

**NC STATE UNIVERSITY**

Campus Box 8205  
Raleigh, North Carolina 27695-8205  
<http://www.math.ncsu.edu/~kaltofen/> (URL)

+1.919.515.8785 (tel.)  
+1.919.515.3798 (fax.)

May 10, 2017

To: Professors Xiao-shan Gao, Lihong Zhi, Shaoshi Chen, and colleagues

Dear friends and colleagues,

My wife Hoang and I are saddened to hear of the passing of Professor Wen-tsun Wu on Sunday. We wish to express our deepest sympathy to Professor Wu's family and all of the members at the Key Laboratory for Mathematics Mechanization (KLMM) who were close to him.

On the passing of this great mathematician and computer scientist, let me reminisce about Professor Wu. We have met repeatedly in the recent past, during my visits to Beijing. Professor Wu honored me by attending my first talk in China, at KLMM (then Mathematics Mechanization Research Center) in August 2002. Of course, he asked a compelling question at the end, on my model of computation. From then on we met in regular intervals, at ISSAC 2005, in 2008 when we visited his office in his home and I met his wife and son for the first time, in 2009 at his conference on his 90th birthday, and lately in his new apartment, in 2011 with my wife Hoang, in 2012 with my former PhD student Wen-shin Lee, last in August 2015. During our visits Professor Wu would tell us about his then interests, e.g., Chinese historical mathematical writings, about the real numbers and why calculus was missed, last about the three kingdoms period before the Han. Our conversations were always fascinating—him being a truly legendary scholar.

I realize that all this was made possible by what I consider Professor Wen-tsun Wu's greatest accomplishment: the creation of a world-class research center for the computerization of mathematics, symbolic computation as we call it in the USA, mathematics mechanization as he called it. Professor Wu is what computer scientists would call an "early adopter," putting algebraic geometry into algorithmic form and on computers in the late 1970s. My collaboration is with the next-generation researchers from his center: Professor Lihong Zhi, and her students Professors Zhengfeng Yang and Feng Guo and Dr. Zhiwei Hao. We currently have 18 joint papers. Today, KLMM is recognized as a center among the elite in symbolic computation, with many world-renowned researchers and brilliant graduate students. Professor Wu's early vision remains on target: cars are now built using symbolic solvers, signals are reconstructed by algebraic codes that correct catastrophic errors, and machine learning is a far-reaching generalization of the ancient Chinese method of interpolation. Professor Wu's legacy is his academic descendants and their impact on modern China and the modern world.

Professor Wen-tsun Wu introduced himself to me when I was a young man, in Berkeley in 1986 at the International Congress of Mathematicians. I found his kind demeanor exceptional and a role model now that I am much older. Then I could not have foreseen the great influence KLMM's researchers would have on my later work. I will think of him often, wondering what he would have thought of our new ideas.

Sincerely yours,



Erich Kaltofen, Professor and Fellow of the ACM