

## Hao Ye

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EDUCATION	Ph.D., Oceanography M.S., Oceanography M.A., Psychology <i>University of California, San Diego</i>  B.S. (with honors), Computer Science <i>California Institute of Technology</i>	2015 2011 2007  2006
EMPLOYMENT	Postdoctoral Associate, Moore Data Fellow <i>University of Florida</i>  Postdoctoral Scholar <i>University of California, San Diego</i>	2017 - present  2015 - 2017
PUBLICATIONS	<a href="http://scholar.google.com/citations?user=8hToXlwAAAAJ&amp;hl=en">http://scholar.google.com/citations?user=8hToXlwAAAAJ&amp;hl=en</a>  2019, Christensen, E.M., Yenni, G.M., <b>Ye, H.</b> , Simonis, J.L., Bledsoe, E.K., Diaz, R., Taylor, S.D., White, E.P., and S.K.M. Ernest. portalr: an R package for summarizing and using the Portal Project Data. <i>Journal of Open Source Software</i> <b>4(33)</b> , 1098, <a href="https://doi.org/10.21105/joss.01098">https://doi.org/10.21105/joss.01098</a> .  2019, Pennekamp, F., Iles, A., Garland, J., Brennan, G., Brose, U., Gaedke, Ursula, J., Ute, K., P., Matthews, B., Munch, S., Novak, M., Palamara, G. M., Rall, B., Rosenbaum, B., Tabi, A., Ward, C., Williams, R., <b>Ye, H.</b> , and O. Petchey. The intrinsic predictability of ecological time series and its potential to guide forecasting. <i>Ecological Monographs</i> [ <i>in press</i> ], <a href="https://doi.org/10.1002/ecm.1359">https://doi.org/10.1002/ecm.1359</a> .  2018, Sugihara, G., Criddle, K.R., McQuown, M., Giron-Nava, A., Deyle, E., James, C., Lee, A., Pao, G., Saberski, E., <b>Ye, H.</b> . Comprehensive incentives for reducing Chinook salmon bycatch in the Bering Sea walleye Pollock fishery: Individual tradable encounter credits. <i>Regional Studies in Marine Science</i> <b>22</b> : 70-81.  2018, Deyle, E., Schueller, A., <b>Ye, H.</b> , Pao, G. M., and G. Sugihara. Ecosystem-based forecasts of recruitment in two menhaden species. <i>Fish and Fisheries</i> <b>19</b> : 769-781.  2018, Ushio, M., Hsieh, C.H., Masuda, R., Deyle, E., <b>Ye, H.</b> , Chang, C.W., Sugihara, G., and M. Kondoh. Fluctuating interaction network and time-varying stability of a natural fish community. <i>Nature</i> <b>554</b> : 360-363.	

- 2017, Giron-Nava, A., James, C., Johnson, A., Dannecker, D., Kolody, B., Lee, A., Nagarkar, M., Pao, G., **Ye, H.**, Johns, D.G., and G. Sugihara. Quantitative argument for long-term ecological monitoring. *Marine Ecology Progress Series* **572**: 269-274.
- 2017, McGowan, J.A.\*, Deyle, E.R.\*, **Ye, H.\***, Carter, M.L., Perretti, C.T., Seger, K.D., de Verneil, A., and G. Sugihara\*. Prediction of coastal algal blooms in Southern California. *Ecology* **98**: 1419-1433. (\* = co-first authors)
- 2017, Storch, L.S., Glaser, S.M., **Ye, H.**, and A.A. Rosenberg. Stock assessment and end-to-end ecosystem models alter dynamics of fisheries data. *PLOS ONE* **12**: e0171644.
- 2016, **Ye, H.**, and G. Sugihara. Information leverage in interconnected ecosystems: Overcoming the curse of dimensionality. *Science* **353**: 922-925.
- 2015, **Ye, H.**, Deyle, E.R., Gilarranz, L.J., and G. Sugihara. Distinguishing time-delayed causal interactions using convergent cross mapping. *Scientific Reports* **5**: 14750.
- 2015, van Nes E.H., Scheffer, M., Brovkin, V., Lenton, T.M., **Ye, H.**, Deyle, E., and G. Sugihara. Causal feedbacks in climate change. *Nature Climate Change* **5**: 445-448.
- 2015, Clark, A.T., **Ye, H.**, Isbell, F., Deyle, E.R., Cowles, J., Tilman, D., and G. Sugihara. Spatial ‘convergent cross mapping’ to detect causal relationships from short time-series. *Ecology* **96**: 1174-1181.
- 2015, **Ye, H.**, Sugihara, G., Hsieh, C.H., Glaser, S.M., Grant, S.C.H., Richards, L.J., Schnute, J.T., and R.J. Beamish. Equation-free mechanistic ecosystem forecasting using empirical dynamic modeling. *Proceedings of the National Academy of Sciences* **112**: E1569-E1576.
- 2014, Liu, H., Fogarty, M.J., Hare, J.A., Hsieh, C.H., Glaser, S.M., **Ye, H.**, Deyle, E., and G. Sugihara. Modeling dynamic interactions and coherence between marine zooplankton and fishes linked to environmental variability. *Journal of Marine Systems* **131**: 120-129.
- 2014, Glaser, S.M., **Ye, H.**, and G. Sugihara. A nonlinear, low data requirement model for producing spatially-explicit fishery forecasts. *Fisheries Oceanography* **23**: 45-53.
- 2014, Glaser, S.M., Fogarty, M.J., Liu, H., Altman, I., Hsieh, C.H., Kaufman, L., MacCall, A.D., Rosenberg, A.A., **Ye, H.**, and G. Sugihara. Complex dynamics may limit prediction in marine fisheries. *Fish and Fisheries* **15**: 616-633.
- 2013, Deyle, E., Fogarty, M., Hsieh, C.H., Kaufman, L., MacCall, A., Munch, S., Perretti, C., **Ye, H.**, and G. Sugihara. Predicting climate effects on Pacific sardine. *Proceedings of the National Academy of Sciences* **110**: 6430-6435.
- 2012, Sugihara, G., May, R., **Ye, H.**, Hsieh, C.H., Deyle, E., Fogarty, M., and S. Munch. Detecting causality in complex ecosystems. *Science* **338**: 496-500.
- 2011, Glaser, S.M., **Ye, H.**, Maunder, M.N., MacCall, A.D., Fogarty, M.J.,

- and G. Sugihara. Detecting and forecasting complex nonlinear dynamics in spatially-structured catch-per-unit-effort time series for North Pacific albacore. *Canadian Journal of Fisheries and Aquatic Sciences* **68**: 400-412.
- 2009, Kilcik, A., Anderson, C.N.K., Rozelot, J.P., **Ye, H.**, Sugihara, G. and A. Ozguc. Nonlinear prediction of solar cycle 24. *The Astrophysical Journal* **693**: 1173-1177.
- 2006, Changizi, M.A., Zhang, Q., **Ye, H.** and S. Shimojo. The structures of letters and symbols throughout human history are selected to match those found in objects in natural scenes. *The American Naturalist* **167**: E117-139.
- MANUSCRIPTS Chang, C.W., **Ye, H.**, Deyle, E.R., Miki, T., Souissi, S., Anneville, O., Adrian, R., Chiang, Y.R., Ichise, S., Kumagai, M., Matsuzaki, S.S., Shiah, F.K., Wu, J.T., Hsieh, C.H., and G. Sugihara. Long-term warming weakens the stabilizing effects of biodiversity in aquatic ecosystems. *Nature*. [in review]
- Ye, H.**, Clark, A.T., Deyle, E.R., and G. Sugihara. rEDM: An R package for empirical dynamic modeling and convergent cross mapping. [in prep, <https://ha0ye.github.io/rEDM/articles/rEDM.html>]
- SOFTWARE PACKAGES 2018, **Ye, H.**, Clark, A., Deyle, E., Munch, S., Cai, J., Cowles, J., [and 7 others]. rEDM: Applications of Empirical Dynamic Modeling from Time Series (Version v0.7.4). Zenodo. <http://doi.org/10.5281/zenodo.1935847>
- 2018, Yenni, G.M., **Ye, H.**, Christensen, E.M., Simonis, J.L., Bledsoe, E.K., Diaz R., Taylor, S.D., White, E.P., and S.K.M. Ernest. Create Useful Summaries of the Portal Data (Version v0.1.4). Zenodo. <http://doi.org/10.5281/zenodo.1492721>
- OPEN EDUCATIONAL RESOURCES 2018, Smyth, P., Fung, J., Quinn, D., **Ye, H.**, Bowden, N., LaFlair, G., Waring, E., Jared, J., Cadzow, M., Michonneau, F., and E. Becker. datacarpentry/r-socialsci: R for Social Sciences, May 2018 (v1) (Version v2018.05-1). Zenodo. <http://doi.org/10.5281/zenodo.1250066>
- 2017, Michonneau, F., Teal, T., Obeng, A., Pawlik, A., Kuzak, M., Hart, E., [and 81 others, including **Ye, H.**]. Data Carpentry R Ecology Lesson v2017.04.3 (Version v2017.04.3). Zenodo. <http://doi.org/10.5281/zenodo.569875>
- OTHER WRITTEN WORKS 2018, Tsonis, A.A., Deyle, E.R., **Ye, H.**, and G. Sugihara. Convergent Cross Mapping: Theory and an Example. In: Tsonis A. (eds) *Advances in Nonlinear Geosciences*: 587-600. Springer, Cham.
- 2017, Sugihara, G., Deyle, E.R., and **H. Ye**. Reply to Baskerville and Cobey: Misconceptions about causation with synchrony and seasonal drivers *Proceedings of the National Academy of Sciences* **114**: E2272-E2274.
- 2015, **Ye, H.**, Sugihara, G., Deyle, E.R., May, R.M., Swanson, K., and A.A. Tsonis. Reply to Luo et al.: Robustness of causal effects of galactic cosmic rays

on interannual variation in global temperature. *Proceedings of the National Academy of Sciences* **112**: E4640-4641.

2015, **Ye, H.**, Deyle, E.R., and G. Sugihara. Predicting the future in a nonlinear world. *CalCOFI Reports* **56**: 88-91.

2011, Sugihara, G., Beddington, J., Hsieh, C.H., Deyle, E., Fogarty, M., Glaser, S.M., Hewitt, R., Hollowed, A., May, R.M., Munch, S.B., Perretti, C., Rosenberg, A.A., Sandin, S., and **H. Ye** Are exploited fish populations stable? *Proceedings of the National Academy of Sciences* **108**: E1224-E1225.

2009, Sugihara, G. and **H. Ye** Cooperative network dynamics. *Nature* **458**: 979-980.

AWARDS AND HONORS	E.A. Frieman Director's Prize, Scripps Institution of Oceanography	2015
	E.W. Fager Memorial Award, Scripps Institution of Oceanography	2014
	World Conference on Natural Resource Modeling - Student Award	2010
FUNDED GRANTS	NSF, Graduate Research Fellowship - \$125,000	2010
	<b>co-authored proposals</b>	
	NSF DEB 1655203 - \$407,000 (PI: George Sugihara)	2017
	NSF ABI 1660584 - \$658,634 (PI: George Sugihara)	2017
	Lenfest Ocean Program 00028335 - \$337,100 (PI: George Sugihara)	2014
	US DOD SERDP 15 RC-2509 - \$817,046 (PI: George Sugihara)	2014
INVITED TALKS	“Data-driven Modeling of Ecological Dynamics”	
	<i>University of Nebraska Lincoln, School of Natural Resources</i>	October 2018
	“Dynamic Indicators of Ecosystem Resilience”	
	<i>ESA Annual Meeting, Symposium “From Theory to Application: Addressing Outstanding Challenges to Operationalizing Resilience”</i>	August 2018
	“Data-driven Modeling of Biological Systems”	
	<i>University of Florida, Biocomplexity Engineering Seminar</i>	December 2017
	<i>Institute for Systems Biology</i>	November 2017
	<i>Cary Institute</i>	October 2017
	<i>University of Zurich, Symposium on Ecological Modeling</i>	March 2017
	<i>University of Vermont Complex Systems Center</i>	January 2017
	“Open Science: Challenges and opportunities for research in the digital age”	
	<i>SIO, Marine Ecology Seminar</i>	February 2017
	“Understanding Biological Systems with Empirical Dynamic Modeling”	
	<i>Lenfest Ocean Program</i>	December 2016
	“Addressing nonlinearity in biological systems”	
	<i>UC Santa Cruz / NOAA, Marine Ecology Seminar</i>	June 2016
	“Understanding nonlinearity in complex natural systems”	

	<i>SIO, Institutional Seminar Series</i>	March 2016
	“Information leverage in complex systems” <i>National Taiwan University, “International workshop on development and application of empirical dynamic modeling for forecasting nonlinear systems”</i>	September 2015
	“Predicting the future in a nonlinear world” <i>CalCOFI Conference</i>	December 2014
	“rEDM: an R package for empirical dynamic modeling” <i>SIO / NOAA, Quantitative Ecology Seminar</i>	March 2014
	“Using state space reconstruction models to understand the ecology of Fraser River sockeye salmon ( <i>Oncorhynchus nerka</i> )” <i>National Taiwan University, Marine Biology Seminar</i>	November 2011
SYMPOSIA AND WORKSHOPS	Nonlinear Dynamics Workshop <i>NOAA National Marine Fisheries Service</i>	November 2018
	Carpentry Connect Davis <i>University of California, Davis</i>	June 2018
	Ecological Knowledge and Predictions: Integrating Across Networks and National Observatories <i>University of Arizona</i>	February 2018
	sPred 2 - Synthesizing Predictability Research of Ecological Dynamics <i>German Centre for Integrative Biodiversity Research</i>	October 2017
	Empirical Dynamic Modeling for Fisheries Prediction and Management (Symposium Chair) <i>AFS Annual Meeting</i>	August 2017
	Working Open Workshop <i>Mozilla Science Lab</i>	March 2017
	Nonlinear Time Series Workshop <i>Scripps Institution of Oceanography</i>	April 2012
TEACHING	<b>Training</b> Software Carpentry Instructor Training <i>University of Florida Informatics Institute</i>	March 2018
	Teaching + Learning at the College Level <i>UCSD Teaching + Learning Commons</i>	Winter 2017
	<b>Experience</b> Data Carpentry Workshops <i>University of Florida Informatics Institute</i>	(Instructor) June, August 2018
	Software Carpentry Workshop <i>University of Florida Informatics Institute</i>	(Helper) January 2018

	Reproducible Research in Ocean Biosciences <i>Scripps Institution of Oceanography</i>	(Instructor) Spring 2017
	Software Carpentry Workshop <i>University of California San Diego Library</i>	(Helper) May 2017
	Intro. to Data Visualization <i>Scripps Institution of Oceanography</i>	(Instructor) Winter 2017
	"Introduction to Data Science <i>Expanding Your Horizons San Diego</i>	(Workshop creator and Instructor) 2017
	A Hands-on Tutorial in Empirical Dynamic Modeling and Convergent Cross Mapping <i>ESA Annual Meeting</i>	(Instructor and Organizer) August 2015
	Psych 60, Pysch 138, Psych 102 <i>University of California San Diego</i>	(Teaching Assistant) Fall 2006, Summer 2007 Winter/Spring/Summer 2008
	{various topics: game theory, combinatorics, etc.} <i>San Diego Math Circle</i>	(Volunteer Instructor) 2006 - 2016
	CS 1 <i>California Institute of Technology</i>	(Teaching Assistant) Fall 2003, 2004, 2005
PROFESSIONAL ACTIVITIES	Associate Editor <i>Methods in Ecology and Evolution</i>	November 2018 - present
	Reviewer <i>Am Nat; Ecology; Ecosphere; Mar Eco Prog Ser; Mar Mammal Sci.; Methods Eco Evol; Nat Comm; Oikos; PLOS One; PNAS; Science; Sci Rep</i>	
	Board Member <i>UF Carpentries Club</i>	2017 - present
	Mentor <i>Mozilla Open Leadership Training Series</i>	Fall 2018, Spring 2018
	Co-founder and organizer <i>SIO Open Data Science</i>	2016 - 2017
	Co-founder and organizer <i>SIO R-Users Group</i>	2010 - 2015
	Coach <i>San Diego ARML Teams</i>	2007 - 2016
	Competition Official and Question Reviewer <i>National Ocean Sciences Bowl</i>	2008-2014, 2016-2018
	Volunteer Tutor <i>Grassroots Diversity Action Working Group at SIO</i>	2010 - 2012