11TH INTERNATIONAL PENGUIN CONGRESS
SCIENTIFIC PROGRAM

Version 1 (25 Aug 2023)

Sunday 3rd September 2023	
Pre-congress workshops Universidad Andrés Bello. Quillota 980, Viña del Mar	
10:30-12:30	Workshops 2 and 4
12:30-13:30	Lunch
13:30-15:30	Workshops 1, 2, 4, and 5
15:30-16:00	Coffee break
16:00-18:30	Workshops 1 and 5
Hotel Bosque de Reñaca Dublé Almeyda N°80, Reñaca, Viña del Mar	
15:00-20:00	Registration desk open

Workshop 1: Abundance estimation in *Spheniscus* penguins: challenges and opportunities. **Andrea Raya Rey and Ulises Balza**
Workshop 2: Avian influenza in penguins. **Meagan Dewar**
Workshop 4: Microplastics and Penguins. **Brian Walker**
Workshop 5: Use of pit-tags in penguins. **Katta Ludynia**

Monday 4th September 2023	
08:30-17:30	Registration desk open
09:00-09:45	Welcome and opening, homage presentations: Remembering Daniel González (Chile) and Andrés Barbosa (Spain), presentation Camilo Fund.
09:45-10:30	Keynote 1: A decade of genetics studies contributing to penguin knowledge and conservation. **Juliana Vianna**
10:30-11:00	Morning coffee break
11:00-12:30	**Oral presentations 1: Genetics** 1. At the zoo, King penguins live longer, but age faster: methylation patterns reveal the cost of a sedentary life for an active bird. **Cristofari et al.** 2. Genetic analysis of HPAIV H5N1 clade 2.3.4.4b is Humboldt penguins, Chile 2023. **Ariyama et al.** 3. Genomes of banded penguins suggest islands of differentiation during ecological speciation. **Pizzarro et al.** 4. Major Histocompatibility Complex (MHC) and mate choice in the Magellanic penguin, *Spheniscus magellanicus*. **Dantas et al.** 5. Species delimitation beyond phylogenomics: integrative approaches reveal gentoo penguin speciation. **Noll et al.** 6. Uncovering population structure in the endangered Northern rockhopper penguin (*Eudyptes moseleyi*) across islands in the southern Indian and Atlantic Oceans. **Ritchie-Parker et al.**
12:30-14:00	Lunch
14:00-15:30	**Oral presentations 2: Microbiology and diseases** 7. Effects of ectoparasites on the foraging behaviour of an Antarctic penguin. **Morandini et al.** 8. Finding the causative agents of infectious diseases affecting hoiho (yellow-eyed penguins) in New Zealand. **Wierenga et al.** 9. Lab-In-A-Suitcase: Rapid, field-based portable device for wildlife disease surveillance in the field. **Dewar et al.** 10. Population health evaluation and monitoring of Humboldt penguins (*Spheniscus humboldti*) at Punta San Juan, Peru from 2007-2023. **Adkesson et al.** 11. The influence of biotic and abiotic factors on the bacterial microbiome of gentoo penguins (*Pygoscelis papua*) across the Scotia Arc. **Kaczvinsky et al.** 12. Unique composition and neutral process characterize the bacterial communities in multiple body sites of the Magellanic and king penguins. **Ochoa et al.**
15:30-16:00	Afternoon coffee break
16:00-16:45	**Oral presentations 3: Physiology and toxicology** 13. Temporal trends of Hg in emperor penguin eggs over a 10-year period. **Bustamante et al.** 14. Circumpolar assessment of mercury contamination: the Adélie penguin as bioindicator of Antarctic marine ecosystems. **Cusset et al.** 15. Faecal hormone analysis as a non-invasive tool for assessing stress in the Pōhatu Kororā (*Eudyptula minor*) colony, Aotearoa. **Howell et al.**
19:00-21:30	Official congress opening, cocktail at Palacio Vergara, Viña del Mar.

Tuesday 5th September 2023	
08:25-08:30	Announcements
08:30-08:45	Celebrating Rory Wilson (presentation by Flavio Quintana):
08:45-09:30	Keynote 2: From musing to marveling: Inroads into understanding penguins at sea. **Rory Wilson**
09:30-10:45	**Oral presentations 4: Foraging ecology** 16. Camera logger footage highlights the unique foraging behaviour of King penguins breeding in Bahía Inútil, Tierra del Fuego, Chile. **Pütz and Cherel** 17. Changing diets over time: knock-on effects of marine megafauna overexploitation on their competitor *Spheniscus magellanicus* in the South-Western Atlantic. **Bas et al.** 18. Chasing the fish with little penguins: spatial and temporal variability in relation to environmental conditions. **Guillet et al.** 19. Compensating for harsh conditions at sea: plasticity of king penguin foraging strategies facing an experimental increase in workload. **Lemmonnier et al.** 20. DNA metabarcoding of faecal matter informs on African penguins' diet in South Africa. **Connan et al.**
10:45-11:15	Morning coffee break
11:15-12:30	**Oral presentations 5: Foraging ecology 2** 21. Does age matter? Foraging behavior and stress of known-age breeding Magellanic penguins *Spheniscus magellanicus* at Matillo Isl., Argentina. **Harris et al.** 22. Fishery-penguin conflict: more than just spatial overlap. **Glencross et al.** 23. Foraging behavior, personality, and nutritional condition of breeding chinstrap penguins from Deception Island, South Shetlands, Antarctica. **Morandini et al.** 24. Foraging strategies of Magellanic penguins from a central Patagonian colony during the incubation period. **Blanco et al.** 25. Inter-annual consistency in the phenology and trophic niche of the Southern Rockhopper penguins from Isla de los Estados, Tierra del Fuego, Argentina. **Dodino et al.**
12:30-14:00	Lunch
14:00-15:45	**Oral presentations 6: Foraging ecology 3** 26. Key foraging areas for Adélie penguins from a declining colony in the Western Antarctic Peninsula. **Machado-Gaye et al.** 27. Longitudinal, full-annual cycle study of Adélie penguin foraging behavior reveals within-individual changes with age. **Lescroël et al.** 28. Resources, risks and refugia: assessing the spatial overlap between yellow-eyed penguin foraging distribution, prey, commercial fisheries, and marine protected. **Hickcox et al.** 29. Seeing the sea through the eyes of Humboldt penguins - how do things look in the face of growing anthropogenic threats? **Ellenberg et al.** 30. Sex, but not size, is related to foraging success and efficiency in Magellanic penguins. **Holt and Boersma** 31. Stable isotope ecology of two declining sub-Antarctic penguins: the erect-crested penguin and the Eastern rockhopper penguin. **White et al.** 32. Videos indicate that Adélie penguins catch more prey under ice, does acceleration data tell a different story? **Winquist et al.**
15:45-16:15	Afternoon coffee break
16:15-17:30	Poster session
17:30-18:45	IUCN SSC Penguin Specialist Group open session
19:45-21:45	Early career workshops. Coordinator: Alex Thornton

Wednesday 6th September 2023	
08:30-10:30	Early career workshops. Coordinator: Alex Thornton
10:30-11:00	Morning coffee break
11:00-12:45	**Oral presentations 7: Management and conservation 1** 33. Climate and human impacts on global penguin hotspots: current assessments for conservation. **Gimeno et al.** 34. Conservation success and failure: How human disturbance shaped the fate of penguins. **Garcia-Borboroglu et al.** 35. Exploring threats: changes in a declining Humboldt penguin population and its association with fishing activity and environmental conditions inside the species' foraging range. **Doig-Alba et al.** 36. Humboldt penguin status and conservation plan: A report on the 2019 PHVA, Lima, Peru. **McGill et al.** 37. Insights on Galápagos penguins from a 50+ year study. **Boersma et al.** 38. IUCN SSC Penguin Specialist Group – member feedback and way forward. **Waller et al.** 39. Magellanic penguins as a keystone species in Patagonian coastal systems. **Entringer Jr. et al.**
12:45-14:00	Lunch

14:00-15:45	**Oral presentations 8: Management and conservation 2** 40. "Safe Operating Space for Penguins (SOSPEN)" initiative: a global effort towards the IUCN-Penguin Specialist Group vision of "penguins in perpetuity". **Zajková et al.** 41. The catalytic role of ESG investment in resolving the current fisheries – penguin impasse in South Africa. **Waller et al.** 42. To count or not to count: comparing metrics of reproductive success in Adélie penguins. **Elrod et al.** 43. Tracing seal predation back to the source colony of their penguin prey: a trace element and stable isotope analysis. **Reinhold et al.** 44. Creating spaces for Humboldt penguin conservation in Ica, southern Peru. **Ormeño et al.** 45. Waddling to success: Using little penguins as a model for business strategy. **McKelson** 46. Conservation of Humboldt penguins in Chile: are we doing enough? **Simeone**
15:45-16:15	Afternoon coffee break
16:15-17:30	Poster session
20:30-22:30	"Penwine" evening

Thursday 7th September 2023	
08:25-08:30	Announcements
08:30-09:15	Keynote 3: The Antarctic Penguin Biogeography Project and the Penguindex provide models for data curation and exploration with opportunities for expansion to all penguin species. **Heather Lynch**
09:15-10:30	**Oral presentations 9: Migration and dispersal** 47. Birds of a feather flock together? Winter dispersion of Southern rockhopper and Magellanic penguins. **Barrionuevo et al.** 48. Sex-specific migratory behavior in Magellanic penguins results in more risks for females. **Rebstock and Boersma** 49. Disparate dispersal behavior of fledgling Adélie penguins from two colonies on Ross Island. **Ballard et al.** 50. Going with the flow: Adélie Penguins adjust to sea-ice movement during winter migration. **Jongsomjit et al.** 51. Spatial assignment of winter migration of Magellanic penguin (*Spheniscus magellanicus*) using predator-based isotopic landscapes. **Gonzalez et al.**
10:30-11:00	Morning coffee break
11:00-12:30	**Oral presentations 10: Monitoring 1** 52. A Multi-UAV approach to surveying large penguin colonies. **Schmidt et al.** 53. Association between molt and breeding phenology helps explain the recent decline in breeding Humboldt penguins at Punta San Juan, Peru. **Cárdenas-Alayza et al.** 54. Cape Royds penguin colony trends revisited. **Ainley et al.** 55. Contrasting environmental conditions precluding lower availability of Antarctic krill: the train of consequences for a chinstrap penguin population in the Western Antarctic Peninsula. **Salmerón et al.** 56. Decreasing trends of chinstrap penguin breeding colonies on a region of major and ongoing rapid environmental changes suggest population level vulnerability. **Krüger** 57. Divided home, divided fate: The mystery behind divergent populations trends of Erect-crested penguins on subantarctic islands. **Mattern et al.**
12:30-14:00	Lunch
14:00-15:30	**Oral presentations 11: Monitoring 2** 58. First estimates of male and female survival for the rare and endangered Galápagos penguin. **Cappello et al.** 59. How a rover should approach penguins to get scientific data without disturbance. **Le Maho et al.** 60. Penguins and ARGOS satellites telemetry: A long story of migration monitoring. **Baudel** 61. Prey-mediated environmental effects on little penguins: using sailing drone to monitor the marine ecosystem. **Saraux et al.** 62. Re-establishing an African Penguin colony at the De Hoop Nature Reserve, South Africa. **Hagen et al.** 63. The status and trends of Macquarie Island penguins. **McInnes et al.**
15:30-16:00	Afternoon coffee break
16:00-17:15	Poster session
18:15-21:15	Early career workshops. Coordinator: Alex Thornton

Friday 8th September 2023	
08:25-08:30	Announcements
08:30-09:15	Keynote 4: Protecting penguins and preserving oceans: Conservation efforts in Tierra del Fuego and Southern South America. **Andrea Raya Rey**
09:15-10:30	**Oral presentations 12: Climate change** 64. Alarming prediction: Climate change effects on sympatric penguins of *Pygoscelis genus*. **Weinberger et al.** 65. Marine heatwaves in Western Australia affect breeding, diet and population size but not body condition of a range-edge little penguin colony. **Cannell et al.** 66. Record phenological responses to climate change in three sympatric penguin species. **Juarez et al.** 67. Sea ice concentration decline in an important Adélie penguin molt area. **Schmidt et al.** 68. Surviving the Heat: increasing ocean temperature and shifting breeding patterns of little penguins by the 22nd Century. **Chiaradia et al.**
10:30-11:00	Morning coffee break
11:00-12:30	**Oral presentations 13: Behavior, breeding, and life history** 69. Adaptive phenotypic programming to social density in king penguins. **Lemmonnier et al.** 70. Initial asymmetry: The effect within Magellanic penguin (*Spheniscus magellanicus*) broods in a cross-fostering experiment. **Marchisio et al.** 71. Investigating the effects of early growth on little penguins' life-history traits. **Wintz et al.** 72. Patterns of skipped breeding and reproductive success in Magellanic penguins (*Spheniscus magellanicus*). **Wagner and Boersma** 73. The neglected penguin: Reviewing the breeding of the Erect-crested penguin, *Eudyptes sclateri*. **Davis et al.** 74. Unpacking the lifelong secrets of little penguins: Individual quality, energy allocation, and stochasticity in defining fitness. **Joly et al.**
12:30-14:00	Lunch
14:00-15:30	Awards Next congress announcements Final words
15:30-16:00	Afternoon coffee break
19:00-00:00	Dinner, dance

Saturday 9th September 2023	
10:00-16:00	Field trip to Cachagua (Zapallar), observation of Humboldt penguins.

Poster presentations	
Behaviour and breeding	1. Antarctic weathervanes: penguin position in the nest sways with the wind. **Palomino et al.** 2. Circadian activity patterns of Magellanic penguins on land: the influence of light and temperature. **Entringer Jr. et al.** 3. Deducing breeding success of the African Penguin, *Spheniscus demersus*, from automated transponder reader data to reduce disturbance. **Mnyekemfu et al.** 4. Do Adélie penguins care about boundaries? Spatio-temporal consistency in the wintering behaviour of Antarctic sentinel species – implications for conservation. **Zajková et al.** 5. Does haematology reflect at-sea movements in Magellanic penguins during the chick-rearing stage? **Vanstreels et al.** 6. Examining the impact of food availability and nest structure on reproductive success of *Spheniscus humboldti* in Choros Island, Reserva Nacional Pinguinos de Humboldt. **Seguel et al.** 7. Fearless penguins, unfazed by *Felis catus*: Different behavioural and physiological stress responses of two populations of little penguins differing in levels of risk and disturbance. **Schaefer and Colombelli-Négrel.** 8. Humboldt penguin behavioral responses reveals how to improve tourism guidelines in a marine protected area. **Irigoin-Lovera et al.** 9. King penguin (*Aptenodytes patagonicus*) sightings and breeding attempts at Martillo Island, Tierra del Fuego, Argentina. **Scioscia et al.** 10. King Penguin locomotion on land: Biomechanical modeling and video footage analysis. **Ashlyn et al.** 11. Magellanic penguin *Spheniscus magellanicus* chick with two cloacae and four legs. **Harris et al.** 12. Offspring sex, hatching order, and brood reduction: different strategies lead to different sex ratios? **Barrionuevo et al.** 13. Studying phenology and reproductive biology of southern rockhopper penguins using time-lapse cameras combined with individual marking. **Millones et al.**

Biogeography	14. Bayesian additive regression trees (BART) applied to global-scale species distribution models (SDMs): present and future projections of penguin species. **Fuster-Alonso et al.** 15. Ecological niche modelling to elucidate the history and fate of penguins. **Pertierra et al.** 16. The geographic patterns of penguin's evolution. **Santos et al.**
Captivity	17. 15 years of Spheniscus rehabilitation in Chile. **Hernandez et al.** 18. Artificial incubation of African penguin eggs rescued from breeding colonies to bolster the wild population. **Cadman et al.** 19. Grapiprant as a treatment for early onset osteoarthritis in a Gentoo penguin (*Pygoscelis papua*). **Grima and Clements-Ponting** 20. Recovery attempt of the captive population by using artificial insemination technique of Southern rockhopper penguin (*Eudyptes chrysocome*). **Ito et al.** 21. Rehabilitation of Humboldt penguins (*Spheniscus humboldti*) after an oil spill in Lima – Peru. **Delgado et al.** 22. The survey of the prevalence of osteoarthritis in captive Humboldt penguins (*Spheniscus humboldti*). **Shirakata**
Climate change	23. Adaptation capabilities to global warming in an endothermic marine predator, the king penguin: Consequences of body size on diving performance. **Oberlin et al.** 24. Penguins on the move: habitat availability and climate connectivity among present and future climate analogues. **Bas et al.** 25. The hotter, the worst: Little penguin population responses to increasing ocean temperatures in New Zealand. **Ramírez et al.**
Foraging ecology	26. Are penguins "what they drink"? Relationships between eggshell carbonate and dietary water oxygen stable isotope values. **Polito and Dawson** 27. Developing refined foraging performance metrics that reflect energy expenditure in an endangered diving seabird, the African Penguin. **Weideman et al.** 28. Dietary plasticity of endangered Northern rockhopper penguins in the South Atlantic. **Connan et al.** 29. Effects of rivers on seabird foraging ecology. **Morais et al.** 30. The fish component of Adélie, gentoo and chinstrap penguin diets breeding on two Islands in the South Shetland Archipelago. **Karnovsky et al.**
Genetics	31. Genetic characteristics of a captive population of little penguin (*Eudyptula minor*) in Japan. **Okubo et al.** 32. MHC-DRB gene diversity in species survival plan and native *Spheniscus demersus* penguins. **Lawrance et al.** 33. Neutral and adaptive evolution in the speciation continuum of the rockhopper penguins (Eudyptes). **León et al.** 34. Unraveling the secrets of sex: Exploring the role of sexual chromosomes in banded penguin speciation. **León et al.**
Management and conservation	35. Developments in the management of hoiho in a changing and unpredictable environment. **Webster et al.** 36. Empowering a conservation culture through the Global Penguin Society Education Program. **Villabriga et al.** 37. High adult mortality at mainland African penguin (*Spheniscus demersus*) colonies and how the rehabilitation and release of penguins may be helping to bolster these colonies. **Snyman and Ludynia** 38. Impacts of terrestrial and marine influences on little penguins, sentinels of coastal ecosystem health. **Wells et al.** 39. Natural and anthropogenic impacts on Humboldt penguins (Spheniscus humboldti) on the northern coast of Lima, Perú. **Cardeña et al.** 40. Resources, risks and refugia: assessing the spatial overlap between yellow-eyed penguin foraging distribution, prey, commercial fisheries, and marine protected areas. 41. The activity report of Penguin Fund. **Ohara et al.**
Microbiology and diseases	42. A case report of intracoelomic hemorrhage due to ovarian torsion in a captive Humboldt penguin (*Spheniscus humboldti*). **Shirakata and Kondo** 43. Adenovirus detection on *Aptenodytes patagonicus* at Reserva Natural Pingüino Rey, Bahía Inútil, Tierra del Fuego between 2019 and 2020. **Lopez et al.** 44. Avian Pox Virus Outbreak on Magellanic Penguin (*Spheniscus magellanicus*) from Magdalena Island; Magellan Region, Chile. **Godoy et al.** 45. Fungal contamination in the environment of penguin communities in the French Southern Territories. **Desoubeaux et al.** 46. Mosquitoes at penguin colonies in Argentinean Patagonia: previously underestimated or an emerging threat due to climate change? **Vanstreels et al.** 47. Nasal mites in wild Magellanic penguins (*Spheniscus magellanicus*) in Chubut, Argentina. **Vanstreels et al.** 48. Protocols to protect King penguin (*Aptenodytes patagonicus*) from an avian influenza AH5N1 outbreak. **Williams et al.** 49. Stranding and mass mortality of penguins in continental Chile related to HPAIV-H5N1. **Neira et al.** 50. Successful rehabilitation of African Penguin chicks after high pathogenicity avian influenza (H5N1) infection. **Roberts et al.** 51. Surveillance of avian influenza virus in penguins from different areas of Chile (2019 - 2023). **Muñoz et al.**

Monitoring	52. Bird-borne video cameras record unseen feeding strategies of breeding Humboldt penguins. **Gonzalez-DelCarpio et al.** 53. Bycatch and mortality of Humboldt penguin (*Spheniscus humboldti*) inshore Peruvian southern waters. **Campos and Reyes** 54. Case Report: A unique king penguin (*Aptenodytes patagonicus*) colony in Tierra del Fuego, Chile. **Arriagada and Fernandez** 55. Consistency among plot-based and plotless methods for Magellanic penguin density estimations in Tierra del Fuego. **Balza et al.** 56. Exploring the success of a new penguin colony in Patagonia: Growth, occupation, and breeding patterns. **Tisera et al.** 57. Heat-related death of gentoo penguin *Pygoscelis* papua chicks at Martillo Island, Argentina. **Harris et al.** 58. Individual identification using black spots pattern on Humboldt penguins' (*Spheniscus humboldti*) chest. **Ogata et al.** 59. King penguin (*Aptenodytes patagonicus*) sightings and breeding attempts at Martillo Island, Tierra del Fuego, Argentina. **Scioscia et al.** 60. King penguin chick mortality related to predator presence in Tierra del Fuego, Chile. **Fassler and Arriagada** 61. King penguin mortality related to heat wave events in 2019 and 2020 at Bahía Inútil, Tierra del Fuego. **Arriagada** 62. Lessons from a Magellanic penguins long-term monitoring in Southern Patagonia: unified methodology, scale-dependent density and stable population trends. **Rodriguez-Planes et al.** 63. Long-term monitoring of breeding and molting colonies of Humboldt penguins (*Spheniscus humboldti*) at the Humboldt Penguin National Reserve, Coquimbo, Chile. **Vargas et al.** 64. Penguin Monitoring 2.0: How transponders and weighbridges revolutionised the way we study penguins. **Chiaradia et al.** 65. Population parameters of a King penguin colony (*Aptenodytes patagonicus*) in Bahía Inútil, Tierra del Fuego, Chile. **Cordero et al.** 66. Oceanographic and habitat traits affecting colony size in Humboldt penguins (*Spheniscus humboldti*) in Chile. **Vial et al.** 67. Methodological constraints for estimating the Humboldt Penguin population in Chile. **Arce et al.** 68. Pre-molting trips: Detrimental effect of GPS on body weight gain, returning date and blood isotopic values? **Morgenthaler et al.** 69. Progress in understanding drivers of *Pygoscelis* penguin demography and population dynamics near Palmer Station, Antarctica. **Cimino** 70. Return rate of Magellanic penguins, *Spheniscus magellanicus*, from Martillo Island, Beagle Channel, Argentina, using two different recaptures methodologies. **Scioscia et al.** 71. Successful colonization of Humboldt penguins in breakwaters: The case of the PERU/LNG port terminal. **Zavalaga et al.** 72. The Fall and rise of the little penguin on Phillip Island, Australia. **Wasiak et al.** 73. The quest for long-term monitoring, research, and conservation of the little penguin/kororā. **Hickcox et al.** 74. The winter distribution of Chinstrap penguins from Deception Island, Antarctica. **Morandini et al.** 75. Unveiling the mystery underlying two consecutive catastrophic breeding seasons in a large king penguin colony. **Brisson-Curadeau et al.** 76. Winter migration and isotopic niche of Adélie penguins from Western Antarctic Peninsula: species ecological insights to contribute to marine spatial planning and management. **Zaldúa et al.**
Physiology and ecotoxicology	77. A systematic review and meta-analysis of the pollutant exposure in penguins through the southern hemisphere. **Rossell et al.** 78. Magellanic and gentoo penguin mortality linked to a toxic dinoflagellate bloom at Beagle Channel, Argentina, during austral summer 2022. **Albizzi et al.** 79. Paralytic shellfish poisoning of Magellanic penguins and other seabirds and marine mammals at Península Valdés, Argentina, in 2022. **Vanstreels et al.** 80. Per- and polyfluoroalkyl substances (PFAS) in nesting material and blood of little penguins along a gradient of urbanisation in Tasmania. **Wells et al.** 81. Variation in mitochondrial metabolism during fasting in breeding king penguins. **Cossin-Sevrin et al.**
Pollution	82. Examination of microplastics in captive penguin fecal samples. **Walker et al.** 83. Examination of the presence of microplastics in wild Magellanic penguins from Punta Tombo, Argentina via fecal analysis. **Walker et al.** 84. Microplastic ingestion of African penguins in South Africa. **Londt et al.** 85. Oil spill risks for African penguins and other seabirds in Namibia and South Africa. **Ludynia et al.** 86. Plastic ingestion by Magellanic penguins (*Spheniscus magellanicus*) throughout their annual cycle. **Gallo et al.** 87. Pollution Alert: Microplastics found in kidney and liver of Magellanic Penguins (*Spheniscus magellanicus*). **Deecken et al.**