

THE INSTITUTE OF MATHEMATICAL STATISTICS
AND BIOMETRICS SOCIETY (WENR) SATELLITE CONFERENCE

Probabilistic and Statistical Problems
in Population Genetics, Ecology, and Medical Genetics

FINAL PROGRAM

Session I: Wednesday, June 18th - 1:30-3:15

Chairman: S. Karlin (Mathematics, Stanford University)

Topic: Applications of Diffusion Processes in Population Genetics

Speakers: J. Gillespie (Biology, University of Pennsylvania) - "Diffusion models of selection in a random environment"

W. Li (Center for Demographic and Population Genetics, University of Texas) - "Multidimensional diffusion processes in population genetics"

W. Fleming (Mathematics, Brown University) - "Continuous state approximations to the Ohta-Kimura ladder model"

Session II: Wednesday, June 18th - 3:45-6:00

Chairman: C. Cockerham (Statistics and Genetics, North Carolina State)

Topic: Higher Order Gene Interactions and Their Statistical Measurement

Speakers: B. Weir (Statistics and Genetics, University of North Carolina) - "Statistical measures of relationships for linked loci"

M. Feldman (Biological Sciences, Stanford University) - "Observations on multiple loci"

S. Karlin (Mathematics, Stanford University) - "Some statistical and mathematical problems in estimating multigenic interactions"

Session III: Thursday, June 19th - 9:00-11:45

Chairman: J. Felsenstein (Genetics, University of Washington)

Topic: Stochastic Models in Population Ecology and Genetics

Speakers: M. Turelli (Genetics, University of California, Davis) - "The effects of random environments on the dynamics of competing species"

D. Ludwig (Mathematics, University of British Columbia) - "Fisheries management control and decision theorem"

A. Templeton (Biology, Washington University, St. Louis) - "Seed pools as an adaptation to randomly varying environments"

M. Slatkin (Zoology, University of Washington, Seattle) - "Population growth in Markovian environments, a nondiffusion approach"

S. Tavaré (Mathematics, University of Utah) - "Diffusion approximation to genetic models with killing"

Session IV: Thursday, June 19th - 1:15-3:45

Chairman: L. Cavalli-Sforza (Genetics, Stanford University)

Topic: Genetic and Morphological Distance Measurements between Populations

Speakers: R. Chakraborty (Population Genetics, University of Texas, Houston) -
"Some statistical and empirical observations on genetic and morphological distances in natural populations"

P. Smouse (Genetics, University of Michigan) - "The gene pool as a multivariate probability cloud: Studies on the genetic architecture of rainforest Amerindians"

M. Nei (Demographic and Population Genetics, University of Texas, Houston) - "The theory of molecular taxonomy and evolutions of human races"

J. Felsenstein (Genetics, University of Washington, Seattle) -
"Estimating evolutionary trees, with some comments on genetic distance"

Session V: Thursday, June 19th - 4:15-6:15

Chairman: M. Skolnick (Biophysics, University of Utah)

Topic: Statistical Problems and Methods in Medical Genetics

Speakers: E. Thompson (Statistics, King's College, Cambridge, England) -
"Sampling problems in the analysis of family data"

C. Sing and P. Moll (Human Genetics, University of Michigan) -
"An analytical approach to heterogeneity, testing major assumptions of biometrical analyses"

T. Cloninger (Psychiatry, Washington University, St. Louis) -
"General models of assortative mating and reciprocal genotype environment interactions"

R. Williams (Cardiology, University of Utah) - "Seeking practical answers to important public health problems using family data"

Session VI: Friday, June 20th

Contributed papers session.

Organizing Committee represented by:

Samuel Karlin, I.M.S.

Joe Felsenstein, Biometrics Society

Michael Turelli, University of California, Davis (Genetics)

STANFORD UNIVERSITY

STANFORD, CALIFORNIA 94305

DEPARTMENT OF MATHEMATICS

April 24, 1980

Memo to: Participants of the Workshop

From: S. Karlin, M. Feldman, J. Felsenstein, L. L. Cavalli-Sforza,
and M. Turelli

Subject: Population Genetics Workshop - June 23-25, 1980 - Stanford University

This is a status report on the details of the Satellite Conference at Davis and the Workshop at Stanford. The final program for the Satellite Conference has already been advertised in the Bulletins of the Biometric Society and The Institute of Mathematical Statistics. There are additional sessions, sponsored by the Biometric Society, in Davis on Monday through Wednesday that may be of interest. For example, there will be an interdisciplinary four hour session on Tuesday afternoon, June 17th, on Theoretical Models in Medicine. There will also be a session on Quantitative Analysis of Lipid Measurements, also sponsored by the Biometrics Society, on Wednesday, June 18th at 10:30 in the morning. The Satellite Conference begins in the afternoon.

As you will recall from previous letters concerning the Workshop, there are two matters that we would like to receive more feedback on. (i) Apart from those who have already written to the Organizing Committee, we would like to determine who else would like to present some informal discussions, and if so, the topics. We now definitely have the participation of Ron Davis and Ray White, both biochemists, who will give us some brief background discussion on recent developments in re-combinant, sequencing, restriction enzyme, and other methodologies. Tuesday afternoon, June 24th, Drs. Perkins and Brutlag will participate in the multilocus topics session. They will be updating recent developments in mechanisms of recombination. (ii) Many of you have already made reservations for accommodations in the dorms. If you have not, please let us know as soon as possible as we only have a total of 25 double rooms available (at a cost of \$9 per night per person). We presently have 29 spaces available.

The participants in the Workshop at this date are:

R. Allard	M. Feldman	C. Langley	P. Smouse
F. Ayala	J. Felsenstein	W. Li	P. Spieth
J. Bongaard	W. Fleming	C. Matessi	J. Sved
R. Campbell	J. Gillespie	P. Moll	A. Templeton
L. Cavalli-Sforza	S. Gimelfarb	M. Nei	E. Thompson
R. Chakraborty	L. Ginzburg	E. Nevo	G. Thomson
F. Christiansen	T. Gojobori	P. O'Donald	C. Tier
B. Clarke	A. Hastings	A. Piazza	M. Turelli
C. R. Cloninger	P. Hedrick	T. Prout	M. Uyenoyama
C. Cockerham	Y. Hiraizumi	J. Roughgarden	M. Wade
J. Coyne	S. Jayakar	S. Sawyer	B. Wallace
I. Eshel	G. Johnson	C. Sing	B. Weir
E. Ewing	N. Kaplan	M. Skolnick	S. Wright
	S. Karlin	M. Slatkin	S. Yokoyama

Participants of the Workshop

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April 21, 1980

If you plan to attend the Davis Satellite Conference, please contact Dr. Michael Turelli, Department of Genetics, University of California, Davis, California 95616 to arrange accommodations for the Conference. The Davis meetings are liable to be quite large, so it is probably desirable for you to make reservations at an early date.

We expect to send a near final program of the Workshop towards the end of May. We look forward to a simulating and productive set of meetings.



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