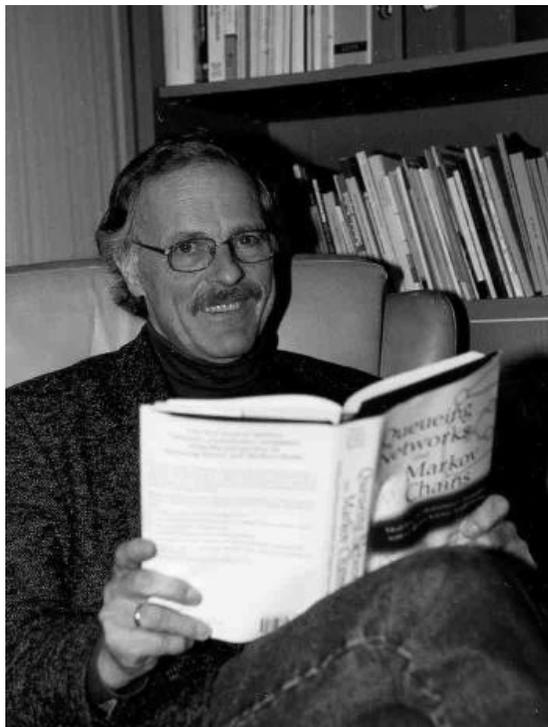


In Memory of Dr. Gunter Bolch

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★ December 26, 1940 – † May 29, 2008

The *MMB Special Interest Group* mourns for a highly valued member. Gunter Bolch died on May 29, 2008 in Erlangen, after a serious illness. He was very open minded, a beautifully moderate person, and a friend in its truest meaning. With *MMB*, he shared his academic passion of performance modelling, in general, and queueing networks, in particular.

Gunter was born in 1940 in Reichenbach, a small town near Aalen. He studied communications engineering in Karlsruhe and Berlin. In 1973, he finished his PhD on the “Identifikation linearer Systeme durch Anwendung von Momentenmethoden” in Karlsruhe. In the same year, he took a position as *Akademischer*

Rat at the Friedrich-Alexander University in Erlangen. From 1982, he led the newly-founded *Research Group on Analytical Modelling* (ANA Group) which achieved international reputation in the following years.

He has co-authored seven scholarly written books that have widely been cited and have gained world-wide acknowledgment. One of his latest achievements was the second edition of “Queueing Networks and Markov Chains” (2006) and the corresponding Solution Manual (2008) published by John Wiley & Sons. The book has been cited several hundred times. For the German performance modeling community, also his older book “Leistungsbewertung von Rechensystemen” (1989) is a well-known classic.

In 2007, Gunter became the Honorary Chair of the “International Conference on Analytical and Stochastic Modelling Techniques and Applications (ASMTA)”, a conference series he started in 1995.

Gunter supervised more than 100 semester and M.Sc. theses (Studien- and Diplomarbeiten). Thirteen doctorates have been conferred under his guidance and four former members of the ANA Group are now professors: Ian Akyildiz, Hermann de Meer, Helmut Herold, and Georg Trogemann. Likewise, many of his students were motivated by his academic and personal spirit and followed up contributing in similar research areas.

Many more colleagues from different continents have also taken pride in cooperation and joint publications with him during his overly productive life. Gunter published more than fifty conference papers and more than thirty journal articles. These publications were supplemented by several contributions to books, co-edited proceedings, and many technical reports.

Gunter’s algorithmic work was complemented by his initiatives to provide corresponding software tool support. Here, we only mention the most prominent ones PEPSY-QNS (performance evaluation of queueing networks using various methods; 1990), MOSES (Markovian performance and reliability analysis of discrete-event systems; 1994), MOSEL (modeling language and evaluation environment for discrete-event systems; 1995, revised 2003), and WinPEPSY-QNS (PEPSY-QNS for Windows, 2004).

But Gunter Bolch was not only a very productive professional. He was also a pleasant person. His personality was calm and friendly, always trying to help, in particular in difficult times. During the ups and downs of scientific work, he always maintained an optimistic and positive view, thus helping us to find our ways through the woods as we were students, assistant researchers, and even later on. There was always time to talk about other topics, be it politics and society, or his hobbies like jazz music or the family.

Traveling and research stays in foreign countries were opportunities that Gunter enjoyed very much. He preferred countries like Brazil, Hungary, and the former USSR, i.e., countries that were challenging but not en vogue for researchers at that time. This behaviour is very typical for Gunter’s way of life as well as his forward-looking way of thinking. His attitude of giving more than taking is also reflected in his long-standing engagement for the *Brasilieninitiative Erlangen-Nürnberg e. V.*

In early 2006, Gunter retired as an *Akademischer Direktor*. Unfortunately, his illness kept him from enjoying his retirement in an adequate way. Fortunately, he did not wait until his retirement to find a balance between his profession and his social life.

We will always remember him as a remarkable person who was not only a colleague but also a companion and friend to us.

Finally, we want to thank Ian Akyildiz and Udo Krieger for their contributions to this memorial and the editors for giving us this opportunity to pay our respects to Gunter in the name of many friends and colleagues.

*Martin Paterok, Prof. Hermann de Meer, Patrick Wüchner
(Frankfurt am Main & Passau, November 30, 2009)*

Eulogy for Gunter Bolch

On Thursday, May 29, 2008 when I was in Tashkent in Uzbekistan, I received the sad news that Gunter Bolch had lost the long battle with his illness at a relatively young age. This tragic news immediately triggered fond memories of our association spanning the last 30 years.

I first met Gunter Bolch in May 1979, though it seems like yesterday to me. At that time, I was writing a pre-master degree thesis under his guidance. He had just had come back from Rio de Janeiro, where he had spent his sabbatical for more than two years.

In our first meeting, he introduced me to his beloved subject on queuing networks, which was then to become an important part of my professional research for the next decade. Apart from academic discussions, he also shared his cultural and social views with me. Our talks often ran into several hours, and ranged from topics of research interest to general experiences in life. He taught me how to conduct research and produce high quality results. My interaction with him spurred me on to take his classes on queuing theory and process automation. It was great fun and a rewarding experience to write a textbook together, which was published in 1982. He was very dedicated to his teaching, research and overall to his profession. He advised numerous students who saw him as a father, mentor and advisor.

Gunter, his spouse Monika and his children Jessica and Tobias were always like a family to me. Gunter was the best man in my wedding in 1982. Gunter and Monika were at the Nuremberg airport very early morning at 6 a.m. on February 1, 1985 when I was immigrating to United States. Though we pursued our careers in different continents, Gunter was always there for me when I needed him. We visited each other often, and every time I visited Erlangen, I always received a very warm welcome from them.

The last time I saw Gunter was during his retirement party in March 2006. He was very happy that all of his former students and colleagues celebrated this event with him. His stories and the collection of photos that he shared with us during his party vividly portrayed his love and enthusiasm for Brazil. In fact, the theme of the party was totally based on the culture of Brazil, including the food, music, and decorations. He looked forward to this retirement so that he would have more opportunity to enjoy his hobbies, spend time with his grandchildren and also continue his research. Unfortunately, his plans could not be realized in their entirety due to his unexpected illness.

I have personally never met anybody like Gunter, who had a saint-like approach to life: he was not only always positive about himself but always had positive thoughts about the events in his life, and for the people around him. He had a very calm personality and looked forward to life with interest and enthusiasm.

Gunter Bolch will be dearly missed and will be remembered forever by all of us. He left a mark in our lives with his lovely wife Monika, his wonderful children, beautiful grandchildren, successful students, excellent textbooks, several research contributions, and above all, with his outstanding positive personality.

Prof. Ian F. Akyildiz
(Atlanta, March 18, 2009)

In Memoriam

Gunter Bolch has been one of the pioneers of *performance analysis by numerical methods* in Germany. His interest in this topic stems from the analytic performance investigations of multiprocessor architectures and process automation, in particular by product-form networks, in the late seventies. The activity has originated in the first instructive German textbook "Analyse von Rechensystemen - Analytische Methoden zur Leistungsbewertung und Leistungsvorhersage", by I. Akyildiz and G. Bolch, 1982. It has been an absolutely essential tool for the German performance analysis community MMB and all young students of this field of applied stochastic in the 80s.

However, powerful numerical solution methods for finite Markov chains that are not limited to BCMP networks were not treated in this book. To overcome this issue, a fruitful information exchange of Gunter Bolch with Deutsche Telekom Research Laboratories has been initiated after the MMB Conference 1987 in Erlangen and, in particular, after a talk in Erlangen on the memorable November 9, 1989. The latter exchange was fed by Telekom's MACOM project carried out by Prof. Beilner's team at University of Dortmund which tried to model networks by Markovian arrival processes. Gunter Bolch has always been open-minded to

respond to new development and immediately realized the potential of such concepts. Thus, together with his students he started to create new public tools to extend these ideas and to apply them to relevant performance engineering issues. MOSEL and the related publications of his group on MAP modeling are a well known outcome in this respect.

These efforts reflect in an excellent manner the unique altruistic personality of Gunter Bolch. We have recognized him as a generous colleague who has never claimed results by himself in a selfish manner. He has treated both his distinguished scientific collaborators and an unknown young student in the same polite manner. His objective has been to serve the community at national and global levels by his talents and efforts together with his co-workers. For those contributing to numerical solution methods for finite Markov chain it has been a great honor to collaborate with Gunter Bolch. In the scientific world his achievements in this field will be visible permanently due to the excellent book "Queueing Networks and Markov Chains" written in cooperation with H. de Meer and K. Trivedi.

However, Gunter Bolch's humanitarian activities reach far beyond all scientific investigations. For this reason we will always remember Gunter as a distinguished member of our community. His life has shown us that in a competitive environment science can grow by an altruistic behavior and its development can be dedicated to the good of humanity in **ONE world** if a humanist acts as its convincing advocate.

Prof. Udo Krieger
(Bamberg, November 23, 2009)