

# Changing the bias climate- 'hot' and 'cold' biases within environmental epidemiology and how to mitigate them



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## Background

Bias within environmental epidemiology is often considered simply within the discussion of the study design and analytical methods with little regard to how inherent biases of the scientists themselves can influence those studies. Yes, most publishers address potential financial conflicts of interest within the authors. Yet there are many other potential biases which often remain unaddressed and may influence our science.

## Methods

The first session by Raymond Neutra will deal with what psychologists have learned about common 'cool' and 'hot' biases that distort how we view scientific evidence and what methods have been used to manage these biases. Two relevant articles will be reviewed and some experiential exercises will be carried out to illustrate these concepts. The second session by Craig Dalton will explore the role of contemplative practice in mitigating such 'hot' and 'cool' biases. Many wisdom traditions, including Greco-Roman philosophical schools and Eastern contemplative traditions, have developed practices to remove bias from decision making. This session will explore the history of and evidence for the value of contemplative practice in boosting self-awareness about the workings of 'hot' biases in clouding our ability to evaluate evidence fairly. An experiential exercise and suggested readings will be part of this session. The third session by Erik Svendsen will recreate a session that he used within an academic journal club along with the associated readings. Its purpose is to illustrate the impact of both 'cool' and 'hot' biases within the literature, with a special focus on the biasing potential of financial conflicts of interest, even beyond the authors themselves.

## Results and Conclusions

Collectively, these three sessions will teach participants about 'cool' and 'hot' biases, demonstrate their influence on current environmental epidemiology research, and empower them to mitigate such biases within their own work.