

# SAMANTHA H. CHENG, Ph. D.

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[www.chengresearchgroup.wordpress.com](http://www.chengresearchgroup.wordpress.com)

## EDUCATION

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### **Ph.D. in Biology, Department of Ecology and Evolutionary Biology** (2010-2015)

- University of California, Los Angeles.
- *Dissertation: Evolution and Population Genomics of Loliginid Squids*

### **B.A. Organismal Biology and Ecology** (2005-2009)

- Scripps College (Claremont University Consortium)

## EMPLOYMENT

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**Biodiversity Scientist** – Center for Biodiversity & Conservation, American Museum of Natural History Feb 2019-present

- Research agenda focuses on translating science to policy, monitoring and evaluation, applying technological approaches to evidence assessments, marine biodiversity, marine population genetics/genomics

**Assistant Research Professor** – School of Life Sciences, Arizona State University Oct 2017 – Feb 2019

**Associate Director for Conservation Evidence** - Center for Biodiversity Outcomes, Julie Ann Wrigley Global Institute of Sustainability, Arizona State University

**Co-Director** – Conservation Solutions Lab, Julie Ann Wrigley Global Institute of Sustainability, Arizona State University

- Led research in evidence synthesis and knowledge exchange between science and action in conservation
- Provides strategic leadership for program planning, fundraising, and operations
- Supervises interdisciplinary teams of researchers on applied conservation research projects and contracts with external stakeholders
- Develops curriculum for applied conservation learning and skills
- Co-Director of the Conservation Solutions Lab initiative, a joint collaboration between ASU and Chemonics on designing community engagement in biodiversity conservation

**Postdoctoral Fellow** – SNAPP, NCEAS, University of California Santa Barbara Jan 2016 – Sept 2017

- Conducted research on impacts of conservation on human well-being, and improving evidence-based conservation practices and tools as part of the SNAPP Evidence-Based Conservation working group ([www.snapppartnership.net/groups/evidence-based](http://www.snapppartnership.net/groups/evidence-based))
- Built and launched interactive data visualization platform, Evidence for Nature and People Data Portal ([www.natureandpeopleevidence.org](http://www.natureandpeopleevidence.org)) to communicate data on conservation-human well-being linkages
- Coordinated and liaised with working group partners, including NGOs, academic institutions, data scientists and developers
- Planned, coordinated, and convened workshops with representatives from NGOs, government agencies, academic institutions, and developers

**Consultant** – Data visualization and database creation 2016 - present

- Provides data services including project scoping, conceptualization and design, stakeholder consultation, platform and visualization coding and delivery for big datasets in conservation
- Clients include Mistra EviEM (Swedish government) and Collaboration for Environmental Evidence

**Consultant** - Monitoring & Evaluation, Evidence Assessments 2013 – present

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- Leads evidence synthesis project assessing effectiveness of different conservation/development strategies to inform programmatic strategies for achieving ecological and human well-being outcomes
- Provides expert guidance for using evidence synthesis methodologies for evidence-based conservation practices through webinars, seminars, and discussions
- Supervises interdisciplinary research teams
- Provides leadership and coordination for convening meetings, negotiations, and discussions around impact evaluation and evidence assessment projects
- Communicates findings to broader audiences
- Clients include the Program on Forests (PROFOR, World Bank Group), Conservation International, World Wildlife Fund (WWF-US)

### AWARDS & HONORS

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**Fulbright Fellowship**, Indonesia (2009-2010)

**Pauley Fellowship**, UCLA (2010-2012)

**National Science Foundation Graduate Research Fellowship (GRFP)** (2011-2014)

**APEC ASPIRE Award**, US Finalist (2013)

**AAAS Science and Technology Policy Fellowship (STPF)** (declined) (2017)

### SOFTWARES AND TOOLS

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**Colandr** – co-founder, co-director 2017 - present

- A machine learning and natural language processing software platform for evidence synthesis
- [www.colandrapp.com](http://www.colandrapp.com)

**Evidence for Nature and People Data Portal** – co-founder, director 2016-present

- Interactive data visualization platform designed to communicate data from evidence syntheses on links between nature and people
- [www.natureandpeoplevidence.org](http://www.natureandpeoplevidence.org)

### SELECTED PUBLICATIONS

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**Cheng, S.H.**, Macleod, K., Ahlroth, S., Onder, S., Perge, E., Shyamsundar, P., Rana, P., Garside, R., Kristjanson, P., McKinnon, M.C., Miller, D.M. (2019). A systematic map of evidence on the contribution of forests to poverty alleviation. *Environmental Evidence* 8(1) <https://doi.org/10.1186/s13750-019-0148-4>

Willette, D.A., **Cheng, S.H.**, Greenberg, J., Barber, P.H. (2018). Rethinking solutions to seafood fraud. *Frontiers in Ecology and Evolution* 16(9): 499-500.

**Cheng, S.H.**, Augustin, C., Bethel, A., Gill, D., Anzaroot, S., Brun, J., DeWilde, B., Minnich, R.C., Garside, R., Masuda, Y.J., Miller, D.C., Wilkie, D., Wongbusarakum, S., and M.C. McKinnon. (2018). Using machine learning to advance synthesis and use of conservation and environmental evidence. *Conservation Biology*. Accepted Author Manuscript. doi:10.1111/cobi.13117

Westgate, M.J., Haddaway, N.R., **Cheng, S.H.**, McIntosh, E.J., Marshall, C., and D.B. Lindenmayer. (2018) Software support for environmental evidence synthesis. *Nature Ecology & Evolution* 2(4): 588.

Simmonds SE, Chou V, **Cheng SH**, Rachmawati R, Calumpang HP, Mahardika GN. (2018). Evidence of host-associated divergence from coral-eating snails (genus *Coralliophila*) in the Coral Triangle. *Coral Reefs*: 1-17

Willette DA, **Cheng SH**. (2017). Delivering on seafood traceability under the new U.S. import monitoring program. *Ambio*. <https://doi.org/10.1007/s13280-017-0936-4>

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**Cheng SH**, Ahlroth S, Onder S, Shyamsundar P, Garside R, Kristjanson P, McKinnon MC, Miller DC. (2017) What is the evidence for the contribution of forests to poverty alleviation?: A systematic map protocol. *Environmental Evidence* **6**: 10

Miles MC, **Cheng SH**, Fuxjager MJ. (2017) Biogeography predicts macro-evolutionary patterning of gestural display complexity in a passerine family. *Evolution*. doi:10.1111/evo.13213

Willette DA, Simmonds SE, **Cheng SH**, Esteves S, Kane TL, Nuetzel H, Pilaud N, Rachmawati R and Barber PH. 2017. Using DNA barcoding to track seafood mislabeling in Los Angeles restaurants. *Conservation Biology*. doi:10.1111/cobi.12888

**Cheng SH**, Robinson JE, Cox N, Biggs D, Olsson A, Mascia M, McKinnon M. 2017. Evaluating the effectiveness of international wildlife trade programs and policies on species conservation and livelihoods: an evidence map. *Betty and Gordon Moore Center for Science Working Paper 1*. Arlington, VA: Conservation International

Althor G, McKinnon MC, **Cheng SH**, Klein C, Watson J. 2016. Systematic Review Protocol: Does the social equitability of community and incentive based conservation interventions in non-OECD countries, affect human well-being? *Environmental Evidence* **5(26)**. DOI: 10.1186/s13750-016-0078-3

McKinnon MC, **Cheng SH**, Butterfield R, Dupre S, Edmond J, Garside R, Glew L, Holland MB, Levine E, Masuda YJ, Miller DC, Oliveira I, Revenaz J, Roe D, Shamer S, Wilkie D, Wongbusarakum S, Woodhouse E. (2016) What are the effects of nature conservation on human well-being? A systematic map of empirical evidence from developing countries. *Environmental Evidence* **5(8)**: 1-25

McKinnon MC, **Cheng SH**, Garside R, Masuda YJ, Miller DC. (2015) Map the evidence. *Nature* **528**: 185-188

Anderson FE, Bergman A, **Cheng SH**, Pankey MS, Valinassab Y. (2014) Lights out: the evolution of bacterial bioluminescence in Loliginidae. *Hydrobiologia* **725(1)**: 189-203

**Cheng SH**, Anderson FE, Bergman A, Mahardika GN, Muchlisin ZA, Thuy DB, Calumpong HP, Mohamed KS, Sasikumar G, Venketesan V, Barber PH. (2014) Molecular evidence for co-occurring cryptic lineages within the *Sepioteuthis* cf. *lessoniana* species complex in the Indian and Indo-West Pacific Oceans. *Hydrobiologia* **725(1)**: 165-188

Muchlisin ZA, Zulkarnaini B, Purnawan S, Muhadjier A, Fadli F, **Cheng SH**. 2014. Morphometric variations of three species of harvested cephalopods found in northern sea of Aceh Province, Indonesia. *Biodiversitas* **15(2)**: 142-146

Barber PH, **Cheng SH**, Erdmann MV, Tenggardjaja K, Ambariyanto (2011) Evolution and conservation of marine biodiversity in the Coral Triangle: Insights from stomatopod Crustacea in Phylogeography and Population Genetics of Crustacea in Crustacean Issues: CRC Press

### PROFESSIONAL AFFILIATION AND SERVICES (ACTIVE)

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**Editorial Board Member** - Environmental Evidence (journal)

**Evidence Synthesis Technology Working Group** – co-lead

**Conservation Genetics Working Group** - Society for Conservation Biology

**Cephalopod International Advisory Council**

**Alliance for Conservation Evidence and Sustainability** – member

**Impact Evaluation Working Group** – Society for Conservation Biology

**Conservation Culturomics Provisional Working Group** – Society for Conservation Biology