<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Editor's Notes</td>
<td>1</td>
</tr>
<tr>
<td>Chairman's Column</td>
<td>2</td>
</tr>
<tr>
<td>Notes from the Vice Chairperson</td>
<td>5</td>
</tr>
<tr>
<td>Treasurer's Report</td>
<td>7</td>
</tr>
<tr>
<td>On the Criteria for Selecting the Site of the Annual SIGMOD Conference by Randy Katz</td>
<td>8</td>
</tr>
<tr>
<td>(Untitled) Letter by Mickey Lutz</td>
<td>12</td>
</tr>
<tr>
<td>Laboratoire d'Informatique pour les Sciences de l'Homme News by G. P. Zarri</td>
<td>14</td>
</tr>
<tr>
<td>VLDB Announcement</td>
<td>15</td>
</tr>
<tr>
<td>Workshop on Statistical Database Management</td>
<td>18</td>
</tr>
<tr>
<td>Note on the Expected Size of a Join by A. S. Rosenthal</td>
<td>19</td>
</tr>
<tr>
<td>MULTISAFE — A Data Security Architecture by R. Trueblood and H. R. Hartson</td>
<td>26</td>
</tr>
<tr>
<td>Notes on DDTS: An Apparatus for Experimental Research in Distributed Database Management Systems by R. Elmasri, C. Devor, and S. Rahimi</td>
<td>32</td>
</tr>
</tbody>
</table>
SIGMOD RECORD
A Quarterly Publication of the Association for Computing Machinery (ACM)
Special Interest Group on Management of Data (SIGMOD)

SIGMOD Officers

Chairperson
Michael Stonebraker
M265 - Cory Hall
University of California
Berkeley, CA 94720
(415) 642 - 5799

Vice-Chairperson
Patricia G. Selinger
IBM Corp. - K55/282
5600 Cottle Road
San Jose, CA 95193
(408) 256 - 1295

Secretary-Treasurer
John L. Berg
Comp. & Info. Tech.
Standard Oil
MC: 1801
PO Box 5910-A
200 E.Randolph Drv
Chicago, IL 60680
(312) 856-4896

SIGMOD NEWSLETTER EDITOR
Tom Cook
Tektronix, Inc.
P.O. Box 500
M/S: 50-384
Beaverton, OR 97077
(503) 627-6056
(503) 644-0161 X6056

CONTRIBUTIONS to the SIGMOD RECORD may be sent to the Editor. They should be camera-ready and typed single spaced. All papers printed herein are unrefereed working papers, unless otherwise noted.

MEMBERSHIP IN SIGMOD (at $3 per year) is open to ACM members, associate members and student members; non-ACM members may belong to SIGMOD (at $11 per year) provided their major professional allegiance is in a field other than information processing or computing. Library subscriptions are available for $9 per year.

CHANGES OF ADDRESS, SUBSCRIPTION INQUIRIES and OTHER BUSINESS INQUIRIES should be directed to ACM SIGMOD, 1133 Avenue of the Americas, New York, New York 10036.

REGULAR BACK ISSUES of the SIGMOD RECORD (formerly FDT) are available from ACM Headquarters for $2 per copy prepaid. SIGMOD WORKSHOP PROCEEDINGS are also available for different prices.

This issue was rec'd at ACM HQ for production on 6/12/81.
Editor's Notes

I am beginning to feel that the RECORD is starting to roll again. We are receiving more and more short items — letters, rumors, book reviews, etc. — that are the real vitality of small journal like this. Please keep up the good response.

This issue of the RECORD is going to press shortly after the annual meeting in Ann Arbor, so there are only a few items which reference the conference. I hope to have a significant number of conference related items in the next issue including brief reviews of the panel sessions. For now, read Mike’s column and the letters from Katz and Lutz: they raise some issues which I would like to see more fully discussed in the next RECORD — please respond to them.

I have a few notes on the production of the RECORD. First, two people have been helping me review papers. They are Jon Clark of North Texas State University, and Robert Trueblood of the University of South Carolina. Several others have offered: I just haven’t had a chance (or the papers) to use all of you yet. I want to thank Jon and Robert for their help, and thank the rest of you who have volunteered.

The second production note concerns the reproduction of some of the material I receive. The ideal (short of special size camera-ready forms) is standard letter size paper with dark printing. Alas, I often receive 11” x 14” listings which have been folded (wadded) into a letter size envelope. Just trying to get the creases to show on the copies is hard enough: when the listing is off a dot matrix printer whose ribbon is shot, then no magic of cut-and-paste or xerography can resurrect the image. For those of you who use fancy printers like the Versatec: please make sure the toner is laying down uniformly across the page, and that the characters are dark enough for copying. Some foreign countries seem to use odd (relative to the U.S.) size paper: please try to stick less information on the page so that I am not stuck with trying to get 11½’ worth of text into 11”.

A final note on production: by the time you read this I will be on leave of absence from Tektronix. I am going to spend the next year consulting and working independently. I plan to remain the editor of the RECORD as long as Mike will let me, but I will no longer have the resources of a benevolent company to help me put the RECORD out. This means that I will be cutting down on long distance calls, and will not be willing or able to spend 45 minutes at a copier trying to clean up messy text. I will be consulting (in part) for Tektronix, so I will still get mail and phone messages, though I encourage you to get in touch with me at this address:

Tom Cook
9930 SW 61st
Portland, OR 97219
(503) 244-9729
Chairman's Column

My gosh, yet another deadline for a Chairman's column. I am lead to wonder how columnists keep churning out new stuff week after week...

First I should report on the business meeting which we held Friday, May 1st over breakfast at the annual SIGMOD conference. First we heard from John Berg, our secretary/treasurer. With a little luck, his report will be elsewhere in this issue. There was some discussion of the report and questions from the floor, mostly concerning how we built up our surplus. Then Tom Cook indicated he planned to publish four issues per year containing material contributed by the membership. He requested papers, book reviews, research plans, etc. from the audience as he is still a little short. Then we spent considerable time discussing SIGMOD policy toward when and where to hold our annual conference. It was the consensus of the audience that

1) The conference should not be restricted to the week preceding NCC necessarily.
2) The preference was to hold the conference in late April if possible.
3) The location should be chosen so as to be easy and cheap to get to. The choice of sites should be on "utilitarian" grounds rather than on "esthetic" or other grounds.

Next year we will be holding SIGMOD, June 2-4 in Orlando, Florida. In keeping with our previous algorithm, this is the week before NCC (which is June 6-10 in Houston).

In future years, we will be more flexible. It appears that our members are concentrated in the North East and on the West Coast. Hence, perhaps we should generally hold our conferences in these areas. In particular, Washington, D.C., San Francisco, and San Diego have been suggested as our 1983 site. Please let me know if you have any preference or other suggestions. Also, if you are interested in helping to organize the 1983 conference, please let me know.

We then had reports from Stanley Su on the planning for next year's conference, followed by Murray Edelberg (for VLDB/81), Seymour Ginsberg (for the March 1982 SIGMOD/SIGACT conference on the Principles of Data Base Systems), and Peter Bunemann (for a conference in Israel in late June, 1982). More information on these conferences can be obtained from:

Stanley Su  
Computer Science Dept.  
University of Florida  
Gainsville, Fla.
Elections were brought up. ACM is twisting our arms to hold elections one year after the new officers took office. The current officers (yours truly in particular) are reluctant to call elections because they cost money, take a bunch of time to get organized, and anyway it would make much more sense to resynchronize with the rest of the SIGs (who hold elections in odd years - we got out of phase when our 1979 election was held in 1980) in 1983. The participants voted 275-0 to support the following resolution: "The current officers should hold office until 1983."

The meeting, which began about 8:15 a.m., was adjourned at 9:10 a.m.

Rumors and Raw Data

Randy Katz will move from CCA to Wisconsin in July and take up the "publish or perish" gauntlet. Jonathan King graduated from Stanford and moved a mile away to Hewlett Packard Labs. Dale Skeen will graduate from Berkeley, buy a winter coat and move to Cornell. Corcky McCord will also graduate from Cal and go to Synapse Computers (a start up company in Menlo Park, Ca. building a transaction processing computer). Also, Steve Jones moved from LLL to Synapse. Both Ed Binss and Mark Deppe left Hewlett Packard for Apple Computers. Paul McJones and Franco Putzolla have followed Jim Gray from IBM Research to Tandem. Rumor has it that Peter De Jong is leaving IBM Research; I didn't catch where he was going. Hot off the rumor mill: Mike Hammer got tenure at MIT, Larry Rowe likewise at Berkeley. Congratulations!

Late Flash: Charlie Bachman has left Honeywell to take a position at Cullinaine Corp. (the folks who bring you IDMS). Rumor has it that he will be working on a relational system!
Interesting Problem of the Quarter

Consider a database system which has been enhanced (somehow) to store both highly formatted data (e.g. relations) and unstructured text (e.g. letters, chairman's columns, etc.). How do you do a "join" between structured tables and text? Such an operation might be used to send the same letter (stored as text) to a mailing list (stored as a relation). (This issue was raised by Gene Lowenthal of Intel during a lecture at Berkeley.)
NOTES FROM THE VICE CHAIRPERSON

I am soliciting your contributions for this column. Possible topics of interest include conference synopses, conference previews, short descriptions of new database research projects that are sent to me, proposals for new conferences, etc.

Databases were well represented at the recent NCC 81. In fact, there were 2 paper sessions on plain databases, 3 on distributed databases, one on database machines, and one on medical databases. I found it interesting that many of the sessions I attended had at least one presentation given by researchers whose work appears in products of some form (e.g. XEROX's ETHER.NET and STAR, TANDEM's ENFORM, IBM's SQL/DS, among others). In addition, many commercial exhibits demonstrated database systems for DB or office use involving on-line query packages which presented data in tabular or relational form. I believe that this illustrates the impact on the marketplace that SIGMOD members have had.

I'm including a reminder of the various upcoming database and general conferences. For more details, see the ACM Communications.

CALLS FOR PAPERS


CALENDAR OF CONFERENCES


September 9-11, 1981: Seventh International Conference on Very Large Data Bases, Cannes, France.


Nov. 9-11, 1981: ACM 81, Los Angeles, Ca.

Pat Selinger
IBM Research Lab K55/282
5600 Cottle Rd.
San Jose, CA 95193

A last minute call for papers:

Peter Scheuermann
Northwestern University
Department of EE and CS
Evanston, Ill. 60201
(312) 492-7141
Dear SIGMOD Members:

While I felt that the recent SIGMOD annual conference in Ann Arbor was a success, I have a few general comments to relate.

First of all, more time should be allocated for the SIGMOD business meeting. Virtually no time was available for discussion of "new business". For those of us not in the mainstream of the SIGMOD "closet cabinet", this is the best forum for the discussion of general issues.

I have trouble understanding why attendees cannot stay for the last day of the conference. It is a three-day conference that ended early (1:00 P.M.) on Friday. But the last sessions still had appallingly sparse attendance. There was plenty of time to travel almost anywhere in the U.S. by that evening. Maybe we should print a program for a full day so that people would stay for a half day.

Lastly, I want to comment on the theoretical/research orientation of the papers. I have complained in the past regarding the lack of interest the conference holds for practitioners. However, very few practical papers were submitted at all. Many categories of practical papers would have been acceptable, e.g., the use of new data base design concepts with guidelines and problems identified, a case study of implementing a relational data base on a CODASYL-type system, guidelines for the selection of a data dictionary, etc. General system overviews are not acceptable since they show nothing new, per se, related to data base design. The program committee cannot include practical papers if there are none submitted.

It was also difficult to find practitioners who were willing to participate in panel sessions and relatively current in their knowledge of data base concepts. If you have an area of expertise, e.g., data administration, please contact the program committee chairperson to volunteer participation on a panel, even if you do not wish to organize one. I contacted over forty people to get four panel participants. Practitioners must be willing to participate if they expect any change to the orientation of the conference.

Sincerely,

Mickey Lutz
1981 SIGMOD
Program Committee
January, 1981

Dear Sir/Madam,

On 27th November 1980, the Control Board of the "Laboratoire d'Informatique pour les Sciences de l'Homme" ratified the reorganization of L.I.S.H. in the form of a "network", composed of several Units, each with a certain amount of autonomy. From now on in this new context, I will assume responsibility for the "Unité Parisienne de Recherche"; the principal objective of this Unit is to lead a series of pilot actions, designed to demonstrate the utility of conceptually advanced Computer Science instruments in the domain of the Humanities and the Social Sciences. Particular importance is given to Artificial Intelligence and Knowledge Representation techniques.

The permanent C.N.R.S. staff which makes up this new Unit, comprises, apart from myself, Pierrette Andrès (secretary), Wenceslas Fernandez de la Vega, Ruddy Lelouche, Jacqueline Léon, and Vincent Meissonnier. The unit also benefits from the collaboration of a number of foreign research students and C.N.R.S. personnel pertaining to other Units or Laboratories.

At the present time, the Unit's principal scientific project is RESEDA, which is concerned with the construction of a prototype management system for a biographical database which can, by means of inference procedures, make up for insufficiency of information extracted from original documents and directly stored in the base. Those most directly involved in this project are Mr Lelouche, Mr Meissonnier and myself; Miss Léon is involved in a feasibility study of the semi-automatic translation of a French surface expression into its semantic representation in terms of RESEDA's own "metalanguage".

Miss Léon also cooperates with the "Analyse Automatique du Discours" group of Mr Pêcheux for the study of high-level algorithms for textual processing (automatic syntactic analysis of French, and algorithms for the analysis of discursive processes) Mr Meissonnier has conceived and realized for the "Histoire et Structure de l'Orthographe" group of Mrs Catach, programs to analyze certain constituents of French orthography (automatic syllable recognition and phonetic translation). Mr Lelouche, the co-ordinator of the special interest group "Bases de Données Réparties" of A.F.C.E.T. (Association Française pour la Cybernétique Economique et Technique), collaborates with researchers from the "Institut de Programmation" of the "Université Pierre et Marie Curie" towards applying distributed database techniques to the Humanities and Social Sciences. For myself, I am involved
in the automation of textual criticism (construction by program of *stemmata codicum*); finally, Mr de la Vega is conducting high-level studies into the mathematical theory of random graphs and hypergraphs.

As far as assisting the human and social scientist in using the computer, Mr Lelouche is at present involved with the creation of an "Organisation des Utilisateurs francophones" of the SPSS Inc. statistical packages; a periodical newsletter will constitute this group's official bulletin. It is worth noting that Mr Lelouche was the first to install SPSS software in France; he has also just started implementing text processing at the "Centre Inter-Régional de Calcul Electronique", the national computer center for the C.N.R.S. The Unit also provides assistance for the usage of software products related to the fields of interest mentioned above.

I will be happy to provide you with any additional information on the new Unit's activities. I hope that some collaboration will be possible with regard to our common interests.

Yours faithfully.

Gian Piero ZARRI
Responsable de l'Unité parisienne de recherche du Laboratoire d'Informatique pour les Sciences de l'Homme

Unité Parisienne de Recherche:
C.N.R.S. - L.I.S.H.
54, Boulevard Raspail
75270 PARIS CEDEX 06
France

Tel. Nos. (secretary):
222.43.25 and 544.38.49 ext. 203
Telex: MSH 203 104 F
SEVENTH INTERNATIONAL CONFERENCE ON Very Large Data Bases CANNES, FRANCE SEPTEMBER 9 – 11, 1981

We would like to invite you to participate in the Seventh International Conference on Very Large Data Bases, to be held in Cannes, France during September 9–11, 1981.

The Conference is intended to identify and encourage research, development and application of data base and related systems. Its objectives are to provide an understanding of current research, to further the exchange of information and experience gained in the design, construction and use of data bases, and to provide a forum for discussing future research and development.

The Conference program includes forty-five contributed papers, six invited papers, and four panel sessions. Conference proceedings will be published and available to participants at the Conference.

The Conference will be held at the Palais des Festivals et des Congres in Cannes. The social program includes a welcoming reception provided by the City of Cannes, and a Conference banquet.

Please contact us if you have any questions about the Conference that are not covered in this notice:

Therese Bricheteau
INRIA – Relations Extérieures
B.P. 105
78153 Le Chesnay, France
Tel. (3) 954.90.20 x600

Georges Gardarin
INRIA – Sirius
B.P. 105
78153 Le Chesnay, France
Tel. (3) 954.90.20 x360

Murray Edelberg
Sperry Research Center
Sudbury, Massachusetts 01776
U.S.A.
Tel. (617) 369-4000 x326

Horst Biller
Siemens A.G.
Otto-Hahn-Ring 6, Postfach 83 29 40
8000 Munchen 83, West Germany
Tel. (089) 67 82 - 44914
Telex 5288-233

The Conference organizers thank the following organizations for their support:

ADI, Agence de l’Informatique
AFSET, Association Francaise pour la Cybernetique Economique et Technique
AICA, Associazione Italiana per il Calcolo Automatico
BCS, British Computer Society
CII HB, Compagnie CII HONEYWELL BULL
CNET, Centre National d’Etudes des Telecommunications
DARPA, Defense Advanced Research Projects Agency
GI, Gesellschaft fur Informatik
IBM, France
SIF/VFI, Societe d’Informatique Fondamentale Vereniging voor Fundamenteel Informatika (Belgique)
U.S. Army European Research Office

(More information on following pages)
SEVENTH INTERNATIONAL CONFERENCE ON Very Large Databases 
CANNES, FRANCE

ADVANCE PROGRAM

Tuesday, September 8, 1981
10:00 - 21:00 Conference Registration
18:00 - 21:00 Reception: Palais des Festivals

Wednesday, September 9, 1981
8:00 - 10:00 Conference Registration
9:30 - 10:00 Opening Remarks
10:00 - 10:30 Session 1
10:30 - 12:30 Session 2
12:30 - 14:30 Session 3
14:30 - 16:00 Session 4
16:00 - 16:30 Break
16:30 - 18:15 Session 5
18:00 - 21:00 Reception: Palais des Festivals

Thursday, September 10, 1981
9:00 - 10:00 Session 7
10:30 - 12:10 Session 8
12:30 - 14:30 Session 9
14:30 - 16:30 Session 10
16:45 - 17:45 Session 11
17:45 - 19:45 Session 12
19:45 - 21:45 Session 13

Friday, September 11, 1981
9:00 - 10:00 Session 14
10:30 - 12:10 Session 15
12:30 - 14:30 Session 16
14:30 - 16:30 Session 17
16:30 - 19:30 Session 18
19:30 - 21:30 Session 19
REGISTRATION PROCEDURE & FEES

Prospective participants should complete the registration form and return it with the registration fee to the appropriate address. The registration fee covers Conference attendance, invitation to a reception, the Conference proceedings, and transportation NICE Airport/CANNES/NICE Airport. All students should send a duplicate of the 1981 student card with their registration form. Refunds will be made on cancellations if written request is received before August 26th. Additional information regarding travel, social functions and Conference facilities will be provided to registrants.

On Thursday evening, September 10th, a conference banquet will be held in the neighborhood of CANNES. Individuals intending to participate in the banquet should add a US $20 (100 FF) contribution to the registration fee.

HOTEL RESERVATION

Blocks of hotel rooms have been reserved near the conference site at reduced rates for participants. Participants should complete the Hotel Registration form and return it before August 15, 1981. A one night deposit is required.

REGISTRATION FORM

Last Name ____________________________ First Name ____________________________
Affiliation ____________________________
Professional Address ____________________________
Street ____________________________ City ____________________________ Zip ____________________________
Country ____________________________
Tel. ____________________________ Telex ____________________________

Registration Fees

<table>
<thead>
<tr>
<th></th>
<th>Before August 15</th>
<th>After August 15</th>
<th>Amount</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants</td>
<td>US $180</td>
<td>US $200</td>
<td>US $20</td>
<td>100 FF</td>
</tr>
<tr>
<td>Members (ACM-IEEE-AFCET)</td>
<td>US $160</td>
<td>US $180</td>
<td>US $50</td>
<td>100 FF</td>
</tr>
<tr>
<td>Students</td>
<td>US $75</td>
<td>US $80</td>
<td>US $20</td>
<td>100 FF</td>
</tr>
</tbody>
</table>

Total: US $ ______ / ______ FF

Find enclosed a check

For U.S.A.
Please make check payable to: 1981 VLD Conference
Return to: VLD81
C/o Russell C. Heinselman
U.S. Registration Chairman
Sparrey Research Center
Sudbury, Massachusetts 01776
U.S.A.
Tel. (617) 369-4000 Ext. 291

For Other Countries
Please make bank check payable to: VLD81-Agence Comptable de L'INRIA
Or postal check: C.C.P. 90 9945 B Paris
Return to: VLD81
INRIA-Relations Exterieures
B.P. 105
78153 Le Chesnay CEDEX-France
Tel. (1) 954.50.20 Ext. 600
Telex: INRIA 697033F

Date ______________ Signature ______________

HOTEL RESERVATION

Deadline August 15, 1981

Return to: HAVAS—VOYAGES
Department Congres
5, rue Marechal Foch
06404 CANNES CEDEX—France
Tel. (93) 45.93.00
Telex: 470.760

Mr. [ ] Mrs. [ ]

Last Name ____________________________ First Name ____________________________
Address ____________________________ Tel. ____________________________
Zip Code ______________ City ______________ Country ______________
Accompanied by ______________ Persons ______________
Date of arrival ______________ Hour ______________
Date of departure ______________

Means of Transportation:

[ ] Car [ ] Train [ ] Plane

Approximate Rates Per Day

(Continental breakfast, tax, and service included)

<table>
<thead>
<tr>
<th>Class</th>
<th>Double room</th>
<th>Single room</th>
<th>Type</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luxe</td>
<td>460 FF</td>
<td>370 FF</td>
<td>Single room</td>
<td></td>
</tr>
<tr>
<td>Twin</td>
<td>275 FF</td>
<td>220 FF</td>
<td>Double room</td>
<td></td>
</tr>
<tr>
<td>Twin</td>
<td>231 FF</td>
<td>215 FF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Twin</td>
<td>120-170-200 FF</td>
<td>110-160-180 FF</td>
<td>Twin bed room</td>
<td></td>
</tr>
</tbody>
</table>

Please find enclosed a deposit equivalent to one night's lodging. When payment is received, confirmation and hotel voucher will be forwarded to you.

Make check payable to: HAVAS CONGRES

[ ] I would like to share a double room.

[ ] I would be willing to share a double room.

Date ______________ Signature ______________

Please find enclosed a deposit equivalent to one night's lodging.
Workshop on Statistical Database Management

You are invited to participate in a limited attendance workshop on research and implementation issues of statistical databases. The term "statistical databases" refers to databases that represent statistical or summary information and are used for statistical analysis. Typically, these databases contain quantitative information (such as population counts) and a combination of descriptive information (such as race and sex) for each quantitative measure. Examples of statistical databases can be found in many application areas that include:

- Scientific databases, such as
  - Results of experiments; e.g. laboratory animal experiments or chemical tests.
  - Observations over a period of time; e.g. erosion of materials, atmospheric patterns or seismological measurements
- Socio-economic databases, such as:
  - Population or income counts
  - Health and medical statistics
  - Commodity flows between geographic regions
  - Energy production and consumption
- Business databases, such as:
  - Inventory shipments over time
  - Financial transactions.

In this workshop we emphasize data management techniques necessary to efficiently support statistical databases. We are soliciting papers on all aspects pertaining to the research, development, implementation and operation of statistical databases. We encourage users of such databases, such as statisticians and economists to contribute their views of data management functions needed to support statistical analysis.

Suggested topics as applied to statistical databases include (but are not limited to):
- applications
- conceptual models
- compression techniques
- access & storage methods
- data dictionaries
- very large mass storage technology
- security and privacy
- query languages and user interfaces
- performance
- data management requirements for statistical methods.

Paper length should not exceed 5000 words. Each paper will be reviewed by at least 2 referees to determine its technical merit and originality. Accepted papers will appear in a published proceedings.

The workshop is sponsored by Lawrence Berkeley Laboratory, Univ. of California, Berkeley, in cooperation with ACM-SIGMOD. It is to be held December 2-4, 1981, in the San Francisco Bay Area. Four copies of paper should be sent by September 15, 1981 to Harry K.T. Wong, Computer Science and Mathematics Dept., 50B-3238, Lawrence Berkeley Laboratory, Univ. of California, Berkeley, CA 94720. For additional information write to the above address or call (415) 486-6884.