

Good morning everyone

It is a great honor for me to stand here today. I am sincerely grateful for my nomination and selection for the Gauss-Newton medal, and I am pleased to accept it. I want to thank all those who have made this possible. First, my academic mentors of 28 years ago. There is not a single day of my professional life where I am not reminded of one or another aspect of my intellectual growth at UC Berkeley. When in doubt, I find myself going back to the same sources: what I learned from Jerry Sackman, Ray Clough, Jim Kelly, Bob Taylor, Beresford Parlett, and of course, Ed Wilson. It is also at Berkeley that I was fortunate to meet Bob Melosh during his sabbatical visit. He taught me another dimension of the finite element method. It is also there where I attended my first seminar on Computational Mechanics. It is also at Berkeley where I had the privilege to meet the superstar of Computational Mechanics. He had a great sense of humor. I asked him one day why I must compute a certain elasto-plastic quantity the way he insisted I should. “Because everybody in the world does it this way” he replied. I was not convinced, so I asked again: “who is everybody?” He responded “Bob Taylor, John Hallquist, and everyone at LBL”. Ladies and gentlemen, this was the great Spaniard, Juan Simo. This exchange was a stark testimony to the role of the Bay Area in the field of Computational Mechanics, and this is my homage to the great contributions of Spain to this field.

I also want to pay a special tribute to KC Park and Carlos Felippa who mentored me early in my career at the University of Colorado. They also introduced me to two other people who influenced my scientific life: First, Michel Geradin from the University of Liege. His passion for working with industry and for creative problem-solving rubbed off on me very quickly. Second, Roger Ohayon who introduced me to the world of fluid-structure interaction 26 years ago, by sloshing his wine at the Hilton Waikiki hotel in Hawaii. Last but not least, I want to express my deep gratitude to all my students: *they are the only giants on whose shoulders I have stood*, so that I can stand in front of you today.

So far, Computational Mechanics has been a very rewarding profession for me. From the great days of bridge computations on the IBM punch cards in the basement of Berkeley’s Evans Hall, to last week’s simulation of the maneuvering of a sleek vehicle on one of the largest supercomputers in the world. It has not only provided me the intellectual challenges needed to stimulate my academic life, but also the opportunity to ride a submarine, a Formula 1 car, and hopefully fulfill my dreams by flying next October with the Blue Angels. I have lost 18 pounds for this purpose. Not because of the weight maximum limit for the F-18 Hornet, but because of that of its ejection seat, which hopefully I will not need.

The next generation of Computational Mechanics is in your hands, you, the younger generation of this audience. You can make it as exciting as you want. For this, you don’t really need my advice. As a matter of fact, you don’t need anyone’s advice. But I cannot resist the urge to tell you that among the most exciting things you can do, is to transform Computational Mechanics so that it can stir the imagination and dialogue, on how more radical technologies and concepts can help our society. Your era should not be that of the citation index, as it has been filled with many empty calories. It should be that of transforming Computational Mechanics into an enabler of personal spaceflight, space tourism, carbon nanotubes, photonic laser thrusters, alternative fuel, flying cars, cellular therapeutics, and mobile apps. Originality and impact on the real world are more vital today than they have ever been.

To conclude, I thank IACM and its founders. I was never the child prodigy that Gauss was. And unlike Newton, I did not develop any new vision last time anything fell on my head. But I am honored to receive this award which bears their names. I am a proud member of this association, and I will continue to serve it. Thank you.