

# ROBERT M FLIGHT, PH.D.

## CURRICULUM VITAE

Department of Chemistry, Dalhousie University, Halifax, NS B3H 4J3  
work: 902 494 7874 fax: 902 494 1310 cell: 902 220 0463  
email: rflight@dal.ca web: <http://myweb.dal.ca/rb504718>

### EDUCATION

- Ph.D., Analytical Chemistry, Dalhousie University, Halifax, NS, 2004-2009.  
Research Supervisor: Dr. P.D. Wentzell. Thesis title: *A Workflow for the Analysis of DNA Microarray Time-Course Data*
- M.Sc., Chemistry, University of New Brunswick, Fredericton, NB, 2002-2004.  
Research Supervisors: Dr. G Deslongchamps & Dr. L.A. Calhoun. Thesis title: *Development and Testing of SPLASH Docking with Acetylcholinesterase.*
- B.Sc., Biology – Chemistry, University of New Brunswick, Fredericton, NB, 1997-2002.

### RESEARCH INTERESTS

My primary research interests are in the areas where biology, chemistry, and computers intersect. This has ranged from using molecular docking tools to examine the interactions of ligands with an individual protein, to applying and refining tools used in the analysis of serial DNA microarray data. Both of these areas require an understanding of the basic chemistry involved, the biological systems, and an understanding how the software / algorithms worked. I believe that the ability to analyze biological / chemical data at both a singular level (protein - ligand interaction) and a systems level (\*omics) will be very important in coming years. I am interested in looking at ways to combine both these views in order to better understand basic biology and the basis of disease.

### PROFESSIONAL EXPERIENCE

PERIOD	POSITION	LOCATION
2009 (07)-Present	Research Assistant	Dalhousie University
2004-2009	Graduate Research/Teaching Assistant	Dalhousie University
2007 (08-12)	Research Assistant <sup>1</sup>	Institute of Marine Biosciences – National Research Council
2002-2004	Graduate Research/Teaching Assistant	University of New Brunswick
1999-2002	Teaching Assistant	University of New Brunswick

#### Notes

1. This work was performed as part of a MITACS Internship awarded to RM Flight.

### HONORS AND AWARDS

- University of New Brunswick, Faculty of Science Dean's List, 2002  
University of New Brunswick, Department of Chemistry Analytical Chemistry Award, 2001  
University of New Brunswick, Dr. Willard Miles Jenkins Scholarship, 1997

### PROFESSIONAL AFFILIATIONS

- International Society for Computational Biology  
Canadian Society for Systems Biology

## PROFESSIONAL ACTIVITIES

Dalhousie University CGSS Graduate Student Seminar Evaluation Committee, 2006-2007.  
Organizing committee member of the CIC-APICS Student Chemistry Conference, 2000.

## RESEARCH GRANTS AND CONTRACTS

AGENCY	TYPE	AMOUNT (\$ CDN)	PERIOD	TITLE
MITACS <sup>1</sup>	Internship	15,000	2007 (08-12)	“DNA Microarray Studies of the Effect of Diet on Halibut”

### Notes

1. Mathematics of Information Technology and Complex Systems (Canadian NCE). Industrial partner was the Institute of Marine Biosciences of the National Research Council at Halifax, NS.

## RESEARCH PUBLICATIONS AND PRESENTATIONS

### S. MANUSCRIPTS SUBMITTED FOR PUBLICATION

### J. REFEREED JOURNAL PUBLICATIONS

- J6. R.M. Flight and P.D. Wentzell, “Preliminary Exploration of Time-Course DNA Microarray Data with Correlation Maps”, *OMICS: A Journal of Integrative Biology*, Accepted September 2009.
- J5. R. Tauler, M. Viana, X. Querol, A. Alastuey, R.M. Flight, P.D. Wentzell, and P.K. Hopke, “Comparison of the results obtained by four receptor modeling methods in aerosol source apportionment studies”, *Atmospheric Environment*, 2009, **43**(26):3989-3997
- J4. H.M. Murray, S.P. Lall, R. Rajaselvam, L.A. Boutilier, R.M. Flight, B. Blanchard, S. Colombo, V. Mohindra, M. Yufera, and S.E. Douglas, “Effect of early introduction of microencapsulated diet to larval Atlantic Halibut, *Hippoglossus hippoglossus*, L. assessed by microarray analysis”, *Marine Biotechnology*, doi:10.1007/s10126-009-9211-4
- J3. R.M. Flight and P.D. Wentzell, “Potential Bias in GO::TermFinder”, *Briefings in Bioinformatics*, 2009, **10**(3):289-294 doi:10.1093/bib/bbn054
- J2. S.E. Douglas, L.C. Knickle, J. Williams, R.M. Flight and M.E. Reith, “A First Generation Atlantic Halibut *Hippoglossus hippoglossus* (L.) Microarray: Application to Developmental Studies”, *Journal of Fish Biology*, 2008, **72**(9):2391-2406
- J1. T.K. Karakach, R.M. Flight, and P.D. Wentzell, “Bootstrap Method for the Estimation of Measurement Uncertainty in Spotted Dual-Color DNA Microarrays”, *Analytical and Bioanalytical Chemistry*, 2007, **389**:2125-2141

### P. PRESENTATIONS

(\* = presenting author, § = poster)

- §P9. R.M. Flight\* and P.D. Wentzell, “What's in a Workflow? Understanding Time Course DNA Microarray Data Using Multivariate Curve Resolution”, Atlantic OMICS Symposium and Expo, Moncton, NB, Canada, August 19-20, 2008
- §P8. B. Wielens\*, R.M. Flight, and P.D. Wentzell, “The Gene Machine — Software for Gene Expression Analysis”, Poster Presentation, Atlantic OMICS Symposium and Expo, Moncton, NB, Canada, August 19-20, 2008
- §P7. J. Onochie\*, R.M. Flight, and P.D. Wentzell, “Investigation of Gene Expression Profiles in *Saccharomyces Cerevisiae* Exiting Stationary Phase”, Poster Presentation, Atlantic OMICS Symposium and Expo, Moncton, NB, Canada, August 19-20, 2008

- P6. P.D. Wentzell\*, R.M. Flight, J. Boutillier, B. Wielens, and J. Onochie, "From Measurement to Knowledge: A Workflow for Multivariate Curve Resolution of DNA Microarray Time Course Data", CAC 2008, 11th Conference on Chemometrics in Analytical Chemistry, Montpellier, France, June 30 - July 4, 2008
- §P5. J. Boutillier\*, R. Flight, and P. Wentzell, "Gridding Reproducibility in Spotted DNA Microarrays", Atlantic OMICS Symposium and Expo, Moncton, NB, Canada, August 2007
- P4. R.M. Flight\* and P.D. Wentzell, "Deciphering the Transcription Patterns of a Malaria Parasite Using Multivariate Curve Resolution", CAC 2006, 10th International Conference on Chemometrics in Analytical Chemistry, Aguas de Lindoia, Brazil, September 10-15, 2006
- §P3. R.M. Flight\* and P.D. Wentzell, "Deciphering the Transcription Patterns of a Malaria Parasite Using Multivariate Curve Resolution", Atlantic Microarray Symposium and Exposition, Moncton, NB, August 24-25, 2006
- §P2. R.M. Flight\*, L.A. Calhoun, and G. Deslongchamps, "SPLASH Docking" 36th American Chemical Society Central Regional Meeting, Indianapolis, June 2-4, 2004
- P1. R.M. Flight\* and L.A. Calhoun, "Molecular Docking of Acetylcholine and Butyrylcholine to Acetylcholinesterase and Butyrylcholinesterase: Using Probe Fragments to Screen for the Correct Binding Orientation", CIC-APICS Atlantic Student Chemistry Conference, Corner Brook, NF, May 2002