## PANEL SESSION Database Tools and Interfaces

Panel chairman: Dina Bitton Stanford University and University of Illinois at Chicago

Advances in relational database technology have made available a wide range of database systems that support state of the art query languages and query optimization. However, the use and accessibility of these systems, whether they are PC based or high-end database engines, is hampered by the lack of adequate tools for database and application design. Users experience major difficulties in the process of designing a well structured relational database or writing SQL queries that are nonambiguous and perform well. This panel will address the following questions:

- 1. Why is there such a wide gap between relational design theory and database design practice? The theory is sound and mature, but in practice, relational databases are often designed manually, in an ad-hoc manner. It seems that neither "higher level" data models nor diagram and form interfaces really help design well structured relational databases.
- 2. With the trend toward client-server architecture, will better tools and interfaces become available on client PC's and workstations? Will the entire design process be confined to the client? Will this migration help provide better user interfaces for database systems?
- 3. What is the functionality required for application design tools? Are there basic building blocks that all of these tools should embed, or is an application design tool for On Line Transaction Processing (OLTP) completely different from an application design tool for engineering databases or information retrieval systems? database systems more accessible?

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