FOREWORD

On behalf of the IEEE 8th Great Lakes Symposium (GLS) on VLSI, we welcome you to Lafayette where the symposium is taking place in the middle of the great bayous of Cajun land.

The GLS series is devoted to the current and future challenges in aspects of theory, design, and applications of VLSI Circuits, Architectures, and Systems. This eighth symposium represents another step in the rapidly growing process of the GLS series. We believe that this year's symposium has strengthened the focus and scope of the technical program, expanded its international flavor, and added to its recognition in the technical community. We are certain you will find that the symposium provides a friendly, intimate, and stimulating environment for discussion, interaction, and exchange of ideas among the VLSI community.

The technical program is hot and spicy (Cajun style). It includes regular sessions on:

- VLSI Design Methods
- CAD Algorithms
- Novel and Emerging Circuits
- VLSI Architectures
- Optimization Techniques for VLSI Design
- VLSI Arithmetic
- Testing and Verification
- Application Specific Architectures
- Low Power Circuits & Architectures

and special sessions on:

- High Performance CMOS Circuits
- VLSI Communication Circuits and Systems
- Data Base for CAD

A total of seventy-six papers (from thirteen different countries) are included in this proceedings. They are presented in both lecture and poster sessions. The proceedings, this year, is given a new look. It is organized into seven main subjects, as follows:

- Low Power Circuits and Architectures
- VLSI Circuits
- VLSI Architectures
- VLSI Arithmetic
- Testing
- VLSI Communication Circuits and Systems
- Design Methodologies and CAD Tools

Grouping the papers by subjects instead of following the sessions order of the technical program makes the proceedings user friendly and much more convenient to handle and utilize.

One of the main highlights of the technical program is a set of invited plenary talks by prominent researchers and developers from both academia and industry. The distinguished list includes:

- *Pallab K. Chatterjee*, President, Personal Productivity Products, Texas Instruments
  "ULSI Development: A Historical Perspective"

- *Kamran Eshraghian,* Head, School of Engineering and Foundation Professor of Computer, Communication, and Electronic Engineering, Edith Cowan University
  "Smart Pixels Multimedia Processing for Personal Communication"

- *Joseph Rizzo,* Harvard Medical School; and
  John Wyatt, MIT
  "Development of Silicon Retinal Implant to Restore Vision to Blind"

- *Eric Collins,* Manager, Computing Systems Research Laboratory, Motorola
  "Silicon Systems Architecture and Tools"

- *John Choma,* Professor of Electrical Engineering-Electrophysics, University of Southern California
  "VLSI Education in the Communication Era"

- *Amr Mohsen,* President, Aptix Co.
  "Programmable Systems and Devices: A New Paradigm for Electronic Systems Development and Implementation"

Another highlight of the program is the poster session which is organized as one big evening event. This new approach ensures that the posters are presented at a time that doesn't conflict with the lecture sessions. This event takes place in conjunction with a cocktail reception.

A student paper contest will take place as one of the main events in the symposium. A total of 12 papers are included in the final round. The first prize is a state-of-the art Pentium PC contributed by Intel, Inc.

We invite you to actively participate in these technical activities and VIVE LA DIFFERENCE.

A very cultural and entertaining social program has also been planned. It introduces the symposium attendees and their guests to the Cajun culture and Louisiana heritage. These events include:

* A pre-symposium Jazz reception (Wednesday night) featuring a Jazz band
* A luncheon speaker on Cajun Culture (Thursday lunch)
* A Cajun night featuring Cajun food, music, dancing (Friday night)
* A set of tours that includes:
  - The Atchafalaya Swamp Tour
  - Avery Island and Tabasco Pepper Sauce Factory
  - Plantation Homes

Mardi Gras festivities are at their peak. It is a unique cultural experience, and as the Cajuns say: LAISSEZ LES BON TEMPS ROULEZ!!

We are grateful to all the authors for contributing this excellent selection of papers, to the technical program committee and reviewers for their expeditious and thoughtful reviews, and to the organizing committee. We wish to acknowledge Naveed Sherwani, a dynamic driving force behind this symposium. We are indebted to the IEEE Circuits and Systems Society and Computer Society-TC on VLSI, to the Center for Advanced Computer Studies and University of Southwestern Louisiana. Our sincere thanks to Intel, Inc. for its generous support. We also thank the plenary speakers, the judges of the student paper contest, Texas Instruments, and Cadence Inc. for their contributions.

Special thanks go to USL students who are keeping up with Magdy's crazy schedule: this includes having research meetings at midnight while expecting to make an early class the next morning.

Our warm and deep-heart thanks go to Cathy Pomier for her dedication, hard work, and perfection. She has been a vital part to all phases of the conference. She has been remarkable in keeping her sense of humor most of the time even when she is trying to keep Magdy in line!

We are very proud to be hosting the GLS in the great bayou land and we are pleased to have you here in Lafayette. We hope that this symposium provides a rewarding experience and that you will find the proceedings informative, stimulating, and interesting.

Magdy A. Bayoumi
Graham Jullien