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Education

1996-2003	**PhD in Statistics and Probability Theory** Hebrew University of Jerusalem Israel
1994-1996	**Post-graduate course (Probability Theory)** Department of High Mathematics and Mathematical Modeling Tomsk State University, Tomsk, Russia
1989-1994	**BA** and **M.S. in Applied Mathematics and Cybernetics** Department of High Mathematics and Mathematical Modeling Tomsk State University, Tomsk Russia

Postdoctoral Fellowships

July 2004-June 2007	**Postdoctoral Fellowship (Biostatistics)** National Institute of Child Health and Human Development Department of Health and Human Services National Institutes of Health USA
Mar 2003-Dec 2003	**Short Postdoctoral Fellowship (Statistics)** Department of Statistics Faculty of Social Sciences Hebrew University of Jerusalem Israel

Employment History

2017 – Present	**Professor (with Tenure)** Department of Biostatistics, School of Public Health and Health Professions, University at Buffalo. Duties include methodological research in statistics, collaborative biostatistical research, grant and manuscript writing,

	teaching of undergraduate and graduate level statistics/biostatistics courses, and supervision of graduate and PhD students, statistical consultation on the design and analysis of scientific experiments from across a variety of disciplines, mentoring postdoc fellows.
2012 - 2017	**Associate Professor (with Tenure)** Department of Biostatistics, School of Public Health and Health Professions, University at Buffalo. Duties include methodological research in statistics, collaborative biostatistical research, grant and manuscript writing, teaching of undergraduate and graduate level statistics/biostatistics courses, and supervision of graduate and PhD students, statistical consultation on the design and analysis of scientific experiments from across a variety of disciplines, mentoring postdoc fellows.
January 2008 - 2012	**Assistant Professor, (Director of Consulting Lab until Sep 2009)** Department of Biostatistics, School of Public Health and Health Professions, University at Buffalo. *Secondary appointment:* **Research Assistant Professor,** Department of Social And Preventive Medicine (now known as Epidemiology and Environmental Health), University at Buffalo
June 2007 - January 2008	**Research Assistant Professor, Director of Consulting Lab,** Department of Biostatistics, School of Public Health and Health Professions, University at Buffalo. *Secondary appointment:* **Research Assistant Professor,** Department of Social And Preventive Medicine (now known as Epidemiology and Environmental Health), University at Buffalo
Jan 2001 - June 2004	**Senior coordinator, Director of Division "Development, Methodology & Statistical Analysis"**, Central Bureau of Statistics, Jerusalem 95464, Israel *Responsible for main projects:* Forecasting of teaching force for Ministry

	of Education; Statistical theory of the life table and Mortality analysis; Transition probabilities related to Governmental Census Data
Mar 2002-June 2004	**External advisor,** Institute of media rating research in Israel (TNS), Bney Brak 51202, Israel. Statistical consultant on long-term and short-term projects.
Oct 1996-Jan 2001	**Assistant of Professor and Teaching Assistant**, Department of Statistics, Faculty of Social Sciences, Hebrew University of Jerusalem, Mount Scopus, Jerusalem 91905, Israel. Courses for undergraduates, graduate students and research fellows. Material included concepts of elementary and theoretical statistical theory, use and understanding of statistical software. ***Statistical consultant on applied research projects:*** – Analysis of influence of drugs. AGIS IDUSTRIES LTD; – Cardiology, Analysis of Roentgen. Shaarey Zedeq (medical center, Jerusalem, Israel); – Statistical research in epidemiology, gastroenterology and clinical diagnostics financed by Hadassah Medical Centers in Jerusalem; – Statistical analysis for telephone company Bezeq, Israel; – Research in Ministry of Education- "School violence"; – Decommodification and beyond: a comparative analysis of work injury program (Hebrew University of Jerusalem).
Jan 1995-Jan 1996	**Scientific advisor,** Institute of Physics of Strength and Materials Science, Siberian branch of Russian Academy of sciences, Tomsk, Russia

Current Research Interests

Primary: Receiver operating characteristic curves analysis; Measurement error; Optimal designs; Regression models; Censored data; Change point problems; Sequential analysis; Statistical epidemiology; Biostatistics; Applications of Bayesian approaches to tests; Asymptotic methods of statistics; Forecasting; Sampling; Optimal testing; Nonparametric tests; Empirical likelihoods; P-values
Secondary: Renewal theory; Tauberian theorems; Time series; Categorical analysis; Multivariate analysis; Multivariate testing of complex hypotheses; Factor and principal component analysis.

Skills

Working knowledge of probability theory, renewal theory, Tauberian theorems, mathematical statistics, regression, time series, multivariate analysis, multivariate testing of complex hypotheses, factor and principal component analysis, asymptotic methods of statistics, change point problems, sequential analysis, statistical modeling, forecasting, experimental design, linear models, survival analysis, categorical analysis, robust estimation, nonparametric techniques, statistical epidemiology and biostatistics

Computer Skills

Operating Systems: Microsoft Windows, UNIX, VAX

Software and Languages:
Proficient in: SAS (Base SAS; PROC SQL; SAS Macros; SAS/IML; SAS/GRAPH; SAS/STAT including PROC GLM, PROC MIXED, PROC CATMOD, PROC LIFEREG, PROG REG, PROC LOGISTIC etc), SPSS, Turbo Pascal, C, Mathematica, S-plus, R, Stata, C++, LaTex, Microsoft Office (Word, Excel, Access, Powerpoint)
Experienced with: Matlab, BrainMaker

Selected Awards, Professional and Academic Honors

2021-2022

Award: Outstanding Senior Researcher. University at Buffalo, School of Public Health and Health Professionals

2020

Selected for induction into the University at Buffalo (UB) School of Public Health and Health Professions (SPHHP) Gamma Lambda Chapter of the Delta Omega National Honorary Society in Public Health.

2018

A Discretionary Salary Award for outstanding performance

and contributions to the school and university

2015

UUP Professional Development Award

2014-2015

Who is Who in America

Dec, 2014

Included into the 2015 list of Tomsk State University experts

Dec, 2009

An awarded intramural membership to conduct independent substantive and methodological research focusing on human reproduction, pregnancy, and child health; The Branches of Epidemiology, Biostatistics and Bioinformatics, Division of Epidemiology, Statistics & Prevention Research, at the National Institute of Child Health & Human Development (NICHD).

June 2008

First Place Award of Society for Epidemiologic Research, Chicago, IL Poster: "Generalized ROC Curve Inference for a Biomarker subject to a Limit of Detection and Measurement Error" by Perkins NJ, Schisterman EF and Vexler A.

2008

Statistics in Epidemiology Young Investigator Travel Award. Harel O, Schisterman EF, Vexler A and Roupp MD. Monitoring Quality Control: Can We Get Better Data? American Statistical Associations, Denver Colorado, 2008.

2007-2014

Invited membership in two NIH's research groups, NICHD, NIH (Official acknowledgments corresponding to this research activity can be found in *Epidemiology*, the official journal of the international society for environment epidemiology, Vol. 21, No 4, July 2010.)

1996

Award from Golda Meir Prize, Hebrew University of Jerusalem

1994-1995

Award "Graduation Project" from "International Soros Science", Education Program a775-M (USA)

1991

Awarded Third Prize in the competition of young scientists, Siberian Branch of Russian Academy of Sciences, Novosibirsk, Russia.

Encyclopedia Entries

Vexler, A, Hutson, A. D. and Yu, J. (2014). "Empirical likelihood methods in clinical experiments", *Methods and Applications of Statistics in Clinical Trials:* "Encyclopedia of Clinical Trials", N. Balakrishman. John Wiley & Sons, Newark, NJ. *http://www.amazon.com/Methods-Applications-Statistics-Clinical-Trials/dp/1118304764*

Books

1. Вадим Вааль, Геннадий Кошкин, **Альберт Векслер**. (2013). Оценивание характеристик надежносту невосстанавливаемых элемантов. LAP LAMBERT Academic Publishing, ISBN-10: 3659441201; ISBN-13: 978-3659441202, 143p. $87
Title: Estimation of Reliability Characteristics of Non-Renewable Elements (Russian Edition) by Vadim Vaal', Gennadiy Koshkin and **Al'bert Veksler** (Aug 21, 2013):
http://www.amazon.com/gp/product/3659441201/ref=oh_details_o00_s00_i00?ie=UTF8&psc=1

2. **Albert Vexler**, Alan D. Hutson and Xiwei Chen. "Statistical Testing Strategies in the Health Sciences".
Chapman & Hall/CRC Biostatistics Series
Hardcover: 703 pages
Publisher: Chapman and Hall/CRC (2016)
Language: English
ISBN-10: 1498730817
ISBN-13: 978-1498730815
http://www.amazon.com/Statistical-Testing-Strategies-Sciences-Biostatistics/dp/1498730817/ref=sr_1_1?s=books&ie=UTF8&qid=1461173583&sr=1-1

3. **Albert Vexler** and Alan D. Hutson. "Statistics in the Health Sciences: Theory, Applications and Computing".
Chapman & Hall/CRC Biostatistics Series
Hardcover: 416 pages
Publisher: Chapman and Hall/CRC (2018)
Language: English
ISBN-10: 1138196894
ISBN-13: 978-1138196896
https://www.amazon.com/Statistics-Health-Sciences-Applications-Computing/dp/1138196894/ref=sr_1_2?ie=UTF8&qid=1508950284&sr=8-2&keywords=Albert+Vexler

4. **Albert Vexler** and Jihnhee Yu**.** "Empirical Likelihood Methods in Biomedicine and Health"**.**
Chapman & Hall/CRC Biostatistics Series
Hardcover: 322 pages
Publisher: Chapman and Hall/CRC; 1 edition (2018)
Language: English
ISBN-10: 1466555033
ISBN-13: 978-1466555037
https://www.amazon.com/Empirical-Likelihood-Methods-Biomedicine-Health/dp/1466555033/ref=sr_1_4?ie=UTF8&qid=1518057788&sr=8-4&keywords=Albert+Vexler

5. Albert Vexler, Jihnhee Yu and Jiaojiao Zhou. "Modern Inference Based on Health-Related Markers: Biomarkers and Statistical Decision Making".
Publisher: Academic Press (ELSEVIER); 1st edition (May 15, 2024)

Language: English
Paperback: 600 pages
ISBN-10: 0128152478
ISBN-13: 978-0128152478
https://www.amazon.com/Modern-Inference-Based-Health-Related-Markers/dp/0128152478/ref=sr_1_2?crid=2AOUPTTIC9MB8&keywords=Albert+Vexler&qid=1698883202&sprefix=albert+vexler%2Caps%2C114&sr=8-2

Book manuscript under preparation

1. Kaushik Mishra, **Albert Vexler,** Subhranshu Sekhar Tripathy, Subhendu Kumar Pani, Fuqian Shi. (2027). QUANTUM COMPUTING FOR TRUSTWORTHY AUTONOMOUS HEALTHCARE SYSTEMS: ARCHITECTURES, TECHNOLOGIES, AND APPLICATION): Publisher: Academic Press (ELSEVIER)

Book Chapters

1. Albert Vexler, Ge Tao and Xiwei Chen. (2014). "A Toolkit for Clinical Statisticians to Fix Problems Based on Biomarker Measurements Subject to Instrumental Limitations: From Repeated Measurement Techniques to a Hybrid Pooled-Unpooled Design", ADVANCED PROTOCOLS IN OXIDATIVE STRESS, III. Donald Armstrong.
http://www.amazon.com/Advanced-Protocols-Oxidative-Methods-Molecular/dp/1493914405/ref=sr_1_1?s=books&ie=UTF8&qid=1412710808&sr=1-1&keywords=ADVANCED+PROTOCOLS+IN+OXIDATIVE+STRESS+%2C+III

2. Albert Vexler and Xiwei Chen. (2016). "Statistical Approaches to Make Decisions in Clinical Experiments", pp. 507-560 of Textbook: *Oxidative Stress and Antioxidant Protection: The Science of Free Radical Biology & Disease*, First Edition.
Edited by Donald Armstrong and Robert D. Stratton.
© 2016 John Wiley & Sons, Inc. Published 2016 by John Wiley & Sons, Inc.
http://www.amazon.com/Textbook-Oxidative-Stress-Antioxidant-Protection/dp/1118832485/ref=sr_1_1?ie=UTF8&qid=1453400611&sr=8-1&keywords=Oxidative+Stress+and+Antioxidant+Protection%3A

3. Jihnhee Yu and **Albert Vexler** (2018). "Predicting Confidence Interval for the Proportion at the Time of Study Planning in Small Clinical Trials".
Book: Frontiers of Biostatistics and Bioinformatics.
Edited by Yichuan Zhao and Ding-Geng Chen
Springer: ICSA Book Series in Statistics

4. Albert Vexler and Jihnhee Yu (2024). "An array of statistical concepts and tools for handling challenging data".
Book: "Modern Inference Based on Health-Related Markers: Biomarkers and Statistical Decision Making".
Publisher: Academic Press (ELSEVIER)
Edited by Albert Vexler, Jihnhee Yu and Jiaojiao Zhou

5. Xinyu* Gao, **Albert Vexler** and Jihnhee Yu (2024). "Comparison of multivariate pooling strategies based on skewed data in light of the receiver operating characteristic curve analysis". Book: "Modern Inference Based on Health-Related Markers: Biomarkers and Statistical Decision Making".
Publisher: Academic Press (ELSEVIER.
Edited by Albert Vexler, Jihnhee Yu and Jiaojiao Zhou
*-*student under my mentorship*

Peer-Reviewed Publications

1. **Veksler***, **A**. and Konev, V. (1995). On the mean number of observations under guaranteed estimation of an autoregression parameter. *Automation Remote Control*, 56 no. 6, part 2, 844-850
**- different transcription of my surname Vexler appeared in the international journal*

2. Dmitrienko, A. and **Vexler, A.** (1996). Renewal theory results for autoregressive processes. *Math. Methods Statist*., **5,** no. 4, 477-490.

3. **Vexler, A.** and Konev, V. (1996). On precision of sequential estimations by the method of the least squares of the autoregression parameters. *Journal of Communication Technology and Electronics*. V.41, N7, 623- 630

4. **Veksler*, A.** (1997). Risk-effective estimation of an autoregression parameter. *Problems of Information Transmission* V.33, N2,124-138
*- *different transcription of my surname* Vexler *appeared in the international journal*

5. **Veksler*, A.** and Savickii, A. (1998). Consideration of vacancies in the interaction between a liquid phase and a solid phase. *Technical Physics*. V.43, N1, 44-46
*- *different transcription of my surname* Vexler *appeared in the international journal*

6. **Vexler, A.** and Dmitrienko, A. (1999). Approximations to expected stopping times with applications to sequential estimation. *Sequential Analysis*. 18, 165-187

7. **Vexler, A.** (2004). Approximations to generalized renewal measure. *Stochastic Processes and their Applications.* vol. 113, issue 1, pp. 127-142.

8. Swartz, T.B., Haitovsky, Y., **Vexler,** A., and Yang, T.Y. (2004). Bayesian identifiability and misclassification in multinomial data. *The Canadian Journal of Statistics.* Vol. 32, No 3, pp. 285-302

9. Gurevich, G. and **Vexler A.** (2005). Change point problems in the model of logistic regression. *Journal of Statistical Planning and Inference* 131/2, 313-331

10. Schisterman*, E.F., **Vexler*,** A., Whitcomb*, B.W. and Liu, A (2006). The Limitations due to Exposure Detection Limits for Regression Models. *American Journal of Epidemiology.* Vol. 163, 374 – 383
*-*Joint first authors*

11. **Vexler, A.** (2006). Guaranteed testing for epidemic changes of a linear regression model. *Journal of Statistical Planning and Inference.* Vol. 136/9, 3101-3120

12. **Vexler, A.** and Gurevich G. (2006). Guaranteed local maximum likelihood detection of change point in nonparametric logistic regression. *Communications in Statistics (Theory and Methods).* Vol. 35*, Issue 4, 711-726*

13. **Vexler, A.,** Liu, A., Schisterman, E.F. and Wu, C. (2006). A Note on Distribution-Free Estimation of Maximum Linear Separation of Two Multivariate Distributions. *Journal of Nonparametric Statistics. Vol. 18, N 2,* 145–158.

14. Mumford*, S.L., Schisterman, E. F., **Vexler, A.** and Liu, A. (2006). Pooling Biospecimens and Limits of Detection: Effects on ROC Curve Analysis. *Biostatistics* 7, 585-598.
* *a student co-mentored by me*

15. **Vexler, A.,** Liu, A. and Schisterman, E.F. (2006). Efficient Design and Analysis of Biospecimen with Measurements Subject to Detection Limit. *Biometrical Journal* 48 5, 780–791

16. Perkins*, N.J., Schisterman, E.F., and **Vexler, A.** (2006). ROC curve inference from a sample with a Limit of Detection. *American Journal of Epidemiology.* 165 3: 325-333.
**a student co-mentored by me*

17. Gurevich, G. and **Vexler,** A. (2006). Guaranteed maximum likelihood splitting tests of a linear regression model. *Statistics* Vol. 40, No. 6, 465–484

18. Ferrari, R.M., Cooney, M.A., **Vexler**, **A.,** Liu, A., Buck Louis, G.M. (2007). Time to pregnancy and multiple births. *Human Reproduction*. Vol. 22, No 2, 407-413.

19. Fleisch, A. F., Agarwal, N, Roberts, M. D., Han, J. C., Theim, K. R., **Vexler**, A., Troendle, J., Yanovski, K. R., and Yanovski, J. A. (2007). Influence of Serum Leptin on Weight and Body Fat Growth in Children at High Risk for Adult Obesity. *The Journal of Clinical Endocrinology and Metabolism.* **92**, 948-954.

20. **Vexler, A.,** Schisterman, E.F. and Liu, A. (2008). Estimation of ROC based on stably distributed biomarkers subject to measurement error and pooling mixtures. *Statistics in Medicine*. **27**, 280-296

21. **Vexler, A.** (2008). Martingale type statistics applied to change points detection. *Communications in Statistics (Theory and Methods).* Vol. **37***, Issue 8,* 1207–1224.

22. **Vexler, A.,** Liu, A., Eliseeva*, E. and Schisterman, E.F. (2008). Maximum Likelihood Ratio Tests for Comparing the Discriminatory Ability of Biomarkers Subject to Limit of Detection. *Biometrics.***64**, 895–903

[*] *a student co-mentored by me*

23. Schisterman, E.F., **Vexler**, **A.** (2008). To pool or not to pool, from whether to when: applications of pooling to biospecimens subject to a limit of detection. *Paediatric and Perinatal Epidemiology* **22***, 486-496*

24. Harel, O., Schisterman, E. F., **Vexler, A**. and Ruopp M.D. (2008). Monitoring Quality Control: Can We Get Better Data? *Epidemiology.* V.19, N 4, 621-627

25. Blondell, R. D., Frydrych. L. M., Arber B. C., Bashaw H. L., **Vexler**, **A.,** Purdy, C. H., Sawyer, R. M., and Okazaki, S. (2008). A Randomized Trial of Extended Buprenorphine Detoxification for Opioid Dependency. *Journal of Addiction Medicine.* **2(3),** 139-146.

26. **Vexler, A.,** Wu, C., Liu, A., Whitcomb, B.W. and Schisterman, E.F. (2009). An extension of a change point problem. *Statistics*. **43:3**, 213-225

27. **Vexler, A.,** Liu[*], S., Kang[*], L. and Hutson, A. D. (2009)[**]. Modifications of the Empirical Likelihood Interval Estimation with Improved Coverage Probabilities. *Communications in Statistics (Simulation and Computation).* **38,** 2171–2183.
[*]*-students under my mentorship,* the article presents a material of the course STA671 (2009).
[**]- *Editor-in-Chief Professor N. Balakrishnan has identified this article as one of the key publications from the journals which over time have found many citations and incited several other related works:*
http://www.tandf.co.uk/journals/pdf/lssp-lsta-virtual-issue.pdf

28. **Vexler, A.** and Gurevich G. (2009). Average Most Powerful Tests for a Segmented Regression. *Communications in Statistics (Theory and Methods).* **38**, 2214–2231.

29. **Vexler, A.** and Wu, C. (2009). An Optimal Retrospective Change Point Detection Policy. *Scandinavian Journal of Statistics.* 36, 542–558.

30. Tian, L., **Vexler, A.,** Yan, L., Schisterman E., F. (2009). Confidence Interval Estimation of the Difference Between Paired AUCs Based on Combined Biomarkers. *Journal of Statistical Planning and Inference*. **139**, 3725-3732.

31. Tian, L., Ma, C., **Vexler, A**. (2009). A Parametric Bootstrap Test for Comparing Heteroscedastic Regression Models*. Communications in Statistics (Simulation and Computation).* **38**, 1026–1036.

32. Perkins, N. J., Schisterman, E. F., and **Vexler, A**. (2009). Generalized ROC Curve Inference for a Biomarker Subject to a Limit of Detection and Measurement Error. *Statistics in Medicine.* **28**, 1841–1860.

33. Yu[*], J., **Vexler**[*], **A**. and Tian, L. (2010).[**]. Analyzing incomplete data subject to a threshold using empirical likelihood methods: An application to a pneumonia risk study in an ICU setting. *Biometrics* **66**, 123–130.
[*]*-Joint first authors*
[**]*-the paper belongs to the 10 most-cited articles in Biometrics, 2010*

34. **Vexler, A**., Liu, A. and Schisterman, E.F. (2010). Nonparametric deconvolution of density estimation based on observed sums. *Journal of Nonparametric Statistics.* **22**, 23-39.

35. Nie. L., Chu, H., Liu, C., Cole, S. R., **Vexler, A.,** and Schisterman, E. F. (2010). Linear Regression with an Independent Variable Subject to a Detection Limit. *Epidemiology*, Volume 21, Issue 4, pp S17-S24

36. **Vexler, A.,** Wu, C., Yu, K.F. (2010). Optimal Hypothesis Testing: From Semi to Fully Bayes Factors. *Metrika*. 71, 125-138.

37. **Vexler, A**. and Gurevich, G. (2010). Empirical Likelihood Ratios Applied to Goodness-of-Fit Tests Based on Sample Entropy. *Computational Statistics and Data Analysis.* **54**, 531-545.

38. Kang[*], L., **Vexler, A.,** Tian, L., Cooney, M. and Buck Louis, G. M. (2010). Empirical and Parametric Likelihood Interval Estimation for Populations with Many Zero Values: Application for Assessing Environmental Chemical Concentrations and Reproductive Health. *Epidemiology*. Volume **21**, Number 4, S58-S63
[*]*-student under my mentorship*

39. Schisterman, E.F., **Vexler, A.,** Mumford, S. L. and Perkins N. J. (2010). Hybrid Pooled-Unpooled Design for Cost-Efficient Measurement of Biomarkers. *Statistics in Medicine.* **29**, 597-613.

40. **Vexler, A.** and Tarima**,** S. (2010). An optimal approach for hypothesis testing in the presence of incomplete data. *Annals of the Institute of Statistical Mathematics*. **63**, 1141-1163.

41. Gurevich, G. and **Vexler, A**. (2010). Retrospective Change Point Detection: From Parametric to Distribution Free Policies. *Communications in Statistics (Simulation and Computation).* **39***,* 899-920.

42. Cooney, A. C., Buck Louis, G. M., Hediger, M. L., **Vexler, A.,** and Kostyniak, P. J. (2010). Organochlorine pesticides and endometriosis. *Reproductive Toxicology*. Volume 30:3, 365-369.

43. **Vexler, A.,** Yu, J., Tian, L. and Liu*, S. (2010). Two-sample nonparametric likelihood inference based on incomplete data with an application to a pneumonia study. *Biometrical Journal.* **52**, 348–361.
**-student under my mentorship*

44. Gurevich, G. and **Vexler, A.** (2010). Statistical Inference Using Entropy Based Empirical Likelihood. *Computer Modelling and New Technologies.* Vol.**14**, No.4, 31–39.

45. **Vexler, A.** and Gurevich G. (2010). Density-Based Empirical Likelihood Ratio Change Point Detection Policies. *Communications in Statistics (Simulation and Computation)*. **39:9**, 1709-1725.

46. **Vexler, A.,** Yu, J. and Hutson, A. D. (2011). Likelihood testing populations modeled by autoregressive process subject to the limit of detection in applications to longitudinal biomedical data. *Journal of Applied Statistic.* Volume 38, Issue 7, 1333-1346

47. **Vexler, A.,** Liu*, S. and Schisterman, E.F. (2011). Nonparametric Likelihood Inference Based on Cost-Effectively-Sampled-Data. *Journal of Applied Statistics*, **38**, No. 4, 769–783.
**-student under my mentorship*

48. Gurevich, G. and **Vexler*, A.** (2011). A Two-sample empirical likelihood ratio test based on samples entropy**.** *Statistics and Computing*. **21**, 657-670.
**-corresponding author*

49. Shan*, G., **Vexler, A**., Wilding, G. E. and Hutson A. D. (2011). Simple and Exact Empirical Likelihood Ratio Tests for Normality Based On Moment Relations. *Communications in Statistics (Simulation and Computation),* **40**, 141–158
**-student under my mentorship,* the article followed a material of the course STA671 (2010).

50. **Vexler, A.,** Shan*, G., Kim*, S., Tsai*, W-M., Tian, L. and Hutson, A. D. (2011).** An Empirical Likelihood Ratio Based Goodness-of-Fit Test for Inverse Gaussian Distributions. *Journal of Statistical Planning and Inference.* **141**, 2128-2140.
**-students under my mentorship, the article presents a material of the course STA671 (2010).*
*****-the paper belongs to Most Cited Journal of Statistical Planning and Inference Articles:* http://www.journals.elsevier.com/journal-of-statistical-planning-and-inference/most-cited-articles

51. Ma, C., **Vexler, A.,** Schisterman E. F. and Tian, L. (2011). Cost-efficient Designs Based on Linearly Associated Biomarkers. *Journal of Applied Statistics*. **38**, 2739-2750.

52. Tian, L., Xiong, C., Lai, C-Y., and **Vexler, A.** (2011). Exact Confidence Interval Estimation for the Difference in Diagnostic Accuracy with Three Ordinal Diagnostic Groups. *Journal of Statistical Planning and Inference,* **141**, 549-558.

53. Perkins, N. J., Schisterman, E. F., and **Vexler, A.** (2011). ROC Curve Inference for Best Linear Combination of two Biomarkers Subject to Limits of Detection. *Biometrical Journal*, **53**, 464–476.

54. **Vexler, A.** and Yu, J. (2011). Two-sample density-based empirical likelihood tests for incomplete data in application to a pneumonia study. *Biometrical Journal*, **53**, 628–651.

55. Schisterman[**], E.F., **Vexler**[**], A., Ye[*], A. and Perkins, N. J. (2011). A combined efficient design for biomarker data subject to a limit of detection due to measuring instrument sensitivity. *The Annals of Applied Statistics*. **5**, 2651-2667.
[*]*-students under my mentorship.*
[**]*-Joint first authors*

56. **Vexler, A**. and Gurevich, G. (2011). A note on optimality of hypothesis testing. *Mathematics in Engineering, Science and Aerospace*. Vol. **2,** No. 3, 243-250.

57. Yu[**], J., **Vexler**[**], A.,** Kim[*], S. and Hutson, A. D. (2011). Two-sample Empirical Likelihood Ratio Tests for Medians in Application to Biomarker Evaluations. *The Canadian Journal of Statistics.* **39**, 671–689.
[*]*-PhD student under my mentorship.*
[**]*-Joint first authors.*

58. **Vexler, A**., Tsai[*], W-M**.,** Malinovsky, Y. (2012). Estimation and Testing Based on Data Subject to Measurement Errors: From Parametric to Non-Parametric Likelihood Methods. *Statistics in Medicine* **31**, 2498-2512. DOI: 10.1002/sim.4304
[*]*- PhD student under my mentorship*

59. **Vexler**, A., Tsai[*], W-M., Gurevich, G. and Yu, J. (2012). Two-sample density-based empirical likelihood ratio tests based on paired data, with application to a treatment study of Attention-Deficit/Hyperactivity Disorder and Severe Mood Dysregulation. *Statistics in Medicine* **31,** 1821–1837.
[*]*-PhD student under my mentorship.*

60. Yu, J., **Vexler, A**. and Hutson, A. D. (2012). A maximum likelihood approach to analyzing incomplete longitudinal data in mammary tumor development experiments with mice. *Sri Lankan Journal of Applied Statistics*. **13**, 61-85

61. **Vexler**, **A.**, Gurevich, G. and Hutson, A. D. (2013). An Exact Density-Based Empirical Likelihood Ratio Test for Paired Data. *Journal of Statistical Planning and Inference.* **143**, 334-345.

62. **Vexler**, A., Deng*, W. and Wilding, G., E. (2013). Nonparametric Bayes Factors Based On Empirical Likelihood. *Journal of Statistical Planning and Inference.* **143**, 611-620.
*-*PhD student under my advisement*

63. Miecznikowski, J. C., **Vexler**, A., and Shepherd, L. (2013). dbEmpLikeGOF : An R package for nonparametric likelihood ratio tests for goodness-of-fit and two sample comparisons based on sample entropy. *Journal of Statistical Software.* V. **54**, Issue 3, 1-19.

64. Tarima, S., **Vexler, A.** and Singh, S. (2013). Robust mean estimation under a possibly incorrect log-normality assumption. *Communications in Statistics (Simulation and Computation).* 42, 316-326.

65. Tsai*, W-M., **Vexler**, A. and Gurevich, G. (2013). An extensive power evaluation of a novel two-sample density-based empirical likelihood ratio test for paired data with an application to a treatment study of Attention-Deficit/Hyperactivity Disorder and Severe Mood Dysregulation.
Journal of Applied Statistics. **40**, 1189-1208.
*-*PhD student under my advisement.*

66. Vaal Vadim, A., **Vexler,** A., Koshkin, G. (2013). On nonparametric estimation of hazard function and its derivatives. *Journal of control and computer sciences: Tomsk State University*. N 1(22), 32-39.

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*-*PhD student under my advisement.*

69. Yu, J., **Vexler**, A., Hutson, A. D., and Baumann, H. (2014). Empirical Likelihood Approaches to Two-Group Comparisons of Upper Quantiles Applied to Biomedical Data. *Statistics in Biopharmaceutical Research*. Vol. **6**, Issue 1, 30-40.

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*-*Postdoctoral fellow under my mentorship.*

71. **Vexler**, **A.**, Tsai*, W-M., and Hutson, A. D. (2014). A Simple Density-Based Empirical Likelihood Ratio Test for Independence. *The American Statistician.* 68, 158-169
*-*PhD student under my mentorship*

72. **Vexler**, A., Tanajian*, H. and Hutson, A. D. (2014). Density-Based Empirical Likelihood Procedures for Testing Symmetry of Data Distributions and K-Sample Comparisons. The *STATA journal*. 14(2), 304-328.
*-*PhD student under my mentorship*

73. **Vexler**, A., Tao*, G., and Hutson, A. D. (2014). Posterior expectation based on empirical likelihoods. *Biometrika*. **101**, 3, 711-718.
*-*PhD* student *under my mentorship*

74. **Vexler**, A., Chen,* X., and J. Yu, J. (2014). Evaluations and comparisons of treatment effects based on best combinations of biomarkers with applications to biomedical studies. *Journal of Computational Biology*. 21(9):709-21. doi: 10.1089/cmb.2014.0097
*-PhD *student under my mentorship*

75. Chen*, X., **Vexler,**** A., and Markatou, M. (2014). Empirical Likelihood Ratio Confidence Interval Estimation of Best Linear Combinations of Biomarkers. *Computational Statistics and Data Analysis*, 82, 186–198.
*-PhD *student under my mentorship*
**-*corresponding author*

76. Hutson, A. D., Wilding, G., Yu, J., and **Vexler, A**. (2014). Exact Inference for the Dispersion Matrix. *Advances in Statistics*. Volume 2014 (2014), Article ID 432805, 7 pages, http://dx.doi.org/10.1155/2014/432805.

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*-PhD *student under my mentorship*

78. Yu, J., Yang, L., **Vexler**, A., and Hutson, A. D. (2015). A Generalized Empirical Likelihood Approach for Two-Group Comparisons Given a U-Statistic Constraint. *Statistics*. DOI:10.1080/02331888.2015.1050021

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10.15406/bbij.2015.02.00035.
*-PhD *student under my mentorship*

81. Zhao,* Y., **Vexler, A.**, Hutson, A. D, and Chen,* X. (2017). A Statistical Software Procedure for Exact Parametric and Nonparametric Likelihood-Ratio Tests for Two-Sample Comparisons. *Communications in Statistics (Simulation and Computation),* **46**, 2829-2841. DOI: 10.1080/03610918.2015.1062103
*-PhD *student under my mentorship*

82. **Vexler, A.,** Chen,* X., and Hutson, A. D. (2017). Dependence and Independence: Structure and Inference. *Statistical Methods in Medical Research.* 26(5), 2114–2132. DOI: 10.1177/0962280215594198
*-PhD *student under my mentorship*

83. Yu, J., Yang, L., **Vexler, A.,** and Hutson, A. D. (2016). Easy and Accurate Variance Estimation of the Nonparametric Estimator of the Partial Area under the ROC Curve and Its Application. *Statistics in Medicine.* Issue 13, 2251–2282.

84. **Vexler, A.,** Zou,* L., and Hutson, A. D. (2016). Data-Driven Confidence Interval Estimation Incorporating Prior Information with an Adjustment for Skewed Data. *The American Statistician*. **70,** 243-249. DOI: 10.1080/00031305.2016.1141707
*-PhD student under my mentorship

85. Noughabi, H. A. and **Vexler, A**. (2016). An efficient correction to the density-based empirical likelihood ratio goodness of fit test for the Inverse Gaussian distribution. *Journal of Applied Statistics*. Volume **43**, Issue **16**, 2988-3003. DOI: 10.1080/02664763.2016.1156657

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*-PhD student under my mentorship

88. Hutson, A. D. and **Vexler, A.** (2018). A Cautionary Note on Beta Families of Distributions and the Aliases Within. *The American Statistician*. **72**, 121-129. DOI: 10.1080/00031305.2016.1213661

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*-PhD student under my mentorship

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*-PhD student under my mentorship

92. Gurevich, G., and **Vexler, A**. (2018). A density based empirical likelihood approach for testing bivariate normality. *Journal of Statistical Computation and Simulation*. **88**, 2540-2560. DOI: 10.1080/00949655.2018.1476516

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*-PhD student under my mentorship

96. Miecznikowski, J.C., Hsu, E., Chen, Y., and **Vexler, A.** (2018). testforDEP: An R Package for Modern Distribution-free Tests and Visualization Tools for Independence. *The R Journal*. 10/2, 282-294. DOI: 10.32614/RJ-2018-057

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*-PhD student under my mentorship

98. **Vexler, A.** (2021). Valid p-Values and Expectations of p-Values Revisited. *Annals of the Institute of Statistical Mathematics*. **73**, 227–248. DOI: 10.1007/s10463-020-00747-2

99. **Vexler, A.** (2020). Univariate Likelihood Projections and Characterizations of the Multivariate Normal Distribution. *Journal of Multivariate Analysis*. 179, DOI: 10.1016/j.jmva.2020.104643

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Research. 57, 200-211, http://dx.doi.org/10.1111/1475-6773.13895.

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102. **Vexler, A.**, and Hutson A (2023). A Characterization of Most(More) Powerful Test Statistics with Simple Nonparametric Applications. *The American Statistician*. 78, 36-46, https://doi.org/10.1080/00031305.2023.2192746
This work was supported by a National Cancer Institute (NCI) Cancer Center Support Grant (CCSG) to Roswell Park Comprehensive Cancer Center (grant no. P30CA016056)

103. **Vexler, A.**, Gao*, X., and Zhou*, J. (2023). How to Implement Signed-rank *wilcox.test()* Type Procedures when A Center of Symmetry is Unknown. *Computational Statistics and Data Analysis*. Accepted. https://doi.org/10.1016/j.csda.2023.107746
*-PhD student under my mentorship

104. Zou, L., Gurevich, G., and **Vexler, A.** (2024). An exact projection pursuit-based algorithm for multivariate two-sample nonparametric testing applicable to retrospective and group sequential studies. *Journal of Applied Statistics*. Accepted. https://doi.org/10.1080/02664763.2023.2277118

105. **Vexler, A.** and Landsittel. D. (2026). A relativity-based framework for statistical testing guided by the independence of ancillary statistics: methodology and nonparametric illustrations. *Test*. Accepted. DOI: 10.1007/s11749-026-01010-1

Selected Working Papers and Software Package Developments

Natalie Flaks, **Albert Vexler**, Ari Paltiel. (2002). Complete Life Tables of Israel: 1997-2001, 1998-2002. Central Bureau of Statistics, Jerusalem, Israel.
http://www.cbs.gov.il/publications/mortality/2001/intlifee.pdf

Alon Shapiro, **Albert Vexler**. (2003). Stochastic Models for Forecasting the Teaching Staff in Israeli Educational System. Technical Report. Central Bureau of Statistics, Jerusalem, Israel.
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Dan Scheinberg, **Albert Vexler**, Alon Shapiro. (2003). Developing a Statistical Method for Identifying the "Emigrants" (from Israel). Technical Report. Central Bureau of Statistics, Jerusalem, Israel.
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Albert Vexler, Natalie Flaks-Manov, Ari Paltiel. (2005). A Method for Smoothing Mortality Functions using a segmented regression model: an application to Israeli data. Working Paper. Central Bureau of Statistics, Jerusalem, Israel.
http://www1.cbs.gov.il/reader/paper_work/pw_e.html

Jeffrey C. Miecznikowski, Lori A. Shepherd, **Albert Vexler**. (2011). R Package 'dbEmpLikeGOF': Goodness-of-fit and two sample comparison tests using sample entropy.
http://cran.r-project.org/web/packages/dbEmpLikeGOF/
http://sphhp.buffalo.edu/biostat/research/software/EmpLike.GOF/index.php

Tanajian. H., **Vexler. A**. and Hutson, A. D. (2013). Novel and Efficient Density Based Empirical Likelihood procedures for Symmetry and K-sample Comparisons: STATA package.
http://sphhp.buffalo.edu/biostatistics/research-and-facilities/software/stata.html

Lori A. Shepherd, Wan-Min Tsai, **Albert Vexler**, and Jeffrey C. Miecznikowski. (2013). The 'dbEmpLikeNorm' R package that provides a function to be used for joint assessment of normality of K independent samples with varying means and standard deviations.
http://sphhp.buffalo.edu/biostatistics/research-and-facilities/software/dbEmpLikeNorm.html

Lori A. Shepherd, Wan-Min Tsai, **Albert Vexler**, and Jeffrey C. Miecznikowski. (2013). dbEmpLikeNorm: Test for joint assessment of normality.
http://cran.r-project.org/web/packages/dbEmpLikeNorm/index.html

Yang Zhao, **Albert Vexler**, Alan Hutson. (2014). tsc.test {tsc}: Exact Parametric and Nonparametric Likelihood Ratio Tests for Two-Sample Comparisons.
http://sphhp.buffalo.edu/biostatistics/research-and-facilities/software.html
http://cran.r-project.org/web/packages/tsc/index.html

Jeffrey C. Miecznikowski, En-shuo Hsu, Yanhua Chen, **Albert Vexler** (2017). testforDEP: Dependence Tests for Two Variables.
https://cran.r-project.org/web/packages/testforDEP/index.html

Jiaojiao Zhou [aut, cre], Xinyu Gao [aut], **Albert Vexler** [aut] (2024). TestsSymmetry: Tests for Symmetry when the Center of Symmetry is Unknown.
Provides functionality of a statistical testing implementation whether a dataset comes from a symmetric distribution when the center of symmetry is unknown, including Wilcoxon test and sign test procedure. In addition, sample size determination for both tests is provided. The Wilcoxon test procedure is described in Vexler et al. (2023), and the sign test is outlined in Gastwirth (1971.
https://cran.r-project.org/web/packages/TestsSymmetry/index.html

Intellectual Contributions (Selected)

The 22nd International Symposium on Forecasting, 2002. Trinity College, Dublin, Ireland. Oral presentation and published paper (p.62 of the corresponding proceedings)	**Albert Vexler** and David Maagan. (2002). Forecasting the size of the teaching force in Israel using Stochastic Models.
Proceedings of the Annual Conference of Israel Statistical Association, Haifa, Israel, 2004	**Albert Vexler** and Gregory Gurevich. (2004). Guaranteed Maximum Likelihood Splitting Tests of Linear Regression Model.
International Chinese Statistical Association, June 12, 2005. Invited Talk and Invited Paper.	**Albert Vexler**. (2005). A Nonparametric Estimation of a Distribution Based Its Observed Sums
The Tel Aviv University. Israel. Invited Seminar Lecture. 2005.	**Albert Vexler** (2005). Nonparametric deconvolution applied to a tradition/nontraditional pooling design.
International Biometric Society Eastern North American Region (ENAR), March, 2005.Published Abstract and Oral Presentation	**Albert Vexler**, Aiyi Liu and Enrique Schisterman. (2005). Nonparametric Deconvolution, Traditional and Nontraditional Pooled Designs.
Georgetown University Medical Center. Invited Seminar Lecture, Dec 2006.	**Albert Vexler**. (2006). Efficient Design and Analysis of Biospecimens with Incomplete Measurements.

Joint Statistical Meeting (a professional academic conference for statisticians held annually every year since 1840. Billed as "the largest gathering of statisticians held in North America"), August 2007. Published Abstract.	Sergey Tarima and **Albert Vexler**. (2007). Likelihood Ratio Hypothesis Testing in the Presence of Incomplete Data.
International Biometric Society Eastern North American Region (ENAR), March, 2007. Published Abstract and Oral presentation	**Albert Vexler**, Chengqing Wu and Kai F. Yu. (2007). Relativity of Tests' Optimality, with Applications to Change Point Detection and Mixture Type Testing.
The Johns Hopkins University. Invited Seminar Lecture. 2007.	**Albert Vexler** (2007). Nonparametric deconvolution.
Joint Statistical Meeting, August 2008. Published Abstract.	Ofer Harel, Enrique F. Schisterman, **Albert Vexler** and Marcus Ruopp. (2008). Monitoring Quality Control: Can We Get Better Data?
Joint Statistical Meeting, August 2008. Published Abstract.	Neil J. Perkins, Enrique F. Schisterman, **Albert Vexler**. (2008). Generalized ROC Criterion for Multivariate Normally Distributed Biomarkers with Limits of Detection.
Joint Statistical Meeting, August 2008. Published Abstract	Jihnhee Yu, **Albert Vexler** and Lili Tian. (2008). Analyzing Incomplete Data Subject to a Threshold Using Empirical Likelihood Methods: An Application to a Pneumonia Risk Study in an ICU Setting.
Joint Statistical Meeting, August 2008. Published Abstract and my student's Oral Presentation	Le Kang, **Albert Vexler**, Lili Tian, Germaine B. Louis. (2008). Empirical Likelihood Test for Equality of Means of Populations Containing Many Zeros.
Joint Statistical Meeting, August 2008. Published Abstract	Neil J. Perkins, Enrique F. Schisterman, **Albert Vexler**. (2008). Generalized ROC Criterion for Multivariate Normally Distributed Biomarkers with Limits of Detection.
Joint Statistical Meeting, August 2008. Published Abstract	Ofer Harel, Enrique F. Schisterman, **Albert Vexler** and Marcus Ruopp. (2008). Monitoring Quality Control: Can We Get Better

	Data?
Joint Statistical Meeting, August 2008. Published Abstract	Kai Fun Yu, **Albert Vexler**, Chengqing Wu. (2008). From Semi to Fully Bayes Factors in Hypothesis Testing.
Joint Statistical Meeting, August 2009. Published Abstract and Oral Presentation	**Albert Vexler** and Gregory Gurevich. (2009). Entropy-Based Empirical Likelihood Ratio Change Point Detection Policies
Joint Statistical Meeting, August 2009. Published Abstract.	Changxing Ma, **Albert Vexler**, Lili Tian and Enrique Schisterman. (2009). Cost-Efficient Designs Based on Linearly Associated Biomarkers.
NKF 2009 Spring Clinical Meetings Abstracts	Medical Therapy vs. Medical Therapy and Revascularization (Stenting) In a Therosclerotic Renal Artery Stenosis: A Retrospective Study Saria Gouher, A.Namassivaya, Usha Thamattoor, **Albert Vexler**
International Symposium on Stochastic Models in Reliability Engineering, Life Science and Operations Management (SMRLO'10), Beer Sheva, Israel, 8-11 February, 2010. Published Abstract.	**Albert Vexler** and Gregory Gurevich. (2010). Entropy based empirical likelihood ratios for goodness-of-fit testing.
Joint Statistical Meeting, August 2011. Published Abstract	Jeffrey Miecznikowski and **Albert Vexler**. (2011). An R Package for Nonparametric Likelihood Ratio tests for Goodness-of-Fit and Two Sample Comparisons Based on Sample Entropy.
International Biometric Society Eastern North American Region (ENAR), March, 2011.Published Abstract	Jihnhee Yu, **Albert Vexler**, Seong-Eun Kim and Alan Hutson. (2011). Two-Sample Empirical Likelihood Ratio Tests for Medians in Application to Biomarker Evaluations.
Joint Statistical Meeting, August 2011. Published Abstract and my student's Oral Presentation	Wan-Min Tsai and **Albert Vexler**. (2011). Two-Sample Paired Empirical Likelihood Ratio Tests Applied to a Group-Based Therapy for Children with Attention-Deficit/Hyperactivity Disorder and Severe Mood Dysregulation
Joint Statistical Meeting, August 2011. Published Abstract and Oral	**Albert Vexler** and Gregory Gurevich. (2011). Empirical Likelihood Approximation to Neyman-Pearson Tests for Sample

Presentation	Distributions.
McMaster University. Canada. Invited Seminar Lecture. 2011.	**Albert Vexler** (2011). Nonparametric Likelihood Tests.
The 1st International Symposium & 10th Balkan Conference on Operational Research, Thessaloniki, Greece. September 22-25, 2011. The paper was accepted for presentation and inclusion in the proceedings of the Symposium and Conference.	Gregory Gurevich and **Albert Vexler** (2011). Non-Asymptotic Optimal Properties of Shiryaev-Roberts Statistical Control Procedures
Joint Statistical Meeting, July 2012. Contributed Oral and Poster Presentation.	Jihnhee Yu; **Albert Vexler**; Alan D Hutson. (2012). Empirical Likelihood Confidence Interval of a Difference in Upper Percentiles Between Two Groups.
University of Maryland, Baltimore County, Department of Mathematics & Statistics. Invited Colloquium Lecture, November 2012.	Empirical Likelihood posterior estimation: from nonparametric posterior means via double empirical Bayesian estimators to nonparametric versions of the James-Stein estimators. **Albert Vexle**r
International Biometric Society Eastern North American Region (ENAR), March, 2013.Published Abstract and Oral Presentation	Two-sample Density-based Empirical Likelihood Ratio Tests Based on Paired Data, with Application to a Treatment Study of Attention-Deficit/Hyperactivity Disorder and Severe Mood Dysregulation
International Biometric Society Eastern North American Region (ENAR), March, 2013.Published Abstract and my student's Oral Presentation	Empirical and Smoothed Bayes Factor Type Inferences Based on Empirical Likelihoods for Quantiles Ge Tao, **Albert Vexler** and Jihnhee Yu, State University of New York at Buffalo Nicole A. Lazar, University of Georgia Alan Hutson, State University of New York at Buffalo.
International Biometric Society Eastern North American Region (ENAR), March, 2014.Published Abstract and my student's Oral Presentation	Two-sample Empirical Likelihood based Tests for Mean: From Frequentists to Bayesian Type Techniques with Applications to Case-control Studies Ge Tao and **Albert Vexler** State University of New York at Buffalo.
Joint Statistical Meeting, August	Yang Zhao, **Albert Vexler**, Alan Hutson and Xiwei Chen. Exact

2016. Published Abstract and my student's Oral Presentation	Parametric and Nonparametric Likelihood-Ratio Tests for Two-Sample Comparisons
Joint Statistical Meeting, July 30, 2017. Published Abstract and my student's Oral Presentation	Li Zou, **Albert Vexler** and Alan Hutson. Data-Driven Confidence Interval Estimation Incorporating Prior Information with an Adjustment for Skewed Data
International Chinese Statistical Association. Applied Statistics Symposium, June 25–28, 2017. Published Abstract and Oral Presentation	**Albert Vexler**, Georgios Afendras and Marianthi Markatou. Multi-Panel Kendall Plot Applied to Measuring Dependence
Biostatistics Branch Division of Cancer Epidemiology and Genetics National Cancer Institute. Invited Seminar Lecture. March,20, 2019	**Albert Vexler**. Receiver Operating Characteristic (ROC) Curves in their New Habitats
International Conference on Statistical Distributions and Applications, ICOSDA 2019, Oct. 10-12, 2019, at Eberhard Conference Center, Grand Rapids, MI, USA. Published Abstract and Oral Presentation	Jihnhee Yu **and Albert Vexler**. Bayesian empirical likelihood approach to compare quantiles.
Department of Mathematics and Statistics Florida International University Miami, Florida, 33199. Invited Seminar Lecture. April, 2019	**Albert Vexler**. Receiver Operating Characteristic (ROC) Curves in their New Habitats
Joint Statistical Meeting at Denver, 2019. Poster Presentation	Li Zou, **Albert Vexler.** Empirical likelihood ratio tests with power one
NCI, Washington, DC. 2019. Invited talk	**Albert Vexler**. Receiver Operating Characteristic (ROC) Curves in their New Habitats
International Chinese Statistical Association**.** Symposium.	**Albert Vexler**. Univariate Likelihood Projections and Characterizations of the Multivariate Normal Distribution

September 2021. Invited talk	Applicable to a Multivariate Change Point Detection
UP-STAT 2022 Hybrid Conference Statistical Sciences: A Foundation for Knowledge, Discovery and Innovation 10th Joint Conference of the Upstate Chapters of the American Statistical Association. Buffalo, NY May 2022. **Organizer** of the invited section: Statistical Decision Mechanisms and their Applications and Invited talk	**Albert Vexler**. Univariate Likelihood Projections and Characterizations of the Multivariate Normal Distribution Applicable to a Multivariate Change Point Detection
2023. J. Warren Perry Poster Day School of Public Health and Health Professions, University at Buffalo. Poster Presentation 2023 Perry Poster Day Award Winner	Xinyu Gao*, Jiaojiao Zhou*, Dr. Albert Vexler. Univariate How to Implement Signed-rank wilcox.test() Type Procedures when the Center of Symmetry is Unknown. *-PhD student under my mentorship
2024. ENAR 2024 Spring Meeting. Published Abstract and my student's oral presentation	Xinyu Gao*, Jiaojiao Zhou*, Dr. Albert Vexler. Univariate How to Implement Signed-rank wilcox.test() Type Procedures when the Center of Symmetry is Unknown. *-PhD student under my mentorship
2026. The 9th International Conference on Econometrics and Statistics (EcoSta 2026). Ryukoku University, Kyoto, Japan, 8-10, August 2026. A member of Scientific Program Committee.	

Grant/Contract Support

On-Going Research Support:

November 2024-2027
Project Budget:
$1,060,000

PCORI, The Patient-Centered Outcomes Research Institute
Marianthi Markatou (PI)

"**Developing Methods for Clustering Longitudinal Mixed Type Data for Comparative Effectiveness Research**."
Award: 102967
Project: 1195668

How can new understandings be developed to aid the creation of novel interventions related to social determinants of health from diverse data collected from opioid treatment programs (OTPs)? How are predictors of poor diabetes control identified to aid in the development of novel interventions? This project is designed to address these and other similar objectives.
Role: Co-Investigator

National Institutes of Health
1G13LM012241-01 (PIs: **Vexler** and Yu)
National Library of Medicine (NLM) GRANTS FOR SCHOLARLY WORKS IN BIOMEDICINE AND HEALTH (G13)
Budget Period: 09/01/2016 – 08/31/2018
Project Period: 09/01/2016 – 08/31/2018
$100,000
Modern Empirical Likelihood Methods in Biomedicine and Health
Role: PI
The goal of this research is to develop and publish Modern Empirical Likelihood Methods in Biomedicine and Health

National Institutes of Health
4 R01 DK092653-05 (Dandona) 9/1/2016-8/31/2017 .85 CY
NIH/NIDK $274,263
Liraglutide as additional treatment in patients with Type 1 Diabetes Mellitus
Role: Co-Investigator
The goal of this research is to determine Anti-diabetic effects of liraglutide in adolescents and young adults with Type 1 diabetes.
My major responsibility on this project is to provide biostatistical support for this study.

National Institutes of Health
R01DK09265303 (Dandona) 9/4/2012-8/31/2017 .85 CY
NIH/NIDK $170,520
Liraglutide as additional treatment in patients with Type 1 Diabetes Mellitus
Role: Co-Investigator
The goal of this research is to determine Anti-diabetic effects of liraglutide in adolescents and young adults with Type 1 diabetes.
My major responsibility on this project is to provide biostatistical support for this study.

Pending Research Support:

National Institutes of Health
Agency for Healthcare Research and Quality
Grant: 1 R03 HS024542-01 (PIs: **Vexler,** Yu and Hutson)

Novel Data-Driven Methods for Measuring Dependence Structures based on ROC Curve Concepts with Applications to the WNY Health Study Survey and Vascular Endothelial Growth Factor Expression Study
Percentile: 23
Role: PI
A revised version of the grant proposal is resubmitted 02/2016

National Institutes of Health
National Inst of Environmental Health Sciences
Grant: 1 R21 ES026424-01 (PI: Dr. Eun-Hye Yoo, College of Arts and Sciences)
Modeling uncertainty in health studies using sensor-based personal exposures (PI: Dr. Eun-Hye Yoo, College of Arts and Sciences)
Role: Co-Investigator
The proposal was scored. The revised version of the grant proposal was submitted 11/2015
In the context of asthma attacks evaluations, we propose and examine constructions of a set of personal exposure models whose model complexity/assumptions and data requirements vary, and assess prediction accuracy of each exposure model by comparing modeled exposure with measured exposure with a spatially referenced real time portable sensor-system.

National Science Foundation
Methodology, Measurement, and Statistics (MMS)
Grant: Innovative Data-Driven Methods for Measuring and Visualization of Dependence Structures based on ROC Curve Concepts with Applications to Surveys Studies (PI: Vexler).
The proposal was submitted 01/2016
Role: PI

Completed Research Support:

1995

Grant of the Russian fund of the fundamental, N95-01-00409

1997-2004

Grant from the Israel Science Foundation

Apr, 2008-Nov, 2008

Award entitled “Development of New Methodologies to Address Bomarkers (Response to RFQ)”, National Institute of Diabetes Digestive Kidney Disease, NIH

2008

Fund (IRDF) award: UB 2020 Interdisciplinary Research Development, University at Buffalo

May, 2010

A purchase order has been awarded to Albert Vexler. The Purchase Order number is **HHSN275201000300P**: Contract title: “New Biomarkers Methodology Collaboration”; Eunice Kennedy Shriver, National Institute of Child Health and Human Development, 6100 Executive Blvd, Room 5Z00, Rockville, MD 20852

National Institutes of Health 06/01/2011-05/31/2014

The National Institute of Dental and Craniofacial Research
Grant: 1R03DE020851 - 01A1 (Pis: **Vexler** and Yu) $317,000
Analysis for Incomplete Data in Oral health/Ventilator-Associated Pneumonia Study
Award# 57975 Project # 1095943 Task #1
Role: PI
Biostatistical methodological research related to empirical likelihood methods applied to analysis for incomplete data in Oral health/Ventilator-Associated Pneumonia Study

National Institutes of Health (Dandona) 04/01/2009-03/31/2014
Hypogonadotropic Insulin Sensitivity Inflammation In Type 2 Diabetes and Obesity Effect of Testosterone Replacement
Role: Co-Investigator
My major goal of this project is to provide biostatistical support for studying Hypogonadotropic Insulin Sensitivity Inflammation in Type 2 Diabetes and Obesity Effect of Testosterone Replacement.

National Institutes of Health
1R01DK09265301A1 (Dandona) 09/04/2012-08/31/2014 0.8 calendar months
National Inst of Diabetes Digestive Kidney Disease $174,000
Liraglutide as Additional Treatment in Patients with Type 1 Diabetes Mellitus
Goal: The goal of this research is to determine Anti-diabetic effects of liraglutide in adolescents and young adults with Type 1 diabetes.
Role: Co-Investigator
My major goal of this project is to provide biostatistical support for this study

National Institutes of Health
HHSN267200800295P (Vexler) PI 01/07/2008-01/06/2009
National Institute of Diabetes Digestive and Kidney Disease
Development of New Methodologies to Address Biomarkers
Description of the Project: The project undertook a methodological research initiative to develop new, improved methods for interpretation of exposure data that is comprised of a mixture of chemicals which are naturally or synthetically occurring. In particular, this project was a collaborative effort between the National Institute of Child Health & Human Development (NICHD) and the American Chemistry Council (ACC). (Especially this collaboration was intended to provide researchers in the area of reproductive and developmental toxicity of environmental agents whose quantification may be mixtures, since most research focuses only on a parent compound or its metabolite or a class of compounds, with recommended statistical approaches to produce valid parameter estimates with corresponding confidence intervals.) Theoretical and applied investigations related to statistical methods for dealing with mixtures, measurement error, instrument sensitivities (Limit of Detection) and cost-efficient sampling strategies were provided.
Role: PI

Chaudhuri (PI) 7/1/2011-6/30/2014 0.36 calendar months
American Diabetes Association $8,124

Anti-inflammatory Effect of GLP-1 Receptor Agonists
Goal: The study goal is to test for the hypothesis that GLP-1 agonist could be a potential drug in the treatment of the metabolic syndrome and the prevention of atherosclerosis and cardiovascular disease in this population.
Role: Co-Investigator

Chaudhuri (PI) 7/1/2011-6/30/2014 1.20 calendar months
NIDDK $16,391
Effect of GLP-1 Receptor Agonist on Inflammation and Insulin Sensitivity
Goal: The study goal is to investigate, in greater detail, the anti-inflammatory, insulin sensitizing and the potential anti-atherogenic effects of these drugs in a state of increased inflammation, insulin resistance and risk of cardiovascular disease independent of their glucose lowering effect. Specifically, we propose to investigate the action of a GLP-1 agonist, Exenatide, on indices of inflammation, insulin resistance, endothelial function and arterial stiffness in obese subjects with the metabolic syndrome.
Role: Co-Investigator

Dandona (PI) 12/1/2011-11/30/14 1.20 calendar months
NIDDK $16,282
The Effect of Roux-En-Y Gastric bypass Surgery on Inflammation, cognitive Function and Alzheimer's Disease Related Gene Expression: Possible Role of I
Goal: Since obesity and Type 2 diabetes are proinflammatory conditions and associated with increased risk of Alzheimer's disease (AD) and since incretins exert a suppressive effect on inflammation and Amyloid Precursor Protein, we propose to investigate the effect of Roux-en-Y gastric surgery and weight loss on inflammation, incretins and AD related genes expression in Mononuclear Cells and adipose tissue. The proposal will also investigate the relationship of the improvement between these cellular and molecular indices related to AD and the indices of cognitive function.
Role: Co-Investigator

Ghanim (PI) 7/1/2011-6/30/2014 1.00 calendar months
NIDDK $13,561
Effect of Resveratrol on Inflammation and Insulin Resistance in Obesity and Type 2 Diabetes
Goal: The main objective of this study is to investigate the effect of resveratrol on inflammatory mediators and insulin resistance at the cellular and molecular level in obese non diabetic and type 2 diabetic subjects in vivo.
Role: Co-Investigator

Henderson (PI) 12/1/2010-11/30/2014 1.00 calendar months
NIH $17,102
Prevention of Solvent and Noise-Induced Hearing Loss
Goal: This research is the next step of taking experimental drugs that have been shown to prevent hearing loss in experimental animals and comparing the drug and dose that is likely to be effective for human trials. In this context, specifically, four drugs: N-acetyl-Lcysteine (L-NAC), D-methionine (D-met), AuraQuellTM (combination of vitamins C, E and magnesium), and a Src inhibitor (KX1-004) are assumed to be evaluated.
Role: Co-Investigator

2023

The paper "A Characterization of Most(More) Powerful Test Statistics with Simple Nonparametric Applications. *The American Statistician*." preparation work was supported by a National Cancer Institute (NCI) Cancer Center Support Grant (CCSG) to Roswell Park Comprehensive Cancer Center (grant no. P30CA016056)

November 2024-2027
Project Budget:
$1,060,000

PCORI, The Patient-Centered Outcomes Research Institute
Developing Methods for Clustering Longitudinal Mixed Type Data for Comparative Effectiveness Research

Marianthi Markatou (PI)
How can new understandings be developed to aid the creation of novel interventions related to social determinants of health from diverse data collected from opioid treatment programs (OTPs)? How are predictors of poor diabetes control identified to aid in the development of novel interventions? This project is designed to address these and other similar objectives.
Role: Co-Investigator

Miscellaneous:

May, 2010

A purchase order has been awarded to Albert Vexler. The Purchase Order number is HHSN275201000300P: Contract title: "New Biomarkers Methodology Collaboration"; Eunice Kennedy Shriver, National Institute of Child Health and Human Development, 6100 Executive Blvd, Room 5Z00, Rockville, MD 20852

Jan 2008-Jan 2009

Awarded Grant HHSN267200800295P (PI: Vexler), National Institute of Diabetes Digestive and Kidney Disease, NIH

2007-2013

Invited membership in two NIH's research groups, NICHD, NIH

Teaching Experience

2007-Present	**The State University of New York, University at Buffalo:**
Sole Instructor	STA567 (3 cr), Bayesian Statistical Methods
(All UB Graduate	STA667 (3 cr), Advanced Bayesian Inference
courses)	STA621 (3 cr), Theory of Statistical Inference
	STA671 (3 cr), Advanced Specific Topics in Statistics
1996-2003	**Hebrew University of Jerusalem, Israel:**
	Introductory Statistics (undergraduate level);
	Statistics for Social Sciences and SAS (graduate level);

Linear algebra (graduate level);
Statistical modeling and application (undergraduate level);
Regression analysis (graduate level);
ANOVA (undergraduate level).

Chair/Primary Mentor- Postdoctoral Associate

2011–2012	Dr. Young Min Kim

Chair/Primary Mentor-Doctoral Students

2010–2013	Wan-Min Tsai, PhD in Biostatistics (successful PhD defense on 01/ 2013)
2010–2012	Seongeun Kim, PhD in Biostatistics (successful PhD defense on 7/20 2012)
2012–2016	Xiwei Chen, PhD in Biostatistics (successful PhD defense on 1/11 2016)
2012–2015	Hovig Tanajian, PhD in Biostatistics
2012–2014	Ge Tao, PhD in Biostatistics (successful PhD defense on 07/ 2014)
2013–2017	Yang Zhao, PhD in Biostatistics (successful PhD defense on 01/ 2017)
2014–2018	Li Zou, PhD in Biostatistics
2021–2025	Xinyu Gao, PhD in Biostatistics
2021–Present	Jiaojiao Zhou, PhD in Biostatistics
2025-Present	Zehao Wu, PhD. in Biostatistics (UB)
2025-Present	Andrew Schuck, PhD. in Biostatistics (UB)

Mentor (Selected)

2023-2025	Chair: Zehao Wu, MA. in Biostatistics (UB)
2023-2025	Chair: Andrew Schuck, MA. in Biostatistics (UB)
2024-2026	Committee Member: HyunAh Lee, Ph.D. in Biostatistics (UB)
2022-2023	Committee Member: Soyun Park, Ph.D. in Biostatistics (UB)
Graduated 2023	Committee Member: Chaobo Yan, M.S. in Biostatistics (UB)
2019-2021	Committee Member: Mingmei Tian, Ph.D. in Biostatistics (UB)
Graduated 2008	Co-Chair (with Dr. Tian): Usha Thamattor, Ph.D. in Biostatistics (UB)
Graduated 2009	Co-Chair (with Dr. Hutson): Vincent Girardi, MS. in Biostatistics (UB)
Graduated 2010	Chair: Abass Quaye, MA in Biostatistics (UB)
Graduated 2010	Committee Member: Chin-YingLai, Ph.D. in Biostatistics (UB)
Graduated 2009	Committee Member: Tingting Zhuang, M.S. in Biostatistics (UB)
Graduated 2010	Committee Member: Lai Wei, MA in Biostatistics (UB)
2013-2016	Committee Member: Mojgan Golzy, Ph.D. in Biostatistics (UB)
2013-2016	Committee Member: Luge Yang, Ph.D. in Biostatistics (UB)
2014-2016	Committee Member: Raihan Habib Razib, Ph.D. in Industrial and Systems Engineering (UB)
2017-2020t	Committee Member: En-Shuo Hsu, MA in Biostatistics (UB)
2017-2020t	Chair: En-Shuo Hsu, MA in Biostatistics (UB)

2004-2007	**National Institute of Child Health and Human Development, National Institutes of Health:**

Co-Mentor of pre-doctoral, MA and PhD students of
the Department of Biostatistics, Harvard School of Public Health,
Boston, MA; University of Chicago etc.

Professional Activities

A member of Organization Committee of the international conference:
The international Symposium on Stochastic Models in Reliability Engineering, Life Sciences and Operating Management.
February 8-11,2010
Beer Sheva, Israel
http://www.sce.ac.il/smrlo/?cmd=committees.30

Journal reviewer for: *Journal of American Statistical Association, American Journal of Epidemiology, the Canadian Journal of Statistics, Communications in Statistics – Simulation and Computation, Communications in Statistics -Theory and Methods, Journal of Biopharmaceutical Statistics, Epidemiology, the Annals of Statistics, Toxicological Sciences, Journal of Statistical Computation and Simulation, Journal of Applied Statistics, Metrika, Statistics in Medicine, the Annals of Applied Statistics, Statistics, Journal of Statistical Planning and Inference, Biostatistics, Computational Statistics & Data Analysis, Biometrika, Journal of Applied Mathematics and Computing, Medical Decision Making, Statistical Methods and Applications, Advances in Decision Sciences, Statistics and Computing, Biometrical Journal, The American Statistician, Journal of Statistical Theory and Practice; Journal of Nonparametric Statistics.*

Reviewer for grant applications to the Athens University of Economics and Business, Greece, 2008.

Reviewer for NIH grant applications including NIH Challenge Grant applications

Reviewer for the National Security Agency (NSA) Mathematical Sciences Grant Program

Reviewer for the Israel Science Foundation

Reviewer for the executive government agency of National Science Centre (Narodowe Centrum Nauki - NCN; http://www.ncn.gov.pl)

2011- 2017: **Associate Editor** of BMC Medical Research Methodology, a peer-reviewed journal

2014-2017: **Editorial Board Member** of American Journal of Biostatistics

2014-2017: **Editorial Board Member** of The Open Statistics & Probability Journal

2014-Present: **Editorial Board Member** of Biometrics & Biostatistics International Journal

2014-Present: Included into the 2015 list of Tomsk State University experts

2019-Present: **Reviewer** for National Institute of Neurological Diseases and Stroke (NIH) grant applications received in response to RFA-18-033 (U01) and RFA-18-034 (U24). These two Funding Opportunity Announcements (FOAs) were developed to create a network of preclinical stroke research sites (U01) each of which will test their own and up to 5 other neuroprotective interventions.

2019: **Reviewer** for Clinical and Translational Science Institute (CTSI), Pilot Project Funding.

2015-2019: **Associate Editor** for *Biometrics*, a peer-reviewed first cohort journal in Biostatistics

2017-Present: **Associate Editor** for the *Journal of Applied Statistics*, a peer-reviewed first cohort journal in applied statistics

2022-Present: **Associate Editor** for the *Journal of Multivariate Analysis,* a peer-reviewed first cohort journal in statistics

2020: **Reviewer** for NATIONAL SCIENCE FOUNDATION, Methodology, Measurement, and Statistics Program

2021-2022: Award: **Outstanding Senior Researcher**. University at Buffalo, School of Public Health and Health Professionals.

University Service

Organizing the departmental seminar for the calendar year 2010-2011.

Faculty Council representative in fall 2009 and spring 2010.

Member of Ph.D qualifying exam committees: 2008-Present.

Member of student travel award committee in the department, 2009-Present.

Member of the school-wide committee that ranks student submissions of abstracts and poster presentations for submission to the J. Warrren Perry lecture, 2010.

Chair of student travel award committee in the department, 2017-Present.

Member of Teacher of the Year Award Committee, 2017-Present

Member of Promotion & Tenure Committee, SPHHP, 2019-Present

From 2019: I begin to serve on **The University at Buffalo Faculty Senate**

From 2020-2023: a member of **Faculty Senate Executive Committee**