

Preface

The present Issue of the Proceedings of the Estonian Academy of Sciences, series Engineering, is devoted to Thomas Johann Seebeck, the nowadays most recognized scientist-naturalist ever born and grown up in Estonia, despite that he made his discoveries and scientific findings in Germany. His life and work, particularly the discovery of the thermoelectric effect (the Seebeck effect), is described by Enn Velme in the first paper of this issue. The second paper by Hillar Aben gives a historical overview and treatment of another phenomenon – photoelasticity of glass – also discovered by Seebeck.

The following papers by German and Austrian authors are related to their recent research work and achievements based on Seebeck's discoveries. It is important to underline that the authors both from academy and industry are included. On the basis of these articles one can conclude that Seebeck's discoveries are productive also in the 21st century, and they may become even more productive in the industry of the near future, e.g. in the field of sensorics and energy harvesting and also in glass industry. The last papers of German and Estonian scientists reflect the results of collaborative research, which has been conducted in both countries in the field of electrical phenomena and their different applications.

The issue ends with two appendices. Appendix I by M. Min gives an overview of the opening of the memorial board to Seebeck, on May 11, 2007 in Tallinn. Appendix II by U. Pfeiffer considers industrial possibilities for the production of thermoelectrical energy in embedded microsystems.

The editors express greatest thanks to all the authors for their surprisingly active contribution to the success of our issue.

Mart Min (Tallinn) and Elmar Schrüfer (Munich)
Guest editors