September 27, 2015

ACS Publications

1155 Sixteenth Street N.W.

Washington, DC 20036

Dear Madam or Sir,

Please find enclosed our submission to the *Journal of Proteomics*, the manuscript “From correlation to causality: statistical approaches to learning regulatory relationships in large-scale biomolecular investigations" by R. Ness and co-authors.

This submission is a perspective concerning causal inference with proteomics experiments. Our goal is to provide suggestions for causal inference in large scale experiments that utilize high throughput technologies such as mass spectrometry-based proteomics. This is non-technical description of the statistical obstacles to elucidating regulatory associations through inference on large datasets. We then suggest methods to overcome these pitfalls by refining the biological question, adjusting the experimental design, and incorporating prior knowledge.

The member of the proteomics community most familiar with these methods is Manfred Claassen <mclaassen@ethz.ch>. Additional experts on the discussed methods and/or their proposed applications include;

Ruedi Aebersold <aebersold@imsb.biol.ethz.ch>

Matthias Gstaiger <matthias.gstaiger@imsb.biol.ethz.ch>

Naomi Altman <nsa1@psu.edu>

Andreas Beyer <andreas.beyer@uni-koeln.de>

Theodore Alexandrov <theodore.alexandrov@embl.de>

Andreas Römpp <Andreas.Roempp@anorg.Chemie.uni-giessen.de>

Ben Bowen <BPBowen@lbl.gov>

We also suggest Susan Weintraub as an editor. We look forward to hearing from you soon.

Sincerely,

Olga Vitek

Sy and Laurie Sternberg Associate Professor

College of Science

College of Computer and Information Science

Northeastern University

o.vitek@neu.edu