



Prof. Dr. Werner Skrotzki

on the occasion of his 65th birthday

On October 21st 2015 Prof. Dr. rer. nat. habil. Werner Skrotzki, Technical University Dresden, will celebrate his 65th birthday. From 1971 to 1977 he studied physics at the University of Göttingen, where he also received his PhD in 1980 under the guidance of the late Prof. Peter Haasen. At that time the subject of his thesis *Mechanisms of Plasticity in Ionic Crystals* was a hot research topic at the Institut für Metallphysik and thus Werner Skrotzki published a couple papers on the plasticity of ionic crystals. Werner Skrotzki left the institute for a postdoctoral stay at Cornell University in Ithaca, NY, in the years 1983 and 1984 to work with C. B. Carter and D. L. Kohlstedt on interactions of dislocations with grain boundaries in semiconductors utilizing detailed transmission electron microscopy studies. After his return to Germany he again joined the University of Göttingen, and changed material classes to rocks and stones and studied microstructural developments in such materials at the Institut für Geologie und Dynamik der Lithosphäre. Consequently, during this time he was also involved in the continental deep hole drilling project in Windischeschenbach, Oberpfalz. In the year 1990 he naturally received his *venia legendi* in Geology and submitted a Habilitation thesis entitled *Geologische Bedeutung von Mikrostrukturuntersuchungen mittels Transmissionselektronenmikroskopie* and continued on this subject in Göttingen with the support of a Heisenberg research fellowship, funded by the DFG.

In 1993 he was finally appointed Professor für Metallphysik at the Institute for Crystallography and Solid State Physics of the Technical University Dresden. He declined offers from the University of Tübingen in 1993 and from the University of Frankfurt in 1997. He was and is Visiting Professor at the University of Metz where he closely cooperates with Prof. Lazlo Toth in the field of ultrafine-grained

materials. From 2003 until 2009 he also served as Dean of Academic Affairs in the Department of Physics at TU Dresden, which expresses his continuous commitment to support and educate young students. During his career Prof. Werner Skrotzki has continuously and substantially contributed to the scientific community in the field of metals and materials physics, receiving worldwide recognition. In Germany he is one of the outstanding authorities in the research of texture evolution in materials. Many of his excellent manuscripts have not only established a fundamental understanding of the plasticity of metals and alloys, but have also reached out into engineering applications.

From the copious results Werner Skrotzki has published in the past, we illustratively want to describe his novel findings on texture formation and ensuing anisotropic mechanical properties in intermetallic compounds, most notably aluminides. For example, he revealed the interrelation between texture and plastic anisotropy in NiAl based on a modified Taylor model, as well as its tendency towards microcrack formation. More recently, Werner Skrotzki has focused quite intensively on elucidating the processes of texture formation in ultrafine grained (UFG) materials during severe plastic deformation, such as in Equal Channel Angular Pressing (ECAP) and Accumulative Roll Bonding (ARB). For example, in his paper *Microstructure and texture gradient in copper deformed by equal channel angular pressing* published 2007 in *Acta Materialia* he discussed for the first time the heterogeneities of the microstructural evolution and texture formation in the ECAP process.

Werner Skrotzki has published his mostly fundamental research results in more than 200 internationally renowned archival journal papers, but also always kept an eye on the possibility of transferring this knowledge to industrial applications, such as for example on the texture formation in

Mo sheet materials during rolling and its impact on sheet deformability. The research of Werner Skrotzki is also linked with the work of Gustav Tammann, whose eponymous DGM-Prize he was awarded in 2011 because of his long lasting scientific achievements.

Further to his own research interests Werner Skrotzki always committed himself to serving the materials science and engineering community. As an example, he is the coordinator and leader of the DGM organized Fachausschuss Textures. Werner Skrotzki was also quite active in the German Physical Society, DPG, where he served as a member of the working group (Arbeitsgemeinschaft) Metals and Materials Physics, responsible for organizing its part at the DPG spring meetings, which are – with typically more than 5000 participants – worldwide the biggest conferences in the field of solid state physics.

Additionally, he was and still is engaged in the organization of major international conferences. The 15th International Conference on the Strength of Materials (ICSMA

15), held in Dresden in 2009, may serve as an outstanding example with nearly 400 participants from more than 30 countries. Due to the excellent organization and high quality, Werner Skrotzki and his team were awarded the First Prize at the Dresden Congress Award 2010 for this event. In recent years he also became a regular participant at the International Symposium on Plasticity and now his scientific achievements will be honored with a dedicated Werner Skrotzki symposium at the Plasticity 2016 on the Big Island, Hawaii.

Although Werner Skrotzki has been busy with many trips to collaborators and conferences all over the world, he still finds time for his family and for some sightseeing, in particular his wife Vivian is a frequent companion on many of these trips. We hope that he will be able to continue for many more years in good health and wish a joyful 65th birthday.

Martin Heilmaier, Karlsruhe