OMICS Group Conferences
Accelerating Scientific Discovery

3rd International Conference & Exhibition on

Biometrics & Biostatistics

October 20-21, 2014 DoubleTree by Hilton Baltimore - BWI Airport, USA

Bayesian estimation of average causal effect with adjustment for confounding

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Estimating the average causal effect of an exposure on an outcome is a common goal in many observational studies. One challenging issue is how to properly select and adjust for confounding factors, especially when sample size is small. In this talk, we present a Bayesian approach to identify and adjust for confounders in an automatic and data-driven way. Our work extends the Bayesian adjustment for confounding (BAC) method to the framework of generalized linear models, which allows for arbitrary types of exposure and outcome. Our method also allows for the inclusion and selection of interactions between exposure and confounders. In simulation studies, we compare our proposed method with propensity score-based methods.

Biography

Chi Wang has completed his PhD in 2009 from Johns Hopkins Bloomberg School of Public Health. He is an Assistant Professor of the Division of Cancer Biostatistics in the Department of Biostatistics and the Biostatistics Shared Resource Facility at the Markey Cancer Center, University of Kentucky. He has published more than 20 papers in peer-reviewed journals.

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J Biom Biostat 2014

ISSN: 2155-6180, JBB an open access journal

Biostatistics-2014
October 20-21, 2014

Volume 5, Issue 4

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