



## SHORT BIO

Michael Josef Zehetbauer was born 1951 in Vienna, Austria, and studied Physics at the University of Vienna. While holding a position as scientific assistant, he received his PhD degree concerning the “Effects of Short Range Order to the Strength of Alloys”. As a young assistant professor he focused his research on the field of plasticity of materials, and was awarded the habilitation in 1992 for Solid State Physics. Five years later, within the Institute of Materials Physics of University of Vienna, he was appointed as Assoc. Univ. Professor. In 2007 he became the head of a new research group named “Physics of Nanostructured Materials” with more than 40 members, and directed it until his retirement in 2016.

The scientific oeuvre of Prof. Michael Zehetbauer is mainly based on fundamental works in the plasticity of metals and of polymers. Besides new findings raising the importance of dislocation kinetics for the strength of semicrystalline polymers, he has established the stages IV and V of plastic deformation, and a physical model called “Zehetbauer’s model” simulating the strengthening in solids in terms of statistical interactions of screw and edge dislocations, and deformation-induced vacancies. His high expertise in large plastic deformation led him to pioneer the famous field of “Severe Plastic Deformation” (SPD), with emphasis on the role of hydrostatic pressure for both reaching high deformation strains as well as high densities of defects, especially vacancies. As of recent, M. Zehetbauer has been demonstrating the high potential of SPD induced defects for increasing the efficiency of functional materials, such as nanostructured thermoelectrics, hydrogen storage materials, and biodegradable implant materials.

So far Michael Zehetbauer has published about 250 mostly peer-reviewed papers in high impact journals, which have been currently cited more than 5000 times, corresponding to an h-factor  $h=37$ . He has organized 9 international conferences, which included the publication of related proceedings, and has also edited the book “Bulk Nanostructured Materials” with 30 reviews of articles from world-renowned authors. He held Visiting Professorships at the Technical University Braunschweig, Germany, and at the Universities Strasbourg and Metz, France. He was

assigned several international prizes from Poland, Russia, and Germany, among them the highly renowned Tammann Commemorative Medal of the German Materials Society. He is a founding member of the International NanoSPD Steering Committee, and has been a member on the Board of the European Materials Research Society since 2005.

Michael Zehetbauer is known for his passion for materials physics, which is also reflected by his teaching activities that include numerous oral and lab courses on materials physics. Through this involvement, he has thus far over the span of his academic life, attracted more than 40 students who finished PhD and MSc work under his supervision.

It is apparent that Michael Zehetbauer is an outstanding scientist and enthusiastic representative of modern Materials Science, and a person highly esteemed both by his students and by colleagues in his home country and abroad.