THE UNIVERSITY OF BRITISH COLUMBIA
Curriculum Vitae for Faculty Members

Date: June 22 2015 **Initials**: PP

1. **SURNAME**: Pavlidis **FIRST NAME**: Paul
MIDDLE NAME(S):

2. **DEPARTMENT/SCHOOL:** Psychiatry

3. **FACULTY**: Medicine

4. **PRESENT RANK**: Full Professor with Tenure **SINCE**: 2014

5. **POST-SECONDARY EDUCATION**

University or Institution	Degree	Subject Area	Dates
Cornell University	BA	Biochemistry	1984-1989
University of California, Berkeley	PhD	Molecular Biology/Neuroscience	1991-1994

Title of Dissertation and Name of Supervisor
Physiological, Behavioral and Molecular Analysis of Bang-sensitive Paralytic Mutants of Drosophila melanogaster. Professor Mark Tanouye

Special Professional Qualifications

6. **EMPLOYMENT RECORD**

(a) *Prior to coming to UBC*

University, Company or Organization	Rank or Title	Dates
Columbia University	Assistant Professor	Jan 2003 – Dec 2005
Columbia University	Associate Research Scientist	Dec 1999– Dec 2002
Columbia University	Postdoctoral Research Fellow	Jan 1998 – Nov 1999
Stanford University, California	Postdoctoral Research Fellow	April 1995 - Dec 1997
University of California at Berkeley	Postdoctoral Research Fellow	Jan 1995 - March 1995

University of California at Berkeley	Graduate Research Assistant	August 1990 – Dec 1994
Cornell University	Research Assistant	May 1988 – May 1989

(b) At UBC

Rank or Title	Dates
Full Professor with tenure	**07/2014 - present**
Associate Professor with tenure	**07/2009 - 06/2014**
Assistant Professor	**01/2006 – 06/2009**

(c) Date of granting of tenure at U.B.C.: **July 2009**

7. LEAVES OF ABSENCE

University, Company or Organization at which Leave was taken	Type of Leave	Dates
none		

8. TEACHING

(a) Areas of special interest and accomplishments

My teaching is both classroom- and research lab-based. In the classroom, besides regular participation as a PBL tutor, I currently teach in two graduate-level bioinformatics courses: BIOF/GSAT/STAT 540 and GSAT501. In my lab, I take undergraduate directed studies students on a regular basis. I also heavily participate in the UBC co-op program, in which undergraduates are given work experience in my lab as researchers.

A driving force in my approach to classroom teaching is my belief that quantitative methods and “big data” are such a routine part of modern biology that all students need a firm grounding in data analysis and statistics. I contend that it is possible, and indeed necessary, to train our “wet lab” scientists to know how to analyze data, at least to the point that they can recognize when they really do need expert help.

Other areas of accomplishment:

- I led the revamp BIOF/GSAT/STAT 540, “Statistics for high-dimensional biology” with Dr. Jenny Bryan. I led the course design and organization, which was completely new for 2011. I led the course in 2011 and 2012 and am responsible for ⅓ of the lectures. This course is cross-listed in Statistics, Bioinformatics and Genome Science and Technology.
- I helped design the graduate curriculum for computational biology at Columbia University, and was

course organizer and instructor for one of the major courses.

- I organized and ran a graduate-level course on microarray statistics (Columbia University).

(b) Courses Taught (2009-present)

Session	Course Number	Class Size	Contact Hrs	Lectures Taught	Tutorials Taught	Labs	Other
2015WT2	BIOF 548A (Directed Studies)	1	8				
2015WT2	STAT 540 (co-instructor)	40	10	10			
2014WT1	NEUR 500	30	1	1			
2014WT1	BIOF 548 (Directed Studies)	1	8				8
2014WT1	GSAT501	20	2	2			
2014 summer	COGS 402 (Directed Studies)	1	8				8
2014WT2	BIOL 448A (Directed Studies)	1	8				8
2014WT2	COGS 402 (Directed Studies)	2	16				8
2013WT1	BIOL 448A (Directed Studies)	1	8				8
2013WT1	NEUR 500	30	1	1			
2013WT2	STAT 540 (co-instructor)	30	10	10			
2013WT2	COGS 402 (Directed Studies)	1	8				
2012WT1-2013WT2	CPSC 448C (Directed Studies)	1	8				
2012WT1-2013WT2	ISCI 448 (Directed Studies)	1	8				
2012WT1-2013WT2	BIOC 448 (Directed Studies)	1	8				
2012WT1-2013WT2	MEDG 448 (Directed Studies)	1	8				
2012WT1	PBL (PrincC)	8	24		24		
2012WT1	NEUR 500	25	2	2			
2012WT1	GSAT 501 (Bioinformatics unit leader)	18	2	2			
2012WT2	STAT 540 (Course leader)	24	18	18			
2011WT1-2012WT2	MICB 448C (Directed Studies)	1	8				
2011WT1-2012WT2	MICB 449 (Directed Studies)	1	8				
2011WT1	GSAT 501 (Bioinformatics unit leader)	12	2	2			

2011WT1	NEUR 500	30	2	2			
2011WT2	STAT 540 (Course leader)	30	18	18			
2010WT1	NRSC 500	30	2	2			
2010WT2	Cell 501	15	1	1			
2009WT1	NEUR 500	30	1	1			
2009WT1	MICB 405	60	1.5	1.5			
2009WT1	Genetics 502	12	2	1			1
2009WT1	PBL (PrinC)	8	24		24		
2009WT2	Cell 501	20	1	1			
2009WT2	PBL (cardio block)	8	24		24		

WT1 - Winter Term 1 (Sept - Dec)
WT2 - Winter Term 2 (Jan - April)
For the complete list of courses taught see the Teaching Dossier.

(c) Other Teaching of Undergraduates, Graduates and Postgraduates

(d) Students Supervised (note: a few trainees are listed twice [*] as they had two separate stints in the lab)

Undergraduate Students

Undergraduate students total = 24; 2 current; 22 completed

Undergraduate students	Program Type	Start Year	Finish Year	Principal Supervisor	Co-Supervisor(s)
Brenna Li*	co-op	2015	2015	Paul Pavlidis	
Kristofer Anderson	Directed studies BIOF 548A	2015	2015	Paul Pavlidis	
Brenna Li	Summer Student	2014	2014	Paul Pavlidis	
Delaram Abdollahzadeh	Directed studies BIOF 548	2014	2014	Paul Pavlidis	
Nathan Holmes	co-op (ongoing)	2014	2015	Paul Pavlidis	
Sharon Yang	Summer Student	2014	2014	Paul Pavlidis	
Dmitry Tebaykin	Summer Student	2014	2014	Paul Pavlidis	
Taylor Reid	Directed studies COGS 402	2014	2014	Paul Pavlidis	
Garvin Pang	Directed studies BIOL 448A	2014	2014	Paul Pavlidis	

Eugene Chong	Directed studies COGS 402	2014	2014	Paul Pavlidis	
Fangwen Zhao	co-op	2014	2014	Paul Pavlidis	
Cathy Kwok*	Directed studies BIOL 448A	2013	2013	Paul Pavlidis	
Nathan Eveleigh	co-op	2013	2013	Paul Pavlidis	
Sherry Shao	Directed Studies COGS 402	2013	2013	Paul Pavlidis	
Jenni Hantula	co-op	2012	2013	Paul Pavlidis	
John Choi	co-op	2012	2013	Paul Pavlidis	
Luchia Tseng*	Directed Studies MEDG 448	2012	2013	Paul Pavlidis	
Luchia Tseng	co-op	2012	2012	Paul Pavlidis	
Celia Siu*	Directed Studies BIOC 448	2012	2013	Paul Pavlidis	
Po Liu	Directed Studies CPCS 448	2012	2013	Paul Pavlidis	
Canice Ma	Directed Studies ISCI 448	2012	2013	Paul Pavlidis	
Tianna Koreman	co-op	2012	2012	Paul Pavlidis	
Olivia Marais	co-op	2012	2012	Paul Pavlidis	
Yiqi Chen	co-op	2011	2012	Paul Pavlidis	
Cathy Kwok	co-op	2011	2012	Paul Pavlidis	
Celia Siu	co-op	2011	2012	Paul Pavlidis	
Willie Kwok*	Honors Thesis MICB 449	2011	2012	Paul Pavlidis	
Willie Kwok	co-op	2011	2011	Paul Pavlidis	
Albertina Wong	Directed Studies MICB 448C	2011	2012	Paul Pavlidis	
Artemis Lai	co-op	2010	2010	Paul Pavlidis	
Roland Au	co-op	2009	2010	Paul Pavlidis	
Gavin Ha	Summer Student	2008	2008	Paul Pavlidis	
Lydia Xu	RA	2008	2009	Paul Pavlidis	
Tamryn Loo	RA	2008	2008	Paul Pavlidis	
Raymond Lim	co-op	2007	2008	Paul Pavlidis	
Suzanne Lane	co-op	2007	2008	Paul Pavlidis	

Graduate Students Supervised

MSc students total = 9; 3 current; 6 completed
MSc rotation students total = 13; 1 current; 12 completed

PhD students total = 6; 2 current; 3 completed; 1 withdrawn
PhD rotation students total = 6; 0 current; 6 completed

MSc students	Program Type	Start Year	Finish Year	Principal Supervisor	Co-Supervisor(s)
Min Feng	MSc	2015	GSAT rotation	Paul Pavlidis	
Matthew Bundala	MSc	2015	GSAT rotation	Paul Pavlidis	
Benjamin Callaghan	MSc	2014	GSAT rotation	Paul Pavlidis	
Dmitry Tebaykin*	MSc	2014	ongoing	Paul Pavlidis	
Ogan Mancarci*	PhD	2014	ongoing	Paul Pavlidis	
Nathaniel Lim*	PhD	2014	ongoing	Paul Pavlidis	
Ogan Mancarci	MSc	2014	rotation	Paul Pavlidis	
Emily Hindalong	MSc	2014	rotation	Paul Pavlidis	
Scott Brown	MSc	2014	GSAT rotation	Paul Pavlidis	
Nathaniel Lim	MSc	2013	GSAT rotation	Paul Pavlidis	
Dean Attali	MSc	2013	rotation	Paul Pavlidis	
Rachel Edgar*	MSc	2013	2014	Paul Pavlidis	
Sarah Perez	MSc	2012	rotation	Paul Pavlidis	
Adriana Sedeno	MSc	2012	2014	Paul Pavlidis	
Rachel Edgar	MSc	2013	GSAT rotation	Paul Pavlidis	
Carolyn Ch'ng*	MSc	2012	2013	Paul Pavlidis	
Ellyce Eddy*	MSc	2012	2013 - not active	Paul Pavlidis	
Ellyce Eddy	MSc	2012	rotation	Paul Pavlidis	
Carolyn Ch'ng	MSc	2012	rotation	Paul Pavlidis	
Tyler Funnell	MSc	2011	rotation	Paul Pavlidis	
Patrick Tan*	MSc	2011	2012	Paul Pavlidis	
Patrick Tan	MSc	2011	rotation	Paul Pavlidis	

Mimi Brown	MSc	2011	rotation	Paul Pavlidis	
Timothy Au Young	MSc	2010	rotation	Paul Pavlidis	
Fong Chun Chen	MSc	2009	rotation	Paul Pavlidis	
Raymond Lim*	MSc	2009	2011	Paul Pavlidis	
Evan Morien	MSc	2009	2012	Paul Pavlidis	
Mark Okada	MSc	2009	rotation	Paul Pavlidis	
Ana Crisan	MSc	2008	rotation	Paul Pavlidis	
Adam Hall	MSc	2008	rotation	Paul Pavlidis	
Nick Wiebe	MSc	2008	rotation	Paul Pavlidis	
Vaneet Lotay	MSc	2007	2009	Paul Pavlidis	
David Quigley	MSc	2005	rotation	Paul Pavlidis	
Anshu Sinha	MSc	2005	rotation	Paul Pavlidis	
Karin H. Krueger	MSc	2003	2004	Paul Pavlidis	
PhD students	**Program Type**	**Start Year**	**Finish Year**	**Principal Supervisor**	**Co-Supervisor(s)**
Marjan Farahbod	PhD	2012	ongoing	Paul Pavlidis	
Nikolaus Fortelny	PhD	2012	ongoing	Chris Overall	Paul Pavlidis
Eloi Mercier	PhD	2010	2013 - not active	Paul Pavlidis	Evica Separovic
Meeta Mistry	PhD	2007	2012	Paul Pavlidis	
Leon French	PhD	2007	2012	Paul Pavlidis	
Spiro Pantazatos	PhD	2004	2013	Joy Hirsch (CU)	Paul Pavlidis (until 2005)
Gozde Cozen	PhD	2006	rotation	Paul Pavlidis	
Eileen Guilfoyle	PhD	2005	rotation	Paul Pavlidis	
Xiang Zhou	PhD	2005	rotation	Paul Pavlidis	
Wei-Keat Lim	PhD	2005	rotation	Paul Pavlidis	
Achint Sethi	PhD	2004	rotation	Paul Pavlidis	
Tzu-Lin Hsaio	PhD	2004	rotation	Paul Pavlidis	
MD students	**Program Type**	**Start Year**	**Finish Year**	**Principal Supervisor**	**Co-Supervisor(s)**
Amy Hsu	MD	2003	rotation	Paul Pavlidis	

Meeta Mistry won the following awards and scholarships during her PhD studies in my lab:

- 2013 Necia Laura May Elvin Memorial Prize in Schizophrenia Research
- McGeer Basic Science Award, UBC Department of Psychiatry (2012)
- MIND Foundation of BC Research Award (2010-2011)

- Genetics/Bioinformatics Research Day Poster Award (2010)
- UBC College for Interdisciplinary Studies Travel Award (2010)
- UBC Graduate Student Travel Award (2009)
- Canadian Institutes for Health Research (CIHR) Scholarship (2006-2008)

Leon French was awarded the following awards and scholarships during his PhD studies in my lab:

- NSERC postdoctoral fellowship award in 2012 ($80,000)
- UBC College for Interdisciplinary Studies Travel Award (2010, $500)
- McGeer Award for Basic Science, Department of Psychiatry
  Research Day, UBC (2010, $500)

Patrick Tan was awarded the following awards and scholarships during his MSc studies in my lab:

- Canadian Institutes of Health Research (CIHR) / Michael Smith Foundation for Health Research (MSFHR) Bioinformatics Graduate Trainee Award (2010 - 2012, $21,000/yr)
- College for Interdisciplinary Studies Graduate Award (2010, $900)

Graduate Student Supervisory Committees

Total = 22; 11 current; 11 completed
MSc students total = 8; 2 current; 6 completed
PhD students total = 14; 9 current; 5 completed

MSc students	Program Type	Start Year	Finish Year	Supervisor	Department or Program
Rebecca Johnson	MSc	2013	ongoing	Christian Steidl	GSAT
Mimi Brown	MSc	2010	2013	Leonard Foster	GSAT
Ian Wood	MSc	2011	(left program 2014)	Irmtraud Meyer	Bioinformatics
Sarah Natrasany	MSc	2010	2013	Leonard Foster	GSAT
Young Song	MSc	2010	2013	Steven Hallam	Bioinformatics
Kasia Stepien	MSc	2011	2013	Michael Kobor	Med Gen
Yu Deng	MSc	2009	2011	Weihong Song	Neuroscience
Yawen Luo	MSc	2009	2011	Weihong Song	Neuroscience
Ben Vander Valk	MSc	2007	2011	Mark Wilkinson	Bioinformatics
PhD students	**Program Type**	**Start Year**	**Finish Year**	**Supervisor**	**Department or Program**
Luolan (Gloria) Li	PhD	2012	ongoing	Martin Hirst	GSAT

Rebecca Newbury	PhD	2007	2014	Wyeth Wasserman	Bioinformatics
Melanie Courtot	PhD	2009	2014	Ryan Brinkman	Bioinformatics
Kieran O'Neill	PhD	2008	2014	Ryan Brinkman	Bioinformatics
Rodrigo Goya	PhD	2008	ongoing	Irmtraud Meyer	Bioinformatics
Emilia Lim	PhD	2010	ongoing	Marco Marra	Bioinformatics
Daniel Lai	PhD	2010	ongoing	Irmtraud Meyer	Bioinformatics
Evan Gatev	PhD	2012	ongoing	Michael Kobor	Bioinformatics
Elizabeth Chun	PhD	2012	ongoing	Marco Marra	Bioinformatics
Michael Peabody	PhD	2010	ongoing	Fiona Brinkman (SFU)	MBB
Spiro Pantazatos	PhD	2004	2013	Joy Hirsch (CU)	Department of Physiology & Cellular Biophysics (CU)
Shuting Zhang	PhD	2010	2013	Weihong Song	Neuroscience
Ryan Morin	PhD	2008	2011	Marco Marra	Bioinformatics
Anthony Fejes	PhD	2009	2012	Steve Jones	Bioinformatics
Olena Morozova	PhD	2008	2012	Marco Marra	Bioinformatics
Nima Aghaeepour	PhD	2008	2012	Ryan Brinkman	Bioinformatics

Postgraduate Students Supervised

Trainee Name	Program Type	Start Year	Finish Year	Principal Supervisor
Shreejoy Tripathy	PDF	2014	Ongoing	Paul Pavlidis
Lilah Toker	PDF	2013	Ongoing	Paul Pavlidis
Meeta Mistry*	PDF	2012	2013	Paul Pavlidis
Leon French*	PDF	2012	2013	Paul Pavlidis
Thomas	PDF	2008	2011	Paul Pavlidis

Sierocinski				
Sanja Rogic	PDF	2008	2009	Paul Pavlidis
Jesse Gillis	PDF	2007	2012	Paul Pavlidis
Xiang Wan	PDF	2006	2007	Paul Pavlidis

Jesse Gillis won the following awards and fellowships during his postgraduate studies in my lab:

- MSFHR Research Trainee Award, Mar/2010 - Aug/2012
- ISMB Travel Award, 2012
- Selected for Highlight Track paper presentation at ISMB 2012
- ISMB Travel Award, 2011
- Selected for Highlight Track paper presentation at ISMB 2011
- CIHR Postdoctoral Fellowship, 2010
- MIND Foundation of BC Research Award, 2009
- CIHR Institute of Aging Travel Award, 2009

Shreejoy Tripathy won the following awards and fellowships during his postgraduate studies in my lab:

- CIHR Postdoctoral Fellowship, 2015

(e) Continuing Education Activities

- Instructor/Organizer, 9th IBRO Canadian School of Neuroscience, Informatics Unit, Vancouver, May 2015
- Lecturer, Neurodevelopment 101, Vancouver March 2013 (NeuroDevNet web-based course)
- Lecturer, Canadian Bioinformatics Workshop, Vancouver, Jun 2007
- Lecturer, Canadian Genomics Workshop, Vancouver, May 2006
- Lecturer, Intensive Course on Biomedical Informatics, Columbia University, May 2005
- Lecturer, First Plant Microarray Short Course on Design and Analysis of Plant Microarray Experimentation, University of Wisconsin, Madison WI, June 2005
- Teaching assistant, Neurobiology summer course (section on electrophysiology), Woods Hole Marine Biological Laboratory, 1996

(f) Visiting Lecturer (indicate university/organization and dates)

(g) Educational Leadership

(h) Curriculum Development & Innovation

(i) Other Teaching and Learning Activities

- Teaching assistant, Neurobiology undergraduate course, University of California, Berkeley, 1993.
- Teaching assistant, Neurobiology undergraduate laboratory course, University of California, Berkeley, 1993.

9. SCHOLARLY AND PROFESSIONAL ACTIVITIES

(a) Areas of special interest and accomplishments

My research focus lies at the intersection of computational biology, genomics and neuroscience. A major interest is in the interpretation of large-scale functional genomics studies such as microarrays and RNA-seq. My

expertise is in analysis and bioinformatics of gene expression data, including machine learning and statistical approaches to studying coexpression, differential expression and gene function. I am especially interested in the potential for using large collections of expression studies to perform novel meta-analyses of genomics data set. These data can be applied to gene function prediction, disease gene candidate prioritization and pathway analysis. To this end my lab develops and evaluates methods and tools for meta-analysis, and applies these methods to analysis of complex biological systems such as the nervous system. An example of a tool we have developed is “Gemma”, an expression analysis database for meta-analysis applications, which is the framework for a variety of novel approaches to coexpression and differential expression analysis. Because interpretation of large databases requires good annotations, we have recently developed an interest in semantic web technologies, natural language processing and text mining. Areas of special biological interest include neuropsychiatric/ neurodevelopmental disorders (schizophrenia, depression, autism, Huntington’s disease), normal aging and synaptic plasticity. We have published a number of papers on the analysis and meta-analysis of data sets applied to these domains. Because our expertise and methods can often be applied generically, I have previous or ongoing involvement in analyzing and interpreting genomics data from a wider range of biological contexts including infectious disease, developmental disorders, fisheries management, and autoimmune disorders, to name a few.

I am also Scientific Director of the Neuroinformatics Core, NeuroDevNet, 2010-present. I play a leadership role in developing neuroinformatics initiatives in this Canada-wide network for neurodevelopment research.

(b) Research or equivalent grants (indicate under COMP whether grants were obtained competitively (C) or non-competitively (NC); bold = current funding)

Primary funding for my research comes from an NSERC Discovery Grant (since 2010) and an NIH RO1 (held for the last 9 years), for both of which I am the PI. We have my collaborative grants in which my lab plays key roles in bioinformatics data analysis.

Granting Agency	Subject	COMP	$ Per Year	Year	Principal Investigator	Co-Investigator(s)
	OPERATING GRANTS					
CIHR and Genome Canada	Canadian Rare Diseases: Models and Mechanisms’ Network	C	$46,300 annually for PP	Oct/2014-Apr/2018	Phil Hieter	Kym Boycott, Janet Rossant
JPND	NeuroGeM - Identification of genes that commonly modulate the severity of neurodegenerative diseases	C	$65,000 annually for PP	Apr/2015-Mar/2018	Joerg Gsponer	Jens Pahnke, Olaf Riess, Eleonora Aronica, Paul Pavlidis
Brain Canada	Locally produced brain insulin in	C	$67,000 annually for PP	Jan/2015-Dec/2017	James Johnson	Paul Pavlidis Shernaz Bamji

	memory and Alzheimer's disease: A multi-disciplinary approach to a key question					
NIH	Gene Wiki: expanding the ecosystem of community-intelligence resources	C	(US$27,000 per year subcontract to PP)	July/2014-June/2018	Andrew Su (Scripps)	Paul Pavlidis Lynn Schriml Peter Robinson
CIHR	Catalyst grant: Epigenetic effect of traumatic brain injury contributes to Alzheimer's Disease	C	($25,000 per year subcontract to PP)	Jan/2014-Dec/2014	Weihong Song	Paul Pavlidis
CIHR	Polyamines, depression and suicide	C	$175,140 ($15,000 per year subcontract to PP)	Apr/2012-Mar/2017	Gustavo Turecki	Paul Pavlidis, Carl Ernst, Naguib Mechawar
CIHR	Molecular biomarkers of antidepressant response	C	$219,300 ($15,000 per year subcontract to PP)	Apr/2011-Mar/2016	Gustavo Turecki	Paul Pavlidis, Carl Ernst, Eduardo Chachamovich, Marcelo Berlim, Nancy Frasure-Smith
NIH R01	Neuroinformatics for gene expression: networks, function and meta-analysis	C	US$240,000 (US$26,000 per year for Birol group)	Nov/2011 - Jun/2015	Paul Pavlidis	Inanc Birol
NSERC	Neuroinformatics for genomics and anatomy (Discovery grant)	C	$53,600	Apr/2011 - Mar/2016	Paul Pavlidis	
NSERC	Neuroinformatics for genomics and anatomy (Discovery grant)	C	$28,000	Apr/2010 - Mar/2011	Paul Pavlidis	
NeuroDevNet NCE	Bioinformatics analysis of gene networks in neurodevelopment	C	$50,000 total	Oct/2010 - Mar/2013	Paul Pavlidis	
NCE	NeuroDevNet	C	$250,000	April/2010 -	Paul Pavlidis	Dan Goldowitz,

	neuroinformatics Core		annually	Mar/2018		James Reynolds, Lonnie Zwaigenbaum, Michael Shevell
CIHR	Genomics of Idiopathic Intellectual Disabilities	C	$140,400 ($16,800 per year for PhD student stipend)	Apr/2010 - Mar/2013	Evica Rajcan-Separovic	Paul Pavlidis, Albert Chudley, Jeanette Holden, Suzanne Lewis, Wendy Robinson
CIHR	Role of microRNA in Major Depression and Suicide	C	$125,200 ($25,000 per year subcontract to PP)	Apr/2009 - Mar/2013	Gustavo Turecki	Paul Pavlidis, Alain Gratton, Aurelie Labbe, Naguib Mechawar
Genome BC	Genomics for Fisheries Management (FishManOmics)	C	$2,280,497 total ($438,448 over 3 years for Pavlidis lab)	July/2008 - Jun/2012	Kristi Miller	Paul Pavlidis, S. Hinch, A. Farrell, P. Wood, J. Curtis
NIH R01	Methods and tools for integrative meta-analysis of microarray data for neuroscience	C	$222,160	Aug/2005 - Sep/2011	Paul Pavlidis	
NIH R01	Genomics studies of mouse models of schizophrenia (MH077235)	C	US$ 230,000 (US$35K subcontract per year)	Feb/2008 - Jan/2009	Joseph Gogos	Paul Pavlidis
NIH R22	Genomics studies of traumatic brain injury	C	US$100,000 (US $9K subcontract)	Aug/2007 - July/2008	Barclay Morrison	Paul Pavlidis
NIH RO1	Pathogenesis of Emery-Dreifuss Muscular Dystrophy	C	US$250,000 per year (5% effort for Pavlidis)	2003 - 2005	Howard Worman	Paul Pavlidis
Avon Foundation Scholar Pilot Award	Bioinformatics tools for the analysis of breast cancer	C	US$50,000	2003	Paul Pavlidis	
NIH RO1	Gene expression signatures in chronic and aggressive	C	US$385,485 per year (US$22K for	2004 - 2006	Panos Papapanou	Paul Pavlidis

	periodontitis		salary annually)			
	TEAM GRANTS					
NIH PO1	Molecular Genetic Study of Fear and Anxiety	C	US$1,125,690 (US$14K for salary annually)	2003 - 2006	Conrad Gilliam / Rene Hen	Paul Pavlidis, Eric Kandel, Abby Fyer, Myrna Weisman
	INFRASTRUCTURE GRANTS					
CFI	A Comprehensive Approach to Identifying Genes for Complex Genetic Disorders: Autism Spectrum Disorders & Beyond	C	$1,709,465 total ($461,500 total for PP for infrastructure development)	Apr/2011 - Mar/2015	Jeanette Holden	Paul Pavlidis, Suzanne Lewis, Dan Goldowitz, Evica Rajcan-Separovic, Hymie Anisman, Albert Chudley, Thomas Grigliatti, Hagit Shatkay, C.T. Yu
BCKDF	A Comprehensive Approach to Identifying Genes for Complex Genetic Disorders: Autism Spectrum Disorders & Beyond	C	$410,529 total ($110,840 total for PP for infrastructure development)	Apr/2010 - Mar/2015	Suzanne Lewis	Paul Pavlidis
CFI/BCKDF	Laboratory for Neuroinformatics (New Opportunities fund)	C	$337,266 one-time for equipment	Apr/2008 - Mar/2012	Paul Pavlidis	
	TRAINING GRANTS					
NSERC	CREATE graduate program in High-Dimensional Bioinformatics	C	$1.65 Million	April 2015-2021	Paul Pavlidis	TODO
CIHR	Bioinformatics training program for health research (STIHR)	C	$257,000	Mar/2002 - Mar/2015	Steven Jones and Fiona Brinkman	Paul Pavlidis and Rafeef Abugharbieh, David Baillie, Ryan Brinkman, Jennifer Bryan, Cedric Chauve, Nansheng Chen, Artem Cherkasov, Anne Condon, Martin

						Ester, Jinko Graham, Arvind Gupta, Philip Hieter, Marco Marra, Irmtraud Meyer, Frederic Pio, Cenk Sahinalp, Wyeth Wasserman, Mark Wilkinson
	OTHER					
NeuroDevNet	Data Harmonization Workshop	C	$15,000	October 2013	Paul Pavlidis, Kenneth Evans(OCBN/ OBI)	
MITACS	VanBUG seminar series	C	$1,300	Apr/2010 - Mar/2011	Paul Pavlidis	

(c) Research or equivalent contracts (indicate under COMP whether grants were obtained competitively (C) or non-competitively (NC).

Granting Agency	Subject	COMP	$ Per Year	Year	Principal Investigator	Co-Investigator(s)
none						

(d) Invited Presentations

1. “The use of GO in data analysis: can we raise the bar?” Gene Ontology Consortium, March 2015
2. “Searching for Biomarkers: Bioinformatics, Genetics and Genomics” Mood & Brain: Molecular Markers, Neuroimaging, and Cognitive Neuroscience Conference, Toronto ON, January 2014.
3. “Gene Multifunctionality and the Interpretation of Protein Networks” Canadian National Proteomics Network Annual Conference, Vancouver BC, April 2013.
4. “From gene lists, networks and annotations to function” 2013 UT/ORNL/KBIRN Bioinformatics Summit, Paris Landing, Tennessee. March 2013
5. “Neuroinformatics of connectivity and genomics”. INCF Canadian Neuroinformatics Workshop: A satellite symposium of the CAN 2012 meeting, Vancouver, May 2012
6. "Challenges in the analysis of gene networks in the brain with applications to schizophrenia”. Society for Biological Psychiatry Annual Meeting, Philadelphia PA, May 2012.
7. “Network analysis in analysis of brain genes and connectivity”. Allen Institute for Brain Research, Seattle WA. December 2011.
8. “The challenge of interpreting gene lists in the face of multifunctionality, Simon Fraser University, December 2011.
9. “The ruin of gene network analysis by multifunctionality” VanBUG seminar series, Vancouver BC, November 2011
10. “Gene network analysis and the effects of multifunctionality” University of Edmonton, June 2011.

11. “The impact of gene multifunctionality on computational genomics” Annual Canadian Human Genetics Conference, Banff, May 2011.
12. “Does guilt-by-association work the way you think it does?” Center for Molecular Medicine and Therapeutics, UBC, Feb 2010.
13. “System capabilities for data sharing, potential applications, analysis strategies”. Workshop on Gene Expression Profiling of Postmortem Human Brain. Society for Biological Psychiatry annual meeting, Washington DC, May 2008.
14. “Meta-analysis of gene expression profiling data”. First Canadian Human Genetics Conference, St. Saveur, Quebec, April 2008.
15. “Sharing and reusing gene expression profiling data”. Talk given at Society for Neuroscience Meeting, November 2007, special workshop on Data Sharing and Reuse.
16. “Informatics for Omics”. *Omics 2007 Workshop, Environment Canada, Hamilton Ontario, October 2007.
17. “Gemma: meta-analysis of gene expression patterns in the nervous system”. World Microarray Congress, Vancouver, May 2007.
18. “Large-scale mining of expression patterns in public microarray datasets” . UBC Life Sciences Institute, March 2007
19. “Large-scale mining of expression patterns in public microarray datasets”. University of Washington Department of Genome Sciences, Feb 2007
20. “Large-scale data mining of gene expression patterns for functional discovery” UBC Department of Statistics, November 2006
21. “New Bioinformatics tools” Environmental Mutagen Society Annual Meeting, September 2006
22. “Scaling up expression informatics for neuroscience “ Center for Molecular Medicine and Therapeutics. June 2006
23. “Scaling up genome informatics for neuroscience”. UBC Brain Research Centre. February 2006.
24. “Scaling up microarray informatics for the brain”. Neural Information Processing Workshop on Gene Expression analysis in the Brain. December 2005.
25. “Informatics approaches to expression analysis in the nervous system”. University of British Columbia Department of Psychiatry, April 2005.
26. “On the reproducibility of gene expression patterns in large microarray databases”. University of British Columbia Bioinformatics Centre, January 2005.
27. “Integration of genomics data for the study of the nervous system”. University of Toronto School of Medicine, January 2005.
28. “Scaling up gene expression microarray analysis”. Allen Brain Research Institute, Seattle WA, January 2005.
29. “Strategies for combining and comparing microarray data sets”. Stanley Medical Research Foundation, December 2004.
30. “Meta-analysis of gene coexpression for functional prediction “. University of Calgary, December 2004.
31. “Large-scale analysis of human gene coexpression for functional prediction”. University of Pittsburgh, September 2004.
32. “Large-scale analysis of gene coexpression for functional discovery” MGED, Toronto, September 2004
33. “Microarray analysis for target gene identification”. Biological Psychiatry, New York, April 2004.
34. “Large scale analysis of gene coexpression”. International Biometric Society spring meeting. March 2004.
35. “Bioinformatics approaches to analysis of gene expression in the brain”. Nathan Kline Institute, New York University. October 2003.
36. “Supervised learning for gene expression microarrays”. 2nd Virtual Conference on Genomics and Bioinformatics. September 2002.
37. “Supervised and semi-supervised analysis of gene expression microarray data”. Sanger Centre, Hinxton UK, June 2002.

38. “Supervised and semi-supervised analysis of gene expression microarray data”. Cancer Research UK, London, June 2002.
39. “Analysis of Gene Expression Microarray Data”. University of Cincinnati School of Medicine, May 2002.
40. “Computational Approaches to the Analysis of Gene Expression Microarray Data”. Columbia University School of Medicine, New York, NY. April 2002.
41. “Computational Approaches to the Analysis of Gene Expression Microarray Data”. Albert Einstein College of Medicine, New York, NY. April 2002.
42. “Statistical Analysis of Microarray Data”. NIDDK Workshop on Biotechnology, Bethesda MD. January 2002.

Oral conference presentations given by my trainees

1. NeuroElectro.org: making the world’s neurophysiology data available for reuse. Computational Neuroscience Society annual meeting. Workshop on: “Open Science and Resources for Computational Neuroscience”. Prague, Czech Republic. July 2015. Talk given by my postdoc Shreejoy Tripathy.
2. NeuroElectro.org: making the world’s neurophysiology data available for reuse. Workshop for “Future Neuroscience and the Human Brain Project: Building a neuroscience community: community modeling and data repositories” at Foundation Brocher, Hermance, Switzerland. June 2015. Talk given by my postdoc Shreejoy Tripathy.
3. Standing on the shoulders of giants: understanding brain-wide electrophysiological and transcriptomic diversity by mining the vast neuroscience literature. Presented to Human/Blue Brain Project at Campus Biotech in Geneva, Switzerland. June 2015. Talk given by my postdoc Shreejoy Tripathy.
4. Smart API - connecting the bioweb. Presentation given by my MSc student Dmitry Tebaykin at the BD2K hackathon in May 2015.
5. Making sense of lists of protease substrates using TopFINDer and PathFINDer. Pacific Coast Protease Meeting, Desert Hot Springs, USA, May, 2015. Talk given by my PhD student Nikolaus Fortelny.
6. Lessons to learn from the genomics community in designing Neurodata-Without-Borders standards for widespread adoption. Presented at the second Neurodata-without-borders workshop at HHMI Janelia Farm Research Campus. Ashburn, Virginia, USA. May, 2015. Talk given by my postdoc Shreejoy Tripathy.
7. Building an Environment for Open Data. Panel discussion at Advancing Research Communication and Scholarship. Philadelphia, Pennsylvania. April, 2015. Talk given by my postdoc Shreejoy Tripathy.
8. NeuroElectro.org: examples of literature text- and data-mining in the wild. An Exploration of Text and Data Mining of Scholarly Content to Drive Discussion and Research. Hosted by Harvard Medical School Libraries and Elsevier. Boston, Massachusetts. April, 2015. Talk given by my postdoc Shreejoy Tripathy.
9. The metadata problem in neurophysiology: insights from literature text-mining and electronic lab notebooks. Neurodata-without-borders workshop at HHMI Janelia Farm Research Campus. Ashburn, Virginia, USA. November, 2014. Talk given by my postdoc Shreejoy Tripathy.
10. NeuroElectro.org: making the world’s neurophysiology data available for reuse. Collaborative Research in Computational Neuroscience PIs Meeting, session on: “Open Science and Resources for Computational Neuroscience”. Phoenix, Arizona. October 2014. Talk given by my postdoc Shreejoy Tripathy.
11. Semi-automated approaches for drawing inferences from the vast neurophysiology literature. INCF 2014. Leiden, Netherlands. Talk given by my postdoc Shreejoy Tripathy.
12. Pervasive interactions of proteases and their inhibitors form protein networks as part of a global protease web. 7th International Symposium on Serpin Biology, Structure and Function, Leogang, AUT, March 29 - April 2nd, 2014. Talk given by my PhD student Nikolaus Fortelny.
13. Pervasive interactions of proteases and their inhibitors form protein networks as part of a global protease

web. 31st Winterschool on Proteases and Inhibitors, Tiers, IT, Febuary 26th - March 2nd, 2014. Talk given by my PhD student Nikolaus Fortelny.

14. Gene coexpression and protein interaction networks to fill in gaps in the protease web. Cascadia Proteomics Symposium, Seattle, WA, USA, July 15-16, 2013. Talk given by my PhD student Nikolaus Fortelny.
15. The impact of multifunctional genes on "guilt by association". Highlight, ISMB 2011, Vienna Austria. Talk given by my postdoc Jesse Gillis.
16. A gene function prediction competition post-mortem. AFP-CAFA Sig, ISMB 2011, Vienna Austria. Talk given by my postdoc Jesse Gillis.
17. What does the transcriptome know about the connectome? Oct 15, 2011. Course in Molecular Neuroanatomy, Allen Institute for Brain Science/Okinawa Institute of Science and Technology, Okinawa, Japan. Talk Delivered by my PhD student Leon French.
18. “Making the best use of coexpression in network analysis with applications to human disease” NetBio SIG, ISMB 2011, Vienna Austria. Talk given by my postdoc Jesse Gillis
19. “Meta-analysis of the human brain transcriptome” Talk delivered by my PhD student Meeta Mistry. Winter Brain conference, January 2010

Meeting abstracts/poster presentations (not a complete listing)

1. D Tebaykin, SJ Tripathy, B Li, K Anderson, D Abdollahzadeh, **P Pavlidis**. Application of large-scale text-mining and curation for extracting neuronal electrophysiology data. ISMB, Dublin, Ireland, July 2015.
2. NE Scott, D Ferguson, M Farahbod, J Gsponer, **P Pavlidis**, LJ Foster. Quantitative measurement of the protein complex landscape of murine tissues using PCP-SILAC. ASMS2015, June , 2015, St. Louis.
3. SJ Tripathy, L Toker, B Mancarci, D Tebaykin, B Li, **P Pavlidis**. A brain-wide analysis of neuronal transcriptomic and electrophysiological diversity. CAN ACN, Vancouver, May 2015.
4. D Tebaykin, SJ Tripathy, B Li, K Anderson, D Abdollahzadeh, **P Pavlidis**. Identifying sources of study-to-study variability in neuronal electrophysiology data. CAN ACN, Vancouver, May 2015.
5. *N Fortelny*, JH Cox, AE Starr, PF Lange, **P Pavlidis**, and CM Overall. The protease web: a pervasive and complex proteolytic network. 14th Annual International Symposium, Institute for Systems Biology, Seattle, Apr 2015
6. S Rogic, E Portales-Casamar, G Charathsandran, E Chong, C Kwok, C McDonald, N St Georges, P Tan, A Zoubarev and **P Pavlidis**. Computational Tools for Discovery of Patterns and Associations in Genomic Data. ASHG, October 2014, San Diego.
7. J. P. Lopez, R. Lim, C. Cruceanu, L. Crapper, C. Fasano, B. Labonte, G. Maussion, J. P. Yang, V. Yerko, E. Vigneault, S. El Mestikawy, N. Mechawar, **P. Pavlidis**, G. Turecki. miR-1202: A Primate Specific and Brain Enriched miRNA Involved in Major Depression and Antidepressant Treatment. ASHG, October 2014, San Diego.
8. C. Cruceanu, **P. Pavlidis**, S. Rogic, P. P. Tan, J. P. Lopez, S. G. Torres-Platas, G. A. Rouleau, G. Turecki. Transcriptome sequencing in bipolar disorder identifies a global downregulation in the anterior cingulate and dysregulation of G protein-coupled receptors. ASHG, October 2014, San Diego.
9. S Rogic, E Portales-Casamar, G Charathsandran, E Chong, C Kwok, C McDonald, N St Georges, P Tan, and **P Pavlidis**. Computational Tools for Discovery of Patterns and Associations in Genomic Data. Canadian Human and Statistical Genetics Meeting. May 2014, Victoria.
10. AE Sedeno-Cortes and **P Pavlidis**. GOtrack: Tracking and Viewing Changes in Functional Annotations of Genes over Time. Canadian Human and Statistical Genetics Meeting. May 2014, Victoria.
11. R Edgar, E Portales-Casamar, P Tan and **P Pavlidis**. Meta-analysis of Human Methylomes Reveals a Novel Class of Highly Stable CpG Islands. Canadian Human and Statistical Genetics Meeting. May 2014, Victoria.
12. S Tripathy and **P Pavlidis.** Predicting brain-wide electrophysiological diversity of mammalian neurons from

genome-wide expression atlases. Canadian Association for neuroscience Meeting. May 2014, Montreal.

13. E Portales-Casamar, N St Georges and P Pavlidis. Phenocarta: A Comprehensive Gene-Disease Database for the Interpretation of Genomics Studies. AMIA Joint Summit on Translational Science. Apr 2014, San Francisco, USA.
14. N Fortelny, JH Cox, PF Lange, **P Pavlidis,** and C Overall. Pervasive interactions of proteases and their inhibitors form protein networks as part of a global protease web. US HUPO. Apr 2014, Seattle, USA.
12. **P Pavlidis**, LTseng, C Ch'ng, F Liu, A Zoubarev, N St. Georges, E Portales-Casamar Neurocarta: aggregating and sharing disease-gene relations for the interpretation of genomics studies. Nanosymposium presentation, Society for Neuroscience 2013, San Diego
13. S. Rogic, A. Zoubarev, C. McDonald, F. Lui, M. Ly, T. Van Rossum, E. Portales-Casamar, **P. Pavlidis**. ASPIREdb – an interactive web-based system for exploration of complex phenome-genome datasets. ISMB 2013, Berlin (H39)
14. S. Rogic, A. Wong, **P. Pavlidis**. Meta-analysis of gene expression in animal models of FASD. NeuroDevNet Brain Development Conference 2013, Vancouver (#26)
15. E. Portales-Casamar, S. Mah, J. MacIsaac, M. Jones, S.Provost, MP. Dubé, J. Reynolds, **P. Pavlidis**, M. Kobor. DNA Methylation Changes in Fetal Alcohol Spectrum Disorder. NeuroDevNet Annual Conference, 2013, Vancouver, British Columbia, Canada.
16. N. St-Georges, E. Portales-Casamar, **P. Pavlidis**. Neurocarta 2.0: Updates and enhancements to a comprehensive gene-disease database. NeuroDevNet Annual Conference, 2013, Vancouver, British Columbia, Canada.
17. E. Portales-Casamar, L. Tseng, C. Ch'ng, F. Lui, N. St-Georges, A. Zoubarev, **P. Pavlidis**. Neurocarta: aggregating and sharing disease-gene relations for the interpretation of genomics studies. Intelligent Systems for Molecular Biology Conference, 2013, Berlin, Germany.
18. E. Portales-Casamar, L. Tseng, C. Ch'ng, F. Lui, N. St-Georges, A. Zoubarev, **P. Pavlidis**. Neurocarta: aggregating and sharing disease-gene relations for the interpretation of genomics studies. 2nd Annual Canadian Human and Statistical Genetics Meeting, 2013, Estérel, Québec, Canada.
19. N. Fortelny, R. Kapplehoff, P.F. Lange, **P. Pavlidis**, and C.M. Overall Bioinformatic analysis of the human protease web reveals a highly robust pervasive interaction network. Asia Pacific Bioinformatics Conference, 2013, Vancouver
20. N. Fortelny, R. Kapplehoff, P.F. Lange, **P. Pavlidis**, and C.M. Overall Bioinformatic analysis of the human protease web reveals a highly robust pervasive interaction network, Canadian Proteomics Network Symposium, 2013, Vancouver
21. N. Fortelny, R. Kapplehoff, P.F. Lange, **P. Pavlidis**, and C.M. Overall Gene coexpression and protein interaction networks to fill in gaps in the protease web, Cascadia Proteomics Symposium, 2013, Seattle
22. **P Pavlidis**, L Tseng, C Ch'ng, F Liu, A Zoubarev, N St. Georges, E Portales-Casamar. Neurocarta: aggregating and sharing disease-gene relations for the interpretation of genomics studies. Society For Neuroscience Annual Meeting 2013, San Diego (nanosymposium presentation)
23. **P. Pavlidis**, E. Mercier, J. Gillis Challenges and approaches to computational candidate gene prioritization using gene networks.(3568W) American Society for Human Genetics, 2012, San Francisco
24. J. P. Lopez, R. Lim, B. Labonte, C. Cruceanu, J. P. Yang, V. Yerko, C. Ernst, N. Mechawar, **P. Pavlidis**, G. Turecki miRNA Expression in the Prefrontal Cortex of Suicide Completers.(2482T) American Society for Human Genetics, 2012, San Francisco
25. E. Mercier, Y. Qiao, J. Gillis, S. Lewis, E. Separovic, **P. Pavlidis** Copy Number Variant analysis in a deeply phenotyped cohort of individuals with Intellectual Disability.(447F) American Society for Human Genetics, 2012, San Francisco
26. C. Harvard, F. Mo, F. Tang, Y. Qiao, S. Hamilton, S. Marles, B. McGillivary, C. Colins, M. E. S. Lewis, **P. Pavlidis**, E. Rajcan-Separovic: Exome sequencing of subjects with familial 1q21.1 CNV and variable phenotype.(491F) American Society for Human Genetics, 2012, San Francisco

27. Y. Qiao, C. Harvard, E. Mercier, S. Lewis, **P. Pavlidis**, E. Rajcan-Separovic Copy number variation of miRNA in individuals with intellectual disability.(517F) American Society for Human Genetics, 2012, San Francisco
28. **P. Pavlidis**, E. Portales-Casamar, A. Zoubarev, C. Ch'ng, S. Rogic, W. Kwok, M. Mistry,J. Gillis gene-phenotype relations and network analysis in neurodevelopmental and neuropsychiatric disorders (228.04)society for neuroscience annual meeting, 2012, New Orleans (nanosymposium talk)
29. Zoubarev A., Hamer K., Keshav K., **Pavlidis P.** A neuroinformatics framework for gene expression meta-analysis. 4th INCF Congress of Neuroinformatics, Boston, USA, September 4-6, 2011.
30. Portales-Casamar E, Evans A, Wasserman WW, and **Pavlidis P**. "The NeuroDevNet Neuroinformatics Core", 4th INCF Congress of Neuroinformatics, Boston, USA, September 4-6, 2011.
31. French, L, Lane, S, Xu, L and **Pavlidis P**. (2011) Application and evaluation of automated methods to extract connectivity statements from neuroscience literature. Society for Neuroscience (SfN) conference Washington, DC, USA.
32. French, L, Tan, P and **Pavlidis P**. (2011) Patterns of brain gene expression, cell types and wiring with relevance to neurodevelopmental disorders. NeuroDevNet Brain Development Conference, Vancouver, BC.
33. **P. Pavlidis**, K. Hamer, K. Keshav, A. Zoubarev, X. Wan (2011) Tools for large-scale analysis of expression patterns in the nervous system. Society for Neuroscience (SfN) conference, Washington DC
34. Lim, R and **Pavlidis, P**. (2011) Wide-scale Comparison of Transcriptome Data. RECOMB International Conference on Research in Computational Molecular Biology, Vancouver
35. Gillis, J and **Pavlidis, P**. (2011) Multifunctionality drives gene characterization: A re-evaluation of hubs and promiscuity in gene function prediction. RECOMB international conference, Vancouver
36. French, L and **Pavlidis, P**. (2011) Relationships between gene expression and brain wiring in the adult rodent brain. 15th Annual International Conference on Research in Computational Molecular Biology (RECOMB 2011), Vancouver
37. Mistry, M., **Pavlidis, P.** (2011) Analysis of gene expression profiles in schizophrenia using a large combined cohort, Society of Biological Psychiatry (SOBP) Annual Meeting, San Francisco CA
38. Mistry, M., Hamer, K., **Pavlidis, P.** (2010) A cross-study analysis of gene expression in the postmortem human brain: In search of a robust schizophrenia signature, Society for Neuroscience (SfN) conference, San Diego CA
39. French, L and **Pavlidis, P**. (2010) Relationships between gene expression and brain wiring in the adult rodent brain. Poster 636.13, B3. Neuroscience 2010, San Diego, CA, USA
40. Gillis, J and **Pavlidis, P.** (2010) "Most functional information in yeast gene networks comes from variation in prevalence and not specific network associations" Yeast Genetics international conference, Vancouver
41. Mistry, M., Hamer, K., **Pavlidis, P**. Cross-laboratory comparison of human postmortem brain expression profiling data. (2009) Society for Neuroscience Annual Meeting.
42. Jesse Gillis and **Paul Pavlidis** (2009) "Influence of aging on candidate neuropsychiatric disease genes measured using differential coexpression" Society for Neuroscience Annual Meeting.
43. Mistry, M., Hamer, K., **Pavlidis, P**. Cross-laboratory comparison of human postmortem brain expression profiling data. (2009) Society for Biological Psychiatry.
44. Jesse Gillis, Gavin Ha, Anamaria Crisan, **Paul Pavlidis**, (2009) "Coexpression Based Gene Discovery in the Post-Synaptic Proteome" Society for Biological Psychiatry.
45. Gillis, J, **Pavlidis P.** (2009) "Non-specificity and non-contingency in prediction of gene function from genomics data: Does "guilt-by-association" work the way you think it does?" MGED Conference
46. L. French, S. Lane, L. Xu, and **P. Pavlidis** (2009) Automated recognition of brain region mentions in neuroscience literature. Society for Neuroscience Annual Meeting.
47. Gillis J., **Pavlidis P**. Differential Coexpression with applications to aging. (2008) Intelligent Systems for Molecular Biology.

48. French, L., Lane, S., and **Pavlidis, P**., Mining Biomedical Literature for Neuroanatomy. 2008 Pacific Northwest Chapters Meeting of the Society for Neuroscience. April 19, 2008. UBC, Vancouver, BC, Canada.
49. Mistry, M., Hamer, K., **Pavlidis P.** Cross-laboratory comparison of human post-mortem brain expression profiling data. Society for Neuroscience. 2008. Poster 760.12
50. TA. Griffin, G. Barnes, L Luyrink, N Ilowite, Jn Olsen, D Sherry, B Gottlieb, B Aronow, **P Pavlidis,** SD. Thompson, AA. Grom, RA. Colbert, and DN Glass. (2008) Identification of Three Discrete Gene Expression Signatures in Polyarticular Juvenile Idiopathic Arthritis. Annual meeting of the American College of Rheumatology.
51. Gemma: A Software system for the meta-analysis of public expression data sets. (2007) **Pavlidis, P.**, Wan X, Keshav K., Hamer K., Santos J., Mistry M. ISMB.
52. 30. Erraji-Bencheckroun L, Arango V., **Pavlidis P.** , Galfalvy H., Underwood M.D, Sibille E, Lisanby P. (2007) Society for Biological Psychiatry.
53. MG Barnes, JM Freudenberg, SD Thopson, S Kong, BJ Aronow, and **P Pavlidis** (2006) Comparison Between Affymetrix and Illumina Microarrays. University of Cincinnati "Showcase" symposium.
54. **Pavlidis, P.**, Sethi A., Lee H.K. Bioinformatic analysis of gene coexpression networks in mouse brain. (2004) Poster presentation, Society for Neuroscience Annual Meeting..
55. **Pavlidis, P**, Lee HK, Hsu AK, Sajdak J, Qin J (2004) Large-scale analysis of coexpression of human genes.. Poster presentation, Intelligent Systems for Molecular Biology.
56. **Pavlidis P**., Qin J., Sibille E. (2003) Statistical analysis of Gene Ontology classes as a tool for understanding gene expression changes in the brain. Society for Neuroscience Annual Meeting.
57. Sanchez-Carbayo M., Saint F., **Pavlidis P.**, Lozano J.J., Li W., Socci N., Viale A. and Cordon-Cardo A. (2003) Molecular diagnosis and subtype prediction of bladder cancer using oligonucleotide microarrays. Oncogenomics.
58. Sibille E., Arango V., Galfalvy H., **Pavlidis P.** and Mann J.J. (2002) Molecular subtypes in depression and suicide. Poster Presentation, Society for Neuroscience Annual Meeting.
59. Erraji-Benchekroun L., Arango V., **Pavlidis P.**, Smyrniotopoulos P., Galfalvy H., Underwood M.D, Mann J.J., and Sibille E. (2002) Genomic analysis of prefrontal cortex function during aging. Poster Presentation, Society for Neuroscience Annual Meeting.
60. **Pavlidis, P.**, and Noble, W.S. (2001). Statistical analysis of gene expression patterns in mouse brain. Poster Presentation, Cold Spring Harbor Laboratory Meeting on Integrating Genome Sequence, Sequence Variation, and Gene Expression. Abstract 54.
61. 39 **Pavlidis, P.**, and Grundy, W.M. (2000). Combining microarray expression data and phylogenetic profiles to learn gene functional categories using support vector machines. Poster Presentation, Intelligent Systems for Molecular Biology.
62. Montgomery, J.M., **Pavlidis, P.**, and Madison, D.V. (2000). All-silent synapses between pyramidal cell pairs reveal the postsynaptic expression of long-term potentiation. Poster Presentation, Society for Neuroscience Annual Meeting.
63. **Pavlidis, P.** and Madison, D.V. (1997) Synaptic transmission and plasticity in pair recordings from hippocampal neurons. Poster Presentation, Society for Neuroscience Annual Meeting.
64. **Pavlidis, P.** and Madison, D.V. (1996) Properties of long term potentiation between pairs of hippocampal neurons in organotypic culture. Poster Presentation, Society for Neuroscience Annual Meeting.
65. **Pavlidis, P.**, Ramaswami, M., and Tanouye, M.A. (1994) The easily shocked gene of Drosophila, site of bang-sensitive paralytic mutations, encodes a protein homologous to choline kinase. Poster Presentation, Society for Neuroscience Abstracts 20, 330.8.

(e) Invited Participation

(f) Conference Participation (Organizer,Chair, Moderator, etc.)

- Program Committee, 18th Bio-Ontologies Special Interest Group Meeting (ISMB Satellite), 2015
- Program committee co-chair, INCF Canadian Neuroinformatics Workshop: A satellite symposium of the Canadian Association for Neuroscience 2012 meeting.
- Program committee, Intelligent Systems in Molecular Biology 2007

(g) Other Presentations

(h) Other Scholarship of Education Activities

(g) Other Professional Contributions

10. SERVICE TO THE UNIVERSITY

(a) Areas of special interest and accomplishments

I am Associate Director of the UBC Bioinformatics Graduate Program, working with other Steering Committee members to enhance and improve the UBC Bioinformatics Graduate Program. As Associate Director I work closely with the Director (Steven Jones) in chairing thesis defenses and comprehensive exams.

(b) Memberships on committees, including offices held and dates

- Member, VP Research's Advanced Research Computing Planning Advisory Group, 2014-
- CHiBi faculty search committee, 2014
- CHiBi faculty search committee, 2012
- CHiBi faculty search committee, 2010
- CHiBi faculty search committee, 2008
- UBC Department of Psychiatry, Appointment, Merit Review Committee, 2008- 2012
- UBC Department of Psychiatry, Appointment, Promotion & Tenure Committee, 2007- present
- Associate Director of the UBC Bioinformatics Graduate Program, 2007 - present
- UBC Bioinformatics Graduate Program Steering committee, 2006-present
- (Columbia University) Center for Computational Biology and Bioinformatics Curriculum Committee, Columbia University 2003-2006
- (Columbia University) Center for Computational Biology and Bioinformatics, Center Grant Proposal committee. Led development of one of 7 main sections of a US$15 million NIH proposal.
- (Columbia University) Served on PhD thesis committees of 4 students (Department of Biomedical Informatics, Biological Sciences, Integrated Program in Cellular, Molecular, and Biophysical Studies).

(c) Faculty mentoring

I am not a formal mentor for any early career faculty at UBC. I have served as a peer internal reviewer of grant applications (UBC HeRRO/SPARC reviewer, 2007, 2009, 2014).

(d) Other service, including dates

- Comprehensive examiner for graduate students in biomedical informatics, 2003-2005 (Columbia)

- Adjudicator/poster judge, “Rising Stars of Research”, August 2009
- MS Defense chair, Simon Chan (Bioinformatics, November 2007)
- PhD Defense University Examiner for Shannan Sui (Genetics; March 7, 2008)
- PhD Defense University Examiner for Jochen Brunn (Statistics; April 11, 2008)
- PhD Defense University Examiner for Ben Good (Bioinformatics, April 2, 2009)
- PhD Defense University Examiner for Malachi Griffith (Bioinformatics, December 2009)
- PhD Defense University Examiner for Michael Hsing (Bioinformatics, January 2009)
- PhD Defense University Examiner for Debra Fulton (Bioinformatics, December 2009)
- PhD Defense University Examiner for Kelvin Zhang (Bioinformatics, March 2010)
- PhD Defense University Examiner for Carri-Lyn Mead (Bioinformatics, April 2010)
- PhD Defense University Examiner for Anca Morrissy (Medical Genetics, December 2010)
- PhD Defense University Examiner for Murray Patterson (Computer Science, November 2011)
- PhD Defense University Examiner for Andrew Kwon (Bioinformatics, June 2011)
- PhD Defense University Examiner for Xuekui Zhang (Statistics, June 2011)
- PhD Defense Examiner for Ryan Morin (Bioinformatics, December 2011)
- MS Defense chair for Tang Lee (Bioinformatics, March 23, 2009)
- MS Defense chair for Kaida Ning (Bioinformatics, September 2009)
- MS Defense chair for Elizabeth Chun (Bioinformatics, August 2010)
- MS Defense chair for Adam Hall (Bioinformatics, November 2010)
- PhD Comprehensive exam chair for Mingming Zhang (Neuroscience, 2011)
- MS Defense chair for Fong Chun Chan (Bioinformatics, December 2011)
- PhD Comprehensive exam chair for Julie Chih-yu Chen (Bioinformatics, September 2012)
- PhD Comprehensive exam chair for Casper Shyr (Bioinformatics, August 2012)
- PhD Comprehensive exam chair for Katayoon Kasian (Bioinformatics, August 2012)
- PhD Defense University Examiner for Kevin She (Neuroscience, September 2012)
- PhD Comprehensive exam chair for Julie Chen (Bioinformatics, October 2012)
- PhD Defense Chair for Camila Pedroso Estevam de Souza (Statistics, September 2013)
- Adjudicator, Bluma Tischler Postdoctoral Fellowships competition (2014)
- Women in Science - Data and Software Carpentry (Programming) Workshop Networking Lunch Expert (2015)
- MS Defense Chair for Alvin Tian (Bioinformatics, March 2015)
- PhD Defense University Examiner for Rebecca De Souza (Medical Genetics, April 2015)
- Adjudicator, Bluma Tischler Postdoctoral Fellowships competition (2015)

11. SERVICE TO THE HEALTH PROFESSIONS/HEALTH AUTHORITIES

12. SERVICE TO THE COMMUNITY

(a) Areas of special interest or accomplishment

I am deeply interested in increasing the prominence and capabilities of Neuroinformatics in Canada. To this end, I organized a workshop in 2012, which led to my foundation of the Association for Canadian Computational Neuroscience and Neuroinformatics (compneuroinfo.ca). This nascent society is working to increase training and funding opportunities, link professionals through workshops and internet resources, and to spur new research collaborations. As of July 2013, over 60 Canadian

neuroinformatics researchers have registered through compneuroinfo.ca.

My other primary service to the community is through journal editing and peer review. Currently I serve as one of two Section Editors on Transcriptomics Methods at BMC Genomics, one of the highest-ranked journals in genomics, and am associate editor or board member of two other bioinformatics journals. I have served on many NIH study sections (ad hoc), as well as doing reviewing for CIHR and NSERC and other agencies. I have peer-reviewed well over 150 manuscripts including top-ranked publications such as PNAS, Nature Biotechnology and Genome Research.

(b) Memberships on scholarly societies, including offices held and dates

- Member, International Society for Computational Biology; 2002-present
- Member, Association for Computing Machinery, 2002-present
- Member, Society for Neuroscience, 1992-present
- Member, Society for Biological Psychiatry, 2008-present
- Member, Biometric Society. 2004-2006

(c) Memberships on other societies, including offices held and dates

(d) Memberships on scholarly committees, including offices held and dates

(e) Memberships on other committees, including offices held and dates

- Vancouver Bioinformatics Users Group (VanBUG) organizing committee member, 2007- 2011 (runs a seminar series).

(f) Editorships (list journal and dates)

- Section Editor (transcriptomics methods), “BMC Genomics”, 2013-present
- Associate Editor, “Frontiers in Neurogenomics”, 2009-present
- Editorial Board, “Databases”, 2008-present
- Associate Editor, “BMC Genomics”, 2010-2013
- Editorial Board, “Advances in Bioinformatics”, 2008-2011
- Editorial Board, “Applied Bioinformatics”, 2005 - 2006
- Consulting Editor, “Journal of Clinical Investigation”. 2002 – 2006

(g) Reviewer (journal, agency, etc. including dates)

Reviewer for publications and conferences 2001 – **present** including: Bioinformatics, Journal of Molecular Biology, Journal of Biomedical Informatics, Physiological Genomics, Molecular Biology and Evolution, Statistical Applications in Genetics and Molecular Biology, Journal of Parallel and Distributed Computing, ICML, RECOMB; IEEE PAMI; Statistical Applications in Genetics and Molecular Biology; BMC Bioinformatics; Biophysical Journal; Nucleic Acids Research, AMIA, Mammalian Genome, Genomics, Journal of Periodontology, Proceedings of the National Academy of Sciences (USA), Intelligent Systems in Molecular Biology/European Conference on Computational Biology, Nature Biotechnology, Genome Biology, Genome Research, BMC Genomics, BMC Psychiatry, PLoS ONE, PLoS Computational Biology.

Grant reviewing

Grant reviewer, National Library of Medicine (NIH) July 2005.
Grant reviewer, National Library of Medicine (NIH) December 2005
Grant reviewer, National Science Foundation December 2006, 2007
Grant reviewer, NIH General Medical Sciences special emphasis panel. 2006.
Grant reviewer, NIH Genome Sciences special emphasis panel 2007.
Grant reviewer, NIH Cancer Institute Genome Centers review panel 2009
Grant reviewer, CIHR ad hoc panel for Cancer Bioinformatics 2009
External reviewer, CIHR Institute of Aging, 2009
External reviewer, NSERC 2010
Grant reviewer, NIH Genome Sciences ad hoc panel on sequence analysis 2011
External reviewer, CFI LOF, 2009, 2012
Grant reviewer, CIHR Post-PhD Fellowships 2013
Grant reviewer, NIH Genome Sciences ad hoc panel on rare diseases 2013
Panel Chair, MSFHR Post Doctoral Fellowship competition (Biomedical Panel #3) 2015
Reviewer, CIHR Undergraduate Studentship competition (IG and IMHA), 2015

(h) External examiner (indicate universities and dates)

- Jeff Xua, University of Edmonton (Biosciences; David Wishart, supervisor) 2011
- Anath Lionel, University of Toronto (Molecular Genetics; Steve Scherer, supervisor) 2014
- Amir Bahram Khosravizadeh Foroushani, Simon Fraser University (Molecular Biology and Biochemistry; Fiona Brinkman, supervisor) 2014

(i) Consultant (indicate organization and dates)

- University of Cincinnati Children's Hospital Medical Center. 2003–2008
- Columbia University 2006-2009
- Mount Sinai School of Medicine, 2011
- University of Calgary: Bioinformatics Training Program International Advisory Committee, 2014
- Scientific advisor, Brain Canada CAN-BIND project, 2013-present
- Scientific Advisory Board member, International Gene Ontology Consortium, 2015-present

(j) Other service to the community

- Founded the Association for Canadian Computational Neuroscience and Neuroinformatics (compneuroinfo.ca), co-chair of the ad hoc steering committee (2012-)

13. AWARDS AND DISTINCTIONS

(a) Awards for Teaching (indicate name of award, awarding organizations, date)

(b) Awards for Scholarship (indicate name of award, awarding organizations, date)

- Graduated *cum laude* in Biochemistry, Cornell University, 1989.
- Michael Smith Foundation Scholar - Salary award in the total amount of $351,250 for the period July

2006 - March 2012.

- CIHR New Investigator award - Salary award in the total amount of $285,000 for the period July 2008 - June 2013.
- CFI Leaders Opportunity Fund Award, 2008.
- NIH NRSA - Fellowship in the total amount of US$60,000 for the period 1998 - 1999.

(c) Awards for Service (indicate name of award, awarding organizations, date)

(d) Other Awards

- International Society for Computational Biology travel award, 2000.

14. OTHER RELEVANT INFORMATION (Maximum One Page)

THE UNIVERSITY OF BRITISH COLUMBIA
Publications Record

1. REFEREED PUBLICATIONS

Note: Citation counts are as of March 20, 2013, and provided for papers that have 10 or more citations. Values are from Thomson-Reuters Web of Knowledge except where noted. My public Google Scholar profile is at: http://scholar.google.ca/citations?user=ataejQQAAAAJ. My Thomson-Reuters ResearcherID profile is at http://www.researcherid.com/rid/H-8406-2013.

As of December 2013, my H-index is between 37-44 (Thomson Reuters reports 36 but is missing one paper cited more than 200 times; Google Scholar reports 44).The total number of citations is at least 3962 (Google Scholar reports over 6600).

My papers fall into three categories that reflect the multidisciplinary nature of my work: Works that are primary products of my lab's research (where I am generally listed as last author), collaborative works in which my group provided the major bioinformatics/statistical/computational analyses to a lab-based study (often where a joint grant was held), and (less frequently) collaborative works in which my group provided data or tools but was otherwise peripherally involved. It is the second category that is most difficult to discern from the the last. Thus **papers since 2001 in which I was a major collaborator are marked with ‡**.

Five papers are marked with "*" to indicate they are among my most important (chosen from those published within the last few years). In accordance with UBC guidelines papers are also marked with "FA" (first author), "SA" (senior author) and "CA" (contributing author).

*(a) Journals (Pavlidis in **bold** face; trainees underlined; ‡ indicates a collaborative work with a major contribution)*

2015

1. Ch'ng C, Kowk W, Rogic S, **Pavlidis P.** (2015) Meta-analysis of gene expression profiles in the blood and brain tissues of individuals with autism spectrum disorder SA. Autism Research, in press.
2. ‡Lussier, A, Stepien KA, Neumann SM, **Pavlidis P**, Kobor MS and Weinberg J. (2015) Prenatal Alcohol

Exposure Alters Steady-state and activated gene expression in adult rat brain. Alcoholism: Clinical and Experimental Research 2015 39(2):251-261 CA

2014

3. Edgar R, Tan PP, Portales-Casamar E and **Pavlidis P.** (2014) Meta-analysis of human methylomes reveals stably methylated sequences surrounding CpG islands associated with high gene expression. Epigenetics & Chromatin 2014, 7:28. SA
4. ‡Qiao Y, Mercier E, Dastan J, Hurlburt J, McGillivray B, Chudley AE, Farrell S, Bernier FP, Lewis SME, **Pavlidis P** and Rajcan-Separovic E. (2014) Copy Number Variants (CNVs) Analysis in a Deeply Phenotyped Cohort of Individuals with Intellectual Disability (ID). BMC Medical Genetics 2014 Jul 16;15:82. CA
3. ‡Fortelny N, Cox J, Lange P, Kappelhoff, **Pavlidis P**, Overall CM. (2014) Network modeling of proteolytic systems reveals a pervasive protease web in multiple human tissues. PLoS Biol. 2014 May 27;12(5):e1001869. SA.
4. ‡Lopez JP, Lim R , Cruceanu C, Crapper L, Fasano C, Labonte B, Maussion G, Yang JP, Yerko V, Vigneault E, El Mestikawy S, Mechawar N, **Pavlidis P**, Turecki G. (2014) miR-1202: A Primate Specific and Brain Enriched miRNA Involved in Major Depression and Antidepressant Treatment. Nat Med. 2014 Jul;20(7):764-8. CA
5. McCarthy J, Gillis J, Kramer M, Lihm J, Yoon S, Berstein Y, Mistry M, **Pavlidis P**, Solomon R, Ghiban E, Antoniou E, Kelleher E, O'Brien C, Donohoe G, Gill M, Morris D, McCombie R, and Corvin A. (2014) De novo Mutations in Schizophrenia Implicate Chromatin Remodeling and Support a Genetic Overlap with Autism and Intellectual Disability. Mol Psychiatry. 2014 Jun;19(6):652-8. CA
6. Gillis J, Ballouz S, **Pavlidis P**. (2014) Bias tradeoffs in the creation and analysis of protein–protein interaction networks. J Proteomics. 2014 Apr 4;100:44-54. SA
7. ‡Kebschull M, Demmer RT, Grün B, Guarnieri P, **Pavlidis P**, Papapanou PN. (2014) Gingival tissue transcriptomes identify distinct periodontitis phenotypes. J Dent Res. 2014 May;93(5):459-68. CA
8. ‡Jeffries KM, Hinch SG, Sierocinski T, **Pavlidis P**, Miller KM. (2014) Transcriptomic responses to high water temperature in two species of Pacific salmon. Evol Appl 2014, 7(2): 286-300. CA

2013

9. ‡Kebschull M, Guarnier P, Demmer RT, Boulesteix AL, **Pavlidis P,** Papapanou PN. (2013) Molecular Differences Between Chronic and Aggressive Periodontitis. J Dent Res. 92(12):1081-8. **Recipient of the 2015 AADR William J. Gies Awards in the Clinical Category.** CA
10. Mistry M, Gillis J and **Pavlidis P**. (2013) Meta-analysis of gene coexpression networks in the post-mortem prefrontal cortex of patients with schizophrenia and unaffected controls. BMC Neuroscience 2013, 14:105. SA
11. ‡ Qiao Y, Badduke C, Mercier E, Lewis SME, **Pavlidis P**, Rajcan-Separovic E. (2013) miRNA and miRNA target genes in copy number variations occurring in individuals with intellectual disability. BMC Genomics 2013, 14:544. CA
12. Gillis J, **Pavlidis P** (2013) Characterizing the state of the art in the computational assignment of gene function: lessons from the first critical assessment of functional annotation (CAFA). BMC Bioinformatics 2013, 14(Suppl 3):S15. SA
13. Gillis J, **Pavlidis P**. (2013) Assessing identity, redundancy and confounds in Gene Ontology annotations over time. Bioinformatics. 29(4):476-82. SA
14. Tan PPC, French L, **Pavlidis P**. (2013) Neuron-enriched gene expression patterns are regionally anti-correlated with oligodendrocyte-enriched patterns in the adult mouse and human brain. Frontiers in Neuroscience ;7:5. SA
15. Portales-Casamar E, Ch'ng C, Lui F, St-Georges N, Zoubarev A, Lai AY, Lee M, Kwok C, Kwok W, Tseng L, **Pavlidis P**. (2013) Neurocarta: aggregating and sharing disease-gene relations for the neurosciences. BMC Genomics. 14:129. SA

16. ‡Melka MG, Gillis J, Bernard M, Abrahamowicz M, Chakravarty MM, Leonard GT, Perron M, Richer L, Veillette S, Banaschewski T, Barker GJ, Büchel C, Conrod P, Flor H, Heinz A, Garavan H, Brühl R, Mann K, Artiges E, Lourdusamy A, Lathrop M, Loth E, Schwartz Y, Frouin V, Rietschel M, Smolka MN, Ströhle A, Gallinat J, Struve M, Lattka E, Waldenberger M, Schumann G, **Pavlidis P**, Gaudet D, Paus T, Pausova Z. (2013) FTO, obesity and the adolescent brain. Hum Mol Genet. Mar 1;22(5):1050-8. CA (epub 2012)
17. * Mistry M, Gillis J, **Pavlidis P** (2013) Genome-wide expression profiling of schizophrenia using a large combined cohort. Mol Psychiatry. 18(2):215-25. SA (epub 2012)

2012

18. French L, Lane S, Xu L, Siu C, Kwok C, Chen Y, Krebs C, **Pavlidis P.** (2012) Application and evaluation of automated methods to extract neuroanatomical connectivity statements from free text. Bioinformatics Nov 15;28(22):2963-70. SA
19. ‡Jeffries KM, Hinch SG, Sierocinski T, Clark TD, Eliason EJ, Donaldson MR, Li S, **Pavlidis P**, Miller KM. (2012) Consequences of high temperatures and premature mortality on the transcriptome and blood physiology of wild adult sockeye salmon (Oncorhynchus nerka) Ecol Evol. 2012 Jul;2(7):1747-64. CA
20. Zoubarev A, Hamer KM, Keshav KD, McCarthy EL, Santos JR, Van Rossum T, McDonald C, Hall A, Wan X, Lim R, Gillis J, **Pavlidis P**. (2012) Gemma: A resource for the re-use, sharing and meta-analysis of expression profiling data. Bioinformatics. 2012 Sep 1;28(17):2272-3. SA
21. * Gillis J, **Pavlidis P** (2012) Guilt by association is the exception rather than the rule in gene networks. PLoS Comp. Biol. 2012;8(3):e1002444. **Recommended by Faculty of 1000 (http://f1000.com/718046804)**. SA
22. Pantazatos SP, Talati A, **Pavlidis P**, Hirsch J. (2012) Decoding unattended fearful faces with whole-brain correlations: an approach to identify condition-dependent large-scale functional connectivity. PLoS Computational Biol. 2012;8(3):e1002441. CA
23. Mulder KW, Wang X, Escriu C, Ito Y, Schwarz RF, Gillis J, Sirokmány G, Donati G, Uribe-Lewis S, **Pavlidis P**, Murrell A, Markowetz F, Watt FM (2012) Diverse epigenetic strategies interact to control epidermal differentiation. Nature Cell Biology Jun 24;14(7):753-63. CA
24. Pantazatos SP, Talati A, **Pavlidis P**, Hirsch J. (2012) Cortical functional connectivity decodes subconscious, task-irrelevant threat-related emotion processing. Neuroimage. 2012 Jul 16;61(4):1355-63. CA
25. ‡Paus T, Bernard M, Chakravarty MM, Davey Smith G, Gillis J, Lourdusamy A, Melka MG, Leonard G, **Pavlidis P,** Perron M, Pike GB, Richer L, Schumann G, Timpson N, Toro R, Veillette S, Pausova Z (2012) KCTD8 Gene and Brain Growth in Adverse Intrauterine Environment: A Genome-wide Association Study. Cerebral Cortex Nov;22(11):2634-42. CA
26. * French L, **Pavlidis P** (2012) Using text mining to link journal articles to neuroanatomical databases. J Comp Neurol 520(8):1772-83. (on web in 2011) SA

2011

27. ‡Harvard C, Strong E, Mercier E, Colnaghi R, Alcantra D, Chow E, Martell S, Tyson C, Hrynchak M, McGillivray B, Hamilton S, Marles S, Mhanni A, Dawson A, **Pavlidis P**, Qiao Y, Holden JJ, Lewis SM, O'Driscoll M, Rajcan-Separovic E. (2011) Understanding the impact of 1q21.1 Copy Number Variant. Orphanet J Rare Dis. 2011 Aug 8;6(1):54. CA
28. French L, Tan PP, **Pavlidis P** (2011) Large-Scale Analysis of Gene Expression and Connectivity in the Rodent Brain: Insights through Data Integration. Frontiers in Neuroinformatics. 2011;5:12. SA
29. Gillis J., **Pavlidis P** (2011) The role of indirect connections in gene networks in predicting function. Bioinformatics 27(13):1860-6. SA
30. * Gillis J., **Pavlidis P** (2011) The impact of multifunctional genes on "guilt by association" analysis. PLoS ONE. 6(2):e17258. SA **Rated "Must read" by Faculty of 1000 (http://f1000.com/12745958).**

(cited 14 times) SA

31. ‡Miller KM, Li S, Kaukinen K, Ginther N, Hammill E, Curtis JMR, Patterson D, Siercinski T, Donnison L, **Pavlidis P**, Hinch SG, Hruska KA, Cooke SJ, English KK, and Farrell AP (2011) Genomic signatures predict migration and spawning failure in wild salmon. Science. 331 (6014):214-7. CA **(cited 28 times)**

2010

32. ***** French L, **Pavlidis P**. (2010) Relationships between gene expression and brain wiring in the adult rodent brain. PLoS Computational Biology. SA 7(1):e1001049.SA
33. Gillis J, Mistry M, **Pavlidis P**. (2010) Gene function analysis in complex data sets using ErmineJ. Nature Protocols 5, - 1148 – 1159 (peer-reviewed methods paper). SA **(cited 10 times)**
34. ‡Qiao Y, Harvard C, Tyson C, Liu X, Fawcett C, **Pavlidis P.**, Holden JAA, Lewis MES, Rajcan-Separovic E (2010) Outcome of array CGH analysis for 255 subjects with intellectual disability and search for candidate genes using bioinformatics. Human Genetics, 128(2):179-94. CA
35. ‡Becanovic, K., Pouladi, M., Lim, R. S, Kuhn, A.3, **Pavlidis, P**, Luthi-Carter, R., Hayden, M.R., and B.R. Leavitt (2010) Transcriptional changes in Huntington Disease identified using genome-wide expression profiling and cross platform analysis. Human Molecular Genetics, Apr 15;19(8):1438-52. CA **(cited 16 times)**
36. Mistry, M., **Pavlidis P** (2010) A cross-laboratory comparison of expression profiling data from normal human postmortem brain. Neuroscience 167(2):384-95. SA

2009

37. Gillis J, **Pavlidis P** (2009) A methodology for the analysis of differential coexpression across the human lifespan. BMC Bioinformatics. 2009 Sep 22;10:306. SA
38. Rogic S., **Pavlidis P** (2009) Meta-analysis of kindling-induced gene expression changes in the rat hippocampus. Frontiers in Neuroscience. 2009 Sep 15;3:53. SA
39. French L, Lane S, Xu L., **Pavlidis P** (2009) Automated recognition of brain region mentions in neuroscience literature. Frontiers in Neuroinformatics. 2009;3:29. SA
40. French L., Lane S., Xu L., Loo T and **Pavlidis P** (2009), Application and evaluation of automated semantic annotation of gene expression experiments. Bioinformatics, Jun 15;25(12):1543-9. SA
41. Ware CB, Wang L, Mecham BH, Shen L, Nelson AM, Merav Bar MD, Lambda DA, Dauphin DS, Buckingham BS, Askari B, Lim R, Tewari M, Gartler S, Issa J-P, **Pavlidis P**, Duan Z, Blau CA. (2009) Histone deacetylase inhibition elicits an evolutionarily conserved self-renewal program in embryonic stem cells. Cell Stem Cell, Apr 3;4(4):359-69. CA **(cited 35 times)**
42. ‡Papapanou PN, Behle JH, Kebschull M, Celenti R, Wolf DL, Handfield M, **Pavlidis P**, Demmer RT. (2009) Subgingival bacterial colonization profiles correlate with gingival tissue gene expression. BMC Microbiol. 2009 Oct 18;9(1):221. CA
43. ‡Barnes MG, Grom AA, Thompson SD, Griffin TA, **Pavlidis P**, Itert L, Fall N, Sowders DP, Hinze CH, Aronow BJ, Luyrink LK, Srivastava S, Ilowite N, Gottlieb B, Olson J, Sherry D, Glass DN, Colbert RA. (2009) Subtype-specific peripheral blood gene expression profiles in recent onset juvenile idiopathic arthritis. Arthritis and Rheumatology Jul;60(7):2102-12. CA **(cited 42 times)**
44. ‡Griffin TA, Barnes MG, Illowite NT Olson JC, Sherry DD, Gottlieb BS, Aronow BJ, **Pavlidis P**, Hinze C, Thornton S, Thompson SD, Grom AA, Colbert RA, Glass DN. (2009) Gene Expression Signatures in Polyarticular Juvenile Idiopathic Arthritis Demonstrate Disease Heterogeneity and Offer a Molecular Classification of Disease Subsets. Arthritis and Rheumatology, Jul;60(7):2113-23. CA **(cited 25 times)**
45. ‡Pantazatos SP, Li J, **Pavlidis P**, Lussier YA (2009) Integration of Neuroimaging and Microarray Datasets through Mapping and Model-Theoretic Semantic Decomposition of Unstructured Phenotypes. Cancer Inform. Jun 8;8:75-94. CA

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46. ‡Kebschull M, Demmer R, Behle JH, Pollreisz A, Heidemann J, Belusko PB, Celenti R, **Pavlidis P**, Papapanou PN. (2008) Granulocyte chemotactic protein 2 (gcp-2/cxcl6) complements interleukin-8 in

periodontal disease. J Periodontal Res. 44(4):465-71. CA

47. ‡Demmer RT, Behle JH, Wolf DL, Handfield M, Kebschull M, Celenti R, **Pavlidis P**, Papapanou PN. (2008) Transcriptomes in healthy and diseased gingival tissues. J Periodontol. Nov;79(11):2112-24. CA **(cited 23 times)**
48. Mistry M, **Pavlidis P.** (2008) Gene Ontology term overlap as a measure of gene functional similarity. BMC Bioinformatics, 2008 Aug 4;9:327. SA **(cited 30 times)**
49. ‡Stark KL, Xu B, Bagchi A, Lai WS, Liu H, Hsu R, Wan X, **Pavlidis P**, Mills AA, Karayiorgou M, Gogos JA. (2008) Altered brain microRNA biogenesis contributes to phenotypic deficits in a 22q11-deletion mouse model. Nature Genetics, Jun;40(6):751-60. CA **(cited 160 times)**

2007

50. ‡Papapanou PN, Sedaghatfar MH, Demmer RT, Wolf DL, Yang J, Roth GA, Celenti R, Belusko PB, Lalla E, **Pavlidis P**. (2007) Periodontal therapy alters gene expression of peripheral blood monocytes. J Clin Periodontol. 2007 Sep;34(9):736-47.SA **(cited 23 times)**
51. ‡Schmidt-Ott, K. M. Masckauchan, T. N.Chen, X.Hirsh, B. J.Sarkar, A.Yang, J.Paragas, N.Wallace, V. A.Dufort, D. **Pavlidis, P.**Jagla, B.Kitajewski, J.Barasch, J. (2007). β-catenin/TCF/Lef controls a differentiation-associated transcriptional program in renal epithelial progenitors. Development 134(17): 3177-90. CA **(cited 38 times)**
52. ‡Muchir A, **Pavlidis P**, Decostre V, Herron AJ, Arimura T, Bonne G, Worman HJ. (2007) Activation of MAPK pathways links LMNA mutations to cardiomyopathy in Emery-Dreifuss muscular dystrophy. J Clin Invest. 2007 Apr 19. CA **(cited 71 times)**

2006

53. Varrault A, Gueydan C, Delalbre A, Bellmann A, Houssami S, Aknin C, Severac D, Chotard L, Kahli M, Le Digarcher A, **Pavlidis P,** Journot L. (2006) Zac1 regulates an imprinted gene network critically involved in the control of embryonic growth. Developmental Cell 11(5), 711 - 722, November, 2006. CA **(cited 128 times)**
54. ‡Lai W, Xu B, Westphal K, Paterlini M, Olivier B, **Pavlidis P**, Karayiorgou M, and Gogos J. (2006) Akt1 deficiency affects neuronal morphology and predisposes to abnormalities in prefrontal cortex functioning. PNAS. 2006 Nov 7;103(45):16906 - 16911. CA **(cited 65 times)**
55. ‡Zheng Z, **Pavlidis P**, Chua S, D'Agati VD, Gharavi AG. (2006) An ancestral haplotype defines susceptibility to doxorubicin nephropathy in the laboratory mouse. J Am Soc Nephrol. 2006 Jul;17(7):1796-800. CA **(cited 15 times)**

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56. Lee H.K., Braynen W., Keshav K. and **Pavlidis P**. (2005) ErmineJ: Tool for functional analysis of gene expression data sets. BMC Bioinformatics 6:269. SA **(cited 127 times)**
57. ‡Barnes M.G., Freudenberg J., Thompson S.,Aronow B,.**Pavlidis P.** (2005) Experimental comparison and cross-validation of the Affymetrix and Illumina gene expression analysis platforms. Nucleic Acids Research 33:5914-5923. SA **(cited 121 times)**
58. ‡Paterlini M, Zakharenko SS, Lai WS, Qin J, Zhang H, Mukai J, Westphal KG, Olivier B, Sulzer D, **Pavlidis P**, Siegelbaum SA, Karayiorgou M, Gogos JA. (2005) Transcriptional and behavioral interaction between 22q11.2 orthologs modulates schizophrenia-related phenotypes in mice. Nature Neuroscience 8, 1586 – 1594. CA **(cited 127 times)**
59. ‡Barr GA, Gao P, Wang S, Cheng J, Qin J, Sibille EL, **Pavlidis P.** (2005) Microarray analysis of gene expression following the formalin test in the infant rat. Pain. 117(1-2):6-18 SA
60. ‡Erraji-BenChekroun, L., Underwood, M.D., Arango, V., Galfalvy, H., **Pavlidis, P**., Smyrniotopoulos, P., Mann, J.J. and Sibille E. (2005) Molecular aging in human prefrontal cortex is selective and continuous throughout adult life. Biological Psychiatry 57:549-558. SA **(cited 72 times)**

2004

61. ‡Barnes, M.G., Aronow, B.J., Luyrink, L.K., Moroldo, M.B., **Pavlidis, P.**, Passo, M.H., Grom, A.A.,

Hirsch, R. Giannini, E.H., Colbert, R.A., Glass, D.N. and Thompson, S.D. (2004) Gene expression in juvenile arthritis: A pro-angiogenic ELR+ chemokine gene cluster relates to course of arthritis. Rheumatology 8 ,973-9. CA

62. Lee HK, Hsu AK, Sajdak J, Qin J, **Pavlidis, P.** (2004) Coexpression analysis of human genes across many microarray data sets. Genome Research 14, 1085-1094. SA **(cited 255 times)**
63. Verbitsky, M., Yonan A.L., Malleret G., Kandel, E., Gilliam, T.C., and **Pavlidis P.** (2004) Altered hippocampal transcript profile accompanies an age-related spatial memory deficit in mice. Learning and Memory, 11:253–260. SA **(cited 55 times)**
64. **Pavlidis P.**, Qin, J., Arango, V., Mann, J.J. and Sibille E. (2004) Using the Gene Ontology for microarray data mining: A comparison of methods and application to age effects in the human prefrontal cortex. Neurochemical Research 29, 1213-1222. FA **(cited 123 times)**
65. ‡Papapanou P.N., Abron A., Verbitsky M., Piclos D., Yang J., Qin J., Fine J.B. and **Pavlidis P.** (2004). Gene expression signatures in chronic and aggressive periodontitis: a pilot study. Eur. J. Oral Sci. 112: 216-233. SA **(cited 21 times)**
66. **Pavlidis P.**, Wapinski I, Noble W.S. (2004) Support vector machine classification on the web. Bioinformatics 20, 586-587. FA **(cited 56 times)**
67. ‡Li D, Ma W, Sun F, **Pavlidis P**, Spector A. (2004) Cluster analysis of genes with significant change in expression in cells conditioned to survive TBOOH. Exp Eye Res 78, 301-8. CA
68. ‡Sibille, E., Arango, V., Galfalvy, H.C., **Pavlidis, P.**, Ellis, S.P. and Mann, J.J. (2004) Gene expression profiling of depression and suicide in human prefrontal cortex. Neuropsychopharmacology 29:351-361. CA **(cited 49 times)**

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69. ‡Yonan, A.L., Palmer A.A., Gilliam T.C., Smith, K.C., **Pavlidis, P.**, Lee, H.K., Feldman I., Fischer, S., Yonan, J.M. and Geschwind, D.H. (2003) A search for candidate genes in regions defined by a genome-wide scan of 345 autism families. Genes, Brain and Behavior, 2:303-320. CA
70. ‡Galfalvy, H.C., Arango V., Smyrniotopoulos, P., Erraji-Benchekroun L., **Pavlidis P.**, Dwork A., Ellis S.P., Mann J.J. and Sibille E. (2003) Human brain prefrontal cortex: Sex genes as internal controls for genomic analysis. BMC Bioinformatics 4:37. CA **(cited 42 times)**
71. ‡Chen, A., Muzzio I.A., Mallaert G., Verbitsky, M., **Pavlidis P.**, Yonan A.L., Grody M., Bartsch D., Gilliam C. and Kandel, E.R. (2003) Inducible enhancement of memory storage and long-term synaptic plasticity in transgenic mice expressing a dominant-negative inhibitor of ATF-4 (CREB-2) and other members of the C/EBP family of transcription factors Neuron 39(4):655-69. CA **(cited 115 times)**
72. ‡Yang Y.-C., Piek E., Zavadil J., Liang D., Xie D., Heyer J., **Pavlidis P.**, Kucherlapati R., Roberts A.B., and Bottinger E.P. (2003) Hierarchical model of gene regulation by TGF-β. Proc. Natl. Acad. Sci. USA. 18, 10269-10274. CA **(cited 138 times)**
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75. ‡Segal, N.H., **Pavlidis, P**., Noble, W.S., Antonescu, C.R., Viale, A., Wesley, U., Busam, K., Gallardo, H., DeSantis, D., Brennan, M.F., Cordon-Cardo C., Wolchock. J.D. and Houghton, A.N. (2003) Classification of clear cell sarcoma as melanoma of soft parts by genomic profiling. Journal of Clinical Oncology, 21(9):1775-81. CA
76. **Pavlidis, P**. and Noble, W.S. (2003) Matrix2png: A utility for visualizing matrix data. Bioinformatics 19: 295-296. FA **(cited 103 times)**

2002

77. ‡Spector, A., Li, D., Ma., W, Sun, F., and **Pavlidis, P.** (2002) Differential amplification of gene expression in lens cell lines conditioned to survive peroxide stress. Investigative Ophthalmology and Visual Science. 43, pp 3251-3264. SA **(cited 33 times)**
78. **Pavlidis, P.**, Weston, J., Cai, J., and Grundy W.N. (2002) Learning gene functional classifications from multiple data types. Journal of Computational Biology 9 pp. 401-411. FA
79. ‡Schroeder, A.J., **Pavlidis, P.**, Arimura A, Capece, D. and Rothman, P.B. (2002) STAT6 Serves as a Positive and Negative Regulator of Gene Expression in IL-4-stimulated B Lymphocytes. Journal of Immunology 168, pp. 996-1000. CA **(cited 49 times)**

2001

80. **Pavlidis, P.** and Noble W.S. (2001) Analysis of strain and regional variation of gene expression in mouse brain. Genome Biology2(10): research0042.1-0042.15. FA **(cited 200 times - Google Scholar)**
81. ‡Muhle, R.A., **Pavlidis, P.**, Grundy, W.N., Hirsch, E. (2001) A high throughput study of gene expression in preterm labor using a subtractive microarray approach. American Journal of Obstetrics and Gynecology 185, pp. 716-724. CA **(cited 31 times)**

Papers from my experimental work in neuroscience:

82. Montgomery, J.M., **Pavlidis, P.**, and Madison, D.V. (2001) Pair recordings reveal all-silent synaptic connections and the postsynaptic expression of long-term potentiation. Neuron 29, 691-701. CA **(cited 99 times)**
83. **Pavlidis, P.**, Montgomery, J., and Madison, D.V. (2000) Presynaptic Protein Kinase Activity Supports Long-Term Potentiation at Synapses Between Individual Hippocampal Neurons. Journal of Neuroscience 20, 4497-4505. FA **(cited 29 times)**
84. Santoro, B., Chen S., Luthi, A., **Pavlidis, P.**, Shumyatsky, G.P., Tibbs, G.R. and Siegelbaum, S.A. (2000) Molecular and functional heterogeneity of hyperpolarization-activated pacemaker channels in the mouse CNS. Journal of Neuroscience 20, 5264-5275. CA **(cited 309 times)**
85. **Pavlidis, P.** and Madison, D.V. (1999) Synaptic transmission in pair recordings from CA3 pyramidal cells in organotypic culture. Journal of Neurophysiology 81, 2787-2797. FA **(cited 45 times)**
86. Haley, J.E., Schaible, E., **Pavlidis, P.**, Murdock, A., and Madison, D.V. (1996) Basal and apical synapses of CA1 pyramidal cells employ different LTP induction mechanisms. Learning and Memory 3, 289-295. CA
87. **Pavlidis, P.** and Tanouye, M.A. (1995) Seizures and failures in the giant fiber pathway of Drosophila bang-sensitive paralytic mutants. Journal of Neuroscience 15, 5810-5819. FA **(cited 52 times)**
88. **Pavlidis, P.**, Ramaswami, M., and Tanouye, M.A. (1994) The Drosophila easily shocked gene: A mutation in a phospholipid synthetic pathway causes seizure, neuronal failure, and paralysis. Cell 79, 23-33. FA **(cited 94 times)**

(b) Conference Proceedings (peer reviewed)

1. **Pavlidis, P.**, Lewis, D.P., and Noble, W.S. (2002) Exploring gene expression data with class scores. Proceedings of the Pacific Symposium on Biocomputing 7. pp 474-485. FA
2. **Pavlidis, P.**, Tang, C. and Grundy, W.N. (2001) Classification of genes using probabilistic models of microarray expression profiles. Workshop on Data Mining in Bioinformatics, held in conjunction with SIGKDD01. FA
3. **Pavlidis, P.**, Weston, J., Cai, J., and Grundy, W.N. (2001) Gene functional classification from heterogeneous data Proceedings of the Fifth Annual International Conference on Computational Biology (RECOMB), 249-255. FA **(cited 97 times)**
4. **Pavlidis, P.**, Furey, T.S., Liberto M., Haussler D., and Grundy W.N. (2001) Promoter region-based classification of genes. Proceedings of the Pacific Symposium on Biocomputing 6, 151-164. FA

(c) Other

Review articles / commentaries

1. **Pavlidis P.** and Gillis J.. (2013) Progress and challenges in the computational prediction of gene function using networks - 2013 update. F1000Research SA
2. **Pavlidis P** and Gillis J (2012) Progress and challenges in the computational prediction of gene function using networks F1000 Research 2012, 1:14 (doi: 10.3410/f1000research.1-14.v1) (peer-reviewed opinion article)
3. French L and **Pavlidis, P** (2007) Informatics in Neuroscience. Briefings in Bioinformatics, Oct 10 (peer-reviewed review article).
4. Wan X and **Pavlidis, P** (2007) Sharing and reusing gene expression profiling data in neuroscience. Neuroinformatics, Fall;5(3):161-75 (peer-reviewed review article).

2. NON-REFEREED PUBLICATIONS

(a) Journals

1. Portales-Casamar E., Evans A., Wasserman W., **Pavlidis P.** (2011) The NeuroDevNet Neuroinformatics Core. Seminars in Pediatric Neurology 18: 17-20 (review) SA
2. Demmer RT, **Pavlidis P**, Papapanou PN (2010) Bioinformatics techniques in microarray research: applied microarray data analysis using R and SAS software. Methods Mol Biol 666:395-417. CA
3. **Pavlidis, P.** (2004) Molecular computing. Journal of Biomedical Informatics 37, 54-55. (book review) SA
4. **Pavlidis, P.** (2003) Using ANOVA for gene selection from microarray studies of the nervous system. Methods 31, 282-289. (Methodology) **(cited 53 times)** SA
5. **Pavlidis, P.** (1995) Bang-sensitive Drosophila phenotype shows parallels to human seizure disorders. Journal of NIH Research 7, 43-44. (Perspectives article) SA

(b) Conference Proceedings

1. **Pavlidis, P.**, Reynolds, E.R., and Tanouye, M.A. (1993) Drosophila mutations affecting electrical excitability. Proceedings of the 21st Gottingen Neurobiology Conference. Elsner, N. and Heisenberg, M., eds. (Verlag: New York) pp. 123-128. FA

(c) Other

3. BOOKS

(a) Authored
(b) Edited
(c) Chapters

4. PATENTS

5. SPECIAL COPYRIGHTS

US Copyright TX-5-825-939: “Gist Version 2.0.2”. Software for support vector machine learning. Assigned

August 22 2003 to The Trustees of Columbia University.

6. ARTISTIC WORKS, PERFORMANCES, DESIGNS

7. OTHER WORKS

Software

An important scholarly activity in my group is the creation of data and tools that can be used by others. This is one of the main ways my work has impact. In the listing below, I provide estimates of usage (citations for the related papers are given in the publication section, but often software gets used without being cited). All counts exclude robots and hits from computers used by myself or my group.

1. **Gemma:** A system for meta-analysis of microarray data integrated with additional genomics information. Web interface available at http://gemma.chibi.ubc.ca. Approximately 10,000 web requests per month.
2. **ErmineJ**, a Java tool for analysis of Gene Ontology categories in microarray or other data. Available at
3. http://erminej.chibi.ubc.ca/. ErmineJ is not web-based, but the software is downloaded dozens of times a month and the web site for software download the documentation gets about 600 hits per month.
4. **Matrix2png**, a utility for generation of graphics from matrix data. Available at http://www.chibi.ubc.ca/matrix2png/. Has a downloadable version and also a web interface. Introduced in 2001, this tool has proved to be enduringly popular. In the last 12 months, we tracked over 30,000 hits for the web interface.
5. **ASPIREdb**, a web-based system for the analysis of genetic variants. Still under development, release 1.0beta was in July 2013. Available at http://aspiredb.chibi.ubc.ca.
6. **Gist**, A set of tools for support vector machine learning (developed with William Noble, University of Washington). Available at http://www.chibi.ubc.ca/gist/. Implemented in C, web interface (http://svm.sdsc.edu/) implemented in Perl. This software has been downloaded by hundreds of researchers, while the web site has been used thousands of times.
7. **ErmineDB**, (retired) a database of gene annotations for microarray analysis. The use of ErmineDB was integral to numerous gene expression microarray studies. The functionality of ErmineDB has been subsumed into Gemma.
8. **Tmm**, (retired) A system for meta-analysis of gene coexpression on microarrays. Web interface available at http://www.bioinformatics.ubc.ca/tmm/. Implemented in C, Java and Perl, MySQL database. This system was replaced by the Gemma system.

8. WORK SUBMITTED (including publisher and date of submission)

1. Rogic S, Wong A, **Pavlidis P**. Meta-analysis of transcription profiles in prenatal alcohol exposure. SA.

9. WORK IN PROGRESS (including degree of completion)

1. Gillis J and **Pavlidis P.** Gaining biological specificity in gene set analysis by correcting for multifunctionality. SA (preparing for resubmission)