

Yoav Benjamini

The Nathan and Lily Silver Professor of Applied Statistics, Department of Statistics and Operations Research, Tel Aviv University.

Mini-Bio: My scientific work combines theoretical research in statistical methodology with applied research that involves complex problems with massive data. The methodological work is on selective and simultaneous inference (multiple comparisons), and centers on the “False Discovery Rate” (FDR) criterion, as well as on general methods for data analysis, data mining and data visualization. My current interest is the replicability problem in science: too often, the results of studies gaining headlines cannot be replicated by other experimenters. Part of the problem is the use of statistical tools that fail to address the challenge of selective inference. I am trying to develop statistical tools that will aid researchers to cope with this problem, from the areas of Medicine, Epidemiology, Genomics, Bioinformatics, Neuroscience and behavior. Member of the Edmond J. Safra Center for Bioinformatics; Member of the Sagol School of Neuroscience, Elected member Israeli Academy of Sciences and Humanities; (2012) Recipient of the Israel Prize for Research in Statistics and Economics; (2020) Elected to the National Academy of Sciences USA (2020).

SELECTED PUBLICATIONS: (Link [to publications](#))

- Benjamini, Y., & Hochberg, Y. (1995). Controlling the false discovery rate: a practical and powerful approach to multiple testing. *Journal of the Royal Statistical Society. Series B (Methodological)*, 57(1), 289–300.
- Benjamini Y., Leshno M. (2005) Statistical Methods for Data Mining. In: Maimon O., Rokach L. (eds) *Data Mining and Knowledge Discovery Handbook*. Springer, Boston, MA. https://doi.org/10.1007/0-387-25465-X_25
- Benjamini, Y. (2010). Discovering the false discovery rate: false discovery rate. *Journal of the Royal Statistical Society: Series B (Statistical Methodology)*, 72(4), 405–416. <https://doi.org/10.1111/j.1467-9868.2010.00746.x>
- Weinstein, A., Fithian, W., & Benjamini, Y. (2013). Selection adjusted confidence intervals with more power to determine the sign. *Journal of the American Statistical Association*, 108(501), 165–176. <https://doi.org/10.1080/01621459.2012.737740>
- Benjamini, Y., & Hechtlinger, Y. (2014). Discussion: an estimate of the science-wise false discovery rate and applications to top medical journals by Jager and Leek. *Biostatistics (Oxford, England)*, 15(1), 13–6. <https://doi.org/10.1093/biostatistics/kxt032>
- Benjamini, Y., & Bogomolov, M. (2014). Selective inference on multiple families of hypotheses. *Journal of the Royal Statistical Society: Series B (Statistical Methodology)*, 76(1), 297–318. <https://doi.org/10.1111/rssb.12028>
- Heller, R., Bogomolov, M., & Benjamini, Y. (2014). Deciding whether follow-up studies have replicated findings in a preliminary large-scale omics study. *Proceedings of the National Academy of Sciences of the United States of America*, 111(46), 16262–16267.
- Benjamini, Y., & Cohen, R. (2017). Weighted false discovery rate controlling procedures for clinical trials. *Biostatistics (Oxford, England)*, 18(1), 91–104. <https://doi.org/10.1093/biostatistics/kxw030>