

Leonardo Campagna

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CURRENT APPOINTMENT

Research Associate. Fuller Evolutionary Biology Program
Cornell Lab of Ornithology

2016-present

RESEARCH INTERESTS

Speciation; Genomics; Drivers of population genetic differentiation; Phylogeography; Neotropical Ornithology.

EDUCATION

Postdoctoral associate

Department of Ecology and Evolutionary Biology, and Cornell Lab of Ornithology,
Cornell University, USA.
Adviser: Dr. Irby J. Lovette.

2013 – 2016

Postdoctoral associate

Department of Biology, Queen's University, Canada.
Adviser: Dr. Stephen C. Loughheed.

2012 – 2013

Ph.D in Biology

University of Buenos Aires, Buenos Aires, Argentina.
Advisers: Dr. Pablo L Tubaro and Dr. Stephen C Loughheed.

2007- 2012

Licenciatura en Ciencias Biológicas

University of Buenos Aires, Buenos Aires, Argentina.
Specialization in Molecular and Cellular Biology (cumulative average 9.83).

2001-2006

PUBLICATIONS

1. **Campagna L**, Repenning M, Silveira LF, Fontana CS, Tubaro PL, Lovette IJ. 2016. Repeated divergent selection on pigmentation genes in a rapid finch radiation driven by sexual selection. *Science Advances* 3: e1602404. doi: 10.1126/sciadv.1602404
2. Van Doren BM*, **Campagna L**, Helm B, Illera JC, Lovette IJ, Liedvogel M. 2017. Correlated patterns of genetic diversity and differentiation across an avian family. *Molecular Ecology* 26, 3982–3997. doi: 10.1111/mec.14083. ***Undergraduate author**
3. Calderón L, **Campagna L**, Wilke T, Lormee H, Eraud C, Dunn J, Rocha G, Zehtindjiej P, Bakaloudis D, Metzger B, Cesere J, Marx M, Quillfeldt P. Genomic evidence of demographic fluctuations and lack of genetic structure across flyways in a long distance migrant, the European turtle dove. *BMC Evolutionary Biology* 16: 237. doi: 10.1186/s12862-016-0817-7.

4. Kopuchian C*, **Campagna L***, Di Giacomo AS, Wilson RE, Petracci P, Bulgarella M, Barnett JM, Matus R, Blank O, McCracken KG. 2016. Demographic history inferred from genome-wide data reveals two lineages of sheldgeese endemic to a glacial refugium in the Southern Atlantic. *Journal of Biogeography* 43: 1979–1989. doi: 10.1111/jbi.12767. ***Equal contribution.**
5. **Campagna L.** 2016. Supergenes: The Genomic Architecture of a Bird with Four Sexes. *Current Biology* 26: 105-107. doi:10.1016/j.cub.2015.12.005. Dispatch.
6. Taylor S, **Campagna L.** 2016. Avian supergenes. *Science* 351: 446-447. doi: 10.1126/science.aae0389. Perspective.
7. Toews DPL*, **Campagna L***, Taylor SA*, Balakrishnan CN, Baldassarre DT, Deane-Coe PE, Harvey MG, Hooper DM, Irwin DE, Judy CD, Mason NA, McCormack JE, McCracken KG, Oliveros CH, Safran RJ, Scordato ESC, Faust Stryjewski K, Tigano A, Uy JAC, Winger BM. 2016. Genomic approaches to understanding population divergence and speciation in birds. *The Auk: Ornithological Advances* 133: 13-30. doi: 10.1642/AUK-15-51.1. ***Equal contribution.**
8. **Campagna L**, Gronau I, Silveira LF, Siepel A, Lovette IJ. 2015. Distinguishing Noise from Signal in Patterns of Genomic Divergence in a Highly Polymorphic Avian Radiation. *Molecular Ecology* 24: 4238–4251. doi: 10.1111/mec.13314.
9. Benites P, **Campagna L**, Tubaro PL. 2014. Song-based species discrimination in a rapid Neotropical radiation of grassland seedeaters. *Journal of Avian Biology* 46: 55-62. doi: 10.1111/jav.00447.
10. **Campagna L**, Kopuchian C, Tubaro PL, Loughheed SC. 2014. Pleistocene divergence, range expansion, and secondary contact followed by gene flow between mitochondrial lineages of a widespread Neotropical songbird (*Zonotrichia capensis*). *Biological Journal of the Linnean Society* 111: 863-868. doi: 10.1111/bij.12272.
11. **Campagna L**, Silveira LF, Tubaro PL, Loughheed SC. 2013. Identifying the sister species to the rapid capuchino seedeater radiation (*Sporophila*, Passeriformes). *The Auk* 130: 645-655. doi: 10.1525/auk.2013.13064.
12. **Campagna L**, Van Coeverden de Groot PJ, Saunders BL, Atkinson SN, Weber DS, Dyck MG, Boag PT, Loughheed SC. 2013. Extensive sampling of polar bears (*Ursus maritimus*) in the Northwest Passage (Canadian Arctic Archipelago) reveals population differentiation across multiple spatial and temporal scales. *Ecology and Evolution* 3: 3152-3165. doi: 10.1002/ece3.662.
13. Loughheed SC, **Campagna L**, Dávila J, Tubaro PL, Lijtmaer DA, Handford P. 2013. Continental phylogeography of an ecologically and morphologically diverse Neotropical songbird, *Zonotrichia capensis*. *BMC Evolutionary Biology* 13: 58. doi: 10.1186/1471-2148-13-58.
14. Campagna C, **Campagna L.** 2012. Museums in the Anthropocene: Defining good practices in face of the biodiversity crisis. *Revista del Museo Argentino de Ciencias Naturales* 14: 199-207.
15. **Campagna L**, St Clair JJH, Loughheed SC, Woods R, Imberti S, Tubaro PL. 2012. Divergence between passerine populations from the Malvinas - Falkland Islands and their continental counterparts: a comparative phylogeographical study. *Biological Journal of the Linnean Society* 106: 865-879. doi: 10.1111/j.1095-8312.2012.01898.x

16. **Campagna L**, Benites P, Loughheed SC, Lijtmaer DA, Di Giacomo AS, Eaton MD, Tubaro PL. 2012. Rapid phenotypic evolution during incipient speciation in a continental avian radiation. *Proceedings of the Royal Society B: Biological Sciences* 279: 1847-1856. doi:10.1098/rspb.2011.2170.
17. **Campagna L**, Geale K, Handford P, Lijtmaer DA, Tubaro PL, Loughheed SC. 2011. A molecular phylogeny of the Sierra-Finches (*Phrygilus*, Passeriformes): extreme polyphyly in a group of Andean specialists. *Molecular Phylogenetics and Evolution* 61: 521-533. doi:10.1016/j.ympev.2011.07.011.
18. Toscano MA*, **Campagna L***, Molinero LL, Cerliani JP, Croci DO, Ilarregui JM, Fuertes MB, Nojckc IM, Fededa JP, Zwirner NW, Costas MA, Rabinovich GA. 2011. Nuclear Factor (NF)-kB controls expression of the immunoregulatory glycan-binding protein galectin-1. *Molecular Immunology* 48: 1940 - 1949. doi:10.1016/j.molimm.2011.05.021. ***Equal contribution.**
19. **Campagna L**, Lijtmaer DA, Kerr KCR, Barreira AS, Hebert PDN, Loughheed SC, Tubaro PL. 2010. DNA barcodes provide new evidence of a recent radiation in the genus *Sporophila* (Aves: Passeriformes). *Molecular Ecology Resources* 10(3): 449-458. doi:10.1111/j.1755-0998.2009.02799.x.
20. Toscano MA, Ilarregui JM, Bianco GA, **Campagna L**, Croci DO, Salatino M, Rabinovich GA. 2007. Dissecting the pathophysiologic role of endogenous lectins: Glycan-binding proteins with cytokine-like activity? *Cytokine and Growth Factor Reviews* 18(1-2): 57-71. doi:10.1016/j.cytogfr.2007.01.006.

MANUSCRIPTS IN REVIEW

1. Thrasher DJ, Butcher BG, **Campagna L**, Webster MS, Lovette IJ. Double digest RAD sequencing outperforms microsatellite loci at assigning paternity and estimating relatedness: a proof of concept in a highly promiscuous bird. *bioRxiv*. doi: <https://doi.org/10.1101/169144>.

CONFERENCE PRESENTATIONS

1. August 2017. **Ornithological Congress of the Americas** (Puerto Iguazú, Argentina). 2 first author talks, 6 co-authored talks.
2. August 2017. **American Ornithological Society and Society for Canadian Ornithologists** (East Lansing, MI). 1 first author talk.
3. June 2017. **Evolution 2017** (Portland, OR). 1 first author talk, 3 co-authored talks and 1 co-authored poster.
4. June 2017. **54th Annual Conference of Animal Behavior Society** (Toronto, Canada). 1 co-authored talk.
5. February 2017. **Gordon Research Conference; Speciation** (Tuscany, Italy). 1 first author poster.
6. February 2017. **Gordon Research Seminar; Speciation** (Tuscany, Italy). 1 first author talk, 1 first author poster.
7. August 2016. **North American Ornithological Conference** (Washington DC). 1 first author talk, 1 co-authored talk* and 1 co-authored poster. ***Best undergraduate presentation award.**
8. June 2016. **Evolution 2016** (Austin, TX). 1 first author talk and 1 co-authored poster.
9. May 2016. **Evoday Symposium** (Ithaca, NY). 1 first author talk.
10. September 2015. **XVI Reunión Argentina de Ornitología** (La Plata, Argentina). 1 co-authored talk.
11. July 2015. **American Ornithologists' Union and Cooper Ornithological Society joint conference** (Norman, OK). 1 first author talk.
12. July 2015. **X Neotropical Ornithological Congress and XXII Congresso Brasileiro de Ornitología** (Manaus, Brazil). 1 co-authored talk.
13. July 2015. **I Reunion Argentina de Biología Evolutiva** (Córdoba, Argentina). 1 co-authored talk.
14. June 2015. **Evolution 2015** (Guarujá, Brazil). 1 first author and 1 co-authored talk.

15. September 2014. **AOU, COS, SCO Joint Meeting** (Estes Park, CO). 2 first author talks, 1 co-authored talk.
16. June 2014. **Evolution 2014** (Raleigh, NC). 1 first author talk.
17. March 2014. **Argentine Cladistics and Biogeography Meeting** (Santa Fe, Argentina). 1 first author talk.
18. September 2013. **15th Argentine Ornithology Meeting** (Santa Rosa, Argentina). 1 first author talk.
19. August 2012. **14th International Behavioral Ecology Congress** (Lund, Sweden). 1 co-authored poster.
20. July 2012. **1st Joint Congress on Evolutionary Biology** (Ottawa, ON). 1 first author talk.
21. June 2012. **MACN 200. Two Centuries of Natural Science Exploration and Discovery in Argentina, Argentine Museum of Natural History** (Buenos Aires, Argentina). 1 co-authored talk.
22. May 2012. **Speciation Day Symposium** (Ithaca, USA). 1 first author poster.
23. November 2011. **International Barcode of Life Conference** (Adelaide, Australia). 1 first author poster and 1 co-authored talk.
24. November 2011. **9th Neotropical Ornithology Congress and VIII Peruvian Ornithology Congress** (Cusco, Peru). 1 co-authored poster.
25. August 2011. **14th Argentine Ornithology Meeting** (Formosa, Argentina). 2 first author talks*, 1 first author poster, 1 co-authored talk, 1 co-authored poster. ***"Emu - Austral Ornithology" best graduate student presentation award.**
26. November 2009. **3rd International Barcode of Life Conference** (Mexico City, Mexico). 1 first author talk. **Full travel award.**
27. June 2009. **13th Argentine Ornithology Meeting** (Tafí del Valle, Argentina). 1 first author talk.
28. March 2008. **12th Argentine Ornithology Meeting** (San Martín de los Andes, Argentina). 1 first author poster.
29. August 2007. **13th International Immunology Meeting** (Río de Janeiro, Brazil). 1 first author and 1 co-authored poster.
30. March 2007. **7th International Congress on Trauma, Shock, Inflammation and Sepsis** (Munich, Germany). 1 co-authored poster. **A.E. Baue Best Research Poster Award.**
31. November 2006. **54th Annual Scientific Meeting from the Argentine Society of Immunology** (Mar del Plata, Argentina). 1 first author poster and 3 co-authored talks.

INVITED PRESENTATIONS

1. April 3rd 2017. Nuttall Ornithological Club (Harvard, University, Cambridge, MA).
2. November 15th 2016. Ornithology seminar (Cornell University, Ithaca, NY).
3. July 25th 2016. Center for Vertebrate Genomics Annual Symposium (Cornell University, Ithaca, NY).
4. September 22nd 2015. Ornithology seminar (Cornell University, Ithaca, NY).
5. May 19th 2015. Universidad Nacional Autónoma de Mexico (Mexico City).
6. January 23rd 2015. Center for Vertebrate Genomics scholars group (Cornell University, Ithaca, NY).
7. December 12th 2014. Museo Argentino de Ciencias Naturales (Buenos Aires, Argentina).
8. September 2nd 2014. Ornithology seminar (Cornell University, Ithaca, NY).
9. March 6th 2014. Evogroup seminar series (Cornell University, Ithaca, NY).
10. February 10th 2014. The Cayuga Bird Club Meeting (Cornell University, Ithaca, NY).
11. November 19th 2013. Ornithology seminar (Cornell University, Ithaca, NY).
12. June 12th 2013. Queen's University Biological Station seminar series (Queen's University, Canada).
13. March 28th 2013. Ecology and Evolutionary Biology seminar series. (Queen's University, Canada).

SCHOLARSHIPS, FELLOWSHIPS and AWARDS

1. Center for Vertebrate Genomics Postdoctoral Fellowship, Cornell University. 2015.
2. Senate Advisory Research Committee (SARC) Postdoctoral Fellowship, Queen's University (Canada). May 2012 – May 2013.
3. Type II Scholarship, Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET, Argentina). June 2010 – April 2012.

4. Ph.D. initiation scholarship, Agencia de Promoción Científica y Tecnológica (ANPCyT, Argentina). June 2007 - June 2010.
5. Houssay 2006 award from the Argentine Biology Society. Toscano MA, Bianco GA, Ilarregui JM, Campagna L, Rabinovich GA.
6. Scholarship from the SALES foundation for cancer research (Argentina). August 2005 – February 2007.

RESEARCH GRANTS

1. ANPCyT, Argentina: PICT-2016-3712. Evolution at high altitude: The diversifying role of the southern Andes and other high altitude environments in the southern cone of South America. Ornithology Division working group, Argentine Museum of Natural History.
2. NSF, USA: DEB - 1555754 Collaborative research (NSFDEB-BSF) Quantifying genomic porosity in non-model radiations (\$589,545). Lovette I, Siepel A, Gronau I, Campagna L.
3. ANPCyT, Argentina: PICT-2014-2154. 2015. Análisis filogenómico de especies incipientes de aves neotropicales: Estudio de la contribución de la selección en el proceso de especiación. Ornithology Division working group, Argentine Museum of Natural History.
4. Internationalizing the Cornell Curriculum grant, Mario Einaudi Center for International Studies, Cornell University. 2015. Campagna L, Lovette I.
5. Athena grant, Cornell Lab of Ornithology. 2014 and 2015. Berv J, Campagna L, Lovette I, Prum R.
6. Julia Marsden grant 2014, Neotropical Grassland Conservancy. Campagna L.
7. PIP CONICET, Argentina. 2012-2014. Ecología y Evolución de los sistemas de comunicación visual y acústico en aves neotropicales. Ornithology Division working group, Argentine Museum of Natural History.
8. ANPCyT, Argentina: PICT bicentenario 2010-0805. 2011. Estudio de los patrones de variación genética y fenotípica en aves sudamericanas: evaluando hipótesis sobre el contacto histórico entre la Selva Atlántica y las Yungas. Ornithology Division working group, Argentine Museum of Natural History.
9. UBACyT, Argentina. 2010-2012. Patrones de variación genética y fenotípica en el Cono Sur de Sudamérica. Evaluando hipótesis sobre el papel de las barreras geográficas y los cambios climáticos en la diversidad de aves y arañas en selvas subtropicales y templadas. Ornithology Division working group, Argentine Museum of Natural History.
10. PIP CONICET, Argentina. 2009-2011. Ecología y Evolución de los sistemas de comunicación visual y acústico de las Aves Neotropicales. Ornithology Division working group, Argentine Museum of Natural History.

TEACHING EXPERIENCE, MENTORSHIP

1. Ecology and Conservation of Wildlife in the Neotropics –BioEE2525/BioEE2526. Fall 2015/Spring2016 and Fall 2016/Spring2017. Cornell University. Co-taught with Irby Lovette and developed using funding from a grant obtained from the Office of the Vice Provost of International Affairs and the Mario Einaudi Center for International Studies. Currently teaching this course for the third time (Fall 2017/Spring2018).

2. Honors thesis co-advisor for Benjamin Van Doren. Marshall Scholar 2016.
3. Invited lecture: "Speciation genomics". Molecular Ecology, Department of Natural Resources, Cornell University, Ithaca, New York, USA. March 28th 2017.
4. Invited lecture: "Speciation genomics". Evolution (Writing in the majors section), Cornell University, Ithaca, New York, USA. March 14th 2016.
5. Invited lecture: "Speciation genomics". Evolution (Writing in the majors section), Cornell University, Ithaca, New York, USA. November 11th 2015.
6. Introducción a los métodos de secuenciación de nueva generación y su aplicación a la Ecología Molecular. May 2015. Universidad Nacional Autónoma de Mexico (UNAM). Co-taught with Nicholas Mason and funded by a grant obtained from UNAM.
7. Invited lecture: "Understanding avian evolution". Evolution (Writing in the majors section), Cornell University, Ithaca, New York, USA. February 12th 2015.
8. Invited lecture: "Speciation genetics". Principles of Animal Genetics, Cornell University, Ithaca, New York, USA. April 24th 2014.
9. Diversity and conservation of Northern Patagonia. February 2012. Queen's University, field course in Patagonia. Teaching assistant.
10. Training workshop for DNA Barcoding. April – May 2009. Museo Argentino de Ciencias Naturales, Buenos Aires, Argentina. Teaching assistant.
11. Inmunidad, tolerancia y cancer: Desde la inmunovigilancia hacia el escape tumoral. October 2006. Universidad Nacional de Río Cuarto, Córdoba, Argentina. Teaching assistant.

NON REFEREED REPORTS

Van Coeverden de Groot PJ, **Campagna L**, Boag P. 2013. Population genetic analysis of contemporary M'Clintock Channel and Gulf of Boothia Polar bears. Department of Environment, Government of Nunavut, Canada.

PROFESSIONAL SERVICE

Elective member of the American Ornithologist's Union (AOU) and member of the Society for the Study of Evolution (SSE).

Referee for *Evolution*, *Current Biology*, *The American Naturalist*, *G3*, *Molecular Phylogenetics and Evolution*, *Molecular Ecology*, *Heredity*, *Molecular Ecology Resources*, *Biological Journal of the Linnean Society*, *Conservation Genetics*, *BMC Evolutionary Biology*, *PLOS ONE*, *Axios Review*, *Journal of Biogeography*, *Journal of Avian Biology*, *Ibis*, *EMU - Austral Ornithology*, *Ornitología Neotropical*, *Current Zoology* and *Revista Nuestras Aves*.

Referee work for grant proposals from the National Science Foundation (USA), Facultad de Ciencias, Universidad de los Andes (Colombia), Agencia Nacional de Promoción Científica y Tecnológica (Argentina), Sigma Xi 2014-2016 (Cornell University, USA), and Neotropical Bird Club (UK).

Co-organizer (with Dr. Scott Taylor) of the symposium “Genomic approaches to understanding avian speciation”; AOU, COS, SCO Joint Meeting (2014).

Organizer of the symposium “Genomic advances in Neotropical ornithology: phylogenomics, population genomics and genotype/phenotype associations”; Ornithological Congress of the Americas - XVII RAO; XXIV CBO; XCV AFO (2017).