Hyun Seok Yoon

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Education

University of Tennessee, Knoxville | Knoxville, TN
Ph.D. | 05/2024
Major: Ecology and Evolutionary Biology

Cornell University | Ithaca, NY
Bachelor of Science | 05/2017
Magna cum laude. Major: Biology; Minor: Natural Resources. (GPA: 3.82; Dean's list)

Publications

Academic peer-reviewed journal publication:

- (in review) Yoon, H. S., Armsworth, P. R. (2024). The Role of Wealth Inequality in Community Management of a Common-pool Resources through Voluntary Sanctioning. People and Nature.
- (in review) Henriëtte, J., Manning, K., Welch J. N., Corsi F., Miara A., **Yoon, H. S.**, McManamay R. A., Kao S., Kusnierz P. C., Gangrade S. (2024) Indicators of thermal alteration in US waters reveal patterns of climate risk at the energy-water nexus. Ecological Indicators.
- Yoon, H. S., Vijay, V., & Armsworth, P. R. (2022). Accounting for spatial heterogeneity in the added conservation value of land protection when prioritizing protected areas. Conservation Biology, 36(5).
- Yoon, H. S., & Armsworth, P. R. (2022). Timing land protection to exploit favorable market conditions. Biological Conservation, 270.
- Gibson, N. L., Green, E. A., Herrera-R, G. A., Love, S. J., Turner, S. C., Weatherton, M., Faidiga, A. S., Luo, A. R., Ngoh, M. L., Shershen, E., Yoon, H. S., & Blum, M. J. (2021). Toward an ecology of disasters: a primer for the pursuit of ecological research on disasters. Ecology and Society, 26(4).
- Winkler, D. W., Hallinger, K. K., Pegan, T. M., Taff, C. C., Verhoeven, M. A., Chang van Oordt, D., Stager, M., Uehling, J. J., Vitousek, M. N., Andersen, M. J., Ardia, D. R., Belmaker, A., Ferretti, V., Forsman, A. M., Gaul, J. R., Llambias, P. E., Orzechowski, S. C., Shipley, J. R., Wilson, M., & **Yoon, H. S.** (2020). Full lifetime perspectives on the costs and benefits of lay‐date variation in tree swallows. Ecology, 101(9).
- Getz, W. M., Salter, R., Muellerklein, O., **Yoon, H. S.**, & Tallam, K. (2018). Modeling epidemics: A primer and Numerus Model Builder implementation. Epidemics, 25, 9–19.

Other Publications:

- Yoon, H. (2017). Effect of Temperature on Nematocera Flying Population Dynamics. Cornell Biology Honors Booklet.
- Carlson, C. J., Muellerklein, O. C., Phillips, A. J., Burgio, K. R., Castaldo, G., Cizauskas, C. A., Cumming, G., Dallas, T. A., Doña, J., Miao, Z., Proctor, H., **Yoon, H. S.**, & Getz, W. M. (2017). The Parasite Extinction Assessment & Red List: an open-source, online biodiversity database for neglected symbionts. BioRxiv, 192351.
- Yoon, H. (2011). Boy Asks for the Path on a Tideland - Essay on the Perspective of a Youth on Saemangeum Tideland Conservation Movement Against the Land Reclamation Project . Ddein-dol.*Korean Publication

Grants and Fellowship

- Graduate Student Senate Travel Award (2020 August); Awarded by Ecology and Evolutionary Biology Department of University of Tennessee; $750
- Graduate Student Senate Travel Award (2021 April); Awarded by Ecology and Evolutionary Biology Department of University of Tennessee; $960
- Ecology and Evolutionary Biology Departmental Research Grant (2021 May); Awarded by Ecology and Evolutionary Biology Department of University of Tennessee;$2447
- Graduate Research Assistantship; Awarded by Oak Ridge National Lab (2022 January); Tuition and Stipend for 2022 Spring.
- U.S. Department of the Interior Southeast Climate Adaptation Science Center Graduate Student Research Award (2022 January); Awarded by Southeast Climate Adaptation Science Center (SECASC); $1500
- Graduate Advancement & Training Education fellowship (2022 May); Awarded by The University of Tennessee-Oak Ridge Innovation Institute (UT-ORII); Tuition, health insurance, and stipend ($30,000) for 2022 Fall and 2023 Spring.

- Renewal of Graduate Advancement & Training Education fellowship (2023 Feb); Awarded by The University of Tennessee-Oak Ridge Innovation Institute (UT-ORII); Tuition, health insurance, and stipend ($30,000) for 2023 Fall and 2024 Spring.

Awards

- Minister Award from Korea Ministry of Oceans and Fisheries (March 2009)
- People who Brightened the World from Korea Green Foundation (Dec 2011)
- Bachelor of Science with Distinction in Research (May 2017)
- Tom Hallam award for "Outstanding Graduate Student with interest in Math Ecology or Environmental Ecology" (May 2022)

Presentations

(Poster) Yoon, H., Vijay, V., Armsworth, P. Timing land protection to exploit favorable market conditions. North American Congress for Conservation Biology; July 2020; Remote.

(Presentation) Yoon, H., Vijay, V., Armsworth, P. Accounting for spatial heterogeneity in the added conservation value of land protection when prioritizing protected areas. North American Congress for Conservation Biology; July 2022; Reno, NV.

(Seminar Presentation) Yoon, H., Webinar: Strategizing Landscape Conservation over Space and Time. Keep It Colorado (non-profit land trust organization); March 2023; Remote

Workshop:

Yoon, H. Using Maxent for Ecological Niche Modeling. Aug 2023; Kangwon National University: I organized and conducted the workshop discussed general methods and theories on Ecological Niche Modeling and the Maxent algorithm followed by hands-on exercise running the Maxent in R. Around 20 people attended the workshop.

Skills

- Species Distribution Modeling
- Mathematical process-based modeling (ODE, matrix models, linear/non-linear programming, stochastic dynamic programming, optimal control, game theory, etc.)
- Statistical and machine learning modeling
- Spatial data analysis
- Full stack web development
- Fluent in Korean and English
- Proficient in R, Python, MATLAB, C, Unix shell, QGIS, ArcGIS, JavaScript, HTML/CSS, OpenMP, and TensorFlow
- High performance computing (parallel computing techniques, utilizing computing clusters, etc.)

Certificates

- Bachelor of Science with Distinction in Research (May 2017)
- Udacity Full Stack Web Development Nanodegree (Oct 2017)
- Udacity Full Stack Deep Learning Nanodegree (Feb 2018)
- National Outdoor Leadership School Diploma from Wilderness Semester in Patagonia (Dec 2014)
- PADI Advanced Diving (Aug 2015)
- AIARE Avalanche Training Level 1 (Jan 2017)

Work Experience

Oak Ridge National Lab and University of Tennessee | Knoxville, TN
Researcher | 01/2022 - Present
Paid on graduate research assistantship and fellowship to research on the effect of climate change and reservoirs of hydropower plants on freshwater fish and mussel distribution in the coterminous United States. Research was conducted on the advisory of Dr. Paul Armsworth and Dr. Henriëtte Jager.

University of Tennessee, Knoxville | Knoxville, TN
Graduate Teaching Assistant (GTA) | 08/2019 - 12/2021
Served as a graduate teaching assistant for classes, such as Introductory Biology, Conservation Biology, and Genetics.

Oak Ridge National Lab Graduate Student Opportunity (GSO) Program | Oak Ridge, TN
Intern | 07/2021 - 08/2021
Started research on the effect of power plants and climate change in the distribution shift of freshwater species. Gathered species occurrence data and environmental data to run species distribution modeling that would predict the distribution of freshwater fish and mussel. Also communicated with collaborators at CUNY to obtain and process the environmental data.

Yuseob Lab | Ewha Woman's University | Seoul
Research Assistant | 11/2017 - 05/2019
Worked in a theoretical population genetics lab studying the evolution of sexual reproduction in RNA viruses.

Meritz Securities Co., Ltd | Seoul
Intern | 02/2018 - 02/2018
Attended the winter internship program at Meritz financial group and learned the basics of accounting, trading, financial history, and leadership skills.

Greenfly Marketing | Seoul
Assistant | 10/2017 - 11/2017
Worked as an assistant to an online affiliate marketing freelancer. Learned search engine optimization techniques and researching websites with a link index database.

Getz Lab | University of California, Berkeley | Berkeley
Research Assistant | 06/2017 - 09/2017
Developed a web application that featuring the Parasite Extinction Application and Red List (PEARL) research. Also created online video tutorials for Numerus Model Builder, a model building and analysis software tool for prototyping, classroom teaching, and optimization.

Winkler Lab | Cornell University | Ithaca, NY
Undergraduate Research Assistant | 05/2013 - 07/2016
Participated in a longitudinal study capturing and recording various morphological features and collected blood samples from Tree Swallows (Tachycineta bicolor) at an experimental field station under the supervision of professor David Winkler.