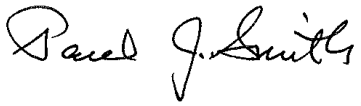

January 17, 2020

CURRICULUM VITAE

Paul John Smith
Born January 6, 1943, in Philadelphia, PA, U.S. Citizen

I. PERSONAL INFORMATION

Education

Institution	*Degree*	*Date Awarded*
Drexel University	B.S.	1965
Case Institute of Technology	M.S.	1967
Case Western Reserve Univ.	Ph.D.	1969

Experience in Higher Education

Institution	*Rank*	*Dates*
University of Maryland	Associate Dean, CMPS/CMNS College	2010-present
University of Maryland	Director, Statistics Lab.	1990-2005
University of Maryland	Director, Math. Statistics Program	1981-1989, 1998-2000 2004-2010 2015-present
University of Maryland	Associate Professor	1976-present
University of Maryland	Assistant Professor	1971-1976
Indiana University	Assistant Professor	1969-1971
Wayne State University	Assistant Professor	1969
University of Michigan	Research Assistant	1968

Professional Experience Not in Higher Education

Activity	*Dates*
Consultant to U.S. Selective Service System on draft lottery	1973, 1987
Consultant to Scientific Education Systems, Inc. on sampling error in 1970 Elementary School Survey conducted by U.S. Office of Education	1973-1974
Consultant to Booz-Allen Applied Research Corp.	1974
Consultant and expert witness for U.S. Consumer	

Product Safety Commission	1976-1977
Statistician, National Institute of Mental Health (sabbatical year appointment)	1977-1978
Consultant and expert witness in age discrimination case	1979
Statistical Consultant, National Institute of Mental Health	1979-1980
Statistical Consultant, ENSCO, Inc.	1980
Mathematical Statistician, National Cancer Institute (NIH) (sabbatical year appointments)	1992-1993
Statistical Consultant, National Cancer Institute (NIH)	1988-1990
Statistical Consultant, National Institute of Neurological and Communicative Disorders and Stroke(NIH)	1992-2005
Statistical Consultant, Maryland Department of Transportation	1993, 2005-2013
Statistical Consultant, Malcolm Pirnie, Inc.	2001-2003
Statistical Consultant, Maryland Public Service Comm.	2003
Statistical Consultant, WSSC	2004, 2011, 2016
Member, FDA Advisory Committees	2018

II. RESEARCH, SCHOLARLY AND CREATIVE ACTIVITY

PUBLICATIONS

Research Articles

A. Articles published, or accepted for publication, in research journals

1. Completeness theorems for characterizing nonparametric statistics, Ann. Inst. Statist. Math. 24 (1972) 435-53, with C.B. Bell.

2. Limiting distributions of tests of exchangeability based on the empirical distribution, Metron 33 (1975) 128-136.

3. A variance bound for unbiased estimation in inverse sampling, Biometrika 63 (1976) 216-217, with P. W. Mikulski.

4. A nonparametric test for bivariate circular symmetry based on the empirical cdf, Comm. Statist. 6 (1977) 209-219.

5. Comparison of fixed precision estimation schemes in Bernoulli trials, Applicationes Mathematicae 15 (1977) 437-444, with P. W. Mikulski.

6. Distribution of the normal scores statistic for nonparametric one-way analysis of variance, J. Amer. Statist. Assoc., 74 (1979)

715-722, with H. T. Lu.

7. Exact and approximate distributions of the chi-square statistic for equiprobability, Comm. Statist., B8, (1979), 131-149, with D. S. Rae, R. W. Manderscheid, and S. Silbergeld.

8. Distribution of the likelihood ratio statistic for goodness of fit for the equiprobable multinomial distribution, J. Amer. Statist. Assoc., 76 (1981), 737-740, with D. S. Rae, R. W. Manderscheid, and S. Silbergeld.

9. Applications of the likelihood ratio criterion to tests of equiprobability, Sociological Methods & Research, with R. W. Manderscheid, D. S. Rae, and S. Silbergeld. (accepted for publication)

10. Reduction of satellite magnetic anomaly data, J. Geophys. Res., 54 (1984), 207-212, with R. A. Langel and E. V. Slud.

11. Asymptotic and finite sample behavior of the time on test estimator under random censorship when lifetimes are not exponential, Commun. in Statist. (Theory & Meth.) 14 (1985) 1643-58, with B. H. Patterson.

12. A comparison of muscle activation patterns in adductor and abductor spasmodic dysphonia, with F. Van Pelt and C. L. Ludlow. J. Otology, Rhinology and Laryngology, 103 (1994), 192-200.

13. Estimation of coastal water contamination long-term trend using seasonal linear models, Water Resources Bulletin 32 (1996) 595-603, with B. Beliaeff.

14. U. S. Mussel Watch data from 1986 to 1994: temporal trend detection at large spatial scales. Environ. Sci. Technol. 31 (1997) 1411-1415, with B. Beliaeff, T. P. O'Connor and D. K. Daskalakis.

15. A stronger version of matrix convexity as applied to functions of Hermitian matrices. J. Inequalities & Appl. 3 (1999) 143-152, with A. M. Kagan.

16. An estimate of the variance of estimators for lead time and screening benefit in randomized cancer screening trials, Biometrical Journal 40 (1998) 801-821, with K. Kafadar and P.C. Prorok.

17. Damage analysis of fiber composites I: statistical analysis on fiber scale, Computer Methods in Applied Mechanics and Engineering, 172 (1999) 27-77, with B. Anderson, I. Babuska and

K. Levin.

18. Multivariate normal distributions, Fisher information and matrix inequalities. Int. J. Math. Educ. in Science and Tech. 32 (2000) 91-96, with A. Kagan.

19. Effects of levodopa on laryngeal activity for voice onset and offset in Parkinson disease, Journal of Speech, Language and Hearing Research, 44 (2001) 1284-1299, with S. Gallena, T. Zeffiro, C.L. Ludlow.

20. Principal components representation of the two-dimensional coronal tongue surface, Phonetica, 59 (2002) 108-133, with M. Goldstein, E. Slud and M. Stone.

21. On robustness of maximum likelihood estimates for mixed Poisson regression models, Statistics and Probability Letters, 66 (2004) 189-196, with K. S. Weems.

22. Modeling Price Dynamics in eBay Auctions Using Principal Differential Analysis, SSRN Electronic Journal (2006), with W. Jank, G. Shmueli and Shanshan Wang.

23. Modeling Price Dynamics in eBay Auctions Using Principal Differential Analysis, Journal of the American Statistical Association, 103 (2008) 1100-1118, with S. Wang, W. Jank and G. Shmueli

24. A hidden Markov model to identify regions of interest from eye movements, with an application to nodule detection in chest X-rays. SSRN Electronic Journal (2014), with M. Wedel, Jin Yan, E. Siegel, A. H. Li.

25. Assessing the robustness of estimators when fitting Poisson inverse Gaussian models, Metrika (2018), with Kimberly Weems.

25. A continuous-time Markov model for estimating readmission risk for hospital inpatients. Operations Research for Health Care, 22 (2019) with Xu Zhang, Sean Barnes, and Bruce Golden.

26. A continuous-time Markov model for estimating readmission risk for hospital inpatients. Journal of Applied Statistics. To appear (2020), with Zhang, Xu & Barnes, Sean & Golden, Bruce

B. Articles in proceedings of symposia, conferences, etc.

1. Some nonparametric tests for the multivariate goodness-of-fit, multisample, independence and symmetry problems, Multivariate Analysis II, P. R. Krishnaiah, ed., New York: Academic Press (1969) 3-23, with C. B. Bell.

2. Some aspects of the concept of symmetry in nonparametric statistics, Symmetric Functions in Statistics, D. S. Tracy, ed., Windsor, Canada: University of Windsor (1972) 143-181, with C. B. Bell.

3. Inverse sampling, invited article for Encyclopedia of Statistical Sciences, vol. IV, 249-253, S. Kotz and N. L. Johnson, editors, J. Wiley, (1983).

4. Noether conditions, invited article for Encyclopedia of Statistical Sciences, vol. VI, 249-252, S. Kotz and N. L. Johnson, eds., J. Wiley (1985).

5. Quantitative assessment of the accuracy of constitutive laws for plasticity with an emphasis on cyclic deformation, in Material Parameter Estimation for Modern Constitutive Equations, L. Bertram, S. Brown and A. Freed, eds., American Society of Mechanical Engineers MD Vol. 43, AMD Vol. 168 (1993) pp. 113-170, with I. Babuska, K. Jerina and Y. Li.

C. Articles submitted for publication

1. Robust tests in statistical quality control, with S.-M. Chen.

2. Mixed Poisson model for clustered count data with covariates, with application to dietary intake data, with B. I. Graubard and D. N. Midthune.

3. A central limit theorem for spatial arrays of nonstationary rho-mixing random variables, with Yufen Chung.

D. Research Announcements (in Bull. AMS, Comptes Rendus, etc.)

1. Nonparametric independence tests: optimal alternatives, Ann. Math. Statist. 38 (1967) 954, with C. B. Bell.

2. Distribution-free tests for multivariate independence, symmetry and k-sample problems, Ann. Math. Statist. 39 (1968) 1086, with C. B. Bell.

3. Nonparametric tests of multivariate sphericity, Ann. Math. Statist. 40 (1969), 331.

E. Technical Reports not included above

1. Rank tests for ordered alternatives in nonparametric two-way mixed models, Univ. of Md. TR 73-42 (1973).

2. Unbiased nonparametric tests against ordered alternatives in two-way layouts, Univ. of Md. TR 74-60 (1974).

F. Book Reviews

l. R. Christenson, Multivariate Statistical Modeling, Technometrics 29 (1987) 382-383.

2. D. W. Zimmerman & R. H. Williams, Modern Elementary Statistics with Theoretical Supplement and BASIC Programming, Technometrics 30 (1988) 123.

3. D. A. Ratkowski, M. A. Evans, J. R. Alldredge, Cross-Over Experiments, J. Amer. Statist. Assoc. 89 (1994), 356-357.

4. C. McCann, F. Y. Edgeworth: Writing in Statistics, Probability and Economics, J. Amer. Statist. Assoc. 91 (1996), 1752.

5. D. Berry, Statistics: A Bayesian Perspective, Amer. Statistician, 51 (1997) 293-295.

GRANTS, CONTRACTS, AWARDS AND PRIZES

U. of Maryland Faculty Research Award, 1974
NIMH Intergovernmental Personnel Appointment, June 1977-August 1988
NASA NGL 21-002-033 "Cooperative Research in Space Sciences"
(half support, summer 1981)
NIH Intergovernmental Personnel Appointment, Sept. 85-Aug. 86
U. of Maryland CALCE Center for Electronic Packaging, College of Engineering (half support, summer 1991)
NIH Intergovernmental Personnel Appointment, Sept. 92-Aug. 93
NIH Funding for UMAB Study of Imaging of Tongue in 3 dimensions (channeled through EE Dept.) 1996-2000

INVITED TALKS

National Institute of Mental Health - 1979
National Institute for Neurology, Communications Disorders and Stroke - 1985
Washington Statistical Society - 1988, 1993
National Cancer Institute - 1993, 1994
Statistics Institute, Academica Sinica, Taiwan - 1994, 2002, 2003, 2004
Fu Jen University, Taipei, Taiwan - 1994
Taipei National University, Taiwan - 2002
National Sun Yat-sen University, Kaohsiung, Taiwan - 1994
American Statistical Association Annual Meeting - 1994
UMBC - 1997
Food and Drug Administration - 1998

MEMBERSHIP IN HONORARY OR PROFESSIONAL SOCIETIES

American Statistical Association
Institute of Mathematical Statistics

III. TEACHING AND ADVISING

COURSES TAUGHT IN THE LAST FIVE YEARS

Fall 2013	STAT 740
Spring 2014	STAT 741
Fall 2014	STAT 740
Spring 2015	STAT 741
Fall 2015	STAT 740 STAT 689
Spring 2016	STAT 741
Fall 2017	STAT 740 STAT 689
Spring 2018	STAT 741 STAT 689
Fall 2018	STAT 740
Spring 2019	STAT 741
Fall 2019	STAT 740 STAT 401
Spring 2020	STAT 741

The above listing does not include various STAT 498 and STAT 798/818 independent study courses, nor does it include IRT's, M.A. or Ph.D. thesis students.

THESES DIRECTED

Degree	*Recipient*	*Title*	*Date*
M.A.	H. T. Lu	Nonparametric Analysis of Variance Using Normal Scores	1977

Ph.D.	Edward Lakatos	Undiminished Residual Effects Designs and Their Applications to Survey Sampling	1978
M.A.	Donald J. Henderson	The Development and Evaluation of a Sequential Multivariate Ranking Algorithm for Use in Nonparametric Discrimination	1979
M.A.	Blossom Patterson	The Time on Test Statistic and Its Jackknifed Version under Various Lifetime and Censoring Models	1982
M.A.	Yuk-Sing Yan	Power Comparisons for Kruskal-Wallis and Normal Scores Tests for Normal and Nonnormal Shift Alternatives	1982
Ph.D.	Ana Nora Donaldson	Nonparametric Estimation in a Survival-Sacrifice Experiment	1988
Ph.D.	Margaret E. Myers	Robustness of Design in Misspecified Logistic Regression Models	1988
M.A.	Robert C. Smucker	Confidence Intervals for the Variance Ratio in Balanced One-Way Random Effects ANOVA with Nonnormally Distributed Data	1988
Ph.D.	Sy-Mien Chen	Robust Tests in Statistical Quality Control	1990
Ph.D.	Barry Graubard	Statistical Methods for the Analysis of Complex Survey Data with Biomedical Applications	1991
M.A.	Marilyn Timmel	A Model to Estimate the False Negative Rate, Mean Sojourn Time, and Mean Lead Time in Cancer Screening Studies	1992
Ph.D. (Math.Ed.)	Sylvia W. Lee	Spatial Ability and Achievement in Geometry among Taiwanese High School Students	1993
M.A.	Elisabeth Arbaugh	A Comparison of Stepwise Logistic Regression and Stepwise Discriminant Analysis for Variable Selection When Group Covariance Structures Differ	1994

M.A.	Ren Yu	A Simulation Technique for Evaluating Graphical Methods with Application to Generalized Linear Models	1995
M.A.	Binh Thuy Do	Statistical Performance of the "Eigenvalue Greater Than One Rule" for Determining the Order of a Factor Analysis Model	1996
Ph.D.	Yu-Fen Chung	A Central Limit Theorem for Spatial Regression Based on Generalized Estimating Equations	1997
M.A.	Mona Zhang	A Technique for Imputing Costs in a Medicare Data Base When the Number of Missing Charges Is Unknown.	1997
M.A.	Teching Chen	Logistic Regression When Covariates Are Missing at Random	1998
M.A.	Holly Toboni	Quantitative Characterization and Modeling of Carbon Fiber Composite Materials	1999
Ph.D.	Kimberly Weems	On Robustness against Misspecified Mixing Distribution in Generalized Linear Mixed Models	2000
M.A.	LaRee Tracy	Nonparametric Survival Analysis of HIV-1 Infected Subjects Receiving Antiretroviral Drug Resistance Testing	2002
M.A.	Bipasa Biswas	Normal Approximation to Binomial Distribution for Sample Size and Power Calculation in Equivalence Trials	2002
M.A.	Chon Sam	Estimation of Fish Quantity in the Chesapeake Bay by Different Modeling Approaches	2003
Ph.D.	Gabriela Cohen-Freue	On Robustness in Some Extended Regression Models	2004
Ph.D.	Xiaoping Jiang	Nonparametric Quasi-likelihood in Longitudinal Data Analysis	2004
Ph.D.	Te-Ching Chen	Estimating Common Odds Ratio with Missing Data	2005
M.A.	Jing Zhou	Methods of Imputation for Missing Data	2006

Ph.D.	Shanshan Wang	Exploring and Modeling Online Auctions Using Functional Data Analysis	2007
Ph.D.	Min Min	Asymptotic Normality in Generalized Mixed Models	2007
M. A.	JoAnn Rudd	An EM Algorithm for Mixed-Type Multiple Outcome Regressions with Applications to a Prostate Cancer Study	2008
Ph.D.	Chon Sam	Variable Selection Properties of L1 Penalized Regression in Generalized Linear Models	2008
Ph.D.	Xin Song	Monitoring Multivariate Process Dispersion	2009
M.A.	Yonghong Wang	Using Statistical Method to Reveal Biological Aspect of Disease: Study of Glioblastoma by Using Comparative Genomic Hybridization (CGB) Method	2010
Ph.D.	Bo Li	Nonparametric Estimation and Testing of Interaction in Generalized Additive Models	2011
Ph.D.	Jin Yan	Reversible Jump Hidden Markov Model Analysis of Longitudinal Data with Medical Applications	2013
Ph.D	Jing Li	Analysis of Repeated Measures in the Presence of Missing Observations Due to Dropout	2013
M.A.	Ayala Nuriely	Multiple Testing Procedures for the Analysis of Microarray Data	2013
Ph.D.	Kijoeng Nam	Dimension Reduction Using Inverse Spline Regression	2014
Ph.D.	Yue Tian	Functional Principal Component Analysis with Application to Viewership of Motion Pictures	2014
Ph.D.	Douglas Galagate	Causal Inference with a Continuous Treatment and Outcome: Alternative Estimators for Parametric Dose-Response Functions with Applications	2015
Ph.D.	Ye Chen	Stochastic Optimization: Approximate Bayesian Inference and Complete Expected Improvement (Ilya O. Ryzhov, co-advisor)	2018

Ph.D.	Jinhang Xue	Essays in Statstical Analysis: Isotonic Regression and Filtering (Ilya O. Ryzhov, co-advisor)	2018
Ph.D.	Xu Zhang	New Statistical Methods to Better Leverage Emerging Health Care Utilization Data (Bruce Golden, co-advisor)	2019
Ph.D.	Yixin Ren	Regression Analysis of Recurrent Events with Measurement Errors (Xin He, co-advisor)	2019

IV. SERVICE

SERVICE TO THE UNIVERSITY

Vice Chancellor's Ad Hoc Committee on Statistics, 1972-73
MPSE Division Program, Course and Curriculum Committee, 1974-77
(subcommittee Chairman, 1976, Committee Chairman, 1976-77)
Graduate Council, 1974-77, (Admissions Committee Chairman, 1976-77)
Mathematics Chairman Search Committee, 1976-77
MPSE Division Council, 1980-84, Chairman 1981-83
Senate Program, Course & Curriculum Committee, 1982-83
Senate Committee on Faculty Affairs, 1983-1985, 1989-1992,
Chair, 1989-1991
Senate Committee on Educational Affairs, 1986-89, 1993-1996
CMPS College Promotion & Tenure Committee, 1986-88
Senate Grievance Committee, 1987-1990
Senate, 1988-1991, 2004-2007
Senate Executive Committee, 1988-1991, 2006-2007
EDMS Department Internal Review Committee (Chair), 1988-89
Trustee, Washington Area Consortium of Universities, 1988-1995
Senate Ad Hoc Committee on Appointment, Rank and Tenure, Chair, 1989-1991
Graduate Dean Search Committee, 1989-90
Survey Methodology Program Executive Committee, 1992-present
Survey Methodology Program Search Committee, 1995
ITV Associate Director Search Committee, 1995
Provost's Committee on Continuing Education, 1996
Senate Committee on Campus Affairs, 1996-1998
CMPS Facilities Committee, 1994
Epidemiology/Biostatistics Search Committee, 2006-2007, 2008-2009
Associate Dean, CMNS, 2010-2016
General Education Implementation Committee, 2010-2012
Learning Outcomes Commission, 2010-2016
Banneker-Key Scholarship Committee, 2011

SERVICE TO THE DEPARTMENT OTHER THAN TEACHING

Math-Stat Majors Committee, 1973-76, 1997-present
Career Development Representative, 1973-77
Chairman, Statistics Branch 1976-77, 1978-89
Undergraduate Advisor, 1972-76, 1998-present
Graduate Advisor, 1976-77, 1978-present
Graduate Financial Aid Committee, 1978-1981, 1989-1992, 1998-present
Ad Hoc Committee on Undergraduate Program, 1978-79
Policy Committee, 1974-77, 1978-8l, 1982-85, 1986-1991, 2019-2020
Chairman, STAT 400 Review Committee, 1976
Organized Statistics Seminar, 1971-73, 1993-94, 1996-present
Ad Hoc Committee on Assistant Professors (Jackson committee), 1972-73
Graduate Admissions Committee, 1981-1989
Merit/Salary Committee, 1980, 1985, 1987, 1991, 1996, 1998, 2016
Ad Hoc Committee on Graduate Student Recruitment, 1982-83
Created STAT 100 course
Created STAT 705 course (with B. Kedem, E. Slud)
Created STAT 770 course
Organized Probability and Statistics Day Spring 1979, Spring 1982
Principal Investigator, FULCRUM M18 project, 1984-1988
Director, Statistics Laboratory, 1990-2005
Organized University Lectures in Statistics and Its Applications, 1989-90
Mathematics Building Committee, 1993-94
Graduate Program Review Committee, 1997
Committee for Periodic Review of Faculty, 1996-97, 1998-99
Director, STAT Program 1978-89, 1998-2000, 2004-2010, 2016-present
Summer Session I Program Director, 1999
Created STAT 430 Course, 2000
Created STAT 741 course, 2002
AMSC Graduate Committee, 2010-2019

SERVICE TO THE MATHEMATICAL COMMUNITY

Refereed for J. Amer. Statist. Assoc., Comm. Statist., Z. Wahrscheinlichkeit, Amer. Statistician, Ann. Inst. Statist. Math., Public Opinion Quarterly, J. Statist. Planning & Inference
Refereed NSF proposals 1975-76
IMS representative at Mathematics Department, 1975-1989
ASQC Awards Committee, 1978-1998, (Chairman, 1980-1998)
Refereed proposals for Nat. Inst. of Mental Health
ASQC Technical Media Committee 1982-2000
Technometrics Management Committee 1986-1989
Managing Editor, Annals of Probability, 1993-2000
Managing Editor, Annals of Applied Probability, 1993-2000
Associate Review Editor, J. Amer. Statist. Assoc., 1996-1998
Associate Editor, Int. J. Quality Technology and Quality Management,

2002-present
Editorial Board, J. Probability and Statistical Science, 2002-present