

Editor's Notes

As you are probably aware, this represents the first *SIGMOD RECORD* for over a year. As the new editor of the RECORD, I intend to ensure that future issues of the newsletter are issued quarterly: March, June, September, and December. As stated in the Chairman's Column, the June issue will be the Proceedings of the SIGMOD conference. While I can guarantee the timely publication of future newsletters, I need your help to guarantee that the newsletter provides valuable information to the readers. You, the members, are largely responsible for the content. An editor's role is one of coordinator and administrator, not writer. As the inside cover states, "We solicit contributions of articles, news, reports, book reviews, and letters." In the following paragraphs, I outline some of the ideas I have for format and content of future issues.

Future issues of the newsletter will be divided into the following departments:

- Editor's Notes
- Chairman's Column
- News & Announcements
- Articles
- Student Articles
- Calls for Papers

Any announcements of general interest to members will be published. This includes workshop/conference announcements, descriptions of new database products, interviews with well known SIGMOD members, etc. Since we can not print advertisements, some editing of the contents of this section will be performed. Any technical articles which would be of interest to the readers will be considered for publication. I solicit articles concerning current research, book reviews, literature surveys, practical experience, etc. Student articles will be printed in a separate department to encourage student participation. This provides an outlet for student papers and also gives them broad exposure to researchers and workers in the database area. Any information to be considered for future issues should be forwarded directly to the editor by the first day of the month preceding the issue month (February 1, August 1, November 1).

I would like to make the RECORD a vehicle for disseminating information concerning research activities at various institutions. As a new researcher in the database area, sometimes it is difficult to determine what organizations are conducting research into areas closely related to my own. Therefore, I strongly encourage researchers to submit articles summarizing the database research at their institution. These articles shouldn't contain detail technical data concerning the work, but rather a general overview and summary of the research objectives, types of projects being undertaken, and a list of the

investigators. I would like to include at least one article in each issue which provides an overview of the current database research activities at a specific organization. It is my hope that such articles will facilitate communication between researchers of like interests.

Technical papers submitted to the RECORD should be relatively short (5-15 single space pages) and sent to the editor either in camera ready format or via electronic mail. Papers which are sent in camera ready form should be single spaced on 8.5 by 11 inch paper with at least 1 inch margins. Research articles should contain a brief abstract. All technical papers must include the names and addresses of all authors, and if appropriate, include an electronic mail address. Even though the RECORD is an unrefereed journal, all technical papers will be reviewed to try to obtain a minimum level of quality. The copyright for all published articles remains with the authors.

I urge you to offer suggestions or comments concerning the ideas stated above and to provide any other ideas which you may have concerning the newsletter. Volunteers to assist the editor in preparing future RECORD issues are also needed. With a distribution of over 5000, the RECORD provides a fast, effective mechanism for exchanging technical ideas and disseminating information to a wide audience. Please get involved.

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Chairman's Message

Newsletter

As is quite obvious this is the first regular SIGMOD newsletter that you have received in quite a while. I apologize for this and have taken the first steps to get the newsletter back on its feet. First, Margaret Eich, an Assistant Professor in the Computer Science Department at SMU, has agreed to serve as Newsletter Editor. As she describes later on in this issue she is working on a number of exciting ideas to encourage participation in the newsletter by a wider community of SIGMOD members. However, without the help of you, the members, there can be no real newsletter. In my mind, and I suspect in the minds of most SIGMOD members, a viable newsletter must do more than simply review what happened at a conference and announce the dates of the next conference. One of the main functions of the newsletter is to serve as a forum for the informal exchange of ideas, including research results that have not reached a publishable state. As a program committee member for the upcoming SIGMOD conference, I reviewed a number of papers that, while not suitable for the conference, would be perfect for the SIGMOD newsletter. While we cannot obviously publish all rejected papers in the newsletter, I would like encourage authors to consider the newsletter as a option for papers not accepted at SIGMOD or other database conferences.

Our intention is to publish four newsletters per year. Three will be the normal format and one will be the Proceedings of the Annual SIGMOD conference. In the past, SIGMOD conference proceedings were mailed sporadically - mainly as a means of reducing our budget surplus (a problem, as we shall see below, that we no longer have). Since one never knew whether one was to receive the proceedings, members found themselves ordering copies only to have a duplicate arrive in the mail. Furthermore, I think that a number of people find it much more convenient to pay more for their membership in order to avoid having to order the proceedings each year.

Another motivating factor in our decision to mail proceedings to all members is that the proceedings serve as one of the principle mechanisms by which new results are disseminated to the database community. By not distributing the proceedings to all members (which includes libraries), the results are available only to a very limited audience. From the point of view of the authors' this makes little or no sense. One problem with mailing copies automatically to all members is that those members who attend the annual conference will end up owning two copies. There does not seem to be any simple solution to this problem unless we were to not distribute proceedings

to members at the conference and reduce their registration fee appropriately.

Distributing the proceedings to all members does, however, have a downside. It costs approximately \$30,000 to print and mail the proceedings to all 4,500 SIGMOD members. Since our surplus is gone and our dues were only \$3.00/year, we were forced to raise our dues to cover this and other costs that have risen recently. More details on the new dues and the budget are presented below.

One final newsletter related issue. One of my campaign promises (in addition to promising to raise the dues) was to explore the possibility of merging the Database Engineering Newsletter with the SIGMOD Record. For those of you not familiar with the Database Engineering Newsletter, it is a publication of the IEEE Computer Society. Generally, each issue deals with a specific topic and presents an overview of research in progress on the topic. While it is only distributed to about 300 people, it has been quite successful. One of the reasons is that each issue of the newsletter has a different editor (who is selected by an editor-in-chief). Thus, the work associated with preparing an issue is something one has to do once every couple of years. Editors can therefore put in a lot of effort into an issue, knowing that they won't have to do it again. Since most of the people putting issues together are also SIGMOD members, it seemed to make a lot of sense to merge the publications.

In response to my inquiries about the idea of merging the two publications, I discovered that ACM had already received similar requests from several other SIGs and was in the process of conducting an experiment to determine the feasibility of the idea. The problem, it seems, is that the Computer Society does not charge members for their newsletters. Thus, if you are a Computer Society member, you can receive the Database Engineering newsletter for free (for information contact Gio Wiederhold at Stanford). ACM is afraid that if they allow a SIG and the corresponding TC (Technical Committee) to merge their newsletters, all the SIG members will quit and simply get the publication for free from the Computer Society. The simplest solution would be to charge members of both groups the same amount. ACM is presently conducting a one year experiment with TC Micro and SIGMICRO to determine whether a satisfactory solution can be worked out. If ACM approves the policy we will pursue the idea further.

VLDB

As you all probably know, for the last 4-5 years ACM Council has refused to allow SIGMOD to co-sponsor the annual Very Large Database Conference despite the feeling on the part of a majority of SIGMOD members (as

polled at the annual business meeting) that SIGMOD should be an active participant in the conference. The current ACM council policy has made it difficult for people to find out about the conference (by, for example, refusing to accept VLDB advertising or announcements for CACM), however, the VLDB conference has remained extremely popular and very strong technically.

This policy has affected us in three ways. First, since we no longer co-sponsor the conference, we no longer share in the surplus. Consequently, our budget surplus has dwindled. Second, it has been very difficult for SIGMOD members to obtain copies of the conference proceedings, as until recently finding out where they could be purchased has been next to impossible. (They are now being handled by Morgan-Kaufmann Publishing Co. - 415-941-4960.) Finally, since ACM is no longer selling the proceedings, we no longer share in the profits of these sales.

Recently, there seems to be a chance for a shift in ACM policy regarding the VLDB foundation. After some encouragement by a council member, we are in the process of formally requesting that ACM Council reconsider its policy towards VLDB. While full co-sponsorship of the VLDB conference may not be approved, we hope that we will at least be allowed to sponsor the conference "in cooperation with ACM SIGMOD". While this arrangement would not provide SIGMOD with additional funds, it would be a step in right direction. In addition, it would make it possible for organizers of the VLDB conference to advertise in ACM publications.

Conferences

As you are probably aware, this year's SIGMOD conference will be held May 28-30 in Washington, D.C. If you have not received a registration form and would like to attend, contact Nick Roussopoulos at the University of Maryland. In addition to the normal tracks of submitted papers and panels, the conference will include two invited papers and three tutorials. A copy of the preliminary program can be found elsewhere in this issue.

The 1986 VLDB conference will be held August 25-28 in Kyoto, Japan. If you would like to attend the conference and do not receive a registration form by July 1, contact Gene Lowenthal at MCC. On September 23-26, a workshop on object-oriented database systems will be held at Asilomar. This workshop is by invitation only. If you want to attend you should contact Umesh Dayal at Computer Corporation of America.

The 1987 SIGMOD conference is being organized by Michael Stonebraker. The conference will be held May 27-29 in San Francisco. The arrangements for the 1987 PODS conference have not yet been finalized.

Budget

Since our surplus is now gone, we have been forced to raise SIGMOD dues from \$3/year to \$15/year. This change becomes effective July 1, 1986. Given the dearth of SIGMOD Records in the past 3 years I fully expect that a number of members will quit when faced with a 400% dues increase. While I can understand this reaction, I hope that you will wait a year and see whether the services provided in the coming year are worth the \$15. In the treasurer's report which follows, Fred Maryanski describes the budget in detail. Basically, the \$15 is spent as follows: \$5 a year goes to ACM to help run ACM. Each of the 3 issues of the SIGMOD record costs us \$2 to print and mail. The proceedings costs \$6 to print and mail. Thus, our annual, per member cost is \$17. Unless we make some money on upcoming conferences, or cut the number of pages in the SIGMOD record, we will be forced to raise dues again next year. As you can see, the old dues rate of \$3 did not even cover what we have to pay to ACM.

To put this new fee structure in perspective, SIGARCH charges \$20 a year and SIGPLAN charges \$22. Both SIGs publish their conference proceedings as a newsletter. While we have set our new membership rate at \$15, unless we start making some money on the conferences we co-sponsor, we will have to raise the dues again; perhaps as early as next year. The alternative is to cut the dues to \$5 a year and provide no newsletters.

David DeWitt

EXPLANATION OF BUDGET

Fred Maryanski

David DeWitt

Paula Hawthorn

OVERVIEW

The SIGMOD budget for FY87 differs considerably from those of past years, particularly in the area of dues which have increased substantially. It is our conviction that the SIG could not survive on its \$3 dues given increasing ACM headquarters charges and the belief that the proceedings of the annual SIGMOD conference should be distributed to the entire membership. In fact, there is very little flexibility in the budget outside of the newsletter area. Probably the only significant decisions in the budgeting process are on the viability of the newsletter and on the distribution of the conference proceedings. We choose to plan for a strong newsletter and distribute the proceedings to the membership.

INCOME

The bulk of the SIG's income will be from membership dues. In the past, a substantial portion of the financial base was obtained from the sale of proceedings, both SIGMOD and VLDB. Due to the ACM-VLDB schism, we no longer receive income from that source. Furthermore, our decision to provide the proceedings to all SIG members will naturally reduce our income in that category.

Conferences are generally intended to break even while the Air Options Income line is offset by corresponding costs in the distribution of newsletters. One point to note on dues income is that for this year, the income is based upon members renewing, and thus paying the higher dues, throughout, not all at the beginning of, the fiscal year.

EXPENSES

It is perhaps best to present our expenses as per member costs. We will use the approximation of 5000 members to simplify the presentation. The significant costs per member are roughly as follows:

Newsletters (3 @ \$2)	=	\$6.00
Conference Proceedings	=	6.00
Election Ballots	=	.50
Headquarters Data Processing	=	.50
Headquarters Allocation	=	5.00
	TOTAL	\$18.00

Traditionally many SIGs have survived financially by not meeting their newsletter expectations. We have decided to attempt to have an active newsletter and have budgeted accordingly. All other portions of the budget are at a bare minimum. In fact, our final fund balance is just over the minimum required of a SIG with our expenses.

SUMMARY

It is never easy to raise dues in a volunteer organization. However, we believe that based upon our projections, there is no other option. We hope that the SIG will attain financial stability based upon these changes and that we can provide the membership the high level of service that they deserve. We welcome your comments on this issue.

ACM SIGMOD BUDGET - FY'87

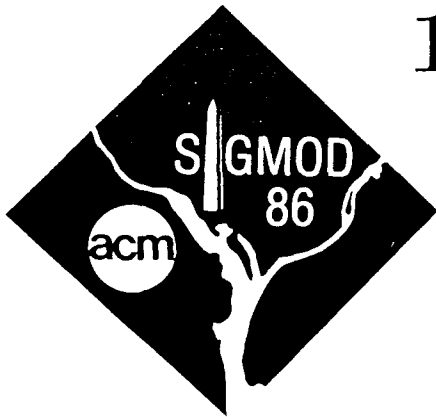
SIGMOD FY'87 BUDGET					
INCOME	Q1	Q2	Q3	Q4	TOTAL
SIG MEMBER DUES	\$12277.24	\$12277.24	\$12277.24	\$12277.24	\$49108.98
BACK NEWSLETTERS	\$11.55	\$11.55	\$11.55	\$11.55	\$46.20
PROCEEDINGS SALES	\$1541.75	\$1541.75	\$1541.75	\$1541.75	\$6167.00
CONFERENCE NET INCOME	\$90.70	\$0.00	(\$552.50)	\$3477.00	\$3015.20
AIR OPTIONS INCOME	\$1096.50	\$1096.50	\$1096.50	\$1096.50	\$4386.00
OTHER					\$0.00
TOTAL INCOME	\$15017.74	\$14927.04	\$14374.54	\$18404.04	\$62723.38
EXPENSES					
TRAVEL		\$0.00		\$1000.00	\$1000.00
TEMP SECRETARIAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
TEMP NEWSLETTER	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
TELEPHONE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
MAILING AND HANDLING	\$50.00	\$50.00	\$2446.14	\$50.00	\$2596.14
SUPPLIES	\$50.00	\$50.00	\$50.00	\$50.00	\$200.00
MINOR PRINTING	\$150.00	\$150.00	\$1050.00	\$150.00	\$1500.00
DUPLICATING	\$25.00	\$25.00	\$25.00	\$25.00	\$100.00
PUB. PRINTING	\$5359.12	\$5359.12	\$19237.60	\$5359.12	\$35314.96
WRAPPING, HANDLING	\$426.62	\$426.62	\$536.00	\$426.62	\$1815.86
SHIPPING AND FREIGHT	\$70.73	\$70.73	\$70.73	\$70.73	\$282.92
PUBLICATION POSTAGE	\$4206.33	\$4206.33	\$11763.38	\$4206.33	\$24382.37
DATA PROCESSING	\$554.98	\$554.98	\$554.98	\$554.98	\$2219.92
PROMOTION/ADVERTISING	\$472.50	\$472.50	\$472.50	\$472.50	\$1890.00
LOCAL SUPPORT	\$50.00	\$50.00	\$50.00	\$50.00	\$200.00

SIGMOD FY'87

4908	TOTAL MEMBERS								
	TOTAL DUES	\$50111.20							
	COLLECTION	\$1002.22							
	BUDG DUES	\$49108.98	\$12277.24	\$12277.24	\$12277.24	\$12277.24	\$12277.24	\$12277.24	\$49108.98
	PUBLICATION SALES								
	NEWSLETTER	\$46.20	\$11.55	\$11.55	\$11.55	\$11.55	\$11.55	\$11.55	\$46.20
	44	\$1.05							
	PROCS	\$6167.00	\$1541.75	\$1541.75	\$1541.75	\$1541.75	\$1541.75	\$1541.75	\$6167.00
	350	\$17.62							
	CONFERENCE AND SEMINAR INCOME								
	SIGMOD							\$3477.00	
	PODS							(\$552.50)	
	OBJECT		\$90.70						
	TOTAL CONFERENCE		\$90.70	\$0.00	(\$552.50)	\$3477.00	\$3477.00		\$3015.20
	AIR OPTIONS INCOME		\$1096.50	\$1096.50	\$1096.50	\$1096.50	\$1096.50	\$1096.50	\$4386.00
	AIR FREIGHT	\$8.00							
	FULL AIR	\$26.00							
	MINOR PRINTING								
	MEMBERSHIP BROCHURES		\$150.00	\$150.00	\$150.00	\$150.00	\$150.00	\$150.00	\$600.00
	2000								
	BALLOTS							\$900.00	
	TOTAL MINOR PRINT		\$150.00	\$150.00	\$1050.00	\$1050.00	\$150.00	\$150.00	\$1500.00

Program

1986 ACM SIGMOD



International Conference on Management of Data
 Washington D.C.
 May 28-30, 1986

	Wednesday		Thursday		Friday	
8:00	Registration					
9:00	Panel 1		Session 5a	Session 5b	Session 9a	Panel 9b
10:30	Coffee Break					
11:00	Session 2		Session 6a	Panel 6b	Session 10a	Panel 10b
12:30	Lunch					
2:00	Session 3		Session 7		Session 11	
3:30	Coffee	Tutorial 1	Coffee	Tutorial 2	Coffee	Tutorial 3
4:00	Session 4		Session 8		Session 12	
5:30						
7:00	Banquet		Recess			
9:00						

TUESDAY, MAY 27, 1986

7:00-10:00pm Reception and Registration

WEDNESDAY, MAY 28, 1986

8:00-8:30 REGISTRATION

9:00-10:30 [1] Panel: ENGINEERING INFORMATION SYSTEMS: BUILDERS & DESIGNERS PERSPECTIVE
Chairperson: N. Roussopoulos

10:30-11:00 COFFEE BREAK

11:00-12:30 [2] INVITED PAPERS: DATABASE LANGUAGE ISSUES
Chairpersons: A. Borgida, A. Buchmann
• "Inheritance and Persistence in Database Programming Languages,"
P. Buneman, M. Atkinson
• "An Amateur's Introduction to Recursive Query Processing Strategies,"
F. Bancilhon, R. Ramakrishnan

12:30-2:00 LUNCH AND OPENING REMARKS

2:00-5:30 Tutorial 1: STATE OF THE ART AND FUTURE TRENDS IN FOURTH GENERATION LANGUAGES L. A. Rowe

2:00-3:30 [3] UPDATE SUPPORT
Chairperson: I. Traiger
• "A Snapshot Differential Refresh Algorithm,"
B. Lindsay, L. Haas, C. Mohan, H. Pirahesh, P. Wilms
• "Efficiently Updating Materialized Views,"
J. Blakeley, P.-A. Larson, F. Tompa
• "Abstraction in Recovery Management,"
J. Elliott, B. Moss, N.D. Griffith, M.H. Graham

3:30-4:00 COFFEE BREAK

4:00-5:30 [4] PERFORMANCE ANALYSIS
Chairperson: D. Bitton
• "R* Optimizer Validation and Performance Evaluation for Local Queries,"
L.F. Mackert, G. Lohman
• "Performance Evaluation of a Temporal Database Management System,"
I. Ahn, R. Snodgrass
• "Load Balancing in a Locally Distributed DB System," M. Carey, H. Lu

7:00-9:00 BANQUET

TUTORIAL 1
STATE OF THE ART AND FUTURE TRENDS IN
4th GENERATION LANGUAGES
Lawrence A. Rowe
University of California, Berkeley

This tutorial will survey commercially available 4th Generation Languages (4GL) and discuss research on program development environments that is likely to influence future systems. The survey will emphasize the features of 4GL's and the alternative approaches to providing them in different systems. Particular features covered will include report writers, database query languages, forms systems, procedural languages, graphics systems, application generators, and application design and management tools. Current research on object-oriented programming, window managers, artificial intelligence, and programmer productivity tools will be described and the possible impacts these technologies will have on the next generation of 4GL's will be discussed.

INSTRUCTOR:

Lawrence A. Rowe received a BA in mathematics and a PhD in Information and Computer Science from the University of California, Irvine in 1970 and 1976, respectively. Since 1976, he has been a member of the faculty at Berkeley. His primary research interests are on tools for the development of interactive database applications. He designed and implemented the Rigel programming language, a Pascal-like language with embedded database constructs, and the Forms Application Development System (FADS), a forms-based application development system. His current research is on user-interfaces to database systems, high productivity programming environments for end-users, and object-oriented database management systems. Professor Rowe is also a co-founder of Relational Technology, Inc. which markets the INGRES relational database management system.

THURSDAY, MAY 20, 1986

- 9:00-10:30 [5a] USER INTERFACES
Chairperson: **R. King**
• "Constructing Queries from Tokens," **A. Motro**
• "Neptune: A Hypertext System for CAD Applications,"
N. Delisle, M. Schwartz
• "Principles of an Icons-based Language," **C. Frasson, M. Er-radi**
- 9:00-10:30 [5b] Panel: DATABASE SYSTEM PROGRAMMING MEASUREMENT
Chairperson: **H. Boral**
- 10:30-11:00 COFFEE BREAK
- 11:00-12:30 [6a] LOGIC AND DATABASES
Chairpersons: **P. Gray, T. Imielinski**
• "A Message Passing Framework for Logical Query Evaluation",
A. Van Gelder
• "Traversal Recursion: A Practical Approach to Supporting
Recursive Applications," **A. Rosenthal, S. Heller, U. Dayal, F. Manola**
• "Evaluation of Database Recursive Logic Programs as
Recurrent Function Series", **G. Gardarin, C. DeMaindreville**
- 11:00-12:30 [6b] Panel: EXTENSIBLE DATABASE SYSTEMS
Chairperson: **D. Batory**
- 12:30-2:00 LUNCH
- 2:00-5:30 Tutorial 2: TRANSACTION PROCESSING IN CENTRALIZED DBMSs
P.A. Bernstein
- 2:00-3:30 [7] QUERY PROCESSING
Chairperson: **M. Ozsyoglu**
• "Global Query Optimization," **T.K. Sellis**
• "Rule-Based Transformation of Relational Queries into
Interactive Programs," **J.C. Freytag, N. Goodman**
• "Prefetching in Realtime Database Applications,"
G. Zorntleln, H. Wedekind
- 3:30-4:00 COFFEE BREAK
- 4:00-5:30 [8] STORAGE STRUCTURES
Chairperson: **D. Lomet**
• "Multiattribute Hashing Using Gray Codes," **C. Faloutsos**
• "Query Processing in Main Memory Database Management Systems,"
T. Lehman, M. Carey
• "Good Worst-Case Algorithms for Inserting and Deleting Records
in Dense Sequential Files," **D.E. Willard**

TUTORIAL 2
TRANSACTION PROCESSING IN CENTRALIZED DBMSs
Phillip A. Bernstein
Wang Institute of Graduate Studies

This tutorial introduces the main solutions to two critical problems of transaction processing: concurrency control and recovery. Concurrency control algorithms allow transactions to access shared data concurrently without interfering with each other. We present the principals and main implementation issues behind the standard approach to concurrency control, namely two-phase locking. Recovery algorithms maintain the integrity of a database, despite the failure of the underlying computer or operating system. We present the undo/redo paradigm for DBMS recovery, including logging, shadowing, and checkpointing algorithms. This seminar is designed for computer system professionals with a strong technical orientation.

INSTRUCTOR:

Phillip A. Bernstein is Professor of Information Technology at the Wang Institute of Graduate Studies. He was formerly VP Software at Sequoia Systems, Associate Professor at Harvard University, and a researcher at Computer Corp. of America, where he was codesigner of four distributed DBMSs. Prof. Bernstein is author of over 60 articles on database systems and is coauthor of the forthcoming book "Concurrency Control and Recovery in Database Systems" (Addison-Wesley, 1986).

FRIDAY, MAY 30, 1986

- 9:00-10:30 [9a] RULE-BASED SYSTEMS
Chairperson: **Y. Vassiliou**
• "Rule Base Management Using Meta Knowledge,"
M.T. Harandi, T. Schang, S. Cohen
• "Query Processing in Deductive Databases with Incomplete Information,"
T. Imielinski
• "A Rule-Based Object/Task Modeling Approach," **Q. Chu**
- 9:00-10:30 [9b] Panel: USER INTERFACES AND DATABASE MANAGEMENT
Chairperson: **T.L. Anderson**
- 10:30-11:00 COFFEE BREAK
- 11:00-12:30 [10a] OBJECT-ORIENTED AND MULTIMEDIA DBMSs
Chairpersons: **D. Maier, K. Youseff**
• "The Multimedia Object Presentation Manager of MINOS: A Symmetric Approach," **S. Christodoulakis, M. Theodoridou, F. Ho**
• "An Object-Oriented Approach to Multimedia Databases,"
D. Woelk, W. Kim, W. Luther
• "Spatial Query Processing in an Object-Oriented Database System,"
J.A. Orenstein
- 11:00-12:30 [10b] Panel: MAIN MEMORY DATABASES
Chairperson: **D. Bitton**
- 12:30-2:00 SIGMOD BUSINESS LUNCH
- 2:00-5:30 Tutorial 3: PARALLEL COMPUTING AND DATABASE MANAGEMENT
B.K. Hillyer
- 2:00-3:30 [11] SYSTEM ARCHITECTURE
Chairperson: **D. DeWitt**
• "The Design of POSTGRES," **M. Stonebraker, L.A. Rowe**
• "A DBMS Prototype to Support Extended NF2 Relations: An Integrated View on Flat Tables and Hierarchies," **P. Dadam, K. Kuespoert, F. Anderson, H. Blanken, R. Erbe, J. Guenauer, V. Lum, P. Pistor, G. Walch**
• "On the Evaluation Strategy of EDUCE," **J. Bocca**
- 3:30-4:00 COFFEE BREAK
- 4:00-5:30 [12] DATA MODELING AND DATABASE DESIGN
Chairpersons: **F. Manola, B. Demo**
• "Version Modeling Concepts for Computer Aided Design Databases,"
R.H. Katz, E. Chang, R. Bhateja
• "Stepwise Specification of Dynamic Database Behavior," **U.W. Lipeck**
• "A Formal View Integration Method," **J. Bliskup**

TUTORIAL 3
PARALLEL COMPUTING AND DATABASE MANAGEMENT
Bruce K. Hillyer
Columbia University

The need for faster database management is meeting favorable trends in device technology, new and proven ideas for parallel architectures, and parallel algorithms for database operations.

In this tutorial, we discuss the cost and performance trends in computer hardware that are driving the exploration of high speed parallel computing. We examine basic issues and approaches in parallel processing, and show several recent parallel architectures proposed for accelerating non-numeric computing. We then discuss a variety of parallel algorithms for relational algebraic operators, concentrating on the "hard" operations such as relational join, and see how these ideas are developed in early and recent proposals for database machines.

INSTRUCTOR:

Bruce K. Hillyer is a Ph.D. candidate at Columbia University. He received an A.B. in Mathematics from Princeton University, and an M.S. in Computer Science from Columbia University, where he has been with the NON-VON Project since its inception. His interests include highly parallel computation, relational database management, and AI production systems.

Travel Arrangements

Portfolio Travel in cooperation with the 1986 ACM SIGMOD Conference on Management of Data has agreed to help the participants in getting the best possible flights and fares to the conference. Lorna Zimmerman can be contacted from 8am - 4pm at (202) 966-4111. To receive the best possible assistance please have the following ready:

- 1) name(s)
- 2) organization
- 3) office address
- 4) city, state, country, zip code
- 5) home address
- 6) city, state, country, zip code
- 7) office phone number and area code
- 8) home phone number and area code
- 9) departure city
- 10) date and time of departure from home city
- 11) date and time of return to home city
- 12) Please send invoice to me at address
- 13) Charge airline ticket to my credit card (MC, AmEx, Visa & Number)
Issued to
Expiration date
Signature

Ground Transportation

Complimentary shuttle service from National Airport (See Hyatt Courtesy phone) and the Crystal City Metro daily from the airport between 8a.m. and 10p.m.

Conference Fees

Advanced Registration: Received by April 28, 1986

Member of ACM	\$180.00
Non-member	\$230.00
Students	\$ 75.00

Late or On-site Registration

Member of ACM	\$225.00
Non-member	\$275.00
Students	\$ 85.00

Hotel Accommodations

The Conference Hotel is the Hyatt Regency Crystal City, a keystone of the largest urban commerce center in the Washington Metropolitan Area. It is adjacent to Washington National Airport in the Crystal City complex. It is five minutes from the Pentagon and ten minutes from the Capitol, government offices, and main business area of Washington. The established conference rate for rooms are per night:

\$85.00 single / \$95.00 double

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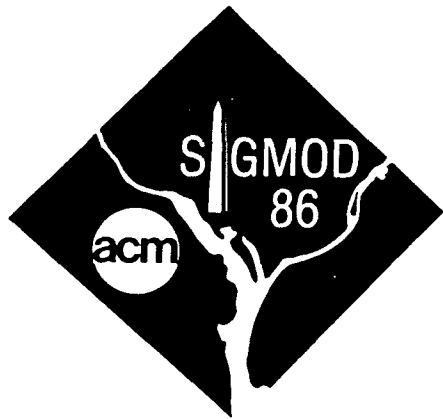
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Make check payable to **SIGMOD-86**. Mail to:

Dr. Nick Roussopoulos
Department of Computer Science
University of Maryland
College Park, Maryland 20742
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