

EDITORIAL

Dear reader,

“Pressure” is a word with many meanings. The first thing that comes to most people’s minds would probably be the stress we encounter in our day-to-day lives. But it’s not only individuals that can be affected; societies too can experience substantial pressure – economically, ecologically, socially or politically, and in the worst case even existentially, as is currently happening in Ukraine. In all these cases, “pressure”, as the term used in physics to describe the physical force exerted on an object, serves as a metaphor for burdens that can sometimes seem unbearable.

One example is psychosocial pressure, which we experience as stress. It not only makes our lives miserable, but also negatively impacts our health. Research teams from the Max Planck Institute of Psychiatry and the Max Planck Institute of Human Cognitive and Brain Sciences are investigating the genetic factors that influence human stress responses and the consequences stress can have on the body even before birth.

We rarely perceive this type of pressure as beneficial, however. Physical pressure is quite different: it is a vital part of many processes, also biological ones. Pressure controls the constant remodeling of bones, for example. The way in which this happens, and the feats that organisms perform in the process, are the subject of close study by researchers at the Max Planck Institute of Colloids and Interfaces, with often surprising findings.

Equally astonishing are the breakthroughs being made by a group at the Max Planck Institute for Chemistry that is studying pressure. The researchers discovered that pressure of the kind found in the Earth’s interior is helping to break down the electrical resistance of materials – the first time that this has taken place at temperatures that are almost feasible. This is giving rise to new ideas for research into superconductors, which have been the focus of many still unfulfilled hopes since the early 20th century.

We have assembled articles on some of the many aspects of pressure and sent them to press. We hope you will find this issue of our magazine insightful – read and enjoy it at your leisure – and with no pressure!

Your editorial team