

SINLAN POO, PH.D.

CURATOR OF RESEARCH

Department of Conservation and Research, Memphis Zoo

ADJUNCT RESEARCH FACULTY

Department of Biological Sciences, Arkansas State University

Email: sheilapoo@gmail.com Cell phone: +1(617) 401-8186 Website: www.sheilapoo.com

PROFESSIONAL POSITIONS

CURATOR OF RESEARCH	Memphis Zoo	2022-Present
ADJUNCT ASSISTANT PROFESSOR	Arkansas State University	2019-Present
Director of Conservation	Detroit Zoo	(Declined)
Senior Research Scientist	Memphis Zoo	2021-2022
Research Scientist	Memphis Zoo	2019-2021
Translator: Chinese (Oral & Written)	Contracted Service for Zoos	2016-2019
Post-doctoral Researcher	Memphis Zoo	2016-2019
Lecturer	National University of Singapore, 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, Singapore	2010-2015
Field Biologist	Santa Ana Watershed Association	2008-2009
Fish and Wildlife Scientific Aid	California Department of Fish and Game	2007-2008

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	2011-2014
Summer Program	University of Bordeaux – The Cluster of Excellence	2015

COMMITTEE SERVICES

2023-Present	Board of Governors	American Society of Ichthyologists and Herpetologists
	International Scientific Committee	World Congress of Herpetology
2022-Present	Executive Council, Board of Trustees	The Herpetologists' League
	Collections Committee	Memphis Museum of Science and History
	Diversity Committee	Herpetological Conservation Biology
2021-Present	Research Committee	Species 360
	Advisory Committee	Biodiversity Collections Network (BCoN)
	Diversity & Inclusion Committee	Memphis Zoo
2020-Present	Co-Founder & Organizer	Global Women in Herpetology Project
	Co-Founder & Organizer	Zoo-Museum Cross-Collections Initiative
2015-2016	Scientific Committee	Society for Conservation Biology, Asian Chapter

GRANTS & FUNDING (TOTAL \$206,486)

Pending	NSF-Research Coordination Network	NSF	(\$499,991)
----------------	--	-----	-------------

	National Leadership Grant	Institute of Museum and Library Services	(\$615,497)
2023	Donor Scholarship for Graduate Studies	Memphis Zoo	\$20,000
	Amphibian Conservation Grant	Josh's Frogs	\$500
	Conservation Action Network Grant	Memphis Zoo	\$3,975
2022	Symposium Grant	Herpetologists' League	\$2,000
	Symposium Grant	Soc. for Study of Amphibians and Reptiles	\$1,500
	Symposium Grant	Am. Soc. of Ichthyologists and Herpetologists	\$1,500
	Biological Collections Workshop Grant	Integrated Digitized BioCollections	\$34,500
	Conservation Action Network Grant	Memphis Zoo (3 grants)	\$20,631
2021	Conservation Grants Fund	Association of Zoos and Aquariums	\$21,644
	Conservation Action Network Grant	Memphis Zoo (3 grants)	\$17,335
2020	Biological Collections Workshop Grant	Integrated Digitized BioCollections	\$34,500
	Conservation Action Network Grant	Memphis Zoo (2 grants)	\$10,103
2019	Conservation Action Network Grant	Memphis Zoo	\$7,967
2018	Conservation Action Network Grant	Memphis Zoo (2 grants)	\$17,584
2017	Amphibian Taxon Advisory Group Grant	Association of Zoos and Aquariums	\$1,000
	Conservation Action Network Grant	Memphis Zoo (2 grants)	\$11,247
2007	Funded Research Opportunities Grant	Boston University	\$500

SELECT CURRENT PROJECTS

Blue = SP was a Lead/P.I.

Lead or P.I.	ZooMu Network: Integrating Zoos and Natural History Museums to Enhance Capacity for Biological Collections Research
	Global Women in Herpetology: A Collection of 50 Stories from 50 Countries
	Wildlife Emergency Medicine: Knowledge Transfer and In Situ Conservation in Sri Lanka
	Building a Conservation, Awareness, Research, and Education (CARE) Center in Sri Lanka
	Reintroduction and Monitoring of the Critically Endangered Dusky Gopher Frogs
	Cross-generational Effects of Captive Stress on Captive-release Amphibians
	Escape Hatching Behavior of a Southeast Asian Treefrogs in Thailand
Co-P.I. or	Amphibian Parasite Co-infections across Urban and Natural Forested Sites
	Linking and Leveraging Zoo Collections: Creation of the National Reptilian Immunology Database
Collab.	Ectoparasitic Lice of Flamingos: Diversity and Host-sharing in Zoos
	Fungal Diversity in Amphibian Fecal Samples
	Health and Demographics of Urban and Wild Red-eared Sliders
	Bi-Parental Care in an East Asian Amphibian in Taiwan
	Biodiversity Collection Network (BCoN): Building Community Consensus on the Future of Biodiversity Collections

SELECT PAST PROJECTS

2016-	Maximizing the Impact of Reintroductions: Post-Release Survival and Future Projections*
2022	Influence of Captive Microhabitat on Tortoise Physiology
	Conserving Critical Bat Pollinators in Malaysia
	Knowledge Transfer: Assisted Reproduction of Amphibians in Ecuador
	Captive Propagation and 'Community Science' Field Surveys of the Imperiled Gopher Frog (<i>Lithobates (Rana) capito</i>)
	Tadpole Behavioral Bootcamp: Increasing the Survival of Captive Amphibians*
	Effects of Age and Captive Environment on Sperm Quality in Amphibians
	Using Dermal Glucocorticoids to Determine the Effects of Disease and Environment on the Critically Endangered Wyoming Toad

Hibernation and Spermiation in an Endangered Temperate Amphibian

U.S. – China Zoo Professional Annual Exchange (2016-2019; on hold due to COVID)

Amphibian Sperm Cryopreservation

2010-2014 Parental Care and Predator-Prey Interactions in an Southeast Asian Amphibian

INVITED TALKS

Brown = Talk given in Mandarin Chinese

- 2024 University of Memphis – Center for Biodiversity Seminar
- 2023 Chinese Culture University (Taiwan) – Biology Department Seminar
University of Nottingham (Malaysia) – Sustainable Environmental Cluster Research Seminar
Society for the Preservation of Natural History Collections – Biodiversity Crisis Response Symposium
Kasetsart University (Thailand) – Animal Behavior Seminar
Society for the Study of Amphibians and Reptiles – Pre-College Scholars Program
Oklahoma State University – Biology Department Seminar
- 2022 UC Berkeley – Beyond Academia
Washington State University – College of Veterinary Medicine, Aquatics & Wildlife Diseases Association
Zoo Registrar Association – Annual Conference
Swarthmore College – Conservation Biology Class
University of Tennessee – College of Veterinary Medicine
Joint Meeting of Ichthyologists and Herpetologists – Diversity, Equity, and Inclusion Symposium
Rhodes College – Global Change Biology Class
Rhodes College – University Seminar Series
Fundación Herpetológica Gustavo Orcés (Ecuador) – Global Women in Herpetology
- 2021 The Amphibian Foundation – Master in Herpetology Class
- 2020 Universidad San Francisco de Quito (Ecuador) – University Seminar
Arkansas State University – Biology Department Seminar
- 2019 Jambatu Center for Amphibian Research and Conservation (Ecuador)
Universidad San Francisco de Quito (Ecuador) – Tropical Ecology Program
- 2018 Ordos Longsheng Safari Park (China) – Conservation Research in Zoos
- 2017 Shanghai International Conservation Festival (China) – Keynote Talk
Media coverage: [China News](#) | [Shanghai Xinhua News](#) | [Soho News](#)
Shanghai Zoo (China) – 融合研究與保護
- 2015 Lee Kong Chian Natural History Museum (Singapore) – Exhibit Video Interview: Amphibians [Video](#)

ORGANIZED WORKSHOPS & SYMPOSIUMS

4. **Organizer:** Zoo-Museum Research Symposium. Joint Meeting for Ichthyologist and Herpetologists, 2023.
3. **Organizer:** The Zoo-Museum Initiative. Panel at AZA Mid-Year Meeting, 2023.
2. **Organizer:** Bridging biological collections between zoos and museums. Workshop, 2022.
1. **Organizer & Host:** Linking and Leveraging Biological Collections: Zoos and Natural History Museums. Workshop, 2021.

BOOKS & BOOK CHAPTERS

5. **Poo S.** The Captain and the Frog. (2024) In M.L. Crump (Ed), Herpetologists' Tales From the Field. Cornell University Press. *Upcoming*.
4. Kolby JE, Borzée A, **Poo S**, Gonwouo NL, Kouamé NG, Shrestha B, Munoz A. Trade and sustainable use. In S. Wren, A. Borzée, R. Marcec-Greaves, A. Angulo (Eds.), *The Amphibian Conservation Action Plan (ACAP): A status review and roadmap*. ICUN. *In Review*.
3. Arifin U, Caviedes Solis IW, **Poo S.** (2023) Women in Herpetology: 50 Stories from Around the World. Lulu Press.

Media coverage: [Boston University](#) | [Purdue University](#) | [Swarthmore College](#) | [Natural History Museum of Berlin](#) | [University of Zurich](#) | [Wits University South Africa](#) | [University of Porto Portugal](#) | [HerpBuzz India](#)

2. Crump ML, Lannoo MJ. (2022). Women in Field Biology: A Journey into Nature (1st ed.). CRC Press. (Interviewed as one of 75 contemporary Field Biologists)
Media coverage: [Memphis Zoo News](#)
1. 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](#)

POPULAR SCIENCE MAGAZINES & OUTREACH

6. **Poo S**, et al. (2023) Can Freezing Frog Sperm Help with Conservation Efforts? *Current Conservation*. [Article](#)
5. **Poo S**. (2022) Scientist Spotlight. *Ichthyology and Herpetology*, 110 (4): 778-779.
4. **Poo S**. (2022) A Conservation Puzzle: How Research Can Be Used to Protect Endangered Species. *ExZOOberence*, 2022(5):8-9.
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](#)
Media coverage: [Journal Cover](#)

SCIENTIFIC PUBLICATIONS

Green = SP was corresponding author

Orange = Student or Technician

- **Malter TE**, **Strasbaugh RM**, Bogisich A, **Terry J**, **Saffle ET**, Devan-Song A, Neuman-Lee LA, **Poo S**. Cross-generational effects of captive stress on adults and their released offspring in an amphibian. *In Review*.
- Kam Y-C, **Lin Y-W**, Chuang M-F, **Poo S**. Maternal care of oophagous tadpoles indicate basal form of communal breeding in a phytotelm-breeding amphibian, *Kurixalus eiffingeri* (Anura: Rhacophoridae). *In Review*.
- **Hinkson KM**, **Poo S**. Comparative sperm morphology and quality within the Anuran subgenus *Nenirana*. *In Review*.
- Kam Y-C, **Fuh N-T**, Chuang M-F, **Poo S**. Sex-specific oviposition site selection and hatching success in an arboreal treefrog: implications of a paternal nest-site selection. *In Review*.
- 23. **Poo S**, **Candia AK**, Cohen KL, Erickson FT, Mason SA, Nissen BD, McNear AF, Reinig JJ, Sherrock JS, Aguiluz AR, Jacques LL, Jenkins HER, Devan-Song A. (2023) Hatching plasticity in a Southeast Asian treefrog mitigates submergence-induced mortality. *Biotropica*, 55:806-815. [PDF](#)
Media coverage: [AmphibiaWeb](#)
- 22. **Hartzheim AM**, **Terry JL**, **Field EK**, **Haydt NT**, **Poo S**, Neuman-Lee LA. (2023) Immune and stress physiology of two captivity-housed tortoise species. *Journal of Experimental Zoology Part A: Ecological and Integrative Physiology*, 339(2):220-233. [PDF](#)
Media coverage: [Memphis Zoo News](#)
- 21. **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, Blackburn 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. (2022) Bridging the research gap between live collections in zoos and preserved collections in natural history museums. *BioScience*, 72(5):449-460. [PDF](#)
Media coverage: [Journal Cover](#) | [Washington Post](#) | [Science Daily](#) | [Phys Org](#) | [Yale News](#) | [UNM News](#) | [OKC Visitor](#)
- 20. **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](#) | [AmphibiaWeb](#)
- 19. 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*, 41:354–359. [PDF](#)
- 18. 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](#)
- 17. **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](#)
16. **Hinkson KM, Poo S.** (2020) Inbreeding depression in sperm quality in a critically endangered amphibian. *Zoo Biology*, 39:197-204. [PDF](#)
 15. **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](#)
 14. **Poo S, Hinkson KM.** (2019) Applying cryopreservation to anuran conservation biology. *Conservation Science and Practice*, e91. [PDF](#)
 13. **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](#)
 12. **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](#)
 11. **Poo S & Low M-R.** (2018) Multiple male amplexus in *Feihyla hansenae* (Family: Rhacophoridae). *Herpetological Review*, 49(3):516-517. [PDF](#)
Media coverage: [Journal Cover](#)
 10. **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](#)
 9. **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](#)
 8. **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](#)
 7. **Poo S, Low M-R, Devan-Song A.** (2016) *Xenochrophis flavipunctatus* (Yellow-spotted keelback water snake): Diet. *Herpetological Review*, 47(2):319. [PDF](#)
 6. **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](#)
 5. **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](#)
 4. **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](#)
 3. **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](#)
 2. **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 Newsline](#) | [Asian Scientist](#) | [Science Codex](#) | [PhysOrg](#) | [Red Orbit](#) | [NUS News](#) | [NUS Knowledge Enterprise](#) | [Asian Journal of the Scholarship of Teaching and Learning](#)
 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](#)

SPECIES NAMESAKE HONORARIA

2. ***Caiusa pooae* (Family: Calliphoridae)**
Species described by Rognes K. (2015) *Zootaxa* 3952 (1): 001-080. [PDF](#)
1. ***Striatosedulia pooae* (Family: Acrididae)**
Species described by Tan M.K. *et al* (2017) *Far Eastern Entomologist*, 333: 1-9. [PDF](#)

SELECT CONFERENCE PRESENTATIONS

- 2021 **Linking and Leveraging Zoos and Natural History Museums Workshop** – Opening Talk
- 2020 **World Congress of Herpetology (New Zealand)** – Fitness and Captive-release Programs
- 2019 **Joint Meeting of Ichthyologists and Herpetologists** – Ex Situ Conservation
Joint Meeting of Ichthyologists and Herpetologists – Cryopreservation
- 2018 **International Society for Behavioral Ecology** – Life-history Tradeoffs
Joint Meeting of Ichthyologists and Herpetologists – Cryopreservation
Gordon Research Conference: Predator Prey Interactions – Life-skills Training for Amphibians

- 2017 **Animal Behavior Society (Canada)** – Oviposition Site-selection
Joint Meeting of Ichthyologists and Herpetologists – Bi-parental Care [**Best Lightning Oral Presentation**]
International Ethological Conference (Portugal) – Predation and Breeding-site Selection
Society for Integrative and Comparative Biology – Predation and Breeding-site Selection
- 2016 **Animal Behavior Society** – Predation and Breeding-site Selection
- 2014 **Ecological Society of America** – Predator and Parental Care
International Society for Behavioral Ecology – Adaptive Significance of Egg Attendance
Society for Conservation Biology (Malaysia) – Adaptive Significance of Egg Attendance
- 2013 **Biological Sciences Graduate Congress (Thailand)** – Amphibian Parental Care [**Best Oral Presentation**]
- 2011 **Biological Science Research Lab Talks (Singapore)** – Evolutionary Ecology and Conservation
- 2010 **Association for Tropical Biology and Conservation (Indonesia)** – Amphibian Parental Care
- 2007 **Biology Research for Distinction Symposium** – Embryonic Development

SCHOLARSHIPS & AWARDS (TOTAL \$141,250)

2015	Student Scholarship	University of Bordeaux, France	\$1,200
2014	Travel Award	National University of Singapore	\$700
	Extended Graduate Research Scholarship	National University of Singapore	\$5,400
2010-2014	Singapore International Graduate Award	A*STAR, Singapore	\$77,000
2007	Senior Book Award in Biology	Boston University	\$3,500
2004-2007	Ester Chandler Scholarship	Boston University	\$10,000
	Boston University Grant	Boston University	\$43,450

HONORS

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

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)

LANGUAGES

Chinese (Mandarin)	Native. Professional.
English	Native. Professional.