

CURRICULUM VITAE
NICLAS BACKSTRÖM

ADDRESS

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EDUCATION AND ACADEMIC APPOINTMENTS

- 2014 – Assistant Professor, Department of Evolutionary Biology, Evolutionary Biology Centre, Uppsala University. Funded by the Swedish Research Council.
- 2011 – 2013 Repatriation research fellow, Department of Evolutionary Biology, Evolutionary Biology Centre, Uppsala University. Funded by the Swedish Research Council.
- 2009 - 2011 Postdoctoral research fellow, Department of Organismic and Evolutionary Biology, Museum of Comparative Zoology, Harvard University. Funded by the Swedish Research Council. Advisor: Professor Scott V. Edwards
- 2009 Postdoctoral research associate, Department of Evolutionary Biology, Uppsala University. Advisor: Professor Hans Ellegren
- 2004 - 2009 PhD in Evolutionary Genetics, Uppsala University. Advisor: Professor Hans Ellegren
- 2000 - 2003 Masters Degree (MSc) in Biology, Uppsala University

COMPETITIVE GRANTS AND SCHOLARSHIPS

2015. Science for Life Laboratory Biodiversity Program WABI support. (ID#: 201504) *Leptidea genomics*. Funding for a bioinformatician working part time in the group for 12 months with possible extension.
2014. Nilsson-Ehle-Foundation, Royal Physiographic Society in Lund. *Butterfly biodiversity – the roles of karyotype evolution and cryptic speciation*. SEK 100,000
2014. Science for Life Laboratory Biodiversity Program (ID#: 2014/R2-20). *Rapid karyotype evolution and cryptic speciation underlying butterfly biodiversity*. SEK 252,000
2013. Swedish Research Council (VR) Young Investigator Grant (ID#: 2013-4508). *Genomic consequences of cryptic speciation and rapid karyotype evolution in Leptidea butterflies*. SEK 4,380,000
2013. Royal Swedish Academy of Science (KVA) Project Grant (ID#: FOA13H-088). *The genetics of reproductive isolation in an avian hybrid zone*. SEK 100,000
2012. Helge Axelson Johnson's Foundation. *The genetics of reproductive isolation in a chiffchaff (Phylloscopus collybita sp.) hybrid zone*. SEK 45,000
2011. Foundation Lars Hiertas Memory. *The genetics of reproductive isolation in chiffchaff (Phylloscopus collybita sp.)*. SEK 20,000
2011. Nilsson-Ehle-Foundation, Royal Physiographic Society in Lund. *The genetics of reproductive isolation in a chiffchaff (Phylloscopus collybita sp.) hybrid zone*. SEK 83,000

2011. Swedish Research Council (VR) Repatriation research fellowship (ID#: NT 2011-22). *Quantification of alternative splicing in natural populations of birds*. SEK 858,000

2011. NSFC *Genetic and phenotypic differentiation in the common pheasant (Phasianus colchicus)*. RMB 250,000 (Co-investigator with Bei An and Lixun Zhang, Lanzhou University, China)

2011. Putnam Expedition Grant, Museum of Comparative Zoology, Harvard University. *Museum collections improvement trip to Mongolia*. USD 45,000 (With Scott V. Edwards (PI) and Jeremiah Trimble)

2009. Swedish Research Council (VR) Postdoctoral research fellowship (ID#: 2009-693). *Evolutionary genetics of disease resistance in the house finch (Carpodacus mexicanus)*. SEK 1,251,600

2008. Helge Axelson Johnson's Foundation. SEK 28,000

2007. Principal's Traveling Grant from The Wallenberg Foundation. SEK 10,600

2007. Nilsson-Ehle-Foundation, Royal Physiographic Society in Lund. SEK 14,850

2007. Foundation Lars Hiertas Memory. SEK 25,000

2007. Royal Swedish Academy of Science (KVA). Student Grant (ID#: FOA07B-163). SEK 7,000

2006. Nilsson-Ehle-Foundation, Royal Physiographic Society in Lund. SEK 19,000

PEER REVIEWED PUBLICATIONS

33. Uebbing, S., Künstner, A., Mäkinen, H., **Backström, N.**, Bolivar, P., Burri, R., Dutoit, L., Mugal, C. F., Nater, A., Aken, B., Flicek, P., Martin, F. J., Searle, S. M. J., and Ellegren, H. 2015. Divergence in gene expression within and between two closely related flycatcher species. *Molecular Ecology* [In press]
32. Uebbing, S., Konzer, A., Xu, L., **Backström, N.**, Brunström, B., Bergqvist J., and Ellegren, H. 2015. Quantitative mass spectrometry reveals partial translational regulation for dosage compensation in chicken. *Molecular Biology and Evolution* [In press]
31. Romanov, M. N., Farré, M., Lithgow, P. E., Fowler, K. E., Skinner, B. M., O'Connor, R., Fonseka, G., **Backström, N.**, Matsuda, Y., Nishida, C., Houde, P., Jarvis, E., Ellegren, H., Burt, D. W., Larkin, D. M., and Griffin, D. K. 2014. Reconstruction of gross avian genome structure, organization and evolution suggests that the chicken lineage most closely resembles the dinosaur avian ancestor. *BMC Genomics* 15: 1060.
30. Zhang, Q., Hill, G. E., Edwards, S. V., and **Backström, N.** 2014. A house finch (*Haemorhous mexicanus*) spleen transcriptome reveals intra- and interspecific patterns of gene expression, alternative splicing and genetic diversity in passerines. *BMC Genomics* 15: 305.
29. **Backström, N.** 2014. Adaptive evolution in passerine birds. *Encyclopedia of Life Sciences* July-2014.
28. Kawakami, T., Smeds, L., **Backström, N.**, Husby, A., Qvarnström, A., Mugal, C., Olason, P. I., and Ellegren, H. 2014. A high-density linkage map enables a second-generation collared flycatcher genome assembly and reveals the patterns of avian recombination rate variation and chromosomal evolution. *Molecular Ecology* 23: 4035–4058.
27. Kawakami, T., **Backström, N.**, Burri, R., Husby, A., Olason, P. I., Rice, A., Ålund, M., Qvarnström, A., and Ellegren, H. 2014. Estimation of linkage disequilibrium and interspecific gene flow in *Ficedula* flycatchers by a newly developed 50k SNP array. *Molecular Ecology Resources* 14: 1248-1260.
26. Zhang, Q., and **Backström, N.** 2014. Assembly errors cause false tandem duplicate regions in the chicken (*Gallus gallus*) genome sequence. *Chromosoma* 123: 165-168.

25. Zhang, L., An, B., **Backström, N.**, Ruan, L., and Liu, N. 2014. Phylogeography-based delimitation of subspecies boundaries in the common pheasant (*Phasianus colchicus*). *Biochemical Genetics* 52: 38-51.
24. Brandariz-Fontes, C., Leonard, J. A., Vega-Pla, J. L., **Backström, N.**, Lindgren, G., Lippold, S., and Rico, C. 2013. Y-chromosome analysis in Retuertas horses. *PLoS ONE* 8: e64985.
23. **Backström, N.**, Zhang, Q., and Edwards, S. V. 2013. Evidence from a house finch (*Haemorrhous mexicanus*) spleen transcriptome for adaptive evolution and biased gene conversion in passerine birds. *Molecular Biology and Evolution* 30: 1046-1050.
22. **Backström, N.**, Shipilina, D., Blom, M., and Edwards, S. V. 2013. Cis-regulatory sequence variation and association with *Mycoplasma* load in natural populations of the house finch (*Carpodacus mexicanus*). *Ecology & Evolution* 3: 655-666.
21. **Backström, N.**, Sætre, G.-P., and Ellegren, H. 2013. Inferring the demographic history of European *Ficedula* flycatcher populations. *BMC Evolutionary Biology* 13: 2.
20. Ellegren, H., Smeds, L., Burri, R., Olason, P. I., **Backström, N.**, Kawakami, T., Künstner, A., Mäkinen, H., Nadachowska-Brzyska, K., Qvarnström, A., Uebbing, S., and Wolf, J. B. W. 2012. The genomic architecture of species divergence in *Ficedula* flycatchers. *Nature* 491: 756-760.
19. Campbell-Staton, S., Goodman, R., **Backström, N.**, Edwards, S. V., Losos, J., and Kolbe, J. 2012. Out of Florida: mtDNA reveals Pleistocene migration and post-glacial range expansion of the Green Anole lizard (*Anolis carolinensis*). *Ecology & Evolution* ece3.324.
18. **Backström, N.**, and Väli, U. 2011. Sex- and species biased gene flow in a spotted eagle hybrid zone. *BMC Evolutionary Biology* 11: 100.
17. Ruan, L., An, B., **Backström, N.**, Luo, H., Wen, L., Zhang, L., and Liu, N. 2010. Phylogeographic structure and gene flow of the Himalayan snowcock (*Tetraogallus himalayensis*). *Animal Biology* 60: 449-465.
16. **Backström, N.**, Lindell, J., Palkopoulou, E., Zhang, Y., Qvarnström, A., Sætre, G.-P., and Ellegren, H. 2010. A high-density scan of the Z-chromosome in *Ficedula* flycatchers reveals candidate loci for diversifying selection and speciation. *Evolution* 64: 3461-3475.
15. **Backström, N.**, Palkopoulou, E., Qvarnström, A., and Ellegren, H. 2010. No evidence for Z-chromosome rearrangements between the pied flycatcher and the collared flycatcher as judged by gene-based comparative genetic maps. *Molecular Ecology* 19: 3394-3405.
14. Völker, M., **Backström, N.**, Skinner, B. M., Langley, E. J., Bunzey, S. K., Ellegren, H., and Griffin, D. K. 2010. Copy number variation, chromosome rearrangement and recombination during avian evolution. *Genome Research* 20: 503-511.
13. Nam, K., Mugal, C., Nabholz, B., Schielzeth, H., Wolf, J. B. W., **Backström, N.**, Künstner, A., Balakrishnan, C. N., Heger, A., Ponting, C., Clayton, D. F., and Ellegren, H. 2010. Molecular evolution of genes in avian genomes. *Genome Biology* 11: R68.
12. Wolf, J. B. W., Lindell, J., and **Backström, N.**, 2010. Speciation genetics: current status and evolving approaches (Review). *Philosophical Transactions of the Royal Society B: Biological Sciences* 365: 1717-1733.
11. **Backström, N.**, Forstmeier, W., Schielzeth, H., Mellenius, H., Nam, K., Bolund, E., Webster, M. T., Öst, T., Schneider, M., Kempnaers, B., and Ellegren, H. 2010. The recombination landscape of the zebra finch *Taeniopygia guttata* genome. *Genome Research* 20: 485-495.
10. International Zebra Finch Genome Sequencing Consortium. 2010. The genome of a songbird. *Nature* 464: 757-762.
09. Künstner, A., Wolf, J. B. W., **Backström, N.**, Whitney, O., Balakrishnan, C. N., Day, L., Edwards, S. V., Janes, D. E., Schlinger, B. A., Wilson, R. K., Jarvis, E., Warren, W. E., and Ellegren, H. 2009. Comparative genomics based on massive parallel transcriptome sequencing reveals patterns of substitution and selection across 10 bird species. *Molecular Ecology* 19: 266-276.

08. **Backström, N.**, Karaïskou, N., Leder, E. H., Gustafsson, L., Primmer, C., Qvarnström, A., and Ellegren, H. 2008. A gene-based genetic linkage map of the collared flycatcher (*Ficedula albicollis*) reveals extensive synteny and gene order conservation during 100 million years of avian evolution. *Genetics* 179: 1479-1495.
07. **Backström, N.**, Fagerberg, S., and Ellegren, H. 2007. Genomics of natural bird populations: a gene-based set of reference markers evenly spread across the avian genome. *Molecular Ecology* 17: 964-980.
06. **Backström, N.**, Brandström, M., Gustafsson, L., Qvarnström, A., Cheng, H., and Ellegren, H. 2006. Genetic mapping in a natural population of collared flycatchers (*Ficedula albicollis*): conserved synteny but gene order rearrangements on the avian Z chromosome. *Genetics* 174: 377-386.
05. **Backström, N.**, Gustafsson, L., Qvarnström, A., and Ellegren, H. 2006. Levels of linkage disequilibrium (LD) in a wild bird population. *Biology Letters* 2: 435-438.
04. Berlin, S., Brandström, M., **Backström, N.**, Axelsson, E., Smith, N.G.C., and Ellegren, H. 2006. Substitution rate heterogeneity and the male mutation bias. *Journal of Molecular Evolution* 62: 226-233.
03. **Backström, N.**, Cepitis, H., Berlin, S., & Ellegren, H. 2005. Gene conversion drives the evolution of HINTW, an ampliconic gene on the female-specific avian W chromosome. *Molecular Biology and Evolution* 22: 1992-1999.
02. International Chicken Genome Sequencing Consortium. 2004. Sequencing and comparative analysis of the chicken genome. *Nature* 432: 695-716.
01. Lindgren, G., **Backström, N.**, Swinburne, J., Hellborg, L., Einarsson, A., Sandberg, K., Vilà, C., Binns, M. & Ellegren, H. 2004. Limited number of patriline in horse domestication. *Nature Genetics* 36: 335-336.
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MANUSCRIPTS IN REVIEW AND PREPARATION

34. Shipilina, D., Serbyn, M., Marova, I. M., and **Backström, N.** 2015. Genome-wide genetic variation and differentiation across a chiffchaff (*Phylloscopus collybita abietinus/tristis*) hybrid zone. [In Prep.]
35. Alcaide, M., Bonneaud, C., **Backström, N.**, Liu, M., and Edwards, S. V. Geographic and diachronic analysis of Toll-like receptor variation in an invasive species, the house finch (*Carpodacus mexicanus*). [In Prep.]
36. **Backström, N.**, Zhang, Q., Schultz, A., Hill, G. E., and Edwards, S. V. A draft genome sequence of the house finch (*Carpodacus mexicanus*), a model species for sexual selection and host-parasite interactions. [In Prep.]
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INVITED TALKS

2014. Lomonosov Moscow State University, Moscow, Russian Federation. Seminar: *Genome evolution, speciation and local adaptation in butterflies and birds*.
2014. Helsinki University, Finland. Talk: *Research in ecological and evolutionary genomics*.
2014. Stockholm University, Stockholm, Sweden. Talk: *Ecological genomics taking flight – genome evolution, speciation and local adaptation in birds and butterflies*.

2012. Lomonosov Moscow State University, Moscow, Russian Federation. Talk: *Genome evolution and differentiation in wild bird populations.*
2012. Lanzhou University, Lanzhou, P.R. China. Talk: *Genome evolution and lineage differentiation in natural bird populations.*
2012. Lanzhou Medical School, Lanzhou, P.R. China. Talk: *Towards the identification of genotype phenotype relations in natural populations.*
2011. Harvard University, Cambridge, MA, United States. Talk: *Genome, transcriptome and candidate gene sequencing in the house finch (*Carpodacus mexicanus*), a model species for studying sexual selection and host-parasite interactions.*
2011. University of Michigan, Ann Arbor, MI, United States. Talk: *Genome evolution and differentiation in natural populations of birds.*
2009. Swedish Agricultural University, Uppsala, Sweden. Talk: *Genetic mapping in non-model species.*
2009. Biological station of Doñana, Seville, Spain. Talk: *Trying to reveal the genetic basis of evolutionary important traits in *Ficedula flycatchers*.*
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CONFERENCE ORGANIZING ACTIVITIES

2015. Organizer of the Evolutionary Biology Program Department Day conference.
2009. Organizer of a symposium on “*Speciation genetics and recent divergences*” at the SBE 2009 meeting in Iowa City, IA, USA
2009. Organizer of a symposium on “*Speciation*” at the SBE 2009 meeting in Iowa City, IA, USA
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CONTRIBUTED PRESENTATIONS

2015. Talla, V., Wiklund, C., Dinca, V., Friberg, M., Vila, R., and **Backström, N.** (presenting and corresponding author). *Population Genetics Group Meeting (PopGroup)*, Edinburgh, Scotland, GBR. Genome size evolution and speciation in *Leptidea* butterflies.
2015. Talla, V., Wiklund, C., Dinca, V., Friberg, M., Vila, R., and **Backström, N.** (presenting and corresponding author). *American Genetics Association (AGA)*, Bainbridge Island, Seattle, United States. Chromosome evolution and speciation in *Leptidea* butterflies.
2015. Dinca, V. (presenting author), **Backström, N.**, Dapporto, L., Friberg, M., García Barros, E., Hernández Roldán, J., Hornett, E., Lukhtanov, V., Marec, F., Montagud, S., López Munguira, M., Olofsson, M., Sichova, J., Talavera, G., Vicente Arranz, J-C., Vila, R. *Barcodes of Life*, Guelph, Canada. DNA barcodes highlight unique research models in European butterflies.
2015. Talla, V., Hu, D., Wiklund, C., Dinca, V., Friberg, M., Vila, R., and **Backström, N.** (corresponding author). *Population Genetics Group Meeting (PopGroup)*, Sheffield, UK. Speciation genomics in *Leptidea* butterflies.
2014. Talla, V., Hu, D., Wiklund, C., Dinca, V., Friberg, M., Vila, R., and **Backström, N.** (presenting and corresponding author). *International Conference on the Biology of Butterflies (ICBB)*, Turku, Finland. Speciation genomics in *Leptidea* butterflies.
2013. **Backström, N.**, Kawakami, T., Mugal, C., and Ellegren, H. *Evolution*, Snowbird, UT, United States. The recombination landscape in *Ficedula flycatchers*.

2012. Blom, M., Shipilina, D., Edwards, S., and **Backström, N** (corresponding author). *Evolution*, Ottawa, ON, Canada. Molecular consequences of a *Mycoplasma* epizootic in natural populations of the house finch: allele frequency changes in potential *Cis* – regulatory regions of *HSP90*.
2011. **Backström, N.**, Shipilina, D., Hill, G. E., and Edwards, S. V. *American Genetics Association, Guanajuato and Irapuato, Mexico*. Genome, transcriptome and candidate gene sequencing in the house finch (*Carpodacus mexicanus*), a model species for studying sexual selection and host-parasite interactions.
2011. **Backström, N.**, Hill, G. E., and Edwards, S. V. *Evolution*, Norman, OK, United States. Towards a draft genome of the house finch (*Carpodacus mexicanus*), a model species for sexual selection and host-parasite interactions.
2011. Alcaide, M., Bonneaud, C., **Backström, N.**, Liu, M., and Edwards, S. V. *Evolution*, Oklahoma City, OK, United States. Geographic and diachronic analysis of Toll-like receptor variation in an invasive species, the house finch (*Carpodacus mexicanus*). Main author: Miguel Alcaide
2010. **Backström, N.**, Lindell, J., Palkopoulou, E., Zhang, Y., Qvarnström, A., Sætre, G.-P., and Ellegren, H. *International Ornithological Congress, Campos de Jordão, Brazil*. Scanning for signs of selection and chromosomal rearrangements on the Z-chromosome in closely related European *Ficedula* flycatcher species.
2010. Väli, Ü, and **Backström, N.** *International Ornithological Congress (IOC), Campos do Jordão, Brazil*. Hybridization and gene flow between the greater and the lesser spotted eagle (*Aquila clanga*, *A. pomarina*). Main author: Ülo Väli.
2009. **Backström, N.**, Lindell, J., Palkopoulou, E., Zhang, Y., Qvarnström, A., Sætre, G.-P., and Ellegren, H. *Society for Molecular Biology and Evolution, Iowa City, IA, United States*. Scanning the Z-chromosome of two closely related flycatcher species for signs of selection.
2008. **Backström, N.**, Lindell, J., Palkopoulou, E., Zhang, Y., Qvarnström, A., Sætre, G.-P., and Ellegren, H. *Population Genetics Group Meeting (PopGroup), Cardiff, Wales, GBR*. Scanning the Z-chromosome of two flycatcher species for signs of diversifying selection.
2008. **Backström, N.**, and Ellegren, H. *International Congress of Genetics, Berlin, Germany*. Genetic mapping in a natural population of collared flycatchers.
2008. **Backström, N.**, and Ellegren, H. *Evolution, Minneapolis, MN, United States*. Genetic mapping in collared flycatchers.
2008. **Backström, N.**, Karaïskou, N., Leder, E. H., Gustafsson, L., Primmer, C., Qvarnström, A., and Ellegren, H. *Society for Molecular Biology and Evolution (SMBE), Barcelona, Spain*. A genome wide genetic map of a natural population of collared flycatchers.
2007. **Backström, N.**, Brandström, M., Gustafsson, L., Qvarnström, A., Cheng, H., and Ellegren, H. *European Society for Evolutionary Biology (ESEB), Uppsala, Sweden*. Gene mapping in a wild bird population.
2007. **Backström, N.**, Brandström, M., Gustafsson, L., Qvarnström, A., Cheng, H., and Ellegren, H. *Society for Molecular Biology and Evolution (SMBE), Halifax, NS, Canada*. SNP-based gene mapping in a wild bird population.
2005. **Backström, N.**, Brandström, M., Gustafsson, L., Qvarnström, A., Cheng, H., and Ellegren, H. *Population Genetics Group Meeting (PopGroup), Edinburgh, Scotland, GBR*. Linkage mapping in a wild bird population.
2005. **Backström, N.**, Ceplitis, H., Berlin, S., & Ellegren, H. *Society for Evolutionary Biology (ESEB), Cracow, Poland*. Gene conversion drives the evolution of *HINTW*, an ampliconic gene on the female specific avian W-chromosome.
2004. **Backström, N.**, Ceplitis, H., Berlin, S., & Ellegren, H. *Population Genetics Group Meeting (PopGroup), Reading, England, GBR*. Gene conversion drives the evolution of *HINTW*, an ampliconic gene on the female specific avian W-chromosome.
2004. Berlin, S., Brandström, M., **Backström, N.**, Axelsson, E., Smith, N.G.C., and Ellegren, H. *Society for Molecular Biology and Evolution (SMBE), Genomes and Evolution, Penn State, United States*. Substitution rate variation and the male mutation bias. Main author: Sofia Berlin

POPULAR PRESS AND PUBLIC OUTREACH

2015. Inspiration for potential University students, Institution for Biological Teaching: *Studying Evolutionary Biology*.

2005. Swedish Television (SvT) kunskapskanalen: *The history of the modern horse*.

2003 and 2004. High school presentation at Komvux, Sweden. Talk: *Limited number of patriline in horse domestication*.

EDITORIAL WORK FOR SCIENTIFIC JOURNALS

Current:

Associate editor BMC Genetics (Publisher: BioMedCentral)

Previous:

Associate editor International Journal of Evolutionary Biology (Publisher: Hindawi)

MANUSCRIPT REVIEWS FOR SCIENTIFIC JOURNALS

The American Naturalist, BMC Evolutionary Biology, BMC Genomics, Current Zoology, Ecology & Evolution, Evolution, Evolutionary Applications, Hereditas, Heredity, Immunogenetics, Journal of Avian Biology, Journal of Heredity, Journal of Molecular Evolution, Molecular Biology and Evolution, Molecular Ecology, Molecular Ecology Resources, Nature Communications, PLoS One

GRANT PROPOSAL REVIEWS FOR FUNDING AGENCIES

- The Netherlands Organisation for Scientific Research (NWO), Netherlands (2015).
 - Fulbright Commission, Czech Republic (2014).
 - Natural Environmental Research Council (NERC), GBR (2013).
 - Graduate Women In Science (GWIS), United States (2012).
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TEACHING AND MENTORING EXPERIENCE

Courses

2015. Course administrator and lecturer, Biology A: Patterns, processes and science education block D: Genetics. 6 hp credits over 4 weeks. 24 lectures covering everything from mitosis to genomics and ethics. 6 wet labs and 6 seminars focusing on problem solving in genetics, journal clubs and project presentations with DiaNA evaluations.

2015. Lecturer, Evolutionary Genetics, Uppsala University. Lectures on: “*Sequence evolution: Mutations and models I*”, “*Sequence evolution: Mutations and models II*”, “*Basics of population genetics*”, “*Detecting selection in populations*” and “*Recombination and linkage disequilibrium*”. Leading key concepts discussions, population genetics example calculations, journal clubs and project presentation seminars with DiaNa evaluations.

2015. Lecturer, Molecular Evolution and Phylogenetic Analysis, Uppsala University. Lectures on: “*Basics of population genetics*”, “*Detecting selection in populations*” and “*Recombination and linkage disequilibrium*”. Leading key concepts discussions, population genetics example calculations, journal clubs and project presentation seminars with DiaNa evaluations.

2014. Lecturer, Evolutionary Genetics, Uppsala University. Lectures on: “*Basics of population genetics*”, “*Detecting selection in populations*” and “*Recombination and linkage disequilibrium*”. Leading key concepts discussions, population genetics example calculations, journal clubs and project presentation seminars with DiaNa evaluations.

2014. Lecturer, Molecular Evolution, Uppsala University. Lectures on: “*Basics of population genetics*”, “*Detecting selection in populations*” and “*Recombination and linkage disequilibrium*”. Literature project evaluations.

2009. Lecturer, Molecular Evolution, Uppsala University. Lectures on: “*Models for sequence evolution*”, “*Selection at the molecular level*” and “*Recombination and linkage disequilibrium*”. Literature project evaluations.

2008. Course assistant and lecturer, Molecular Evolution, Uppsala University. Responsible for all practicals and lecture on: “*Recombination and linkage disequilibrium*”.

2007. Course administrator, lecturer and course assistant, Molecular Evolution, Uppsala University. Responsible for course planning, all practicals and lecture on: “*Recombination and linkage disequilibrium*”.

2006. Course assistant and lecturer, Molecular Evolution, Uppsala University. Responsible for all practicals and lecture on: “*Recombination and linkage disequilibrium*”.

2005. Course assistant, Evolutionary Genetics, Uppsala University. Responsible for practicals and method seminars on ‘PCR’ and ‘*DNA sequencing techniques*’.

2004. Course assistant, Evolutionary Genetics, Uppsala University. Responsible for practicals and methods seminar on ‘PCR’.

2003. Course assistant, Evolutionary Genetics, Uppsala University. Responsible for practicals.

Mentoring

PhD-students

2014-. Supervisor. PhD-student Venkat Talla. Uppsala University, PhD-project: Speciation genomics in *Leptidea* butterflies.

2014-. Co-supervisor. PhD-student Ghazal Alavioon. Uppsala University, PhD-project: Sperm competition in fish. Main supervisor: Simone Immler

2012-2013. Co-supervisor, PhD-student Daria Shipilina, Lomonosov Moscow State University, PhD-project: *The evolution of reproductive isolation in chiffchaff (Phylloscopus collybita sp.)*. Main supervisor: Irina Mikhaylovna Marova

Master-students and research project students / visiting students

2016. Supervisor. Internship and research training project (February-May), Uppsala University, Faheema Fida. *Genomic rearrangements and transposable element activity in butterfly genomes*.

2015-2016. Co-Supervisor (with Staffan Bensch, LU). Masters Degree project, Uppsala University, Kristaps Sokolovskis. *Patterns of differentiation across the genome of European and Siberian willow warblers (Phylloscopus trochilus)*.

2015. Supervisor. Internship and research training project (June-October), Uppsala University, Xuclai Wang. *Reference assisted assembly of a non-model avian genome*.

2014. Supervisor. Internship (January-July), Uppsala University, Keshika Ravichandran. *Patterns of genetic diversity and divergence in candidate genes for genitalia morphology in insects.*

2014. Supervisor. Internship (June-September), Uppsala University, Dou Hu. *Molecular evolutionary studies of candidate genes for genitalia morphology in insects.*

2011-2012. Supervisor, Masters Degree project, Harvard University, Elizabeth Schold. *Sequencing regulatory regions of candidate genes for disease susceptibility in the house finch.*

2011-2012. Supervisor, Masters Degree project (MEME), Harvard University, Mozes Pil Kyu Blom. *Sequencing regulatory regions of HSP90, a candidate gene for Mycoplasma susceptibility in the house finch.*

2011. Supervisor, Research training project, Harvard University, Zachary Herring. *Re-sequencing of the MHC invariant chain in house finch populations naïve and exposed to Mycoplasma gallisepticum.*

2010-2011. Supervisor, Research training project, Harvard University, Daria Shipilina. *Regulatory variation in candidate genes for disease susceptibility in the house finch.*

2009. Supervisor, Masters Degree project, Uppsala University, Eleftheria Palkopoulou. *Comparative mapping of the Z-chromosome in Ficedula flycatchers.*

2008. Supervisor, Masters Degree project, Uppsala University, Harriet Mellenius. *Genetic mapping in zebra finches.*

2008. Supervisor, Course project, Uppsala University, Eleftheria Palkopoulou & Tian Hong Gong. *Estimating demographic parameters in pied- and collared flycatchers.*

2007. Supervisor, Course project, Uppsala University, Björn Lundmark & Maria Wahlström. *Resolving the passerine phylogeny.*

2006. Supervisor, Summer project work, Uppsala University, Han Li. *Characterization of linkage disequilibrium in a wild bird species.*

2006. Supervisor, Summer project work, Uppsala University, Hao Chen. *Screening for genetic differentiation among closely related indigo bird species.*

2005. Supervisor, Masters Degree project, Uppsala University, Sofie Fagerberg. *Nucleotide variation in three wild bird species.*

2005. Supervisor, Project in science training, Uppsala University, Sofie Fagerberg. *Utility of comparative anchor tagged sequences (CATS) for avian species primer design.*

2004. Supervisor, Masters Degree project, Uppsala University, Mingfei Guo. *Screening for Z-linked SNPs in collared flycatchers.*

2004. Supervisor, Uppsala Graduate School in Biomedical Research (UGSBR), Erika Groth. *The origins of the domestic horse.*

MUSEUM COLLECTIONS MANAGEMENT

During my stay at the Museum of Comparative Zoology at Harvard Museum of Natural History I have learned museum collections management and curation. I have done field trips to collect specimens for the museum and had extensive training in both skin and osteological preparations and in methods for long-term storage of tissue samples and extracted nucleic acids.
