



# The American Statistical Association

## San Francisco Bay Area Chapter

Since 1928

June, 1998

### Joint Biostatistics and General Applications Program

#### "Comparing DNA Fingerprints of Infectious Organisms "

*Mark Segal, Ph.D.*

*Department of Epidemiology and Biostatistics*

Genotypes of infectious organisms are becoming the foundation for molecular epidemiologic studies of infectious disease. Central to the use of such data is means for comparing genotypes. We develop such methodology in the context of restriction fragment length polymorphism (DNA fingerprint) typing of tuberculosis; however, the approach has more general utility being applicable to any fragment-based geno-typing system. Here, the comparison scheme accommodates errors inherent in obtaining fingerprints by exploiting data available on replicate (laboratory) strains which reveals that (i) error in fragment length (band size) is proportional to fragment length, and (ii) errors are positively correlated within a fingerprint. Matching scores computed so as to account for this error structure are then 'standardized' using extreme value distributions. Issues surrounding associated parameter estimation are discussed. In particular, lack of robustness of maximum likelihood estimates is noted. Further, quantile comparisons reveal (i) use of corresponding p-values to assess significance in matching to large databases is doomed to null results, and (ii) that the 'information content' of fingerprints is not necessarily monotonely increasing with the number of bands.

**Date:** Thursday, June 18, 1998

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

**Place:** Building 5, Room 5R, Genentech,

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

**Directions:** See map enclosed. There will be signs. Register in Lobby 5

### Annual Business Meeting

June 18 is our annual business meeting. At this time, new officers will be elected for the 1998-1999 year. The candidates proposed by the nominating committee are:

**President:** *Ying Lu, U.C., San Francisco*

**President-elect/ Webmaster:**  
*Ann Kalinowski, Exponent  
Failure Analysis Associates*

**Vice President for General Applications:** *Jun Liu, Stanford Univ.*

**Vice President for Biostatistical Applications:**  
*Mark van der Laan, U.C., Berkeley*

**Treasurer:** *James Lenihan, Genentech*

**Secretary:** *Ann Wang, Becton Dickinson*

**Chapter Representative:** *Dean Fern, Cal. State Hayward*

### Open Positions

Chiron Corporation, one of America's premier biotechnology companies, located ten minutes from the Berkeley campus, has an

**PRESIDENT**  
Michael Lock  
(408) 954-2583

Michael\_Lock@bdis.com

**PRESIDENT-ELECT**  
Ying Lu  
(415) 502-4596

ying\_lu@rad-ma1.ucsf.edu

**VICE-PRESIDENT  
GENERAL APPLICATIONS**  
Ding Li  
(415) 622-6405

ding@crl.com

**VICE-PRESIDENT  
BIostatistical PROGRAMS**  
Hina Malani  
(510)648-1198

Statadvice@aol.com

**TREASURER**  
Jim Lenihan  
(415) 742-0131

jim@sfasa.org

**SECRETARY**  
Ann Kalinowski  
(650) 688-7203

sfamk@fai.com

opportunity for Ph.D. level biostatisticians to support clinical research within our Therapeutics and Vaccines business units. Chiron's mission is to end human suffering caused by disease by using the tools of biotechnology to prevent, diagnose, and treat illnesses. Applying statistical sciences in the design and analysis of state of the art clinical studies presents a challenging and rewarding environment. Knowledge of SAS/S+ with a background in immunology and human physiology will enable the successful candidate to interact effectively with multi-disciplinary project teams. Previous clinical trial experience will enable a senior placement (preferred). Inquire in confidence to

GREGORY SCHWEMER  
@CC.CHIRON.COM or call  
Greg Schwemer at (510)923-3125 or FAX your resume in confidence to (510) 923-7669.

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## BIostatisticians

**Contract: 3-6 months**

### *Description*

Junior and Senior position open for biostatistician in large S.F. Biotech company. Perform analyses of clinical trial data, including listings, tabulations, graphical summaries, and formal statistical estimates and tests. You will also edit specifications for quality control of data, perform cross

study analyses and use SAS macros to automate all of the above functions. You will be relied on to develop reporting analysis plans for new studies and assist in the preparation of NDAs.

Requirements:

### **Junior Position**

BS or MS in Computing or Statistics. 1-3 years experience with SAS-Stat, SAS-Graph, SAS/SQL, SAS/IML, SAS macros, structured programming and statistical analysis. Good oral and written communication skills and the ability to write well documented code are a must.

Hourly Rate: \$30-\$40 /hr

### **Senior Position:**

Same requirements as above  
4+ years experience

Hourly Rate: \$45-\$55/hr

Interested?

Email Resume to:

jobs@trinitypartners.com

FAX Resume to: (510)688-1312 attn: HR department

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## BIostatistician

**Environmental Risk Analysis, Inc., San Mateo, California**

Environmental Risk Analysis, Inc. (ERA) is a growing consulting firm that offers services in biostatistics, epidemiology and health risk assessment. Applied research for regulatory and litigation

support composes the majority of our work.

We seek a superior professional with MS/PhD degree and 1-5+ years of experience. The ideal candidate will have experience and/or course work in occupational and environmental epidemiology; quantitative risk assessment; research design; and statistical methods including linear models, categorical data analysis, survival analysis, survey sampling and multi-variate analysis. Experience with SAS is required, one programming language (Fortran, S-Plus) is desired. Excellent oral and written communication skills required.

We offer competitive compensation. Please send a confidential application to:

William J. Butler, Ph.D.

Environmental Risk Analysis, Inc., 1670 So. Amphlett Blvd., Suite 115, San Mateo, CA 94402

FAX: (650)655-7281.

Equal Opportunity Employer

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## MANAGER, STATISTICAL PROGRAMMING SEQUUS, Menlo Park, CA

SEQUUS Pharmaceuticals, Inc. is an integrated pharmaceutical company revolutionizing therapies for cancer and other diseases using advanced drug delivery technologies. We currently seek an experienced professional to oversee a staff of Programmer Analysts as well as

**Chapter Applied  
Biostatistics Discussion  
Group Forming**

Doug Milikien of Accudata Solutions will be moderating an Applied Biostatistics discussion group within the San Francisco chapter of the ASA.

This group will be an informal roundtable discussion of case studies demonstrating how particular statistical problems were solved in real work situations. It will also serve as a forum for questions, enabling many working statisticians to lend their insight and perspective on approaches to the same statistical dilemma. To keep in contact with peers between meetings, and for those who cannot attend the chapter meetings, an e-mail based newsgroup will be established. It is envisioned that the discussion group would take place 30 minutes before or after the chapter meeting, although a separate meeting time and place is possible if there is sufficient interest.

Items of particular interest to the discussion group / newsgroup would be:

1. Case studies of non-traditional approaches to statistical problems
  2. Statistical questions for the group
  3. Non-technical issues faced by statisticians in industry: professionalism, ethics, persuasive communication, career advancement
  4. Reviews or notices of noteworthy recent articles or books
  5. Notices of upcoming meetings in related organizations such as Biometric Society, DIA, IMS, PDA, ASQC, Society for Clinical Trials
  6. Information about recent changes in regulations affecting statisticians from FDA CDER, CBER, CDRH, and ICH.
- Anyone interested in being part of the discussion group, please notify Doug through e-mail OR fax at: e-mail: DougStat@ix.netcom.com fax:(510) 754-1394 phone: ( 510 ) 754- 6681.

Those who cannot attend meetings are encouraged to sign up for the online newsgroup. Regular meetings will begin in the fall, but the online newsgroup will be established

and running in the early summer.

*The first meeting, to get acquainted and to discuss possible issues that may be taken up in future meetings, will be held Thursday, June 18, right after the chapter business meeting, in the same room (Building 5, Room 5R).*

Name:

Title:

Company:

Address:

phone: (     )

e-mail address

Are you an ASA member?  
 Yes  No

Are you a member of SF chapter of ASA?  Yes  No

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manage the departmental budget. Additionally, you will coordinate/allocate resources to satisfy analysis requests across multiple clinical programs; evaluate analysis plans/software specifications; and review software for accuracy and efficiency. We will also rely on you to coordinate the development, implementation, validation, and maintenance of software systems (both within and outside the department) to expedite the performance of analysis and reporting tasks. In an effort to improve consistency and increase efficiency, you will coordinate and negotiate with biostatisticians, data management, and medical personnel to promote company and project standards in data collection, database structure, and software. Ability to explore new computer technologies to enhance current productivity is essential. The selected candidate will possess a BS/MS in Statistics, Computer Programming, Mathematics or related field with a minimum of 5-7 years experience in SAS applications programming in clinical research or the pharmaceutical industry. At least 1-2 years related managerial experience and excellent communication skills are also required.

To achieve SEQUUS's mission of improving patients' lives, we are building teams and empowering the best talent in our industry, providing a productive professional

environment, and rewarding performance linked to the achievement of goals. Please send your resume to: SEQUUS Pharmaceuticals, Inc., Professional Staffing, 960 Hamilton Court, Menlo Park, CA 94025, fax: (650)463-3124, or e-mail: [resumes@sequus.com](mailto:resumes@sequus.com). Website: [www.sequus.com](http://www.sequus.com).  
EOE

**BIostatistician/  
STATISTICAL  
PROGRAMMER  
(Regular/Contract Positions)  
Gilead Sciences  
Foster City, CA**

Gilead Sciences is an independent biopharmaceutical company that seeks to provide accelerated treatment solutions for patients and the people who care for them.

**Biostatistician**

You will be responsible for the design and analysis of clinical trials. You will write analysis plans, statistical sections of protocols, and sections of clinical reports, as well as assist in the preparation of NDAs. Additionally, you will prepare reports for data and safety monitoring boards and final analyses.

Your Master's/Doctoral degree in Biostatistics should be supported by 3 years of relevant experience. A knowledge of experimental design, survival analysis, longitudinal data, missing data techniques,

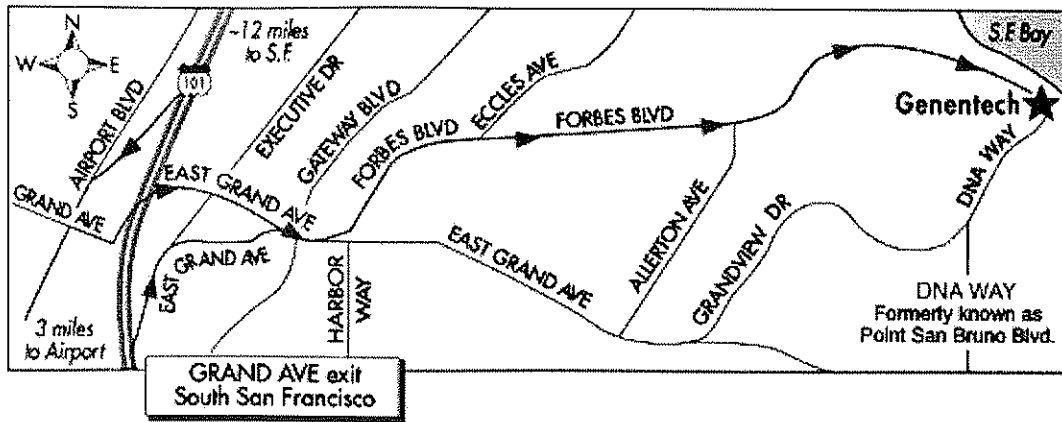
generalized linear and nonlinear models, mixed models, robust procedures, non-parametrics, and bootstrapping is required. Experience with SAS macros, SAS/SQL, SAS-Graph, S-PLUS is highly desirable.

**Statistical Programmer**

You will perform analysis of clinical trial data, including listings, tabulations, graphical summaries, and formal statistical estimates and tests. You will also write edit specifications for quality control of data, perform cross study analyses and use SAS macros to automate all of the above functions. We will rely on you to develop reporting analysis plans for new studies and assist in the preparation of NDAs. Your Bachelor's/Master's degree in Computing or Statistics should be supported by 3 years of industry experience demonstrating technical skills in: SAS-Stat, SAS-Graph, SAS/SQL, SAS/IML, SAS macros, S-PLUS, structured programming, and statistical analysis. Good oral and written communication skills and the ability to write well documented code are a must.

Interested candidates should send a resume to: Human Resources, Job code: T98-315, Gilead Sciences, Inc., 333 Lakeside Dr., Foster City, CA 94404, fax (650)573-4800. Visit our website [www.gilead.com](http://www.gilead.com) to learn more

# Directions to Genentech, Inc.



Coming from North	Coming from South
<p>Take the 101 Freeway South.</p> <p>Exit at GRAND AVE/SOUTH SAN FRANCISCO.</p> <p>At the bottom of the exit ramp, turn left, at the light, onto AIRPORT BLVD.</p> <p>At stoplight, turn left onto GRAND AVE. and proceed under freeway to EAST GRAND AVE.</p> <p>At the fourth stoplight, turn left onto FORBES BLVD.</p> <p>Continue on FORBES BLVD. for 1.3 miles until it terminates at DNA Way.</p> <p>Proceed to one of the three visitor parking lots and register at a lobby (<i>shown below</i>).</p>	<p>Take the 101 Freeway North</p> <p>Exit at GRAND AVE/SOUTH SAN FRANCISCO</p> <p>At the bottom of the exit ramp, turn right onto EAST GRAND AVE.</p> <p>At the first stoplight, turn right to continue on EAST GRAND AVE.</p> <p>At the second stoplight, turn left onto FORBES BLVD.</p> <p>Continue on FORBES BLVD. for 1.3 miles until it terminates at DNA Way.</p> <p>Proceed to one of the three visitor parking lots and register at a lobby (<i>shown below</i>).</p>

