The directives from the Government Science and Technology Forum have proclaimed that ‘nanotechnology’ is a favoured research field. Recent media reports have pointed to a South African initiative to market an air filter based on ‘nano-titanium’ material, which will remove even the smallest virus from aircraft cabins, hospitals or other living spaces. It is based on titanium dioxide, which is transparent to ultraviolet light, which is lethal to all forms of virus or bacteria; so the absorbent can be cleansed and regenerated in situ easily and quickly.

Let us not forget the other light metals, some of which are the subject of papers in this issue. There is nothing yet on lithium, the lightest of the metals. It was the first element to undergo a man-induced nuclear fission reaction in the Cavendish Laboratories, directed by Rutherford, in which the enormous energy released was quantitatively measured to be exactly according to the famous Einstein equation $E=MC^2$.

Lithium is now once again on the hot list as the basis of the lithium ion batteries, which are almost certainly going to be the energy rechargeable compact power systems for the future electric transport vehicles and solar and wind power storage systems, not to mention the many billions of cell phones or other never ending portable IT novelties.

Once again South African scientists are in a prominent position since the CSIR has reportedly master patents in this field. Opportunities abound but they demand long range priority in providing appropriate high-tech skills. There is no doubt that a focus on the light metals deserves such a high priority.

Let us expect many more such contributions to this Journal in future years.

R.E. Robinson

I recently attended the water resource conference that was organized by the SAIMM and held in Mpumalanga. Given the sensitivity about the use of water resources, I felt that my opening remarks bear repeating.

Water is life. Barbara Kingsolver, the well-known American novelist, essayist and poet (who was born 8 April 1955, raised in rural Kentucky, and lived briefly in the former Republic of Congo) describes it thus: It’s the briny broth of our origins, the pounding circulatory system of the world. We stake our civilisations on the coasts and mighty rivers. Our deepest dread is the threat of having too little—or too much.

Wherever we stand on climate change, our industry, in its quest to create economic wealth, is a major consumer and polluter of an ironically scarce resource in Africa and elsewhere. It is the age old conundrum of managing an apparently limitless resource in a manner that can balance the needs of individuals and institutions.

There is an exact parallel to this in the use of common grazing. As each farmer sees how good the grazing is, he increases his herds, until finally the pasture is destroyed. This is a common sight around our country in the rural areas.

The mining industry is by no means the only guilty party in this insatiable need for a finite resource. The industry is, however, one that is very much in the spotlight because of the legacy issues of acid mine drainage (AMD) in the Witwatersrand aquifers. The fact that the legacy and short-sightedness of our forebears in industry and government have led us to this point, puts the purpose of considering resources such as water in sharp relief. The mining industry and the state, as representatives of some of the beneficiaries of historical mining activity, have to reach a common position to resolve today’s issues quickly, or we shall all be the losers.

I am firmly of the view that we all need to put aside recrimination and blame for where we find ourselves. I sense that all our energy must be used to put ideas into practice now. This is a unique opportunity for all the stakeholders in the mining industry, who I know recognize the problem, to deliver the answers now.

The SAIMM finds itself at the centre of debates on many of today’s pressing issues, including the environment, energy, and other scarce resources, and I am proud that the members’ contributions to these debates are recognized and are increasingly valuable.

Gys Landman
President, SAIMM