Vice Chancellor, I have the honour to present, for the award of the degree of Doctor of Engineering, honoris causa, Klaus-Jürgen Bathe.

Hard by the great forest of Hanover dwelt a man with his wife and four children: two sons and two daughters[1].

The war had destroyed the city and times were hard: mostly they ate sugar beets and potatoes, with nettles as spinach, and (perhaps once a week) an egg. There simply was no food available[2].

Now it came to pass that, the old grandfather spent a long time saving up his small pension so that he could buy each of the two brothers a bicycle. Both were delighted but the younger brother, especially, was in heaven. They started off by cycling around Hanover and then to Northern Germany. Soon the brothers [Volker and Klaus-Jürgen] were cycling to the Netherlands and to Belgium. When he was 17, Klaus-Jürgen, the youngest brother, discarded the bicycle and hitchhiked in his school holidays to Yugoslavia, via Beirut to Alexandria; hitch hiked to Cairo, saw the pyramids, El Alamein - various war memorials- to Banghazi in Libya, via Tripoli and Sicily and then hitch hiked in a hurry through Italy, over the Alps, to Northern Germany and arrived just in time for the beginning of school[1]!

Thus was born a love of travel and adventure, of meeting new people, but also of learning and knowledge – which he realised would be the basis of earning his living. This love of travel is what brought him to South Africa, to Cape Town and to the Civil Engineering Department at UCT, which is where he graduated as the best engineering student and Gold Medallist in 1967.

Today, Klaus-Jürgen Bathe is considered to be a Giant of Engineering Science[2]. He is not only a pioneer, but also unique in the way that his work has bridged the worlds of academia and industry. Besides being the celebrated Professor of Computational Mechanics at MIT, he is also the developer of the most advanced and very widely used finite element programme in the world today. So, on the one hand, his academic works are highly cited and his textbooks are considered to be the gold standard. On the other, his very successful company, ADINA, is regarded as the leader in fluid-structure interaction analysis (which enables the analysis of aeroplanes in bad weather, suspension bridges in high winds and the blood flow through arteries). ADINA is also a leader in analysis of solids and structures and in computational fluid dynamics.

Professor Bathe considers that his involvement in ADINA improved his ability both to teach and to do research. He says: “It would have been difficult for me to just write papers and books on finite element methods that did not stand the tests of use in real engineering problems”. In fact, it was the continuous demands of the leadership of the company that kept his interest in teaching and researching at MIT alive.

Klaus-Jürgen Bathe has maintained his links with UCT, and sponsors the Klaus-Jürgen Bathe Scholarships for students “who show evidence of high intellectual power and commitment to the achievement of excellence in the field of engineering”: intellectual travellers who will become doers in the real world.

Back in the great forest and the city of Hanover, the red bicycle has been discarded, the old grandfather is long gone, and the youngest brother is now an eminent professor living in Boston and working at

[1] With apologies to the Brothers Grimm

[2] Volker, Klaus-Jurgen, Ingeborg and Gisela

MIT. However, the memory and the generosity live on, in the scholarships, in the sponsoring and the mentoring of young intellectuals, and in the portrait of his grandfather that Professor Klaus-Jürgen Bathe hangs in his office at MIT.

Vice Chancellor, I have the honour to invite you to admit to the degree of Doctor of Engineering, honoris causa, Klaus-Jürgen Bathe.

1. Bathe, K.J., 2007. To Enrich Life: Klaus-Jurgen Bathe.
2. Bég, O.A., 2003. Giants of Engineering Science: Matador.