*January, 1998*

## Joint Biostatistics and General Applications Program

### "ACCELERATED DEGRADATION TESTS"

*Jack Tomsky, Ph.D.*

*statistical consultant*

A common problem in drug testing is determining the stability or shelf life of a product at certain environmental conditions. If the tests are performed at these nominal conditions, it make take a long time to observe failures. Under accelerated testing, tests are performed at a variety of overstressed conditions. The results are then extrapolated back to the nominal conditions of interest through the use of an appropriate statistical model.

In accelerated life testing (ALT), failure times or intervals are observed. In accelerated degradation testing (ADT), measurements are made on some active ingredient or chemical. ADT also requires a specification limit or limits. ADT has the advantage over ALT in not requiring the observation of actual failures. This allows for shorter tests.

Despite these advantages, ADT has been little used to date. This is because there is relatively little in the literature on ADT models. Now, new methodology has been developed for analyzing ADT data encompassing a variety of models. The results are illustrated by a numerical example. By estimating the parameters in the model by maximum likelihood and using the large-sample covariance matrix, the results for all statistical problems of interest are obtained.

**Date:** Tuesday, January 27, 1998

**Time:** 3:30 - 4:00 PM    Refreshments
4:00 - 5:00 PM    Discussion

**Place:** Failure Analysis Associates, 149 Commonwealth Dr., Menlo Park

**Dinner:** 6 PM , place to be announced at talk

**Directions:** See map.

## Open Positions

### Covance

### Walnut Creek

*Biostatisticians*

Covance is the world's leading clinical contract research organization experienced in both small and large-scale Phase I, II, and III clinical studies as well as national and multinational drug development programs. The unprecedented growth of our company has resulted in new and exciting career opportunities.

> Covance will hold a Career Fair January 23 & 24, 1998

### Manager Statistics :

The successful candidate for this position will manage project activities and use their experience to select and implement statistical methods on clinical studies. Coaching and mentoring statisticians and providing liaison with clients are important tasks for this position. Must be familiar with preparation of sections of ISS and ISE documents and will be responsible for key sections of statistical/clinical reports. MS Statistics, PhD preferred, with a minimum of 5 years of experience with a Phar- maceutical or Biotechnical

company. Must have supervisory experience, SAS programming proficiency and knowledge of statistical methodology in clinical trials.

### Sr. Statistician:
Serves as core project team member to coordinate and manage all statistical activities on a project. Provides statistical input for protocol & CRF development and prepares Analysis Plans, key portions of integrated clinical/ statistical reports, and key sections of ISS an ISE. Provides technical solutions to a wide range of statistical problems. MS in Statistics, Ph.D preferred, with a minimum 3 years in pharmaceutical or related setting. Proficiency in SAS programming and word processing.

### Sr. Statistical Programmer/Analyst:
Writes, modifies, validates and implements clinical project work in SAS. Sets up SAS-based systems to facilitate data management activities. Serves as lead programmer in development/production projects. Serves as a key technical resource in project management. Carries out technical planning, setup and documentation for multi-protocol projects. BS or MS in computer science, statistics or related field. Minimum 4 years of SAS programming in pharmaceutical research. Advanced SAS skills.

In addition to exciting career opportunities in an environment that values your contribution, Covance offers competitive salaries and excellent benefits.

Covance will have a Career Fair January 23 & 24, 1998. Qualified candidates are encouraged to attend. Please send your resume/CV in confidence to:

**Covance CAPS , Inc.**
**2121 North California Blvd.**
**Ste. 500**
**Walnut Creek, CA 94596**
**FAX 510-974-3703**

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### Department of Obstetrics, Gynecology, and Reproductive Sciences
### University of California, San Francisco
The University of California, San Francisco The Department of Obstetrics, Gynecology, and Reproductive Sciences at the University of California, San Francisco is seeking a full- or part-time statistician with a strong background in research methodology, applied statistics and data management in medical and outcomes research. The candidate will play an active role in study design, data collection, analysis and data management. The candidate should have a strong background in traditional statistical analyses including cross-sectional and

longitudinal analyses. SAS programming experience and expertise in design and management of data bases using MS Access, D-Base and Bioquest required. Must be comfortable with PC/Windows and Mac computing environment. Masters degree in statistics or related field required. Excellent oral and written communication skills in English required. Salary: mid 30K to low 40K. Excellent benefits. EEO. Candidate responsible for relocation expenses. For more information on the University of California, San Francisco, please see our website at www.ucsf. edu.

Send resume and cover letter by mail to: Virginia Nido, UCSF Box 1694, San Francisco, CA 94143-1694 or by email: virginia_nido @quickmail.ucsf.edu or by fax: (415) 885-7379.

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### ASA Member Mark Berenson asks support for daughter
About 18 months ago, Mark Berenson, ASA member and professor of statistics at Bernard Baruch College, New York, placed a notice in the "Amstat News" requesting support for his daughter, Lori Berenson, who is in a Peruvian prison, having been handed a life sentence by a military tribunal.

The efforts of Mark and his wife, Rhoda, a physicist,

resulted in about 175 House, and 52 Senate members petitioning the Secretary of State to actively advocate that the Peruvian government grant Lori a fair trial or send her home.

More information about this situation may be found at http://www.geocities.com/capitolhill/9968/ or by contacting Mark Berenson at MARBB@CUNYVM.CUNY.EDU.

## Directions to Failure Analysis Associates:

Failure Analysis Associates is located a short distance off the Marsh Road exit of Hwy 101 in Menlo Park, between the San Mateo and Dumbarton Bridges.

### From San Francisco, Marin Co., and the Peninsula:

Take 101S to the Marsh Road exit in Menlo Park Turn EAST (toward the Bay). At the end of Marsh Road (1 block from the Northbound 101 exit), turn right at the traffic light. At the next traffic light turn right again onto Chrysler Dr. Follow this road until it veers left (about 3 blocks). Failure Analysis Associates is the first building on the left.

### From the East Bay:

There are two ways depending upon your location and traffic:

1) Take the Bay or San Mateo Bridges west to 101. Then follow the directions above for the Peninsula.

2) Take 880 to the Dumbarton Bridge, and continue on that road for 4 traffic lights. Turn left at the fourth light onto Chrysler Dr. Continue 3 blocks to end, where Chrysler turns into Commonwealth Dr. Failure Analysis is first building on the left.

### From San Jose and the South Bay:

Take 101N, then follow the directions for the Peninsula from the exit to Failure Analysis Associates.

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San Francisco Bay Area Chapter

**American Statistical Association**

149 Commonwealth Drive

Menlo Park CA 94025