

Curriculum Vitae - **Jon A. Arnot, Ph.D.**
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Citizenship: Canadian

POSTDOCTORAL EXPERIENCE

University of Toronto Scarborough (UTSC)	Toronto, ON
Postdoctoral Research Scientist	2011 - 2012
NSERC Postdoctoral Fellow	2009 - 2010
Supervisor: Dr. Frank Wania	

EDUCATION

Trent University	Peterborough, ON
Doctor of Philosophy in Environmental and Life Sciences	2008
Thesis: Assessing the Exposure, Hazard and Risk of Organic Chemicals	
Supervisor: Dr. Don Mackay	

Simon Fraser University	Burnaby, BC
Master of Environmental Toxicology	2003
Thesis: Modelling the Bioaccumulation of Organic Chemicals in Aquatic Ecosystems	
Supervisor: Dr. Frank Gobas	

University of Alberta	Edmonton, AB
Bachelor of Science Specializing in Cell Biotechnology	1991

SCHOLARSHIPS AND AWARDS

NSERC Postdoctoral Fellowship	2009 – 2010
SETAC Best Student Paper Award	2009
Trent University President's Medal: best academic record, Ph.D. (Science)	2009
James M. McKim III Innovative Student Research Award	2008
NSERC Postgraduate Scholarship	2005 – 2008
Trent University Research Fellowship	2005

RELEVANT PROFESSIONAL EXPERIENCE

More than 10 years of research in the development, application and evaluation of methods and models to assess the exposure, hazard, and risk of organic chemicals to humans and the environment

Research and consulting: President, ARC Arnot Research & Consulting (Incorporated: 01/2010)

Teaching and lectures: Advanced Seminar in Environmental Science (Course Instructor - EES1100, UTSC), Environmental Chemistry (CHMB55, UTSC), Modelling the Fate of Organic Chemicals in the Environment (CHMD59/CHM1425/EES1121, UTSC), Applications of Modelling in the Natural and Social Sciences (AMOD5610, Trent University), Pollution Ecology (ERSC355, Trent), Current Issues in Environmental Science and Policy (ERSC/T395, Trent)

Workshops and training sessions: Bioaccumulation and Human Exposure Assessment Models, Physical-Chemical Properties (Health Canada and Environment Canada, Ottawa, ON), Exposure and Risk Assessment (NATO Advanced Study Institute, Sofia, Bulgaria), Food Web Bioaccumulation Modelling (European Chemicals Bureau Joint Research Commission, Ispra, Italy; European Food Safety Authority, Parma, Italy; SETAC Short Course, Montreal, QC)

REFEREED PUBLICATIONS (31)

- Costanza J, Boethling RS, Lynch DG, **Arnot JA**. 2012. Use of the bioaccumulation factor to screen chemicals for bioaccumulation potential. *Environ Toxicol Chem* DOI 10.1002/etc.1944
- Brown TN, **Arnot JA**, Wania F. 2012. Iterative fragment selection: A group contribution approach to predicting fish biotransformation half-lives. *Environ Sci Technol* DOI 10.1021/es301182a
- Breivik K, **Arnot JA**, Brown TN, McLachlan MS, Wania F. 2012. Screening organic chemicals in commerce for emissions in the context of environmental and human exposure. *J Environ Monit* 14:2028 - 2037
- Gama SR, Mackay D, **Arnot JA**. 2012. Selecting and designing chemicals: application of a mass balance model of chemical fate, exposure and effects in the environment. *Green Chem* 14:1094-1102.
- Burkhard L, **Arnot JA**, Embry M, Farley K, Hoke R, Kitano M, Leslie HA, Lotufo GR, Parkerton TF, Sappington KG, Tomy GT, Woodburn K. 2012. Comparing laboratory and field measured biota-sediment accumulation factors. *Integrated Environmental Assessment and Management* 8(1): 32-41.
- Burkhard L, **Arnot JA**, Embry M, Farley K, Hoke R, Kitano M, Leslie HA, Lotufo GR, Parkerton TF, Sappington KG, Tomy GT, Woodburn K. 2012. Comparing laboratory and field measured bioaccumulation endpoints. *Integrated Environmental Assessment and Management* 8(1): 17-31.
- Marvin CH, Tomy GT, Armitage JM, **Arnot JA**, McCarty LS, Covaci A, Palace V. 2011. Hexabromocyclododecane: current understanding of chemistry, environmental fate and toxicology and implications for global management. *Environ Sci Technol* 45(20): 8613-8623.
- Sverko E, Tomy GT, Reiner EJ, Li Y-F, McCarty BE, **Arnot JA**, Law RJ, Hites RA. 2011. Dechlorane Plus and related compounds in the environment: a review. *Environ Sci Technol* 45(12): 5088-5098.
- Mackay D, **Arnot JA**. 2011. The application of fugacity and activity to simulating the environmental fate of organic contaminants. *J Chem Eng Data* 56(4): 1348-1355.
- Mackay D, **Arnot JA**, Wania F, Bailey RE. 2011. Chemical activity as an integrating concept in environmental assessment and management of contaminants. *Integrated Environmental Assessment and Management* 7(2): 248-255.
- Arnot JA**, Armitage JM, McCarty LS, Wania F, Cousins I, Toose-Reid L. 2011. Toward a consistent evaluative framework for POP risk characterization. *Environ Sci Technol* 45(1): 97-103. Special Issue on Environmental Policy: Past, Present and Future - Invited
- McLachlan MS, Czub G, MacLeod M, **Arnot JA**. 2011. Bioaccumulation of organic contaminants in humans: A multimedia perspective and the importance of biotransformation. *Environ Sci Technol* 45(1): 197-202. Special Issue on Environmental Policy: Past, Present and Future
- Arnot JA**, Mackay D, Sutcliffe R, Lo B. 2010. Estimating farfield organic chemical exposures, intake rates and intake fractions to human age classes. *Environ Modell Softw* 25:1166-1175.
- Gobas FAPC, **Arnot JA**. 2010. Food web bioaccumulation model for polychlorinated biphenyls in San Francisco Bay, California, USA. *Environ Toxicol Chem* 29:1385-1395.
- Arnot JA**, Arnot MI, Mackay D, Couillard Y, MacDonald D, Bonnell M, Doyle P. 2010. Molecular size cut-off criteria for assessing bioaccumulation potential: Fact or fiction? *Integrated Environmental Assessment and Management* 6(2): 210-224.
- Arnot JA**, Mackay D, Parkerton TF, Zaleski RT, Warren CS. 2010. Multimedia modelling of human exposure to chemical substances: the roles of biomagnification and biotransformation. *Environ Toxicol Chem* 29(1): 45-55.
- Cowan-Ellsberry C, McLachlan M, **Arnot JA**, MacLeod MJ, McKone TE, Wania F. 2009. Modeling exposure to persistent chemicals in hazard and risk assessment. *Integrated Environmental Assessment and Management* 5(4): 662-679.

- Mackay D, **Arnot JA**, Petkova EP, Wallace KB, Call DJ, Brooke LT, Veith GD. **2009**. The physicochemical basis of QSARs for baseline toxicity. *SAR and QSAR in Environmental Research* 20: 393-414.
- Warren CS, Mackay D, Webster E, **Arnot JA**. **2009**. A cautionary note on implications of the well-mixed compartment assumption as applied to mass balance models of chemical fate in flowing systems. *Environ Toxicol Chem* 28(9): 1858-1865.
- Arnot JA**, Meylan W, Tunkel J, Howard PH, Mackay D, Bonnell M, Boethling RS. **2009**. A quantitative structure-activity relationship for predicting metabolic biotransformation rates for organic chemicals in fish. *Environ Toxicol Chem* 28(6): 1168-1177. **SETAC Best Student Paper Award**
- Powell A, Mackay D, Webster E, **Arnot JA**. **2009**. Modelling bioaccumulation using characteristic times. *Environ Toxicol Chem* 28(2): 272-278.
- Arnot JA**, Mackay D, Parkerton TF, Bonnell M. **2008**. A database of fish biotransformation rates for organic chemicals. *Environ Toxicol Chem* 27(11): 2263-2270.
- Arnot JA**, Mackay D. **2008**. Policies for chemical hazard and risk priority setting: can persistence, bioaccumulation, toxicity and quantity information be combined? *Environ Sci Technol* 42: 4648-4654.
- Arnot JA**, Mackay D, Bonnell M. **2008**. Estimating metabolic biotransformation rates in fish from laboratory data. *Environ Toxicol Chem* 27(2): 341-351.
- Parkerton TF, **Arnot JA**, Weisbrod AV, Russom C, Hoke RA, Woodburn K, Traas T, Bonnell M, Burkhard LP and Lampi, MA. **2008**. Guidance for evaluating in-vivo fish bioaccumulation data. *Integrated Environmental Assessment and Management* 4(2): 139-155.
- Weisbrod AV, Burkhard LP, **Arnot JA**, Mekenyan O, Howard PH, Russom C, Boethling R, Sakuratani Y, Traas T, Bridges T, Lutz C, Bonnell M, Woodburn K. **2007**. Workgroup report: review of fish bioaccumulation databases used to identify persistent, bioaccumulative, toxic substances. *Environ Health Persp* 115(2): 255-261.
- Arnot JA**, Mackay D, Webster E, Southwood J. **2006**. Screening level risk assessment model for chemical fate and effects in the environment. *Environ Sci Technol* 40: 2316-2323.
- Arnot JA**, Gobas FAPC. **2006**. A review of bioconcentration factor (BCF) and bioaccumulation factor (BAF) assessments for organic chemicals in aquatic organisms. *Environ Rev* 14: 257-297.
- Arnot JA**, Gobas FAPC. **2004**. A food web bioaccumulation model for organic chemicals in aquatic ecosystems. *Environ Toxicol Chem* 23(10): 2343-2355.
- Arnot JA**, Gobas FAPC. **2003**. A generic QSAR for assessing the bioaccumulation potential of organic chemicals in aquatic food webs. *QSAR Comb Sci* 22(3): 337-345.
- Gobas FAPC, Kelly BC, **Arnot JA**. **2003**. Quantitative structure-activity relationships for predicting the bioaccumulation of POPs in terrestrial food webs. *QSAR Comb Sci* 22(3): 329-336.

CHAPTERS IN BOOKS (4)

- Arnot JA**, Mackay D. Fugacity and bioaccumulation. **2010**. Vignette in *Fundamentals of Ecotoxicology*, Third Edition, Newman MC, Ed. CRC Press pp. 101-106.
- Mackay D, **Arnot JA**, Webster E, Reid L. **2009**. The evolution and future of environmental fugacity models. Chapter in *Ecotoxicology Modeling*. Devillers J, Ed. Springer pp. 355-375.
- Arnot JA**. **2009**. Mass balance models for chemical fate, bioaccumulation, exposure and risk assessment. Chapter in *Exposure and Risk Assessment of Chemical Pollution – Contemporary Methodology*. NATO Science for Peace and Security Series C: Environmental Security. Simeonov L and Hassanien M, Eds. Springer pp. 69-91.
- Arnot JA**. **2009**. Exposure and risk assessment modelling to screen and prioritize commercial chemical inventories. Chapter in *Exposure and Risk Assessment of Chemical Pollution – Contemporary Methodology*. NATO Science for Peace and Security Series C: Environmental Security. Simeonov L and Hassanien M, Eds. Springer pp. 93-109.

MANUSCRIPTS IN REVIEW (2)

- Arnot JA**, Brown TN, Wania F, Breivik K, McLachlan MS. Prioritizing chemicals and data requirements for screening level exposure and risk assessment. *Submitted to Environ Health Persp*
- Armitage JM, **Arnot JA**, Wania F, Mackay D. Development and evaluation of a mechanistic bioconcentration model for ionogenic organic chemicals in aquatic organisms. *Submitted to Environ Toxicol Chem*

MANUSCRIPTS IN PREPARATION (SELECTED)

- Nichols JW, Huggett DB, Cowan-Ellsberry CE, **Arnot JA**. Standardized models for predicting bioconcentration of well-metabolized compounds by rainbow trout using measured rates of in vitro intrinsic clearance.
- Arnot JA**, Quinn CL, Wania F. Dietary bioaccumulation testing methods and data interpretation: a critical review.
- Quinn CL, **Arnot JA**, Wania F. A generalized bioaccumulation fish model with internally consistent bioenergetics.

INVITED PRESENTATIONS AND LECTURES AT NATIONAL AND INTERNATIONAL ORGANIZATION MEETINGS AND WORKSHOPS (25)

- Arnot JA. 2012.** Improving mechanistic models for bioaccumulation assessment. HESI Bioaccumulation Project Committee *In Vivo* Experts Workshop. May 17-18, German Federal Environment Agency (UBA), Berlin, Germany.
- Arnot JA**, Brown T, Papa E, Gramatica P, Dimitrov S, Mekenyan O, Janzen W, Schüürmann G, Meylan B, Howard P. **2011.** A framework to improve *in vivo* biotransformation rate constant estimation. Society of Environmental Toxicology and Chemistry (SETAC) Conference Special Symposium: “Bioaccumulation – lessons learned and challenges ahead”, November 13-17, Boston, MA.
- Arnot JA. 2011.** Addressing key data gaps and issues for establishing linkages to high throughput risk assessment (HTRA). Exposure-Based Chemical Prioritization Workshop II: Extending Capabilities for High Throughput Assessment. United States Environmental Protection Agency, September 26-27, Research Triangle Park, NC, USA
- Mackay D, **Arnot JA. 2011.** Mass balance models of the environmental fate of chemicals and Bioaccumulation and human exposure assessment models. Workshop for Health Canada and Environment Canada, February 28-March 1, Ottawa, ON.
- Arnot JA. 2011.** Biotransformation rates and dietary uptake efficiencies: measurements and models. Plenary for HESI Bioaccumulation Project Committee Workshop “Moving bioaccumulation assessments to the next level: progress made and challenges ahead”, February 8-10, Alexandria, VA.
- Arnot JA**, Armitage JM. **2011.** Food web bioaccumulation models. Lecture for European Food Safety Authority (EFSA), February 1, Parma, Italy.
- Arnot JA. 2010.** Methods for organic chemical screening and priority setting. Plenary at the Industry Coordinating Group Canadian Environmental Protection Act update conference, May 12-13, Etobicoke, ON.
- Arnot JA. 2010.** Models for organic chemical exposure and risk assessment. Presentation for Environment Canada and Health Canada, April 1, Gatineau, QC.
- Arnot JA. 2010.** Estimating persistence, bioaccumulation and future directions for exposure-based prioritization. Plenary at the United States Environmental Protection Agency Exposure-Based Chemical Prioritization Workshop: Exploring Opportunities for Collaboration, April 6-7, Research Triangle Park, NC.

- Arnot JA, Mackay D, Webster E, Wania F. 2009.** Tracking emissions from indoor sources to tissues using fugacity mass balance models. Presentation at the International Society of Exposure Science (ISES) Annual Conference, November 1-5, Minneapolis MN.
- Arnot JA, Mackay D, Wania F. 2009.** Multimedia human exposure and pharmacokinetic models for screening assessments. Presentation at the ISES Annual Conference, November 1-5, Minneapolis MN.
- Arnot JA, McCarty LS, Armitage J, Toose-Reid L, Wania F, Cousins I. 2009.** An evaluation of hexabromocyclododecane (HBCD) for persistent organic pollutant (POP) properties and the potential for adverse effects in the environment. Presentation at the United Nations Environment Programme Stockholm Convention Persistent Organic Pollutant Review Committee 5, Contact Group Meeting, October 13, Geneva, Switzerland.
- Arnot JA. 2009.** Holistic mass balance modeling approach for chemical screening and priority setting. Web-based presentation for the United States Environmental Protection Agency Exposure Science Community of Practice (ExpoCoP), July 14.
- Arnot JA, Mackay D, Parkerton TF, Meylan W, Tunkel J, Howard P, Mackay D, Boethling RS, Bonnell M. 2008.** In vivo metabolic biotransformation rate estimation and in silico prediction for organic chemicals in fish. Presentation at the SETAC Conference, November 16-20, Tampa Bay, FL.
- Arnot JA. 2008.** A thought starter for chemical prioritization. Presentation at Environment Canada and Health Canada DSL Priority Setting Workshop, June 17-18, Ottawa, ON.
- Arnot JA. 2008.** Methods to assess exposures and risks of chemicals released to the environment. Lectures at NATO Advanced Study Institute on Exposure and Risk Assessment - Contemporary Methodology, July 1-11, Sofia, Bulgaria.
- Arnot JA, Mackay D. 2007.** Chemical concentration, activity, fugacity, and toxicity: dynamic implications. Presentation at the International QSAR Foundation McKim Conference, September 24-27, Duluth, MN.
- Gobas FAPC, **Arnot JA. 2006.** Food web bioaccumulation modeling of organic substances. Short Course Instructor for a Workshop at the SETAC Conference, November 5-9, Montreal, QC.
- Arnot JA, Gobas FAPC, Bonnell, M. 2006.** BCF and BAF models for organic chemicals in aquatic species. Lecture at European Chemicals Bureau Training Course on (Q)SARs, July 24-26, Ispra, Italy
- Arnot JA, Mackay D, Webster E, Southwood J. 2006.** RAIDAR: a screening level risk assessment model for chemical fate and effects in the environment. Presentation at the Organisation for Economic Cooperation and Development (OECD) Workshop on the Application of Models for Identification of POPs, May 31-June 2, Ottawa, ON.
- Arnot JA. 2005.** Bioaccumulation databases, quality assessment and evolution. Presentation at the Industry Coordinating Group for Canadian Environmental Protection Act Meeting, December 2, Mississauga, ON.
- Arnot JA, Gobas FAPC. 2005.** Environment Canada BCF and BAF database. Presentation at the ILSI-HESI Bioaccumulation of Chemicals Subcommittee *In Vivo* Bioaccumulation Database Workshop, November 11-12, Baltimore, MD.
- Arnot JA, Gobas FAPC. 2005.** The BAF-QSAR Model. Presentation at the ILSI-HESI and Procter & Gamble Sponsored Bioaccumulation Workshop, April 12-14, Cincinnati, OH.
- Arnot JA, Mackay D. 2004.** ComET Farfield Modelling Health Canada's Complex Exposure Tool (ComET), Presentation at Peer Consultation Workshop for ComET, November 8, Cincinnati, OH.
- Arnot JA, Gobas FAPC. 2002.** A site-specific model for assessing bioaccumulation in aquatic food webs. Presentation at the Aquatic Toxicity Workshop, October 20-24, Whistler, BC.

INVITED PARTICIPANT AT NATIONAL AND INTERNATIONAL WORKSHOPS (4)

- Advancing Exposure Science to Improve Chemical Safety Workshop. **2011**. Co-organized by International Council of Chemical Associations' Long-Range Research Initiative (ICCA-LRI) and Health Canada, June 22-23, Quebec City, QC.
- Exposure-Based Chemical Prioritization Workshop: Exploring Opportunities for Collaboration. **2010**. United States Environmental Protection Agency, April 6-7, Research Triangle Park, NC, USA
- Lab-to-Field Bioaccumulation Workshop. **2009**. Co-sponsored by the Health and Environmental Sciences Institute (HESI) and the United States Environmental Protection Agency and SETAC, November 18-19, New Orleans, LA.
- SETAC Pellston Workshop on Science-Based Guidance and Framework for the Evaluation and Identification of PBTs and POPs. **2008**. January 27-February 1, Pensacola, FL. (*1 of 3 international PhD students selected to attend*)

OTHER PRESENTATIONS, TECHNICAL REPORTS & NON-REFEREED PUBLICATIONS (101)

- Arnot JA**, Mackay D, McCarty L. **2012**. A tiered modeling approach for simulating toxicokinetics of baseline narcosis in aquatic organisms. SETAC Conference, November May 20-24, Berlin, Germany.
- Arnot JA**, Brown TN, Breivik K, Wania F, McLachlan MS. **2012**. Development, application, and evaluation of models for screening organic chemical exposures to humans. SETAC Conference, November May 20-24, Berlin, Germany.
- Arnot JA**, Armitage JM, Reid L, Wania F, Mackay D. **2012**. Simulating ionogenic chemical fate, bioaccumulation and exposure with RAIDAR. SETAC Conference, November May 20-24, Berlin, Germany.
- Brown TN, **Arnot JA**. **2012**. Prediction of environmental and biological degradation half-lives with quantitative structure-activity relationships. SETAC Conference, November May 20-24, Berlin, Germany.
- Arnot JA**, Armitage J, Gilbert N, Wang J. **2012**. Developing databases and methods to address uncertainty in microbial chemical biodegradation estimates for ecological and human health assessment. Technical Report for Health Canada.
- Arnot JA**. **2012**. Technical workshop and training session for the new Health Canada Far-field Human Exposure (FHX-CAN) model. Ottawa, ON, March 8.
- Arnot JA**, Hughes L, Mackay D. **2012**. Development of a new Health Canada Far-field Human Exposure (FHX-CAN) model including selected regional Canadian environments. Technical Report for Health Canada.
- Arnot JA**. **2012**. Bioaccumulation test method validation: comparative analysis of trout and carp results from an OECD ring test. Technical Report for United Kingdom Environment Agency.
- Arnot JA**. **2012**. Exploring the fate, bioaccumulation and exposure potential of ionogenic chemicals released to the environment using the RAIDAR model. Technical Report for Unilever.
- Arnot JA**. **2011**. Parameterization and application of the RAIDAR model to support prioritization and assessment of substances. Technical Report for Environment Canada.
- Brown TN, **Arnot JA**, Wania F. **2011**. Generation of 2D QSARs for properties relevant to chemical prioritization. SETAC Conference, November 13-17, Boston, MA.
- Brown TN, **Arnot JA**, Wania F. **2011**. Evaluating overall degradability of chemicals with QSARs. SETAC Conference, November 13-17, Boston, MA.
- Mackay D, Gobas F, **Arnot JA**. **2011**. Exploiting relationships between metrics of biouptake in fish to improve laboratory to field extrapolation. SETAC Conference, November 13-17, Boston, MA.
- Arnot JA**. **2011**. Exposure based prioritization of organic chemicals and data needs using the RAIDAR and FHX models. International Society of Exposure Science (ISES) Conference, US EPA Symposium "Exposure based prioritization of chemicals: A global challenge" October 23-27, Baltimore, MD.

- Hermens J, **Arnot JA**, van der Heijden S, Jonker M, Mackay D, Mayer P, McCarty L. **2011**. The CEFIC ECO16 project: Critical body residue validation for aquatic organisms exposed to chemicals causing toxicity by baseline narcosis. SETAC Conference, May 15-19, Milan, Italy.
- Arnot JA**. **2011**. Using exposure models to identify data gaps and develop knowledge infrastructure. SETAC Europe and International Society of Exposure Science (ISES) Joint Special Session “Emerging exposure science for developing chemical regulatory policy: REACH, Biocides, TSCA reform”, SETAC Conference, May 15-19, Milan, Italy.
- Armitage JM, **Arnot JA**, Wania F, Mackay D. **2011**. The development and evaluation of a mass balance bioaccumulation model for ionogenic chemicals in fish. SETAC Conference, May 15-19, Milan, Italy.
- Arnot JA**, Burkhard L, Reid L. **2011**. Applying multimedia models to calculate trophic magnification factors (TMFs): exploring basic assumptions and the role of the physical environment. SETAC Conference, May 15-19, Milan, Italy.
- Malmvärn A, Kierkegaard A, Radke M, Alsberg T, McLachlan MS, **Arnot JA**, Breivik K, Brown T, Wania F. Dicyclohexylamine: Discover of an environmental contaminant using in-silico screening tools. SETAC Conference, May 15-19, Milan, Italy.
- Breivik K, **Arnot JA**, Brown TN, Wania F, McLachlan MS. **2011**. A high-throughput method to screen organic chemicals in commerce for emissions. SETAC Conference, May 15-19, Milan, Italy.
- Arnot JA**, Brown TN, Wania F, McLachlan MS, Breivik K. **2011**. Screening and prioritizing chemicals based on far-field human exposure. SETAC Conference, May 15-19, Milan, Italy.
- Arnot JA**. **2011**. Updating the RAIDAR and FHX models to aid in the prioritization and assessments of chemicals including ionisable substances. Technical Report for Health Canada.
- Arnot JA**, Armitage JM. **2011**. Modelling the bioaccumulation of long chain amines (cationic surfactants) in fish. Technical Report for the APAG Companies.
- Arnot JA**, Armitage JM. **2011**. Modelling the bioconcentration of long chain amines (cationic surfactants) in fish. Technical Report for the APAG Companies.
- Arnot JA**. **2011**. Exploring uncertainty in biotransformation half-lives when modelling the bioaccumulation of bifenthrin in aquatic systems. Technical Report for FMC Corporation.
- Arnot JA**. **2010**. The application of the RAIDAR and FHX models for the rapid exposure-based prioritization of selected organic chemicals. Technical Report for United States Environmental Protection Agency.
- Mackay D, Reid L, MacLeod M, **Arnot JA**. **2010**. Towards a global source-receptor analysis for persistent organic chemicals. PacifiChem Conference, December 15-20, Honolulu, HI.
- Arnot JA**. **2010**. Estimating chemical absorption efficiency from dietary exposures and degradation rate constants in the gastro-intestinal tract. Technical Report for Environment Canada.
- Arnot JA**, Burkhard L, Reid L. **2010**. Exploring the use of multimedia fate and bioaccumulation models to calculate trophic magnification factors (TMFs). SETAC Conference, November 7-11, Portland, OR.
- Arnot JA**, Armitage JM, Mitchell GC, Leggett MF, O’Grodnick J, Eickhoff CV, Hardy I. **2010**. Integrating laboratory and field data with mass balance models for bioaccumulation and exposure assessment: A case study with bifenthrin. SETAC Conference, November 7-11, Portland, OR.
- Burkhard L, **Arnot JA**, Embry M, Farley K, Hoke R, Kitano M, Leslie HA, Lotufo G, Parkerton T, Sappington K, Tomy G. **2010**. Comparing laboratory and field measured bioaccumulation endpoints. SETAC Conference, November 7-11, Portland, OR.
- Lee SH, **Arnot JA**, Wania F, Yim BJ, Huh YJ, Kim SD. **2010**. Risk assessment of organic pollutants in the Yeongsan and Seomjin Rivers, South Korea. SETAC Conference, November 7-11, Portland, OR.
- Arnot JA**, Brown TN, Wania F, McLachlan MS, Breivik K. **2010**. Prioritizing chemicals and data requirements for exposure and risk assessment. SETAC Conference, May 23–27, Seville, Spain.

- Mackay D, Reid L, **Arnot JA**, Powell D. **2010**. Where have all the siloxanes gone? Evaluating fate and transport of a "challenging" class of chemical substances using an updated, state of the science Equilibrium Criterion (EQC) model. SETAC Conference, May 23–27, Seville, Spain.
- Brown TN, **Arnot JA**, Wania F. **2010**. Prediction of metabolic biotransformation half-lives using iterative fragment selection (IFS). SETAC Conference, May 23–27, Seville, Spain.
- Papa E, Moccia A, Gramatica P, **Arnot JA**, Mackay D. **2010**. Metabolic biotransformation in fish: A QSAR approach. SETAC Conference, May 23–27, Seville, Spain.
- Burkhard L, **Arnot JA**, Embry M, Farley K, Hoke R, Kitano M, Leslie HA, Lotufo G, Parkerton T, Sappington K, Tomy G. **2010**. Comparison of laboratory and field measured bioaccumulation endpoints. SETAC Conference, May 23–27, Seville, Spain.
- Breivik K, Arnot JA, Brown TN, Wania F, McLachlan MS. **2010**. Screening organic chemicals in commerce for emissions. SETAC Conference, May 23–27, Seville, Spain.
- Arnot J**, Armitage J. **2009**. Bioaccumulation and exposure modelling of bifenthrin in aquatic ecosystems. Technical Report for FMC Corporation.
- Arnot J**, Armitage J. **2009**. Application of mass balance models to interpret bifenthrin bioaccumulation data from an Alabama pond field study. Technical Report for FMC Corporation.
- Armitage J, **Arnot J**. **2009**. Evaluative assessment of the bioaccumulation potential of bifenthrin (CAS RN 82657-04-3) in a simplified terrestrial food-chain. Technical Report for FMC Corporation.
- Arnot J**, Brown T, Wania F, McLachlan M, Breivik K. **2009**. QSARs and mass balance models for screening level exposure and risk assessment. SETAC Conference, November 19–23, New Orleans, LA.
- Mackay D, **Arnot JA**. **2009**. Can the combination of Lewis's fugacity, Ferguson's activity hypothesis and Lipnick's excess toxicity form the basis of a new generation of multi-media environmental QSARs? SETAC Conference, November 19–23, New Orleans, LA.
- Burkhard L, Hoke R, **Arnot J**, Lotufo G, Parkerton T, Sappington K. **2009**. Comparison of laboratory measured BCFs, BMFs, and BSAFs to field measured BAFs, BMFs, and BSAFs. SETAC Conference, November 19–23, New Orleans, LA.
- Mekenyan O, Dimitrov S, Dimitrova N, **Arnot J**, Bonnell M, Parkerton T. **2009**. QSAR model for predicting rate of metabolism in fish. SETAC Conference, November 19–23, New Orleans, LA.
- Arnot JA**, Brown T, Wania F, McLachlan M, Breivik K. **2009**. Screening organic chemical inventories for human exposure potential. 12th EuChemS International Conference on Chemistry and the Environment (ICCE), June 14-17, Stockholm, Sweden.
- Arnot JA**, McCarty LS, Armitage J, Toose-Reid L, Wania F, Cousins I. **2009**. An evaluation of hexabromocyclododecane (HBCD) for persistent organic pollutant (POP) properties and the potential for adverse effects in the environment. Technical Report for European Brominated Flame Retardant Industry Panel (EBFRIP).
- Arnot JA**, Mackay D. **2008**. Do current chemical assessment methods effectively identify chemicals of greatest concern?: implications and importance to REACH. SETAC Conference, November 16-20, Tampa Bay, FL.
- Mackay D, Reid L, **Arnot JA** **2008**. Global scale modeling of contaminant transport: the role of the Distant Residence Time concept. SETAC Conference, November 16-20, Tampa Bay, FL.
- Arnot JA**, Mackay D, Parkerton TF, Zaleski RT, Warren CS. **2008**. The influence of biomagnification and biotransformation on exposure assessments in a regional environment. SETAC Conference, November 16-20, Tampa Bay, FL.
- McLachlan M, Czub G, MacLeod M, **Arnot J**. **2008**. Overall bioaccumulation from a multimedia perspective – What is the relative importance of partitioning properties and metabolic biotransformation? SETAC Conference, November 16-20, Tampa Bay, FL.
- McLachlan M, **Arnot J**, MacLeod M, McKone T, Wania F, Cowan-Ellsberry CE. **2008**. Using fate and exposure models in the evaluation of potential POPs. SETAC Conference, November 16-20, Tampa Bay, FL.

- MacLeod MJ, **Arnot J**, McLachlan M, Wania F. **2008**. Tracking the sources, transport, and fate of persistent pollutants at regional, continental, and global scales. International Society of Environmental Epidemiology and International Society of Exposure Analysis (ISEE and ISEA) Joint Annual Conference, October 12-16, Pasadena, CA.
- McKone TE, **Arnot J**, Sohn M, Vallero D. **2008**. Characterizing source-to-dose relationships for persistent pollutants. ISEE and ISEA Joint Annual Conference, October 12-16, Pasadena, CA.
- Cowan-Ellsberry CE, McKone TE, Vallero D, McLachlan M, MacLeod MJ, Wania, F, **Arnot, J**. **2008**. The role of models in an international framework for characterizing persistence, long-range transport and exposure for POPs. ISEE and ISEA Joint Annual Conference, October 12-16, Pasadena, CA.
- McCarty LS, **Arnot JA**. **2008**. Ecological risk assessment for pyridalyl. Presentation to FIFRA SAP on Selected Issues Associated with the Risk Assessment Process for Pesticides with P, B, and T Characteristics, October 28-31, Washington, DC.
- McCarty LS, **Arnot JA**. **2008**. Ecological risk assessment for pyridalyl. Technical Report for Valent USA Corporation.
- Arnot JA**. **2008**. Aquatic exposure estimates for bifenthrin based on four application scenarios. Technical Report for FMC Corporation.
- Arnot JA**, Meylan W, Tunkel J, Howard P, Mackay D, Boethling RS, Bonnell M. **2008**. Predicting metabolic biotransformation rates for fish. QSAR Conference 2008, June 8-12, Syracuse, NY.
- Arnot JA**, Mackay D. **2008**. Combining persistence, bioaccumulation, toxicity and quantity information for hazard and risk assessment. QSAR Conference 2008, June 8-12, Syracuse, NY.
- Leggett MF, **Arnot JA**, Fay D, Rose A, Miyamoto M. **2008**. Aquatic risk of plant protection products with low solubility. 4th Pan Pacific Conference on Pesticide Science, June 1-4, Honolulu, HI.
- Arnot JA**, Mackay D. **2008**. Estimation of human intake fractions and total body burdens for selected persistent organic pollutants and petrochemicals. Technical Report for ExxonMobil Biomedical Sciences Inc.
- Arnot JA**. **2007**. A critical review of proposals for molecular size restrictions in bioaccumulation assessments. Technical Report for Environment Canada.
- Arnot JA**, Mackay D, Bonnell, M. **2007**. Estimating metabolic biotransformation rates in fish from laboratory data. SETAC Conference, November 11-15, Milwaukee, WI.
- Mackay D, Webster E, Hubbarde JE, **Arnot JA**. **2007**. Towards a credible model of chemical bioaccumulation in plants. SETAC Conference, November 11-15, Milwaukee, WI.
- Arnot JA**, Mackay D. **2007**. Risk prioritization for a subset of Domestic Substances List chemicals using the RAIDAR model. CEMC Report No. 200703. Technical Report for Environment Canada.
- Mackay D, **Arnot JA**, Hickie B, Wania F, Webster E. **2007**. Towards a strategy for reviewing substance profiles prepared under Environment Canada's "Challenge" program. Technical Report for Environment Canada.
- Arnot JA**, Gobas FAPC, Mackay D, Bonnell, M. **2006**. A tiered method to assess the bioaccumulation of organic chemicals in aquatic systems. SETAC Conference, November 5-9, Montreal, QC.
- Arnot JA**, Mackay D, Webster E, Southwood J. **2006**. RAIDAR: A modelling approach to assess risk and uncertainty of organic chemicals released to the environment. SETAC Conference, November 5-9, Montreal, QC.
- Mackay D, **Arnot JA**, Powell A. **2006**. Understanding and displaying bioaccumulation and biomagnification in organisms and food webs. SETAC Conference Montreal, QC (November 5-9).
- Bonnell M, **Arnot JA**. **2006**. Effect of fish biotransformation rate on the bioaccumulation and biomagnification potential of substances regulated under CEPA: case studies from wildlife risk assessment. SETAC Conference, November 5-9, Montreal, QC.

- Mackay D, **Arnot JA**, Webster E. **2006**. Evaluating potential PBT substances: The Fractional Approach to Toxic Effects (FATE) model. American Chemical Society National Meeting, September 10-14, San Francisco, CA.
- Gobas FAPC, **Arnot JA**. **2006**. Assessing B(ioaccumulation) of commercial chemicals. American Chemical Society National Meeting, September 10-14, San Francisco, CA.
- Bonnell M, Robinson P, Davidson N, **Arnot JA**, Gobas FAPC. **2006**. Canadian bioaccumulation experience from the assessment of substances under CEPA. HESI/JRC/SETAC Europe Workshop on Bioaccumulation Assessments, May 5-6, Brussels, Belgium.
- Gobas FAPC, **Arnot JA**. **2006**. Lessons learned from the evaluation of bioconcentration and bioaccumulation factors of commercial chemicals. ILSI-HESI Meeting.
- Gobas FAPC, Moore MM, Hermens JLM, **Arnot JA**. **2006**. Bioaccumulation reality check. SETAC Globe, Learned Discourse 7(5): 40-41.
- Arnot JA**, Mackay D, Webster E. **2006**. Health Canada Farfield Model. Technical Report for Health Canada.
- Mackay D, **Arnot JA**. **2006**. The toxicity of organic chemicals: does a fugacity perspective help? SETAC Globe, Learned Discourse 7(3): 23-24.
- Arnot JA**. **2006**. Bioconcentration factor and bioaccumulation factor assessments for organic chemicals on the Canadian Domestic Substances List: Database update. Technical Report for Environment Canada.
- Arnot JA**. **2006**. Estimates of metabolic transformation rates in fish. Technical Report for Environment Canada.
- Arnot JA**, Mackay D, Webster E, Southwood J. **2005**. Screening level risk assessment model for chemical fate and effects in the environment. SETAC Conference, November 13-18, Baltimore, MD.
- Mackay D, **Arnot JA**. **2005**. Paracelsus got it wrong: fugacity makes the poison. SETAC Conference, November 13-18, Baltimore, MD.
- Arnot JA**, Mackay D, Toose-Reid L, Macleod M. **2005**. Modelling the long range transport of contaminants to the arctic: a contribution to international negotiations on POPs. Northern Contaminants Program Results Workshop, September 27-29, Victoria, BC.
- Arnot JA**, Mackay D, Toose-Reid L, Ponce-Hernandez R. **2005**. Towards a BETR-Africa: fate and risk assessment of persistent organic pollutants originating in Africa at local, regional and global scales. Dioxin Conference, August 21-26, Toronto, ON.
- Arnot JA**, Gouin T, Mackay D. **2005**. Practical methods for estimating environmental biodegradation rates. CEMN Report No. 200503. Technical Report for Environment Canada.
- Webster E, Mackay D, Wania F, **Arnot JA**, Gobas F, Gouin T, Hubbarde J, Bonnell, M. **2005**. Development and application of models of chemical fate in Canada: modelling guidance document. CEMN Report No. 200501. Technical Report for Environment Canada.
- Arnot JA**, Mackay D. **2004**. Proceedings of a workshop on the environmental fate of fluorotelomer-based polymers. Canadian Environmental Modelling Network Report No 200401.
- Arnot JA**. **2004**. Recommendations on the bioaccumulation categorization of 502 DSL chemicals. Technical Report for Environment Canada.
- Arnot JA**, Gobas FAPC. **2004**. Application of a food web bioaccumulation model as an ecosystem approach to sediment target levels: a case study for PCBs in SFB. Fourth SETAC World Congress, November 13-18, Portland, OR.
- Arnot JA**. **2004**. Compilation and quality assessment of bioconcentration and bioaccumulation factors for 502 chemicals for the DSL categorization. Technical Report for Environment Canada.
- Arnot JA**. **2004**. Recommendations on the bioaccumulation categorization of 502 DSL chemicals. Technical Report for Environment Canada.
- Gobas FAPC, **Arnot JA**. **2004**. San Francisco Bay PCB food web model. Technical Report for San Francisco Bay Regional Monitoring Program.

Arnot JA. 2004. Recommendations on the bioaccumulation categorization of 648 DSL chemicals. Technical Report for Environment Canada.

Gobas FAPC, **Arnot JA. 2003.** The categorization of organic chemicals on the Domestic Substances List for bioaccumulation potential. Technical Report for Environment Canada.

Gobas FAPC, **Arnot JA. 2003.** Identification of Bioconcentration and Bioaccumulation Factors for 8,000 DSL Substances. Technical Report for Environment Canada.

Arnot JA, Gobas FAPC. 2002. A QSAR for categorizing the bioaccumulation potential of organic chemicals in aquatic food chains QSAR Conference, May 25-29, Ottawa, ON.

Gobas FAPC, **Arnot JA. 2002.** Variability of bioconcentration and bioaccumulation factors with experimental conditions. Technical Report for Environment Canada.

Gobas FAPC, **Arnot JA. 2001.** Bioaccumulation categorization of organic chemical substances on the DSL. Technical Report for Environment Canada.

Arnot JA, Gobas FAPC. 2001. Evaluation of QSAR and simulation models for the screening of potentially bioaccumulative substances. SETAC Conference, May 6-10, Madrid, Spain.

Gobas FAPC, **Arnot JA. 2000.** The application of bioaccumulation models for the categorization and screening of chemical substances on the DSL. Technical Report for Environment Canada.

Gobas FAPC, **Arnot JA. 2000.** Identification of bioconcentration and bioaccumulation factors for DSL substances. Technical Report for Environment Canada.

SUCCESSFUL GRANT AND RESEARCH FUNDING (27)

Unilever: Expanding the evaluation of the chemical activity hypothesis for toxicity and risk assessment (2012 – 2014). **Principal investigator**

Northern Contaminants Program (NCP): Quantifying the effect of transient and permanent dietary transitions in the north on human exposure to persistent organic pollutants (2012 – 2014). **Co-applicant**

American Chemistry Council Long-Range Research Initiative (ACC-LRI): Developing, applying and evaluating models for screening level chemical exposure and risk assessment (2012 – 2014). **Principal investigator**

International Life Sciences Institute - Health and Environmental Sciences Institute (ILSI – HESI): Update of laboratory BCF and BMF databases for fish and calibration/verification of improved mechanistic models for bioaccumulation assessment (2012 – 2013). **Principal investigator**

Health Canada: Developing and applying methods to reduce uncertainty in chemical biodegradation rate estimates for ecological and human health assessment (2012). **Principal investigator**

The Research Council of Norway, Leiv Eiriksson Mobility Grant: Merging food web contaminant empirical and modeling expertise - Visiting Researcher Dr. Jon Arnot (2012). **Co-applicant**

Stockholm University: Grant for Internationally Renowned Visiting Scientists and Postdocs (2012). **Co-applicant**

Health Canada: Development of a new Health Canada Far-field Human Exposure (FHX-CAN) model including selected regional Canadian environments (2011 – 2012). **Principal investigator**

ExxonMobil Biomedical Sciences Inc.: Exploring the role of plant biotransformation on human exposure to organic chemicals (2011 – 2013). **Principal investigator**

Health Canada and Environment Canada: Development, evaluation and application of novel methods for exposure and risk assessment for ‘problematic’ CMP substances (2011 – 2014). **Co-applicant**

Unilever: Exploring the fate, bioaccumulation and exposure potential of ionogenic chemicals released to the environment using the RAIDAR model (2011 – 2012). **Principal investigator**

Health Canada: Model updates and work to aid in the prioritization and assessments of chemicals including ionisable substances (2010 – 2011). **Co-principal investigator**

U.S. Environmental Protection Agency: Rapid exposure-based prioritization of environmental chemicals (2010 – 2011). **Principal investigator**

Northern Contaminants Program (NCP): Bioaccumulation modelling of current use pesticides and new organohalogenes in Arctic marine and terrestrial food webs (2010 – 2011). **Co-principal investigator**

European Chemical Industry Council Long-range Research Initiative (Cefic-LRI) ECO 16: Generate a validated CBB database and validate a CBB chronic toxicity range for narcotics (2010 – 2013). **Co-applicant**

European Chemical Industry Council Long-range Research Initiative (Cefic-LRI) ECO 15: Rapid estimation of trophic magnification factor (TMF) using laboratory, field and computer modelling methods in aquatic organisms (2010 – 2013). **Co-applicant**

European Oleochemicals and Allied Products Group (APAG): Assessing the bioaccumulation potential of long chain amines (cationic surfactants) in fish (2010 – 2011). **Principal investigator**

Environment Canada: Revising models for estimating chemical dietary uptake efficiency in fish (2009 – 2010). **Principal investigator**

European Chemical Industry Council Long-range Research Initiative (Cefic-LRI) ECO 13: Applying and verifying PBT/POP models through comprehensive screening of chemicals (2009 – 2012). **Co-applicant**

European Brominated Flame Retardant Industry Panel (EBFRIP): Systematic scientific evaluation of HBCD for Persistent Organic Pollutant (POP) properties according to the UNEP Stockholm Convention criteria and comparison with existing classified POPs (2009 – 2010). **Principal investigator**

Health Canada and Environment Canada: Screening Chemical Management Plan chemicals to identify those with the greatest exposure potential to humans and wildlife (2008 – 2011). **Co-applicant**

Canadian Environmental Protection Act Industry Coordinating Group: Postdoctoral Research Grant (2008). **Principal investigator**

International Life Sciences Institute - Health and Environmental Sciences Institute (ILSI – HESI): Funding to support the development of a QSAR model to predict biotransformation rates of organic chemicals in fish (2008). **Principal investigator**

Environment Canada: A critical evaluation of the limitations and uncertainties associated with the use of molecular size information when evaluating the bioaccumulation of substances (2007). **Principal investigator**

Environment Canada: Develop and evaluate a method to calculate probability distributions for rates of organic chemical biotransformation by fishes (2007). **Co-principal investigator**

ExxonMobil Biomedical Sciences Inc.: Development of a model to estimate human intake fractions and compare results with estimates calculated by the European Union System for the Evaluation of Substances (2006 – 2007). **Co-applicant**

Environment Canada: Development of methods to estimate environmentally relevant biodegradation rates for organic chemicals (2006). **Co-applicant**

PENDING GRANT AND RESEARCH FUNDING (1)

U.S. Environmental Protection Agency: Expanding the RAIDAR model framework for consumer product exposures (2012 – 2013). **Principal investigator**

SERVICES AND ACADEMIC ASSOCIATIONS

- Society of Environmental Toxicology and Chemistry (Member: 2001 – present)
- International Society of Exposure Science (Member: 2010 – present)
- ILSI-HESI Bioaccumulation Workgroup (Member: 2005 – present).

Peer reviewer:

- Environmental Science & Technology
- Environmental Toxicology & Chemistry
- Chemosphere
- SAR and QSAR in Environmental Research
- Environmental Pollution
- Environmental Science & Policy
- Environment International
- The Science of the Total Environment
- Critical Research in Toxicology
- Oecologia
- Journal of Exposure Science & Environmental Epidemiology
- Environment Canada
- Indian and Northern Affairs Canada
- Health Canada
- Swiss Brazilian Scientific and Technology Cooperation Program
- Ontario Centre for Excellence

Conference co-chair:

- Advances in exposure-science research and technology: expanding the integration among multiple disciplines (SETAC Europe and ISES Joint Special Session “Emerging exposure science for developing chemical regulatory policy: REACH, Biocides, TSCA reform” SETAC Europe Conference, May 15–19, 2011, Milan, Italy)
- From molecular structure to properties and toxicity. In honor of Dr. Bob Lipnick. (SETAC North America Conference, November 19–23, 2009, New Orleans, LA)

OTHER INTERESTS

Music (written, co-produced, recorded two independent albums)

Outdoor activities (camping, hiking, canoeing) and sports (hockey, golf, running, cycling, volleyball)