

SINLAN POO, PH.D.

RESEARCH SCIENTIST

DEPARTMENT OF CONSERVATION AND RESEARCH, MEMPHIS ZOO

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EDUCATION

Ph.D	National University of Singapore Department of Biological Sciences	2010-2014
B.A.	Boston University Biology, with specialization in Ecology and Conservation Biology <i>Summa cum laude</i> with Distinction	2003-2007
Professional Certification	Smithsonian Conservation Biology Institute & George Mason University Conservation Practice Program	2011-Present
Summer Program	University of Bordeaux, The Cluster of Excellence Ecology and Society: Biodiversity and Global Change	2015

PROFESSIONAL POSITIONS

Research Scientist	Memphis Zoo	2019-Present
Adjunct Research Faculty	Arkansas State University	2019-Present
Post-doctoral Researcher	Memphis Zoo	2016-2019
Research Associate	Sakaerat Environmental Research Station, Thailand	2015-Present
Lecturer	National University of Singapore	2016
Scientific Committee Member	Society for Conservation Biology, Asian Chapter	2015-2016
Resident Research Guest Lecturer	Sakaerat Environmental Research Station, Thailand	2011-2015
Teaching Fellow	National University of Singapore	2010-2015
Field Biologist	Santa Ana Watershed Association	2008-2009
Fish and Wildlife Scientific Aide	California Department of Fish and Game	2007-2008
Undergraduate Teaching Assistant	Boston University	2004-2005
Research Intern	Institute of Zoology, Academia Sinica, Taiwan	2004
Research Assistant	Boston University	2003-2007

HONORS

Senior Book Award in Biology	Boston University, Biology Department	2007
Phi Beta Kappa, Academic Honors	Boston University, Epsilon of Massachusetts	2006
National Society of Collegiate Scholars	Boston University	2004-2007
Dean's list (every semester)	Boston University, College of Arts and Sciences	2003-2007

GRANTS, SCHOLARSHIPS, AND AWARDS

Biological Collections Workshop Grant	Integrated Digitized Biocollections	\$34,500	2020
Conservation Action Network Grant	Memphis Zoo	\$10,103	2020
Conservation Action Network Grant	Memphis Zoo	\$7,967	2019
Conservation Action Network Grant	Memphis Zoo	\$17,584	2018
Amphibian Taxon Advisory Group Grant	Association of Zoos and Aquariums	\$1,000	2017
Conservation Action Network Grant	Memphis Zoo	\$11,247	2017
Student Scholarship	University of Bordeaux	\$1,200	2015

Travel Award	National University of Singapore	\$700	2014
Extended Graduate Research Scholarship	National University of Singapore	\$5,400	2014
Singapore International Graduate Award	Agency for Science, Technology, Research, Singapore	\$77,000	2010-2014
Funded Research Opportunities Grant	Boston University	\$500	2007
Senior Book Award in Biology	Boston University	\$3,500	2007
Ester Chandler Scholarship	Boston University	\$10,000	2004-2007
Boston University Grant	Boston University	\$43,450	2004-2007

SCIENTIFIC PUBLICATIONS

* Corresponding author † Student contributions

20. Hinkson KM & **Poo S**. Comparative sperm morphology and quality within the Anuran subgenus *Nenirana*. *In Review*.
19. Santymire RM, Sacerdote-Velat AB, Gygli A, Keinath DA, **Poo S**, Hinkson KM, & McKeag EM. Using dermal glucocorticoids to determine the effects of disease and environment on the critically endangered Wyoming toad. *In review*.
18. Watt A, Marcec R, Hinkson KM, **Poo S**, Roberts B, & Pitcher T. Effects of age and captive environment on sperm quality metrics and critically endangered Mississippi gopher frogs (*Lithobates sevosus*). *In review*.
17. Hinkson KM & **Poo S**. (2020). Inbreeding depression in sperm quality in a critically endangered amphibian. *Zoo Biology*, 39: 197-204.
16. **Poo S*** & Hinkson, KM. (2020). Amphibian conservation using assisted reproductive technologies: Cryopreserved sperm affects offspring morphology, but not behavior, in a toad. *Global Ecology and Conservation*, 21: e00809. [PDF](#)
Media coverage: [The Wildlife Society](#)
15. **Poo S*** & Hinkson KM. (2019). Applying cryopreservation to anuran conservation biology. *Conservation Science and Practice*, e91. [PDF](#)
14. Hinkson KM, Baecher JA, & **Poo S**. (2019). Cryopreservation and hormonal induction of spermic urine in a novel species: the smooth-sided toad (*Rhaebo guttatus*). *Cryobiology*, 89:109-111. [PDF](#)
Media coverage: [Daily Memphian](#) | [Memphis Commercial Appeal](#) | [USA Today](#)
13. **Poo S***, Hinkson KM, & Stege E. (2018). Effects of hibernation on sperm production and body condition in an endangered temperate amphibian. *Reproduction, Fertility, and Development*, 31: 796-804. [PDF](#)
12. **Poo S*** & Low M-R. (2018). Multiple male amplexus in *Feihyla hansenae* (Family: Rhacophoridae). *Herpetological Review*, 49(3):516-517. [PDF](#)
*** Cover article**
11. Karraker NE, Fischer S, Aowphol A, Sheridan J, & **Poo S**. (2018). Signals of forest degradation in the demography of common Asian amphibians. *PeerJ*, 6, e4220. [PDF](#)
10. Chuang, M-F, Kee W-H†, Sun J-S†, You C-H†, Kam Y-C, & **Poo S***. (2017). Effects of predation risk and oviposition site value on male nest guarding behavior and offspring survival in an arboreal-breeding treefrog. *Behavioral Ecology and Sociobiology*, 71:122. [PDF](#)
9. **Poo S***, Erickson FT†, Mason SA†, & Nissen BD†. (2017). Predation of *Feihyla hansenae* (Hansen's bush frog) eggs by a nursery web spider. *The Herpetological Bulletin*, 139:36-37. [PDF](#)
8. **Poo S***, Low M-R†, & Devan-Song A. (2016). *Xenochrophis flavipunctatus* (Yellow-spotted keelback water snake): Diet. *Herpetological Review*, 47(2):319. [PDF](#)
7. **Poo S***, Evans TA, Tan MK†, & Bickford DP. (2016). Dynamic switching in predator attack and maternal defense of egg prey. *Biological Journal of the Linnean Society*, 118:901-910. [PDF](#)

6. **Poo S***, Ragsdale AB, Jenkins HER[†], Jacques LL[†], Tan E[†], & Karraker NE. (2016). *Rhacophorus kio*: Oviposition and nest construction. *Herpetological Review*, 47(1):119-120. [PDF](#)
5. Priyadarshana TS[†], Wijewardhane IH, & **Poo S**. (2015). *Pseudophilautus popularis* (Common Shrub Frog): Male territorial combat and vocal interaction in Sri Lanka. *The Herpetological Bulletin*, 134:29-30. [PDF](#)
4. **Poo S** & Bickford DP. (2014). Hatching plasticity in a Southeast Asian Treefrog. *Behavioral Ecology and Sociobiology*, 68:1733-1740. [PDF](#)
Media coverage: [Springer Select](#) | [Science Daily](#) | [Science World Report](#) | [Natural World News](#) | [PhysOrg](#) | [Design & Trend](#)
3. **Poo S** & Bickford DP. (2013). The adaptive significance of egg attendance in a Southeast Asian treefrog. *Ethology*, 199(8):671-679. [PDF](#)
Media coverage: [Science Daily](#) | [Nature World News](#) | [Science Newline](#) | [Asian Scientist](#) | [Science Codex](#) | [PhysOrg](#) | [Red Orbit](#) | [NUS News](#) | [NUS Knowledge Enterprise](#) | [Asian Journal of the Scholarship of Teaching and Learning](#)
2. Bickford DP, **Poo S**, & Posa MRC. (2012). Southeast Asian biodiversity crisis. In D. Gower, K. Johnson, J. Richardson, B. Rosen, L. Rüger & S. Williams (Eds.), *Biotic evolution and environmental change in Southeast Asia*. Cambridge, U.K.: Cambridge University Press. p.434-462. [PDF](#)
1. Caldwell-Harris CL, Tong J[†], Lung W[†], & **Poo S**. (2011). Physiological reactivity to emotional phrases in Mandarin—English bilinguals. *International Journal of Bilingualism*, 15(3):329-352. [PDF](#)

POPULAR SCIENCE MAGAZINES & OUTREACH

3. **Poo S**. (2020). The Magical World of Amphibians. *Overton Park Conservancy #NatureZen*, 2020. [Article](#)
2. **Poo S**. (2018). Conservation Feature Story: Tis the Season for Hibernation. *ExZOOberence*, 2018(5):15. [PDF](#)
1. **Poo S** & Bickford DP. (2014). Exceptional parents – A frog that defies the rule. *Natural History*, 2014(5):12-15. [PDF](#)
* Cover article

ADDITIONAL NOTES

2. **Discovered a new species of Calliphorid fly** in Thailand that preys upon treefrog eggs. This species, *Caiusa pooae*, was named and described by Prof. Knut Rognes in 2015. *Zootaxa*, 3952 (1): 001-080. [PDF](#)
1. A new species of grasshopper in Thailand, *Striatosedulia pooae*, was discovered by a student I mentored. This new species was named using my surname and described by Tan *et al* in 2017. *Far Eastern Entomologist*, 333: 1-9. [PDF](#)

INVITED TALKS

8. **Poo S**. (2020). Amphibian ecology and conservation: From basic science to applied conservation. Universidad San Francisco de Quito, Quito, ECUADOR.
7. **Poo S**. (2020). Amphibian ecology and conservation: From basic science to applied conservation. Arkansas State University, AR, USA.
6. **Poo S**. Hinkson KM. (2019). Amphibian Conservation: Captive-breeding and sperm cryopreservation. Jambatu Center for Amphibian Research and Conservation, Quito, ECUADOR.
5. **Poo S**. (2019). Amphibian Research: From natural field observations to *ex situ* conservation. University of San Francisco, Quito, ECUADOR.
4. **Poo S**. (2018). Conservation Research in Zoos. Ordos Longsheng Safari Park, Inner Mongolia, CHINA.

3. **Poo S.** (2017). **Keynote:** Integrating Research and Conservation: A lesson from amphibians. Shanghai International Conservation Festival, Shanghai, CHINA.
Media coverage: [China News](#) | [Shanghai Xinhua News](#) | [Soho News](#)
2. **Poo S.** (2017). Guest Speaker: 融合研究與保護: 兩棲類的啟示. Shanghai Zoo, Shanghai, CHINA.
*** Talk given in Mandarin Chinese**
1. **Poo S.** (2015). **Video Interview:** Amphibian Reproduction - Video introduction to the amphibian exhibit at the Lee Kong Chian Natural History Museum (previously Raffles Museum and National Museum of Singapore), SINGAPORE. [Video](#)

CONFERENCE PRESENTATIONS

19. **Poo S.** (2020). Preparing for reintroduction: Behavioral and morphological fitness of captive-bred amphibians produced through cryopreservation. World Congress of Herpetology, Dunedin, NEW ZEALAND.
18. **Poo S.** (2019). Applying cryopreservation to anuran conservation biology. Joint Meeting of Ichthyologists and Herpetologists, Salt Lake City, UT, USA.
17. **Poo S.** (2019). Conservation through cryopreservation: behavioral and morphological fitness of captive-bred tadpoles. Joint Meeting of Ichthyologists and Herpetologists, Salt Lake City, UT, USA.
16. **Poo S.** (2018). Early hatching due to submergence in a Southeast Asian treefrog. The International Society for Behavioural Ecology Conference, Minneapolis, MN, USA.
15. **Poo S.** Hinkson, K, Ferrari MCO. (2018). Life-skills training: Antipredator behavior in captive-bred tadpoles. Joint Meeting of Ichthyologists and Herpetologists, Rochester, NY, USA.
14. **Poo S.** Hinkson, K, Ferrari MCO. (2018). Life-skills training: Antipredator behavior in captive-bred tadpoles. Gordon Research Conference: Predator Prey Interactions, Ventura, CA, USA.
13. **Poo S.** Chuang M-F, Kam Y-C. (2017). Oviposition site selection between the sexes in a Taiwanese treefrog with male territoriality. Animal Behavior Society Annual Conference, Toronto, CANADA.
12. **Poo S.** Chuang M-F, Kam Y-C. (2017). Oviposition site selection between the sexes: Examination of a treefrog with male territoriality and biparental care. Joint Meeting of Ichthyologists and Herpetologists, Austin, TX, USA.
*** Best Lightning Oral Presentation.**
11. **Poo S.** Chuang M-F, Kam Y-C. (2017). Risks of predation and benefits of a good breeding site determine nest guarding behavior and reproductive success in a bamboo-breeding frog. 35th International Ethological Conference, Estoril, PORTUGAL.
10. **Poo S.** Chuang M-F, Kam Y-C. (2017). Predation risk and breeding site value determine male nest guarding behavior and reproductive success. Society for Integrative and Comparative Biology Annual Conference, New Orleans, LA, USA.
9. **Poo S.** Chuang M-F, Kam Y-C. (2016). Effects of predation risk and breeding site value on male guarding behavior and offspring survival. Animal Behavior Society Annual Conference, Columbia, MO, USA.
8. **Poo S.** (2014). Dynamic switching in attack and defense behaviors between a predator and maternal guardians of its prey. Ecological Society of America Annual Conference, Sacramento, CA, USA.
7. **Poo S.** (2014). The adaptive significance of egg attendance in a Southeast Asian treefrog. International Society for Behavioral Ecology Annual Conference, New York, NY, USA.
6. **Poo S.** (2014). The adaptive significance of egg attendance in a Southeast Asian treefrog. Society for Conservation Biology Asia Conference, Malacca, MALAYSIA.
5. **Poo S.** (2013). Parental care of a Southeast Asian treefrog, *Chiromantis hansenae*. Biological Sciences Graduate Congress, Bangkok, THAILAND.
*** Best Oral Presentation.**

4. **Poo S.** (2011). Evolutionary Ecology and Conservation: comparative, reproductive, and applied biodiversity research. National University of Singapore Department of Biological Science Research Lab Talks, Singapore.
3. **Poo S.** (2010). Parental Care in a Southeast Asian Amphibian. Association for Tropical Biology and Conservation Annual Meeting, Bali, INDONESIA.
2. **Poo S.** (2007). An analysis of embryonic development across the premature hatching period in leaf-breeding treefrogs, genera *Agalychnis* and *Pachymedusa*. Biology Work for Distinction Symposium, Boston University, Boston, MA, USA.
1. Harris CL, Lung W, Mehta N, **Poo S**, Robles C, Swaminathan N. (2005). When does a First Language Feel More Emotional to Bilingual Speakers? Eastern Psychological Studies Association Annual Meeting, Boston, MA, USA.

PROFESSIONAL AFFILIATIONS & SERVICES

Member	Association for Zoos and Aquariums, Ecological Society of America, Society for Conservation Biology, Animal Behavior Society, International Society for Behavioral Ecology, Society for the Study of Amphibians and Reptiles, Herpetologists' League, Society for Integrative and Comparative Biology.
Reviewer	Evolutionary Ecology, Scientific Reports, Behavioral Ecology, Ethology Ecology and Evolution, Ethology, Journal of Ethology, Biotropica, PLOS ONE, Hydrobiologia, Herpetological Conservation and Biology, The Herpetological Bulletin, Zoo Biology.
Judge	Society for the Study of Amphibians and Reptiles Seibert Award (2017-2019) Herpetologists' League E. E. Williams Behavioral Award (2017) Society for Integrative and Comparative Biology Behavioral Division Award (2017)