The file nonmon4.m is Matlab code for generating Figure A1 in Smith, Sorensen and Tian: "Informational Herding, Optimal Experimentation, and Contrarianism." It is available on Zenodo at the link provided in the paper. No other new data were generated or analysed in support of this research.

The Matlab code was written by us in 2005 and 2006. It was rerun in January 2021 on a basic installation of Matlab R2020b Update 3; no toolboxes needed. The main loop of the script is set to run 100 iterations. On a basic laptop computer, in January 2021 each loop took around 1 second, and the entire script executed in less than 100 seconds.

For the signal structure of the example, the schipr first computes the state-contingent probabilities of each action given each possible signal threshold in a finite mesh. These probabilities are used in Bayes rule to compute public posterior beliefs for every pair of public belief and signal threshold.

The main loop is an iteration of the value function, building on the Bellman operator iteration given in the article's Claim 1 in Appendix A. In order to speed up convergence to the limit with the finite state and control meshes, updating of the value function is damped.

Notation in the article was modified since the script was written. The variable rho in the code represents the threshold theta of the article. The variable theta in the code is instead the damping factor for updating the value function, a feature that is not covered in the article.

After running the script in 2006, we saved data from Matlab for plotting the curve in Figure A1. We used Latex with the dvips package to generate the figure. The code for the curve includes data points, and looks precisely as follows:

\pscurve(.305,.19222405)(.325,.22515953)(.35,.26106009)(.375,.29086266)(.395,.30853496)
\pscurve(.40,.41966427)(.425,.43018756)(.45,.44039146)(.475,.46025311)
(.50,.47512992)(.525,.49002085)(.55,.50501522)(.575,.52020507)
(.60,.53568711)(.625,.55156491)(.65,.56291736)(.675,.57995227)
(.70,.59777321)(.725,.61154273)(.75,.62650189)(.775,.64292486)
(.80,.65610438)(.825,.67152422)(.85,.68461212)(.875,.70140281)
(.90,.70607114)(.925,.70912277)(.95,.71043972)(.98,.71337580)(.995,.71737563)

The Matlab code directly outputs a version of this figure which is enclosed in this replication package as nonmon4.eps. It slightly differs by also visualizing the control over the cascade set below .3. On this range, the control is the upper bound of the belief distribution. This part of the figure has been omitted from the the paper.