



FERNANDO COLCHERO

Associate Professor

Department of Mathematics and Computer
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GRADUATE EDUCATION

PhD in Ecology (2008) *Nicholas School of the Environment*. Duke University, Durham, NC, USA.

EMPLOYMENT

2016-present: Associate Professor, *Department of Mathematics and Computer Science (IMADA) and Interdisciplinary Center on Population Dynamics (CPop)* University of Southern Denmark, Odense, Denmark

2013-2016: Assistant Professor, *Department of Mathematics and Computer Science and Max-Planck Odense Center on the Biodemography of Aging* University of Southern Denmark, Odense, Denmark

2008-2012: Research Scientists, *Max Planck Institute for Demographic Research*, Rostock, Germany

PUBLICATIONS

In progress or submitted

Colchero, F., W. Eckardt, T. Stoinski (in progress) Predicting the impact of Covid-19 on the population dynamics of mountain gorillas.

Staerk, J., F. Colchero, M.A. Kenney, K.A. Wilson, W.B. Foden, J.A. Carr, Z. Pereboom, L. Blandt, N. Flesness, T. Martin, L. Maiorano, J.E. Fa, H.P. Possingham, D.A. Conde (in progress) A decision framework to integrate in-situ and ex-situ management for species in the European Union.

da Silva, R., F. Colchero, P.P. van Dijk, J. Staerk, C.R. Shepherd, L. Jouvét, J. Janssen, D.A. Conde (in progress) The international commercial trade of live turtles and tortoises: exploring export patterns in captive-bred and wild-caught individuals.

da Silva, R., D.A. Conde, F. Colchero (in progress) Widespread evidence of negligible senescence among turtles and tortoises.

Giraudeau, M., O. Vincze, T. Sepp, C. Baines, J.-F. Lemaître, K. Lemberger, A. Boddy, A.M. Dujon, G. Bramwell, V. Harris, B. Ujvari, C. Alix-Panabieres, S. Lair, D. Sayag, D.A. Conde, F. Colchero, T.M. Harrison, S. Pavard, A.O. Urrutia, R. Hamede, B. Roche, A. Aktipis, C. Maley, J. Degregori, F. Thomas (under consideration) A field guide to study wildlife cancer. **Nature Reviews Cancer**

Colchero, F., J. Aburto, J. Altmann, A. Baudisch, C. Boesch, F. Campos, D. Cheney, A. Collins, D. Conde, M. Cords, C. Crockford, L. Fedigan, C. Fichtel, M. Finger, M. Groenenberg, J. Guenter, C. Hobaiter, P. Kappeler, R. Lawler, R. Lewis, R. Lindahl-Jacobsen, Z. Machanda, M.

Manguette, M. Muller, C. Packer, Z. Pereboom, S. Perry, A. Pusey, M. Robbins, R. Seyfarth, J. Silk, T. Stoinski, K. Strier, S. Strum, A. Teare, M. Thompson, F. Villavicencio, R. Wittig, R. Wrangham, K. Züberbühler, J.W. Vaupel, S. Alberts (under review) The evolutionary landscape of primate longevity. **Nature Communications**

Colchero, F., W. Eckardt, T. Stoinski (under review) Evidence of demographic buffering in an endangered great ape: social buffering on immature survival and the role of refined sex-age-classes on population fitness. **Journal of Animal Ecology**

Published or in press

Morrison, R.E, W. Eckardt, Colchero, F., V. Vecellio, T. Stoinski (accepted) Social groups buffer maternal loss in mountain gorillas. **eLife**

Campos F., Villavicencio F., Archie E.A. Colchero F., Alberts S.C. (2020) Social relationships, social status, and survival in wild baboons: A tale of two sexes. **Philosophical Transactions B** 375: 20190621

Muller M., Blurton-Jones N., Colchero F., Thompson M.E., Enigk D., Feldblum J., Hahn B., Langergraber K.E., Scully E., Vigilant L., Walker K., Wrangham R., Wroblewski E., Pusey A. (2020) Sexual dimorphism in chimpanzee (*Pan troglodytes schweinfurthii*) and human age-specific fertility. **Journal of Human Evolution** 144:102795

Lemaitre, J.-F., V. Ronget, M. Tidière, D. Allainé, V. Berger, A. Cohas, F. Colchero, D.A. Conde, A. Liker, G. Marais, A. Scheuerlein, T. Székely, J.-M. Gaillard (2020) Sex differences in longevity and aging rates across mammals in the wild. **PNAS** 117(15):8546-8553

Colchero F., B.Y. Kiyakoglu (2020) Beyond the proportional frailty model: Bayesian estimation of individual heterogeneity on mortality parameters. **Biometrical Journal** 62(1):124-135

Conde, D.A., J. Staerk, F. Colchero, A.R. Silva, J.E. Fa, H. Syed, J. Schöley, H.M. Baden, L. Jouvet, E. Jogenhans, S. Meiri, J.-M. Gaillard, S. Chamberlain, J. Wilcken, O.R. Jones, J.P. Dahlgren, U.K. Steiner, L. Bland, I. Gómez-Mestre, J.D. Lebreton, J. González Vargas, N. Flesness, V. Canudas-Romo, R. Salguero-Gómez, O. Byers, S.M. Funk, T. Bjørneboe Berg, A. Scheuerlein, S. Devillard, D.S. Schigel, H. Possingham, J.W. Vaupel, A. Baudisch (2019) Data gaps and opportunities for comparative and conservation biology. **PNAS** 116 (19) 9658-9664

Staerk, J., D.A. Conde, V. Ronget, J.-F. Lemaître, J.-M. Gaillard, F. Colchero (2019) Performance of generation time approximations for extinction risk assessment. **Journal of Applied Ecology** 56(6): 1436-1446.

Colchero, F., O.R. Jones, D.A. Conde, D. Hodgson, F. Zajitschek, B.R. Schmidt, A.F. Malo, S.C. Alberts, P.H. Becker, S. Bouwhuis, A.M. Bronikowski, K.M. De Vleeschouwer, R.J. Delahay, S. Dummermuth, E. Fernández-Duque, T. Flatt, J. Frisenvænge, M. Hesselsøe, S. Larson, J.-F. Lemaître, J. McDonald, D.A.W. Miller, C. O'Donnell, C. Packer, B.E. Raboy, C.J. Reading, E. Wapstra, H. Weimerskirch, G.M. While, A. Baudisch, T. Coulson, J.-M. Gaillard (2019) The diversity of population responses to environmental change. **Ecology Letters** 22: 342-353

Colchero F, A.E. Aliaga, O.R. Jones, D.A. Conde (2017) Individual heterogeneity determines sex differences in mortality in a monogamous bird with reversed sexual dimorphism. **Journal of Animal Ecology** 86: 899–907 (2017)

Rebke, M., P.H. Becker and F. Colchero (2017) Better the devil you know: common terns stay with a familiar partner although pair duration does not affect breeding output. **Proceedings of the Royal Society B** 284:2016.1424.

Colchero, F., R. Rau, O.R. Jones, J. Barthold, D.A. Conde, A. Lenart, L. Nemeth, A. Scheuerlein, J. Schoeley, C. Torres, V. Zarulli, J. Altmann, D.K. Brockman, A.M. Bronikowski, L.M. Fedigan, A. Pusey, T.S. Stoinski, K.B. Strier, A. Baudisch, S.C. Alberts, J.W. Vaupel (2016) The emergence of longevous populations. **PNAS** 113(48): E7681-E7690 (Cozzarelli prize)

- Dahlgren J.P., F. Colchero, O.R. Jones, D-I. Øien, A. Moen, N. Sletvold (2016) Actuarial senescence, investment in reproduction and environmental conditions of a long-lived orchid. **Proceedings of the Royal Society B** 283: 2016.1217.
- Barthold, J., C. Packer, A. Loveridge, D. W. Macdonald, F. Colchero (2016) Dead or gone? Bayesian inference on mortality for the dispersing sex. **Ecology and Evolution** doi:10.1002/ece3.2247
- Barthold, J., A. Loveridge, D. W. Macdonald, C. Packer, F. Colchero (2016) Bayesian estimates of male and female African lion mortality for future use in population management. **Journal of Applied Ecology** 53:295-304
- Larson, S.M., F. Colchero, O.R. Jones, L Williams, E. Fernández-Duque (2016) Age and sex-specific mortality of wild and captive populations of a monogamous pair-bonded primate (*Aotus azarae*). **American Journal of Primatology** 78(3): 315-325.
- Koons, D.N., F. Colchero, K. Hersey, O. Gimenez (2015) Disentangling the effects of climate, density dependence, and harvest on the population dynamics of North America's most iconic large herbivore. **Ecological Applications** 25:956-967
- Conde, D.A., F. Colchero, B. Güneralp, M. Gusset, B. Skolnik, M. Parr, O. Byers, K. Johnson, G. Young, N. Flesness, H. Possingham, J.E. Fa (2015) Opportunities and costs for preventing vertebrate extinctions. **Current Biology** 25: R219-R221
- Salguero-Gómez, R, et al. (2015) The COMPADRE Plant Matrix Database an Open Online Repository for Plant Demography. **Journal of Ecology** 103: 202-218.
- Zubillaga, M., O. Skewes, N. Soto, J. E. Rabinovich, F. Colchero (2014) Bayesian inference on the effect of density dependence and weather on a guanaco population from Chile. **Plos One** e115307.
- Colchero, F. and R. Schaible (2014) Mortality as a bivariate function of age and size in indeterminate growers. **Ecosphere** 5(12): 161
- Plante, S., F. Colchero and S. Calmé (2014) Foraging strategy of a Neotropical primate: how intrinsic and extrinsic factors influence destination and residence time. **Journal of Animal Ecology** 83: 116-125.
- Zajitschek, F., Jin, T., F. Colchero, and A. Maklakov (2014) Aging differently: diet- and sex-dependent late-life mortality patterns in *Drosophila melanogaster*. **Journal of Gerontology: Series A** 83: 116-125.
- Conde, D.A., F. Colchero, P. Pearce-Kelly, O. Byers, M. Gusset, N. Flesness, R. K. Browne and Jones, O.R. (2013) Zoos through the lens of the IUCN Red List: a global metapopulation approach to support conservation breeding programs. **Plos One** 8(12): e80311
- Baudisch, A., R. Salguero-Gómez, O.R. Jones, T. Wrycza, C. Mbeau-Ache, M. Franco & F. Colchero (2013) The pace and shape of senescence in angiosperms. **Journal of Ecology** 101: 596-606
- Colchero, F., O.R. Jones and M. Rebke (2012) BaSTA: an R package for Bayesian estimation of age-specific survival from incomplete mark-recapture/recovery data with covariates. **Methods in Ecology and Evolution** 3: 466-470
- Colchero, F. and J. S. Clark (2012) Bayesian inference on age-specific survival for censored and truncated data. **Journal of Animal Ecology** 81: 139-149
- Schaible, R., A. Gerloff-Elias, F. Colchero, H. Schubert (2012) Neighboring parthenogenetic populations of *Chara canescens* differ in their acclimation potential to irradiance and salinity. **Oecologia** 168: 343-353.
- Conde, D.A, N. Flesness, F. Colchero, O. Jones, A. Scheuerlein (2011) Zoos and captive breeding: response. **Science** 332: 1150-1151.

- Conde, D.A., N. Flesness, F. Colchero, O. Jones, A. Scheuerlein (2011) An emerging role of zoos to conserve biodiversity. **Science** 331: 1390-1391
- Colchero, F., D. A. Conde, C. Manterola, C. Chávez, A. Rivera and G. Ceballos (2011) Jaguars on the move: modeling movement to mitigate fragmentation from road expansion in the Mayan Forests. **Animal Conservation** 14(2): 158-166
- Conde, D. A., F. Colchero, H. Zarza, N. L. Christensen Jr, J. Sexton, C. Manterola, A. Rivera, C. Chávez, D. Azuara and G. Ceballos (2010) Sex matters: modeling male and female jaguar habitat for conservation. **Biological Conservation** 143: 1980-1988
- Colchero, F., O. L. Bass, Jr., R. Zambrano, and J. A. Gore (2010) Clustered nesting and vegetation thresholds reduce egg predation in sooty terns. **Waterbirds** 33(2): 169-178
- Colchero, F., R. A. Medellín, J. S. Clark, R. Lee, and G. Katul (2009) Predicting population survival under future climate change: density dependence, drought and extraction in an insular bighorn sheep. **Journal of Animal Ecology** 78(3): 666-673.
- Schick, R. S., S. R. Loarie, F. Colchero, B. D. Best, A. Boustany, D. A. Conde, P. N. Halpin, L. N. Joppa, C. M. McLellan, and J. S. Clark (2008) Understanding movement data and movement processes. Current and emerging directions. **Ecology Letters** 11: 1338-1350.

Books and book chapters

- Cubaynes, S. *et al.* (forthcoming) Chapter 12 Survival Analyses. In *Demographic analyses across the tree of life* (Salguero-Gómez, R and Gamelon, M eds.)
- Pallares, E., C. Manterola, D. A. Conde and F. Colchero (2015) Roads and jaguars in the Mayan Forests. In van der Ree, R., Smith, D. J., and Grilo, C. (eds). *Handbook of Road Ecology*. John Wiley & Sons, Oxford.
- Manterola, C., D. A. Conde, F. Colchero, A. Rivera, E. Huerta, A. Soler and E. Pallares (2011) El jaguar como elemento estratégico para la conservación. *Corredor Biológico Mesoamericano México Serie Acciones / Número 8*.
- Colchero, F., L. Leon-Paniagua, and A. G. Navarro-Siguenza (2006) Hábitat del berrendo en México. In *El Berrendo en México, Acciones de Conservación*. Instituto Nacional de Ecología, eds. México.
- Colchero, F., G. O'Farrill, and R. A. Medellín (2005) *Didelphis marsupialis*. In G. Ceballos and G. Oliva eds. *Los Mamíferos Silvestres de México*. CONABIO-CFE. México.
- Medellín, R. A. and F. Colchero (2001) Los borregos cimarrones de la Isla Tiburón: conservación y desarrollo sustentable. Recuadro XVII.3. Pages 510-512 In Primack, R., R. Rozzi, P. Feinsinger, R. Dirzo, y F. Massardo eds. *Fundamentos de conservación biológica Perspectivas Latinoamericanas*. Fondo de Cultura Económica. México.
- Colchero, F., R. A. Medellín, R. Lee, C. Manterola, and G. Ceballos (1999) The Tiburon Island desert bighorn sheep: a conservation and sustainable development program in Mexico. Pages 77-82 In A. E. Thomas and H. L. Thomas, eds. *Proceedings of the Second North American Wild Sheep Conference*. Reno, Nevada, USA.

TEACHING AS LECTURER

- Lecturer MM554: Mathematics for Biologists. 2016 – 2018, 2020. University of Southern Denmark, Odense, Dk.
- Lecturer MM556: Mathematics and Statistics for Pharmacists. 2016 – 2018, 2020. University of Southern Denmark, Odense, Dk.

- Lecturer ST813: Statistical Modeling. 2016 – 2019, 2021. University of Southern Denmark, Odense, Dk.
- Lecturer IAST801: Generalized Linear Models. 2016. University of Southern Denmark, Odense, Dk.
- Lecturer IAST801: Statistical inference on survival analysis. 2016. University of Southern Denmark, Odense, Dk.
- Lecturer ST808: Multivariate Analysis and Chemometrics. 2015. University of Southern Denmark, Odense, Dk.
- Lecturer FF506: Mathematics and Statistics for Biologists and Pharmacists. 2013 – 2015. University of Southern Denmark, Odense, Dk.
- Lecturer ST502: Statistical Modeling. 2014. University of Southern Denmark, Odense, Dk.
- Lecturer IDEM288: Bayesian Methods in Animal Demography. 2013. International Advanced Studies in Demography, Max Planck Institute for Demographic Research, Rostock, Germany.
- Lecturer EDSD Computer Programming for Demographers. 2011. European Doctoral School of Demography, Max Planck Institute for Demographic Research, Rostock, Germany.

INVITED TALKS

- The evolutionary landscape of primate mortality.* Online Seminar Series "Living Longer Better", University of Oxford, 26 February 2021.
- The evolutionary landscape of primate longevity.* Webinar on New Perspective on Lifespan Equality, Organized by the Herczeg Institute on Aging, Tel Aviv University, University of Southern Denmark, and Oxford University, 21 January 2021.
- Panelist on Sustainability Live Session.* University of Southern Denmark, 17 December 2020.
- Innovación para demografía y dinámica de poblaciones.* Seminario Migración mexicana calificada. ¿Fuga de talentos? O ¿gana de talentos? Nuevas Opciones para México. XI Seminario internacional de migración en los albores del siglo XXI. Instituto de Investigaciones Económicas, Universidad Nacional Autónoma de México. 3-5 November 2020.
- The hidden mechanisms driving population dynamics. (Plenary speaker)* Ecology and Behaviour, Lyon, France, 27 June – 1 July 2016.
- Under the hood: modelling hidden demographic processes.* Departmental Lecture Series, Department of Biology, University of Southern Denmark, Denmark, 8 January 2016.
- Demographic models for conservation planning: from inference to prediction.* The Era of Big Data Hits Conservation Biology, University of Queensland, Brisbane, Australia, 15 June 2015.
- Models and their predictive ability.* Workshop on Demographic Forecasting, Department of Public Health, University of Southern Denmark, Denmark, May 29th 2014.
- Bayesian Inference on age patterns of mortality, from wild animals to historical data.* Centre d'Estudis Demogràfics, Universitat Autònoma de Barcelona, Spain, March 07th 2013.
- Missing data in demographic datasets. Solutions through Bayesian methods and process modeling.* IMPRSD course on Integral Projection Models, Max Planck Institute for Demographic Research, Rostock, Germany, August 30th 2012.
- Bayesian inference on age-patterns of mortality in human and animal populations when age is unknown.* IMADA Seminar, Department of Mathematics and Computer Sciences, University of Southern Denmark, Odense, Denmark, May 24th 2012.
- Process Based Modeling: Implementing Bayesian Hierarchical Models for Demography, Ecology and Evolutionary Biology.* Institute of Biology, University of Southern Denmark, Odense, Denmark, April 10th 2012.

Hierarchical Bayesian Methods: Applications to Animal Demography. Bayesian Working Group, Max Planck Institute for Demographic Research, Rostock, Germany, November 24th 2011.

Incomplete data, the norm in ecological datasets... Modeling alternatives from capture-recapture to animal movement. Sherbrooke University, Canada, March 15th 2011.

Dodgy data: the ecologist's dilemma... Modeling solutions, from jaguar movement to capture-recapture data. Zoological Society of London, UK, September 13th 2010.

How old was the deceased or... Why sooty terns don't like their fish overcooked. Graduate Student Seminars, Nicholas School of the Environment and Earth Sciences, Duke University, USA, October 19th 2007.

Hierarchical Bayes in mark-recapture. Max Planck Institute for Demographic Research. Age-Determination Workshop, Rostock, Germany, October 2007.

Management and environmental forcing on the Tiburon Island bighorn sheep: making something out of a messed up "perfect" experiment. Graduate Student Seminars, Nicholas School of the Environment and Earth Sciences, Duke University, November 4th 2005.

Environmental forcing on the sooty tern's breeding phenology. Community Ecology course taught by Dr. James Clark, October 6th 2005.

CONFERENCES & WORKSHOPS

Euring (2021, session co-chair); International Statistical Ecology Conference, ISEC (2010, 2012, 2018, 2020); Evolutionary Demography Conference (2013, 2018); Evolutionary Ecology of Primate Life Histories (2015, 2016, 2017, 2018, 2019, 2020); Biodemography of Primate Populations (2017, 2018); Ecology and Behaviour (*Plenary speaker*, 2016); Statistics in Ecology and Environmental Monitoring, SEEM (2015); BES Workshop: Demography Beyond the Population (2015); Danish Society for Theoretical Statistics (DSTS) two-day meeting (*Organizing committee*, 2014); Workshop on Evolutionary Demography, Max Planck Institute for Demographic Research, MPIDR (2012); European Conference on Ecological Modelling Annual Meeting (2011); British Ecological Society Annual Meeting (2009, 2010, 2020); Ecological Society of America Annual Meeting (2006, 2007); Age-Determination Workshop, MPIDR (2007); American Society of Mammalogists (ASM) (1999); 7th International Theriological Congress (ITC) (*Organizing committee*, 1997)

SUPERVISION

Doctoral

María Baden – PhD in Biology (co-supervisor) Senescence in herbaceous plants Department of Biology, University of Southern Denmark, Odense, Denmark. (2017-2020)

A. Rita Silva – PhD in Biology (co-supervisor) Filling biodiversity knowledge gaps for decision making in conservation. Department of Biology, University of Southern Denmark, Odense, Denmark. (2016-2019)

Francisco Villavicencio Goula – PhD in Mathematics. Methods to analyze sparse demographic data From Bayesian inference to agent-based modelling. Department of Mathematics and Computer Science, University of Southern Denmark, Odense, Denmark. (2014-2017)

Johanna Staerk – PhD in Biology (co-supervisor, Graduated) Filling knowledge gaps for the development of conservation programs of threatened taxa, the role of zoo data. Department of Biology, University of Southern Denmark, Odense, Denmark (2014-2017)

Masters

Christian D. Jørgensen – Applied Mathematics (2020) Handling missing data within the framework of multivariate covariance generalized linear models. Department of Mathematics and Computer Science, University of Southern Denmark, Odense, Denmark.

Jeppe K. Kristensen – Applied Mathematics (2019) State-space models to estimate organic crop yield from survey data in Denmark. Department of Mathematics and Computer Science, University of Southern Denmark, Odense, Denmark.

Sebastian Gregsen – Applied Mathematics (2019) State-space models to estimate organic crop yield from survey data in Denmark. Department of Mathematics and Computer Science, University of Southern Denmark, Odense, Denmark.

Rune Reinhart Olsen – Mathematical Economy (2018) Relationship between income inequality and lifespan equality. Department of Mathematics and Computer Science, University of Southern Denmark, Odense, Denmark.

Janne A. Eriksen – Mathematics (2016) Bayesian inference on the effect of environmental factors on ageing rates. Department of Mathematics and Computer Science, University of Southern Denmark, Odense, Denmark.

Sarah S. Nielsen – Mathematics (2016) Bayesian inference on the effect of environmental factors on ageing rates. Department of Mathematics and Computer Science, University of Southern Denmark, Odense, Denmark.

Burhan Yasin Kiyakoglu – Applied Mathematics (2015-2016) Methods to estimate the effect of individual heterogeneity on baseline mortality and ageing rates. Department of Mathematics and Computer Science, University of Southern Denmark, Odense, Denmark.

Emil Nygaard Guttesen – Biology (2014-2015) Filling knowledge gaps for the development of conservation programs of threatened taxa, the role of zoo data and Bayesian methods. Department of Biology, University of Southern Denmark, Odense, Denmark.

Alix Eva Aliaga – Biology (2014-2015) Filling knowledge gaps for the development of conservation programs of threatened taxa, the role of zoo data and Bayesian methods. Department of Biology, University of Southern Denmark, Odense, Denmark.

Francisco Villavicencio Goula – Demography (2012-2013) A methodological approach to the study of mortality in Catalonia using historical marriage data. European Doctoral School of Demography (EDSD), Max Planck Institute for Demographic Research, Rostock, Germany and Centre d'Estudis Demogràfics, Barcelona, Spain.

REVIEWER, EDITOR AND ADVISORY BOARDS

2021: Co-chair Session on Survival Estimation. EURING Analytical Meeting and Workshops, June 6-11, 2021

2020-present: Research proposal reviewer European Research Council (ERC), Synergy Grants

2020-present: Research proposal reviewer Deutsche Forschungsgemeinschaft (German Research Foundation)

2019-present: Consultancy - Jaguar Conservancy: Modeling jaguar movement to identify sites for wildlife passes to mitigate the impact of the Tren Maya project in the Yucatan peninsula

2019-present: Academic Coordination Committee, Interdisciplinary Center on Population Dynamics, University of Southern Denmark, Odense, Denmark

2019-present: Guest Editor. Special Number on "Bayesian Survival Trajectory Analysis for Wildlife", Journal: Diversity

2018-present: Semester Responsible for Mathematics and Applied Mathematics. Department of Mathematics and Computer Science, University of Southern Denmark, Odense, Denmark

2015-present: Responsible for International Students. Department of Mathematics and Computer Science, University of Southern Denmark, Odense, Denmark

2016-2018: Coordinator of Research Unit. Biodemography Unit, University of Southern Denmark, Odense, Denmark

2014: Organization Committee. Danish Society for Theoretical Statistics (DSTS) two-day meeting, University of Southern Denmark, Odense, Denmark.

2014-present: Editorial Board, Reviews Editor *Frontiers in Ecology and Evolution*.

2014-2016: Scientific Committee member. COMPADRE Plant Matrix Database and COMADRE Animal Database.

2013-2014: Campus coordinator. Max-Planck Odense Center on the Biodemography of Ageing (MaxO), Faculty of Science, University of Southern Denmark, Odense, Denmark.

2010-present: Scientific Advisor. Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in Mexico.

2010-present: Expert Reviewer. Natural Sciences and Engineering Research Council of Canada (NSERC).

2008-present: Scientific Advisory Board Jaguar Conservancy, A.C. Mexico.

2002-2008: Scientific Advisory Board. Unidos Para la Conservacion, A.C. Mexico.

2003: Consultant. Terms of reference for World Bank spatial analysis for the Mesoamerican Biological Corridor projects, 2003.

1998: External editor. Spanish abstract reviewer, *Conservation biology*.

1997: Head of staff. 7th International Theriological Congress (ITC), Acapulco, Mexico.

Peer reviewer for: *Nature Communications*, *Ecology Letters*, *American Naturalist*, *Proceedings of the Royal Society B*, *Ecology*, *Methods in Ecology and Evolution*, *Evolution*, *Journal of Animal Ecology*, *Theoretical Population Biology*, *Ecological Modelling*, *Journal of Applied Ecology*, *Journal of Ecology*, *Experimental Gerontology*, *Journal of Population Ecology*, *Marine Ecology Progress Series*, *Conservation Biology*, *Peer J*, *Journal of The Royal Society Interface*, *Demographic Research*, *Oecologia*, *Oikos*, *Frontiers in Ecology and the Environment*; *Scientific Data*, *Journal of Wildlife Management*, *Journal of Arid Environments*, *Acta Oecologica*, *Plos One*.