CURRICULUM VITAE

Amanda J.G. Dickinson

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PROFESSIONAL PREPARATION

Institution	Major	Degree	Years
Mount Allison University New Brunswick, Canada	Honours in Biology	BSc	Sept. 1990-May 1995
Dalhousie University Nova Scotia, Canada	Biology	MSc	Sept. 1995-Sept.1997
Dalhousie University Nova Scotia, Canada	Neuroscience Program	PhD	Sept. 1998-Sept. 2003
Whitehead Institute for Biomedical Research, MIT	Postdoctoral Fellow in the lab of Dr. H. Sive	Project leader	Oct. 2003-Dec. 2009

APPOINTMENTS

Institution	Department	Position	Year
Virginia Commonwealth University	Dept. of Biology	Associate Professor	Jan. 2016-present
Virginia Commonwealth University	Dept. of Biology	Assistant Professor	Jan. 2010-2016
Virginia Commonwealth University	Dept. of Human Genetics and Molecular Biology	Affiliate Professor	Sept. 2014-present

RESEARCH

1. Publications

Amanda J. G. Dickinson[1]*, Stephen D Turner[2,3], Stacey Wahl[4], Allyson E Kennedy[5], Brent H Wyatt[6], Deborah A Pridgen[1] E-liquids and vanillin flavoring disrupts retinoic acid signaling and causes craniofacial defects in *Xenopus* embryos. Dev Biol. 2021 Sep 17;481:14-29. doi: 10.1016/j.ydbio.2021.09.004. PMID: 34543654
Brent H Wyatt, Thomas O Raymond, Lisa A Lansdon, Benjamin W Darbro , Jeffrey C Murray, John Robert Manak, **Amanda J G Dickinson** Using an aquatic model, Xenopus laevis, to uncover the role of chromodomain 1 in craniofacial disorders. Genesis, 2020 Sep 11;e23394, PMID: 32918369
Bharathan NK, **Dickinson AJ.** Desmoplakin regulates epidermal integrity and morphogenesis in Xenopus. Dev Biol. 2019 accepted.
Stacey E Wahl, Brent H Wyatt, Stephen D Turner, **Amanda J G Dickinson**. Transcriptome analysis of orofacial tissues deficient in retinoic acid receptor function. BMC Genomics, 2018, **19**:795
*Kennedy AE, Kandalam S, Olivares-Navarrete R, **Dickinson AJG**. E-cigarette aerosol exposure can cause craniofacial defects in Xenopus laevis embryos and mammalian neural crest cells. PLoS One. 2017 Sep 28;12(9):e0185729. doi: 10.1371/journal.pone.0185729. Research featured on the VCU homepage and the Atlantic magazine among other popular public forums https://www.theatlantic.com/health/archive/2017/11/e-cigarette-flavors/546914/uy
Houssin NS, Bharathan NK, Turner SD, **Dickinson AJ.** Role of JNK during buccopharyngeal membrane perforation, the last step of embryonic mouth formation. Dev Dyn. 2016 Nov 5. doi: 10.1002/dvdy.24470.
Dickinson AJ. Using frogs faces to dissect the mechanisms underlying human orofacial defects. Semin Cell Dev Biol. 2016 Jan 15. pii: S1084-9521(16)30016-7. doi: 10.1016/j.semcdb.2016.01.016.

S.E. Wahl, A.E. Kennedy, B.H. Wyatt, A.D. Moore, D.E. Pridgen, A.M. Cherry, C.B. Mavila and **A.J.G. Dickinson**. (2015) The role of folate metabolism in orofacial development and clefting. 2015 Sep 1;405(1):108-22. doi: 10.1016/j.ydbio.2015.07.001DBIO-15-71.
Amin NM, Womble M, Ledon-Rettig C, Hull M, **Dickinson A**, Nascone-Yoder N4.Dev Biol. 2015 Sep 15;405(2):291-303. doi: 10.1016/j.ydbio.2015.06.007. Epub 2015 Jul 11. Budgett's frog (Lepidobatrachus laevis): A new amphibian embryo for developmental biology.
A. Kennedy, **Dickinson AJ.** (2014) Quantification of orofacial phenotypes in Xenopus. Journal of Visual Experiments, 93.
Tahir R, Kennedy A, Elsea SH, **Dickinson AJ**., (2014) Retinoic acid induced-1 (Rai1) regulates craniofacial and brain development in *Xenopus*. Mechanisms in Development, 133, 91-104.
Jacox L, Sindelka R, Chen J, Rothman A, **Dickinson A**, Sive H. (2014) The Extreme Anterior Domain Is an Essential Craniofacial Organizer Acting through Kinin-Kallikrein Signaling. Cell Reports, 8(2), 596-609.
Kennedy AE, **Dickinson AJ**. Quantitative Analysis of Orofacial Development and Median Clefts in *Xenopus Laevis*. (2014) Anatomical Record, **297**(5), 834-55.
*****Jacox L., ***Dickinson A.J.G,** Sive. H. (2014) Face Transplants in *Xenopus laevis* embryos. Journal of Visual Experiments, 85, (*co-first authors).
Kennedy, A.E and **Dickinson A.J.G.** (2012) Median facial clefts in *Xenopus laevis*: Roles of retinoic acid signaling and homeobox genes. Developmental Biology, 365(1), 229-40.
Dickinson, A.J.G. and Sive, H. (2009) The Wnt antagonists Frzb-1 and Crescent locally regulate basement membrane dissolution in the developing primary mouth. Development. 136(7), 1071-81.
Dickinson A.J.G. and Sive H. (2007) Positioning the extreme anterior in *Xenopus*: cement gland, primary mouth and anterior pituitary. Seminars in Cell and Developmental Biology, 18 (4), 525-33.
Dickinson A.J.G. and Sive H. (2006). Development of the primary mouth in *Xenopus laevis*. Developmental Biology, 295 (2), 700-13.
Tropepe V., Li S., **Dickinson A.J.G.**, Gamse J.T. and Sive H.L. (2006) Identification of a BMP inhibitor-responsive promoter module required for expression of the early neural gene zic1.*Dev Biol.* 289(2), 517-29.
Dickinson, A.J.G. and Croll, R.P. (2003) Development of the larval nervous system of the gastropod *Ilyanassa obsoleta. Journal of Comparative Neurology* 466, 187-21
Dickinson, A.J.G. and Croll, R.P. (2001). A culture technique for experimental studies of embryonic development in the pond snail *L. stagnalis*. *Invertebrate Reproduction and Development* 40(1), 39-48
Dickinson, A.J.G. and Croll, R.P. (2001). Neurocalcin-like immunoreactivity in embryonic stages of the gastropod molluscs *Aplysia californica* and *Lymnaea stagnalis*. *Invertebrate Biology* 120 (3), 201-216.
Dickinson, A.J.G., Croll, R.P. and Voronezhskaya, E.E. (2000). Development of embryonic cells containing serotonin, catecholamines, and FMRFamide-related peptides in *Aplysia californica*. Biological Bulletin, 199 (3), 305-315.
Evans CC, **Dickinson AJ,** Croll RP. (2009) Major muscle systems in the larval caenogastropod, *Ilyanassa obsoleta*, display different patterns of development. Journal of Morphology, 270(10), 1219-31.
Braubach OR, **Dickinson AJ,** Evans CC, Croll RP(2006) Neural control of the velum in larvae of the gastropod, *Ilyanassa obsoleta*. Journal of Experimental Biology 209(Pt 23), 4676-89.
Roger P Croll and **Amanda J G Dickinson**. (2004) Form and function of the larval nervous system in mollusks. Invertebrate Reproduction and Development, 46(2-3), 173-187.
AJG Dickinson, J Nason, RP Croll. (1999) Histochemical localization of FMRFamide, serotonin and catecholamines in embryonic *Crepidula fornicata*, Zoomorphology 119 (1), 49-62
AJG Dickinson, RP Croll. (2001) Early development and cell fate specification of the larval nervous system and musculature of the prosobranch mollusc *Ilyanassa obsoleta*. American Zoologist 41 (6), 1427-1428

Note that manuscripts where I am underlined were generated in my lab as a PI.

2. Awarded Grants and Fellowships

a) As a principal investigator (Note that I am sole PI on the awards with an asterisk)

1. NSF Career Award *
Pulling the Mouth Open: Coordinating orofacial tissue growth and epithelial integrity to form the embryonic mouth
15-Mar-2014-28-Feb-2019 NCE until 2021
Amount awarded = $700,000

2. R01, NIH, National Institute of Dental and Craniofacial Research (NIDCR) *
Using Frog Faces to Better Understand Clefts in the Primary Palate - PI Dickinson, Amanda J.
01-Jul-2014-30-Jun-2018 NCE 2020
Amount awarded = ~850,000

3. R03, NIH, National Institute of Arthritis & Musculoskeletal & Skin Diseases (NIAMS) *
JNK regulation of desmosomes in development. – PI Dickinson, Amanda J.
01-Jul-2014-30-Jun-2017
Amount awarded-$150,000

4. Jeffress Memorial Fund*
Finding Novel Regulators of Epithelial Mesenchymal Transition in the Embryo and Cancer
01-Jan-2011-31-Dec-2011
Amount awarded = $20,000

5. R56, NIH, National Institute of Dental and Craniofacial Research (NIDCR)
Co-PI with René Olivares-Navarrete (VCU BME)
The effect of e-cigarette aerosolized mixtures on craniofacial development in whole embryos
to be funded for 2 years
Amount awarded= $300,000

6. Children's Hospital Research Institute Award
Dyrk1a regulators in Development and Disease. Aug 1, 2021-Jul 31, 2022.
Collaborative grant with Dr. Litovchick

b) As a postdoctoral fellow
Canadian National Sciences and Engineering Postdoctoral Fellowship.

3. Conference presentations and invited talks since appointment at VCU (2010)

2011 April Mid-Atlantic SDB meeting-Upenn

2013 April Mid-Atlantic SDB meeting-William and Mary-invited talk

2013 July Aquatic Model Organisms for Understanding Human Disease- Milwaukee- invited talk

2014 September Invited platform speaker at the Xenopus International Meeting August

2015 Neural crest Gordon Conference-poster

2016 NIDCR Workshop on Gene-Environment Interactions in cleft palate-invited

2019 University of Iowa invited speaker

2019 XRET invited speaker

2019 Craniofacial Meeting, invited Plenary Speaker

4. Other Experience and Professional Memberships

2013, VCU Career Academy

Phillips Institute for Oral Health, VCU
VCU's MORG group in human and molecular genetics dept, VCU
Society for Developmental Biology
Virginia Academy of Sciences
NSF Panel reviewer, Developmental Systems
1996-97 - Elementary science teacher, American International School, Egypt

5. Honors

1. Postdoctoral Fellowship. National Sciences and Engineering Research Council of Canada. 2003-6
2. Dalhousie President's Graduate Teaching Award, Dalhousie University. 2001
3. 2019 CHS Eminent Scholar

6. Past and Active Collaborations

Rob Tombes, Biology, VCU
Greg Walsh-Biology, VCU
Sarah Elsea-Baylor
Hazel Sive-MIT
Laura Jacox- MIT/Harvard
Daniel Conway- BME, VCU
Rene Olivares Navarette-BME VCU
Nanette Nascone-Yoder NCS
Laura Anne Lowery, Boston College
John Manak, Univ Iowa
Larisa Litovchick, Massey Cancer Center

TEACHING

1. Courses taught

Courses	Year(s) taught	Level and credits	# students	Innovative and integration with research
Development and Stem Cells Biol 340 Hybrid Online-Lab	Fall 2021	Undergrad 3 credits	30	-This is the same as the online course below, but students have a required in-person component. They have to choose from a number of activities or events in my lab that include demos of live animals and participation in an experiment. These activities align with current research projects.
Development and Stem Cells Biol 340 Online *adapted the course to online using Google classroom, filmed lectures and audio added to powerpoint*	Summer 2020 Fall 2020 Spring 2021 Summer 2021	Undergrad 3 credits	20 80 115 25	-added case studies and birth defect research (including disparities in neural tube defects) in an online discussion forum -added online modules to discuss disparities in research
Biology Preceptorship in Biol 340	Fall 2020	Undergrad 1 credit	6	-developed a peer mentoring and discussion forum lead by undergraduate students

Development and Stem Cells Biol 340 in-person *redesigned course to fill a gap in the biology curriculum and better prepare students for upper level courses*	Fall 2019 Spring 2020	Undergrad 3 credits	20 24	-2 lab modules where students perform an experiment to generate preliminary data for my research program -A project in the class is to analyze a data set generated in my lab
Developmental Biology 391, 440	Once a year from 2010-17 Spring 2018 Fall 2018 Spring 2019	Undergrad, 3 credits Lecture course	6-60	2 classes are devoted to visiting the lab and seeing research in action A project in the class is to analyze a data set generated in my lab by graduate student
*Cell and Developmental Biology 660	2012, 2014 Spring 2016	Graduate course, 3 credits Lecture course	5-15	Students learn theory about craniofacial and neural development Proposal writing and critical thinking
Advanced Techniques in Developmental and Cell Biology. Includes 2 lab modules Topics 693	Spring 2015 Spring 2017	Graduate course, 3 credits Lecture and lab course	8-12	Students perform lab modules –RT-PCR and Immunohistochemistry that directly relate to my research
*Advanced topics in Dev Bio 693	2010-2018	Graduate seminar course, 1 credit Journal club style course	5-10	Students present their own research as well as discuss primary literature-each semester there is a different theme or focus
Developmental Biology Lab 491Z	2013, 2014	Undergraduate, 2 credits Summer session lab course	5-15	Students perform novel experiments integrated with my research program

*have co-taught with Greg Walsh
Due to new enrollment minimums some courses are not offered unless there are sufficient students.

Additional course contributions

-I Provided a frog genetics experiment for Genetics lab 2012-2017
-Guest lecturer cell biology Winter 2012
-Guest lecturer in Graduate Biomedical Engineering course Spring 2015
-Guest lecturer in Dept .Genetics graduate course
-Guest lecturer in Women in science- Biology graduate course
-Guest lecturer in Research and Thesis 2019

2. Graduate students and postdocs mentored in my lab

Name	Degree	Date of Completion or Projected Completion
Nathalie Houssin	postdoc	Sept 2014-16
Stacey Wahl	postdoc	Sept 2014-August 2018
Allyson Kennedy	MS, PhD and postdoc	Completed MS June 2012 Completed PhD May 2016 Finsihed Postdoc Summer 2017

Jeremy Thompson	MS	Completed May 2013
Colleen Brosnahan	PhD	Dropped out after 1 year, Sept 2011
Jennifer Fjelsted	MS	Dropped out after 1 year, May 2014
Amanda Cherry	MS	Completed Feb 2018
Allyson Kennedy	Phd	Completed May 2016
Brent Wyatt	Phd	Completed May 2018
Navaneetha Krishnan Bharathan	Phd	Completed May 2018
Deborah Howton	MS	ongoing
James Black	MS	Completed May 2020

3. Graduate students mentored as thesis or dissertation committee member

Student	Program	Year completed or continuing	Home Lab
Lu Francescatto	ILS PhD	2012	Tombes
Jamie Mcleod	ILS PhD	2013	Tombes
Travis Faber	MS Biol	2012	Ryan
Minh Ngyun	MS Biol	2013	Tombes
Julie Charbonnier	MS Biol	2013	Vonesh
Tyler Spindle	MS Biol	2013	Turbeville
Robin Chan	PhD Human Genetics	2013	Growteinwel
Simon Sun	MS Biol	2014	Walsh
Paul Vorster	ILS PhD	J2015	Walsh
Motunrayo Kolawole	ILS PhD	2014	Ryan
Ashley Purdy	MS	continuing	Walsh
Janey Rebman	phd	continuing	Walsh
Amina Qayum	Phd	continuing	Ryan
John Ojuma	MS	2015	Walsh
Paul Miano	ILS	continuing	Walsh
Varsha Anna	pHD Massey	2020	Latovachik
Rebecca Schmidt	PhD Human Genetics	2019	Groteinwel
Rebecca Vareed	MS	2019	Walsh

4. Undergraduate Trainees

Name	Dates	Program/Course/Volunteer
Delisa Clay	May 2014-present	IMSD and honors college
Ashley Robinson	Sept 2013 to May 2014	Independent Study and Volunteer
Raiha Tahir	Summer 2011 to end of Spring 2013	Summer HHMI +Independent Study + volunteer
Catherine Mavilia	Summer 2013 to Spring 2015	Preceptor, Volunteer and Independent Study.
Molly Allen	Summer 2011 and Fall 2011	Summer paid and Independent study
Madhavi Uppal	Fall 2013 and Spring 2014	Independent study 2X
Armstrong Ran	Fall 2014	Independent study
Priyanka Ramsinghani	Spring 2011 and Fall 2012	Independent study and paid (work study program)
Sarah Bui	Fall 2013	Independent study
Alex Felder	Summer 2014- May 2014	IMSD program (includes 2 summers and 1 academic year)

		and Independent study
Tariq Mahmood	Fall 2013	Independent study
Harpreet Kaur	Fall 2013	Honors project
Alex Moore	Fall 2013-Fall 2014	Volunteer and paid
Jeremy Thompson	Fall 2010-Spring 2012	Volunteer, summer paid, independent study
Christine Tietz	Fall 2010-Spring 2011	Independent study X2
Vickas Agarwal	Spring 2011	Independent study
Arjun Patel	Spring 2010 and Spring 2011	Independent study X2
Christine Williams	Spring 2010	Independent study
Casey Davelick*	Fall 2013	Independent study
Luckele Chery	Summer 2013	HERO summer program
Latia Purce	Summer 2013-Fall 2013	IMSD program
Ted Ramous	Fall 2012-Spring 2013	Volunteer and paid
Debbie Pridgen	Spring 2014	Volunteer and paid
Grace Jackson	Summer 2014	Bridges program
Christine Mai	Spring 2015	Independent study
Diana Dong	Spring 2015	Independent study
Will Arvan	Spring 2015	Cancer Biology Research Project
Leslie Grimes	Fall 2012	Independent study
Nycole Taliaferro	Summer 2015	Bridges Program
Morgan Vandriest	Fall 2015 Spring & Summer 2016	Volunteer Independent study UROP summer fellowship
Aarthi Prakash	Fall 2015 and summer 2016	Volunteer Independent study
Jatin Vmuri	2017	Independent Study and Summer Student worker
James Black	Fall 2018	Independent Study
Kylee Hockaday	Summer 2018, Fall 2018, Spring 2019, fall 2019, summer 2020	Independent Study and Summer Student worker honors in biology
Estephanie Mendez	Summers 2018, 2019	Bridges Program
Julia Grant	Fall 2018	Independent Study
Iris Medoz	Fall 2018	Independent Study
Behbob Ghobadi	Fall 2018	Independent Study
Nicole Lacour	Spring 2019	Independent Study
Fariha Bhuria	Spring 2019	Independent Study
Emiley Trowbridge	fall 2019, spring 2020	Cancer Biology Research
Rae'Nicia Niles	fall 2019, spring 2020	Independent Study
Amulya Kotha	summer 2019	HSURP
Michelle Vasquez	fall 2020	Cancer Bio II-online
Maryham Islam	fall 2020	Independent Study-online
Falik Naz	fall 2020	Work Study-online
Brandon Do	fall 2020	Online data compilation volunteer
Kelly Salgura	Fall 2021	Work study

SERVICE

Note-service was reduced 2017-present due to cancer diagnosis

1. Invited Participant at an NIDCR Workshop

This was a 2 day focus group with on Gene-Environment Interactions in orofacial clefting. Participants (~25) ranged from public health scientists, surgeons, basic researchers, and program officers from NIDCR, NIEHS and NICHD. The goal was to develop priorities, resources, and initiatives for a more focused approach to uncovering and understanding GXE interactions as related to cleft palate.

2. Manuscript Reviewing

Reviewed manuscripts for the following journals:

-Science Open -2014 -Illinois Academy of Sciences -2015 -Developmental Biology- 2014 -International Journal of Developmental Biology -2015 PLOS -2014 -Dental, Oral and Craniofacial Research -2015 -Science Signaling -2015 -J. Anatomy 2015, 2016	-Cell Reports, 2016 -need to update 2017-2020 -Genesis 2021 -Developmental Dynamics 2021

Note that due to a stage 4 cancer diagnosis I made an active effort to reduce workload and stress by declining manuscript reviewing.

3. Guest Editor

Invited Guest Editor for special edition of Seminars in Cell and Developmental Biology. I invited a colleague Laura Anne Lowery to help me with this endeavor. It was published in March 2016.
Xenopus as a model for developmental biology. Dickinson AJ, Lowery LA. Semin Cell Dev Biol. 2016 Mar;51:53. doi: 10.1016/j.semcdb.2016.03.005. No abstract available. PMID: 26987579

4. Grant Reviewer

NSF IOS developmental systems review panels
ad hoc reviewer for NSF IOS
ad hoc reviewer for Elan (German granting agency)
Invited to NIH review panel 2018-declined

5. Biology Department Committees

Masters of Biology Graduate Committee 2010-2015
Space Distribution Committee 2013-4
Chair's evaluation committee 2013
Instructor Faculty Search Committee 2013-search for 4 instructor positions
Tenure Track Faculty Search 2011
Budget and Awards Committee 2015-2017
Space Committee 2019
Zhang Promotion Committee 2018
Polisch Promotion Committee 2017
Faculty Mentoring Representative 2018-2019
Cluster Hire Tenure-Track Search Committee 2018-2019
Chair of Dr. Golding Promotion Committee 2019
Awards Committee 2020
Chair of the Communications Committee 2021

Chair of the Molecular and Cellular Research group

5. Outreach

-From Tadpoles to Tots-demos of frog development at childcare centers.
    VCU child development center
    VDOT child development center
    Central Montessori School Richmond
-VCU Rice center activities-2013-presented by graduate students in the lab
-Full STEAM Ahead-helped students prepare activities for this event each year
-Science Fair Judge-Central Montessori Richmond
-OURS faculty advisor (Women in Science Biology Group)
-Swim Across America for Cancer fundraising/event volunteer
-Massey 1000 guest speaker