

# *Dr. Miroslav Zeman*

## **Personal Information**

*Date and place of Birth:* June 21, 1957, Žilina, Slovakia  
*Sex:* Male  
*Marital status:* Single  
*Nationality:* Slovak  
*Address:* Zochova 20, 81103 Bratislava, Slovakia

## **Education**

**Gymnasium Jura Hronca** 1972 - 1976  
Bratislava, Czechoslovakia  
*specialization in mathematics and physics*

**Slovak Technical University** 1976 - 1981  
Bratislava, Czechoslovakia  
*Dipl. Ing. in Materials Science*

**Slovak Technical University** 1982 - 1989  
Bratislava, Czechoslovakia  
*PhD degree in Materials Science*  
*Thesis title: Material Structures for Electronics Based on Hydrogenated Amorphous Silicon*

## **Employment**

**Bratislava Electrotechnical Works**  
Bratislava, Czechoslovakia,  
*Researcher in the group of Numerically Controlled Machines 1981 - 1982*

**Slovak Technical University**  
Bratislava, Czechoslovakia  
*Senior Lecturer and PhD student at the Faculty of Electrical Engineering 1982 - 1991*

**Delft University of Technology**  
Delft, The Netherlands,  
*Senior researcher in the Laboratory of Electrical Materials 1991 – 1999*  
*Assistant Professor at the Faculty of Information Technology and Systems 1999 – 2000*  
*Associate Professor at the Faculty of Information Technology and Systems 2001 – 2007*

## **Activities**

At present he leads the Solar Cells group at Delft University of Technology (TUD). Since 1989 he was in charge at TUD of 23 Dutch and 5 European projects dealing with research of solar cells and development of technology for their fabrication. He has become an expert for new generation of thin-film solar cells and their application for generation of solar electricity. He is an author and co-author of more than 120 scientific publications; he contributed to 2 scientific books, and together with R.E.I. Schropp wrote a book on thin-film silicon solar cells that was published in USA by Kluwer Academic Publishers. He works as a referee for several scientific journals.

He actively attends world conferences about photovoltaics and environment, which deal with research on new materials for solar energy conversion into electricity and implementation of solar cells in practice. He presented results of his research work in more than 70 conference contributions in Europe, USA, Japan and China.

At present he is a member of EU technology platform for photovoltaics that Works out documents for the implementation of Strategy research agenda of the implementation of photovoltaics in European Union. He is also a consultant for the development of thin-film solar cells based on silicon for several international companies and research centra.

In 2006 he was a co-founder of Slovak Renewable Energy Agency which aims to promote the implementation of photovoltaics in Slovakia, where he acts as a PV expert.

### **P u b l i c a t i o n s ( s e l e c t e d )**

Ruud Schropp and Miro Zeman, *Amorphous and Microcrystalline Silicon Solar Cells: Modeling, Materials, and Device Technology*, Kluwer Academic Publishers, ISBN 0-7923-8317-6, 1998.

Miro Zeman, *Chapter 5: Advanced Amorphous Silicon Solar Cell Technology*, in *Thin Film Solar Cells: Fabrication, Characterization and Applications*, p. 173-236, eds. J. Poortmans and V. Archipov, Wiley 2006, ISBN 0-470-09126-6.

M. Zeman, R.A.C.M.M. van Swaaij, J.W. Metselaar and R.E.I. Schropp. *Optical Modeling of a-Si:H Solar Cells: Effect of Back Contact and Interface Roughness*. *Journal of Applied Physics*, **88**/11 (1 December 2000), p. 6436-6443.

J. Krč, M. Zeman, F. Smole, and M. Topič. *Optical modeling of a-Si:H solar cells deposited on textured glass/SnO<sub>2</sub> substrates*. *Journal of Applied Physics*, Vol. **92**, No. 2, 15 July 2002, pp. 749-755.

V. Nádaždy and M. Zeman. *Origin of charged gap states in a-Si:H*. *Physical Review B* **69** 165213 (2004).