Virtual Special Issue: In Memoriam Luc Wuytack

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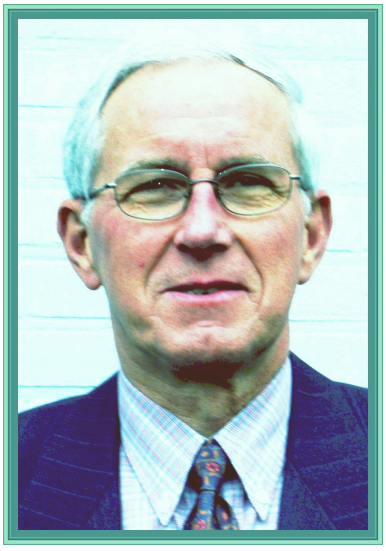
Abstract

This foreward to the Virtual Special Issue dedicated to Luc Wuytack contains some historical information related to the founding of Journal CAM as well as to Luc's memory. It also serves as a preface to the collection of articles that have been selected to exemplify the field to which Luc devoted his career and around which the development of the journal CAM started.

Introduction

When Luc Wuytack passed away on November 6th, 2020, the Journal of Computational and Applied Mathematics (CAM, for short) lost one of its founding editors. Since the start in 1975, Luc Wuytack held the role of co-editor-in-chief and was responsible (as co-editor) for several regular and special issues of the journal. To recognize Luc's precious and long service to the journal, we dedicate to his memory a Virtual Special Issue aimed at collecting a broad range of extremely valuable research and survey articles dealing with numerical and computational aspects of approximation theory, methods of numerical integration, iterative processes for solving nonlinear equations and other numerical approximation techniques for solving various types of mathematical and applied problems. Moreover, we include some historical information related to the founding of the journal as well as to Luc's life and academic career.

Luc Wuytack (1943-2020)



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Luc Wuytack was born on August 21st, 1943 in Moerzeke-Kastel, a village at the banks of the river Scheldt some 20 km South-West of Antwerp. He obtained a PhD entitled *Generalized rational approximation of continuous functions using general weight functions* (in Dutch) in 1970 under the supervision of Ludo Buyst at the University of Leuven. Professor Buyst was also the supervisor of Robert Piessens who presented his PhD thesis in the same year with the title *Numerical methods for the inversion of Laplace transforms* (also in Dutch). Ludo Buyst (1931-2021) was one of the first computer specialists at the University of Leuven, although at that time the researchers of the group he chaired were mostly electrical engineers. Some worked on subjects related to informatics and others, like Wuytack and Piessens, on topics in numerical mathematics.

But, in 1971, because of the raising importance of computers, several initiatives were taken in Belgium at a university level. The Leuven university created, as the first in Europe, a post graduate degree of computer engineering. At that time, Antwerp did not have a complete university. Science courses were given at the RUCA (Rijksuniversitair Centrum Antwerpen) only at bachelor level. But in 1971, Antwerp founded a new institute, the UIA (Universitaire Instelling Antwerpen), that provided the possibility to obtain also a Master or a Doctoral degree in Antwerp. Thus, at that time, both Leuven and Antwerp offered great opportunities for young doctors to start an academic career. While Robert Piessens stayed in Leuven in what became in 1981 the current Department of Computer Science, Luc Wuytack moved to Antwerp where he started a group inside the Department of Mathematics of the UIA that was like the analogue of the numerical group in Leuven. In 1973 the different institutes for higher education in Antwerp were integrated into the current University of Antwerp.

Luc Wuytack was the head of the numerical analysis group in Antwerp, and he was guest professor for several courses in Leuven. His research involved mainly nonlinear and rational approximation as well as continued fractions. Although Luc Wuytack did not publish many papers and books in his academic career, most of them were certainly influential to a great extent to the area of numerical mathematics. For his list of publications the interested reader can consult the closing section.

As it appears from the last works of this list, Luc Wuytack supervised three doctoral students (G. Claessen (1976), A. Cuyt (1982), P. Van der Cruyssen (1982)) and co-supervised with A. Cuyt the PhD thesis of B. Verdonk (1988). However the contact with Leuven via Robert Piessens and Marc Goovaerts (1946-2018) remained and they were involved in organizing study days for the KVIV (*Koninklijke Vlaamse Ingenieuwsvereniging*), a Flemish professional engineering association. In 1975 they convinced KVIV to start a professional scientific journal, the *Journal of Computational and Applied Mathematics*. Some history of the first period can be found in the editorial that was written by the editors at that time in [A34]. In 1983 the journal had grown so much that it was time to move, starting with volume 9, to a professional publisher which was North-Holland. At around that time, Luc seems to have given up most of his own research and became involved in conference organizations and publication of proceedings. He was involved, for instance, in a Padé conference in Antwerp in 1979, a NATO/ASI conference in Braunlage in 1982, etc. and he took his task as one of the editors-in-chief of the journal CAM seriously. In 1984, volume 10 of the journal CAM was celebrated by organizing the first ICCAM (International Conference on Computational and Applied Mathematics) that was organized biennially with Luc Wuytack involved until 2012. In 2018, at the age of 75, he stopped his engagement as a co-editor-in-chief of the journal, a task that he faithfully fulfilled for about 43 years and that greatly contributed to the current high reputation of journal CAM. In that same year the journal lost another of his founding editors since Marc Goovaerts passed away in February at the age of 71.

Luc Wuytack was also engaged in many other things outside mathematics. He was a family man caring for his wife, a son and a daughter, as well as five grand children. He was also involved in care for the environment via local municipal politics. In 2014 he wrote a paper in Dutch in a local history periodical about the three ferries that crossed the river Scheldt at the place where he was born.

Remembrances of Luc Wuytack

A personal remembrance by Claude Brezinski

I knew Luc since 1972. We attended the conference on "Padé Approximants, Continued Fractions and Related Topics" held in Boulder, USA, 21-24 June 1972. The following picture was taken at that conference.

Since we had common interests, we often met in the following years and, when journal CAM was created, he asked me to be one of its editors. Later, at the occasion of the new century, we wrote together a paper [A35] on the development of numerical analysis in the twentieth century. Luc was a fine mathematician who inspired many young researchers, a smart and talented man, and a good friend.



Luc Wuytack (first row, the 5th from the left) and Claude Brezinski (third row, the 15th from the left) at the 1972 conference in Boulder.

A personal remembrance by Annie Cuyt

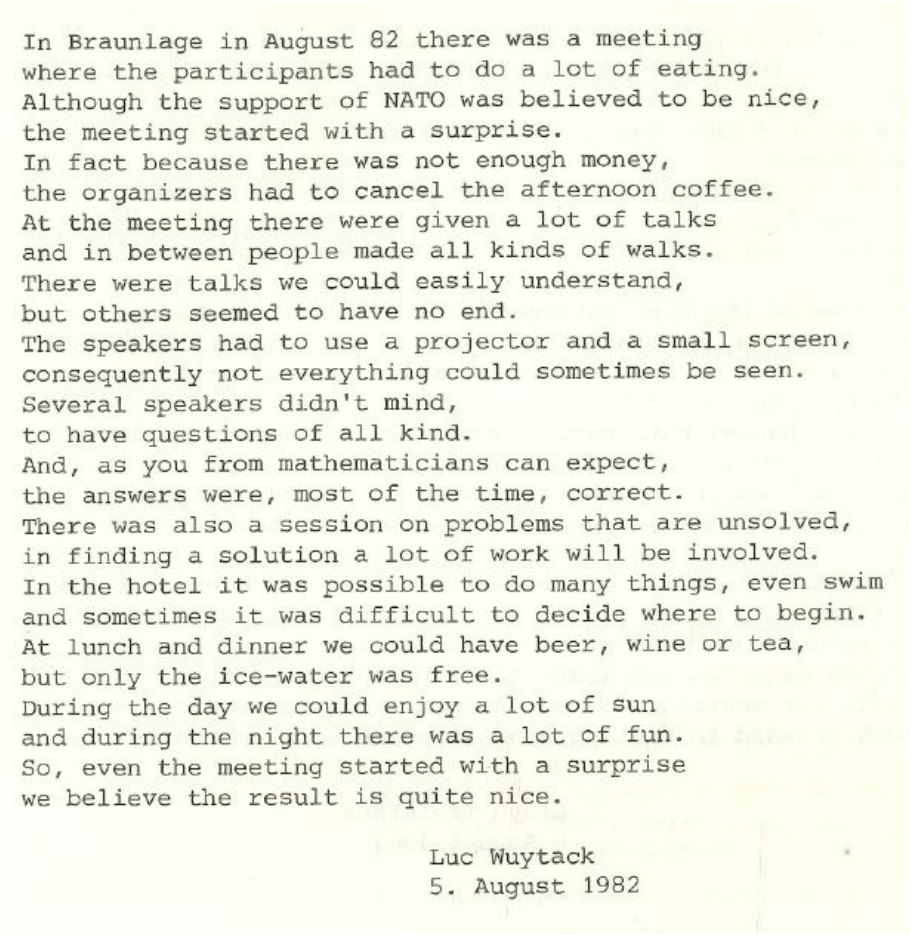
I got to know Luc Wuytack in 1976 when I was studying at the Universitaire Instelling Antwerpen. He introduced me to several Numerical Analysis topics and I have loved the discipline ever since. After the organization of the inaugural "Rational approximation theory" conference in Antwerp by him in 1979, I continued the tradition with conferences in 1987, 1993 and 1999 at our university.

A personal remembrance by Miodrag Petkovic

I knew Luc since 1980. We met at the International Conference on Interval Mathematics held at the Institut Für Angewandte Mathematik, Universität Freiburg I. Br, Germany, May 27-31, 1980. Although it was our only meeting, we had extensive correspondence for the next 40 years because I was active in journal CAM as an author, reviewer, Associate Editor and eventually Honorary Editor.

A personal remembrance by Adhemar Bultheel

Luc and I attended the 1982 NATO/ASI conference in Braunlage. Luc picked me up at my home to drive to Braunlage, which at that time was near the East German border. Luc and I were also sharing a room. While I was preparing my lecture for the next day, Luc was scribbling down some notes asking me for rhyme words. During the conference dinner he read the following text that can be found on page 413 of the proceedings [E2].



In Braunlage in August 82 there was a meeting
where the participants had to do a lot of eating.
Although the support of NATO was believed to be nice,
the meeting started with a surprise.
In fact because there was not enough money,
the organizers had to cancel the afternoon coffee.
At the meeting there were given a lot of talks
and in between people made all kinds of walks.
There were talks we could easily understand,
but others seemed to have no end.
The speakers had to use a projector and a small screen,
consequently not everything could sometimes be seen.
Several speakers didn't mind,
to have questions of all kind.
And, as you from mathematicians can expect,
the answers were, most of the time, correct.
There was also a session on problems that are unsolved,
in finding a solution a lot of work will be involved.
In the hotel it was possible to do many things, even swim
and sometimes it was difficult to decide where to begin.
At lunch and dinner we could have beer, wine or tea,
but only the ice-water was free.
During the day we could enjoy a lot of sun
and during the night there was a lot of fun.
So, even the meeting started with a surprise
we believe the result is quite nice.

Luc Wuytack
5. August 1982

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