

ABSTRACT

The idea of informatively missing data, or informative dropout, is that the chance that an observation is missing is related to its actual value. Examples of informatively missing data occur throughout Biostatistics, e.g., in clinical trials with noncompliance, in longitudinal studies of numerical outcomes where the values of the numerical outcomes influence survival, etc. As the compliance example indicates, the field of informative missingness is closely linked to issues of causality. Informative missingness distorts standard analyses, and new approaches to statistical inference are required.

There are two broad approaches to statistical inference in the presence of informatively missing data: (a) pattern mixture models; and (b) selection models. In the pattern mixture model approach, separate models are fit for each pattern of missing data, and then through assumptions and/or sensitivity analysis, the disparate models are combined. In selection models, the missing data (or selection) mechanism is modeled directly in terms of the unobservables. Both pattern mixture models and selection models make assumptions that are not directly verifiable from data, and so sensitivity analysis is the norm.

The purpose of this conference is to bring together some of the leading researchers in the area to present the newest statistical techniques. We plan a limited number of talks over a two-day span, with ample time for discussion and contrast of the methods. The conference is unique in its focus and in the fact that many of the leading researchers have agreed to participate.

RECENT ADVANCES IN MODELING INFORMATIVELY MISSING DATA

OVERVIEW

DETAILED OBJECTIVES

LOGISTICS

The conference will take place in the Memorial Student Center at Texas A&M University. It will be held April 23–24, 1999. The conference participant fee is \$50 (\$15 for students). Guest rooms will be available at the Memorial Student Center, as well as the nearby Hilton Hotel, which provides free shuttle service. College Station is served by Continental Airlines via Houston and by American Airlines via Dallas: the Houston airport is approximately 90 miles from College Station.

CONFERENCE FORMAT

The conference will consist of five talks, each 45 minutes of length with 45 minutes for discussion. Speakers will be encouraged to compare their methods with competing approaches. This format differs greatly from the standard statistics conference format, wherein speakers are generally tightly scheduled with little time for discussions. The last session will be a roundtable, consisting of the five speakers with Professor Murphy in the chair. This will give the audience opportunity to ask questions of individual speakers, with others agreeing or disagreeing as they wish.

On the evening of April 23, a poster session will be held for conference participants who wish to display their work. Poster sessions at smaller biostatistics conferences are generally successful affairs because they allow for considerable discussions to take place.

AGENDA AND SCHEDULE

JUSTIFICATION

ORGANIZING COMMITTEE

The organizing committee consists of the following.

- Raymond J. Carroll, University Distinguished Professor in the Department of Statistics, and Distinguished Professor of Biostatistics & Epidemiology, Nutrition and Toxicology.
- Susan Murphy, Professor of Statistics, University of Michigan
- Naisyin Wang, Associate Professor of Statistics and Toxicology, Texas A&M University.

PARTICIPANTS

- Peter Diggle
- Jamie Robins
- Andrea Rotnitzky
- Michael Kenward
- Margaret Wu
- Nan Laird
- Joseph Hogan
- Roderick Little
- Xihong Lin

AUDIENCE

PUBLICITY PLANS

REFERENCES