

SINLAN POO, PH.D.

SENIOR RESEARCH SCIENTIST

Department of Conservation and Research, Memphis Zoo

ADJUNCT ASSISTANT PROFESSOR

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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-Mason School of Conservation Conservation Practice Program	2011-2014
Summer Program	University of Bordeaux, The Cluster of Excellence Ecology and Society: Biodiversity and Global Change	2015

PROFESSIONAL POSITIONS

Senior Research Scientist	Memphis Zoo	2021-Present
Director of Conservation	Detroit Zoo	2021 (Declined)
Adjunct Assistant Professor	Arkansas State University	2019-Present
Research Scientist	Memphis Zoo	2019-2021
Post-doctoral Researcher	Memphis Zoo	2016-2019
Lecturer	National University of Singapore	2016
Research Associate	Sakaerat Environmental Research Station, Thailand	2015-Present
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

COMMITTEE SERVICES

Executive Council, Board of Trustees	The Herpetologists' League	2022-Present
Diversity Committee	Herpetological Conservation Biology	2022-Present
Advisory Committee	Biodiversity Collections Network (BCoN)	2021-Present
Research Committee	Species 360	2021-Present
Diversity & Inclusion Committee	Memphis Zoo	2021-Present
Co-Founder & Organizer	Global Women in Herpetology Project	2020-Present
Co-Founder & Organizer	Zoo-Museum Cross-Collections Working Group	2020-Present
Scientific Committee	Society for Conservation Biology, Asian Chapter	2015-2016

RESEARCH FUNDING

Biological Collections Workshop Grant	Integrated Digitized BioCollections	\$34,500	2022
Conservation Action Network Grant	Memphis Zoo	\$20,631	2022
Conservation Grants Fund	Association of Zoos and Aquariums	\$21,644	2021
Conservation Action Network Grant	Memphis Zoo	\$17,335	2021
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
Funded Research Opportunities Grant	Boston University	\$500	2007

SCHOLARSHIPS AND AWARDS

Student Scholarship	University of Bordeaux, France	\$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
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 or Technician contributions

25. Hinkson KM, **Poo S**. Comparative sperm morphology and quality within the Anuran subgenus Nenirana. *In Review*.
24. Kolby JE, Borzée A, **Poo S**, Gonwouo NL, Kouamé NG, Shrestha B, Munoz A. Amphibian Conservation Action Plan: Trade and sustainable use. *In Review*.
23. **Poo S***, Whitfield SM, Shepack A, Watkins-Colwell GJ, Nelson G, Goodwin J, Bogisich A, Brennan PLR, D'Agostino J, Koo MS, Mendelson JR, Snyder R, Wilson S, Aronsen GP, Bentley AC, Balckburn DC, Borths MR, Campbell ML, Conde DA, Cook JA, Daza JD, Dembiec DP, Dunnum JL, Early CM, Ferguson A, Greene A, Guralnick R, Janney C, Johnson D, Knightly F, Poulin S, Rocha L, Soltis PS, Thiers B, Chakrabarty P. Bridging the research gap between live collections in zoos and preserved collections in natural history museums. *BioScience, In Press*.
22. **Poo S**, Kam Y-C, **Fuh N-T†**, Chuang M-F. Sex-specific oviposition site selection and hatching success in an arboreal treefrog: implications of a paternal nest-site selection. *BMC Zoology, In Press*.
21. **Poo S***, Bogisich A, **Mack M†**, **Lynn BK†**, **Devan-Song A†**. (2022) Post-release comparisons of amphibian growth reveal challenges with sperm cryopreservation as a conservation tool. *Conservation Science and Practice*, e572. [PDF](#)

Media coverage: [ABC News 24](#) | [Memphis Flyer](#) | [World Association of Zoos and Aquariums Newsletter](#)

20. Reichling SB, Roznik B, Cantrell J, **Bogisich A[†]**, **Poo S**. (2022) First natural breeding of the endangered dusky gopher frog (*Lithobates sevosus*) in captivity. *Zoo Biology*, 1-6. [PDF](#)
19. Santymire RM, Sacerdote-Velat AB, Gygli A, Keinath DA, **Poo S**, **Hinkson KM[†]**, McKeag EM. (2021) Using dermal glucocorticoids to determine the effects of disease and environment on the critically endangered Wyoming toad. *Conservation Physiology*, 9:coab093. [PDF](#)
18. **Watt AM[†]**, Marcec-Greaves R, **Hinkson KM[†]**, **Poo S**, Roberts B, Pitcher TE. (2021) Effects of age on sperm quality metrics in endangered Mississippi gopher frogs (*Lithobates sevosus*) from captive populations used for controlled propagation and reintroduction efforts. *Zoo Biology*, 40(3), 218-226 [PDF](#)
17. **Hinkson KM[†]**, **Poo S**. (2020) Inbreeding depression in sperm quality in a critically endangered amphibian. *Zoo Biology*, 39: 197-204. [PDF](#)
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 M-K[†]**, 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. Rüber & 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 CONTRIBUTIONS

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 described by a student I mentored and named using my surname. Tan *et al* (2017) *Far Eastern Entomologist*, 333: 1-9. [PDF](#)

INVITED TALKS

12. **Poo S**. (2022) Zoos, herpetology, and the scientific community: an international perspective. Diversity, Equity, and Inclusion Symposium. Joint Meeting of Ichthyologists and Herpetologists, Spokane, WA, USA. *Upcoming*.
11. **Poo S**. (2022) Biology Department Seminar. Rhodes College, TN, USA. *Upcoming*.
10. **Poo S**. (2022) Women in Herpetology. Fundación Herpetológica Gustavo Orcés, Quito, ECUADOR.
9. **Poo S**. (2021) Husbandry and management of amphibians: An example from the Memphis Zoo. The Amphibian Foundation, GA, USA.
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](#)

WORKSHOPS ORGANIZED & HOSTED

2. Bridging biological collections between zoos and museums. April, 2022 (Tentative).
1. Linking and Leveraging Biological Collections: Zoos and Natural History Museums. May, 2021.

CONFERENCE PRESENTATIONS

19. **Poo S, Whitfield SM** (2021) A biologist walks into a zoo...Untapped potential of living collections in zoos for biological research. Linking and Leveraging Biological Collections: Zoos and Natural History Museums. Virtual Conference.
18. **Poo S.** (2020) Preparing for reintroduction: Behavioral and morphological fitness of captive-bred amphibians produced through cryopreservation. World Congress of Herpetology, Dunedin, NEW ZEALAND.
17. **Poo S.** (2019) Applying cryopreservation to anuran conservation biology. Joint Meeting of Ichthyologists and Herpetologists, Salt Lake City, UT, USA.
16. **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.
15. **Poo S.** (2018) Early hatching due to submergence in a Southeast Asian treefrog. The International Society for Behavioural Ecology Conference, Minneapolis, MN, USA.
14. **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.
13. **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.
12. **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, CANANDA.
11. **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]
10. **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.
9. **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.
8. **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.

7. **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.
6. **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.
5. **Poo S.** (2014) The adaptive significance of egg attendance in a Southeast Asian treefrog. Society for Conservation Biology Asia Conference, Malacca, MALAYSIA.
4. **Poo S.** (2013) Parental care of a Southeast Asian treefrog, *Chiromantis hansenae*. Biological Sciences Graduate Congress, Bangkok, THAILAND.

[Best Oral Presentation]

3. **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.
2. **Poo S.** (2010) Parental Care in a Southeast Asian Amphibian. Association for Tropical Biology and Conservation Annual Meeting, Bali, INDONESIA.
1. **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.

HONORS

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

PROFESSIONAL AFFILIATIONS & SERVICES

Editor	Herpetological Conservation Biology
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	Biological Conservation, Behavioral Ecology, Biotropica, Ecology and Evolution, Ethology, Ethology Ecology and Evolution, Evolutionary Ecology, Herpetological Conservation and Biology, Herpetological Review, Hydrobiologia, Journal of Ethology, Pakistan Journal of Zoology, PLOS ONE, Scientific Reports, The Herpetological Bulletin, Zoo Biology, ZooKeys.
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)

LANGUAGE & CITIZENSHIP

Chinese (Mandarin)	Native. Professional.	Citizenships:	Taiwan
English	Fluent. Professional.		U.S.A.

STUDENTS MENTORED

Middle School	Catherine Carney
High School	Helen Gillespie Erin Monroe
College	Erica Carcelén Connor Leggett Sankar Ananthanarayanan Maggie Wang Julianna Szuwalski Jill Healy Isobel Correia Maryella Cohn Karen Candia Amanda Cheang Rachel Snyder Brittany Nunn Mariah Mack Kameron Hall Maddy Yde Tyler Tobias Tyler Pina
Graduate	Alyssa Hartzheim Jennifer Terry