

April 2014

**CURRICULUM VITAE****BACKGROUND and PERSONAL DATA**

**NAME and TITLE:** Marla B. Sokolowski, Ph.D., F.R.S.C.

**HOME ADDRESS:** 87 Macpherson Ave.  
Toronto, ON M5R 1W7

**CURRENT ADDRESS:** Department of Ecology and Evolutionary Biology  
Faculty of Arts and Sciences  
Earth Sciences Centre  
University of Toronto  
25 Willcocks Street,  
Toronto, ON M5S 2B2  
email: [marla.sokolowski@utoronto.ca](mailto:marla.sokolowski@utoronto.ca)  
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Tel: 416 946 0007  
Website: <http://sokolowski.eeb.utoronto.ca/>

**BIRTH DATE AND PLACE:** July 20, 1955; Toronto, Ontario

**CHILDREN:** Daughter born August 27, 1991  
Son born October 22, 1995

**CITIZENSHIP:** Canadian

**PRESENT POSITION:** University Professor,  
Department of Ecology and Evolutionary Biology  
Academic Director of the Fraser Mustard Institute for  
Human Development  
University of Toronto  
Co-Director, Child and Brain Development Program,  
Canadian Institute for Advanced Research

**ACADEMIC QUALIFICATIONS and EDUCATION:**Education:

1977	B.Sc.	Zoology	University of Toronto
1981	Ph.D.	Major: Behavioural-genetics Minors: Animal behaviour, Evolution, Development	University of Toronto

1982            Post-doctorate        NSERC Post-doctoral Fellowship    York University

**POSITIONS:**

1981-1982	NSERC Postdoctoral Fellow	Biology	York University
1982	Lecturer in Animal Behaviour	Biology	York University
1982-1992	NSERC University Research Fellow	Biology	York University
1986-1988	Tenure-track Assistant Professor	Biology	York University
1988-1995	Fellow of Founders College		York University
1988-1993	Associate Professor with tenure	Biology	York University
1994-1999	Full Professor	Biology	York University
1993-2005	Adjunct Professor	Genetics & Molecular Biology	Guelph University
1999-present	Adjunct Professor	Biology	York University
1999-2012	Full Professor	Biology UTM	University of Toronto
2012-present	Full Professor	Ecology and Evolutionary Biology	University of Toronto
2001-2014	Tier 1 Canada Research Chair in Genetics and Behavioural Neurology	Biology UTM	University of Toronto
2001-2012	Co Director of the Genetics, Environment, Nervous System and Behaviour Research Cluster	Biology UTM	University of Toronto
2004	Distinguished Visiting Professor	Centre for Insect Science	University of Arizona Tucson
2005-2006	Distinguished Visiting Professor	Genetics/Cell and Molecular Biology	University of Paris South
2008-2013	Co Director of the Experience Based Brain and Biological Development Programme		Canadian Institute for Advanced Research

2010	University Professor	University of Toronto	University of Toronto
2010-2013	Director of the Life Sciences	Division of the Academy of Science	Royal Society of Canada
2012-present	Tier 1 Canada Research Chair in Genetics and Behavioural Neurology	Ecology and Evolutionary Biology	University of Toronto
2012- present	Academic Director	Fraser Mustard Institute for Human Development	University of Toronto
2013-2018	Co-Director of the Child and Brain Development Programme		Canadian Institute for Advanced Research
2013-2014	Distinguished Visiting Professor	Centre for Advanced Studies	Norwegian Academy of Sciences, Oslo, Norway

#### **Ph.D. DISSERTATION:**

1981 Evolution of Behavioural Strategies in Drosophila: genetic analyses. Department of Zoology, University of Toronto

#### **FELLOWSHIPS and AWARDS:**

1979 Open Fellowship, NSERC

1979 Theodosius Dobzansky Memorial Award, International Behavior-Genetics Association

1980 Ramsay Wright Award, Department of Zoology, University of Toronto

1980 NSERC Graduate Scholarship

1982 NSERC Post-Doctorate Graduate Scholarship

1992 NSERC University Fellow

1993 Young Scientist Award, Genetics Society of Canada

1993 Teaching Excellence Award, Faculty of Pure and Applied Science, York University

1998 Fellow of the Royal Society of Canada

- 2001 Canada Research Chair in Genetics and Behavioural Neurology
- 2001 Distinguished Visiting Professorship, University of Paris, Sud
- 2004 Senior Fellow, Massey College
- 2004, 2006 Distinguished Visiting Professorships: University of Tucson Arizona and University of Paris
- 2006 Research Excellence Award, University of Toronto, Mississauga
- 2007 William F. Grant and Peter B. Moens Award of Excellence. Genetics Society of Canada's highest honour.
- 2007 Fellow of the Canadian Institute for Advanced Research (CIFAR)
- 2008 Co-Director of the Experience Based Brain and Biological Development, CIFAR
- 2008 Weston Fellow of CIFAR
- 2008 Renewal of Tier 1 Canada Research Chair
- 2009 Director of Life Sciences, Academy of Sciences, Royal Society of Canada
- 2010 University Professor, University of Toronto
- 2012 Canadian Inter American Network of Academies of Sciences (IANAS Woman in Science
- 2013 Queen Elizabeth II Diamond Jubilee Medal, Government of Canada
- 2013 Senior Fellow of the Canadian Institute for Advanced Research, CIFAR
- 2013-2014 Distinguished Visiting Professor, Centre for Advanced Study, Norwegian Academy of Sciences, Oslo Norway.
- 2014 2014 International Behavioural and Neural Genetics Society Distinguished Investigator Award. IBANGS highest honour.

## **RESEARCH GRANTS**

Summary of significant research grants (greater than \$50,000 per annum) received.

### Current Individual Single PI Grants

2013-2015

Principal Investigator: Marla B. Sokolowski

Heart and Stroke Postdoctoral Fellowship for Dr. Jeff Deegan

Heart and Stroke Foundation  
Total Funding &90,000

2013/9 - 2018/8

Principal Investigator; Marla B. Sokolowski

**Funds for Co-director of CIFAR CBD Programme for research, post-doc and administrative assistant**

Funding Sources: 2013/9 - 2018/8 CIFAR-CBD

Canadian Institute for Advanced Research (CIFAR)

Total Funding: 375000 (Canadian dollar)

Funding Competitive?: Yes

2006/4 - 2017/3

Principal Investigator

**Behaviour genetic analysis of natural variation in learning and memory in Drosophila**

Principal Investigator: Marla B. Sokolowski

Funding Sources: 2011/4 - 2016/3 Discovery Grants

Natural Sciences and Engineering Research Council of Canada (NSERC)

Total Funding: 260400 (Canadian dollar)

Funding Competitive?: Yes

2012/9 - 2016/2

Principal Investigator: Marla B. Sokolowski

**Gene-Environment Interplay Research Laboratory**

Funding Sources: 2013/3 - 2016/2 CFI LOI

Canada Foundation for Innovation (CFI)

Total Funding: 399751 (Canadian dollar)

Funding Competitive?: Yes

2012/9 - 2016/2 ON Provincial Gov-LOI

Principal investigator: Marla B. Sokolowski

Ministry of Research and Innovation (MRI) (Ontario)

Total Funding: 399751 (Canadian dollar)

Funding Competitive?: Yes

2012/9 - 2016/2 UoT-LOI

Principal investigator: Marla B. Sokolowski

University of Toronto

Total Funding: 200498 (Canadian dollar)

Funding Competitive?: Yes

2014/7 – CFI-LOF

Principal Investigator: Marla B. Sokolowski

Canada Foundation for Innovation

Total Funding: 199924 (Canadian dollar)

Funding Competitive?: Yes

2001/1 - 2015/12

**Canada Research Chair Tier 1 in Genetics and Behavioural Neurology Research**

Ontario Government

Principal Investigator: Marla B. Sokolowski  
Funding Sources: 2001/1 - 2015/12 Research Support - Operating costs University of Toronto  
Total Funding: 1260000 (Canadian dollar)  
Funding Competitive?: Yes

2001/1 - 2015/12

Principal Investigator

**Canada Research Chair Tier 1 in Genetics and Behavioural Neurology**

Principal Investigator: Marla B. Sokolowski

Funding Sources: 2001/1 - 2015/12 Salary

Canada Research Chairs (CRC)

Total Funding: 2800000 (Canadian dollar)

Funding Competitive?: Yes

2010/4 - 2015/3

Principal Investigator

**Analyses of the multiple functions of the *Drosophila foraging* gene, a cGMP dependent protein kinase**

Principal Investigator: Marla B. Sokolowski

Funding Sources: 2010/1 - 2016/3 Operating

Canadian Institutes of Health Research (CIHR)

Total Funding: 453340 (Canadian dollar)

Funding Competitive?: Yes

**2008/9 - 2013/8 Funds for Co-director of CIFAR EBBD Programme for research, post-doc and administrative assistant**

Principal Investigator: Marla B. Sokolowski

Funding Sources: 2008/9 - 2013/8 CIFAR-EBBD Canadian Institute for Advanced Research (CIAR)

Total Funding: 375000 (Canadian dollar)

Funding Competitive?: Yes

Current Group Collaborative Grants

2011/9 - 2013/9

Co-investigator

**Developmental Trajectories: A University of Toronto System-Wide Initiative to Improve Health, Learning and Society**

Principal Investigator: Lye, Stephen

Funding Sources: 2011/9 - 2013/9 Connaught Global Challenge Award University of Toronto

Total Funding: 1000000 (Canadian dollar)

Funding Competitive?: Yes

2013/4-2016/3

Co-investigator

**Determinants of Individual Differences in Maternal Case**

Principal Investigator: Alison Fleming

Funding Sources: CIHR Operating Grant

Total Funding: 530028 (Canadian dollar)

Funding Competitive?: Yes

Completed Individual :

2006/4 - 2011/3

Principal Investigator: Marla B. Sokolowski

**Genetic analysis of natural variation**

Funding Sources: 2006/4 - 2011/3 Discovery

Natural Sciences and Engineering Research Council of  
Canada (NSERC)

Total Funding: 447500 (Canadian dollar)

Funding Competitive?: Yes

2008/1 - 2010/1

Principal Investigator: Marla B. Sokolowski

**CFI/OIT Equipment for Genetics and Neurobiology Cluster**

Funding Sources: 2008/1 - 2010/1 CRC/CFI

Canada Foundation for Innovation (CFI)

Total Funding: 650000 (Canadian dollar)

Funding Competitive?: Yes

2004/9 – 2008/8

Principal Investigator: Marla B. Sokolowski

**Genes underlying food-related behaviours in Drosophila**

Funding Sources: 2004/9 - 2008/8 NIDDK RFA-DK-03081

National Institute of Diabetes & Digestive & Kidney diseases (NIDDK)

Total Funding: 1030000 (Canadian dollar)

Funding Competitive?: Yes

2002-2005

Principal Investigator: Marla B. Sokolowski

**“Genetic and molecular studies of food related behaviours in Drosophila”**

CIHR

Total Funding: \$219,000 (Canadian dollar)

1999-2002

Principal Investigator: Marla B. Sokolowski

**“The role of cGMP-dependent protein kinase in Drosophila behavior”**

CIHR

Total Funding: \$195,000 (Canadian dollar)

2003-2005

Principal Investigator: Marla B. Sokolowski (for post-doctoral researcher Dr. Christophe  
Lucas)

Fyssen Foundation Grant

\$100,000

Completed (Group Collaborative Grants)

2003/9 – 2008/8

Principal Investigator:

**Maternal adversity, vulnerability and neurodevelopment**

Principal Investigator : Meaney, Michael/Matthews, Stephen

Funding Sources: 2003/9 - 2008/8 Group Grant

Canadian Institutes of Health Research (CIHR)

Total Funding: 3750000 (Canadian dollar)

Funding Competitive?: Yes

2003/9 - 2008/8

Co-investigator

**Training grant on Gene by Environment Interactions**

Principal Investigator : Meaney, Michael

Funding Sources: 2003/9 - 2008/8 Training grant

Canadian Institutes of Health Research (CIHR)

Total Funding: 1332000 (Canadian dollar)

Funding Competitive?: Yes

~1990's	\$480,000
NSERC Collaborative Grants 3 year grant with Atwood (UofT Physiology), Hilliker (Genetics, U of Guelph) (PI: H. Atwood)	
~2000's	\$6,000,000
CFI/OIT Infrastructure grant for Centre for Applied Bioscience and Biotechnology at UTM (PI: U. Krull)	
~2003's	\$11,452,000
CFI/OIT Infrastructure grant for Centre for Communication, Information and Culture (PI: B. Schneider)	
NSERC equipment grants (multiple group equipment grants)	\$800,000
This is total of equipment grants from NSERC over many years.	

**International Group Grants:**

1991-1994 Human Frontiers Science Grant-International Collaborative Grant- Genetic and molecular analyses of complex behaviour with scientists in Britain (C.P. Kyriacou), France (J-M. Jallon), US (J.C. Hall) and Germany (M. Heisenberg), 3 year grant (PI: M.B. Sokolowski)	\$1,000,000
NIH and NSF funding for Gordon Research Conference on Genes and Behaviour (2008 in Italy) Chair: Marla B. Sokolowski, with Vice Chair: David Clayton	\$100,000 US
2013-2018 Co-Investigator: Sociogenomics Research Coordination Network, National Science Foundation PI: Walt Wilczynski	\$500,000 US



**SUPERVISORY EXPERIENCE:****Graduate Students Supervised:**

Lifetime: MSc=13, PhD=21

**Current Graduate students:****PhD**

Aaron Allen

Analysis of the *foraging* gene's transcriptional regulation.

Bryon Hughson

Neurogenetic analysis of feeding and obesity in *Drosophila*.

Hiwote Belay

Fly model for human seasonal affected disorder (co supervised by Joel Levine, University of Toronto, Mississauga).

Oscar Vasquez

Regulation of FORAGING protein isoforms.

Ina Anreiter

Epigenetic modification of *foraging* by EHMT.

Lindsey Gray

Nutritional geometry of rovers and sitters. (co supervised by Steve Simpson, University of Sydney, Australia).

**MSc**

Jonathan Massey

The *foraging* gene of *Drosophila melanogaster* functions in aggressive interactions.

**Postdoctoral Fellows**

1991-1995	Dr. Elisabeth Burgess (molecular biologist) (currently a computer programmer)
1991-1993	Dr. Philip Welbergen (NSERC International Postdoctoral Fellow; Pharmaceutical Industry, Germany)
1993-1994	Dr. Mark Blows (NSERC International Postdoctoral Fellow) (quantitative geneticist) (currently Tenured Full Professor and Chair– University of Queensland, Australia)
1995-1997	Dr. Martine Peypelut (insect physiologist-INRA, France)
1996-1998	Dr. John Ewer (neurogeneticist) (Full Professor - Cornell University and University of Valparadiso Chile)
1997	Dr. Mohan Subramanian (molecular biologist)

1999-2000	Dr. Hisato Kuniyoshi (behavioural neurogeneticist) (Tenured Associate Professor Hiroshima University, Japan).
2001-2003	Dr. Max Suster (Group Leader, University of Bergen, Belgium)
2003-2006	Dr. Christophe Lucas (ant behavioural neurobiologist, tenured researcher CNRS)
2003	Dr. Hans Smidt (parasitoid learning-molecular biology, neurobiology, Tenured Associate Professor, University of Wageningen)
2004	Dr. Raquel Marco (Postdoctoral Fellow, University of Madrid)
2004-2008	Dr. Ken Dawson-Scully (Tenured Associate Professor Florida Atlantic University)
2005-2008	Dr. Tony So (Industry Gay Lee Researcher)
2005-2009	Dr. Scott Douglas (patent lawyer)
2005-2012	Dr. Karen Williams (lecturer University of Toronto)
2007	Dr. Femmie Krajeveld (Post-doctoral fellow, University of Leiden, Netherlands, currently Policy worker at Dutch Wildlife Society)
2009-2012	Dr. James Burns (Junior CIFAR post-doc; currently Mental Health-Pharma, Shire Pharmaceuticals)
2009-2011	Dr. Amsale Belay (Clinical Genomics)
2009-2011	Dr. Nicolas Svetec (co-supervised with Locke Rowe, UT, currently post-doc at University California Davis)
2013-present	Dr. Jeff Dason (Funded by Heart and Stroke Foundation)

### Research Associates

2002-2008	Dr. Munmun Chatterjee (Research Associate, CAMH)
2002-2005	Dr. Dipten Chatterjee (Research Associate, UTM)

### Sabbatical Visitors

1995-1996	Professor. Art Hilliker (Professor, University of Guelph, now York University)
1995-1997	Dr. Lionel Peypelut [Associate Professor (deceased) University of Bordeaux, France]
2003	Professor Louise Vet (Director of the Netherlands Institute of Ecology, and Professor of Entomology at University of Wageningen, Netherlands)
2013	Tenured Associate Professor Ian Dworkin Michigan State University

### Recent International Graduate Student Visitors (3 months plus)

Thomas Hendel (Germany)  
Amanda Sorribes (Spain)  
Katia Hoedes (Netherlands)

Sara Kuntz (Germany)  
Korinna Kochinke (Netherlands)  
Lindsey Gray (Australia)  
Michael Dolan (Ireland)  
Ina Anreiter (Portugal)

**Honours thesis student supervised: 52.**

**Technicians supervised: 14.**

**Graduate Student Theses Completed** (Name, Year degree granted, present position when known)

**THESES COMPLETED: (M.Sc.):**

BAUER, S.J. 1985. Genetic analyses of pre-pupal behaviours in Drosophila. (Lab technician)

de BELLE, S.J.C. 1987. Genetic analysis of larval foraging behaviour in Drosophila. (Director of Research Dart Neurosciences, formerly a Tenured Associate Professor, University of Nevada and Programme, Director Animal Behaviour NSF, Senior Scientist Dart Neuroscience, San Diego)

RODRIGUEZ, L.E.N. 1988. Larval pupation behaviour in Drosophila. (Government administrator-Trinidad)

HUGHES, K. 1992. The Drosophila parasitoid wasp Asobara tabida and the rover/sitter polymorphism in Drosophila melanogaster. (Researcher for Ministry of the Environment)

WILLIAMS, K. 1992. Diapause in Drosophila females: A genetic analysis. (Thesis awarded with distinction), (Lecturer, University of Toronto).

BUTLAND, S.L. 1993. Transcript analysis of the foraging locus in Drosophila melanogaster. (Bioinformatics specialist with Michael Hayden, the Michael Smith Centre, UBC).

SAWIN, E.P. 1993. The response of Drosophila melanogaster larvae to light. (Cytologist, Victoria Hospital, London).

VARNAM, C. 1995. Larval behaviour of central complex mutants in Drosophila (Science Librarian).

FALZONE, C. 1998. Molecular analysis of the cGMP-dependent kinase signalling pathway which mediates foraging behaviour in Drosophila melanogaster (Technician, Biotechnology Industry).

SHAW-MOXAM, R. 2005. Food related behaviours in Drosophila melanogaster: Genetic and pharmacological investigation for regulation by the NO/cGMP signalling pathway. (Administrator College of Physicians and Surgeons).

DESROCHES, C. 2008. Epistatic interactions between foraging genes. (Science teacher, Havergal College).

ANREITER, I. 2012. Epigenetics and Behavioural Plasticity: *Drosophila* euchromatin histone methyltransferase and *foraging*. (PhD student University of Toronto).

### THESES COMPLETED (Ph.D.):

de BELLE, S.J.C. 1990. Genetic analysis of *foraging*: A behavioural gene in *Drosophila*. (Winner of the Behaviour Genetics Society Thompson Award) (Director of Research Dart Neurosciences, formerly a Tenured Associate Professor, University of Nevada and Programme Director Animal Behaviour NSF, Senior Scientist, Dart Neurosciences, San Diego).

RODD, F.H. 1994. The effect of social interactions on guppy life histories and behaviour. (Full Professor, Department of Ecology and Evolution, University of Toronto).

PEREIRA, H.S. 1995. Genetic dissection of foraging behaviour in *Drosophila melanogaster*. (Assistant Professor University of Lisbon, Portugal.)

TSUJI, L.J.S. 1996. Selective forces that act upon spacing behaviour in the "classical" lek: Theory and tests using the sharp-tailed grouse (*Tympanachus phasianellus*). (Professor, Dept. of Environmental and Resource Studies, University of Waterloo, recently moved to University of Toronto at Scarborough as a Full Professor).

SHAVER, S.A. 1996. The identification of genetic factors influencing larval foraging and locomotor behaviour in *Drosophila melanogaster* (Science writer and lecturer).

OSBORNE, K. 2000. The *foraging* microregion in the fruit fly *Drosophila melanogaster*. (Post-doctoral fellow at the National Institute of Health, Maryland, US (Research Associate Singapore).

YANG, P. 2000. Abnormal locomotor and foraging behavior in *Drosophila* larvae: Identification and molecular analysis of *scribbler* (*sbb*). (Assistant Professor and Head of Molecular Genetics Laboratory, University of Western Ontario).

WILLIAMS, K. D. 2001. Genetic Analysis of Diapause in *Drosophila melanogaster*. (Lecturer University of Toronto).

BEN SHAHAR, Y. 2002. cGMP-dependent protein kinase, behavioral plasticity, and *foraging* in honey bees and fruit flies. (Associate Professor, Washington University Medical School, St. Louis).

KAUN, K. 2007. Neurogenetic and plastic components of food-related behaviours due to the *foraging* gene in *Drosophila melanogaster*. (Assistant Professor, Brown University).

FITZPATRICK, M.J. 2007. Evolutionary genetics of foraging behaviours. (Assistant Professor, University of Toronto, Scarborough).

RIEDL, C.A.L. 2007. Quantitative genetic analyses of behavior. (Manager IT, Health

BELAY, A. 2009. Analysis of the spatial expression of cGMP dependent protein kinase (PKG) in *Drosophila*, (Clinical Genomics Center, Lunenfeld Institute, Mount Sinai Hospital, Toronto).

KENT, C. 2009. (co-supervised with J. Levine) Behaviour, genetics, genomics and metabolomics of satiation and hunger in rover and sitter variants (Senior Scientist, Janeilia Farms, Howard Hughes Campus).

REAUME, C. 2011. Social environment influences performance on cognitive tasks: a role for the foraging gene (Medical Science Liaison at Takeda Canada Inc).

MILEVA-SEITZ, VIARA 2012. (co-supervised with Alison Fleming, Psychology, UTM) How genes and the environment shape what mothers say, think, and do. (Post-doctoral fellow, Netherlands).

### **GRADUATE STUDENT SUPERVISORY COMMITTEES: (150).**

#### **Current supervisory student committee work at University of Toronto (2012).**

#### **MSc**

Kyle Turner Dept of Ecology and Evolutionary Biology-EEB (supervisor: Megan Fredrickson) completed 2013

Greg Stegeman EEB (Asher Cutter and Will Ryu)

Mark Lojaco EEB (Asher Cutter) completed 2013

Ani Vanesyan EEB (Helen Rodd)

Alex De Serrano EEB (Helen Rodd)

#### **PhD**

Jade Atallah Department of Cell and Systems Biology-CSB (Joel Levine)

Farhine Mohamed CSB (Joel Levine)

Jon Schneider EEB (Joel Levine)

Vasilis Moisiadis Dept Physiology, Medicine (Steve Matthews)

Min Wyman EEB (Locke Rowe) completed 2013

Alethia Wang EEB (Aneil Agrawal) completed 2013

Amy Wong CSB (Joel Levine)

#### **International:**

Lindsey Gray University of Sydney Australia (Steve Simpson) PhD

Sarah Kunz, University of Mainz Germany (Roland Strauss) PhD

### **EXTERNAL SERVICE ON EXAMINING COMMITTEES**

M.Sc. Exams: 34.

Ph.D. Preliminary Exams=50,

Ph.D. Exams 40.

International Ph.D and Habilitation exams: 10.

## RESEARCH

### **MOST SIGNIFICANT CONTRIBUTIONS** (trainees names are underlined):

#### **Discovery, genetic and evolutionary analyses of the rover/sitter foraging behaviour polymorphism.**

Sokolowski, M.B. 1980. *Foraging strategies of Drosophila melanogaster: A chromosomal analysis. Behav. Genet. 10:291-302.* 120 citations. Discovery and genetic analysis of the naturally occurring rover/sitter behavioural polymorphism. First of 6 publications from my Ph.D. thesis. It provided the basic questions in genetics, behaviour, evolution, neurobiology and molecular biology that have directed my research program for the past 25 years. This discovery of the rover/sitter polymorphism was seminal in starting the subdiscipline of Evolutionary Behaviour Genetics. This research was the first to recognize the importance of genetic analysis of normal individual differences in behaviour.

#### **Cloning of the *foraging* gene.**

Osborne, K.A., Robichon, A., Burgess, E., Butland, S., Shaw, R.A., Coulthard, A. Pereira, H.S., Greenspan, R.J. and Sokolowski, M.B. 1997. *Natural behavior polymorphism due to a cGMP-dependent protein kinase of Drosophila. Science 277:834-836.* 197 citations. Cloning of *for* showing that it encodes a cGMP-dependent protein kinase (PKG). This paper was a first for a number of reasons: a) demonstration of a known genetic and molecular basis for normal behavioural variation in any organism, b) generation of mutants in PKG in any organism, and c) demonstration of a function for PKG in food search behaviour. PKG is also found in mammals; the human PRKG1 gene is the human homologue of *for*. The significance of this paper was discussed in *Science* (E. Pennisi, 1997, "What makes fruit flies roam?" *Science* 277, 263-264), *New Scientist* (K. Schmidt, 1997. "It was in my genes, guv", *New Scientist* 2107, 46-50), the Toronto Star (one page profile, Thanksgiving issue 1997), and in the New York Times ("Sedentary fruit flies", Aug 19, 1997).

#### **Conservation of the *foraging* gene function in food related behaviours of the honey bee.**

Ben-Shahar, Y., Robichon, A., Sokolowski, M.B. and Robinson, G.E. 2002. *Behavior influenced by gene action across different time scales. Science 296:741-744.* 124 citations. Described as "a highly intriguing and very important paper reporting experiments that demonstrate an evolutionary and functional concordance of the roles played by the cGMP-dependent protein kinase (PKG) in the fruit fly, *Drosophila melanogaster*, and the honey bee, *Apis mellifera*. It shows that a gene which plays a role in a genetic polymorphism that influences foraging behaviour in the fly also plays an analogous role in a developmental polymorphism influencing foraging behaviour in the honey bee. Impact, a story in *Science*, a Quirks and Quarks, articles in New York Times, National and Washington Post..

#### **Discovery of the first gene to affect natural variation in ovarian diapause.**

Williams, K.D., Busto, M., Suster, M.L., So, A.K.-C., Ben-Shahar, Y., Leivers, S.J. and Sokolowski, M.B. 2006. *Natural variation in Drosophila diapause attributable to an insulin related PI-3 kinase. Proc. Natl. Acad. Sci. 103:15911-5.* Ovarian diapause is a photoperiodic response that enables an animal to survive stressful conditions. The work opens the door to genetic dissections of the trait and associated biochemical pathways, which are conserved in other organisms. Chosen as NSERC's top 50 discoveries of 2006.

#### **Negative frequency dependent selection can maintain the rover/sitter natural**

~~polymorphism at the foraging gene. Fitzpatrick, M.J., Foster, F., Dawah, H. and Sokolowski,~~

M.B. 2007. *Maintaining polymorphic foraging strategies by frequency dependant selection on a single gene.* **Nature** 447: 210-212. We provide one of the clearest demonstrations of negative frequency-dependent selection, and are the first to directly show that this form of selection acts on a single gene. (Highlighted with a dispatch in **Current Biology** entitled "Behavior genetics: evolutionary imprint of the invisible hand" by D. Bolnick).

**Natural variation in the *foraging* gene differentially affects short and long term memory in the mushroom bodies of *Drosophila*.** Mery et al 2007 **PNAS**. Collaboration with Fred Mery CNRS. Paper showed that *foraging* which encodes a cGMP dependent protein kinase plays a dual role in memory. This paper was the first to suggest a link between foraging and learning in *Drosophila*. (Highlighted in a commentary in **PNAS** entitled Memory flies sooner from flies that learn faster by Papaj DR and Snell-Rood EC 2007; amongst the top 20 downloaded papers from PNAS in Aug 2007). Rovers and sitters also differ in retroactive interference (Reaume et al 2010 **Proc Biology**).

**Molecular basis of plasticity in ant social behaviour.** In Lucas and Sokolowski 2009 **PNAS** we cloned the ant foraging gene and showed that it functioned in the switch from foraging to defensive behaviour. (Press: Nicholas Wade, Single gene shapes the toil of ants' fighter and forager castes. **The New York Times**, March 30, 2009; Scitable **Nature** Education by Rachel Davis April 2009 Fighter or forager, it depends on a brain gene; Quirks and Quarks, April 2009; Rogers TV show April 2009).

## SELECTED SIGNIFICANT CONTRIBUTIONS (RECENT YEARS).

### a) Editorial Work:

*Editor* with Tom Boyce of a volume of **Proceedings of the National Academy of Sciences**-Sackler Symposium on Biological Embedding of Social Adversity: From fruit flies to kindergarteners 2012.

*Editor* **Advances in Genetics** Volumes 2009 and 2012.

*Associate Editor.* **Journal of Neurogenetics** (1996-present); **Genes Brain and Behaviour** (2000-2006).

*Review Editor:* **Frontiers in Behavioural Neurosciences** (2007-present).

*Board Member:* **Behavioral Genetics** (1990-present); **Invertebrate Neuroscience** (2008-2010); **FLY** (2006-present).

Regular reviewer for **Science**, **Nature**, Cell Press journals, **Proc. Natl. Academy of Sciences**.

### b) Co-directorships:

Academic Director of the Fraser Mustard Institute for Human Development (2012-2015).

Canadian Institutes for Advanced *Research* (CIFAR) Experience-based Brain and Behaviour Development (EBBD) Programme. (2008-2013).

CIFAR Child and Brain Development Programme. (2013-2018).

University of Toronto's Genes, Environment, Nervous system and Behaviour (GENAB) Research Cluster (2001-2012).

Leading role in initiating and establishing the Fraser Mustard Institute for Human Development (IHD) at University of Toronto.

### c) Major International Conferences Organized:

Vice-Chair (2006) and Chair (2008). Gordon Research Conference on Genes and Behaviour, Conference held in California (2006) and Italy (2008).

International Program Committee Member of the 19<sup>th</sup> and 20<sup>th</sup> International Congress of Genetics in Australia and Berlin respectively.

Co-Chair of the National Academy of Sciences Sackler Symposium Biological

Embedding of Early Adversity: From Fruit Flies to Kindergarteners (Irvine Dec 2011).

Scientific Organizer of Royal Society of Canada 2012 symposium on Child Development (November, 2012).

Scientific Organizer of the Institute for Human Development International Symposium, University of Toronto (Fall 2012)

Scientific Organizer of the Canadian Institute for Advanced Research and Ontario Brain Institute Autism Workshop. Toronto, Canada (February 2013)

**d) Royal Society of Canada:**

Royal Society of Canada Selection Committee of specially Elected Fellows 2014.

Director of the Life Sciences Division of the Academy of Science (Royal Society of Canada/Societe Royale du Canada) to 2013.

Chair of New Fellows Selection Committee 2010-2012.

Member of the Joint Royal Society of Canada/Canadian Academy of Health Sciences panel on early childhood, 2010-2012.

Executive Committee of the Royal Society of Canada

Chair or member of the Flavelle Medal Committee, Royal Society of Canada 2001-2004

Member at Large, Fellow of the Royal Society of Canada, Life Sciences Section 2001-2003;

**e) International Graduate Teaching:**

Faculty Member Riken Institute for Brain Sciences-course Nurturing the Brain (Aug 2003), Japan.

Faculty and lab instructor at the Drosophila Neurobiology Course

(1999-2004) and Genetic course (2008) Cold Spring Harbor Laboratory, New York, 1999-2003.

French-American Summer School in Behaviour Genetics, US, France.

Karolinska/University of Toronto course in Developmental Origins of Human Disease, Faculty 2004-present.

**f) National and International Grant Selection Committees Funding and Workshops:**

CIHR Behavioural Sciences A panel special member 2012, 2013;

NIH workshop speaker on the Genetics of Social Behaviour 2007;

NIH/NIDDK Review Panel Member 2005;

N.I.H. Genetics Panel Special Subcommittee for evaluating grants where there is a conflict of interest,

N.I.H. Review of Group Grants: Genetics, N.I.M.H. Workshop Committee Member

“Genes and Neural Function in Model Organisms, NIH/ NIMH Workshop participant: A Genetics of Social Behaviour,

NSF Workshop on “Future Research Directions in Whole Organism Biology” (Sept 2011).

NSF Workshop on Biotechnology and the integration of the behavioural sciences.

All NIH and NSF workshops were organized to identify new funding directions.

Steacie Science Prize Award Committee 2005, 2006; Life Sciences Review Panel,

College of Reviewers for Canada Research Chairs 2001- present.

NSERC Committee on International Relations 1992-1995,

MRC Scholarships and Awards Committee 1997-2000,

Connaught Fund, Molecular Panel, 2003-2006.



**g) Professional Courses:**

Cold Spring Harbour Laboratory: Advanced Molecular Cloning, 1990  
 NSERC's Informed Opinions Workshop: Helping Women Translate Expertise into Media Friendly Content - Natural Sciences and Engineering Research Council of Canada (NSERC), 2013

**h) Advisory Board Memberships:**

Aga Khan University in East Africa-Development of a program in human development (2010-present).  
 Involvement with the Aga Khan Center for Pluralism in Ottawa (2011-present).  
 Advisory panel to the Early Years Study 3 report for the Ontario Government.  
 Member of the Gordon Conferences Research Council 2006-2008;  
 Executive Advisory Committee member of CIHR/MAVAN group grant 2003-present;  
 Keck Centre for Behavioural Biology, North Carolina State University 2001-present;  
 International Program Committee Member of XXth International Congress in Berlin 2007:  
 The International Congress of Genetics in Melbourne, Australia, 2003;  
 Space Life Sciences Planning 1999-2003;  
 University of Toronto, Connaught Committee 2006-2010.  
 Science of Early Child Development Advisory Committee 2013-2015.  
 Sociogenomics Research Coordination Network Steering Committee (2013-present)

**i) Selected Committee Work: (last 8 years University of Toronto)**

Executive Committee Dept of Ecology and Evolutionary Biology 2014.  
 Tenure Appeals Committee (UofT) 2007-2008;  
 Provost Lead Search Committee for Principal of University of Toronto at Mississauga 2004, 2009;  
 Advisory Committee to the President of University of Toronto for selection of a University Provost;  
 Search Committee for Chairs of Psychology, Chemistry, Biology (UTM): Search Committees (Biology, Psychology, Biotechnology, Zoology) (4);  
 Tenure Committees (15);  
 Biological Sciences Reorganization Committee (Arts and Sciences);  
 Joint Initiative in German and European Studies Proposal Selection Committee (University of Toronto);  
 Graduate Admissions Committee  
 Senior Awards Committee to VP research UofT 2005-2008  
 eAdvisory committee to VP research UofT 2009-present.  
 Steering committee to establish the Institute for Human Development at University of Toronto.  
 Recent Evaluator for international tenure and/or promotion packages Yale, Georgia, Duke, MRC Cambridge, UBC, UWO, Imperial College London.

**j) Research Impact and Press (selection of last 8 years).**

Toronto Life Magazine Nov. 2003 issue. Brilliant Minds. Story on the top 15 scientist in Toronto

Globe and Mail Article on the fly foraging gene and Seasonal Affective Disorder in humans December 2008.

New York Times article on Luzzo and Sokolowski March 2006

Wade, Nicholas. "Single gene shapes the toil of ants' fighter and forager castes." - The New York Times (March 30, 2009)

Globe and Mail Article on the MAVAN research project. Feb 17, 2009.

Anne McIlroy. "Researchers struggle as Ottawa scales back funding." Globe and Mail (February 16, 2009):

<http://v1.theglobeandmail.com/servlet/story/RTGAM.20090216.wresearch17/front/Front/Front/>

Quirks and Quarks Interview Documentary on the "Gay Gene" Nov. 26 2005.

Quirks & Quarks: Search for a "gay gene" (November 19, 2005)

Quirks and Quarks Live 30<sup>th</sup> Anniversary Show.

"The Q&Q 30th Anniversary Special". (December 7, 2005)

To discuss how the field of Genetics changed in the past 30 years.

Quirks & Quarks "Job Swap Ants." (April 4, 2009)

Quirks & Quarks Holiday Question Show "How fruit flies smell - without any noses?" (November 11, 2012)

Quirks and Quarks 35th Anniversary (November 2, 2012)

Our papers have been highlighted in Faculty of a 1,000.

Question & Answer: Marla Sokolowski - Current Biology, Volume 18, Issue 24, 23 December 2008, Pages R1116–R1117

Ben Shahar et al 2002 was chosen to be highlighted in a news story called "Mutant of the Month" Nature Genetics - 38, 1365 (2006) doi:10.1038/ng1206-1365

### **Opinion—Editorials**

T. Boyce and M.B. Sokolowski: How childhood experience gets under our skin.

Contributed to the Globe and Mail. Published February 6, 2014

### **Interviews and Media Relations (RECENT)**

#### **Broadcast Interviews**

The Biology of Childhood Hardship; The Agenda with Steve Paikin (2013-06-20)

The importance of early experience for mental health. audience stakeholders

Webinar to Royal Bank Child Development initiative (2013-02-21)

Cracking the autism enigma; Canadian Institute for Advanced Research and Ontario Brain Institute Public; Lecture on Autism. Glenn Gould Studio, (2013-02-20 )

How fruit flies smell - without any noses? Quirks & Quarks Holiday Question Show (November 11, 2012)

Quirks and Quarks 35th Anniversary (November 2, 2012)

Gene-Environment Interplay: Insights from Animal Models; National Academy of Sciences Sackler Colloquium: Biological Embedding of Early Social Adversity: From Fruit Flies to Kindergartners Arnold and Mabel; Beckman Center, Irvine, CA (December 10, 2011)

The Foraging Gene: Will That Be Takeout? Frontiers in Science Lecture on Genes and Behaviour", Florida Atlantic University, Boca Raton Florida, United States, Florida <http://www.youtube.com/watch?v=PMv81MGnPDc> (February 11, 2010)

Interview to discuss Lucas, C., and Sokolowski, M.B. 2009. Molecular basis for plasticity in ant social behaviour "Job Swap Ants" Quirks and Quarks (April 4, 2009)

### **Recent Public Outreach Lectures**

Conte-CBS Colloquium on Mental Health

Marla B. Sokolowski Gene-Environmental Interplay: Biological Embedding of Experience. Harvard University, Boston. October 16, 2013.

The King's College Circle Heritage Society

Special presentation: University Professor Marla B. Sokolowski Gene-environment interplay: biological embedding of experience, October 10, 2013.

### **Text Interviews**

Semeniuk, Ivan. "How poverty influences a child's brain development." – The Globe and Mail (January 26, 2013)

How to improve life for at-risk children? - Globe Editorial. The Globe and Mail (October 11, 2012)

Pearce, Tralee. "Why the first 2,000 days of a child's life are the most important." - The Globe and Mail (September 27, 2012)

Wade, Nicholas. "Single gene shapes the toil of ants' fighter and forager castes." - The New York Times (March 30, 2009)

Question & Answer: Marla Sokolowski - Current Biology, Volume 18, Issue 24, 23 December 2008, Pages R1116–R1117

McIlroy, Anne. "Now you can blame those extra pounds on the 'ice age' gene." -The Globe and Mail (November 22, 2008)

### **k) Fund Raising (last 4 years):**

Fundraising for CIFAR's Child and Brain Development Program that I Co-Direct

Fraser Mustard Institute for Human Development and University of Toronto's Faculty of Medicine: Brain Storm. London, England (April 10, 2014)

- I) Accomplishments as Academic Director of the Fraser Mustard Institute for Human Development-**
- a) Established a first year transdisciplinary undergrad course in Human Development (LTE199HIS, Arts and Science).
  - b) Established, with course director Dr. Joel Levine, a 4<sup>th</sup> year transdisciplinary undergraduate course in the BIO343HS Social and Developmental Determinants of Human taught to both University of Toronto and Agha Khan University students (funding from CIDA).
  - c) With an Academic Steering Committee I established a Collaborative PhD Program in Human Development. Course has 13 departments across the university signed on. It is currently going through governance. Course to start in Sept 2014. Designed core course called Pluralistic Human Development.
  - d) Lead the development of a new module on prenatal development for the Science of Early Child Development Resource.

**INTERRUPTIONS AND DELAYS:** none

## **PATENTS**

COMPOSITIONS AND METHODS FOR TREATING NEURAL ANOXIA AND SPREADING DEPRESSION

United States Patent 8,026,217 • Issued September 27, 2011

Inventors: Ken Dawson-Scully, Mel Robertson, Marla Sokolowski, Gary Armstrong

THERMOPROTECTIVE COMPOSITIONS OF PKG PATHWAY INHIBITORS AND METHOD OF USE THEREOF

United States Patent US 7,858,579, B2 • Issued December 28, 2010

Inventors: Ken Dawson-Scully, Marla Sokolowski, Clement Kent, Mel Robertson, Gary Armstrong

**RESEARCH CONTRIBUTIONS:** (trainees names are underlined).

Fully refereed publications with data (\*)

Fully refereed reviews or book chapters (+)

Commentary or Dispatch (#)

**REFEREED PUBLICATIONS (lifetime number=>100), (reverse chronological order, trainees names are underlined, \* refereed data paper, + refereed review, # commentary).**

## **PUBLICATIONS**

Hou, N., Armstrong, G., Chakraborty-Chatterjee, M., Sokolowski, M.B., and Robertson, R.M. 2014. Na<sup>+</sup>/K<sup>+</sup>-ATPase trafficking induced by heat shock pretreatment correlates with increased resistance to anoxia in locusts. J. Neurophysiology May 21. pii: jn.00201.2014. [Epub ahead of print]

Urquhart-Cronish, M. and Sokolowski, M.B. 2014. Gene-environment interplay in *Drosophila melanogaster*: Chronic nutritional deprivation in larval life affects adult fecal output. *J. Insect. Physiol.* pii: S0022-1910(14)00106-1. doi: 10.1016/j.jinsphys.2014.06.001. [Epub ahead of print]

1. \*Kohn NR, Reaume CJ, Moreno C, Burns JC Sokolowski MB and Mery F 2013. Social environment influences performance in a cognitive task in natural variants of the foraging gene. *PLoS One* Dec 12;8(12):e81272
2. \*Akbari EM, Shams S, Belay HT, Kaiguo M, Razak Z, Kent CF, Westwood T, Sokolowski MB, Fleming AS. 2013. The effects of parity and maternal behavior on gene expression in the medial preoptic area and the medial amygdala in postpartum and virgin female rats: A microarray study. **Behav Neurosci.** 2013 Dec;127(6):913-22. doi: 10.1037/a0034884
3. \*Silveira PP, Portella AK, Kennedy JL, Gaudreau H, Davis C, Steiner M, Soares CN, Matthews SG, Sokolowski MB, Dubé L, Loucks EB, Hamilton J, Meaney MJ, Levitan RD; on behalf of the MAVAN Study Team. 2013. Association between the seven-repeat allele of the dopamine-4 receptor gene (DRD4) and spontaneous food intake in pre-school children. **Appetite.** pii: S0195-6663(13)00413-3. doi: 10.1016/j.appet.2013.10.004
4. \*Jonas W, Mileva-Seitz V, Webb Girard A, Bisceglia R , Kennedy JL, Sokolowski M, Meaney MJ , Fleming AS , Steiner M. 2013. Genetic variation in oxytocin rs2740210 and early adversity associated with postpartum depression and breastfeeding duration. **Genes, Brain and Behaviour.** doi: 10.1111/gbb.12069
5. \*Mileva-Seitz V., Kennedy J.L., Steiner M., Meaney M.J., Atkinson L., Levitan R.D., Sokolowski M.B. and Fleming A.S. 2013. Interaction between oxytocin genotypes and early experience predicts quality of mothering and postpartum mood. **PLoS One** 8:e61443.
6. \*Lovic V, Belay, H., Walker C.D., Burton C.L., Meaney, M.J. Sokolowski, M. Fleming A.S. 2013. Early postnatal experience and DRD2 genotype affect dopamine receptor expression in the rat ventral stratum. **Behav. Brain Res.** 15: 237-82.
7. Sokolowski, M.B., Boyce W.T and McEwen B.S. 2013. Scarred for life? **New Scientist** 26:20-30. (Jan 2013)
8. +Kültz D, Clayton D.F, Robinson G.E, Albertson C, Carey H.V, Cummings M.E, Dewar K, Edwards S.V, Hofmann H.A, Gross L.J, Kingsolver J.G, Meaney M.J, Schlinger B.A, Shingleton A.W, Sokolowski M.B, Somero G.N, Daniel C. and Stanzione, Todgham A.E. 2013. New Frontiers for Organismal Biology? **BioScience** 63(6):464-471. 2013/1
9. \*Eddison M., Belay A.T., Sokolowski M.B., Heberlein U. 2012. A genetic screen for olfactory habituation mutations in *Drosophila*: Analysis of novel *foraging* alleles and an underlying neural circuit. **PLoS One** 7: e51684..
10. +Boyce, T., Robinson G. and Sokolowski M.B. 2012. Toward a new biology of social adversity: Introduction and overview. **Proc. Natl. Acad. Sci.** 109 Suppl 2:17143-9.

11. \*Kuntz, S., Poeck, B. Sokolowski, M.B. and Strauss, R. (2012) The visual orientation memory of *Drosophila* requires Foraging (PKG) upstream of Ignorant (RSK2) in ring neurons of the central complex. **Learning and Memory** 19(8):337-40.
12. \*Burns J.G., N. Svetec, L. Rowe, F. Mery, M. Dolan, W.T. Boyce, and M.B. Sokolowski (2012) Gene-environment interplay in *Drosophila melanogaster*: Chronic food deprivation in early-life affects adult exploratory and fitness traits. **Proc. Natl. Acad. Sci.** 109 Suppl 2:17239-44.
13. \*Mileva-Seitz V., Fleming A.S. Meaney M.J. Mastroianni A., Sinnwell J.P., Steiner M., Atkinson L., Levitan R.D., Matthews S.G., Kennedy J.L., Sokolowski M.B (2012) Dopamine receptors D1 and D2 are related to observed maternal behaviour. **Genes Brain and Behavior** 2012 Aug; 11 (6):684-694. doi: 10.1111/j.1601-183X.2012.00804.x.
14. \*Donlea J., Leahy, A., Thimgan, M., Suzuki, Y., Hughson, B.N., Sokolowski, M.B., and Shaw, P.J. (2012) *foraging* alters resilience/vulnerability to sleep disruption and starvation in *Drosophila*. **Proc. Nat. Acad. Sci.** Feb 14;109(7):2613-8. Epub 2012 Jan 30.
15. \*Belay, H., Lovic, V., Burton, C. Meaney, M.J., Sokolowski, M.B. and Fleming, A. 2011 Early adversity and serotonin transporter genotype interact with hippocampal glucocorticoid receptor mRNA expression, corticosterone, and behavior in adult male rats. **Behav. Neurosci.** 125:150-60.
16. \*Mileva-Seitz, V., Kennedy, J., Atkinson, L., Steiner, M., Levitan, R., Matthews, S., Meaney, M.J., Sokolowski, M.B. and Fleming, A. 2011 Serotonin transporter allelic variation in mothers predicts maternal sensitivity, behavior, and attitudes toward 6-month infants. **Genes Brain and Behavior** (Jan 13. doi: 10.1111/j.1601-183X.2010.00671.x. [Epub ahead of print]).
17. +Reaume, C.J. and Sokolowski, M.B. 2011. Conservation of gene function in behavior. **Trans Phil Soc.** 366: 2100-10.
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20. \*Dawson-Scully, K., Bukvic, D., Chakaborty-Chatterjee, M., Ferreira, R., Milton, S.L., and Sokolowski, M.B. 2010. Controlling Anoxic Tolerance in adult *Drosophila* via the cGMP-PKG Pathway. **J. Exp. Biol.** 213: 2410-2416.
21. \*Lucas, C., Kornfein, R., Chakaborty-Chatterjee, M., Schonfeld, J., Geva, N., Sokolowski, M.B., and Ayali, A. 2010 The locust *foraging* gene. **Arch. Insect Biochem Physiol.** 74:52-66.

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23. \*DesRoches, C., Busto, M., Riedl, C.A.L., Mackay, T.F.C., And Sokolowski, M.B. 2010 Quantitative trait locus mapping of geotaxis behaviour in *Drosophila melanogaster*. **Genetics Research** 92:167-174.
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27. Lucas, C., Hughson, B.N., and Sokolowski, M.B. 2010. Job switching in ants: role of a kinase. **Communicative and Integrative Biology** **3**:6-8.
28. \*Lucas, C., and Sokolowski, M.B. 2009. Molecular basis for plasticity in ant social behaviour **Proc. Natl. Acad. Sci.** 106: 6351-6. (Press received: Nicholas Wade, Single gene shapes the toil of ants' fighter and forager castes. **The New York Times**, March 30, 2009; Scitable **Nature** Education by Rachel Davis April 2009 Fighter or forager, it depends on a brain gene; Quirks and Quarks, April 2009; Rogers TV show April 2009).
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74. \*Osborne, K., Robichon, A., Burgess, E., Butland, S., Shaw, R.A., Coulthard, A., Pereira, H.S., Greenspan, R.J., and Sokolowski, M.B. 1997. Natural behaviour polymorphism due to a cGMP-dependent protein kinase of *Drosophila*. **Science** **277**: 834-836.
75. \*Sokolowski, M.B., Pereira, H.S., and Hughes, K. 1997. Evolution of foraging behavior in *Drosophila* by density dependent selection. **Proc. Natl. Acad. Sci** **94**: 7373-7377. (Dispatch highlighting this paper and the one below called Molecular genetics meets feeding ecology by Partridge L. and Sgrò C.M. 1998 **Current Biology** 8: R23-R24; (**Proc. Natl. Acad. Sci. U.S.A.** chose this paper for a press release, **New Scientist** magazine July issue devoted page 8 to a news story called Wander Lust).
76. \*Rodd, F.H., Reznick, D.N., and Sokolowski, M.B. 1997. Phenotypic plasticity in the life history traits of guppies: response to social environment. **Ecology** **78**: 419-433.
77. \*Varnam, C., Strauss, R., De Belle, J.S. and Sokolowski, M.B. 1996. The effects of the *nob*, *for* and *Csr* genes on foraging in *Drosophila melanogaster*. **J. Neurogenetics** **11**: 99-115.
78. \*Tsuji, L.J.S., Karagatzides, J.D., and Sokolowski, M.B. 1996. Diet and internal anatomy of male sharp-tailed Grouse *Tympanuchus phasianellus* as related to age and position on the lek. **Canadian Field Naturalist** **109**: 433-436.
79. \*Hughes, K., and Sokolowski, M.B. 1996. Natural selection in the laboratory for a change in resistance by *Drosophila melanogaster* to the parasitoid wasp *Asobara tabida*. **J. of Insect Behavior** **9**: 477-491.
80. \*Sawin-Mccormack, E.P., Sokolowski, M.B., and Campos, A.R. 1995. Characterization and genetic analysis of *Drosophila melanogaster* photobehavior during larval development. **J. Neurogenetics** **10**: 119-135.
81. \*Pereira, H.S., Macdonald, D.E., Hilliker, A.J., and Sokolowski, M.B. 1995. *Chaser* (*Crs*), a new gene affecting larval foraging behaviour in *Drosophila melanogaster*. **Genetics** **140**: 263-270.
82. #Sokolowski, M.B., and Varnam, C. 1995. Book review of **Quantitative Genetic Studies of Behavioural Evolution**. Edited by C.R.B. Boake, The University of Chicago Press, Chicago, Illinois. **Quarterly Review of Biology** **70**: 339-340.
83. \*Blows, M., and Sokolowski, M.B. 1995. The expression of additive and nonadditive genetic variation under stress. **Genetics** **140**: 1149-1159.
84. \*Rodd, F.H., and Sokolowski, M.B. 1995. Complex origins of variation in the sexual behaviour of male Trinidadian guppies (*Poecilia reticulata*): interactions among social environment, heredity, body size and age. **Animal Behaviour** **49**: 1139-1159.
85. \*Tsuji, L.J.S., Kozlovic, D.R., Sokolowski, M.B., and Hansell, R.I.C. 1994. Relationship of body size of male Sharp-tailed Grouse to location of individual territories on leks. **Wilson Bulletin** **106**: 329-337.

86. +Sawin, E.P., Harris, L.R., Campos, A.R., and Sokolowski, M.B. 1994. Sensorimotor transformation from light reception to phototactic behavior in *Drosophila* larvae (Diptera:Drosophilidae). **J. Insect Behav.** **7**: 553-567.
87. \*Sawin, E.P., Dowse, H.B., Hamblen-Coyle, M.J., Hall, J.C., and Sokolowski, M.B. 1994. A search for locomotor activity rhythms in *Drosophila melanogaster* larvae. **J. Insect Behav.** **7**: 249-262.
88. \*Welbergen, P., and Sokolowski, M.B. 1994. Intra and inter-specific variation in pupation height in *Drosophila* species from the melanogaster subgroup. **J. Insect Behav.** **7**: 263-277.
89. \*Carton, Y. and Sokolowski, M.B. 1994. Parasitization of embedded and non-embedded *Drosophila melanogaster* pupae by the Hymenopteran parasitoid *Pachyerepoides vindemiae*. **J. Insect Behav.** **7**: 129-131.
90. \*Vet, L.E.M., Sokolowski, M.B., Macdonald, D.E., and Snellen, H. 1993. The response of a generalist and a specialist parasitoid to Drosophilid larval kairomones. **J. Insect Behav.** **7**: 131-133.
91. \*Williams, K., and Sokolowski, M.B. 1993. Diapause in *Drosophila melanogaster* females: a genetic analysis. **Heredity** **71**: 312-317.
92. \*Pereira, H.S., and Sokolowski, M.B. 1993. Mutations in the larval *foraging* gene affect adult locomotory behaviour after feeding in *Drosophila melanogaster*. **Proc. Natl. Acad. Sci.** **90**: 5044-5046.
93. \*De Belle, J.S., Sokolowski, M.B., and Hilliker, A.J. 1993. Genetic analysis of the *foraging* microregion of *Drosophila melanogaster*. **Genome** **36**: 94-101.
94. +Sokolowski, M.B. 1992. Genetic analysis of behaviour in the fruit fly *Drosophila melanogaster*. IN: D. Goldowitz, D. Winer and D. Wahlsten [eds.], "Techniques for the Genetic Analysis of Brain and Behavior: Focus on the Mouse". Elsevier, Amsterdam, pp. 497-521.
95. \*Tsuji, L.J.S., Kozlovic, D.R., and Sokolowski, M.B. 1992. Territorial position in sharp-tailed grouse leks and the probability of fertilization. **Condor** **94**: 1030-1031.
96. \*Sokolowski, M.B., and Hansell, K.P. 1992. The *foraging* locus: Behavioural tests for normal muscle movement in rover and sitter *Drosophila melanogaster* larvae. **Genetica** **85**: 205-209.
97. \*Carton, Y., and Sokolowski, M.B. 1992. Interactions between searching strategies of *Drosophila* parasitoids and the polymorphic behaviour of their hosts. **Journal Insect Behav.** **5**: 161-175.
98. \*Rodriguez, L., Sokolowski, M.B., and Shore, J.S. 1992. Habitat selection by *Drosophila melanogaster* larvae. **Journal of Evolutionary Biology** **5**: 61-70.
99. \*Rodriguez, L., Sokolowski, M.B., and Carton, Y. 1991. Pupation behaviour of *Drosophila melanogaster* and *D. simulans* in Tunisia. **Gen. Insect. Evol.** **20**: 2010-2010

100. +Sokolowski, M.B. 1990. Functions of genetic analysis. **European Bulletin of Cognitive Psychology 10**: 675-680.
101. \*Sokolowski, M.B., and Carton, Y. 1990. Microgeographic variation in *Drosophila melanogaster* larval behavior. **J. of Insect behaviour 2**: 829-833.
102. \*De Belle, J.S., Hilliker, A.J., and Sokolowski, M.B. 1989. Genetic localization of *foraging (for)*: A major gene for larval behaviour in *Drosophila melanogaster*. **Genetics 123**: 157-164.
103. \*Sokolowski, M.B., and Bauer, S.J. 1989. Genetic analysis of pupation distance in *Drosophila melanogaster*. **Heredity 62**: 177-183.
104. \*De Belle, J.S., and Sokolowski, M.B. 1989. Rover/sitter foraging behaviour in *Drosophila melanogaster*: Genetic localization to chromosome-2L using compound autosomes. **J. of Insect Behaviour 2**: 291-299.
105. \*Graf, S.A., and Sokolowski, M.B. 1989. The rover/sitter *Drosophila* foraging polymorphism as a function of larval development, food patch quality and starvation. **J. of Insect Behaviour 2**: 301-313.
106. \*Bauer, S.J., and Sokolowski, M.B. 1988. Autosomal and maternal effects on pupation behaviour in *Drosophila melanogaster*. **Behaviour Genetics 18**: 81-97.
107. \*De Belle, J.S., and Sokolowski, M.B. 1987. Heredity of rover/sitter: Alternative foraging strategies of *Drosophila melanogaster*. **Heredity 59**: 73-83.
108. \*Sokolowski, M.B., and Turlings, T. 1987. *Drosophila* parasitoid-host interactions: Vibrotaxis and ovipositor searching from the host's perspective. **Can. J. Zool. 65**: 461-464.
109. +Sokolowski, M.B. 1986. *Drosophila* larval foraging behavior and correlated behaviors. IN: M.D. Heuttel [ed.]. "Evolutionary Genetics of Invertebrate Behavior". Plenum, N.Y. pp. 197-213.
110. \*Sokolowski, M.B., Bauer, S.J., Wai-Ping, V., Rodriguez, L.E., Wong, J., and Kent, C. 1986. Ecological genetics and behaviour of *Drosophila melanogaster* larvae in nature. **Animal Behaviour 34**: 403-408.
111. +Sokolowski, M.B. 1985. Genetic aspects to differences in foraging behaviour. **The Behavioral and Brain Sciences 8**: 348-349.
112. \*Bauer, S.J., and Sokolowski, M.B. 1985. A genetic analysis of path length and pupation height in a natural population of *Drosophila melanogaster*. **Can. J. Genet. & Cytol. 27**: 334-340.
113. \*Wong, J.L., Sokolowski, M.B., and Kent, C.F. 1985. Prepupation behavior in *Drosophila*: Embedding. **Behaviour Genetics 15**: 155-164.

114. \*Sokolowski, M.B. 1985. Ecology, genetics and behaviour of *Drosophila* larval foraging and pupation behaviour. **J. of Insect Physiol.** **31**: 857-864. (From the Insect Search Symposium Entomological Society of America).
115. \*Bauer, S.J., and Sokolowski, M.B. 1984. Larval foraging in isofemale lines of *Drosophila melanogaster* and *D. pseudoobscura*. **Journal of Heredity** **75**: 131-134.
116. \*Sokolowski, M.B., Kent, C., and Wong, J. 1984. *Drosophila* larval foraging behaviour: I Developmental Stages. **Animal Behaviour** **32**: 645-651.
117. \*Sokolowski, M.B., Hansell, R.I.C., and Rotin, D. 1983. Larval foraging behavior: II. Selection in the sibling species *Drosophila melanogaster* and *D. simulans*. **Behav. Genet.** **13**: 169-177.
118. \*Sokolowski, M.B., and Hansell, R.I.C. 1983b. Elucidating the behavioral phenotype of *D. melanogaster* larvae: Correlations between foraging strategies and pupation heights. **Behav. Genet.** **13**: 267-280.
119. \*Sokolowski, M.B., and Hansell, R.I.C. 1983a. Larval foraging behaviour: I. The sibling species *Drosophila melanogaster* and *D. simulans*. **Behav. Genet.** **13**: 159-168.
120. \*Sokolowski, M.B. 1982. *Drosophila* larval foraging behaviour: Digging. **Animal Behaviour** **30**: 1252-1253.
121. \*Sokolowski, M.B. 1980. Foraging strategies of *Drosophila melanogaster*: A chromosomal analysis. **Behav. Genet.** **10**: 291-302.

#### REFEREED PUBLICATIONS BY TRAINEES IN MY LABORATORY

122. MacMillan, H.A. and Hughson, B.N. 2014. A high-throughput method of hemolymph extraction from adult *Drosophila* without anaesthesia. *Journal of Insect Physiology*. 63, 27-31.
123. \*Fitzpatrick, M.J. 2004. Pleiotropy and the genomic location of sexually selected genes. **Am. Nat.** 163: 800-8.

#### PAPERS IN REVIEW OR IN PRESS

124. +Hughson, B., Pham, V. and Sokolowski, M.B. 2014. Behaviour genetic analysis of natural variation in foraging behaviour in *Drosophila*. *Handbook of Drosophila Behaviour Genetics*. Cambridge University Press (in press).
125. O'Donnell K, Gaudreau H, Mileva-Seitz V, Colalillo S, Pennestri M-H, Fleming AF, Steiner M, Lydon J, Wazana A, Minde K, Matthews SG, Sassi R, Atkinson L, Goldberg S, Moss E, Sokolowski MB, Kennedy JF, Leviton RD, Meaney MJ *on behalf of the MAVAN Research Team*. The Maternal Adversity, Vulnerability and Neurodevelopment Project: Tracking the Developmental Origins of Psychopathology and Co-morbidities. **Journal of the American Association of Child and Adolescent Psychiatry** (in press)

**NON REFEREED REPORTS**

126. Ewer, J., and Sokolowski, M.B. 1998. *Drosophila* In: The Encyclopaedia of Reproduction. Ed. Adashi E.Y. et al., Harcourt - Brace.
127. Sokolowski, M.B., and 10 other authors. 1994. Flexibility and constraint in behavioral systems. Article in Book from the Dahlem Konference, Free University of Berlin, Berlin, Germany.
128. Hughes, K.D., Lagos, G. and Sokolowski, M.B. 1992. A new method for testing digging behavior in *Drosophila*. **Dros. Inf. Serv. 71**: 162-163.
129. Sokolowski, M.B. 1989. Behavioural and neurogenetics workshop summary. **Genome 31**: 462-463.
130. Bauer, S.J. 1984. Sex difference in pupation site choice in *Drosophila melanogaster*. **Dros. Inf. Serv. 60**: 58.
131. Sokolowski, M.B. 1983. Gregarious oviposition behaviour in *Drosophila melanogaster*. **Dros. Inf. Serv. 59**: 118-119.
132. Sokolowski, M.B. 1982b. Rover and sitter larval foraging patterns in a natural population of *D. melanogaster*. **Dros. Inf. Serv. 58**: 138-139.
133. Sokolowski, M.B. 1982a. Temporal patterning of foraging behavior in *D. melanogaster* larvae. **Dros. Inf. Serv. 58**: 129-141.

**BOOKS**

Published; Co-Author

Panel and Authors: Ron Barr, Michel Boivin, Tom Boyce, Alison Fleming, Clyde Hertzman, Canice Odgers, Harriet MacMillan, Marla B. Sokolowski, Nico Trocme (fully refereed), "Early Childhood Development (Royal Society of Canada/ Canadian Health Sciences)"

Refereed?: Yes

Published; Co-Editor

Edited by M. B. Sokolowski and S. Goodwin. Elsevier (in press)., "Sociogenetics 2012 Advances in Genetics"(77)

Published; Co-Editor

Boyce, T. Robinson G. and Sokolowski M.B. (editors) 2012. Edited Volume of PNAS from Sackler Symposium. PNAS 42., "Biological Embedding of Social Adversity: From fruit flies to kindergardeners"

Published; Editor

Edited by M.B. Sokolowski: "Sociogenetics 2000 Advances in Genetics" (69)

**SELECTED INVITED TALKS, SYMPOSIA, KEYNOTE ADDRESSES, SEMINARS**

(lifetime=&gt;150):

1. Sokolowski, M.B. Larval foraging strategies and correlated behaviors. Invited participant in a colloquium entitled: Evolutionary Genetics of Invertebrate Behavior, Gainesville, Florida, March 1983. Sponsored by the U.S. Department of Agriculture and the University of Gainesville.
2. Sokolowski, M.B. The coevolutionary relationship between preadult behavior of *Drosophila* and the searching strategies of *Drosophila* parasitoids. In: *Drosophila* parasitic wasp - Symposium, University of Leiden, The Netherlands (August 1984).
3. Sokolowski, M.B. The rover/sitter behavior - genetic polymorphism. Department of Ecology and Evolution, C.N.R.S. Gif sur Yvette, France (September 1984).
4. Sokolowski, M.B. An ecological correlate to the rover/sitter behavior genetic polymorphism, Department of Genetics, University of Utrecht, The Netherlands (September 1984).
5. Sokolowski, M.B. Ecology, Genetics and Behavior of *Drosophila* larval foraging and pupation behavior. Entomological Society of America, "Search Symposium", San Antonio, Texas (December 1984).
6. Sokolowski, M.B. Ecological genetics of *Drosophila* larval foraging and pupation behaviour. Department of Biology, Simon Fraser University, B.C. (October 1985).
7. Sokolowski, M.B. Genetics and ecology of *Drosophila melanogaster* foraging behaviour. University Seminar, Department of Physiology and Cell Biology, The University of Kansas, Lawrence, Kansas (Spring 1986).
8. Sokolowski, M.B. Behavioural strategies of *Drosophila* larvae: An ecological genetic approach. Dept. of Ecology and Evolution, Michigan State University, East Lansing, Michigan (Spring 1986).
9. Sokolowski, M.B. Ecology, genetics and behaviour of pre-adult *Drosophila*. Department of Ecology and Evolution C.N.R.S. Gif sur Yvette, France (July 1986).
10. Sokolowski, M.B. Habitat selection in *Drosophila*. Department of Entomology, University of Wageningen, The Netherlands (August 1986).
11. Sokolowski, M.B. Life history strategies of *Drosophila* larvae: An eco-behavioural-genetic approach. Bowling Green State University, Ohio (November 1986).
12. Sokolowski, M.B. Alternative foraging strategies: Genetic differences in *Drosophila* larvae. Columbia University Population Biology Seminar Series, New York (December 1986).



13. Sokolowski, M.B. *Drosophila* larval behaviour. Behaviour Genetics Society Meetings, (Evolutionary Ecology Symposium) Minnesota (June 1987).
14. Sokolowski, M.B. *Drosophila* larval behaviour and the *foraging* locus at "Mutants '89". A multidisciplinary international symposium, Mutants: Insects and Rodents, Paris, France (November 1989).
15. Sokolowski, M.B. Workshop participant "Teaching Behaviour-genetics". Behaviour Genetics Society Meetings, France (June, 1990).
16. Sokolowski, M.B. Workshop participant "Human quantitative genetic studies using behavioural phenotypes. Behaviour Genetics Society Meetings, France (June 1990).
17. Sokolowski, M.B. Genetic analysis of larval behaviour: The *foraging* locus. Dept. of Biology, Brandeis University (September 1990).
18. Sokolowski, M.B. The *foraging* locus of *D. melanogaster* at the European *Drosophila* Neurogenetics Conference (November 1990).
19. Sokolowski, M.B. The rover/sitter polymorphism in *Drosophila*. Dept. of Biology, Zoologisches Institut, Basel, Switzerland (November 1990).
20. Sokolowski, M.B. Behaviour-genetic analysis of the *foraging* locus in *Drosophila melanogaster*. Dept. of Entomology, Wageningen, The Netherlands (November 1990).
21. Sokolowski, M.B. Genetic characterization of *foraging*: A gene for behaviour in *Drosophila melanogaster*. Genetics Society of Canada, Clocks and Life History Symposium, Kingston, Ontario (June 1991).
22. Sokolowski, M.B. Update on the *foraging* locus at the European *Drosophila* Neurogenetics Conference, Glasgow, Scotland (October 1992).
23. Sokolowski WSKI, M.B. Behavior-genetic analysis of the *foraging* locus in *Drosophila melanogaster*. Jacques Monod Conference "Genetics, Neurogenetics and Behavior", Roscoff France (October 1992).
24. Sokolowski, M.B. Flexibility and constraint in behavioral systems. Dahlem Konferenzen, Free University of Berlin, Berlin, Germany (May 1993).
25. Sokolowski, M.B. Behavioural Genetics: From Nature to Molecule (June 1993). Talk given for the Genetics Society of Canada Young Scientist Award.
26. Sokolowski, M.B. *Foraging*: From Nature to Molecule. Dept. of Biology, New York University (September 1993).
27. Sokolowski, M.B. Behavioural Genetics: From Nature to Molecule, Dept. of Biology Seminar in development and molecular biology, McGill University (November 1993).
28. Sokolowski, M.B. Behaviour Genetic Analysis: From Nature to Molecule. Symposium Lecture for British Animal Behaviour Society, England (December 1993).

29. Sokolowski, M.B. The *foraging* locus in *Drosophila melanogaster*. Seminar Program, Simon Fraser University, Department of Biological Sciences, Vancouver (April 1994).
30. Sokolowski, M.B. The *foraging* locus in *Drosophila melanogaster*: A cGMP-dependent protein kinase. Invited lecture at European *Drosophila* Neurobiology Conference, Montpellier, France (October 1994).
31. Sokolowski, M.B. Regulation of foraging behaviour in *Drosophila* by a cGMP-dependent protein kinase. Developmental Biology Seminar Series, Cornell University, Ithaca, N.Y. (April 1995).
32. Sokolowski, M.B. Behaviour Genetic Analysis: From Nature to Molecule. Molecular Evolution Meetings. Invited Symposium Speaker, McMaster University (May 1995).
33. Sokolowski, MB. *Drosophila* behavioural and neurogenetics. French-American Summer School in Behavioural and Neurogenetics, Penn State University, University Park, PA (June 1996).
34. Sokolowski, M.B. cGMP signalling and *Drosophila* behaviour. Cold Spring Harbor Laboratories. Cold Spring Harbor, NY (July 1996).
35. Sokolowski, M.B. cGMP signal transduction and *Drosophila* behaviour. Portuguese Meeting of Cell Biologists. Invited Plenary Speaker, Department of Medicine, University of Lisbon, Lisbon, Portugal (October 1996).
36. Sokolowski, M.B. Genetic dissection of foraging behaviour in *Drosophila*: cGMP signalling pathways. Department of Biology Seminar Series, University of Iowa (November 1996).
37. Sokolowski, M.B. cGMP signal transduction and *Drosophila* food search behaviour. Department of Biology, Seminar Series, Yale University (April 1997).
38. Sokolowski, M.B. Natural behavior polymorphism due to cGMP dependent signal transduction. *Drosophila* Neurogenetics Meetings, Cold Spring Harbor Labs (October 1997).
39. Sokolowski, M.B. Larval behavior. French American School in Neurogenetics, Orleans, France (October 1997).
40. Sokolowski, M.B. Natural polymorphism in *Drosophila* behavior due to variation in PKG. (invited seminar) Dept. of Biology, University of Nevada. (Nov. 1997).
41. Sokolowski WSKI, M.B. PKG and rover/sitter behavior in *Drosophila* (invited seminar) Genetics, Zoology and Entomology, University of North Carolina. (March 1998).
42. Sokolowski, M.B. Natural polymorphism in food search behavior due to cGMP-dependent protein kinase (invited plenary lecture) *Drosophila* Meetings, Washington D.C. (March 1998).

43. Sokolowski, M.B. Molecular genetic and evolutionary analysis of fly food search behavior. (Plenary Speaker) International Conference on Foraging, Santa Cruz, California. (July 1998).
44. Sokolowski, M.B. The role of PKG in fly food search behavior. Seminar, Department of Biology University of Illinois, Urbana. (October 1998).
45. Sokolowski, M.B. The role of PKG in fly food search behaviour. Seminar, Departments of Biology and Psychology, Edmonton, University of Alberta. (October 1998).
46. Sokolowski, M.B. Change in the expression of the *foraging* gene with food availability. Invited Workshop Participant - Environmentally Induced Changes in Gene Expression. Drosophila meetings, Seattle, Washington (March 1999)
47. Sokolowski, M.B. Fine fly dining: a role for cGMP dependent protein kinase in natural behavioural variation. Invited Plenary Lecture, International Behaviour Genetics Association Meetings, Vancouver, Canada. (July 1999).
48. Sokolowski, M.B. Molecular, Neurogenetic and Plastic components of Food-Related Behaviors in the Fruit Fly. Symposium on Model Genetic Organisms for the Study of the Nervous System and Behavior. At Society for Neurosciences, Miami Beach. Symposium run by National Institute of Drug Abuse, National Institute of Mental Health and National Institutes of Health. (Oct 1999).
49. Sokolowski, M.B. *Melanogaster* Meals: Will that be to go? Departmental Seminar, Biology, University of California at Irvine. (Nov. 1999).
50. Sokolowski, M.B. Fine fly dining: Will that be for here or to go? Royal Canadian Institute Special Public Lecture Series, Medical Sciences, University of Toronto. (Nov 1999).
51. Sokolowski, M.B. cGMP signalling in *Drosophila* food search behaviours. Dept of Biology Seminar, University of Glasgow, Glasgow, Scotland (Dec. 1999).
52. Sokolowski, M.B. A role for GC kinase in behaviour. Department of Oncology Research, Seminar, Sunnybrook Hospital, Toronto (January, 2000).
53. Sokolowski, M.B. and YANG P. Food Search behaviour in *Drosophila*. Symposium Lecture at the International Chemical Senses Meetings, Sarasota Florida (April, 2000).
54. Sokolowski, M.B. International Workshop on The Honey Bee as a model system for brain and behaviour research. Invited speaker, moderator and facilitator, Bellagio, Italy, (June 2000).
55. Sokolowski, M.B. Invited Speaker. Gordon Conference on Biological Regulatory Mechanisms. New Hampshire. (Aug. 2000).
56. Sokolowski, M.B. Genetic Dissection of Search Behaviour. Mt. Sinai Research Institute, Toronto. (Nov. 2000).
57. Sokolowski, M.B. Fine Dining: A role for cGMP protein kinase in behaviour. University of

58. Sokolowski, MB. The Myth of Genetic Determinism: Implications for Theories of Behavioural Development. Future for Kids Working Group. Washington DC. (April 2001).
59. Sokolowski, M.B. Behaviour Genetic Analysis in *Drosophila*. University of Paris Sud, Orsay France. Genetics Seminar. (June 2001).
60. Sokolowski, M.B. Neurogenetic Analysis of *Drosophila* larval behaviour: the *scribbler* and *foraging* genes. University of Paris Sud, Orsay, France, Neuroscience Seminar. (June 2001).
61. Sokolowski, M.B. cGMP dependent protein kinase modulates behaviour in *Drosophila*. Institute of Molecular Pathology, Graduate Student's Choice, Invited Speaker, Vienna, Austria. (June 2001).
62. Sokolowski WSKI, M.B. Molecular, genetic, neurobiological and evolutionary analysis of foraging behaviour in *Drosophila*. Evolution Seminar, C.N.R.S. Gif sur Yvette. France. (June 2001).
63. Sokolowski, M.B. *Drosophila* food search behaviour. Departmental Seminar, Duke University. (Sept. 2001).
64. Sokolowski, M.B. Behaviour Genetics: From Nature to Molecule. Life Sciences Consortium Colloquium, Penn State University. (April 2002).
65. Sokolowski, M.B. Genetic, molecular, neurobiological and environmental underpinnings of behaviour in the fruit fly. Invited Symposium Talk, Canadian Society for Brain, Behaviour and Cognitive Sciences, University of British Columbia. (May 2002).
66. Sokolowski, M.B. *Drosophila* Behaviour Genetics, Cold Spring Harbour Labs, Invited speaker, *Drosophila* Neurobiology Course. (July 2002).
67. Sokolowski SKI, M.B. Behavioural Plasticity. Invited speaker, Gordon Conference on Neuroethology: Behavior, Evolution and Neurobiology, Queen's College, Oxford, U.K. (August 18-23, 2002).
68. Sokolowski, M.B. Plasticity in Behavioural Systems. Invited symposium speaker, Free University Berlin, Germany, (Jan 2003).
69. Sokolowski, M.B. Fruit fly Fare: Will that be to go? University of Illinois, Chicago, Seminar Series, (May 2003).
70. Sokolowski, M.B. cGMP dependent protein kinase and food related behaviours. Invited symposium talk. Genetics Society of Canada. Halifax NS. (June 2003).
71. Sokolowski, M.B. What do melanogaster meals mean? *Drosophila* Neurobiology, Cold Spring Harbor Laboratories, (July 2003).
72. Sokolowski M.B. Model organisms in behaviour and neurogenetic analysis. Riken Brain Institute, Nurturing the Brain, Tokyo, Japan. (Aug. 2003).

73. Sokolowski, M.B. Presentation of the Genomics Module for MAVAN, Gananoque, Nov 2003.
74. Sokolowski, M.B. Gordon Research Conference in Genes and Behaviour, Invited Speaker, Feb. 2004.
75. Sokolowski, M.B. Dupont Lecture, University of Arizona, Distinguished Public Lecture in Neuroscience (March 2004).
76. Sokolowski, M.B. Centre for Insect Science, Distinguished Public Lecture in Entomology University of Arizona, (March 2004).
77. Sokolowski, M.B. Associate Learning in Drosophila larvae. University of Wurzburg, Germany (April 2004).
78. Sokolowski, M.B. Invited Speaker: The Hellenberg Symposium on Natural Genetic Variation in Behaviour. UCSD (April 2004).
79. Sokolowski, M.B. Food related behaviours in Drosophila: from nature to gene to molecule and back again. Invited Seminar, Department of Biology, State University of New York at Albany, (May 2004).
80. Sokolowski, M.B. Gene by environment interactions. Invited lecture for exchange program between University of Toronto's Development and Perinatal Biology and Karolinska University Sweden (Aug. 2004).
81. Sokolowski, M.B. Behaviour Genetics. Seminar, Department of Biology, University of Western Ontario (Oct. 2004).
82. Sokolowski, M.B. Chosen by graduate students to give a chalk talk and research seminar at Caltech (Nov 2005). Chalk talk: History of the foraging gene. Lecture: Food related behaviours: From nature to molecule and back again.
83. Sokolowski, M.B. Symposium lecture Integrative Biology Meeting, Paris France (October 2005)
84. Sokolowski, M.B. Symposium lecture, Swiss Genomics Meetings, Lausanne, Switzerland. (Oct 2005).
85. Sokolowski, M.B. MAVAN meeting, Genomics module presentation, Montreal (Jan 2006)
86. Sokolowski, M.B. Seminar, Cornell University, Department of Neurobiology and Behavior (Feb 2006).
87. Sokolowski M.B. Genes and Behaviour, Gordon Research Conference, Co-organizer (Feb 2006).
88. Sokolowski, M.B. Departmental Seminar, Neuroscience, University of British Columbia, (March 2006).

89. Sokolowski, M.B. Departmental Seminar, Dept. of Physiology, University of Toronto (April 2006).
90. Sokolowski, M.B. Departmental Seminar, Washington University, St. Louise (April 2006).
91. Sokolowski, M.B. Insect Molecular Biology, Symposium talk. Neurobiology of feeding in insects (May 2006).
92. Sokolowski, M.B. Talk to Graduate Students of Karolinska Institute Sweden visiting Toronto Subject Gene by Environment Interactions on Behavior (Aug 2006).
93. Sokolowski, M.B. Drosophila as a model for energy homeostasis. University of Alabama. (Nov 2006)
94. Sokolowski, M.B. Evolution of food related behaviors. C.N.R.S. Gif sur Yvette France, (Feb 2007)
95. Sokolowski, M.B. Roles for PKG and NPFR in food related behaviors. Max Plank Institute of Neurobiology, Munich, Germany (Feb 2007).
96. Sokolowski, M.B. Presented symposium talk at the International cGMP signalling meeting, Dresden Germany, June 2007.
97. Sokolowski, M.B. Gene by environment interactions on complex behavior. Canadian Institutes for Advanced Research Vancouver (June 2007)
98. Sokolowski, M.B. Candidate genes in psychiatry. Centre for Addiction and Mental Health, Toronto (July 2007).
99. Sokolowski, M.B. Genetic and Genomic Approaches to experience based development. Canadian Institutes of Advanced Research, Toronto Meeting (November 2007).
100. Sokolowski, M.B. Gene by environment interactions. Invited Workshop. International Congress on Infant Studies, Vancouver Canada, (March 2008).
101. Sokolowski, M.B. Invertebrate behaviour and cGMP dependent protein kinase. Invited Symposium Speaker. International Congress of Genetics, Berlin (July 2008).
102. Sokolowski, M.B. "Behavior Genetics: From nature to molecule and back again", Cold Spring Harbor Laboratories, United States, New York (September 10, 2008)
103. Sokolowski, M.B. "Early Experience: Implications for the Health of Canadian Children", Norlien Foundation, Calgary, Canada, Alberta (January 15, 2009)
104. Sokolowski, M.B. "Keynote speaker: Translational research", CIFAR's Junior Academy Meeting, Canada, Ontario (April 15, 2009)
105. Sokolowski, M.B. "PKG and the modulation of behaviour", Department of Physiology, Georgetown University, United States, Washington (April 21, 2009)

106. Sokolowski, M.B. "Keynote speaker: Gene-environment interplay in behaviour", Presidential Symposium on The New Genetics, American Psychological Sciences Association, United States, California (May 20, 2009)
107. Sokolowski, M.B. "Feeding and PKGs", Seminar--Department of Anatomy, UCSF, United States, California (May 29, 2009)
108. Sokolowski, M.B. "Gene by Environment Interactions", Centre for Addiction and Mental Health, University of Toronto, Canada, Ontario (June 5, 2009)
109. Sokolowski, M.B. "Genetic model organisms for Psychiatric Research", Hospital for Sick Children, Toronto, Canada, Ontario (June 10, 2009)
110. Sokolowski, M.B. "Gene by Environment Interactions", Human Early Learning Partnership, University of British Columbia, Canada, British Columbia (June 17, 2009)
111. Sokolowski, M.B. "Behaviour Genetics: The *foraging* gene", Public lecture at Temple Emmanuel, Canada, Ontario (October 7, 2009)
112. Sokolowski, M.B. "Fly models for social psychology: locomotor assessors", Columbia University, United States, New York (December 10, 2009)
113. Sokolowski, M.B. "The *foraging* Gene: Will That Be Takeout?", Frontiers in Science Lecture on Genes and Behaviour, Florida Atlantic University, United States, Florida (January 15, 2010)
114. Sokolowski, M.B. "Introduction to EBBD", CIFAR meeting of the EBBD programme, Canada, British Columbia (February 5, 2010)
115. Sokolowski, M.B. "Foraging, will that be to go?", Queens University Al Downe memorial seminar, Canada, Ontario (April 9, 2010)
116. Sokolowski, M.B. "cGMP dependent protein kinases as modulators of behaviour", Department of Neurology and Surgery, McGill University, Canada, Quebec (April 20, 2010)
117. Sokolowski, M.B. "Invited symposium talk: Fly foraging: feeding, metabolism, nutrition and behaviour", Conference on Insect Nutritional homeostasis, Bonn, Germany (May 12, 2010)
118. Sokolowski, M.B. "Why is destiny not in our genes?", Canadian Institutes for Advanced Research Next Big Question Debate, Canada, Nova Scotia (June 25, 2010)
119. Sokolowski, M.B. "Symposium talk: Conservation of gene function in behaviour", European Society for Evolutionary Developmental Biology, France (July 9, 2010)
120. Sokolowski, M.B. "Gene by Environment Interactions on Behavior", Talk to Graduate Students of Karolinska Institute Sweden visiting the University of Toronto, Canada, Ontario (August 10, 2010)

121. Sokolowski, M.B. "Will that be for here or to go? Neurobiology in Minibrains: From Flies to Robots and back again", ESF-EMBO symposium talk, Spain October 21, 2010)
122. Sokolowski, M.B. "Animal models of food-related dysfunctions", Eating Disorders Conference, Canada, Ontario (January 11, 2011)
123. Sokolowski, M.B. "Guest Speaker: Experience the New Paradigm", Canadian Institutes for Advanced Research Board meeting, Canada, Ontario (January 14, 2011)
124. Sokolowski, M.B. "Introduction to EBBB", CIFAR meeting of the EBBB programme, Canada, British Columbia (February 10, 2011)
125. Sokolowski, M.B. "Biological embedding of early experience", Senior College, University of Toronto, Canada, Ontario February 23, 2011)
126. Sokolowski, M.B. "The foraging gene", Graduate Student's choice of speaker for 2011, University of Laussane, Switzerland (March 4, 2011)
127. Sokolowski, M.B. "Gene by environment interactions and epigenetics", Dept of Psychiatry Residents--Center for Addiction and Mental Health, University of Toronto, Canada, Ontario (March 18, 2011)
128. Sokolowski, M.B. "*foraging*: From nature to molecule. Department of Genetics, Evolution and Environment", Darwin Building, University College London, United Kingdom (March 25, 2011)
129. Sokolowski, M.B. "*foraging* gene pleiotropy", Department of Zoology, Cambridge University, United Kingdom (March 29, 2011)
130. Sokolowski, M.B. "Behaviour, Gene by Environment Interactions and Epigenetics", Canadian Genetic Epidemiology & Statistical Genetics Meeting, Canada, Ontario (May 11, 2011)
131. Sokolowski, M.B. "Genes and Behaviour", Biology Departmental Seminar, University of Toronto, Mississauga, Canada, Ontario (September 15, 2011)
132. Sokolowski, M.B. "Gene by environment interplay: the *foraging* gene", Department of Western Ontario Biology Department Seminar, Canada, Ontario (November 20, 2011)
133. Sokolowski, M.B. "The *foraging* gene: should I stay or should I go", Dept of Ecology and Evolutionary Biology Seminar, University of Toronto, Canada, Ontario (October 10, 2011)
134. Sokolowski, M.B. "Gene by environment interactions and epigenetics: animal models for human disorders", Child Development Conference, Canada, Ontario (November 11, 2011)
135. Sokolowski, M.B. "Gene-Environment Interplay", National Academy of Sciences Sackler Symposium on Biology Embedding of Early Adversity: from fruit flies to kindergarteners, United States, California (December 9, 2011)



136. Sokolowski, M.B. "The *foraging* gene: Gene-environment interdependencies in behavior", Genes and Behaviour Gordon Research Conference, United States, Texas (March 21, 2012)
137. Sokolowski, M.B. "Gene-environment interplay", CIFAR joint NCAP and EBBB workshop, Alton, Canada, Ontario (April 15, 2012)
138. Sokolowski, M.B. "Plenary Speaker: Gene-environment interplay in behavior", International Behaviour and Neurogenetics Conference Plenary Lecture, Boulder, United States, Colorado (May 16, 2012)
139. Sokolowski, M.B. "Invited speaker: Gene-Environment Interplay in Neuroeducation symposium", Neurodevnet Conference, Toronto Sept 2012, Canada, Ontario (September 23, 2012)
140. Sokolowski, M.B. "Gene-Environment interplay and the *foraging* gene", Behavioral Neurogenetics of Drosophila Larva: Janelia Farms Conference. Invited speaker Sept 2012., United States, Virginia (October 13, 2012)
141. Sokolowski, M.B. "A paradigm shift in our understanding of human development", Canadian Institute for Advanced Research review of the Experience based Brain and Biological Development Programme, With Tom Boyce; Canada, Ontario (November 1, 2012)
142. Sokolowski, M.B. "Symposium Speaker: Gene-Environment Interplay in early development", The New Science of Child Development; Canadian Institute for Advanced Research (CIFAR) and the Royal Society of Canada (RSC), Canada, Ontario (November 16, 2012)
143. Sokolowski, M.B. "Gene-Environment interplay", Distinguished Speaker Seminar, Department of Molecular and Cellular Biology, University of Guelph, Canada, Ontario (November 28, 2012)
144. Sokolowski, M.B. "Neurogenetics, Epigenetics and Gene-Environment Interactions", Seminar to Psychiatry residents. Center for Addiction and Mental Health, University of Toronto, Canada, Ontario (February 6, 2013)
145. Sokolowski, M.B. "Introduction of the Human Development and the Fraser Mustard Institute for Human Development", Peel Public Health; With Stephen Lye Canada, Ontario (February 7, 2013)
146. Sokolowski, M.B. "Setting the stage-transdisciplinary approaches to the autism enigma", CIFAR and Ontario Brain Institute Autism Workshop. Canada, Ontario (February 19, 2013)
147. Sokolowski, M.B. "Commentator on Public lecture on autism", CIFAR and Ontario Brain Institute commentator on Public lecture on autism by Steven Scherer, Canada, Ontario (February 20, 2013)
148. Sokolowski, M.B. "Genes and Behaviour", Later life learning course, University of Toronto, Canada, Ontario (March 1, 2013)

149. Sokolowski, M.B. "Invited Plenary Lecture: Behaviour genetics in simple animal models", East Coast Nervenet Meetings, United States, Massachusetts (March 22, 2013)
150. Sokolowski, M.B. "Invited lecture: Experience-the new paradigm", The W. Garfield Weston Foundation, United States, Florida (April 2, 2013)
151. Sokolowski, M.B. "Mechanisms underlying Gene-Environment interplay", Institute for Medical Sciences, University of Toronto, Canada, Ontario (April 4, 2013)
152. Sokolowski, M.B. "Invited lecture: Gene-Environment Interplay: From Fruit Flies to Humans", University of Toronto Senior Alumni: The Canadian Perspectives Lecture Series, Canada, Ontario, Canada, Ontario (April 17, 2013)
153. Sokolowski, M.B. "Invited seminar: Genes, Environment and Behaviour", Ecology and Evolutionary Biology, CNRS, Gif sur Yvette, France (April 29, 2013)
154. Sokolowski, M.B. "Invited speaker: Nutrition, metabolism, genes and behaviour", Insect Nutrition Meeting, Germany (May 5, 2013)
155. Sokolowski, M.B. "Gene-environment interplay in behavior", Genes, Circuits and Behaviour, Canada, Ontario (June 4, 2013)
156. Sokolowski, M.B. "Invited Speaker: How Our Genes Listen to the Environment", Canada-Israel Symposium on Brain Plasticity, Learning and Education; Organized by the Royal Society of Canada and the Israel Academy of Sciences and CIFAR, Canada, Ontario (June 15, 2013)
157. Sokolowski, M.B. "Child and Brain Development", Center on the Developing Child. Harvard University, United States, Massachusetts (June 18, 2013)
158. Sokolowski, M.B. "Why the early years matter for feeding, metabolism and life-long health", Norwegian Academy of Sciences-Ecology of Food Perception Group, Norway (August 22, 2013)
159. Sokolowski, M.B. "Gene-environment interplay: biological embedding of experience", Special presentation to The King's College Circle Heritage Society, Canada, Ontario (October 10, 2013)
160. Sokolowski, M.B. "Gene-Environmental Interplay: Biological Embedding of Experience", Harvard University, Boston (October 16, 2013)
161. Sokolowski, M.B. "Ontario Birth Study / Fraser Mustard Institute for Human Development", Fathers' Mental Health Network, Canada, Ontario (November 21, 2013)
162. Sokolowski, M.B. The forging gene and obesity. Unconventional Animal Models for Studies of Obesity and Aging. Norwegian Academy of Sciences, Oslo (March 2014).
163. Sokolowski, M.B. "Gene-environment interplay: biological embedding of experience", Presentation to the School of Psychology, Birkbeck, University of London, UK (April 9, 2014)

