

# ENGINEERING EMOTION

## ISEA Conference 2010 Vienna



### Prof. Dr. Benno Nigg



Prof. Dr. Benno M. Nigg is the president and CEO of Biomechanigg Research Inc. He has a doctorate in natural sciences (Physics) from the ETH Zurich (Switzerland).

From 1976 to 1981 he was the Director of the Biomechanics Laboratory of the ETH Zurich. In 1981, he was appointed Professor of Biomechanics in the Faculties of Kinesiology, Engineering and Medicine at the University of Calgary. He founded and directs the world famous Human Performance Laboratory (HPL), which currently has more than 100 co-workers.

Recently, the research activities of the HPL have been assessed by independent external reviewers as "...the best in the world in Clinical Biomechanical Research"

and "... gold standard of scientific work in this field...".

Dr. Nigg's research and consulting activities concentrate on load of the lower extremities during human locomotion. He has developed new paradigms for impact loading and for orthotic development, stressing the importance of muscles in control and protection. He had a major influence in the development of sport shoes and many functional features have been developed in his research centre.

He is author of more than 275 scientific publications and the recipient of many awards (e.g. Olympic Order, Alberta Science and Technology Award) and elected member of three Scientific Academies.

Dr. Nigg has several honorary doctoral degrees and Professorships among them a honorary doctoral degree from the University of Salzburg and the University of Innsbruck (Austria).

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### **CURRICULUM VITAE      BENNO M. NIGG**

#### **PERSONAL INFORMATION:**

Born: in Switzerland  
Resident: Since 1981 in Calgary, Alberta, Canada  
Citizenship: Canada and Switzerland  
Education: Dr.sc.nat.  
Doctorate in natural sciences, Physics from ETH Zürich

#### **PROFESSIONAL DEVELOPMENT AND IMPORTANT APPOINTMENTS:**

76-81 Director, Biomechanics Laboratory, ETH Zürich, Switzerland  
81-ongoing Professor of Biomechanics, Faculties of Kinesiology, Engineering and Medicine, University of Calgary  
81-ongoing Founder and director, Human Performance Laboratory, U. of C  
83-85 President, International Society of Biomechanics, ISB.  
84-ongoing Member of the IOC Commission "Science and Medicine".

#### **SELECTED AWARDS AND HONOURS:**

- 86 Michael Jaeger Award for foot&ankle biomechanics, GOTS in Munich, Germany.
- 89 Wartenweiler Memorial Lecture, Los Angeles, USA.
- 91 Novel Award: Vienna, Austria.
- 93 ASTech Award, Innovation in Alberta Science Award.
- 95 The Clinical Biomechanics Award, Jyväskylä, Finland.
- 97 Teaching Excellence Award, Faculty of Kinesiology, Univ. of Calgary.
- 98 Plenary Session Lecturer. World Congress of Biomechanics, Sapporo, Japan.
- 98 Olympic Order.
- 98 Elected Member: Int. Academy of Biology and Engineering in Medicine.
- 99 Charter Member: Olympic Academy of Science
- 00 Research Excellence Award, University of Calgary.
- 00 Novel Millennium Award, Munich Germany

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- 02 Life-time Achievement Award, Canadian Soc. Biomechanics
- 03 Elected Member: Swiss Academy of Medical Sciences
- 04 Honorary Doctor, University of Salzburg, Austria
- 05 Honorary Membership Int. Soc. Biomechanics
- 07 Hay Award, American Soc. Biomechanics
- 07 Honorary Professorship, Shanghai Sport University
- 08 Honorary Doctor, University of Innsbruck, Austria

*shoe insoles, surfaces and sport equipment.*

### **RESEARCH SPECIALIZATION:**

Human locomotion: *Forces on and in the locomotor system* and effects produced by such forces (e.g. excessive load and injuries, positive and negative biological effects on bone, muscle, tendon, ligaments and cartilage). Research concentration on human locomotion with main emphasis on *mobility and longevity*. Application to clinical assessment (diagnosis and rehabilitation) and to movement related products such as *sport shoes, orthoses,*