

## CURRICULUM VITAE

### GREGORY MITCHELL KELLY

Department of Biology, Molecular Genetics Unit, Western University  
London, ON Canada N6A 5B7  
Room 359 (office) & 355 (lab) Western Science Centre  
519-661-3121; email [gkelly@uwo.ca](mailto:gkelly@uwo.ca); [www.uwo.ca/biology/directory/faculty/kelly.html](http://www.uwo.ca/biology/directory/faculty/kelly.html)  
<http://thekellylab.weebly.com>

**Born:** October 23, 1961; Winnipeg, Manitoba, Canada.

#### **University Education:**

<b><u>Degree</u></b>	<b><u>University</u></b>	<b><u>Department</u></b>	<b><u>Year</u></b>
Ph.D.	Manitoba	Zoology	1989
B.Sc. (Honors)	Manitoba	Zoology	1983

#### **Academic and Professional Appointments:**

2021: -Editorial Board, *Biomolecules*.

2019-present: -Qatar National Research Fund.

2020-2022: -International Expert Member, National Medical Research Council, Singapore.

2018-2021: -Operations Committee, Children's Health Research Institute, London, Ontario.

2018-2020: -International Expert Member, National Medical Research Council, Singapore.

2018: -External Reviewer, Biomedical Sciences, University of Ottawa.

2017-2018: -Visiting Scientist, Faculty of Pharmacy, University of Toronto.

-Visiting Scientist, The Hospital for Sick Children, Toronto.

2016-2020: -Member, Bone and Joint Institute, Western University.

2016: -Editorial Board, *Frontiers in Cell and Developmental Biology*.

-Professor (Cross-Appointed), Dept. of Physiology & Pharmacology, Western University.

-Scientist, Ontario Institute of Regenerative Medicine.

2015-present: -Editorial Board, *Cytology and Tissue Biology*.

**Appointments (Cont'd.):**

- 2015-present: -Editorial Board, *Journal of Cell Science and Report*.
- 2014-2015: -Acting Chair, Department of Biology, Western University.
- 2014-2016: -International Expert Member, National Medical Research Council, Singapore.
- 2013-present: -Editorial Board, *Trends in Cell and Molecular Biology*.
- 2012-2014: -International Expert Member, National Medical Research Council, Singapore.
- 2012-2013: -External Reviewer, Biological Sciences, Simon Fraser University.
- 2012- present: -Editorial Board, *PLOS ONE*.
- 2012: -Ontario Research Fund, Large Infrastructure Fund Committee.
- 2010-2012: -Member, Ontario Graduate Scholarship Selection Panel.
- 2010: -Visiting Professor, Department of Comparative Anatomy, University Warmia and Mazury, Poland.
- 2007-2008: -Grant Selection Committee 32, Natural Sciences & Engineering Research Council.
- 2006: -Associate Professor (Cross-Appointed), Dept. of Paediatrics, Univ. of Western Ontario.  
-Professor, Dept. of Biology, Univ. of Western Ontario.
- 2006-2010: -Professor, Associated Graduate Faculty, Dept. Integrative Biology, Univ. of Guelph.
- 2005-2007: -Chair, Grant Selection Committee 32, Natural Sciences & Engineering Research Council.
- 2004-2007: -Grant Selection Committee 32, Natural Sciences & Engineering Research Council.
- 2004: -Visiting Professor, Dept. of Molecular Biology, Umeå Univ., Umeå, Sweden.
- 2003: -Editorial Board, *Zebrafish*, Mary Ann Liebert, Inc. Publishers.
- 2002: -Associate Professor (Cross-Appointed), Dept. of Paediatrics, Univ. of Western Ontario.
- 2001-2002: -Visiting Professor, Institute for Molecular & Cellular Biology, Osaka Univ., Japan.
- 2001: -Associate Professor, Dept. of Zoology, Univ. of Western Ontario.

**Appointments (Cont'd.):**

- 2001: -Visiting Professor, Molekylærbiologisk Institutt, Univ. of Bergen, Norway.
- 2000: -Assistant Professor (Cross-Appointed), Dept. of Paediatrics, Univ. of Western Ontario.
- 1999: -Associated Scientist, Children's Health Research Institute, London, Ontario.
- 1995: -Assistant Professor, Dept. of Zoology, Univ. of Western Ontario.
- 1994: -Lecturer, Dept. of Pharmacology, Univ. of Washington School of Medicine.
- 1991: -Visiting Professor, Økologisk Zoologi, Univ. of Tromsø, Norway.  
-Acting Instructor, Dept. of Pharmacology, Univ. of Washington School of Medicine.
- 1989-1991: -Senior Fellow, Dept. of Pharmacology, Univ. of Washington School of Medicine.

**Scholarly and Professional Activities:**

**Invited Seminars:**

- 2022: -INRS-Centre Armand-Frappier en Santé et Biotechnologie, Université du Québec
- 2021-2022: -Department of Comparative Anatomy, University Warmia & Mazury, Olsztyn, Poland.
- 2020: -Department of Anatomy and Cell Biology, Western University. Canceled COVID-19.
- 2019: -Department of Biology, Western University.
- 2016: -Department of Physiology & Pharmacology, Western University.
- 2013: -Keynote Address, 47th Conference of the Polish Society for Histochemistry and  
Cytochemistry, Olsztyn, Poland.  
-Institute of Molecular Biology and Biochemistry, University of Waterloo, Waterloo,  
ON.  
-Department of Biological Sciences, University of Manitoba, Winnipeg, MB.
- 2012: -Department of Biology, York University, Toronto, ON.
- 2011: -VROC T-WISE Podcast #36
- 2010: -Department of Zoology, Jagiellonian University, Krakow, Poland.  
-Department of Comparative Anatomy, University Warmia & Mazury, Olsztyn, Poland.

**Scholarly and Professional Activities (Cont'd.):**

- 2010: -Keynote Address, Collaborative Program in Developmental Biology Retreat,  
University Western Ontario, Civic Gardens Complex, London, ON.
- 2009: -Department of Physiology & Pharmacology, University Western Ontario, London, ON.
- 2008: -Lawson Health Research Institute, St. Joseph Health Care, London, ON
- 2006: -Department of Anatomy & Cell Biology, University of Saskatchewan, Saskatoon, SK.  
-Department of Integrative Biology, University of Guelph, Guelph, ON.
- 2005: -Department of Pharmacology, University of Washington, Seattle, WA.  
-Department of Biological Sciences, University of Windsor, Windsor, ON.  
-Department of Biology, University of Ottawa, Ottawa, ON.
- 2004: -Department of Molecular Biology, Umeå University, Umeå, Sweden.  
-Department of Zoology, University of Toronto, Toronto, ON.
- 2003: -Department of Biology, University of Waterloo, Waterloo, ON.  
-Department of Pharmacology, Wayne State University, Detroit, MI.
- 2002: -Institute of Molecular Agrobiology, National University of Singapore, Singapore.  
-Department of Anatomy & Cell Biology, University Western Ontario, London, ON.
- 2001: -Department of Zoology, University of Manitoba, Winnipeg, MB.  
-Department of Physiology, University of Kentucky, Lexington, KY.  
-Department of Physiology, University Western Ontario, London, ON.  
-Department of Molecular Biology, University of Bergen, Bergen, Norway.  
-Institute for Molecular & Cellular Biology, Osaka University, Japan.  
-Experimental Biology, FASEB Meeting, Orlando, FL.
- 1997: -London Regional Cancer Centre, London, ON.
- 1996: -Department of Biochemistry, University of Western Ontario, London, ON.

**Scholarly and Professional Activities (Cont'd.):**

- 1996:            -Lawson Research Institute, St. Joseph's Hospital, London, ON.  
  
                  -Department of Biological Sciences, University of Windsor, Windsor, ON.  
  
                  -Department of Obstetrics & Gynaecology, University of Western Ontario, London, ON.
- 1995:            -Department of Zoology, University of Western Ontario, London, ON.  
  
                  -Department of Anatomy and Cell Biology, University of Toronto, Toronto, ON.  
  
                  -Departments of Anatomy and Neurobiology; and Biology, University of Vermont, Burlington, VT.
- 1994:            -Department of Zoology, University of Western Ontario, London, ON.  
  
                  -Invited Platform Speaker, 1st Zebrafish Development and Genetics Meeting. Cold Spring Harbor, NY.  
  
                  -Department of Biology, Western Washington University, Bellingham, WA.  
  
                  -Population Center for Research in Reproduction, Department of Medicine, Department of Veteran Affairs Medical Center, Seattle, WA.
- 1993:            -Department of Zoology, Washington State University, Pullman, WA.  
  
                  -Developmental Biology Gordon Conference, Proctor Academy, Andover, NH.  
  
                  -Plenary Lecture, Southwestern Regional Developmental Biology Conference, University of Oklahoma Biological Field Station, Kingston, OK.
- 1992:            -West Coast Regional Wnt Meeting, University of California, San Francisco, CA.  
  
                  -Department of Biology, McMaster University, Hamilton, ON.

**Honors (Academic, Scholarly and Professional):**

- 2021: -NSERC Herzberg Prize Reviewer.
- 2020: -Ph.D. External Examiner, University of Ottawa.
- 2013-2016: -University Students' Council - Teaching Honour Roll. 3 years.
- 2009: -Nominated for the Schulich School of Medicine and Dentistry Dean's Award of Excellence – Team.
- 2006: -Nominated for the Bank of Nova Scotia, U.W.O. Alumni Association and the University Students' Council Award of Excellence in Undergraduate Teaching.
- 2005-2006: -The Edward G. Pleva Award for Excellence in Teaching, U.W.O.
- 2004: -Ph.D. Opponent, Dept. Molecular Biology, Umeå University, Umeå, Sweden.  
-Ph.D. External Examiner, Inst. Molecular & Cell Biology, National Univ. Singapore.
- 2003: -The U.W.O., Faculty of Science Award for Excellence in Teaching.  
-Nominated for the Bank of Nova Scotia, U.W.O. Alumni Association and the University Students' Council Award of Excellence in Undergraduate Teaching.
- 2001-2002: -Visiting Professorship, Institute for Molecular & Cellular Biology, Osaka Univ.
- 2001: -Ph.D. Opponent, Molekylærbiologisk Institutt, Univ. of Bergen, Norway.
- 2000: -Nominated for Counselor, Canadian Society of Biochemistry, Molecular and Cellular Biology.  
-Nominated for the Bank of Nova Scotia, U.W.O. Alumni Association and the University Students' Council Award of Excellence in Undergraduate Teaching.
- 1997-2002: -Nominated for U.W.O., Faculty of Science Award for Excellence in Teaching.
- 1998: -Nominated for Canada's "Top 40 Under 40". Caldwell Partners, Toronto, ON.  
-Malcolm and Ruth Ferguson Research Award, University of Western Ontario.
- 1989-1992: -Medical Research Council of Canada Postdoctoral Fellowship.
- 1988: -Sigma Xi Student Research Award, Sigma Xi, University of Manitoba Chapter.  
-American Society for Cell Biology, Travel Award, Bethesda, MD.

**Honors (Cont'd.):**

- 1987-1988: -University of Manitoba Fellowship, University of Manitoba.
- 1987: -Lucille P. Markey Charitable Trust Award, MBL, Woods Hole, MA.
- 1984-1987: -Natural Sciences and Engineering Research Council of Canada Scholarship.
- 1986: -The George A. Lubinsky Memorial Scholarship, University of Manitoba.
- 1985: -International Grant-in-Aid of Research, Sigma Xi, New Haven, CT.

**University of Western Ontario Administrative Duties:**

- 2022-2023: -Seminar Committee, Department of Biology.
- 2022-2025: -Planning Committee, Department of Biology.
- 2022-2024: -Faculty of Music Council.
- 2021-2023: -Dentistry Admissions Committee Policy Subcommittee.
- 2021-2024: -Promotion and Tenure Committee, Department of Chemistry.  
-Promotion and Tenure Committee, Department of Biology.
- 2021-2022: - Safety and Emergency Response Group -Biology.
- 2020-2023: -Dental Admissions Committee, Western University.
- 2020-2021: -Biology Chair Search Committee, Western University.  
-Western University Convocation Board.
- 2019-2022: -Promotion and Tenure Committee, Department of Biochemistry.
- 2019-2021: -Marshall of Convocation, Western University.
- 2018-2021: -Seminar Committee, Department of Biology.  
-Promotion and Tenure Committee, Department of Biology.  
-Graduate Education Committee, Department of Biology  
Vice-Chair (2020-2021).
- 2017-2020: -Dental Admissions Committee, Western University.

**Administrative Duties (Cont'd.):**

- 2016-2021 -Steering Committee, Interdisciplinary Development Initiative in Stem Cells and Regenerative Medicine, Western University.
- 2016-2017: -Unit User's Committee, Department of Biology.
- 2015-2018: -Associate Marshall of Convocation, Western University.  
-Promotion and Tenure Committee, Department of Geography.
- 2014-2017: -Allyn & Betty Taylor Library Committee, Western University.  
-Promotion and Tenure Committee, Department of Biology.
- 2014-2016: -Nominating Committee, UWO Faculty Association.
- 2014: -Faculty of Science representative to UWO Senate.  
-Indigenous Science Students' Facilitator, Faculty of Science.
- 2013-2016: -Graduate Education Committee, Department of Biology.  
-Promotion and Tenure Committee, Department of Chemistry.  
-Promotion and Tenure Committee, Department of Biochemistry.  
-Promotion and Tenure Committee, Department of Microbiology & Immunology.
- 2012-2015: -Promotion and Tenure Committee, Department of Physiology & Pharmacology.
- 2011-2014: -Research Committee, Department of Biology.
- 2011-2012: -Joint Promotion and Tenure Committee, Anatomy & Cell Biology and Faculty of Health Sciences.  
-Unit Users Committee, Department of Biology.
- 2010-2013: -Faculty of Science Academic Development Fund Evaluation Committee.  
-Promotion and Tenure Committee, Anatomy & Cell Biology.  
-Faculty of Science NSERC Re-Discovery Grant Evaluation Committee.  
-Workload Committee, Department of Biology.



**Administrative Duties (Cont'd.):**

- 2010-2012: -CRC II Search Committee for Developmental Epigeneticist, Schulich School of Medicine and Dentistry & Faculty of Science.
- 2010-2012 -Chair, Bioinformatics Search Committee, Department of Biology
- 2009-2012: -Nominating Committee (Chair 2011-12), Faculty of Science.
- Appointments and Planning Committee, Department of Biology.
- University Council on Research Ethics Involving Humans.
- 2008-2011: -Promotion and Tenure Committee, Department of Biology.
- 2004-2007: -Promotion and Tenure Committee, Anatomy & Cell Biology.
- 2003 to 2012: -Steering Committee, Collaborative Graduate Program in Developmental Biology.
- 2003-2004: -Promotion and Tenure Committee, Department of Biology.
- 2002-2005: -Senate Subcommittee on Priorities in Academic Planning, UWO.
- 2000 to 2005: -Special SFRI Appointments Committee, Faculty of Medicine & Dentistry.
- 2000-2004: -Workload Committee, Department of Biology.
- 2000-2002: -Outreach Committee, Department of Biology.
- 1999 to 2005: -Dean's Advisory Group, Faculty of Science.
- 1998-2005: -Chair, Honors Cell & Developmental Biology Program, Department of Biology.
- 1995-2005: -Unit Users Committee, Department of Biology.
- Undergraduate Curriculum Committee, Department of Biology.
- 1998-2001: -Dental Admissions Committee, Faculty of Medicine & Dentistry.
- 1997-2001: -Selection Committee for President's Entrance Scholarship, Faculty of Science.
- 1996-2001: -Radiation Safety Committee, UWO.
- 1998-2000: -Nominating Committee, Faculty of Science.
- 1996-2000: -Appointments, Promotion and Tenure Committee, Department of Zoology.

**Administrative Duties (Cont'd.):**

- Long Range Planning Committee, Department of Zoology.
- 1996-1998: -Grievance and Academic Review Panel, Faculty of Science.
- Seminar Coordinator, Department of Zoology.

**Teaching:**

**Graduate Courses:**

- 2021-22: -Model Systems in Cell and Developmental Biology 9100A/Bio9316A/B.
- 2018-19: -Model Systems in Cell and Developmental Biology 9100A/Bio9316A/B.
- 2015-16: -Model Systems in Cell and Developmental Biology DB9100/Bio9316A/B.
- 2012-13: -Model Systems in Cell and Developmental Biology DB9100/Bio9316A/B.
- 2009: -Cell Biology of Stem Cells 9312B.
- 2005: -The Origin of Experimental Embryology & Entwicklungsmechanik 506A.
- 1999: -Current Opinions in Vertebrate Developmental Biology 607A.
- 1998: -Perfect Grantpersonship 603B.
- 1997: -Methods and Perspectives in Developmental Biology 606A.
- 1997-2005: -Developmental Biology 538A/638A.
- 1996: -Growth and Development 617B.
- 1995: -Cell Signalling 614A.

**Undergraduate Courses:**

- 2018- present: -Advanced Cell Biology 3316B.
- 2010 - 2017: -Selected Topics in Cell Biology 4330G.
- 1997 - present: -Advanced Developmental Biology 438/4338G.
- 1996 - 2007: -Developmental Biology 338A/3338A.
- 1995 2010: -Cell Biology 282/2382B.

**Teaching (Cont'd.):**

- 1995 to present: -Honors Thesis Supervisor 450A/451B/4999.  
1995 - 2001: -Cell Biology Honors Seminar 496A/B.  
1995 - 1999: -Advanced Practical Microscopy 455A.  
1988: -Comparative Animal Histology 347, Dept. of Zoology, University of Manitoba.

**Research Affairs:**

**My Research Mission**

To discover the genetic networks that instructs naïve cells to adopt specific fates with the aim of one day being able to alter these pathways to prevent human diseases.

**Ad Hoc Grant Reviewer:**

- 2019-present: -Qatar National Research Fund.  
-Canadian Space Agency.  
2017: -French National Research Agency.  
2015-present: -National Medical Research Council - Singapore.  
2014: -National Research Council of Korea.  
2014: -Canadian Space Agency – NASA; International Announcement of Opportunity.  
2012-2014: -National Medical Research Council - Singapore.  
2011: -National Medical Research Council - Singapore.  
-The Wellcome Trust - UK.  
-Medical Research Council - UK.  
2010: -Biomedical Research Council - Singapore.  
-The Dutch Cancer Society  
-The Wellcome Trust - UK.  
-Canada Council for the Arts – Killam Trusts.

**Research (Cont'd):**

- 2009:                    -CIHR Canada – China-Canada Competition.  
                              -The Wellcome Trust - UK.
- 2008:                    -Canada Research Chairs.
- 2007:                    -Canadian Space Agency.  
                              -Manitoba Child Health Institute.
- 2006:                    -Austrian Science Fund.  
                              -National Science Foundation, USA.
- 2004:                    -The Wellcome Trust - UK.
- 2002:                    -The Netherlands Organization for Health Research and Development.
- 2001 - 2002:            -Research Grants Council of Hong Kong.
- 2001:                    -National Institutes of Health, USA.  
                              -Michael Smith Foundation for Health Research.  
                              -Canadian Foundation for Innovation.
- 1997:                    -Binational Science Foundation (US-Israel).
- 1996 to present:        -NSERC Canada.
- 1996 - 2004:            -MRC/CIHR Canada.

**Memberships in Professional Societies:**

- 2020 to present: -Zebrafish Disease Models Society.
- 2018 - 2019: -Society for Redox Biology and Medicine.
- 2001 - 2004: -American Association of Anatomists.
- 1987 to present: -Canadian Society for Molecular Biosciences.
- 1987 to present: -American Society for Cell Biology.
- 1985 to present: -Society for Developmental Biology.

**Research (Cont'd):**

**Manuscript & Book Reviewer:**

- Aging (2019).
- Biochemical Journal.
- Biochemistry and Cell Biology.
- Bioscience Reports (2020).
- Biomolecules (2020).
- Biotechniques.
- Biochimica et Biophysica Acta.
- BioMed Central Developmental Biology.
- Canadian Journal of Zoology.
- Cell Death and Differentiation (2018-present).
- Cell Death and Disease (2019, 2020).
- Cell Proliferation (2019).
- Cell Stress & Chaperones.
- Clinical Science.
- Comparative Biochemistry and Physiology.
- Developmental Dynamics.
- Developmental Genetics.
- Digestive Diseases and Sciences.
- Essays in Biochemistry.
- FEBS Letters.
- Frontiers in Cell and Developmental Biology (2020).
- Gene.
- Genome.
- International Journal of Biochemistry and Cell Biology.
- In Vitro Cellular and Developmental Biology - Animal.
- Journal of Comparative Physiology.
- Journal of Experimental Biology.
- Journal of Molecular Endocrinology.
- Molecular Cancer Therapeutics.
- Molecular Oncology (2018).
- Molecules (2021).
- Oncogene (2018, 2021).
- Oxidative Medicine and Cellular Longevity (2020).
- PLOS ONE (2021).
- Stem Cells and Development.
- Stem Cell Reviews and Reports
- Theranostics (2018).
- Zebrafish.

## **Research (Cont'd):**

### **Textbooks:**

- W.H. Freeman and Company - Scientific American Books/Computer Science Press.
- McGraw-Hill Higher Education.
- Pearson/Benjamin Cummings/Addison Wesley.
- Wiley.

### **Publications:**

#### **Papers in Refereed Journals:**

1. Spice, D.M., Cooper, T.T., Lajoie, G.A and **G.M. Kelly**. 2022. Never in Mitosis Kinase 2 regulation of metabolism is required for neural differentiation. *Cell Signal. (In Press)*.
2. Spice, D.M., Dierolf, J. and **G. M. Kelly**. 2022. Suppressor of Fused regulation of Hedgehog Signaling is Required for Proper Astrocyte Differentiation. *Stem Cells & Development (In Press)*.
3. Gatie, M.I., Spice, D.M., Garha, A., McTague, A., Ahmer, M., Timoshenko, A.V., and **G.M. Kelly**. 2022. O-GlcNAcylation and regulation of galectin-3 in extraembryonic endoderm differentiation. *12(5) 623 doi.org/10.3390/biom12050623*.
4. Gatie, M.I., Cooper, T.T., Khazaee, R., Lajoie, G.A. and **G.M. Kelly**. 2022. Lactate enhances mouse ES cell differentiation towards XEN cells *in vitro*. *Stem Cells*. 40, 239–259. doi.org/10.1093/stmcls/sxab022.
5. Sommer E. J., Lee, J. E., Jewlall, E., Barr, K., **Kelly, G. M.**, Laird, D. W. and K. E. Willmore. 2020. Effects of reduced connexin43 function on skull development in the Cx43<sup>I130T/+</sup> mutant mouse that models oculodentodigital dysplasia. *Bone*. Epub 2020 Apr. 19. doi: 10.1016/j.bone.2020.115365.
6. Sun<sup>1</sup>, Q., Gatie<sup>1</sup>, M. I. and **G. M. Kelly**. 2019. Serum-dependent and independent regulation of PARP2. *Biochem. & Cell Biol.* 97, 600-611. <sup>1</sup>Co-first author. March 17, 2019.
7. Gatie, M.I. and **G.M. Kelly**. 2018. The Zen of XEN; insight into metabolic profiles and differentiation potential. *Cell Death Dis.* 9, 1075-8.

**Publications (Cont'd.):**

8. Gatie, M.I. and **G.M. Kelly**. 2018. Metabolic profile and differentiation potential of extraembryonic endoderm-like cells. *Cell Death Discov.* 5:42. doi.org/10.1038/s41420-018-0102-1. “Top 25 articles published in Cell Death Discovery.”
9. Deol, G.S.J., Cuthbert, T.N., Gatie, M.I., Spice, D.M., Hilton, L.R. and **G. M. Kelly**. 2017. Wnt and Hedgehog signaling regulate the differentiation of F9 cells into extraembryonic endoderm. *Front. Cell and Dev. Biol.* doi: 10.3389/fcell.2017.00093.
10. **Kelly, G.M.** and M.I. Gatie. 2017. Mechanisms regulating stemness and differentiation in embryonal carcinoma cells. *Stem Cells International.* doi.org/10.1155/2017/3684178.
11. Dickson<sup>1</sup>, B.J., Gatie<sup>1</sup>, M.I., Spice, D.M., and **G.M. Kelly**. 2017. Nox1 and Nox4 are required for the differentiation of mouse F9 cells into extraembryonic endoderm. *PLOS ONE.* doi.org/10.1371/journal.pone.0170812. <sup>1</sup> Co-first author.
12. Golenia, G., Gatie, M.I., and **G.M. Kelly**. 2017. *Frizzled* gene expression and negative regulation of canonical WNT-  $\beta$ -catenin signaling in mouse F9 teratocarcinoma cells. *Biochem. & Cell Biol.* 95(2):251-262.
13. **Kelly, G.M.** and T.A. Drysdale. 2015. Retinoic acid and the development of the endoderm. *J. Dev. Biol.* doi:10.3390/jdb30x000x.
14. Sandieson, L., Hwang, J.T.K., and **G.M. Kelly**. 2014. Redox regulation of canonical Wnt signaling affects extraembryonic endoderm formation. *Stem Cells & Development.* 23,1037-49. (Journal Cover).
15. Wen, J.W.H., Hwang, J.T.K. and **G.M. Kelly**. 2012. Reactive oxygen species and Wnt signaling crosstalk patterns mouse extraembryonic endoderm. *Cell Signal.* 24:2337-2348.
16. Hwang, J.T.K. and **G.M. Kelly**. 2012. GATA6 and FOXA2 regulate Wnt6 expression during extraembryonic endoderm formation. *Stem Cells & Development.* 21, 3220-32.
17. Gorudko, I.V., Mukhortava, A.V., Caraher, B., Ren, M., Cherenenkevich, S.N., **Kelly, G.M.** and A.V. Timoshenko. 2011. Lectin-induced activation of plasma membrane NADPH oxidase in cholesterol-depleted human neutrophils. *Arch. Biochem. Biophys.* 516, 173-81.
18. Krawetz, R., Taiani, J., Greene, A., **Kelly, G.M.** and D. E. Rancourt. 2011. Rho kinase inhibition with Y-27632 reduces endoderm lineage specification during directed differentiation of P19 teratocarcinoma cells. *PLOS ONE.* 6(11):e26484.
19. Sun, Q. and **G.M. Kelly**. 2010. Post-translational modification of the MAGUK protein CASK leads to its proteasome-dependent degradation. *Int. J. Biochem. Cell Biol.* 42, 90-97.



**Publications (Cont'd.):**

20. Finkielsztejn, A. and **G.M. Kelly**. 2009. PI3K-Akt signaling coordinately regulates Pten activity in zebrafish embryos. *Biol. Cell.* 101, 661-678. (Journal Cover).
21. Krawetz, R. and **G.M. Kelly**. 2009. Coordinate  $G\alpha 13$  and Wnt6- $\beta$ -catenin signaling in F9 embryonal carcinoma cells is required for primitive endoderm differentiation. *Biochem & Cell Biol.* 87, 567-580. (Journal Cover for 2010 series).
22. **Kelly, G.M.**, Saijoh, Y., Finkielsztejn, A., and S. Mangos. 2008. Mouse G-protein  $\gamma 3$  expression in the developing CNS and neural crest cell derivatives. *Int. J. Dev. Biol.* 52, 1143-1150. (Journal Cover).
23. Krawetz, R. and **G.M. Kelly**. 2008. Wnt6 induces the specification and epithelialization of F9 embryonal carcinoma cells to primitive endoderm. *Cell. Signal.* 20, 506-17.
24. Krawetz, R. and **G.M. Kelly**. 2008. Moesin signalling induces F9 teratocarcinoma cells to differentiate into primitive extraembryonic endoderm. *Cell. Signal.* 20, 163-175
25. Krawetz, R., MacKenzie, M.J., Sun, Q., Walton, P.A., and **G.M. Kelly**. 2006.  $G\alpha 13$  activation rescues moesin-depletion induced apoptosis in F9 teratocarcinoma cells. *Exp. Cell Res.* 312, 3224-3240.
26. Knowlton, M.N. and **G.M. Kelly**. 2004. Zebrafish mir antagonizes Frizzled 7-induced gastrulation defects. *Zebrafish.* 1, 133-144.
27. Queralt, S.M., Knowlton, M., Avvakumov, G.V., Al-Nouno, R., **Kelly, G.M.** and G. L. Hammond. 2004. Characterization and expression of zebrafish sex hormone-binding globulin. *Endocrinology.* 145, 5221-5230.
28. Knowlton, M.K., Chan, B.M.C. and **G.M. Kelly**. 2003. The zebrafish band 4.1 member Mir is involved in cell movements associated with gastrulation. *Dev. Biol.* 264, 407-429. (Journal Cover).
29. **Kelly, G.M.**, Vanderbeld, B., Krawetz, R., and S. Mangos. 2001. Differential distribution of the G protein  $\gamma 3$  subunit in the developing zebrafish nervous system. *Int. J. Dev. Neurosci.*, 19, 455-467. (Journal Cover)
30. Mangos, S., Vanderbeld, B., Krawetz, R., Sudol, K., and **G.M. Kelly**. 2001. The Ran binding protein RanBP1 is essential for zebrafish embryonic development. *Mol. Reprod. & Dev.* 59, 235-248.
31. Mangos, S., Krawetz, R., and **G.M. Kelly**. 2000. The translocon-associated protein  $\beta$  (TRAP $\beta$ ) in zebrafish embryogenesis. I. Enhanced expression of transcripts in notochord and hatching gland precursors. *Mol. & Cell. Biochem.* 215, 93-101.

**Publications (Cont'd.):**

32. Vanderbeld, B. and **G.M. Kelly**. 2000. New thoughts on the  $\beta\gamma$  subunit in G protein signal transduction. *Biochem. Cell Biology*, 78, 537-550. (Journal Cover).
33. Skidmore, D. and **G.M. Kelly**. 1999. While merlin sleeps, Camelot yields. A review of neurofibromatosis and the role of merlin as a tumour suppressor. *U.W.O. Medical Journal*. 69, 66-69.
34. **Kelly, G.M.** and B. Reversade. 1997. Characterization of a cDNA encoding a novel band 4.1-like protein in zebrafish. *Biochem. Cell Biol.* 75, 623-632.
35. Vascotto, S.G., Beckham, Y., and **G.M. Kelly**. 1997. The zebrafish's swim to fame as an experimental model in biology. *Biochem. Cell Biol.* 75, 479-485. (Journal Cover).
36. Pearson, D.S., Kulyk, W.M., **Kelly, G.M.**, and P.H. Krone. 1996. Cloning and characterization of a cDNA encoding the collagen binding stress protein HSP 47 in zebrafish. *DNA & Cell Biol.* 15, 263-272.
37. Ungar, A.R., **Kelly, G.M.**, and R.T. Moon. 1995. *Wnt4* affects morphogenesis when misexpressed in the zebrafish embryo. *Mech. Dev.* 52, 1-12.
38. **Kelly, G.M.**, Erezyilmaz, D.F., and R.T. Moon. 1995. Induction of a secondary axis in zebrafish occurs following the overexpression of  $\beta$ -catenin. *Mech. Dev.* 53, 1-13. (Journal Cover).
39. **Kelly, G.M.**, Greenstein, P.E., Erezyilmaz, D.F., and R.T. Moon. 1995. Zebrafish *wnt8* and *wnt8b* share a common activity but are involved in distinct developmental pathways. *Development*. 121, 1787-1799. (Journal Cover).
40. **Kelly, G.M.** and R.T. Moon. 1995. Involvement of *wnt1* and *pax2* in the formation of the midbrain-hindbrain boundary in the zebrafish gastrula. *Dev. Genetics*. 17, 129-140.
41. Moon, R.T., Christian, J.L., Campbell, R.M., McGrew, L.L., DeMarais, A.A., Torres, M., Lai, C.-J., Olson, D.J., and **G.M. Kelly**. 1993. Dissecting *wnt* signalling pathways and *wnt*-sensitive developmental processes through transient misexpression analyses in embryos of *Xenopus laevis*. *Development Supplement*. 85-94.
42. **Kelly, G.M.**, Lai, C.-J., and R.T. Moon. 1993. Expression of *wnt10a* in the central nervous system of developing zebrafish. *Dev. Biol.* 158, 113-121.
43. **Kelly, G.M.**, Zelus, B.D., and R.T. Moon. 1991. Identification of a calcium-dependent calmodulin binding domain in *Xenopus* membrane skeleton protein 4.1. *J. Biol. Chem.* 266, 12469-12473.

### **Publications (Cont'd.):**

44. **Kelly, G.M.**, Eib, D.W., and R.T. Moon. 1991. Histological preparation of *Xenopus laevis* oocytes and embryos. *Meth. Cell Biol.* 36, 383-412.
45. Spencer, M., Giebelhaus, D.H., **Kelly, G.M.**, Bicknell, J., Florio, S.K., Milam A., and R.T. Moon. 1990. Membrane skeleton protein 4.1 in developing *Xenopus*: Expression in post-mitotic cells of the retina. *Dev. Biol.* 139, 279-291.
46. **Kelly, G.M.** and E. Huebner. 1989. The embryonic development of the hemipteran insect *Rhodnius prolixus*. *J. Morphol.* 199, 175-196.
47. **Kelly, G.M.** and E. Huebner. 1987. Juvenoid effects on *Rhodnius prolixus* embryogenesis. *Insect Biochem.* 17, 1079-1083.
48. **Kelly, G.M.** and E. Huebner. 1986. The effects of the insect growth regulator, fenoxycarb on *Rhodnius prolixus* embryogenesis (Insecta, Hemiptera). *Can. J. Zool.* 64, 2425-2429.

### **Letters & Editorials:**

49. Solnica-Krezel, L. & **G.M. Kelly**. 2009. Then and now of zebrafish Wnt signaling. *Zebrafish.* 6.
50. Cheng, K.C., Aleström, P., Begemann, G., Carvan III, M.J., Crosier, K., Crosier, P., Ekker, S., Huttenlocher, A., Kawakami, K., **Kelly, G.**, Korzh, V., Lieschke, G., Mione, M., Neely, M., Neuhaus, S., Trede, N.S. 2008. Views on four key questions about zebrafish research. *Zebrafish.* 5, 9-24.

### **Books:**

51. **Kelly, G.M.**, Klevickis, C., Haimo, L., Storrie, B., Wong, E.A., Walker, R.A., Gillaspay, G., Sible, G. and M. Lederman. 2012. *Student Solutions Manual for Molecular Cell Biology*, 7<sup>th</sup> edition. W.H. Freeman and Co., N.Y.
52. **Kelly, G.M.**, Klevickis, C., Haimo, L., Storrie, B., Wong, E.A., Walker, R.A., Gillaspay, G., Sible, G. and M. Lederman. 2008. *Student Solutions Manual for Molecular Cell Biology*, 6<sup>th</sup> edition. W.H. Freeman and Co., N.Y.

### **Book Chapters:**

53. **Kelly, G.M.** and R.T. Moon. 1995. A Simplified Ribonuclease Protection Assay. *In The Zebrafish Book.* (Edited by M. Westerfield). Univ. of Oregon Press, Eugene, OR. pp. 34-35.
54. Christian, J.L., **Kelly, G.M.**, and R.T. Moon. 1991. Dominant Mutations of Cytoskeletal Proteins in *Xenopus* Embryos. (Edited by M.S. Mooseker and J.S. Morrow). *Curr. Top. Membranes.* 38, 99-111.

**Publications (Cont'd.):**

55. **Kelly, G.M.** and E. Huebner. 1986. Experimental Analysis of *Rhodnius prolixus* (Insecta, Hemiptera) Embryogenesis. *In* Progress in Developmental Biology. (Edited by H.C. Slavkin). Alan R. Liss, Inc. N.Y. pp. 423-426.

**Submitted/Accepted Pending Revisions or In Preparation:**

Gradil, K., Deol, G., Dickson, B., Wilson, C., Farrell, A., **Kelly, G.**, and B. Neff. Physiological mechanisms underlying cardiorespiratory failure in three populations of Atlantic salmon *Salmo salar*. *In Prep.*

Sun, Q. and **G. M. Kelly**. Ro52/TRIM21 in ubiquitin-mediated selective autophagy. *In Prep.*

**Published Abstracts:**

1. Spice, D.M. and **G.M. Kelly**. 2022. Neural fates are lost with genetic ablation of negative regulators of Shh signaling Suppressor of Fused or Never in Mitosis Kinase 2 in neural differentiation. 81<sup>st</sup> Annual Meeting of the Society for Developmental Biology, (online).
2. Resendes. R.J., Balci.T. and **G.M. Kelly**. 2021. Expression of *prr12a* and *prr12b* in zebrafish: Modeling a human rare disease gene. Biology Graduate Research Forum, London, ON, (online).
3. Wathuliyadde Gedara. N., Willmore, K. and **G.M. Kelly**. 2021. Zebrafish modeling of autosomal dominant human craniometaphyseal dysplasia. Biology Graduate Research Forum, London, ON, (online).
4. Resendes. R.J., **Kelly, G.M.** and T. Balci. 2021. Expression of *prr12a* and *prr12b* in zebrafish: Modeling a human rare disease gene. Child Health Research Day, London, ON, (online).
5. Resendes. R.J., Balci, T. and **G.M. Kelly**. 2021. Role of *prr12a* and *prr12b* in zebrafish: A model for rare disease. Western Research Forum. University of Western Ontario, London, ON (online).
6. Spice, D.M. and **G.M. Kelly**. 2021. Genetic ablation of negative regulators of Shh signaling Suppressor of Fused or Never in Mitosis Kinase 2 causes altered or loss of neural cell fate. Child Health Research Day, London, ON, (online).
7. Spice, D.M. and **G.M. Kelly**. 2020. Ablating Sonic Hedgehog signaling regulator suppressor of fused alters neural cell fate. 79<sup>th</sup> Annual Meeting of the Society for Developmental Biology, Chicago, IL (online).
8. Resendes, R., Balci, T. and **G.M. Kelly**. 2020 Rare disease modelling of *prr12a* and *12b* in zebrafish. Child Health Research Day, London, ON, (online).

**Publications (Cont'd.):**

9. Spice, D.M. and **G.M. Kelly**. 2020. Modulating a negative regulator of the Sonic Hedgehog signaling pathway alters neural cell fate specification. Child Health Research Day, London, ON, (online).
10. Resendes, R., Balci, T. and **G.M. Kelly**. 2020. Modeling zebrafish prr12, a human rare disease gene causing neurodevelopmental disorders. 10<sup>th</sup> Canadian Developmental Biology Conference and 8<sup>th</sup> Canadian Regional Society for Developmental Biology Meeting. Banff, AB. Canceled COVID-19.
11. Spice, D.M. and **G.M. Kelly**. 2019. Modulating a negative regulator of the Sonic Hedgehog signaling pathway blocks neuronal differentiation. 78<sup>th</sup> Annual Meeting of the Society for Developmental Biology, Boston, MA.
12. Gatie, M.I. and **G.M. Kelly**. 2019. A XEN story: understanding metabolism, mitochondria and epigenetic regulation. 78<sup>th</sup> Annual Meeting of the Society for Developmental Biology, Boston, MA.
13. Gatie, M.I. and **G.M. Kelly**. 2018. The art of XEN-the metabolic landscape of XEN stem cells. Till & McCulloch Meetings, Ottawa, ON.
14. Jarvis, S.G.E., Lee, J.E., **Kelly, G.M.** and K.E. Willmore. 2018. Examining the correlation between cellular and gross morphological changes in the developing mouse skull. Experimental Biology, FASEB. San Diego, CA.
15. Spice, D.M. and **G.M. Kelly**. 2018. CRISPR/Cas9 knockout of *Hh* signaling modulators attenuate neuronal differentiation of P19 embryonal carcinoma cells. Till & McCulloch Meetings, Ottawa, ON.
16. Spice, D.M. and **G.M. Kelly**. 2018. Hedgehog signaling is required early in the neuronal differentiation of P19 embryonal carcinoma cells. Collaborative Graduate Specialization in Developmental Biology Research Day, London, ON.
17. Gatie, M.I. and **G.M. Kelly**. 2018. Glucose metabolism: Fueling energy expenditure and directing stem cell fate. London Health Sciences Research Day, London, ON.
18. Gatie, M.I. and **G.M. Kelly**. 2017. The role of metabolites in directing stem cell fate. The International Society for Stem Cell Research Annual Meeting, Boston, MA.
19. Cuthbert, N., Spice, D.M. and **G.M. Kelly**. 2017. Hedgehog signaling is required for extraembryonic endoderm differentiation. Canadian Perinatal Research Meeting. Montebello, QC.
20. Gatie, M.I. and **G.M. Kelly**. 2016. Metabolic shift is required for extraembryonic endoderm differentiation. 75<sup>th</sup> Annual Meeting of the Society for Developmental Biology, Boston, MA.

**Publications (Cont'd.):**

21. Cuthbert, N. and **G.M. Kelly**. 2016. Hedgehog signaling and metabolic stress status in F9 cells. 75<sup>th</sup> Annual Meeting of the Society for Developmental Biology, Boston, MA.
22. Gatie, M.I. and **G.M. Kelly**. 2016. Metabolic Changes during extraembryonic endoderm differentiation. 9<sup>th</sup> Annual Meeting of the Canadian Oxidative Stress Consortium, Guelph, ON.
23. Dickson, B.J., Hwang, J.T., Wen, J.W.H. and **G.M. Kelly**. 2015. The role of NADPH oxidase in ROS<sub>2</sub> mediated differentiation. 74<sup>th</sup> Annual Meeting of the Society for Developmental Biology, Snowbird, UT.
24. Gatie, M.I. and **G.M. Kelly**. 2015 The role of glucose metabolism in extraembryonic endoderm differentiation. 74<sup>th</sup> Annual Meeting of the Society for Developmental Biology, Snowbird, UT.
25. **Kelly, G. M.**, Deol, G., Sandieson, L., Klimov, E., Dickson, B. G. Golenia and J. Hwang. 2014. Differentiation of F9 cells into extraembryonic endoderm is accompanied by metabolic changes, increased levels of ROS and canonical Wnt signaling. 73<sup>rd</sup> Annual Meeting of the Society for Developmental Biology, Seattle, WA.
26. Deol, G. Hwang, J., Golenia, G. and **G.M. Kelly**. 2014. Wnt and Hh crosstalk patterns mouse extraembryonic endoderm. 7<sup>th</sup> Canadian Developmental Biology Conference, Mont-Tremblant, PQ.
27. **Kelly, G.M.** 2013. Signaling pathways in cancer and development. 47th Conference of the Polish Society for Histochemistry and Cytochemistry, Olsztyn, Poland.
28. Golenia, G., Deol, G., and **G.M. Kelly**. 2013. Crosstalk between Wnt and Hh signaling directs extraembryonic endoderm formation. 17<sup>th</sup> International Congress of Developmental Biology, Cancun, Mexico.
29. Hwang, J. and **G.M. Kelly**. 2013. RA induced primitive extraembryonic endoderm leads to increased reactive oxygen species and a shift from aerobic glycolysis to mitochondrial biogenesis. 17<sup>th</sup> International Congress of Developmental Biology, Cancun, Mexico.
30. **Kelly, G. M.** Sandieson, L., Wen, J., J.T.K. Hwang. 2012. Redox signaling influences the Wnt/ $\beta$ -catenin pathway during primitive endoderm differentiation. International Society of Differentiation, Amsterdam, Netherlands.
31. Hwang, J. and **G.M. Kelly**. 2012. RA and ROS act in similar signaling pathways during extraembryonic endoderm formation. 71<sup>st</sup> Annual Meeting of the Society for Developmental Biology, Montreal, PQ.
32. Hwang, J. and **G.M. Kelly**. 2011. Wnt signaling is influenced by reactive oxygen species. 70<sup>th</sup> Annual Meeting of the Society for Developmental Biology, Chicago, IL.

**Publications (Cont'd.):**

33. Hwang, J., Wen, J. and **G.M. Kelly**. 2010. Activation of Wnt6 signaling by reactive oxygen species. 50<sup>th</sup> Annual Meeting of the American Society for Cell Biology, Philadelphia, PA.
34. Hwang, J. and **G.M. Kelly**. 2009. Gata6 expression induces Wnt6 expression during extraembryonic endoderm differentiation. 49<sup>th</sup> Annual Meeting of the American Society for Cell Biology, San Diego, CA.
35. Finkielsztejn, A. and **G.M. Kelly**. 2008. Ptena overexpression in zebrafish early development. The Canadian Zebrafish Workshop, Satellite meeting of the 1<sup>st</sup> Canadian Developmental Biology Conference, Banff, AB.
36. Finkielsztejn, A. and **G.M. Kelly**. 2008. Regulation of GSK-3 and CKII by pAKT modulates PTEN activity. 1<sup>st</sup> Canadian Developmental Biology Conference, Banff, AB.
37. Finkielsztejn, A., Sun, Q., Hillis, C. and **G.M. Kelly**. 2006. PTEN in zebrafish gastrulation. 65<sup>th</sup> Annual Meeting of the Society for Developmental Biology. Ann Arbor, MI.
38. Krawetz, R., Sun, Q. and **G.M. Kelly**. 2006. Wnt and G protein signaling in primitive and parietal endoderm differentiation. 65<sup>th</sup> Annual Meeting of the Society for Developmental Biology. Ann Arbor, MI.
39. Krawetz, R., Sun, Q. and **G.M. Kelly**. 2006. Wnt and G protein signaling in primitive and parietal endoderm differentiation. 65<sup>th</sup> Annual Meeting of the Society for Developmental Biology. Ann Arbor, MI.
40. **Kelly**, G.M., Hillis, C., Finkielsztejn, A. and M. Knowlton. 2005. FERM domain proteins and their involvement in zebrafish gastrulation. 1<sup>st</sup> Strategic Conference of Zebrafish Investigators, Mount Desert Island Biological Laboratory, Salisbury Cove, ME.
41. Mangos, S. and **G.M. Kelly**. 2004. The zebrafish homologue of the tumor suppressor merlin is required in early vertebrate development. 6<sup>th</sup> Zebrafish Development and Genetics Meeting. University of Wisconsin, Madison, WI.
42. Knowlton, M.N. and **G.M. Kelly**. 2004. Mir antagonizes Frizzled 7-induced gastrulation defects. 6<sup>th</sup> Zebrafish Development and Genetics Meeting. University of Wisconsin, Madison, WI.
43. Knowlton, M.N. and **G.M. Kelly**. 2004. Over-expression of zebrafish frizzled 7a and 7b alters cell movements associated with gastrulation. 63<sup>rd</sup> Annual Meeting of the Society for Developmental Biology. Calgary, AB.

**Publications (Cont'd.):**

44. Queralt, S.M., Knowlton, M., Avvakumov, G.V., Al-Nouno, R., **Kelly, G.M.** and G.L. Hammond. 2004. Zebrafish sex hormone-binding globulin: Molecular characterization and tissue-specific expression during development. 5<sup>th</sup> International Symposium on Fish Endocrinology, Castellón, Spain.
45. Knowlton, M.N. and **G.M. Kelly**. 2004. Frizzled 7a and 7b signaling is required for zebrafish gastrulation. The Wnt meeting 2004. Ann Arbor, MI.
46. Mangos, S. and **G.M. Kelly**. 2003. Characterization of zebrafish merlin and its role in vertebrate development. Midwest Zebrafish Conference, Chicago, IL.
47. **Kelly, G.M.**, Vanderbeld, B., and M.N. Knowlton. 2001. G protein signaling in the developing zebrafish central nervous system. 60<sup>th</sup> Annual Meeting of the Society for Developmental Biology. Seattle, WA.
48. **Kelly, G.M.**, Vanderbeld, B., and M.N. Knowlton. 2001. G protein  $\gamma 3$  signaling during zebrafish embryonic development. Experimental Biology, FASEB. Orlando, FL.
49. **Kelly, G.M.**, Vanderbeld, B., Krawetz, R., and S. Mangos. 2000. Differential distribution of the G protein  $\gamma 3$  subunit in the developing zebrafish nervous system. 10<sup>th</sup> Annual Winternational Symposium. Banff, AB.
50. MacKenzie, M., Vascotto, S., Mangos, S., Skidmore, D., and **G.M. Kelly**. 1998. Does novel band 4.1-like protein 4 link plasma membrane to cytoskeleton? 14<sup>th</sup> Annual Symposium on Cellular Endocrinology: Cell Signalling and the Cytoskeleton. Lake Placid, NY.
51. Rosenblum, M.D., Vascotto, S.G., MacKenzie, M.J., Mangos, S., and **G.M. Kelly**. 1998. Does zebrafish novel band 4.1-like protein 4 participate in cell signalling? 3<sup>rd</sup> Zebrafish Development and Genetics Meeting. Cold Spring Harbor, NY.
52. **Kelly, G.M.**, Gallardi, R.L., and Y.M. Beckham. 1996. Characterization of a cDNA encoding the novel band 4.1-like protein in zebrafish. 36<sup>th</sup> Annual Meeting of the American Society for Cell Biology & 6th International Congress on Cell Biology, San Francisco, CA. Mol. Biol. Cell 7: 3212.
53. **Kelly, G.M.**, Erezyilmaz, D.F., and R.T. Moon. 1995. The overexpression of  $\beta$ -catenin induces a secondary embryonic axis in zebrafish. 35<sup>th</sup> Annual Meeting of the American Society for Cell Biology, Washington, D.C.
54. **Kelly, G.M.** 1995. The role of *wnt* genes in zebrafish pattern formation. 38<sup>th</sup> Annual Meeting of the Canadian Federation of Biological Societies. Saskatoon, SK.



**Publications (Cont'd.):**

55. **Kelly, G.M.** and R.T. Moon. 1994. Expression of *wnt8b* in the developing zebrafish hindbrain. Third Altschul Symposium, Saskatoon, SK. Plenum Press, NY.
56. **Kelly, G.M.** and R.T. Moon. 1994. Expression of *wnt8b* and *wnt8c* during zebrafish embryogenesis. 1<sup>st</sup> Zebrafish Development and Genetics Meeting. Cold Spring Harbor, NY.
57. Ungar, A.R., **Kelly, G.M.**, and R.T. Moon. 1994. Characterization of zebrafish *wnt4* expression during embryogenesis. 1<sup>st</sup> Zebrafish Development and Genetics Meeting. Cold Spring Harbor, NY.
58. **Kelly, G.M.**, Lai, C.-J., and R.T. Moon. 1992. Spatial and temporal characterization of a new *wnt*-family member expressed during zebrafish embryogenesis. 35<sup>th</sup> Annual Meeting of the Canadian Federation of Biological Societies. Victoria, BC.
59. **Kelly, G.M.** and R.T. Moon. 1991. Identification and biochemical characterization of a calmodulin binding domain in *Xenopus* skeletal protein 4.1. 34<sup>th</sup> Annual Meeting of the Canadian Federation of Biological Societies. Kingston, ON.
60. **Kelly, G.M.**, Zelus, B.D., Christian, J.L., and R.T. Moon. 1990. Protein 4.1 overexpression in developing *Xenopus* embryos. 29<sup>th</sup> Conference of the Canadian Society of Zoology. Burnaby, BC.
61. Moon, R.T., Christian, J.L., **Kelly, G.M.**, Wolda, S., and D.W. Eib. 1990. Dominant mutations in cytoskeletal proteins in developing *Xenopus* embryos. J. Cellular Biochem. 14a, 214.
62. Christian, J.L., Eib, D., **Kelly, G.M.**, and R.T. Moon. 1989. Overexpression of wild type or dominant negative mutant vimentin subunits in developing *Xenopus* embryos. J. Cell Biol. 109, 258a.
63. **Kelly, G.M.** and E. Huebner. 1988. Localization of a high MW actin in embryos of *Rhodnius prolixus* (Insecta, Hemiptera). 4<sup>th</sup> International Congress of Cell Biology, Montreal, PQ.
64. **Kelly, G.M.**, Graham, S.M., and E. Huebner. 1988. Cytoskeletal changes accompanying blastoderm formation in the insect *Rhodnius prolixus*. Prairie Universities Biological Seminars, Winnipeg, MB.
65. **Kelly, G.M.** and E. Huebner. 1987. Blastoderm formation in the hemipteran insect, *Rhodnius prolixus*. J. Cell Biol. 105, 86a.
66. **Kelly, G.M.** and M. M. Winkler. 1987. Action of cytoskeletal drugs on protein synthesis in sea urchin cell-free systems. Embryology Course, Marine Biological Laboratory, Woods Hole, MA.

**Publications (Cont'd.):**

67. **Kelly, G.M.** 1986. Morphological and biochemical aspects during the embryogenesis of an insect, *Rhodnius prolixus*. Prairie Universities Biological Seminars, Edmonton, AB.
68. **Kelly, G.M.** and E. Huebner. 1986. JH analogue perturbation on *Rhodnius prolixus* embryogenesis: EM and biochemical analysis. IV International Symposium on Juvenile Hormones. Niagara-on-the-Lake, ON.
69. **Kelly, G.M.** and E. Huebner. 1986. High resolution, two dimensional gel electrophoresis analysis of *Rhodnius prolixus* embryogenesis. Canadian Entomological Society Meetings. Winnipeg, MB.
70. **Kelly, G.M.** and E. Huebner. 1985. *Rhodnius prolixus* embryogenesis: Cellular events of normal development compared with those after juvenile hormone analogue perturbation. Cell Diff. 16, 120s.
71. **Kelly, G.M.** and E. Huebner. 1984. Cellular aspects of early- to mid-embryogenesis in the insect *Rhodnius prolixus*. J. Cell Biol. 99, 270a.

**Research Support:**

<b><u>Year</u></b>	<b><u>Grant Description</u></b>	<b><u>Amount</u></b>
2020-2021:	<b>Mitacs Research Training Award:</b> Genetically modifying zebrafish genes associated with human fish-eye disease.	\$3,000
2020:	<b>Malcolm and Ruth Ferguson Research Grant,</b> Zebrafish modeling of the human rare fish-eye disease.	\$5,000
2019:	<b>Internal Research Grant, Children’s Health Research Institute,</b> CRISPR-Cas9 genome editing in zebrafish and the move to human drug discovery. Co-P.I. with T. Balci, Dept. of Paediatrics, U.W.O.	\$17,000
2019-2025:	<b>NSERC Discovery Grant:</b> “Mapping cell signaling crosstalk in differentiation and development.” COVID-19 Extension.	\$252,000
2019-2021:	<b>Translational Research Grant, Children’s Health Research Institute, U.W.O.:</b> “Fishing for a Diagnosis”: Using Zebrafish to Characterize Novel Human Rare Disease Genes for Timely Diagnosis and Syndrome Delineation. Co-P.I. with T. Balci, Dept. of Paediatrics, U.W.O.	\$38,844
2018-2019:	<b>Children’s Health Research Institute, U.W.O.:</b> “Combination therapy to promote neural stem cell viability and improve outcomes for children rehabilitating from CNS malignancies.	\$9,410
2016-2017:	<b>Mitacs Accelerate:</b> Development and proof-of-concept evaluation of 3D reconstruction molecular research tools. Co-P.I. with S. G. Vascotto, Enable Imaging Technologies, Inc.	\$30,000
2014-2019:	<b>NSERC Discovery Grant:</b> “Cell signaling in embryonic epithelial-to-mesenchymal transitions.”	\$170,000
2013-2014:	<b>NSERC RTI Grant:</b> MoBEES a facility for Molecular Studies in Biodiversity, Ecology, and Environmental Sciences. Co-P.I. with G. Thompson, Hill, K.A., Percival-Smith, A., Thorn, R.G., Smith, D.S., Kohalmi, S.E., Sinclair, B.J., Moehring, A.J., Damjanovski, S. and S.M. Singh.	\$130,838
2011-2012:	<b>U.W.O. ADF:</b> “Assessing the teratogenic effects of iron oxidizing bacterial biomass on zebrafish embryogenesis.	\$6,873
2010-2011:	<b>NSERC RTI Grant:</b> Fluorescence and absorbance detection of ROS.	\$10,927
	<b>NSERC RTI Grant:</b> Imaging and microscopy suite software and hardware upgrades. Co-P.I. with S. Damjanovski.	\$40,469

**Research Support (Cont'd.):**

2009-2014:	<b>NSERC Discovery Grant:</b> “Cell signaling crosstalk in development. development”.	\$160,000
2008-2009:	<b>NSERC RTI Grant:</b> Luminescence and fluorescence detection of gene expression and reactive oxygen species.	\$22,595
	<b>NSERC RTI Grant:</b> Request for Gradient PCR Thermocycler and -86C Ultra-low Temperature Freezer. Co-P.I. with A. Percival-Smith.	\$23,003
	<b>NSERC RTI Grant:</b> High efficiency DNA transfer into mammalian and Non-mammalian cells. Co-P.I. with S. Damjanovski.	\$39,021
2004-2009:	<b>NSERC Discovery Grant:</b> “Regulation of signal transduction pathways at the cortical cytoskeletal-plasma membrane interface”.	\$248,500
2004-2005:	<b>U.W.O. ADF:</b> “Time lapse videomicroscopy and Flexercell Tension System”. Co-P.I. with Drs. V. Morris, et al.	\$42,286
2003-2004:	<b>U.W.O. ADF:</b> “Multicapable Molecular Bioimaging System”. Dr. S. Damjanovski (P.I.).	\$62,245
2002-2003:	<b>Children’s Health Research Institute, U.W.O.:</b> “MIR and kidney tubulogenesis”.	\$7,500
2002-2003	<b>U.W.O. ADF:</b> “Real time polymerase chain reaction for assaying levels of gene expression”. Co-P.I. with Drs. B.G. Atkinson, et al.	\$62,735
	<b>U.W.O. Science Students Levy:</b> “Fluorescent Dissecting Microscope”. Co-P.I. with Dr. S. Damjanovski.	\$11,211
	<b>Lawson Health Sciences Research Institute:</b> “The role of Syndecan -MAGUK and Protein 4.1 interactions in cell proliferation.	\$12,000
2001-2002:	<b>NSERC Equipment Grant:</b> “Fluorescence detection and imaging system”. Co-P.I. with Dr. S. Damjanovski.	\$34,057
2000-2004:	<b>NSERC Individual Grant:</b> “Regulation of the protein 4.1 family: A link between cytoskeleton and signal transduction”.	\$184,000
2000-2001:	<b>Children’s Health Research Institute, U.W.O.:</b> “Functional analysis of the zebrafish Nf2-tumour suppressor protein, merlin”.	\$6,000
2000:	<b>U.W.O. ADF:</b> “High resolution CCD and microprocessor controlled microscope”. Co-P.I. with Dr. S. Caveney.	\$60,000

**Research Support (Cont'd.):**

1996-2000:	<b>NSERC Individual Grant:</b> “Identification and characterization of the membrane binding domain in zebrafish membrane skeleton protein 4.1”.	\$157,435
1998-1999:	<b>U.W.O. ADF:</b> “Laser-based embryo manipulation workstation”. Dr. M. Grbic (P.I.) et al.	\$76,649
1998-1999:	<b>U.W.O. Malcolm and Ruth Ferguson Research Grant.</b> “Wnt gene regulation in zebrafish”.	\$5,000
1997-1998:	<b>NSERC Equipment Grant:</b> “Refrigerated low-mid speed centrifuge”.	\$16,936
	<b>U.W.O. Faculty of Medicine &amp; Dentistry:</b> Summer Research Training Program.	\$7,400
1996-1997:	<b>NSERC Equipment Grant:</b> “Gel drying and vacuum system.	\$13,946
	<b>NSERC Equipment Grant:</b> “Ultra low temperature freezer”. Co-P.I. with Dr. C. Milligan.	\$13,315
	<b>U.W.O. VP Research:</b> “Expression and function of the protein 4.1 superfamily in zebrafish embryogenesis”.	\$6,800
	<b>UWO ADF:</b> “Equipment for Teaching Laboratories in Genetics and Cell Biology”. Dr. B.G. Atkinson (P.I.).	\$23,874
1992-1997:	<b>NIH RO1:</b> “Expression and functions of wnt genes in zebrafish”. Co-P.I. with Dr. R.T. Moon.	\$854,000
1995:	<b>U.W.O. Dean of Science, Start-up Support.</b>	\$80,000
1991-1992:	<b>Keck Center for Advanced Studies of Neural Signaling:</b> “The role of the wnt-related genes in directing segmentation during zebrafish neurogenesis”. Co-P.I. with Dr. R. T. Moon.	\$21,270

**Contributions to Training of Personnel:**

**My Personal Statement**

I treat people with respect and show compassion regardless of their position, nationality, age, sexual orientation or religious beliefs. I believe most people are good and honest and I aspire to be as fair to them as they would be to me. I strive to maintain a strong work ethic and I am dedicated to the task.

*“Concordia res parvae crescent”!*

**Support to Students:**

<b><u>Year</u></b>	<b><u>Grant Description</u></b>	<b><u>Amount</u></b>
2022:	NSERC Summer Student Research Award.	Declined
2020:	NSERC Summer Student Research Award.	\$5,700
2019:	NSERC Summer Student Research Award. (4 recipients).	\$22,800
2018:	NSERC Summer Student Research Award.	\$5,700
2016:	NSERC Summer Student Research Award.	\$5,500
2015:	NSERC Summer Student Research Award.	\$5,500
2014:	NSERC Summer Student Research Award.	\$5,500
2013:	NSERC Summer Student Research Award.	Declined
2012:	NSERC Summer Student Research Award.	\$4,500
2011:	NSERC Summer Student Research Award (2 recipients).	\$9,000
2010:	NSERC Summer Student Research Award.	\$4,500
2008:	NSERC Summer Student Research Award.	\$4,500
2007:	NSERC Summer Student Research Award.	\$4,500
2006:	NSERC Summer Student Research Award (2 recipients).	\$9,000
2005:	NSERC Summer Student Research Award.	\$4,500
2004:	NSERC Summer Student Research Award.	\$4,500
2003:	NSERC Summer Student Research Award.	\$4,500
2002:	NSERC Summer Student Research Award.	\$4,000

**Contributions to Training of Personnel (Cont'd.):**

2001:	NSERC Summer Student Research Award	\$4,000
2000:	NSERC Summer Student Research Award. (2 recipients).	\$7,200
2000:	HRDC Summer Career Placement Award.	\$1,020
1999:	NSERC Summer Student Research Award (2 recipients).	\$7,200
1998:	HRDC Summer Career Placement Award.	\$1,530
	Province of Ontario Youth Opportunities Unlimited Award.	\$2,240
1997:	HRDC Summer Career Placement Award.	\$1,785
	Province of Ontario Youth Opportunities Unlimited Award.	\$1,440
1996:	HRDC Summer Career Placement Award.	\$1,997

**Supervisory and Examining Committee Member:**

M.Sc. Thesis Advisory	47	Ph.D. Thesis Advisory	22
M.Sc. Thesis Examiner	39	Ph.D. Thesis Examiner	29

**Graduate Students:**

E. J. Bulfango	2022: M.Sc. program, in progress.
N. Gedara	2021: Ph.D. program, in progress. (Co-supervised with Dr. K. Willmore).
C. Valvano	2020: M.Sc. program, in progress. (Co-supervised with Dr. T. Regnault).
S. Abdullah	2020: M.Sc. program, in progress.
R. Resendes	2019: M.Sc. program, completed 2022.
D. Spice	2016: Ph.D. program, in progress.
S. Jarvis	2016: M.Sc. program, completed 2018. (Co-supervised with Dr. K. Willmore).
T.N. Cuthbert	2015: M.Sc. program, completed 2017.
D. Ko	2015: M.Sc. program, completed 2018. (Co-supervised with Dr. T. Drysdale).
M. Gatie	2014: Ph.D. program, completed 2021.

**Contributions to Training (Cont'd.):**

B. Dickson	2013: M.Sc. program, completed 2016.
D. Wallace	2013: M.Sc. program, completed 2016. (Co-supervised with Dr. P. Chidiac).
G. Deol	2012: M.Sc. program, completed 2016.
G. Golenia	2011: M.Sc. program, completed 2015.
L. Sandieson	2010: M.Sc. completed 2012.
J. Hwang	2009: Ph.D. completed, 2014.
J. Wen	2008: M.Sc. completed, 2010.
N. Alkahlout	2008: M.Sc. program (withdrawn).
B. Cadesky	2007: M.Sc. completed 2009, (M.D.).
J. Hwang	2007: M.Sc. completed 2009, (Ph.D. program).
V. Garside	2006: M.Sc. completed, (Co-supervised with Dr. C. Pin).
S. Deimling	2005: Ph.D. completed 2011, (Co-supervised with Dr. T. Drysdale).
A. Finkielsztein	2003: Ph.D. completed 2009.
Q. Sun	2002: Ph.D. program, completed 2014.
W. Lu	2002: M.Sc. completed 2004.
R. Krawetz	2001: Ph.D. completed 2006.
M. Knowlton	1999: Ph.D. completed 2004.
M. MacKenzie	1998: M.Sc. 2000.
B. Vanderbeld	1998: M.Sc. 2000.
S. Mangos	1997: Ph.D. completed 2004.
R. Garriock	1997: M.Sc. completed 1999, (Co-supervised with Dr. T. Drysdale).



**Contributions to Training (Cont'd.):**

**Medical Students:**

E. Hewitt                    2002: U.W.O. Summer Research Training Program.  
D. Skidmore                1996-1998: U.W.O. Summer Research Training Program.  
M. Rosenblum              1997-1998: Technician.

**Research Technicians: (NSERC Summer USRA Students\*, Scholar's Electives Student#)**

C. Ceolin	2022:	P. Basharat*	2004:
K. Favreau#	2021:	K. Oszcewski*	2003:
D. Meng*	2020:	H. Hundt*	2001-2002:
C. Benko#	2019:	T. Willett*	2000:
M. Ahmers*		R. Krawetz*	1999-2000:
S. Li*			
I. Stefanova*			
D. Wilsdon*	2018 and 2019:	A. Sparrow*	1999:
R. Joseph#	2017:	S. Vascotto	1997-1998:
S. Johnson*	2016:	B. Reversade	1997:
J. Baek*#	2015:	R. Gallardi	1996:
K. Hill*	2014:	C. Beck	1995:
S. Bober*	2012:		
M. Ren*#	2011:		
B. Caraher*	2011:		
L. Nunez*	2010:		
H. Struthers*	2008:		
R. Al-Dabbagh*	2007:		
C. Hillis*	2006 and 2005:		

**Contributions to Training (Cont'd.):**

**4th Year Honors Projects:**

C. Ceolin	2022-2023	T. Dean	2012-2013
		B. Dickson	
C. Cameron	2020-2021	S. Lee	2012-2013
M. Meddaoui		D. Reilly	
M. Shunnar		D. Sulevani	
		E. Yu	
M. Ahmer	2019-2020	A. Cox	2011-2012
T. Bhalla		E. Gray	
R. Lacroix		S. Mason	
J. Leppala		S. Shaikh	
E. Zavacky		Z. Mir	
A. Assabgui	2018-2019	A. Calinescu	2010-2011
H. Atkinson		S. Dutt	
L. Guiot		A. Ghandi	
D. Wilsdon		A. Anam	2009-2010
M. Albakri	2017-2018	J. Cotten	
J. Atem		J. Jang	
M. Hope		R. Sharma	
M. Rojkova		S. Wales	
F. She		C. Edey	2008-2009
S. Schenk		G. Gupta	
N. Shahrrava		L. McMahon	
		P. Ricci	
R. Baker	2016-2017	A. Roy	
B. Bork		S. Symons	
L. Hilton		K-A Bridge	2008
J. Laski		R. Duchon	2007-2008
I. Vorobieva		K. Hepworth	
S. Heuchen	2015-2016	M. McWilliam	
D. Spice		L. Morris	
I. Stan		H. Struthers	
N. Dialani	2014-2015	R. Al-Dabbagh	2006-2007
N. C. Jung		P. De Gouveia	
M. O'Brien		S. Dessouki	
L.-Y. Lim	2013-2014		
T. Cooper			
R. Varma			

**Contributions to Training (Cont'd.):**

A. Fenton	2006-2007		
S. Grover		H. Hundt	2001- 2002
K. Kernohan		J. Savage	
A. Pitts		J. Omole	
		D. Padavan	
M. Al-Masri	2005-2006		
		R. Krawetz	2000- 2001
A. Clausner	2005-2006		
M. Collins		T. Weber	1999-2000
R. D'souza			
C. Hillis		M. Knowlton	1998-1999
N. Gill	2005-2006	A. Sparrow	
A. Goldberg		S. Cossette	
O. Majstorovic	2005	K. Kelley	1997-1998
		M. MacKenzie	
T. Belsito	2004-2005		
E. Bowley		S. Watson	1996-1997
S. Chadi			
S. Deimling		S. Vascotto	1996-1997
A. Guzi		B. Reversade	
A. Khairandish			
A. Sharma		C. Beck	1995-1996
		M. Mathews	
B. Czikkel	2003-2004	C. Brailsford	
A. Davis			
C. Godin		D. Erezyilmaz	1993-1995
J. Hickson			
Y. Moursel			
K. Boucher	2002- 2003		
K. Hagarman			
M. Manocha			
K. Osczevski			
J. Rockel			
C. Tuason			

**Other Significant Duties/Outreach:**

- 2014: -Indigenous Student Forum, Western University, Faculty of Science member.
- 2014: -Journal Club, UWO Sciencescape.org
- 2013-2020: -Embryocreativitus a molecular, cellular and developmental biology blog, embryonicus.wordpress.com
- 2013-14: -Youth Science –Team Canada – ISEF Selection Panel.
- 2010-present: -U.W.O., Faculty of Science Scholar’s Electives Supervisor.
- 2010-2011: -Children’s Health Research Institute; Partners in Research Essay Contest.
- 2009 to 2020: -Virtual Researcher on Call, London, ON.
- 2008-2009: -Special Editor, Wnt Signaling. *Zebrafish*.
- 2006: -Graduate Supervision Focus group, Teaching Support Centre, U.W.O.
- 2005: -Aventis Biotech Challenge.
- 2004 to present: -Partners in Research Speaker's Bureau, Children’s Health Research Institute.
- 2002 to 2009: -Summer Academic Orientation Counselor, U.W.O.
- 2001: -Faculty Phone Campaign, U.W.O.
- 2000: -Canada Wide Science Fair Judge, London, ON.
- 1999: -Outreach: Invited Guest, London East Rotary Club Luncheon.
- 1998 to 2020: -Participant, U.W.O. Interactions - Canadian Medical Hall of Fame Symposium.
- 1998 to 2005: -Leadership and Mentorship Program, U.W.O.
- 1998 to 2004: -Adjudicator for Biology Undergraduate Students.
- 1998 to present: -London-Middlesex Regional Science Fair Judge, London, ON.
- 1996 to present: -Convocation: Orator and Hooder, Fall and Spring Convocations.
- 1996 to 2005: -Participant in the U.W.O.'s March Open Houses.
- 1995 to 2002: -Supervisor, Co-op Education Program, London-Middlesex High Schools.

**Other Significant Duties/Outreach (Cont'd.):**

- 1997: -Participant in Ontario Biology Day, Wilfred Laurier University.
- 1997: -Special Editor, "Zebrafish", *Journal of Biochemistry and Cell Biology*.
- 1997: -Meeting Organizer, Genetics Society of Canada, London, ON.
- 1997: -Meeting Organizer, Canadian Society of Zoologists, London, ON.
- 1996: -Faculty of Science Participant in London's Central High School Open House.
- 1995-1996: -Organizer, Department of Zoology Journal Club.

**References:**

Dr. B. Ciruna: Canada Research Chair in Developmental Genetics and Cell Biology, Head & Senior Scientist of the Developmental & Stem Cell Biology, The Hospital for Sick Children, and Professor, Department of Molecular Genetics, University of Toronto; 555 University Avenue, Toronto, ON M5G 1X8; [ciruna@sickkids.ca](mailto:ciruna@sickkids.ca).

Dr. S. Damjanovski, Associate Professor, Department of Biology, University of Western Ontario, London, ON N6A 6B7  
[sdamjano@uwo.ca](mailto:sdamjano@uwo.ca)

Dr. M. Ekker: Professor, Biology Department, University Research Chair in Evolutionary Developmental Biology, University of Ottawa, Ottawa, ON K1N 6N5;  
[marc.ekker@science.uottawa.ca](mailto:marc.ekker@science.uottawa.ca)

Dr. J. Heikkila: Professor Emeritus, Department of Biology, and Centre for Bioengineering and Biotechnology, University of Waterloo, B2 360A, Waterloo, ON N2L 3G1;  
[heikkila@sciborg.uwaterloo.ca](mailto:heikkila@sciborg.uwaterloo.ca).

Dr. P. Krone: Professor Emeritus, Department of Anatomy and Cell Biology, University of Saskatchewan, Saskatoon, SK S7N 5E5; [krone@duke.usask.ca](mailto:krone@duke.usask.ca).

Dr. R.T. Moon: Professor Emeritus, Department of Pharmacology and Howard Hughes Medical Institute, University of Washington Medical Center, Seattle, WA 98195; [rtmoon@u.washington.edu](mailto:rtmoon@u.washington.edu).