

PROMOTION RECOMMENDATION
The University of Michigan
School of Public Health
Department of Biostatistics

Douglas E. Schaubel, associate professor of biostatistics, with tenure, Department of Biostatistics, School of Public Health, is recommended for promotion to professor of biostatistics, with tenure, Department of Biostatistics, School of Public Health.

Academic Degrees:

Ph.D. (Biostatistics)	2002	University of North Carolina at Chapel Hill, Chapel Hill, NC
M.Sc. (Biostatistics)	1996	McGill University, Montreal, PQ, Canada
B.Math. (Actuarial Science, Statistics)	1992	University of Waterloo, Waterloo, ON

Professional Record:

2008-present	Associate Professor, University of Michigan, Department of Biostatistics
2002-2008	Assistant Professor, Department of Biostatistics, University of Michigan
1999-2002	Graduate Research Assistant, Department of Biostatistics, University of North Carolina, Chapel Hill, NC

Summary of Evaluation:

Teaching: Since his arrival at Michigan, Professor Schaubel has made a solid contribution to our teaching program. He has taught 500, 600 and 800 level courses and has obtained excellent ranking in all courses. The students find his courses challenging but he still receives excellent rankings. Many students report “He is tough, gives a lot of work but it is so fun to learn from him.” “I look forward to attending his lectures.” He has played a very crucial role in developing Biostat 513 based on input from students, instructors and faculty members from other departments. Though the material covered in Biostat 523 and 513 is similar, the emphasis is different. We believe that this split has improved the quality of education on regression analysis substantially.

Professor Schaubel currently supervises four Ph.D. students. Two students have graduated: one is a tenure track assistant professor and the other is a senior biostatistician at Amgen. He also supports several other students and serves on numerous doctoral dissertation committees. Professor Schaubel also mentors students in nephrology, surgery and the OJ/OC program.

Research: Professor Schaubel has a prolific research record. He has 95 published articles, 23 methodological in nature and 72 research articles in substantive journals. He has 13 first authored papers in methodological and six with his doctoral students as first author. As per our convention, we count these as equivalent to first author papers as well. Of the 72 applied papers, he is the first author of 19, which means he often plays a lead role in those substantive collaborations. Many of Professor Schaubel’s methodological publications have appeared in very highly regarded journals such as *Biometrika*, *Biometrics*, and *Statistics in Medicine*. His collaborative papers have also appeared in prestigious journals such as *Journal of American Medical Association*, *American Journal of Transplantation*, and *Epidemiology*.

He has one R01 grant from NIH on survival analysis methods for organ failure data, and has significant long-term funding in transplant registry research.

Professor Schaubel's methodological research concerns methods for estimating the effect of time-dependent treatments, and methods for addressing problems in survival analysis and the analysis of recurrent events. In the best tradition of biostatistics methods research, it flows directly from his collaborative research on organ transplantation and other applications, and hence addresses real problems.

His work on time-dependent treatments is motivated by his collaborative work to evaluate the survival benefit of organ transplantation, using observational data. He developed a method he termed "sequential stratification" for quantifying the survival benefit of repeat ECD kidney transplantation. He later developed extensions of this method to yield causal parameters for estimating the effect of liver transplantation.

Professor Schaubel has made important methodological advances on a variety of aspects of survival analysis and event history data, including: a weighted proportional-hazards model to analyze censored data in the presence of selection bias, in work with his student Qing Pan (received the best paper award); selection bias in models for the analysis of times between state transitions; semiparametric models for multiple-category recurrent events; estimation with non-proportional hazards; dependent censoring; and complications due clustering. Many of these papers are seminal and have been instrumental in changing the applications in organ transplant research. He brings most of his methodological research immediately to his collaborative research projects.

Professor Schaubel's collaborative research is done at the Kidney Epidemiology and Cost Center (KECC) and Arbor Research Collaborative for Health (AR; formerly URREA). His work on the Scientific Registry of Transplant Recipients is notable because of its high public health significance: more rational approaches to allocating transplants to saves lives. Much of his work at KECC/AR is self-initiated. His work on restructuring liver allocation system is focused on maximizing the additional life-years gained through liver transplantation, by scoring wait-list patients in decreasing order of liver transplant survival benefit. He presented his proposed methods for estimating liver transplant survival benefit at the American Transplant Congress, the premier meeting on organ transplants, in May 2007. Again in 2010, his talk was selected to be a plenary talk at the American Transplant Congress. In this talk, he presented the results from microsimulation models to study the relationship between the liver allocation scores and geographic distribution rules. The score was based on an index of excess graft failure risk for kidney transplants which he developed in collaboration with Dr. Pandu Rao, a graduate of the Biostatistics OJ/OC program.

He has developed close collaborative ties with Dr. Pratima Sharma another graduate of the OJ/OC program and Professors Englesbe and Sonnenday from surgery to further both methodological and collaborative research.

Recent and Significant Publications:

- Zhang, M. and Schaubel, D.E. Estimating differences in restricted mean lifetime using observational data subject to dependent censoring. (in press: *Biometrics*).
- Liu, D., Kalbfleisch, J.D. and Schaubel, D.E. (2011). A positive stable frailty model for clustered failure time data with covariate dependent frailty. *Biometrics*, 67, 8-17.
- Schaubel, D.E. and Wei, G. (2011). Double inverse weighted estimation of cumulative treatment effects under non-proportional hazards and dependent censoring. *Biometrics*, 67, 29-38.
- Zhang, H., Schaubel, D.E. and Kalbfleisch, J.D. (2011). Proportional hazards regression for the analysis of clustered survival data from case-cohort studies. *Biometrics*, 67, 18-28.
- Kennedy, E.H., Taylor, J.M.G., Schaubel, D.E. and Williams, S. (2010). The effect of salvage therapy on survival in a longitudinal study with treatment by indication. *Statistics in Medicine*, 29, 2569-2580.
- Schaubel, D.E. and Zhang, M. (2010). Estimating treatment effects on the marginal recurrent event mean in the presence of a terminating event. *Lifetime Data Analysis*, 16, 451-477.
- Schaubel, D.E., Wolfe, R.A., Sima, C.S. and Merion, R.M. (2009). Estimating the effect of a time-dependent treatment in by levels of an internal time-dependent covariate. *Journal of the American Statistical Association*, 104, 49-59.
- Pan, Q. and Schaubel, D.E. (2008). Proportional hazards regression based on biased samples and estimated selection probabilities. *Canadian Journal of Statistics*, 36, 111-127.

Service: Professor Schaubel has been an energetic and helpful member of a number of the departmental committees, including the candidacy, curriculum and admissions committees, which are perhaps the most important and have the highest workload. On the curriculum committee he played a key role in restructuring the biostatistics service course offerings, by introducing a new course, BIOS 513, that is less intensive than the existing second course in biostatistics, BIOS 523. His positive attitude and collegiality and common sense make him a very positive influence in departmental decision-making.

Professor Schaubel has been very active professionally as a referee and as an associate editor for the journal *Lifetime Data Analysis*, a leading outlet for research in survival analysis. He is also active with the International Biometrics Society and has been a member of the Regional Advisory Committee, the major policy committee for the eastern region of that society.

External Reviewers:

Reviewer A: "Dr. Schaubel's research agenda (in progress and planned) is outstanding. I rate his work to be clever and exceptional...thoughtful academic plan as well as an excellent track record of presentation and publication...Dr. Schaubel's output is excellent to outstanding."

Reviewer B: "I was greatly impressed by Dr. Schaubel's presentations...He did a superb job in communicating complex statistical concepts...represents important contributions to the field of biostatistics...Given [his] high level of productivity in both statistical and collaborative research he would easily qualify for promotion to a professor with tenure [in my institution]."


Reviewer C: "Dr. Schaubel has made important contributions to the advancement of solid organ transplantation...his work in this area is becoming well known...earning a reputation in the transplant community for his expertise...[He] is the kind of faculty member one would like to have in a biostatistics program."

Reviewer D: "Dr. Schaubel is quite productive in both his methodology and applications research... The technical quality of his work is high...noteworthy publications...impressive list of collaborative papers. I expect that a corresponding promotional proposal would be successful at [my institution]."

Reviewer E: "Dr. Schaubel has investigated several important but difficult issues...has several important papers... Through his publications, Dr. Schaubel has gained a national and international reputation and is definitely on the way to become a leading expert in several of his research fields."

Reviewer F: "[He] has made substantial contributions to methodological research in biostatistics. [He] has been extremely productive in collaborative researcher...It is impressive that he was able to successfully integrate collaborative research with statistical research and obtain an NIH RO1 grant award based on the integrated topic..."

Summary of Recommendation: Professor Schaubel is a prolific researcher, superb teacher and dependable departmental citizen. Individuals of his caliber with strong methodological skills and deep involvement in collaboration are very rare indeed. Given his outstanding record in research and service, as well as excellence in teaching, I am pleased to recommend Douglas E. Schaubel for promotion to professor of biostatistics, with tenure, Department of Biostatistics, School of Public Health.



Martin A. Philbert
Dean, School of Public Health

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