

Curriculum vitae

Personal

Name: Jeffrey Alexander Hutchings
 Primary Affiliation: Department of Biology, Dalhousie University, Canada
 Citizenship: Canadian
 Languages: English; moderate French; some German, Norwegian, Finnish

Education

1991	Ph.D.	Biology	Memorial University of Newfoundland
1985	M.Sc.	Biology	Memorial University of Newfoundland
1980	B.Sc.	Zoology	University of Toronto

Academic Experience

2016-present	Killam Memorial Chair	Dalhousie University
2004-present	Professor	Dalhousie University
2012-2017	Killam Professor	Faculty of Science, Dalhousie University
2006-2009	Professeur Associé	Université Laval
2002-2012	Canada Research Chair	Dalhousie University
2002	Visiting Professor	University of Edinburgh
2002	Visiting Professor	University of Glasgow
2000-2004	Associate Professor	Dalhousie University
1995-1999	Assistant Professor	Dalhousie University
1993-2004	Adjunct Professor	Memorial University of Newfoundland
1993-1994	NSERC Visiting Fellow	Fisheries & Oceans Canada (Newfoundland)
1991-1992	NSERC Postdoctoral Fellow	University of Edinburgh
1987-1990	NSERC Graduate Scholar	Memorial University of Newfoundland
1985-1986	Research Associate	Newfoundland Institute for Cold Ocean Science

Editorial Responsibilities

2020-present	Editorial Board	<i>Fish and Fisheries</i>
2018-present	Associate Editor	<i>Evolutionary Ecology Research</i>
2008-present	Editorial Board	<i>Environmental Reviews</i>
2007-present	Editorial Board	<i>Evolutionary Applications</i>
2015-2018	Subject Editor	<i>FACETS</i>
2009-2015	Associate Editor	<i>Proceedings of the Royal Society B</i>
2007	Guest Subject Editor	<i>Ecological Applications</i>
2004-2007	Editorial Board	<i>Functional Ecology</i>
2003-2007	Editor	<i>Canadian Journal of Fisheries and Aquatic Sciences</i>
1997-2002	Associate Editor	<i>Canadian Journal of Fisheries and Aquatic Sciences</i>
1999-2001	Associate Editor	<i>Transactions of the American Fisheries Society</i>

Honours and Awards

2019 Professor II, Department of Natural Sciences, University of Agder, Norway
 2018 Elected Foreign Fellow, *Norwegian Academy of Science and Letters*
 2018 Docent Professor, University of Jyväskylä, Finland

- 2017 Huntsman Medal, International Excellence in Marine Sciences, *Royal Society of Canada*
 2017 Research Scientist II, Institute of Marine Research, Bergen, Norway
 2016 Izaak Walton Killam Memorial Chair, Dalhousie University
 2015 Elected Fellow, Academy of Science, *Royal Society of Canada*
 2015 Jay Newman Award for Academic Integrity, University of Guelph, Canada
 2014 Capstone Lecturer, Queen's University, Kingston, Canada
 2014 Lansdowne Lecturer, University of Victoria, Canada
 2012 Elected Fellow, *Royal Canadian Geographical Society*
 2012 Faculty of Science Killam Professor, Dalhousie University
 2011 Sustainability Science Award (co-winner), Ecological Society of America, USA
 2010 Elected President, *Canadian Society for Ecology and Evolution*
 2010 Professor II, Centre for Ecological & Evolutionary Synthesis, University of Oslo
 2002 George A. Lubinsky Memorial Lecturer, University of Manitoba, Winnipeg
 1999 *Petro-Canada* Young Innovator Award, Canada
 1998 Freedom of Information Award, *B.C. Freedom of Information & Privacy Association*
 1996 Killam Prize, Dalhousie University
 1996 J.C. Stevenson Memorial Lecturer, *Canadian Journal of Fisheries & Aquatic Sciences*
 1994 Wilfred Templeman Publication Award, *Fisheries and Oceans Canada*
 1993 Visiting Governmental Fellowship, Natural Sciences and Engineering Research Council
 1991 Postdoctoral Fellowship, Natural Sciences and Engineering Research Council, Canada
 1989 Graduate Fellowship, Memorial University of Newfoundland
 1988 Olin Fellowship, *Atlantic Salmon Federation*
 1987 Postgraduate Scholarship, Natural Sciences and Engineering Research Council, Canada
 1980 Innis College Medal, University of Toronto
 1979 Annual Studentship in Ichthyology, Royal Ontario Museum & University of Toronto

Professional Responsibilities

International

- 2019-2023 Deputy Chair, *Centre for Coastal Research Centre of Excellence*, Norway
 2016-2019 Member, *Vice-Chancellor's Marine Advisory Board*, Univ. Gothenburg, Sweden
 2015-2017 Chair, *Multi-institutional Centre of Excellence Coastal Research Initiative*, Oslo
 2014 Member, *Natural Sciences Expert Panel*, Swedish Research Council, Stockholm
 2011-2016 Member, *NorMER Nordic Centre of Excellence*, Oslo, Norway
 2010-2013 Co-Chair, Working Group on Endangered Species Red Flag Indicators, *National Center For Ecological Analysis and Synthesis*, Univ. California Santa Barbara
 2010-2017 Member, *Centre for Ecological and Evolutionary Synthesis*, Oslo, Norway

National

- 2018-present Member, Scientific Advisory Committee, *Council of Canadian Academies*
 2015-present Scientific Advisory Committee, *Atlantic Salmon Conservation Foundation*
 2009-present Chief Science Advisor, Sustainable Seafood Policy, *Loblaw Companies Ltd*
 2017-2020 Member, Evolution & Ecology Grant Evaluation Group 1503, NSERC, Canada
 2012-2018 Member, Board of Directors, *World Wildlife Fund Canada*
 2010-2011 Vice-President, *Canadian Society for Ecology and Evolution*
 2008-2009 Chair, Vanier Canada Graduate Scholarship Program Committee, NSERC

- 2006 Co-founder, *Canadian Society for Ecology and Evolution*
 2006-2010 Chair, *Committee on the Status of Endangered Wildlife in Canada* (COSEWIC)
 2005-2006 Co-Chair, Evolution & Ecology Grant Selection Committee (GSC 18), NSERC
 2003-2005 Member, Evolution & Ecology Grant Selection Committee (GSC 18), NSERC
 2001-2012 Non-Government Science Member, COSEWIC
 1999-2007 Member, Marine Fish Species Specialist Committee, COSEWIC
 1999-2002 Council Member, *Canadian Society of Zoologists*
 1995-1996 Chair, *Ecology, Ethology & Evolution Section*, Canadian Society of Zoologists

Responsibilities to Royal Society of Canada (RSC)

- 2019 Chair, *RSC Policy Briefing Committee*, Progress: Sustaining Marine Biodiversity
 2018-2019 Advisor to the RSC on the *Presidents of the Science 20 Academies Statement on Threats to Marine Ecosystems and Conservation of the Marine Environment*
 2015 Author of RSC Position Paper on *Strengthening Government by Strengthening Scientific Advice* (May 2015)
 2015 Reviewer, Expert Panel Report on *The Behaviour and Environmental Impacts of Crude Oil Released into Aqueous Environments*
 2014-2015 Chair, RSC Annual Symposium 2015, *Canadian Marine Biodiversity*
 2010-2012 Chair, *Royal Society of Canada Expert Panel on Sustaining Canada's Marine Biodiversity: Responding to the Challenges Posed by Climate Change, Fisheries, and Aquaculture*
 2008-2018 Member, *Science Advisory Committee, Royal Society of Canada*
 2004 Representative of the *Royal Society of Canada* to the *US National Academies' Committee on the St. Lawrence Seaway: Options to Eliminate Introduction of Non-indigenous Species into the Great Lakes, Phase I*
 2003 Invited to serve as a member of the *Royal Society of Canada Expert Panel on Science Issues Related to Oil and Gas Activities, Offshore British Columbia*
 2000-2001 Member, *Royal Society of Canada Expert Panel on Future of Food Biotechnology*

Plenary and Keynote Lectures

- 2020 Plenary, *International Symposium on Coregonid Fishes*, Jyväskylä, Finland
 2019 Plenary, *Scientific Legacies and New Paradigms in Marine Research*, Bergen, Norway
 2018 Plenary, *Ecology and Evolutionary Ethology of Fishes*, Montréal
 2018 Keynote, *Impacts on Aquatic Ecosystems*, Euro. Cong. Cons. Biol., Jyväskylä, Finland
 2017 Keynote, *Redefining Darwinian Fisheries*, Am. Fish. Soc. Symposium, Tampa, FL, USA
 2017 Plenary, *Ecology and Evolution of Salmonid Invasions*, Kristineberg, Sweden
 2015 Plenary, *Royal Swedish Academy of Sciences Jubilee Symposium*, Göteborg, Sweden
 2014 Plenary, *Swedish Society for Marine Sciences*, Umeå, Sweden
 2014 Plenary, Presidential Address, *Canadian Society for Ecology and Evolution*, Montreal
 2014 Plenary, *Fisheries Society of the British Isles Annual Meeting*, Hull, UK
 2013 Plenary, International Symposium, *Rebuilding Gadoid Fisheries*, St. Andrews, NB
 2012 Keynote Speaker, World Fisheries Congress, Edinburgh, UK
 2012 Plenary, *SARA at 10 Years: Improving Species Conservation in Canada*, Ottawa
 2012 Plenary, European Marine Biological Symposium, Arendal, Norway
 2012 Distinguished Speaker, *5th Annual Canada Ocean Lecture*, Vancouver, BC

- 2012 Keynote Speaker, 1st International Conference on Integrative Salmonid Biology, Oslo
 2011 Science College Public Lecturer, Concordia University, Montreal
 2010 Plenary, *Darwin Day 2010: Human-Induced Evolution*, University of Oslo, Norway
 2009 Plenary, *139th Meeting of the American Fisheries Society*, Nashville, TN, USA
 2008 Distinguished Speaker, *3rd Annual Canada Ocean Lecture*, Vancouver, BC
 2008 Keynote, *7th International Flatfish Symposium*, Sesimbra, Portugal
 2008 Keynote, *Society for Experimental Biology Symposium*, Sète, France
 2008 Distinguished Lecturer, Faculty of Science Seminar Series, University of Windsor
 2008 Keynote, *61st Canadian Conference For Fisheries Research*, Halifax, NS
 2006 Keynote, *Bevan Lecture Series on Sustainable Fisheries*, Univ. Washington, Seattle
 2005 Keynote, *Société Québécoise pour l'Étude Biologique du Comportement*, Montréal
 2005 Keynote, *American Assoc. for the Advancement of Science*, Washington, DC
 2004 Keynote, *Ecological and Evolutionary Ethology of Fishes*, Sauðarkrokur, Iceland
 2004 Plenary, *Royal Society (London) Scientific Discussion Mtg on Extinction Rates*
 2004 Plenary, *In Pursuit of Ecological Sustainability IFAW Forum*, Limerick, Ireland
 2003 Plenary, *Canada-UK Colloquium on Science and Public Policy*, Bristol, UK
 2003 Plenary, *NSERC's Bacon and Eggheads Seminar Series*, Parliament Hill, Ottawa
 2003 Plenary, *World Summit on Salmon*, Vancouver, British Columbia
 2001 Plenary, *Fish Biodiversity & Conservation, Fisheries Society of the British Isles*
 1997 Keynote, *Integrating Across Scales: Patterns of Change in Salmon*, Braemar, Scotland
 1997 Plenary, *Population Biology and Life History of Brown Trout*, Lund, Sweden
 1991 Invited Speaker, *Symposium on The Control of Evolving Systems*, Jülich, Germany
 1990 Keynote, *Interactions Between Cultured and Wild Atlantic Salmon*, Loen, Norway

Invitations from Canadian Parliamentary Committees and Parliamentary Officers

- 2017 Commissioner of the Environment and Sustainable Development, Office of the Auditor General of Canada
 2016 House of Commons Standing Committee, Fisheries and Oceans (May & October, 2016)
 2014 Senate Standing Committee, Fisheries and Oceans
 2014 House of Commons Standing Committee, Environment and Sustainable Development
 2013 Commissioner of the Environment and Sustainable Development, Office of the Auditor General of Canada
 2012 House of Commons Standing Committee, Finance (Subcommittee on Bill C-38, Part III)
 2012 Commissioner of the Environment and Sustainable Development, Office of the Auditor General of Canada
 2012 House of Commons Standing Committee, Environment and Sustainable Development
 2012 Senate Standing Committee, Fisheries and Oceans
 2012 House of Commons Standing Committee, Fisheries and Oceans
 2011 Commissioner of the Environment and Sustainable Development, Office of the Auditor General of Canada
 2009 House of Commons Standing Committee, Environment and Sustainable Development
 2009 Senate Standing Committee, Fisheries and Oceans
 2005 House of Commons Standing Committee, Fisheries and Oceans
 1997 House of Commons Standing Committee, Fisheries and Oceans

Professional Reviewing and Advisory Responsibilities

International

- 2019 International Evaluator, Senior Lecturer Position, University of Gothenburg, Sweden
- 2018 Independent Reviewer, U.S. NMFS *Endangered Species Act* Review-River Herring, US
- 2014 Independent Reviewer, *Climate Change Species Vulnerability Assessments*, NOAA, USA
- 2012 External Examiner, PhD Thesis, University of Tasmania, Hobart, Australia
- 2010 External Examiner, PhD Thesis, University of Oslo, Oslo, Norway
- 2009 Independent Reviewer, *South-Central California Steelhead DPS Recovery Plan*, USA
- 2009 Reviewer, U.S. Nat. Mar. Fish. Serv. *Endangered Species Act* Status Rept on Eulachon
- 2008 Independent Reviewer, *Central Valley (California) Chinook Salmon ESU Recovery Plan*
- 2008 Independent Reviewer, *Central Valley (California) Steelhead ESU Recovery Plan*
- 2008 Independent Reviewer, *Central California Coast Coho Salmon ESU Recovery Plan*
- 2005 Reviewer, U.S. NMFS *Endangered Species Act* Status Rept on Pacific Herring
- 2005 Reviewer, U.S. Nat. Res. Council Report on Great Lakes-St. Lawrence River Ecosystem
- 2004 Invited Expert, *Nordic Council of Ministers* Workshop on *Genetic Diversity*, Iceland
- 2004 Representative, *Royal Society of Canada*, U.S. National Academies Meeting, Montreal
- 2003 External Examiner, PhD Thesis, University of Oslo, Oslo, Norway
- 2002 External Examiner, PhD Thesis, University of Göteborg, Göteborg, Sweden
- 2000 External Examiner, PhD Thesis, University of Oslo, Oslo, Norway
- 2000 External Examiner, PhD Thesis, Swedish Univ. of Agricultural Sciences, Umeå, Sweden
- 1999 Stock Assessment Review Committee, National Marine Fisheries Service, Woods Hole
- 1995 External Examiner, PhD Thesis, University of Bergen, Norway

National

- 2020 Independent Reviewer, *Fisheries Act* Regulations on Fishery Rebuilding, Canada
- 2017 External Audit Advisor, Auditor General of Canada
- 2013 External Audit Advisor, Auditor General of Canada
- 2012 External Audit Advisor, Auditor General of Canada
- 2010 External Examiner, PhD Thesis, University of British Columbia
- 2010 External Examiner, PhD Thesis, University of Western Ontario
- 2007 External Examiner, PhD Thesis, Université Laval, Québec
- 2005 External Examiner, PhD Thesis, University of Toronto
- 2002 Reviewer, Atlantic Salmon National Recovery Strategy, Dept. Fisheries & Oceans
- 2002 External Examiner, PhD Thesis, Université Laval, Québec
- 2002 Reviewer, Dept. Fisheries & Oceans Species Recovery Strategies for Atlantic Salmon
- 1995- Groundfish, Invertebrate & Salmon Stock Assessments, Dept. Fisheries & Oceans
- 1999 External Examiner, PhD Thesis, Department Biology, University of Guelph
- 1999 External Reviewer, NSERC Strategic Grant Mid-Term Review, Memorial University
- 1998 External Reviewer, Dept Fisheries & Oceans Advisory Panel on Interactions
Between Wild and Farmed Atlantic Salmon in the Maritime Provinces
- 1998 External Reviewer, Dept Fisheries & Oceans Advisory Panel on Striped Bass
- 1996 Review Committee, *Masters of Maritime Studies*, Memorial University of Newfoundland
- 1996 Member, Genetics Subgroup, Scientific Working Group on Salmonid Introductions &
Transfers (North American Commission/North Atlantic Salmon Conserv. Organisation)
- 1995 Reviewer, Northern Cod Science Program, Dept Fisheries & Oceans, NL Region

Dalhousie University Administrative Responsibilities

2019-present	Member, Senate Honorary Degrees Committee
2005-present	Member, Appointments and Awards Committee, Department of Biology
2010-2012	<i>Chair</i> , Seminar Committee, Department of Biology
2008-2011	Member, Promotion and Tenure Committee, Faculty of Science
2005	<i>Chair</i> , Search Committee for Canada Research Chair Position, Dept Biology
2002-2003	<i>Chair</i> , Search Committee for Asst. Professor Position, Department of Biology
1998-2001	<i>Chair</i> , Curriculum Committee, Department of Biology
1998-2001	Member, Curriculum Committee, Faculty of Science
1998	Co-ordinator, NSERC Site Visit to Dalhousie University
1998-2000	<i>Chair</i> , Priority Appointments Committee, Dept. Biology
1996-2001	Aquatron Management Board
1996-1997	Dorothy J. Killam Lecture Series Committee
1996-1998	<i>Chair</i> , Seminar Committee, Department of Biology
1995-2001	Public Relations Committee, Department of Biology

Dalhousie University Teaching Responsibilities

Undergraduate

EVOLUTION OF LIFE HISTORIES (BIOL 4500, BIOL 5501). 2018-present. Fourth-year class. Students: 10-15. Evolution of life-history traits; age/size at maturity; offspring size/number; bet-hedging; trade-offs and constraints; links to fitness, population dynamics, and sustainable exploitation.

LECTURES IN ECOLOGY AND EVOLUTION IN FISHES (BIOL/MARI 3080, BIOL 5067). 2016-present. Third-year class. Students: 90. The class examines selected topics on the ecology and evolution of marine and freshwater fishes: phylogeny & systematics; functional morphology & physiology; population biology; life-history evolution; behaviour; fisheries science; conservation biology.

ECOLOGY AND EVOLUTION OF FISHES (BIOL/MARI 3067). 1995-2015. Third-year class. Students: 25-65. Taxonomy and systematics; functional morphology; evolutionary ecology; fisheries science and management, with particular emphasis on Canadian fishes.

INTRODUCTORY ECOLOGY (BIOL 2060). 1996-2001. Second-year class. Students: 100-150. Models of population growth rate, competition, predator-prey interactions.

RESOURCE ECOLOGY (BIOL 3063). 1998-2000. Third-year class. Students: 50-90. Conservation biology, species invasions, models of fisheries science and management.

Undergraduate Special Topics Classes: *Evolution of Phenotypic Plasticity (2014); Evolutionary Responses of Marine Organisms to Environmental Change (2014); Causes and Consequences of Human-Induced Evolution (2008); Minimum Viable Population Analyses (1998); Influence of Fishing on Coral Reef Fishes (1997); Integration of Fisher's Local Knowledge with Fisheries Management (1995)*

Graduate (Classes and Modules: *Evolution of Life Histories (BIOL5501) (2018-present); Ecology and Evolution of Fishes (BIOL5067) (1995-present); Communication of Science to Decision-Makers and Society (2016); Basic Models in Fisheries Science (2015); Assessment of Species at Risk in Canada (2007); Foundations of Ecology (2000, 2004, 2008, 2019, 2020);*

Life-History Strategies (1996, 1998); Natural Selection (2003); Practical & Conceptual Issues in Biological Research (1997)

Graduate Special Topics Classes (Biol 4806, 5832): *Temporal Changes in the Age Structure of Marine Fish Populations (2018); Local Adaptation in Marine Organisms; Phenotypic Plasticity in Marine Species (2014); Life History Strategies in Fish (2003); Evolutionary Models of Foraging Behaviour (1998); Models: From Ideal Gases to Ecology; Dealing with Uncertainty in Fisheries (1996); Life History Strategies of Cephalopods (1995)*

International University Teaching Invitations

LIFE-HISTORY EVOLUTION IN FISHES. 2019. Dept. Biol. Env. Sci., Univ. Jyväskylä, Finland.

DEVELOPMENT AND MANAGEMENT OF MARINE PROTECTED AREAS. 2004. Nordic Council of Ministers, Finnish Ministry of Environment, and IUCN. Kasnäs, Finland.

HISTORY OF MARINE ANIMAL POPULATIONS: OCEAN SUSTAINABILITY THROUGH THE AGES. 2001. University of Southern Denmark, Esbjerg, Denmark.

POPULATION CONSEQUENCES OF ENVIRONMENTAL FLUCTUATIONS. 1999. Department of Marine Biology, University of Bergen, Bergen, Norway.

LIFE HISTORY THEORY. 1992. Department of Ecology and Department of Marine Biology, University of Bergen, Bergen, Norway.

LIFE HISTORY THEORY AND EMPIRICAL DATA. 1992. Dept Animal Ecology, University of Umeå, and Dept of Aquaculture, Swedish Univ. of Agricultural Science, Umeå, Sweden.

Postdoctoral, Graduate and Honours Student Supervision

Postdoctoral Fellows

David, Carmen (2019-2021) Biogeography of polar cod in a changing Arctic Ocean.

Tommi Perälä (2018-2020) Regime shifts in Atlantic cod productivity and putative drivers.

Godwin, Sean (2018-2020; Liber Ero PDF) Pathogen-related interactions in farmed salmon.

Pardo, Sebastián (2017-2020) Stochastic dynamic life-history modelling of Atlantic salmon.

Fraser, Dylan (2005-2009; NSERC Postdoctoral Fellow) Conservation genetics of salmonids.

Purchase, Craig (2003-2005; NSERC Postdoctoral Fellow) Life history invariants in fishes.

Rowe, Sherrylynn (2004-2005; NSERC Postdoctoral Fellow) Atlantic cod reproductive success.

Jones, Matthew (2002) Genetic analyses of individual reproductive success in fishes.

Koops, Marten (2001-2002; NSERC PDF) Stochastic dynamic life-history modelling in fishes.

PhD Students

Massey, Melanie (in progress; Canada Graduate Scholar) Developmental and life-history responses to thermal variability.

Hocevar, Sara (in progress; co-supervised with Anna Kuparinen) Influence of ecosystem structure on bet-hedging life histories in fishes.

Hamelin, Kayla (in progress) Marine governance in a sustainable ecosystem.

Oomen, Rebekah (2019; Canada Graduate Scholar) Transcriptomic responses to thermal plasticity in Atlantic cod.

Benoît, Hugues (2018) Community ecology of fishes in the northwest Atlantic.

Michl, Stéphanie (2017; co-supervised with Carsten Schultz, Helmholtz-Zentrum für Ozeanforschung Kiel) Growth and enzymatic processes in salmonid fish.

- Keith, David (2014) Stock-recruitment dynamics at low population sizes.
- Debes, Paul (2014) Genetically based effects of domesticated-wild outbreeding in Atlantic salmon, *Salmo salar*.
- Rollinson, Njal (2014) The adaptive significance of egg-size variation within and among populations of Atlantic salmon.
- Ricard, Daniel (2012; co-supervised with B. Worm) Ecology and evolution of heavily exploited populations.
- Fuller, Susanna (2011; co-supervised with R. Myers) Diversity of marine sponges in the Northwest Atlantic.
- Weir, Laura K. (2008; NSERC Canada Graduate Scholar) Consequences of the intensity of male-male competition on the mating system of Atlantic salmon (*Salmo salar*).
- Adams, Blair K. (2007; NSERC Industrial Postgraduate Scholar) Reproductive success and evolutionary persistence of alternative migratory forms in Atlantic salmon.
- Baum, Julia (2007; NSERC Postgraduate Scholar; co-supervised with Ransom Myers) Correlates of population recovery in marine fishes.
- Hardie, David C. (2007; NSERC & Killam Postgraduate Scholar) Evolutionary ecology of Arctic marine fishes.
- den Heyer, Nell (2006) Patterns and mechanisms of American lobster (*Homarus americanus*) movement in the Northumberland Strait, Canada.
- Rowe, Sherrylynn (2004) Patterns and processes of mating in Atlantic cod, *Gadus morhua*.
- Jones, Matthew W. (2001) Application of genetic markers to conservation biology: salmonid fish in Eastern Canada.
- MacDonald, Janice F. (not completed; NSERC Postgraduate Scholar) Alternative reproductive strategies in male white sticklebacks, *Gasterosteus* sp.

MSc Students

- Beaudry-Sylvestre, Manuelle (in progress) Fisheries-induced evolution: Northwest Atlantic.
- Charbonneau, Julie (in progress) Effect of fishing mortality on recovery of age structure in fish.
- McDonald, Raphael (2020) Spatial stock assessment models in fisheries.
- Bland, Stephanie (2018) Food-web models and life history.
- Pisano, Olivia (2017; NSERC Canada Graduate Scholar) Reaction norms for thermal variability.
- Roney, Nancy (2016; NSERC Canada Graduate Scholar) Reproductive success in Atlantic cod.
- Hugenholtz, Emilie (2013; Prins Bernhard Cultuur Fonds Scholar, Netherlands) Spatial distribution, spawning stock biomass and the development of spatial reference points.
- Oomen, Rebekah (2012; NSERC Canada Graduate Scholar) Genetic variation in life-history reaction norms in Atlantic cod.
- Mogensen, Stephanie (2010) Maternal fitness consequences of different causative agents of offspring mortality in early life.
- Houde, Aimee Lee (2009; NSERC Postgraduate Scholar) Inbreeding and outbreeding depression in endangered populations of Atlantic salmon.
- Normandeau, Éric (2008) Comparison of gene expression profiles among hybrid and back-crossed farmed and wild salmon.
- Darwish, Tamara (2006) Genetic and environmental influences on brook trout life histories.
- Bowlby, Heather D. (2006) Individual variability in the movement and dispersal of lobster.

- Marcil, Julie (2004) Genetic versus environmental components of phenotypic variation in body shape among populations of Atlantic cod (*Gadus morhua*).
- McCairns, Scott (2004) Adaptive variability in response to differences in seasonality along an altitudinal gradient.
- Weir, Laura K. (2003; NSERC Postgraduate Scholar) The influence of artificial selection on the spawning behaviour and reproductive success of male Atlantic salmon, *Salmo salar*.
- Lawlor, Jennifer (2003) Genetic differences in fitness-related traits among populations of wild and farmed Atlantic salmon (*Salmo salar*).
- Jewett, Tara (2001) Temporal and spatial variation in reproductive investment within and among populations of Atlantic cod, *Gadus morhua*.
- Adams, Blair K. (1999) Variation in genetic structure and life histories among populations of brook char, *Salvelinus fontinalis*, from insular Newfoundland, Canada.
- George, Sarah N. (1998; Commonwealth Scholar) Selectivity of coral reef fishes in a Caribbean trap fishery.

BSc Honours Students

- Levangie, Paige (2020) Natural mortality in fishes and its effect on population recovery.
- Gielewski, Darby (2020) Gill surface area and its effect on metabolic rate in fishes.
- Medcalf, Kate (2019) Effects of temperature on susceptibility by Atlantic salmon to sea lice.
- Perry, Heather (2018) Temporal variation in the incidence of an alternative mating strategy.
- Zielonko, Katya (2016) Life-history variability among Canadian freshwater fishes.
- Bonsall, Arthur (2015) Thermal niche and distribution patterns of Atlantic halibut.
- Dalman, Laura (2015) Correlates of colonization success in introduced fishes.
- Lawrence, Elizabeth (2014) Population growth rate and recovery of endangered salmon.
- Schram, Catherine (2013) A comparative analysis of marine protected area legislation.
- Roney, Nancy (2012) Relationship between habitat size and abundance across species.
- Yates, Matthew (2011) Influence of temperature on male parr maturity in Atlantic salmon.
- Arbour, Jessica (2009) Morphometric variability in Arctic char morphs on Ellesmere Island.
- Morris, Matthew (2009) Outbreeding depression in compensatory growth in Atlantic salmon.
- Préfontaine, Renée (2009) Shifting baselines in marine fish assessments.
- Heggelin, Anthony (2008) Influence of exploitation on brook trout life histories.
- Houde, Aimee Lee (2007) Introgression and predator-avoidance behaviour in salmon.
- de Mestral Bezanson, Louise (2005) Individual reproductive success in Atlantic cod.
- Piché, Jacinthe (2004) Genetic basis to population differences in Atlantic salmon life history.
- Hubleby, Brad (2003) Population differences in Atlantic salmon morphometry.
- Fung, Jonathan (2001) Environmental sex determination in a cichlid fish.
- Gerber, Leah (2000) Sex-biased movement, dispersal, and seasonal growth rate in brook trout.
- Smith, Cheryl-Anne (2000) Lipid composition of subtidal and intertidal male white sticklebacks.
- Fitzgerald, Gretchen (1999) Life histories of three- and four-spine stickleback populations.
- Pickle, Alison (1997) Overwinter changes in lipid composition of brook trout.
- Joyce, Warren (1997) Migration of the porbeagle shark, *Lamna nasus*, in eastern Canada.
- Jewett, Tara (1996) Effect of time of day on research survey estimates of Atlantic cod biomass.

Research Grants and Contracts

<i>Duration</i>	<i>Agency</i>	<i>Title</i>	<i>Responsibility</i>	<i>Total</i>
2018-2021	NSERC (Strategic Grant)	Migration, survival & disease susceptibility in Atl. Salmon	Co-PI	\$716,670
2017-2020	Atlantic Salmon Conservation Found.	Life-history modelling of marine mortality in salmon	Sole	\$112,500
2017-2020	Fisheries and Oceans Canada	Bayesian modelling of at-sea survival	Sole	\$110,000
2009-2019	Fisheries and Oceans Canada	Groundfish research survey undergraduate students	Sole	\$44,000
2011-2020	Loblaw, Inc.	Recovering and sustaining marine fish biodiversity	Sole	\$246,000
2013-2021	NSERC (Discovery Grant)	Evolutionary ecology and conservation biology of fishes	Sole	\$480,000
2014-2016	Norwegian Research Council	Genomic variability in cod thermal plasticity	PI	\$350,000
2013-2014	NSERC (Research Tools & Instruments)	Field research vehicle for research on fish biology	Sole	\$34,700
2010-2012	Canadian Wildlife Federation	Spatial scale of adaptive variability in Atlantic cod	Sole	\$58,000
2008-2013	NSERC (Discovery Grant)	Evolutionary ecology and conservation biology of fishes	Sole	\$285,650
2008-2011	NSERC (Discovery Grant Accelerator)	Evolutionary ecology and conservation biology of fishes	Sole	\$120,000
2008-2013	NSERC (Northern Research Suppl.)	Ecology of peripheral fish populations at their northern extremes	Sole	\$75,000
2008-2013	NSERC (Major Resources Support)	Major resources support for Aquatron Laboratory	Applicant & 10 co-applicants	\$546,000
2008-2009	NSERC (Research Tools & Instruments)	Fish dispersal and movement detection technology	Sole	\$40,898
2006-2009	NSERC (Strategic Grant)	Multi-generational interactions between farm & wild Atlantic salmon	PI Co-applicant Louis Bernatchez	\$519,330
2005-2008	NSERC (MFA)	Infrastructure Support for the Aquatron Laboratory	Applicant & 10 Co-Applicants	\$375,000
2005-2006	Polar Continental Shelf Project	Evolutionary ecology of char on Ellesmere Is.	Sole	\$70,000
2004-2006	National Geographic Society (U.S.)	Evolutionary Ecology of Arctic Atlantic Cod	Sole	\$28,350
2004-2008	NSERC (Northern Research Suppl.)	Evolutionary ecology of Arctic fishes)	Sole	\$30,000
2004-2005	WWF Canada	Recovery in Atlantic cod	Sole	\$18,000
2004-2005	SSHRC	Canada's marine species at risk: science & law	with David VanderZwaag	\$26,500

<i>Duration</i>	<i>Agency</i>	<i>Title</i>	<i>Responsibility</i>	<i>Total</i>
2004-2005	Polar Continental Shelf Project	Evolutionary ecology of Arctic marine fishes	Sole	\$75,000
2003-2007	NSERC (Discovery Grant)	Causes and consequences of life history variation in fish	Sole	\$200,000
2003-2004	Polar Cont. Shelf Proj.	Evolutionary ecology of Arctic marine fishes	Sole	\$45,000
2003-2004	North. Sci. Train. Prog.	Atlantic cod populations on Baffin Island	Sole	\$3,800
2001-2004	Orion Seafoods	Dispersal and migration of American lobster	Sole	\$30,000
2001-2004	Fisheries & Oceans	American lobster spatial dynamics	Sole	\$30,000
2000-2004	NSERC (Strategic)	Reaction norms for survival and growth in Atlantic cod	PI Hutchings	\$750,732
2000-2003	NSERC (Aquanet NCE)	Genetic and ecological interactions between farm and wild Atlantic salmon	Sole	\$360,500
2000-2004	NSERC (MFA)	Infrastructure Support for the Aquatron Laboratory	Applicant & 15 Co-Applicants	\$350,000
1999-2003	NSERC (Research Grant)	Environmental Heterogeneity and Life- History Evolution	Sole	\$134,400
1999-2000	Petro-Canada	Effects of Fishing on Cod Spawning	Sole	\$25,000
1999-2000	NSERC (Equipment)	Vehicle in Support of Field Research	R. Scheibling & J. Hutchings	\$30,000
1997-1999	Indian Bay Ecosys. Corp	Genetic Analysis of Brook Trout Populations	Sole	\$20,000
1997-1998	Fisheries & Oceans	Inshore and Offshore Discarding of Atlantic Cod	Sole	\$6,400
1996-1997	Fish. & Oceans	Partitioning Cod Mortality	Sole	\$16,000
1996-1997	Parks Canada	Genetic & Ecological Analysis of Brook Trout	Sole	\$32,500
1995-1999	NSERC (Research Grant)	Environmental Heterogeneity and Life History Evolution	Sole	\$105,780
1995-1997	Fisheries & Oceans	Influence of Trawling on Atlantic Cod Spawning	Sole	\$26,000
1995-1996	Fisheries & Oceans	Discard Estimates in the Northern Cod Fishery	Sole	\$15,450
1994	Fisheries & Oceans	Minimum Viable Population Size in Salmon	Sole	\$5,000
1992-1993	Fisheries & Oceans	Interannual Variability in Male Atlantic Salmon	Sole	\$27,400

Refereed Research Publications (230 publications; h-index=73)**2020**

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- Godwin, S.C., Fast, M.D., Kuparinen, A., Medcalf, K.E., **Hutchings JA.** 2020. Increasing temperatures accentuate negative fitness consequences of a marine parasite. *Nature Scientific Reports*. In review.
- Hocevar, S., **Hutchings, J.A.**, Kuparinen, A. 2020. Bet-hedging strategy promotes fitness of Atlantic cod. *Evolution*. In review.
- Hutchings, J.A.** 2021. *A Primer on Life Histories: Ecology, Evolution, and Application*. Oxford University Press.
- Hutchings, J.A.**, Kuparinen, A. 2020. Implications of fisheries-induced evolution for population recovery: refocusing the science and refining its communication. *Fish and Fisheries*. doi.org/10.1111/faf.12424.
- Hutchings, J.A.**, Baum, J.K., Fuller, S.D., Laughren, J., VanderZwaag, D.L. 2020. Sustaining Canadian marine biodiversity: policy and statutory progress. *FACETS*. In press.
- Oomen, R.A., Kuparinen, A., **Hutchings, J.A.** 2020. Consequences of single-locus and tightly linked genomic architectures for evolutionary responses to environmental change. *Journal of Heredity*. In press.
- Pardo, S.A., **Hutchings, J.A.** 2020. Estimating marine survival of Atlantic salmon in the first winter at sea using an inverse matrix approach. *PlosONE*. In review.
- Perälä, T., Olsen, E.M., **Hutchings, J.A.** 2020. Disentangling conditional effects of multiple regime shifts on Atlantic cod productivity. *PlosONE*. In review.
- Winter, A.M., **Hutchings, J.A.** 2020. Impediments to fisheries recovery in Canada: policy and institutional constraints on developing management practices compliant with the precautionary approach. *Marine Policy*. In press.

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- Hutchings, J.A.**, Baum, J.K., Fuller, S.D., Laughren, J., VanderZwaag, D.L. 2019. Sustaining Canadian marine biodiversity: policy and statutory progress (2012-2019). Policy Briefing Committee Report 1, *Royal Society of Canada*, Ottawa, 34 p.
- Kuparinen, A., **Hutchings, J.A.** 2019. When phenotypes fail to illuminate underlying genetic processes in fish and fisheries science. *ICES J. Mar. Sci.* doi.org/10.1093/icesjms/fsz002
- Pisano, O., Kuparinen, A., **Hutchings, J.A.** 2019. Cyclical and stochastic thermal variability affects survival and growth in brook trout. *J. Thermal Biol.* 84: 221-227.

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Invited Lectures at Universities, Institutes, and Government Laboratories

March	2020	Dept Ecology & Evolutionary Biology, University of Toronto, Toronto
January	2020	Fisheries & Oceans Canada, Montreal
December	2019	Institute of Marine Research, Flødevigen, Norway
June	2019	Johan Hjort Symposium, Bergen, Norway
June	2019	Faculty of Science & Mathematics, Univ. Jyväskylä, Finland
November	2018	Guðbrandsstofnun, Hólar, Iceland
November	2018	Dept Aquaculture & Fish Biology, Univ. Hólar, Sauðárkrúkur, Iceland
October	2018	MacEachen Institute for Public Policy and Governance, Halifax
November	2017	University of Toronto at Scarborough, Toronto
September	2017	Institute of Marine Research, Flødevigen, Norway
March	2017	University of Gothenburg, Sweden
March	2017	University of Oslo, Norway
March	2017	Institute of Marine Research, Flødevigen, Norway
November	2016	Department of Ecology & Evolutionary Biology, University of Arizona
September	2016	Institute of Marine Research, Flødevigen, Norway
March	2016	Simon Fraser University, Canada
March	2016	University of British Columbia, Canada
November	2015	University of Agder, Norway
October	2015	Acadia University, Canada
November	2014	University of Umeå, Sweden
October	2014	Royal Danish Academy of Sciences and Letters, Copenhagen
October	2014	Tech. Univ. Denmark, Nat. Inst. Aquat, Resources, Copenhagen
August	2014	University of Bangor, Wales
June	2014	University of Trondheim, Norway
April	2014	Leibniz Institute of Freshwater Ecology and Inland Fisheries, Berlin
March	2014	Queen's University
December	2013	University of Oslo, Norway
October	2013	University of Victoria, Canada
November	2012	CSIRO, Hobart, Tasmania, Australia
September	2012	University of Turku, Finland
June	2012	University of Oslo, Norway
April	2012	University of Calgary
January	2012	University of California Santa Cruz

November	2011	Concordia University, Montreal
October	2011	University Aula, Oslo
July	2011	Holar University, Iceland
April	2011	University of Oslo, Norway
November	2010	University of Oslo, Norway
October	2010	Memorial University of Newfoundland, St. John's, NL
March	2010	University of Helsinki, Finland
November	2009	NMFS/NOAA Fisheries Laboratory, Seattle, WA
October	2009	Memorial University of Newfoundland, St. John's, NL
May	2009	Department of Fisheries & Oceans, Ottawa
May	2009	Standing Committee on Fisheries & Oceans, Canadian Senate, Ottawa
May	2009	Standing Committee on the Environment, House of Commons, Ottawa
March	2009	University of North Carolina, Wilmington, NC
March	2009	University of California, Riverside, CA
April	2008	Zoological Society of London, London, UK
February	2008	Great Lakes Institute For Environmental Research, Univ. Windsor
April	2007	Centre for Environ., Fisheries & Aquaculture Science (CEFAS), Lowestoft, UK
April	2007	IUCN Species Programme, UK Office, Cambridge, UK
February	2007	Department of Marine Biology, University of Bergen, Bergen, Norway
November	2006	Dept Fisheries & Oceans, Bedford Inst. Oceanography, Dartmouth, NS
June	2006	Department of Biology, Hólar University College, Hólar, Iceland
April	2006	Department of Biology, University of Umeå, Umeå Sweden
April	2006	Department of Aquaculture, Swedish Univ. Agric. Sci., Umeå, Sweden
February	2006	School of Fisheries & Aquatic Sciences, Univ. Washington, Seattle, WA
November	2005	Concordia University, Montreal, QC
October	2005	Dept Fisheries & Oceans, Bedford Inst. Oceanography, Dartmouth, NS
September	2005	Memorial University of Newfoundland, St. John's, NL
February	2005	Simon Fraser University, Burnaby, BC
November	2004	University of New Brunswick, Fredericton, NB
November	2004	University of New Brunswick at Saint John, Saint John, NB
October	2004	Memorial University of Newfoundland, St. John's, NL
August	2004	Marine Research Institute, Reykjavik, Iceland
April	2004	Department of Biological Sciences, Simon Fraser Univ., Burnaby, BC
March	2004	Department of Biology, University of Calgary, Calgary, AB
March	2004	Department of Biology, University of Massachusetts, Amherst, MA
January	2004	Dept. Biology, Acadia University, Wolfville, NS
September	2003	West Block, Parliament Buildings, Ottawa, ON
April	2003	Zoological Society of London, London, UK
February	2003	Dept Fisheries & Oceans, Bedford Inst. Oceanography, Dartmouth, NS
November	2002	Dept. Biology, Université Laval, Ste. Foy, QC
November	2002	Dept. Biology, Université du Québec à Trois-Rivières, Trois-Rivières
November	2002	Dept. Biology, Université de Sherbrooke, Sherbrooke, QC
September	2002	Dept. Resource & Environ. Stud., Simon Fraser Univ., Burnaby, BC
April	2002	Department of Biology, University of Sheffield, Sheffield, UK
March	2002	Department of Zoology, University of Göteborg, Göteborg, Sweden

March	2002	Department of Zoology, University of Manitoba, Winnipeg, MB
February	2002	Inst. Cell, Animal & Pop. Biol., University of Edinburgh, UK
January	2002	Division of Ecology & Evolution, University of Glasgow, UK
December	2001	Dept Fisheries & Oceans, Bedford Inst. Oceanography, Dartmouth, NS
June	2000	Department of Biology, Memorial Univ. Newfoundland, St. John's, NF
April	2000	Biologisk Institutt, University of Oslo, Oslo, Norway
March	2000	Department of Aquaculture, Swedish Univ. Agric. Sci., Umeå, Sweden
November	1999	Dept of Biology, Erindale College (Univ. Toronto), Mississauga, ON
April	1999	Fisheries & Wild. Sci., Virginia Poly. Inst. State Univ., Blacksburg, VA
March	1999	Department of Zoology, University of Guelph, Guelph, ON
November	1998	Department of Zoology, University of British Columbia, Vancouver, BC
November	1998	Pacific Biological Station, Nanaimo, BC
October	1998	Department of Biology, St. Francis Xavier University, Antigonish, NS
October	1998	Department of Biology, Memorial Univ. Newfoundland, St. John's, NL
April	1998	Department of Biology, University of New Brunswick, Fredericton, NB
November	1997	Department of Biology, McGill University, Montréal, QC
November	1997	Department of Biology, Concordia University, Montréal, QC
November	1997	Department of Aquaculture, Swedish Univ. Agric. Sci., Umeå, Sweden
November	1997	Bedford Institute of Oceanography, Dartmouth, NS
October	1997	Department of Biology, St. Mary's University, Halifax, NS
October	1997	Department of History, Dalhousie University, Halifax, NS
September	1997	Department of Anthropology, Memorial University, St. John's, NL
September	1997	Faculty of Law, Dalhousie University, Halifax, NS
August	1997	Department of Fisheries & Oceans, Moncton, NB
June	1997	EcoResearch Programme, Memorial University of Nfld., St. John's, NL
November	1996	Department of Biology, Queen's University, Kingston, ON
November	1996	Fish Behavioural Group, Queen's University, Kingston, ON
February	1996	Department of Finance & Resource Mgmt., St. Mary's Univ., Halifax
February	1996	Faculty of Law, Dalhousie University, Halifax, NS
November	1995	Department of Biology, Mount Allison University, Sackville, NB
November	1995	Department of Biology, St. Francis Xavier University, Antigonish, NS
May	1995	Norwegian Institute for Nature Research, Trondheim, Norway
March	1994	Department of Biology, Dalhousie University, Halifax, NS
March	1994	Department of Zoology, University of Toronto, Toronto, ON
October	1993	Centre For Northern Studies, Lakehead University, Thunder Bay, ON
October	1993	Department of Biology, Lakehead University, Thunder Bay, ON
September	1993	Department of Biology, York University, Toronto, ON
September	1992	Department of Ecology, University of Bergen, Bergen, Norway
August	1992	Biology Department, St. Andrews University, St. Andrews, Scotland
February	1992	Swedish University of Agricultural Sciences, Umeå, Sweden