MARCO ALFANO

E-mail: *alfano@icsi.berkeley.edu*
WWW: *http://www.icsi.berkeley.edu/~alfano*

Work Address

International Computer Science Institute (ICSI)
1947 Center St., Suite 600
Berkeley, CA 94704
Tel: (510) 642-4274 x135

Home Address

1020 Keith Ave.
Berkeley, CA 94708
Tel: (510) 559-9167

OBJECTIVES

An opportunity to contribute to cutting-edge research and development of Multimedia Applications, Computer Networks and Distributed Systems.

EDUCATION

(Oct 95) **Dottorato di ricerca (Ph.D.) in Electronics, Computer Science, and Telecommunications Engineering**, *University of Palermo, Italy.*
Thesis title: "Uno scheduler per applicazioni distribuite guidato da specifiche di utente (A user-driven scheduler for distributed applications)".

(Jul 88) **Laurea degree (Bachelor + Master) in Electronics Engineering**, *University of Palermo, Italy.*
Thesis title: "Riduzione ottimale di modelli lineari a molte variabili (Optimal reduction of multi-variable linear models)".

SCIENTIFIC AND PROFESSIONAL ACTIVITIES

(Sep 95 - present) **Post-doctoral position,** *International Computer Science Institute, Berkeley, USA*
Designing and implementing an architecture for a cooperative multimedia environment with QoS requirements. Examining the influence of network and host parameters on QoS of various media.
Developing a videophone application for initiating and carrying out a video/audio session (conference) through the Internet.
Working on management and performance aspects of BAGNet (a 155 Mb/s ATM network that connects fifteen sites in the San Francisco Bay Area) and MAY (an intercontinental ATM network that connects North America to Europe) with particular emphasis on the QoS requirements for teleseminar applications.

(Mar 95 - Aug 95) **Italian National Council of Research (CNR) fellowship**, *Ericsson Telecomunicazioni, Rome, Italy.*
Worked on the management of telecommunication networks by means of object-oriented approaches. In particular, the Telecommunications Management Network (TMN) standard has been considered for the construction of a QoS management architecture.

(Mar 92 - Feb 95) **Research job for a Ph.D. in Electronics, Computer Science, and Telecommunications Engineering**, *Institute for Informatics and Telecommunications, University of Catania, Italy and Computer Science Department, University of Waterloo, Canada.*
Designed a scheduler for distributed applications. The main feature of the scheduler is the possibility for the user to specify his QoS requirements in terms of response time, reliability, and cost.
Developed an analytical model of a distributed application. This model takes into account precedence, client/server, and synchronization relations between application modules. The scheduler uses such a model to compute response time, reliability, and cost of the application and makes its choices in dependence of the user requirements.

(Oct 89 - Sep 91) **Italian National Council of Research (CNR) fellowship**, *Center for research on computer net-*

works, Palermo, Italy and Computer Science Department, University of Waterloo, Canada.
Investigated issues related to mainframe architectures (360, 370, 370/XA) and operating systems for mainframes and workstations (Unix, IBM VM). Examined the main network architectures for LANs, MANs, and WANs. Used the TCP/IP protocol suite for developing interprocess-communication applications.

TECHNICAL SKILLS

- **Operating Systems:** Unix, IBM VM, DOS/Windows, Apple System VII.
- **Programming Languages:** C, Fortran, Tcl/Tk.
- **Communication Protocols:** TCP/IP, ATM.
- **Multimedia Applications:** vic, vat, wb, nv, vcr.

SELECTED PUBLICATIONS

- M. Alfano, R. Sigle, R. Ulrich. *A cooperative multimedia environment with user-driven QoS control.* To be presented at 8th IEEE Workshop on Local and Metropolitan Area Networks, Aug 25-28, 1996, Berlin, Germany.

- M. Alfano, A. Di Stefano, L. Lo Bello, O. Mirabella. *An expert system for planning real-time distributed task allocation.* To be presented at FLAIRS-96, May 20-22, 1996, Key West (FL - USA).

- M. Alfano, R. Sigle, R. Ulrich. *Management of cooperative multimedia sessions with QoS requirements.* Proc. of the IEEE Gigabit Networking Workshop GBN '96, March 24, 1996, San Francisco (CA - USA).

- M. Alfano. *A Quality of Service Management Architecture (QoSMA): A preliminary study.* International Computer Science Institute Tecnical Report TR-95-070, December 1995.

- M. Alfano, A. Genco, G. Lo Re. *Scheduling distributed algorithms on heterogeneous computer networks*. Application of High-Performance Computing in Engineering IV. Ed. H. Power. Computational Mechanics Publications, 1995. pp. 47-54.

- M. Alfano. *Uno scheduler per applicazioni distribuite guidato da specifiche di utente.* Ph.D thesis. February 1995.

- M. Alfano, A. Genco, S. Lopes, A. Prestigiacomo. *Scheduling simulation on a Parallel Virtual Machine*. Proc. of the 1994 European Simulation Symposium, pp. 21-25, October 9-12, 1994, Istanbul (Turkey).

- M. Alfano. *On the characteristics of schedulers for distributed computing systems*. Proc. of AICA'94, pp. 685-697, September 21-23, 1994, Palermo (Italy).

- M. Alfano. *Scheduling features in distributed systems.* Proc. of the SBT/IEEE International Telecommunications Symposium, pp. 52-56, August 22-26, 1994, Rio de Janeiro (Brazil).

- M. Alfano. *A parallel application model for scheduling in distributed systems.* Notes for the DAGS'94 School on Parallel Programming Environments, July 8 - 12, 1994, Hanover (NH - USA).

- M. Alfano. *Modeling a distributed application with precedence and synchronization relations.* Proc. of the 19th Intern. Conf. on Information Technology and Programming, pp. 54-62, June 26 - July 2, 1994, Sofia (Bulgaria).

- M. Alfano, A. Genco. *User requirements and distributed scheduling design.* IEEE Bulletin of the Technical Commitee on Operating Systems and Application Environments, pp. 9-10, Spring 1994.

- M. Alfano, G. Lo Re. *Concurrent techniques for distributing numerical algorithms.* Atti della Accademia di Scienze, Lettere e Arti di Palermo, 1993-1994.

- M. Alfano, G. Lo Re. *Distributing numerical algorithms: Some experiences with Network Computing System (NCS) and Parallel Virtual Machine (PVM).* Proc. of the Workshop on Cluster Computing, December 2-4, 1992, Tallahassee-Florida-USA.

REFERENCES

Available upon request.