My Academic Father Professor Ted Belytschko

After the heartbreaking news of Ted’s passing, many old memories started to emerge. It went all the way back to my time as a student at Northwestern University (Fig. 1). After being Ted’s student for 4 years at Northwestern, I was seeking independence and ready to show how I can fly alone. I then quickly realize my advisor-student relation with Ted stays longer than expected. This is not because it took me a while to comfortably call him “Ted” as he insisted instead of “Professor Belytschko”. It is because of Ted’s influence goes far beyond his advice of research. His advice and encouragement continue to naturally appear in our interactions.

Unfortunately, an exchange of our roles in our relationship occurred after Ted suffered from a stroke 4.5 years ago. It was at that time I found myself started to play the role of encouraging Ted by telling him the situation of my father who had a stroke when he was 67, similar to Ted’s age at that time. My father eventually achieved 90% recovery from the stroke, and this example appeared to give Ted some encouragements in his own recovery. I also told my father (whose English name also happens to be Ted) about Ted’s situation and he would offer some suggestions for me to pass to Ted. Since then every time I see my advisor Ted, he would ask how my father Ted is doing, and when I talk to my father Ted, he would ask how my advisor Ted is doing. I was hoping that these conversations would continue for a long time, but unfortunately it ended sooner than I’d hoped.

We all know the contribution that Ted has made to the Computational Mechanics community, but what’s unique about Ted is his influence on his students and young colleagues. Ted has a magical way of bringing out the best of the people who work around him. His students are familiar with his warm greeting “what’s new” and then an anxious expectation about creative ideas. When I just became an assistant professor, Ted would occasionally call me very early in the morning (such as 6:30) in my office. When I happened to be there, that will make him very happy. This then became my habit of doing research that last for a very long time. At the professional level, we often see each other in the conferences. When I had a breakfast with Ted at 7:00 and learned that he has already been working for 3 hours before coming to the breakfast, it gave me a sense of what it takes to be successful.

Ted always says that the methods with simplicity (and fundamentally sound) win the game. Many of his ingenious inventions of computational methods all share this spirit, such as hourglass control on one-point quadrature rule, Belytschko-Tsai shell element, explicit finite element method, pinball algorithm, meshless or meshfree method, extended finite element method; among others. I later realized that the concept of keeping things simple applies not only to research but also to the personal life. When I was once making decision on a career change with many factors considered, Ted told me to think about what gives me a better opportunity to do great work. This is a simple and strong message and helped tremendously for my decision to move on.

Once when Ted was asked about what will be next after going from finite element method to “meshless method”, he replied with “the pointless method”. I bet Ted is now
working on pointless method up there and moving ahead of everyone else.

Although Ted is now in a better place, his spirit lives on through the many people he so positively influenced through his passion, energy and wisdom. It has been wonderful to be Ted’s student, friend, and colleague, and learned so much from him throughout my life. I will miss him dearly.

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Figure 1. Ted Belytschko and JS Chen at the graduation ceremony in Northwestern University in 1989.