Mehrdad Hajibabaei, PhD

CONTACT INFORMATION
Biodiversity Institute of Ontario & Department of Integrative Biology
University of Guelph
50 Stone Road East
Guelph, Ontario, N1G 2W1, Canada
Office: BIO-CBG 108
Lab: BIO-CBG LL15-16
Phone: 519-824-4120 ext. 52487
Fax: 519-824-5703
Email: mhajibab@uoguelph.ca; hajibabaei@gmail.com
Lab web address: www.ibarcode.org/hajibabaei
Departmental web address: http://www.uoguelph.ca/ib/people/faculty/hajibabaei.shtml

EXECUTIVE SUMMARY
Mehrdad Hajibabaei is an expert in molecular evolutionary biology and bioinformatics. His research has focused on the use of genomics information in biodiversity analysis, ranging from the elucidation of deep branches of the tree of life to the establishment and application of DNA barcodes (standardized species-level DNA markers). Hajibabaei has been one of the pioneers in the use of high-throughput genomics technologies, such as microarrays and Next-Generation Sequencing (NGS) for the assessment of biodiversity in samples as varied as natural health products to bulk environmental samples. His research contributions have generated over 3200 citations (ISI). Additionally, he has played a leadership role in establishing large-scale research projects and networks, such as the Canadian Barcode of Life Network and the International Barcode of Life (iBOL). He currently leads *Biomonitoring 2.0* (www.biomonitoring2.org), a large-scale applied genomics project funded by Genome Canada, Environment Canada, and Parks Canada involving seven research groups. This project uses NGS technologies for comprehensive assessment of biodiversity in Canada's largest national park, Wood Buffalo National Park, with direct linkage to environmental monitoring of the Alberta Oil Sands. Hajibabaei has independently raised over $6.7M in research funds from various agencies and the industrial sector. He has served on advisory and review panels for international organizations and funding agencies, and has collaborated with regulatory agencies and various industries.

1. EDUCATION AND DEGREES

Ph.D. University of Ottawa, Ottawa, Ontario, Molecular Evolution and Bioinformatics, 2003
B.Sc. Tehran Azad University, Tehran, Iran, Microbiology, 1994

2. EMPLOYMENT HISTORY

Assistant Professor, University of Guelph, Department of Integrative Biology (2009 - Present).

Project Leader, Biomonitoring 2.0 (2011 - Present). www.biomonitoring2.org

Research Scientist, University of Guelph, Biodiversity Institute of Ontario (2006 - 2009).

Associate Director, Canadian Centre for DNA Barcoding (2006 - 2009).

Postdoctoral Fellow, University of Guelph, Department of Integrative Biology (2003 - 2006).

Research Assistant, University of Ottawa, Department of Biology (1998 - 2003).

Teaching Assistant, University of Ottawa, Department of Biology (1998 - 2003).

3. SCHOLARLY HONOURS AND AWARDS

Award

2010-2011: Genome Canada's Large Scale Applied Research competition in Environment and Forestry category. Ranked First

2006-2007: Visualization and analysis software for DNA barcode data. 2nd International Barcode of Life Conference.

Scholarship

2002-2003: Science and Technology. Ontario Graduate Scholarship.
2002-2003: University of Ottawa. Tuition Scholarship
2001-2002: Burroughs Wellcome Fund Scholarship.
2001-2002: Science and Technology. Ontario Graduate Scholarship.
2000-2001: Science and Technology. Ontario Graduate Scholarship.

4. TEACHING RESPONSIBILITIES

TEACHING CONTEXTUAL STATEMENT

My current distribution of effort does not involve teaching undergraduate courses, so my teaching duties are focused on training graduate students and postdocs, undergraduate research projects/courses, and special graduate-level courses. I actively participate as organizer/invited speaker/instructor for technical workshops and as guest lecturer in undergraduate/graduate courses offered at Guelph and other universities. My lab provides a vibrant research and training environment for trainees as the work spans from basic molecular biodiversity and evolutionary biology to technology development and bioinformatics. We operate state-of-the-art molecular equipment (i.e. next-generation sequencing, real-time PCR) and high performance computing facilities. Hence, the lab has trained a significant number of graduate students, postdocs, and technicians. Two graduate students have won prestigious NSERC scholarships and two postdocs have received major fellowships during their tenure in the lab.

*Signed student comments/evaluations are included in the File Library under 'Teaching'

Invited Lecture

2013-2014 - Invited Lecture. . Principles of Landscape Ecology (LARC*3320)
2013-2014 - Invited Lecture. . Bioinformatics graduate studies
2013-2014 - Invited Lecture. . Methods in Evolutionary Biology (BIOL*3040)
2012-2013 - Invited Lecture. . Community Ecology (BIOL*3120)
2011-2012 - Invited Lecture. . Molecular Phylogenetics and Evolution (BIOL*4100)

ADVISORY AND COMMITTEE WORK, BY LEVEL

Graduate Advising - Primary - Doctoral

2013-2014 - Graduate Advising - Primary - Doctoral . [McGee, Katie] .

Graduate Advising - Primary - Masters

2013-2014 - Graduate Advising - Primary - Masters . [Spall, Jennifer] , May 01, 2012 - Dec 31, 2012.
2013-2014 - Graduate Advising - Primary - Masters . [Wright, Michael] , May 01, 2013 - Apr 30, 2014.
2013-2014 - Graduate Advising - Primary - Masters . [Ledger, Lisa] , May 01, 2012 - Apr 30, 2013.
2013-2014 - Graduate Advising - Primary - Masters . [Capretta, Gina] , Jan 01, 2013 - Apr 30, 2013.
2013-2014 - Graduate Advising - Primary - Masters . [Fahner, Nicole] , Sep 01, 2012 - Apr 30, 2013.
2013-2014 - Graduate Advising - Primary - Masters . [Conner, Stephanie (University of New Brunswick)] .
2012-2013 - Graduate Advising - Primary - Masters . [Capretta, Gina] , Jan 01, 2013 - Apr 30, 2013.
2012-2013 - Graduate Advising - Primary - Masters . [Spall, Jennifer] , May 01, 2012 - Dec 31, 2012.
2012-2013 - Graduate Advising - Primary - Masters . [Ledger, Lisa] , May 01, 2012 - Apr 30, 2013.
2012-2013 - Graduate Advising - Primary - Masters . [Fahner, Nicole] , Sep 01, 2012 - Apr 30, 2013.
2011-2012 - Graduate Advising - Primary - Masters . [Bertrand, Claudia] , May 01, 2011 - Apr 30, 2012.

2011-2012 - Graduate Advising - Primary - Masters . [Spall, Jennifer] , May 01, 2011 - Apr 30, 2012.
2011-2012 - Graduate Advising - Primary - Masters . [Ledger, Lisa] , Jan 01, 2012 - Apr 30, 2012.
2010-2011 - Graduate Advising - Primary - Masters . [Bertrand, Claudia] , May 01, 2010 - Apr 30, 2011.

Graduate Advising - Co-Advisor - Doctoral

2013-2014 - Graduate Advising - Co-Advisor - Doctoral . [Arteaga, Jorge (University of Minho, Portugal)] .
2012-2013 - Graduate Advising - Co-Advisor - Doctoral . [Bloch, Rebecca (University of Frankfurt)] .
2012-2013 - Graduate Advising - Co-Advisor - Doctoral . [Arteaga, Jorge (University of Minho, Portugal)] .
2011-2012 - Graduate Advising - Co-Advisor - Doctoral . [Arteaga, Jorge (University of Minho, Portugal)] .
2011-2012 - Graduate Advising - Co-Advisor - Doctoral . [Bloch, Rebecca (University of Frankfurt)] .
2010-2011 - Graduate Advising - Co-Advisor - Doctoral . [Bloch, Rebecca (University of Frankfurt)] .
2009-2010 - Graduate Advising - Co-Advisor - Doctoral . [Bloch, Rebecca (University of Frankfurt)] .

Graduate Advising - Co-Advisor - Masters

2012-2013 - Graduate Advising - Co-Advisor - Masters . [Taidi, Saina] , May 01, 2012 - Aug 31, 2012.
2011-2012 - Graduate Advising - Co-Advisor - Masters . [Taidi, Saina] , May 01, 2011 - Apr 30, 2012.
2010-2011 - Graduate Advising - Co-Advisor - Masters . [Taidi, Saina] , May 01, 2010 - Apr 30, 2011.

Graduate Advising - Committee - Doctoral

2013-2014 - Graduate Advising - Committee - Doctoral . [Ma, Eddie] , May 01, 2012 - Apr 30, 2013.
2012-2013 - Graduate Advising - Committee - Doctoral . [Ma, Eddie] , May 01, 2012 - Apr 30, 2013.
2012-2013 - Graduate Advising - Committee - Doctoral . [Jewell, Linda] , May 01, 2012 - Apr 30, 2013.
2011-2012 - Graduate Advising - Committee - Doctoral . [Ma, Eddie] , May 01, 2011 - Apr 30, 2012.
2011-2012 - Graduate Advising - Committee - Doctoral . [Jewell, Linda] , May 01, 2011 - Apr 30, 2012.
2010-2011 - Graduate Advising - Committee - Doctoral . [Jewell, Linda] , May 01, 2010 - Apr 30, 2011.

Graduate Advising - Committee - Masters

2013-2014 - Graduate Advising - Committee - Masters . [Strohm, Jeffrey] .
2013-2014 - Graduate Advising - Committee - Masters . [Morningstar, Derek] .

*Please note that Graduate Students may appear more than once in the lists above as one record is created for each academic year a student is enrolled.

5. RESEARCH AND SCHOLARSHIP
RESEARCH CONTEXTUAL STATEMENT

My research has mainly focused on the use of genomics information and bioinformatics analysis in addressing fundamental evolutionary problems such as resolving phylogenetic relationships to species-level biodiversity. Since 2003, I have significantly contributed to the development and application of DNA barcoding, a global DNA-based species identification system. I spearheaded the development of high-throughput DNA barcoding both through Sanger sequencing and most recently using NGS technologies. I introduced the idea of using short “mini-barcode” fragments for biodiversity analysis of specimens with degraded DNA (e.g. museum samples, processed food products, diet analysis and environmental DNA). My lab has been leading the efforts on the use of next-generation sequencing for the analysis of bulk environmental samples for ecological studies and biomonitoring. This “DNA metasystematics” approach can potentially revolutionize biodiversity analysis as it can provide a taxonomically comprehensive state of a given ecosystem and can be replicated spatiotemporally. Additionally, my research program has contributed significantly to understanding cryptic diversity and new species in varied taxonomic groups, especially in tropical Lepidoptera (a model system I have studied for 11 years). My research has also involved the development and application of new bioinformatics tools especially for biodiversity analysis. This is an important contribution when taking into consideration the flood of genomics data generated through new sequencing technologies and large-scale projects such as the International Barcode of Life. I have recently begun a new chapter in my research program by using NGS and other high-throughput genomics tools for functional (e.g. transcriptome) analysis of organisms in changing ecosystems/environments. This work is complementary to taxonomically oriented biodiversity analysis (community structure) and seeks to address/study community function by focusing on evolutionary conserved segments of the transcriptome. My

research contributions have generated a total of 3269 citations and an h-index of 21 (ISI Web of Science, accessed June 30, 2014). A number of these contributions have been among the most highly cited articles in the field.

RESEARCH FUNDING RECEIVED

	Year	Title	Funding Agency	Role	Status	Scope	Multi-Year	Awarded
1.	2016	Development of a biomonitoring system using environmental DNA	GOV-ENVIRONMENT CANADA	Principal Investigator	Funded	External	[Year 4 of 4]	$50,000.00
2.	2015	Development of a biomonitoring system using environmental DNA	GOV-ENVIRONMENT CANADA	Principal Investigator	Funded	External	[Year 3 of 4]	$50,000.00
3.	2014	Next-generation Biodiversity Analysis	GOV-NSERC DISCOVERY GRANT (RG)	Principal Investigator	Funded	External	[Year 4 of 4]	$25,000.00
4.	2014	Development of a biomonitoring system using environmental DNA	GOV-ENVIRONMENT CANADA	Principal Investigator	Funded	External	[Year 2 of 4]	$50,000.00
5.	2015	Assessment of the potential of transcriptomics as an early warning indicator of contaminant exposure	GOV-ONT. MIN. OF ENVIRONMENT	Principal Investigator	Funded	External	[Year 1 of 2]	$18,750.00
6.	2015	International Barcode of Life	GOV-ONT. MIN. OF RESEARCH & INNOVATION	Co-Investigator	Funded	External	[Year 1 of 5]	
7.	2013	Next-generation Biodiversity Analysis	GOV-NSERC DISCOVERY GRANT (RG)	Principal Investigator	Funded	External	[Year 4 of 4]	$25,000.00
8.	2014	Assessment of the potential of transcriptomics as an early warning indicator of contaminant exposure	GOV-ONT. MIN. OF ENVIRONMENT	Principal Investigator	Funded	External	[Year 1 of 2]	$18,750.00
9.	2013	Development of a biomonitoring system using environmental DNA	GOV-ENVIRONMENT CANADA	Principal Investigator	Funded	External	[Year 1 of 4]	$50,000.00
10.	2013	Biomonitoring 2.0: A high-throughput genomics approach for comprehensive biological assessment of environmental change	GOV-GENOME CANADA	Principal Investigator	Funded	External	[Year 3 of 3]	$1,056,667.00
11.	2013	Integrative & Innovative Biodiversity Analysis from Tundra to the Tropics	Canada Foundation for Innovation	Co-Principal Investigator	Funded	External		$468,650.00
12.	2014	International Barcode of Life	GOV-ONT. MIN. OF RESEARCH & INNOVATION	Co-Investigator	Funded	External	[Year 1 of 5]	
13.	2012	Metagenomic approach for the study of total soil biodiversity	Agence de l'environnement et de la maîtrise de l'énergie	Co-Principal Investigator	Funded	External	[Year 2 of 2]	$30,000.00
14.	2012	Biomonitoring 2.0	GOV-ENVIRONMENT CANADA	Principal Investigator	Funded	External		$12,000.00
15.	2012	Integrative & Innovative Biodiversity Analysis from Tundra to the Tropics	Canada Foundation for Innovation	Co-Principal Investigator	Funded	External		$468,650.00

16. 2013	International Barcode of Life	GOV-ONT. MIN. OF RESEARCH & INNOVATION	Co-Investigator	Funded	External	[Year 1 of 5]	
17. 2012	Biomonitoring 2.0: A high-throughput genomics approach for comprehensive biological assessment of environmental change	GOV-GENOME CANADA	Principal Investigator	Funded	External	[Year 2 of 3]	$1,056,667.00
18. 2012	Next-generation Biodiversity Analysis	GOV-NSERC DISCOVERY GRANT (RG)	Principal Investigator	Funded	External	[Year 3 of 4]	$25,000.00
19. 2011	Metagenomic approach for the study of total soil biodiversity	Agence de l'environnement et de la maîtrise de l'énergie	Co-Principal Investigator	Funded	External	[Year 1 of 2]	$30,000.00
20. 2011	International Barcode of Life Consortium	GOV-GENOME CANADA	Co-Investigator	Funded	External	[Year 2 of 3]	
21. 2012	DNA barcoding of freshwater insects of Canada	GOV-ENVIRONMENT CANADA	Principal Investigator	Funded	External		$20,000.00
22. 2012	International Barcode of Life	GOV-ONT. MIN. OF RESEARCH & INNOVATION	Co-Investigator	Funded	External	[Year 1 of 5]	
23. 2011	Next-generation Biodiversity Analysis	GOV-NSERC DISCOVERY GRANT (RG)	Principal Investigator	Funded	External	[Year 2 of 4]	$25,000.00
24. 2011	Biomonitoring 2.0: A high-throughput genomics approach for comprehensive biological assessment of environmental change	GOV-GENOME CANADA	Principal Investigator	Funded	External	[Year 1 of 3]	$1,056,667.00
25. 2010	DNA identification of animal tissue in cattle feed	GOV-ONTARIO GENOMICS INSTITUTE	Principal Investigator	Funded	External	[Year 3 of 3]	$35,000.00
26. 2011	International Barcode of Life	GOV-ONT. MIN. OF RESEARCH & INNOVATION	Co-Investigator	Funded	External	[Year 1 of 5]	
27. 2010	International Barcode of Life Consortium	GOV-GENOME CANADA	Co-Investigator	Funded	External	[Year 3 of 3]	
28. 2010	Next-generation Biodiversity Analysis	GOV-NSERC DISCOVERY GRANT (RG)	Principal Investigator	Funded	External	[Year 1 of 4]	$20,000.00
29. 2010	Environmental barcoding of benthic macroinvertebrates	GOV-ENVIRONMENT CANADA	Principal Investigator	Funded	External		$131,000.00
30. 2010	Environmental barcoding for water quality assessment	GOV-ENVIRONMENT CANADA	Principal Investigator	Funded	External		$12,000.00
31. 2009	Environmental DNA barcoding through massively parallelized sequencing	GOV-GENOME CANADA	Co-Principal Investigator	Funded	External		$900,000.00
32. 2009	DNA identification of animal tissue in cattle feed	GOV-ONTARIO GENOMICS INSTITUTE	Principal Investigator	Funded	External	[Year 2 of 3]	$35,000.00

33. 2009	International Barcode of Life Consortium	GOV-GENOME CANADA	Co-Investigator	Funded	External	[Year 1 of 3]	
34. 2008	DNA identification of animal tissue in cattle feed	GOV-ONTARIO GENOMICS INSTITUTE	Principal Investigator	Funded	External	[Year 1 of 3]	$35,000.00
35. 2008	Environmental DNA barcoding through massively parallelized sequencing	GOV-GENOME CANADA	Co-Principal Investigator	Funded	External		$900,000.00
36. 2008	DNA probe identification and testing for use on 3D-Biochip product	Research contract from Safeguard Biosciences Inc.	Principal Investigator	Funded	External		$173,600.00
Totals							**$6,778,401.00**

PUBLICATIONS AND SCHOLARLY ACTIVITY
LIFETIME SUMMARY (Count) according to the following categories:

Category	Total
Articles in Refereed Journals	47
Publications of Non-refereed or Invited Papers	1
Books, Monographs, Compilations, Manuals, Supplements, Chapters, Cases, Readings	1
Presentations of Refereed Papers	71
Presentations of Non-Refereed Papers	22
Grants - Funded (both refereed and non-refereed)	35
Software, Publicly or Commercially Available	1
Working Papers (All)	7
Totals	185

* Denotes Student Contribution

REFEREED PUBLICATIONS
Refereed Chapters, Cases, Readings, Supplements
Chapter

1. Hajibabaei, M. & * King, I. (2014). Next-generation biodiversity analysis (NGBA). *Next Generation Systematics: Studying Evolution & Diversity in an Era of Ubiquitous Genomics*.

Refereed Articles

1. Vincent, B., Hajibabaei, M., & Rougerie, R. (2014). A striking new genus and species of tiger-moth (Lepidoptera: Erebidae, Arctiinae, Arctiini) from the Caribbean, with molecular and morphological analysis of its systematic placement. *Zootaxa, 3760 (2)*, 289-300.
2. * Bertrand, C., Janzen, D. H., Hallwachs, W., Burns, J. M., * Gibson, J. F., * Shokralla, S., & Hajibabaei, M. (in press, 2014). Mitochondrial and nuclear phylogenetic analysis with Sanger and next-generation sequencing shows that, in Área de Conservación Guanacaste, NW Costa Rica, the skipper butterfly Urbanus belli (Hesperiidae) comprises three morphologically cryptic species. *BMC Evolutionary Biology*.
3. * Shokralla, S., * Gibson, J. F., * Nikbakht, H., Janzen, D. H., Hallwachs, W., & Hajibabaei, M. (2014). Next-generation DNA barcoding: using next-generation sequencing to enhance and accelerate DNA barcode capture from single specimens. *Molecular Ecology Resources*.
4. Porter, T. M., * Gibson, J. F., * Shokralla, S., Baird, D. J., Golding, G. B., & Hajibabaei, M. (2014). Rapid and accurate taxonomic classification of insect (Class Insecta) cytochrome c oxidase subunit 1 (COI) DNA barcode sequences using a naïve Bayesian classifier. *Molecular Ecology Resources*.
5. * Gibson, J. F., * Shokralla, S., Porter, T. M., * King, I., van Konynenburg, S., Janzen, D.H, Hallwachs, W., & Hajibabaei, M. (2014). Simultaneous assessment of the macrobiome and microbiome in a bulk sample of tropical arthropods through DNA metasystematics. *Proceedings of the National Academy of Sciences of the United States of America*.

6. Chacon, I. A., Janzen, D. H., Hallwachs, W., Sullivan, J. B., & Hajibabaei, M. (2013). Cryptic species within cryptic moths: new species of Dunama Schaus (Notodontidae, Nystaleinae) in Costa Rica. *ZooKeys, 264*, 11-45.
7. Burns, J. M., Janzen, D. H., Hallwachs, W., & Hajibabaei, M. (2013). DNA barcodes reveal yet another new species of Venada (Lepidoptera: Hesperiidae) in northwestern Costa Rica. *Proceedings of the Entomological Society of Washington, 115 (1)*, 37-47.
8. Grishin, N. V., Burns, J. M., Janzen, D. H., Hallwachs, W., & Hajibabaei, M. (2013). Oxynetra: facies and DNA barcodes point to a new species from Costa Rica (Hesperiidae: Pyrginae: Pyrrhopygini). *Journal of Lepidopterists' Society, 67 (1)*, 1-14.
9. Janzen, D. H., Hallwachs, W., Harvey, D. J., Darrow, K., Rougerie, R., & 45 others. (2012). What happens to the traditional taxonomy when a well-known tropical saturniid moth fauna is DNA barcoded? *Invertebrate Systematics, 26 (6)*, 478-505.
10. Hajibabaei, M., * Spall, J. L., * Shokralla, S., & van Konynenburg, S. (2012). Assessing biodiversity of a freshwater benthic macroinvertebrate community through non-destructive environmental barcoding of DNA from preservative ethanol. *BMC Ecology, 12 (28)*.
11. Baird, D. J. & Hajibabaei, M. (2012). Biomonitoring 2.0: a new paradigm in ecosystem assessment made possible by next-generation sequencing. *Molecular Ecology, 21 (8)*, 2039-2044.
12. * Wallace, L. J., * Boilard, S. M., * Eagle, S. H., * Spall, J. L., * Shokralla, S., & Hajibabaei, M. (2012). DNA barcodes for everyday life: routine authentication of natural health products. *Food Research International, 49 (1)*, 446-452.
13. Taberlet, P., Coissac, E., Hajibabaei, M., & Rieseberg, L. H. (2012). Environmental DNA. *Molecular Ecology, 21*, 1789-1793.
14. * Shokralla, S., * Spall, J. L., * Gibson, J. F., & Hajibabaei, M. (2012). Next-generation DNA sequencing technologies for environmental DNA research. *Molecular Ecology, 21 (8)*, 1794-1805.
15. Hajibabaei, M. (2012). The golden age of DNA metasystematics. *Trends in Genetics, 28 (11)*, 535-537.
16. Smith, M. A., * Bertrand, C., Crosby, K., Eveleigh, E. S., Fernandez-Triana, J., & 23 others. (2012). Wolbachia and DNA barcoding insects:patterns, potential, and problems. *PLoS ONE, 7 (5)*, e36514.
17. Baird, D. J., Pascoe, T. J., Zhou, X., & Hajibabaei, M. (2011). Building freshwater macroinvertebrate DNA-barcode libraries from reference collection material: formalin preservation vs specimen age. *Journal of the North American Benthological Society, 30 (1)*, 125-130.
18. Burgess, K. S., Fazekas, A. J., Kesanakurti, P. R., Graham, S. W., Husband, B. C., Newmaster, S.G., Percy, D.M., Hajibabaei, M., & Barrett, S.C.H. (2011). Discriminating plant species in a local temperate flora using the rbcL+matK DNA barcode. *Methods in Ecology and Evolution, 2 (4)*, 333-340.
19. Hajibabaei, M., * Shokralla, S., Zhou, X., Singer, G. A., & Baird, D. J. (2011). Environmental barcoding: a next-generation sequencing approach for biomonitoring applications using river benthos. *PLoS ONE, 6*, e17497.
20. * Shokralla, S., Zhou, X., Janzen, D. H., Hallwachs, W., Landry, J. F., Jacobus, L.M., & Hajibabaei, M. (2011). Pyrosequencing for mini-barcoding of fresh and old museum specimens. *PLoS ONE, 6*, e21252.
21. Janzen, D. H., Hallwachs, W., Burns, J. M., Hajibabaei, M., * Bertrand, C., & Hebert, P.D.N. (2011). Reading the complex skipper butterfly fauna of one tropical place. *PLoS ONE, 6*, e19874.
22. Kesanakurti, P. R., Fazekas, A. J., Burgess, K. S., Percy, D. M., Newmaster, S. G., Graham, S.W., Barrett, S.C.H., Hajibabaei, M., & Husband, B.C. (2011). Spatial patterns of plant diversity below-ground as revealed by DNA barcoding. *Molecular Ecology, 20 (6)*, 1289-1302.
23. Baird, D. J., Baker, C. J., Brua, R. B., Hajibabaei, M., McNicol, K., Pascoe, T.J., & de Zwart, D. (2011). Towards a knowledge infrastructure for traits-based ecological risk assessment. *Integrated Environmental Assessment and Management, 7 (2)*, 209-215.

24. Wilson, J. J., Rougerie, R., Schonfeld, J., Janzen, D. H., Hallwachs, W., Hajibabaei, M., Kitching, I.J., Haxaire, J., & Hebert, P.D.N. (2011). When species matches are unavailable are DNA barcodes correctly assigned to higher taxa? An assessment using sphingid moths. *BMC Ecology*.
25. * Shokralla, S., Singer, G. A., & Hajibabaei, M. (2010). Direct PCR amplification and sequencing of specimens' DNA from preservative ethanol. *BioTechniques, 48 (3)*, 233-234.
Listed among high ranking papers and a commentary was published about this work
26. Burns, J. M., Janzen, D. H., Hallwachs, W., Hajibabaei, M., & Hebert, P. D. (2010). Genitalia, DNA barcodes, larval facies, and foodplants place the mimetic species Neoxeniades molion in Rhinthon (Hesperiidae: Hesperiinae). *Journal of Lepidopterists' Society, 64 (2)*, 69-78.
27. Wilson, J. J., Landry, J. F., Janzen, D. H., Hallwachs, W., Nazari, V., Hajibabaei, M., & Hebert, P.D.N. (2010). Identity of the ailanthus webworm moth (Lepidoptera: Yponomeutidae), a complex of two species: evidence from DNA barcoding, morphology and ecology. *ZooKeys, 46*, 41–60.
28. Albu, M., Nikbahkt, H., Hajibabaei, M., & Hickey, D. A. (2010). The DNA Barcode Linker. *Molecular Ecology Resources, 11 (1)*, 84-88.
29. Hollingsworth, P. M., Forrest, L. L., Spouge, J. L., Hajibabaei, M., Ratnasingham, S., & 47 others (2009). A DNA barcode for land plants. *Proceedings of the National Academy of Sciences of the United States of America, 106 (31)*, 12794–12797.
30. Fazekas, A. J., Kesanakurti, P. R., Burgess, K. S., Percy, D. M., Graham, S. W., Barrett, S.C.H., Newmaster, S.G., Hajibabaei, M., & Husband, B.C. (2009). Are plant species inherently harder to discriminate than animal species using DNA barcoding markers? *Molecular Ecology Resources, 9 (1)*, 130-139.
31. Burns, J. M., Janzen, D. H., Hallwachs, W., Hajibabaei, M., & Hebert, P. D. (2009). Genitalia, DNA barcodes, and life histories synonymize Telles with Thracidesa--a genus in which Telles arcalaus looks out of place (Hesperiidae: Hesperiinae). *Journal of Lepidopterists' Society, 63 (3)*, 141-153.
32. Hajibabaei, M. & Singer, G. A. (2009). Googling DNA Sequences on the World Wide Web. *BMC Bioinformatics, 10 (Supp14)*, S4.
33. Singer, G. A. & Hajibabaei, M. (2009). iBarcode.org: web-based molecular biodiversity analysis. *BMC Bioinformatics, 10 (Supp6)*, S14.
34. Janzen, D. H., Hallwachs, W., Blandin, P., Burns, J. M., Cadiou, J., & 41 others (2009). Integration of DNA barcoding into an ongoing inventory of complex tropical biodiversity. *Molecular Ecology Resources, 9 (Supp1)*, 1-26.
35. * Meusnier, I., Singer, G. A., Landry, J., Hickey, D. A., Hebert, P. D., & Hajibabaei, M. (2008). A universal DNA mini-barcode for biodiversity analysis. *BMC Genomics, 9*, 214.
Ranked as highly accessed article
36. Burns, J. M., Janzen, D. H., Hajibabaei, M., Hallwachs, W., & Hebert, P. D. (2008). DNA barcodes and cryptic species of skipper butterflies in the genus Perichares in Area de Conservación Guanacaste, Costa Rica. *Proceedings of the National Academy of Sciences of the United States of America, 105 (17)*, 6350-6355.
37. Zimmermann, J., Hajibabaei, M., Blackburn, D. C., Hanken, J., Cantin, E., Posfai, J., & Evans, T.C. (2008). DNA damage in preserved specimens and tissue samples: a molecular assessment. *Frontiers in Zoology, 5*, 18.
38. Fazekes, A. J., Burgess, K. S., Kesanakurti, P. R., Graham, S. W., Newmaster, S. G., Husband, B.C., Percy, D.M., Hajibabaei, M., & Barrett, S.C.H. (2008). Multiple multilocus DNA barcodes from the plastid genome discriminate plant species equally well. *PLoS ONE, 3 (7)*, e2802.
39. Hajibabaei, M., Singer, G. A., Clare, E. L., & Hebert, P. D. (2007). Design and applicability of DNA arrays and DNA barcodes in biodiversity monitoring. *BMC Biology, 5*, 24.
Ranked as highly accessed article
40. Burns, J. M., Janzen, D. H., Hajibabaei, M., Hallwachs, W., & Hebert, P. D. (2007). DNA barcodes of closely related (but morphologically and ecologically distinct) species of skipper butterflies (Hesperiidae) differ by only one to three nucleotides. *Journal of the Lepidopterists' Society, 61 (3)*, 138-153.

41. Hajibabaei, M., Singer, G. A., Hebert, P. D., & Hickey, D. A. (2007). DNA barcoding: how it complements taxonomy, molecular phylogenetics and population genetics. *Trends in Genetics, 23 (4)*, 167-172.
Published as cover story and ranked 5th in the Top 25 Hottest Articles in April-June 2007. Among the most downloaded artciles in this journal (June 2014).
42. Hajibabaei, M., Smith, M. A., Janzen, D. H., Rodriguez, J. J., Whitfield, J. B., & Hebert, P.D.N. (2006). A minimalist barcode can identify a specimen whose DNA is degraded. *Molecular Ecology Resources, 6 (4)*, 959-964.
Ranked among top 20 accessed papers on journal's website
43. Hajibabaei, M., Singer, G. A., & Hickey, D. A. (2006). Benchmarking DNA barcodes: An assessment using available primate sequences. *Genome, 49 (7)*, 851-854.
44. Hajibabaei, M., Janzen, D. H., Burns, J. M., Hallwachs, W., & Hebert, P. D. (2006). DNA barcodes distinguish species of tropical Lepidoptera. *Proceedings of the National Academy of Sciences of the United States of America, 103*, 968-971.
Presented as cover image and ranked 4th among 50th Most-Read Articles in January 2006
45. Hajibabaei, M., Xia, J., & Drouin, G. (2006). Seed plant phylogeny: gnetophytes are derived conifers and a sister group to Pinaceae. *Molecular Phylogenetics and Evolution, 40 (1)*, 208-217.
46. Hajibabaei, M., deWaard, J. R., Ivanova, N. V., Ratnasingham, S., Dooh, R. T., Kirk, S.L., Mackie, P.M., & Hebert, P.D.N. (2005). Critical factors for assembling a high volume of DNA barcodes. *Philosophical Transactions of the Royal Society of London. Series B Biological Sciences, 360 (1462)*, 1959-1967.
47. Janzen, D. H., Hajibabaei, M., Burns, J. M., Hallwachs, W., Remigio, E., & Hebert, P.D.N. (2005). Wedding biodiversity inventory of a large and complex Lepidoptera fauna with DNA barcoding. *Philosophical Transactions of the Royal Society of London. Series B Biological Sciences, 360*, 1835-1845.

Presentations of Refereed Papers

International

1. * Fahner, N., Baird, D. J., & Hajibabaei, M. (2014). *Assessment of below-ground plant diversity in wetland soil through environmental DNA (Poster).* Joint Aquatic Sciences Meeting, Portland, Oregon.
2. * Fahner, N., Hajibabaei, M., & Baird, D. J. (2014). *Assessment of below-ground plant biodiversity through environmental DNA from soil: a case study in the Peace-Athabasca Delta wetlands.* Genomes to Biomes - 1st joint meeting of the Canadian Society of Ecology & Evolution (CSEE), the Canadian Society of Zoology (CSZ) and the Society of Canadian Limnologists (SCL). May 29. Montreal Quebec, Montreal, Canada-Quebec.
3. * Gibson, J. F., Hajibabaei, M., * Shokralla, S., * King, I., Baird, D. J., Monk, W.A., & Porter, T.M. (2014). *Improving the power and efficiency of aquatic ecological assessment through the use of DNA metasystematics and next-generation sequencing.* Joint Aquatic Sciences Meeting, Portland, Oregon.
4. * Gibson, J. F., * Shokralla, S., Porter, T. M., * King, I., Baird, D. J., Hajibabaei, M. (2014). *Applying a DNA metasystematics approach for comprehensive terrestrial biodiversity analysis.* Entomological Society of Canada/Ontario Joint Annual Meeting, Guelph, Canada-Ontario.
5. * Ledger, L., * Shokralla, S., * Gibson, J. F., & Hajibabaei, M. (2014). *Assessing the potential of metabarcoding for measuring beta diversity: A study of three plots of Costa Rican tropical dry forest (Poster).* Genomes to Biomes - 1st joint meeting of the Canadian Society of Ecology & Evolution (CSEE), the Canadian Society of Zoology (CSZ) and the Society of Canadian Limnologists (SCL). May 29. Montreal Quebec, Montreal, Canada-Quebec.
6. * Shokralla, S., * Gibson, J. F., * King, I., & Hajibabaei, M. (2014). *Biomonitoring 2.0: A high throughput genomics approach for comprehensive biological assessment of environmental change.* ICERE 2014 International Conference on Environment and Renewable Energy, Paris, France.
7. * Spall, J. L., * Shokralla, S., Baird, D. J., & Hajibabaei, M. (2014). *Investigating the utility of next generation sequencing for evaluating biodiversity in benthic ecosystems.* Genomes to Biomes - 1st joint

meeting of the Canadian Society of Ecology & Evolution (CSEE), the Canadian Society of Zoology (CSZ) and the Society of Canadian Limnologists (SCL). May 29. Montreal Quebec, Montreal, Canada-Quebec.
8. * Wright, M., Baird, D. J., & Hajibabaei, M. (2014). *Inferring patterns of benthic arthropod co-occurrence and phylogenetic diversity in Wood Buffalo National Park from next-generation sequencing analysis of environmental samples (Poster).* Genomes to Biomes - 1st joint meeting of the Canadian Society of Ecology & Evolution (CSEE), the Canadian Society of Zoology (CSZ) and the Society of Canadian Limnologists (SCL). May 29. Montreal Quebec, Montreal, Canada-Quebec.
9. Hajibabaei, M. (2014). *Wetlands ecological genomics analysis network.* Joint Aquatic Sciences Meeting, Portland, Oregon.
10. * Gibson, J. F., * Shokralla, S., * King, I., & Hajibabaei, M. (2013). *Phylogeny-informed PCR-amplification primer design for the assessment of terrestrial arthropod biodiversity using next-generation sequencing.* First Joint Congress on Evolutionary Biology, Ottawa, Canada-Ontario.
11. * Shokralla, S. & Hajibabaei, M. (2013). *PCR free approach for environmental DNA barcoding using a capture system coupled with next-generation sequencing technology.* 5th International Barcode of Life Conference, Kunming, China.
12. * Shokralla, S., * Gibson, J. F., * Nikbakht, H., Janzen, D. H., Hallwachs, W., Hajibabaei, M. (2013). *Next-generation sequencing to enhance and accelerate DNA barcode recovery from single specimens.* 5th International Barcode of Life Conference, Kunming, China.
13. Hajibabaei, M. (2013). *Ecosystem assessment and biomonitoring through next-generation sequencing analysis of DNA barcodes.* 5th International Barcode of Life Conference, Kunming, China.
Description: Plenary
14. Hajibabaei, M. (2013). *Biomonitoring 2.0: Ecosystem assessment and monitoring through next generation genomics.* Entomological Society of Canada/Ontario Joint Annual Meeting, Guelph, Canada-Ontario.
15. * King, I., * Gibson, J. F., Baird, D. J., Monk, W. A., Hajibabaei, M., * Shokralla, S. (2013). *Ecosystem biomonitoring through DNA metasystematics.* International Association for Great Lakes Research Annual Meeting, West Lafayette, Indiana.
16. * Shokralla, S. & Hajibabaei, M. (2013). *Biomonitoring 2.0: a new implementation of next-generation sequencing technologies for environmental DNA research and ecosystem assessment.* North American Next Generation Sequencing User Meeting, Indianapolis, Indiana.
17. * Gibson, J. F., * Shokralla, S., * King, I., & Hajibabaei, M. (2012). *Phylogeny-informed PCR-amplification primer design for the assessment of terrestrial arthropod biodiversity using next-generation sequencing.* Entomological Society of Canada/Alberta Joint Annual Meeting, Edmonton, Canada-Alberta.
18. * Gibson, J. F., * King, I., & Hajibabaei, M. (2012). *Biomonitoring 2.0: A high-throughput genomics approach for comprehensive biological assessment of environmental change (Poster).* First Joint Congress on Evolutionary Biology, Ottawa, Canada-Ontario.
19. * Spall, J. L., * Shokralla, S., Baird, D. J., & Hajibabaei, M. (2012). *Next generation sequencing for ecosystem monitoring.* First Joint Congress on Evolutionary Biology, Ottawa, Canada-Ontario.
20. * Bertrand, C., Rougerie, R., Janzen, D. H., Hallwachs, W., & Hajibabaei, M. (2011). *Deciphering barcode splits in morphologically cryptic species of Lepidoptera through alternative loci and next-generation sequencing approaches.* 4th International Barcode of Life Conference, Adelaide, Australia- SA.
21. * Shokralla, S. & Hajibabaei, M. (2011). *Reducing amplification bias in next-generation sequencing approaches used for biodiversity analysis of environmental samples.* 4th International Barcode of Life Conference, Adelaide, Australia- SA.
22. * Spall, J. L., * Shokralla, S., Baird, D. J., & Hajibabaei, M. (2011). *Beyond Bioindicators: Next Generation Approaches to Environmental Biomonitoring.* 4th International Barcode of Life Conference, Adelaide, Australia- SA.
23. Hajibabaei, M. (2011). *Next-generation Biodiversity Analysis.* Joint meeting of the Canadian Institute for Advanced Research program in Integrated Microbial Biodiversity and the Canadian Barcode of Life Network, Vancouver, Canada-Alberta.

Description:
24. Hajibabaei, M. (2011). *Biomonitoring 2.0.* Workshop on Application of Next Generation DNA Sequencing in Environmental Risk Assessment and Monitoring: Future Challenges, Milan, Italy.
Description: IBM
25. Hajibabaei, M. (2011). *Applying next-generation DNA sequencing for Biomonitoring 2.0 assessment in a threatened national park (Wood Buffalo, Canada).* SETAC Europe Annual Meeting, Milan, Italy.
Description:
26. Hajibabaei, M. (2011). *Biomonitoring 2.0.* Metagenomics workshop, ISMOS3 Conference, Calgary, Canada-Alberta.
Description: Invited presentation
27. Hajibabaei, M. (2011). *Next-generation Biodiversity Analysis.* The Systematics Association 8th Biannual Meeting, Belfast, United Kingdom.
Description: Invited presentation at Symposium on Next generation systematics: studying evolution and diversity in an era of ubiquitous genomics
28. Hajibabaei, M. (2011). *Next-generation Environmental Assessment.* Next-generation Sequencing Workshop, Bari, Italy.
Description:
29. Hajibabaei, M. (2011). *Biomonitoring 2.0.* International Environmental OMICS Conference, Guangzhou, China.
Description:
30. Hajibabaei, M. (2011). *Next-generation Biodiversity Analysis.* Natural History Museum, Paris, France.
Description: Invited lecture
31. * Shokralla, S., Zhou, X., Baird, D. J., & Hajibabaei, M. (2010). *A Next Generation Approach for Environmental Bio-monitoring.* North American Next Generation Sequencing User Meeting, Providence, Rhode Island.
32. * Bertrand, C., Janzen, D. H., Hallwachs, W., & Hajibabaei, M. (2010). *Discovery of sex-linked Numts in two species of tropical Lepidoptera.* Genetics Society of Canada, Hamilton, Canada-Ontario.
33. * Shokralla, S., Zhou, X., Singer, G. A., Baird, D. J., & Hajibabaei, M. (2010). *Application of next-generation sequencing technologies for biodiversity analysis from bulk environmental samples.* Genetics Society of Canada, Hamilton, Canada-Ontario.
34. * Spall, J. L., * Shokralla, S., & Hajibabaei, M. (2010). *A Next Generation Approach for Environmental Biomonitoring.* Eighth Biennial Meeting of the Systematics Association, Belfast, United Kingdom.
35. Hajibabaei, M. (2010). *Next-generation Biodiversity Analysis.* Second European Barcode of Life Conference, Braga, Portugal.
Description: Keynote lecture
36. Hajibabaei, M. (2010). *Next-generation Biodiversity Analysis.* The Eighth Biennial International Conference on Monitoring and Measurement of the Environment, Toronto, Canada-Ontario.
Description: Invited presentation
37. * Bertrand, C., * Taidi, S., Janzen, D. H., Hallwachs, W., & Hajibabaei, M. (2009). *Exploring shallow barcode lineages of morphologically cryptic species of Lepidoptera from Costa Rica (Poster).* 3rd International Barcode of Life Conference, Mexico City, Mexico.
38. * Meusnier, I., Anderson, R., Stern, R., * Bertrand, C., Kuepper, F., & 15 others (2009). *DNA barcoding of protists in culture collections (Poster).* 3rd International Barcode of Life Conference, Mexico City, Mexico.
39. * Shokralla, S., * Cao, H., * Meusnier, I., & Hajibabaei, M. (2009). *Pyrosequencing for rapid mini-barcoding.* 3rd International Barcode of Life Conference, Mexico City, Mexico.
Description: Plenary talk
40. * Shokralla, S., Zhou, X., Singer, G., Baird, D. J., & Hajibabaei, M. (2009). *Environmental barcoding: A next generation sequencing approach to biodiversity monitoring.* North American Benthological Society Annual Meeting, Grand Rapids, Michigan.

41. Hajibabaei, M. (2009). *Environmental barcoding: a next generation sequencing approach to biodiversity monitoring.* Workshop in Evolutionary Genetics - the impact of next generation sequencing technologies, Wittenberg, Germany.
42. Hajibabaei, M. (2009). *DNA barcoding 2.0: environmental monitoring using next-generation sequencing techniques.* Third International Barcode of Life Conference, Mexico City, Mexico.
Description: Invited plenary presentation
43. Hajibabaei, M. (2009). *Large-scale biodiversity analysis through next-generation sequencing.* Next Generation Sequencing Conference, Barcelona, Spain.
Description: Contributed
44. Hajibabaei, M. (2009). *Assembling DNA Barcodes.* Barcoding-Towards a DNA PDA, Toronto, Canada-Ontario.
Description: Ontario Genomics Institute
45. Hajibabaei, M. (2008). *DNA barcoding: from organisms to environments.* Joint Annual Meeting of the Entomological Societies of Canada and Ontario, Ottawa, Canada-Ontario.
46. Hajibabaei, M. (2007). *Minimalist barcodes.* 2nd International Barcode of Life Conference, Taipei, Taiwan.
Description: Plenary
47. Hajibabaei, M. (2007). *Assembling DNA barcodes.* European Barcode of Life Conference, Leiden, Netherlands.
Description: Invited
48. Hajibabaei, M. (2006). *Google Gene: searching DNA barcode sequences using Google search engine.* Data Analysis Workshop, Paris, France.
Description: Invited
49. Hajibabaei, M. (2005). *Discriminating among tropical Lepidoptera with DNA barcodes.* Evolution Conference, Fairbanks, United States of America.
Description: Contributed Presentation
50. Hajibabaei, M. (2005). *Protocols for the high-volume assembly of DNA barcodes.* 1st International Barcode of Life Conference, London, United Kingdom.

Local

51. Hajibabaei, M. & * Ledger, L. (2014). *Assessing the potential of metabarcoding for measuring beta diversity: A study of three plots of Costa Rican tropical dry forest.* University of Guelph Graduate Student Symposium, Guelph, Canada-Ontario.

National

52. * Capretta, G., Watson-Leung, T., & Hajibabaei, M. (2013). *Targeted transcriptomics for environmental toxicants across multiple taxa.* Aquatic Toxicity Workshop, Moncton, Canada-New Brunswick.
53. Hajibabaei, M. (2013). *Next-generation Sequencing technologies to study biological diversity from genes to ecosystems (Keynote).* Genome Atlantic Rendez-Vous Genomics symposium, Halifax, Canada-Nova Scotia.
Description:
54. * Gibson, J. F., * King, I., * Shokralla, S., Hajibabaei, M., Baird, D. J., Golding, G.B., Beiko, R., Rosoloen, S., Shatford, J., & Hajibabaei, M. (2012). *Update on Biomonitoring 2.0: the future is now.* Environment Canada CABIN Science Forum, Fredericton, Canada-New Brunswick.
55. Hajibabaei, M. (2012). *Biomonitoring 2.0.* Ontario's Ministry of Environment Science and Innovation Forum, Toronto, Canada-Ontario.
Description:
56. Hajibabaei, M. (2012). *Genomics for biodiversity (Invited).* Gairdner Foundation-Genome Canada State-of-the-Science Genomics Conference, Ottawa, Canada-Ontario.
Description: Invited public lecture
Canada Science and Technology Museum

57. Hajibabaei, M. (2012). *Biomonitoring 2.0.* Genome Quebec Rendez-Vous Genomics symposium, Montreal, Canada-Quebec.
Description: Keynote
58. Hajibabaei, M. (2012). *From technologies to real-world tools: A genomics perspective (Invited).* Canadian Science Policy Conference, Calgary, Canada-Alberta.
Description:
59. * Taidi, S., * Bertrand, C., & Hajibabaei, M. (2009). *The prevalence of pseudogene sequences among shallow lineages of DNA barcodes in Lepidoptera (Poster).* Joint meeting of the Canadian Society for Ecology and Evolution (CSEE), and the Genetics Society of Canada (GSC), Halifax, Canada-Nova Scotia.
60. Hajibabaei, M., * Shokralla, S., & * Cao, H. (2009). *A modified PCR approach to minimize bias in high-throughput pyrosequencing in biodiversity studies.* Joint meeting of the Canadian Society for Ecology and Evolution (CSEE), and the Genetics Society of Canada (GSC), Halifax, Canada-Nova Scotia.
61. Hajibabaei, M. (2009). *Large-scale biodiversity analysis through next-generation sequencing.* Symposium Rendez-Vous Sequencage 2009: Welcome to Next-generation Sequencing, Montreal, Canada-Quebec.
Description: McGill University
62. Hajibabaei, M. (2009). *Environmental and Biodiversity Genomics.* Next Generation Sequencing Applications using the Roche 454/GS FLX Platform Workshop, Toronto, Canada-Ontario.
Description: TCAG, MaRS

Regional

63. Hajibabaei, M. (2011). *Biomonitoring 2.0: A high-throughput genomics approach for comprehensive biological assessment of environmental change.* Environmental Metagenomics: the Ontario Landscape workshop, Toronto, Canada-Ontario.
Description:
64. * Shokralla, S. & Hajibabaei, M. (2010). *Pyrosequencing for Rapid Mini-Barcoding of Fresh and Old Eukaryotic Specimens.* Qiagen Symposium Series, Toronto, Canada-Ontario.

State

65. * Capretta, G. & Hajibabaei, M. (2014). *A molecular evolutionary framework for targeted transcriptomics of xenobiotic exposure: In silico identification and analysis of PCB-interacting genes conserved in animals (Poster).* Ontario Ecology, Ethology, and Evolution Colloquium, Guelph, Canada-Ontario.
66. * Gibson, J. F., * Shokralla, S., * King, I., Hajibabaei, M., Baird, D. J., Monk, W.A., & Porter, T.M. (2014). *Improving the power and efficiency of aquatic ecological assessment through the use of DNA metasystematics and next-generation sequencing.* Ontario Ecology, Ethology, and Evolution Colloquium, Guelph, Canada-Ontario.
67. * Ledger, L., * Shokralla, S., * Gibson, J. F., & Hajibabaei, M. (2014). *Assessing the potential of metabarcoding for measuring beta diversity: A study of three plots of Costa Rican tropical dry forest (Poster).* Ontario Ecology, Ethology, and Evolution Colloquium, Guelph, Canada-Ontario.
68. Hajibabaei, M., * Fahner, N., & Baird, D. J. (2014). *Assessment of below-ground plant diversity in wetland soil through environmental DNA (Poster).* Ontario Ecology, Ethology, and Evolution Colloquium, Guelph, Canada-Ontario.
69. * Gibson, J. F., * King, I., Hajibabaei, M., & * Shokralla, S. (2012). *Biomonitoring 2.0 (Poster).* Entomological Society of Ontario Annual Meeting, Ottawa, Canada-Ontario.
70. * Gibson, J. F. & Hajibabaei, M. (2011). *The design of both taxon-specific and universal PCR-amplification primers for phylogenetic and metagenomic research.* Entomological Society of Ontario Annual Meeting, St. Catherines, Canada-Ontario.
71. * Bertrand, C. & Hajibabaei, M. (2008). *Challenges of DNA barcoding lower plants: testing a double marker approach.* Ontario Biology Day, Guelph, Canada-Ontario.

Patents & Trademarks

1. 2006 - Method and device for DNA barcode sequence searching. (# H310952US)

Description: patent filed on June 2007, patent application was not pursued passed 2008
Along With P.D.N. Hebert, and D.A. Hickey

NON-REFEREED PUBLICATIONS

Non-Refereed Articles

1. Hajibabaei, M. & McKenna, C. (2011). DNA Mini-barcodes. *Methods in Molecular Biology, 858*, 339-353.
Editors: Kress WJ, Erickson DL
DNA Barcodes: Methods and Protocols. Berlin: Humana Press, Springer Science+Publishing Media, LLC. pp. 339-353

Presentations of Non-Refereed Papers

International

1. Hajibabaei, M. (2014). *Conservation meta-genomics.* ConGenOmics Workshop, Uppsala, Sweden.
2. Hajibabaei, M. (2013). *Biomonitoring 2.0.* International Seminar on Phylogenetics and Biodiversity, Fukuoka, Japan.
3. Hajibabaei, M. (2010). *Next-generation Biodiversity Analysis.* The DNA Barcoding Colloquium, Coast Mesa, California.
Description: Southern California Coastal Water Research Project
4. Hajibabaei, M. (2009). *Assembling DNA Barcodes.* MexBol Workshop, Institute of Biology, Mexico City, Mexico.
5. Hajibabaei, M. (2008). *Biodiversity Informatics and Barcode of Life.* European Molecular Biology Network Annual Conference, Martina Franca, Italy.
Description: Keynote presentation
6. Hajibabaei, M. (2008). *The Barcode of Life Initiative.* University of Bari, Bari, Italy.
Description: Lecture
7. Hajibabaei, M. (2007). *The Barcode of Life Initiative.* ISOP/PSA annual meeting, Rhode Island, United States of America.
Description:
8. Hajibabaei, M. (2007). *Minimalist barcode sequences.* Using Barcode Data in Studies of Molecular and Evolutionary Dynamics, Cold Spring Harbor, United States of America.
Description:
9. Hajibabaei, M. (2006). *The Barcode of Life Initiative.* New England BioLabs, Ipswich, United States of America.
Description: Invited Lecture

Local

10. Hajibabaei, M. (2013). *Genomics for Biodiversity (Invited).* University of Toronto, Biotechnology MSc program, Mississauga, Canada-Ontario.
Description:
11. * Shokralla, S. & Hajibabaei, M. (2012). *Barcode of life project: From science to real applications.* University of Guelph, Researcher/Industry Group Meeting, Guelph, Canada-Ontario.
12. * Shokralla, S. & Hajibabaei, M. (2012). *Next generation DNA sequencing : Challenges and applications.* Agriculture and agri-food Canada monthly meetings, London, Canada-Ontario.
13. * Shokralla, S. & Hajibabaei, M. (2010). *Next generation sequencing for environmental DNA research.* Biomonitoring 2.0 Workshop, Guelph, Canada-Ontario.
14. Hajibabaei, M. (2009). *A DNA-based view of the environment through next-generation sequencing technologies.* Trait-based Ecological Risk Assessment (TERA): Realizing the potential of ecoinformatics approaches in ecotoxicology, Burlington, Canada-Ontario.
Description:
15. Hajibabaei, M. (2009). *DNA barcoding: Identifying Species using DNA.* Guelph Rotary Club, Guelph, Canada-Ontario.

Description: Invited public lecture
16. Hajibabaei, M. (2009). *Commercializing Barcode of Life.* The Second Annual GPI Seven X Seven Breakfast, Guelph, Canada-Ontario.
Description:

National

17. Hajibabaei, M. (2014). *Biomonitoring 2.0.* Life Sciences and Mining Workshop, Sudbury, Canada-Ontario.
18. Hajibabaei, M. (2009). *Next-generation Species Identification and Biodiversity Analysis.* Canadian Food Inspection Agency, Ottawa, Canada-Ontario.
Description:
19. Hajibabaei, M. (2008). *Environmental Barcoding.* 2nd Canadian Barcode of Life Annual Meeting, Toronto, Canada-Ontario.
Description:

Regional

20. Hajibabaei, M. (2010). *Next-generation Biodiversity Analysis.* OGI-TCACG symposium SOLiD approaches to ILLUMINAting the FLXible nature of Nucleic Acids, Toronto, Canada-Ontario.
21. Hajibabaei, M. (2009). *Next-generation Biodiversity Analysis.* NWRI-Burlington Seminar Series, Burlington, Canada-Ontario.
Description: Canadian Centre for Inland Waters

Software Development

2008: iBarcode.org. Web-based analysis and visualization tools for DNA barcoding. (Winner of the visualization and analysis software award in the 2nd International Barcode of Life Conference, September 2007, Taipei)
2007: GoogleGene. Searching for DNA barcode sequences by using Google search engine.

SCHOLARLY WORK IN PROGRESS
BOOKS AND BOOK CHAPTERS IN PREPARATION OR UNDER REVIEW
MANUSCRIPTS IN PREPARATION OR UNDER REVIEW

Papers Under Review

1. * Shokralla, S., Hellberg, R. S., Handy, S. M., & Hajibabaei, M. (2014). "A DNA mini-barcoding system for authentication of processed seafood products," Initial submission to *Molecular Ecology Resources*.

Working Papers

1. Hajibabaei, M., * Gibson, J. F., & Baird, D. J. (2014). "WEGAN – Wetlands Ecological Genomics Analysis Network," targeted for Nature.
2. * Taidi, S., * Shokralla, S., & Hajibabaei, M. (2014). "Testing and optimizing next-generation sequencing primers through quantitative PCR: application in biodiversity analysis," targeted for Molecular Ecology Resources.
3. * Capretta, G. & Hajibabaei, M. (2014). "A molecular evolutionary framework for targeted transcriptomics of xenobiotic exposure: In silico identification and analysis of PCB-interacting genes conserved in animals," targeted for Molecular Biology and Evolution.
4. * Shokralla, S., * Gibson, J. F., Porter, T. M., & Hajibabaei, M. (2014). "Ultra high-throughput DNA barcoding of individual specimens through Illumina MiSeq analysis," targeted for PLoS ONE.
5. * King, I., * Shokralla, S., * Gibson, J. F., Baird, D. J., & Hajibabaei, M. (2014). "Visualising the deep structure of ecological assemblages: how DNA sequencing adds value to traditional biodiversity analysis," targeted for Ecology Letters.
6. * Spall, J. L., * Shokralla, S., * King, I., Baird, D. J., & Hajibabaei, M. (2014). "DNA-based biomonitoring through next-generation sequencing in fresh water benthos containing a wide range of taxa," targeted for PLoS ONE.

6. OTHER SCHOLARLY AND PROFESSIONAL ACTIVITIES AND ACHIEVEMENTS

INTERDISCIPLINARY ACTIVITIES

My research program involves the use of genomics information in biodiversity analysis. As such, the work requires engagement in various disciplines to cover the broad range of data generation, analysis, interpretation, and applications. I have been working closely with experts in genome technologies and molecular biology (e.g. collaborative work with Illumina and New England Biolabs), and computer science and bioinformatics (e.g. collaborative work with IBM, Google, GenBank). Because of the application of my research in various environmental and ecological studies, I have collaborated with various agencies (e.g. Environment Canada, Canadian Food Inspection Agency, Parks Canada, Ontario Ministry of Environment, U.S. Environmental Protection Agency, U.S. Food and Drug Administration) as well as companies interested in my research (e.g. ExxonMobil, Syngenta, Stantec).

INTERNATIONAL INVOLVEMENT

My involvement in the Barcode of Life Initiative has provided an excellent opportunity for international collaborations. For example, my contributions to the establishment of DNA barcode markers for plants, protists, and fungi as well as data analysis tools for biodiversity genomics data, have connected my lab to many top tier researchers internationally. I have been working with genomics, biodiversity, and environmental scientists who are leading the use of next-generation sequencing technologies in biodiversity science. I have organized international workshops and presented several keynote and invited lectures at major international meetings linked to these efforts. In 2014, I initiated an international network for ecogenomics analysis of wetlands. My lab has been involved in collaborative projects with researchers from Australia, China, Costa Rica, France, Germany, Portugal, UK, and USA. I have supervised graduate students in Germany and Portugal.

7. SERVICE

SERVICE CONTEXTUAL STATEMENT

I have been involved in establishing and leading the Biodiversity Institute of Ontario (BIO) and various committees in the Barcode of Life Initiative and the International Barcode of Life Project. I am currently co-editor of BIO's DNA Barcode Bulletin. Since 2011, I have led *Biomonitoring 2.0*, a Genome Canada large-scale applied genomics project, involving seven research groups and two federal agencies (Parks Canada and Environment Canada). I have served in editorial positions for three journals and have actively reviewed for a large number of journals (see below). I have also participated in several large-scale grant reviews, including two panels in the European Commission's Framework 7 Programme. I have served as a technical advisor to the government of Canada's Genomics Research and Development Initiative (GRDI), and have aided several provincial/national/international organizations and agencies, such as the US FDA and the US EPA in the use of DNA technologies for biodiversity analysis.

ON CAMPUS / INSTITUTIONAL SERVICE

University of Guelph, Department of Integrative Biology

Department Assignments

Member:

2013-2014: IB Chair's Advisory Committee/Academic Appointments Committee

2013-2014: Integrative Biology Program Prioritization Process Committee

Personnel Supervision - Post Doctoral Fellows:

2011 – 2014: Ian King

2011 – 2014: Joel Gibson

2008 – 2014: Shadi Shokralla

2013: Hamid Nikbakht

2012 – 2013: Elizabeth Bent

2009 – 2011: Pedro M. Pedro
2008 – 2009: Honghe Cao
2007 – 2009: Isabelle Meusnier
2007: Suresh Naik

Personnel Supervision - Research Technicians:

2013 – 2014: Rafal Dobosz
2011 – 2014: Stephanie Boilard
2011: Steven van Konynenburg
2009 – 2011: Charly McKenna
2006 – 2007: Rebecca Cowling

Personnel Supervision – URA/Summer/Co-op Student:

2014: Minahz Habib
2014: Rachel Smith
2013: Beverly McClenaghan
2012: Sarah Salisbury
2011: Jonas Vaskas
2010: Lauren Wallace
2010: Fiona Tsoi
2009: Stephanie Boilard
2009: Michael Porter (Co-op Dalhousie University)
2009: Shannon Eagle

Qualifying Examination - Committee:

2013-2014: Tony Kess
2011-2012: Andrew Frewin
2010-2011: Amanda Naaum

Thesis Assignments

Chair:

2013-2014: Melissa Filice
2011-2012: Cameron Hudson
2011-2012: Scott Moffatt

Thesis / Dissertation - Committee:

2012-2013: Ariel Levitsky
2011-2012: Patrick McKay
2011-2012: Jillian Bainard (PhD)
2010-2011: Elizabeth Clare (PhD)

SCHOLARLY AND PROFESSIONAL SERVICE ACTIVITIES BEYOND CAMPUS

Service to the Profession

Committee / Task Force / Organization: Chair

2012-2013: Environmental Barcoding Working Group (International). International Barcode of Life Project
2011-2012: Environmental Barcoding Working Group (International). International Barcode of Life Project
2010-2011: Environmental Barcoding Working Group (International). International Barcode of Life Project
2009-2010: Environmental Barcoding Working Group (International). International Barcode of Life Project
2008-2009: Environmental Barcoding Working Group (International). International Barcode of Life Project

Committee / Task Force / Organization: Member

2010-2011: Consortium for the Barcode of Life Data Analysis Working Group (International). Steering Committee membership
2009-2010: Second European Barcode of Life Conference, Braga, Portugal (International). Member of Scientific Program Committee

2009-2010: Consortium for the Barcode of Life Data Analysis Working Group (International). Steering Committee membership
2009-2010: Plant DNA Barcode Selection (International). Scientific Panel membership
2008-2009: Consortium for the Barcode of Life Data Analysis Working Group (International). Steering Committee membership
2008-2009: Plant DNA Barcode Selection (International). Scientific Panel membership
2007-2008: Consortium for the Barcode of Life Data Analysis Working Group (International). Steering Committee membership
2007-2008: Plant DNA Barcode Selection (International). Scientific Panel membership

Conference: Discussant / Panelist

2011-2012: Application of Genomics to Hydrocarbon Resource Development: status, opportunities and reality check, Calgary, Canada-Alberta (National).

Conference: Organizing Committee

2013-2014: 5th International Barcode of Life Conference (International).
2009-2010: Second European Barcode of Life Conference (International).

Conference: Session / Track / Program Chair

2013-2014: Canadian Aquatic Toxicity Workshop (National).
2013-2014: Joint Aquatic Sciences Meeting (International).
2002-2003: Ottawa Bioinformatics Discussion Group (Local). Co-founder and co-organizer
2001-2002: Ottawa Bioinformatics Discussion Group (Local). Co-founder and co-organizer
2000-2001: Ottawa Bioinformatics Discussion Group (Local). Co-founder and co-organizer

Editor: Peer Reviewed Journal

2011-2012 – 2013-2014: PLoS ONE (International). responsible for 21 manuscripts.
2009-2010 – 2013-2014: BMC Evolutionary Biology (International).
2008-2009 – 2013-2014: BMC Ecology (International).
2011-2012: Molecular Ecology (International). special issue on Environmental DNA

Graduate Students: External Examiner

2013-2014: Laurentian University (Ryan Auld) (National).
2013-2014: Trent University (Rafal Dobosz) (National).

Invited Lecture / Keynote Address

2013-2014: Genome Atlantic Rendez-Vous Genomics symposium, Halifax, Canada-Nova Scotia (National).
2012-2013: Canadian Science Policy Conference, Calgary, Canada-Alberta (National).
2012-2013: Genome Quebec Rendez-Vous Genomics symposium, Montreal, Canada-Quebec (National).
2011-2012: International Environmental OMICS Conference, Guangzhou, China (International).
2011-2012: The Systematics Association 8th Biannual Meeting, Belfast, United Kingdom (International).
2011-2012: Gairdner Foundation-Genome Canada State-of-the-Science Genomics Conference, Ottawa, Canada-Ontario (National).
2011-2012: Natural History Museum, Paris, France (International).
2010-2011: E-DNA workshop (Local). Biomonitoring 2.0
2010-2011: The Eighth Biennial International Conference on Monitoring and Measurement of the Environment, Toronto, Canada-Ontario (International).
2010-2011: Second European Barcode of Life Conference, Braga, Portugal (International).
2009-2010: Third International Barcode of Life Meeting, Mexico City, Mexico (International).
2008-2009: European Molecular Biology Network Annual Conference, Taranto, Italy (International).

Media

2013-2014: The Scientist (International). *Keys to the Minibar*. An article featuring my work including an interview with me.
2011-2012: Nature (International). *A bloody boon for conservation*. A news article featuring my work including an interview with me.

2010-2011: Guelph Mercury (Local). *Guelph professor to use DNA technology to prevent habitat loss.* An artcile featuring my research (Biomonitoring 2.0 project) including an interview with me.
2008-2009: Canadian Broadcasting Corporation (International). *DNA 'barcodes' identify plants*. An article featuring my work on selecting a DNA barcode for plants. It includes an interview with me.
2008-2009: History Channel (International). *Monsterquest* TV series (Season 2, Episode 21: "Sasquatch Attack II"). Features my research on using DNA analysis for refuting a collection of samples suspected as being from a non-human primate species.

Other Professional Service Activities

2012-2013: Biodiversity Institute of Ontario, Technology Development (Regional). Director
2011-2012: Biodiversity Institute of Ontario, Technology Development (Regional). Director
2010-2011: Biodiversity Institute of Ontario, Technology Development (Regional). Director
2009-2010: Biodiversity Institute of Ontario, Technology Development (Regional). Director
2008-2009: Canadian Barcode of Life Network (National). Research Program Coordinator
2008-2009: Biodiversity Institute of Ontario, Technology Development (Regional). Director
2007-2008: Canadian Barcode of Life Network (National). Research Program Coordinator
2007-2008: Canadian Centre for DNA Barcoding (National). Associate Director
2006-2007: Canadian Barcode of Life Network (National). Research Program Coordinator
2005-2006: Canadian Barcode of Life Network (National). Research Program Coordinator

Professional Workshop / Courses Facilitated

2013-2014: Towards a Wetlands Ecological Genomics Analysis Network (Workshop), Portland, Oregon (International).
2011-2012: Environmental DNA barcoding Workshop in Adelaide, Australia (International).
2010-2011: Application of Next Generation DNA Sequencing in Environmental Risk Assessment and Monitoring: Future Challenges (International).
2009-2010: Environmental DNA barcoding Workshop in Guelph, Canada (International).
2008-2009: Barcoding-Towards a DNA PDA Workshop, Toronto, Canada (International).

Reviewer: Grant Proposal

2013-2014: New Zealand Ministry of Business, Innovation & Employment (International).
2013-2014: Kentucky Science and Engineering Foundation (KSEF) (International).
2010-2011: Dutch Technology Foundation STW (International).
2010-2011: Swiss Science Foundation (International).
2010-2011: Canada Foundation for Innovation (National).
2010-2011: NSERC Strategic Grants (National).
2009-2010 – 2010-2011: German Science Foundation (Large-scale research proposals) (International).
2009-2010: NSERC Discovery Grant (National).
2009-2010: North Carloina Biotechnology Center (International).
2007-2008: European Commission, Brussels, Belgium (International). Framework 7, Participated as expert onsite reviewer for two categories (metagenomics and DNA barcoding)

Reviewer: Journal Article

2013-2014: Nucleic Acids Research (International).
2013-2014: Freshwater Science (International).
2013-2014: Journal of Applied Ecology (International).
2013-2014: Conservation Genetics Resources (International).
2013-2014: Systematic Biology (International).
2012-2013: Molecular Phylogenetics and Evolution (International).
2012-2013: ISME Journal (International).
2012-2013: Frontiers of Zoology (International).
2012-2013: BMC Biology (International).
2010-2011 – 2012-2013: BMC Evolutionary Biology (International).

2007-2008 – 2012-2013: BMC Bioinformatics (International).
2011-2012: Proceedings of the National Academy of Sciences (International).
2011-2012: PLoS ONE (International).
2011-2012: Methods in Ecology and Evolution (International).
2010-2011 – 2011-2012: Molecular Ecology (International).
2010-2011 – 2011-2012: Molecular Ecology Resources (International).
2010-2011: Bulletin of Entomological Research (International).
2009-2010: Molecular and cellular probes (International).
2009-2010: International Journal of Integrative Biology (International).
2009-2010: FEMS Microbiology Letters (International).
2009-2010: Bioinformatics (International).
2009-2010: BioEssays (International).
2007-2008: Canadian Journal of Botany (International).
2007-2008: Molecular Ecology Resources (International).
2006-2007: Zootaxa (International).
2006-2007: Trends in Parasitology (International).
2006-2007: Nucleic Acids Research (International).