FOURTH ANNUAL MEETING

STANFORD COMPUTER FORUM

Stanford University

10, 11 February 1972

Room 240

McCullough Building

Opening Session - 9:00 - 10:15 a.m., Thursday, 10 February

Conference Chairman: Professor Gene H. Golub

9:00 a.m. Welcome: Professor William F. Miller
Provost & Vice President
Stanford University

Opening Remarks: Professor John G. Linvill, Chairman
Department of Electrical Engineering

Opening Remarks: Professor George E. Forsythe, Chairman
Department of Computer Science

9:30 a.m. "The Xerox Palo Alto Research Center and Computer Science" Dr. George E. Pake
Vice President and Director
Palo Alto Research Center
Xerox Corporation

10:15 a.m. Coffee Break
Technical Session I - 10:30 a.m. - 12:00 n, Thursday, 10 February

Chairman: Professor Zohar Manna

An Alternative to Call by Name and Call by Value
Jean E. Vuillemin*
Professor Zohar Manna

A New Way to Compute Medians
Ronald L. Rivest*
Professor Robert Floyd

Theorem Proving by Mathematical Induction
Douglas K. Brotz*
Professor Robert Floyd

Hadamard Spectroscopy
Michael L. Fredman*
Professor Donald Knuth

12:15 p.m. Luncheon
Small Lounge (Room 282)
Tresidder Union

Technical Session II - 1:30 - 3:00 p.m., Thursday, 10 February

Chairman: Professor Thomas H. Bredt

Queueing Models for Computer Systems
Professor Forest Baskett*

Decompilation of Object Programs
Clifford R. Hollander*
Professor Thomas Bredt

Design of a Parallel Encoder/Decoder for Hamming Codes Using Read-Only Memories
Hajime Mitarai*
Professor Edward McCluskey

3:00 p.m. Coffee Break

*denotes speaker
Technical Session III - 3:15 - 4:45 p.m., Thursday, 10 February

Chairman: Dr. Arthur L. Samuel

Applications of Artificial Intelligence to Problems in Organic Chemistry
   Dr. Natesa S. Sridharan*
   Professor Edward Feigenbaum

Machine Understanding of Natural Languages
   Kenneth M. Colby, M. D.

Mathematical Logic and Program Proving
   Robin Milner*

Evening Activities, Thursday, 10 February

6:00 p.m. Cocktail Party
   Garden Room
   (no host)
   Rickey's Hyatt House

7:00 p.m. Dinner
   Garden Room
   Rickey's Hyatt House

Toastmaster: Professor Edward J. McCluskey, Director
   Digital Systems Laboratory

Speaker: Professor George B. Dantzig
   Departments of Computer Science and Operations Research
   "The Compact City"

*denotes speaker
Technical Session IV - 9:00 - 10:15 a.m., Friday, 11 February

Chairman:  Professor John G. Herriot

The Remarkable Schwarz Alternating Procedure for the Solution of Elliptic Partial Differential Equations
David R. Stoutemyer
Professor George Forsythe

Introspective Algorithms for Floating-Point Arithmetic
Michael A. Malcolm
Professor George Forsythe

Parallel Calculation of Linear-Recurrence Equations
Peter M. Kogge
Professor Harold Stone

10:15 a.m.  Coffee Break

Technical Session V - 10:30 a.m. - 12:00 n, Friday, 11 February

Chairman:  Professor Edward S. Davidson

Computer Perception of Curved Objects
Gerald J. Agin
Professor Jerome Feldman

Data Compression Research
Robert T. P. Wang
Professor Allen Peterson

Orthogonal Storage Ring Organization for Computer Memories
N. Ken Ouchi
Professor Edward Davidson

12:15 p.m.  Luncheon

*denotes speaker
Scheduled Individual Conferences - 1:30 - 4:00 p.m., Friday, 11 February

On the first day of the Conference, Forum members will be encouraged to sign up for on-site, small-group or individual discussions with faculty and students from the Computer Science Department, the Digital Systems Laboratory, the Artificial Intelligence Project, and the Computation Group of the Linear Accelerator Center. These discussions will take place on Friday afternoon, following the luncheon.

Closing Session - 4:00 - 5:00 p.m., Friday, 11 February

An informal reception will be held in the garden of Serra House to allow members of the Computer Forum to become better acquainted with faculty and students of the Computer Science Department and the Digital Systems Laboratory.

Stanford Computer Forum Committee

Forest Baskett, III, Assistant Professor of Computer Science & Electrical Engineering
Edward A. Feigenbaum, Professor of Computer Science
Gene H. Golub, Professor of Computer Science
Ralph E. Gorin, Ph.D. Candidate, Department of Computer Science
Edward J. McCluskey, Chairman, Professor of Computer Science & Electrical Engineering

SB (1-28-72)
### FACULTY DIRECTORY

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<thead>
<tr>
<th>NAME</th>
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<td>Forsythe, G.E.</td>
<td>Polya 103</td>
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<td>McCluskey, E.J.</td>
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**Legend:**

- **A.I.** = Artificial Intelligence Project, 1600 Arastradero Road
- **DSL** = Digital Systems Laboratory, Stanford Electronics Labs