

12. To Mario Gerla, the Maestro of Networks

by Leonard Kleinrock, UCLA

On September 2, 1969, at UCLA, the first node of the ARPANET was connected to our HOST computer; thus was introduced the first packet switch, the IMP. On October 29, 1969, we sent the first message between the first two ARPANET nodes (from UCLA to the Stanford Research Institute) thus launching what would soon be known as the Internet. Between those two historic dates, a most significant event occurred and that was when I first met Mario Gerla. Mario was a prize student in my class on Queueing Theory. It continues to amaze me why any student would wake up for my 8:00 am class to attend a subject as difficult and mysterious as queueing theory. But Mario was that kind of a dedicated student. I did what I could to make the course clear, understandable and fun, but it was still a killer subject. He aced my course and then subjected himself the next semester (again at 8:00 am!) to my Network Flows course - once more acing it. Here was a brilliant young man who clearly had a flair for research and an intense interest in performance analysis and design of networks. Fortunately for all of us, I had a critical need for a talented Ph.D. candidate to conduct deep analysis and evaluation of computer networks as represented by the ARPANET. I invited Mario to join my research group and was thrilled when he accepted. Thus, Mario suddenly found himself in the center of one of the most challenging and exciting research efforts as we forged the emerging Internet. As it turns out, Mario had a very close Polytechnico classmate from Milan by the name of Luigi Fratta who was also at UCLA as a Postdoctoral Fellow, and I hired Luigi as well, since he, too, had excelled in both of my classes. Interestingly, they always came to my office as a pair to discuss their research findings. This confused me since the work was superb, but I couldn't figure out which of them was the smart one. Well, it soon became clear that they were both brilliant, and they have continued to collaborate on shared research since then. Mario's Ph.D. research was groundbreaking in that he solved the problem of optimal routing for the ARPANET in an elegant and fundamental way; this led to the publication of his classic paper in 1973. So began the celebrated and remarkable career of Mario Gerla!

It was during this time as a graduate student that he and his classmates in my research group formed a lifelong bond, both professional and personal. It was then also, that he met his amazing wife, Maggi, who became one of the team, and with whom we share close ties to this day. Somewhere along the way, due perhaps in part to my gently encouraging my students to engage in sports and outdoor activities (as I adhered to the wonderful Latin motto, "Mens sana in corpore sano" - i.e., "a sound mind in a sound body"), that Mario became an unbelievable athlete spending hours each day either swimming or biking or jogging (or all three in the same day). Mario is prone to productive extremes of this sort in all aspects of his life. He holds the record in our department of supervising the most students at one time. His publication list is unmatched - to date he has published more than 1000 papers and reports on computer networks and mobile systems - and he is among the most-cited researchers in computer science, with an H index of 116, a g-index of 211 and citations in excess of 60,000! He has dominated the field of wireless network design and analysis research as a pioneer in the field of Mobile AdHoc Networks (MANET) and has laid out many of the fundamental algorithms and protocols in the field. This work entailed novel routing algorithms as well as medium access methods and advances in TCP congestion control.

Mario is a true academic son, a great friend, an amazing faculty colleague and a "mench". It is a great pleasure to have had you in my close circle for almost 50 years. Congratulations on your 75th birthday, Mario!