The recent advances in Computer Technology, providing unlimited possibilities for an ever expanding growth of the application spectrum, have created substantial research activities. The technical sessions in the architecture area of this conference are conceived and planned to expose the profound advances in hardware technology and also to reveal their significant impact on the current and future systems architecture. This series of sessions presents the state of the art and also some of the thought provoking challenges to the designers of the future systems.

The session the “Impact of Semiconductor Technology on Computer Architecture” traces its impact of semiconductor technology on the computer architecture and the emergence of microprocessor systems. It also highlights a discussion on how the future data processing technology would be influenced by the semiconductor technology and the associated problems. The evolution of this technology and future projections are discussed by the leaders of this emerging technology.

The sessions on “Evolution of Architecture” trace the evolution of architectures of well known computer families. These sessions articulate the major challenges and accomplishments of these systems. They also discuss the lessons that these systems have taught and how the future systems would be built. These two sessions would define certain cautious guidelines for the future systems.

In the future the user is expected to be his own architect. By specifying his requirements the future user would be able to configure his system from the off the shelf subsystems. In order to do this certain tools and techniques are needed by the user. The session on “User Impact on Architectures” explores such issues related to user involvement.

In order to define the directions for future large scale architectures it is essential to look back and assess the effectiveness of existing large scale systems. Session on “Large Scale Computer Architectures” looks at the evolution of large scale systems and discusses how effectively these systems have satisfied the user needs.

The dramatic reduction in hardware costs due to the LSI technology make it economically feasible to expand the application spectrum and to cover the areas which are hither to unexplored by developing special purpose architectures.
Session on "Special Purpose Computer Architectures" highlights architectures for one of the important application areas—pattern recognition.

In spite of tremendous advances in computer technology the existing intracomputer standards are in chaos and some are confusing. With the result there exists a large degree of incompatibility between the subsystems of various manufacturers thus imposing several artificial constraints on the designers who use these subsystems. The session on intra-computer standards will extend a discussion on the impact of standards on computer architecture. Organizations involved in developing these standards will discuss their current thoughts and focus on how uniform standards could be evolved that would benefit both the user as well as the computer architect.