

# YUNYI SHEN

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## EDUCATION

PERIOD	<b>November 2019 — May 2021</b>	
DEGREE	<b>Master of Science in Statistics</b>	
INSTITUTE	<b>University of Wisconsin-Madison</b>	Madison, USA
PERIOD	<b>August 2018 — May 2021</b>	
DEGREE	<b>Master of Science in Wildlife Ecology</b>	
INSTITUTE	<b>University of Wisconsin-Madison</b>	Madison, USA
PERIOD	<b>August 2014 — July 2018</b>	
DEGREE	<b>Bachelor of Science in Integrated Science/Physical Biology</b>	
INSTITUTE	<b>Peking University</b>	Beijing, China

## PUBLICATIONS AND PREPRINTS

YEAR **2021**

### Working Papers

- [1] **Yunyi Shen** Claudia Solís-Lemus, and Sameer K. Dashpende (2021+) "Sparse Gaussian Chain Graph Learning using the Spike-and-Slab LASSO"
- [2] **Yunyi Shen**, and Sameer K. Dashpende (2021+) "Multivariate Spike-and-Slab Group LASSO regressions"

### Preprints

- [1] **Yunyi Shen** and Claudia Solís-Lemus (2020) "Bayesian Conditional Auto-regressive LASSO to learn sparse network with predictors" *arXiv (under review of Annals of Applied Statistics)*
- [2] **Yunyi Shen** and Claudia Solís-Lemus (2021) "The Effect of the Prior and the Experimental Design on the Inference of the Precision Matrix in Gaussian Chain Graph Models" *arXiv (submitted to Bayesian Analysis)*
- [3] **Yunyi Shen** and Claudia Solís-Lemus (2021) "CARlasso: An R package for the estimation of sparse microbial networks with predictors" *arXiv*

### Peer-reviewed

- [1] **Yunyi Shen\***, Erik Olsen and Timothy Van Deelen (2021) "Spatially Explicit Modeling of Community Occupancy using Markov Random Field Models with Imperfect Observation: Mesocarnivores in Apostle Islands National Lakeshore" *Ecological Modelling* 109712
- [2] **Yunyi Shen**, Mingzhang Liu, Dajun Wang, Xiaoli Shen and Sheng Li (2021) "Using an integrative mapping approach to identify the distribution range and conservation needs of a large threatened mammal, the Asiatic black bear, in China." (*Global Ecology and Conservation*, e01831)

YEAR **2019**

Peer-reviewed

- [1] Jianping Yu, **Yunyi Shen**, Xiaoyou Song, Xiaonan Chen, Sheng Li, and Xiaoli Shen (2019) "Evaluating the effectiveness of the functional zones for the protection of black muntjac (*Muntiacus crinifrons*) in Qianjiangyuan National Park" *Biodiversity*(in Chinese)

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CONFERENCE PRESENTATIONS AND POSTERS

YEAR **2020**

- [1] **Yunyi Shen**, Dwayne Etter, Tim Van Deelen, "Age structure effects and population control in urban/suburban white-tailed deer, Chicago, IL 1992-2006" *2020 Midwest Fish and Wildlife Conference*

YEAR **2019**

- [1] Dwayne Etter, John Humphreys, Tim Van Deelen, Gary Roloff, **Yunyi Shen** "Managing White-tailed Deer Under a Newly Evolving Paradigm: A Demonstration of the Effects of Density-Dependence" *2019 annual TWS conference*

YEAR **2017**

- [1] **Yunyi Shen**, Dajun Wang, Sheng Li "Identify critical knowledge gap and conservation needs of Asiatic Black Bear through high-resolution mapping" *Chinese Chapter of SCB Annual Conference 2017* Best graduate student presentation award

YEAR **2016**

- [1] Jinlin Chen, Xi'er Chen, Haowen Liu, **Yunyi Shen**, Yichao Zeng, Lijie Yin "Biodiversity survey in Chongzuo examined effects of the white-headed langur (*Trachypithecus leucocephalus*) as a flagship species on habitat conservation" *Conservation of China's Tropical Diversity* (Poster)

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SOFTWARE PACKAGES

TITLE **CARlasso** (CRAN)  
 DESCRIPTION Conditional Autoregressive LASSO with its extensions.  
 TITLE **linconGaussR** (CRAN)  
 DESCRIPTION Sampling multivariate Gaussian distribution under linear domain constraint.  
 TITLE **robustcov** (CRAN)  
 DESCRIPTION Collection of robust (sparse) precision matrix estimators.

TITLE **IsingOccu** (GitHub)  
 DESCRIPTION Gibbs sampler for a zero-inflated auto-logistic model with an auto-logistic zero-inflation process.

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## JOURNAL REFEREE

Ecosphere, Biodiversity & Conservation

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## PROFESSIONAL POSITIONS

PERIOD	<b>January 2019 — December 2019</b>	
EMPLOYER	<b>Qianjiangyuan National Park</b>	Zhejiang China
TITLE	<b>Statistical Consultant</b>	
	Black muntjac population and distribution modeling	
PERIOD	<b>June 2017 — July 2018</b>	
EMPLOYER	<b>Peking University Biology Museum</b>	Beijing China
TITLE	<b>Docent</b>	
	Science communication manuscript writing, automatic guiding system construction, guide visitors	

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## OUTREACH

YEAR	<b>2021</b>	
ACTIVITY	PBS Meet the Lab	Madison, WI
POSITION	the "Data Scientist"	
	Communicate and guide K-12 student learn about research and data science	
YEAR	<b>2016</b>	
EMPLOYER	<i>Bo Wu</i> (Chinese National Geography Magazine)	Beijing China
POSITION	Editor	
	Edit science communication manuscripts	

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## AWARDS AND SCHOLARSHIPS

YEAR	<b>2020</b>	
AWARD	Finalist of Janice Lee Fenske Memorial Award of TWS	IL U.S.A.
YEAR	<b>2019</b>	
AWARD	Conservation Leader for Tomorrow Scholarship	IL U.S.A.
YEAR	<b>2017</b>	
AWARD	Peking University Annual Award in Social Works	Beijing, China
YEAR	<b>2013</b>	
AWARD	Silver Medal in Chinese Chemistry Olympiad	Beijing, China

TEACHING

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SEMESTER	<b>Fall 2019</b>		
INSTITUTE	UW Madison		
COURSE	<b>General Chemistry (CHEM 103)</b>		<b>TA</b>
SEMESTER	<b>Spring 2019</b>		
INSTITUTE	UW Madison		
COURSE	<b>General Chemistry (CHEM 104)</b>		<b>TA</b>
SEMESTER	<b>Spring 2018</b>		
INSTITUTE	Peking University		
COURSE	<b>English as Second Language for Non-Academic Staffs</b>	<b>Instructor</b>	
SEMESTER	<b>Fall 2017 &amp; Fall 2016</b>		
INSTITUTE	Peking University		
COURSE	<b>Evolution of Human Intelligence</b>		<b>TA</b>
SEMESTER	<b>Spring 2016</b>		
INSTITUTE	Peking University		
COURSE	<b>Undergraduate Seminar in Genetics</b>		<b>TA</b>
SEMESTER	<b>Summer 2015 &amp; Summer 2014</b>		
INSTITUTE	Xi'an No.1 (2015)/Tieyi (2014) High School		
COURSE	<b>Chinese Chemistry Olympiad (CChO)</b>	<b>Instructor</b>	