epiblast and primitive endoderm cells in the pre-implantation mouse embryo* **PLoS One** Jul 2 ;18(7):e0279515. eCollection 2023.

Karolczak S, Deshwar AR, Aristegui E, Kamath BM, Lawlor MW, Andreoletti G, Volpatti J, Ellis JL, Yin C, **Dowling JJ** (2023) *Loss of Mtm1 causes cholestatic liver disease in a model of X-linked myotubular myopathy* **J Clin Invest** Sep 5;133(18):e166275.

Kim YK, Cho B, Cook DP, Trcka D, **Wrana JL**, **Ramalho-Santos M** (2023) *Absolute scaling of single-cell transcriptomes identifies pervasive hypertranscription in adult stem and progenitor cells* **Cell Rep** Jan 31;42(1):111978.

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** Aug 17:e2300903.

Lukose R, Mazaharally M, Redline RW, **Cox BJ** (2023) *The Placenta Pathology Tool: an online application for understanding histopathologic lesions* **Am J Obstet Gynecol** Aug 1:S0002-9378(23)00523-9.

Macrae TA, Fothergill-Robinson J, **Ramalho-Santos M** (2023) *Regulation, functions and transmission of bivalent chromatin during mammalian development* **Nat Rev Mol Cell Biol** Jan;24(1):6-26.

Mok C, Xiao MA, Wan YC, Zhao W, **Ahmed SM**, Luallen RJ, **Reinke AW** (2023) *High-throughput phenotyping of infection by diverse microsporidia species reveals a wild C. elegans strain with opposing resistance and susceptibility traits* **PLoS Pathog** Mar 9;19(3):e101122.

Monteiro VL, Safavian D, Vasudevan D, **Hurd TR** (2023) *Mitochondrial remodelling is essential for female germ cell differentiation and survival* **PLoS Genet** Jan 25;19(1):e1010610.

Mourad O, Yee R, Li M, **Nunes SS** (2023) *Modeling Heart Diseases on a Chip: Advantages and Future Opportunities* **Circ Res** Feb 17;132(4):483-497.

O'Brien S, Chidiac R, **Angers S** (2023) *Modulation of Wnt- β -catenin signaling with antibodies: therapeutic opportunities and challenges* **Trends Pharmacol Sci** Jun;44(6):354-365.

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Renaud MS, Seroussi U, **Claycomb JM** (2023) *Analysis of C. elegans Germline Small RNA Pathways* **Methods Mol Biol** ;2677:37-59.

Seroussi U, Lugowski A, Wadi L, Lao RX, Willis AR, Zhao W, Sundby AE, **Charlesworth AG**, **Reinke AW**, **Claycomb JM** (2023) *A comprehensive survey of C. elegans argonaute proteins reveals organism-wide gene regulatory networks and functions* **Elife** Feb 15;12:e83853.

Shao L, Fingerhut JM, **Falk BL**, Han H, Maldonado G, Qiao Y, Lee V, Hall E, Chen L, Polevoy G, Hernández G, Lasko P, **Brill JA** (2023) *Eukaryotic translation initiation factor eIF4E-5 is required for spermiogenesis in Drosophila melanogaster* **Development** Feb 15;150(4):dev200477.

Siddiqui NU, Karaiskakis A, Goldman AL, Eagle WVI, **Smibert CA**, Gavis ER, **Lipshitz HD** (2023) *Smaug regulates germ plasm synthesis and primordial germ cell number in Drosophila embryos by repressing the oskar and bruno 1 mRNAs* **bioRxiv** Feb 27:2023.02.27.530189.

Wadi L, El Jarkass HT, Tran TD, Islah N, Luallen RJ, **Reinke AW** (2023) *Genomic and phenotypic evolution of nematode-infecting microsporidia* **PLoS Pathog** Jul 20;19(7):e101151.

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Yeh SY, **Rhee HS** (2023) *The ChIP-Exo Method to Identify Genomic Locations of DNA-Binding Proteins at Near Single Base-Pair Resolution* **Methods Mol Biol** ;2599:33-48.