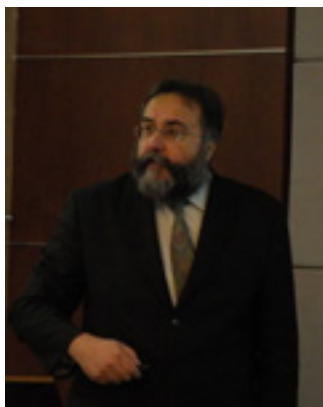# BOŽIDAR ŠARLER

Božidar Šarler was born in 1957 in Maribor, Slovenia. He is since 2001 Professor of Materials Science and Engineering and Head and Founder of the Laboratory for Multiphase Processes, University of Nova Gorica, Slovenia. He was previously employed for seven years at the University of Ljubljana, and for eleven years at the Jožef Stefan Institute.

He received his Ph.D in Technical Sciences from the University of Maribor, Slovenia in 1991. He worked abroad cumulative for more than four years as a researcher in Centre of Nuclear Studies, Saclay, University Erlangen-Nürenberg, Nürenberg, Argonne National Laboratories, Chicago, and as a visiting professor or scientist at the University of Nevada, Las Vegas, Laboratory Fast of the University Pierre and Marie Curie, Paris, and Polish Academy of Sciences, Warsaw. He recently became Adjunct Professor of the Computational Engineering and Science research Centre of the University of Southern Queensland in Australia.

His present research interest is computational modeling of materials and processes, development of numerical methods and physical models for multiphase systems, modeling, simulation, verification and optimization of continuous casting of aluminum alloys and steel. He was responsible for modernization and introduction of computational modeling in several Slovenian steelworks and aluminum plants and collaborated in similar projects abroad (Czech Republic, Finland). He published more than 75 scientific papers and book chapters, more than 100 conference papers, and edited 4 books with selected papers from international conferences. He contributed to more than 250 technical reports. He presented introductory invited talks at more than 10 international conferences of the prestigious type like EUROMAT, EUROSIM (EU), THERMACOMP (UK), ICCES (USA) and TMS (USA).

He has managed several international projects within COST, 5th and 6th E.U. frameworks, NATO and National Academies, USA.

He received the following awards and recognitions:
2009: EMERALD Literati Highly commended author award;
2007: Primorska prize for technology transfer;

2006: Slovenian state award Janez Puh for Modeling of materials and processes;

2005: Best paper selection, Eurotherm 82 conference, Krakow;

2004: Best paper selection, ECCOMAS conference, Jyvaskyla;

2003: Best paper award in Liquid-Solid processing, COST-526 conference, Budapest;

1998: Recognition of Faculty of Mechanical Engineering, University of Ljubljana for Outstanding basic and applied research;

1997: Best paper selection, 10th Int.Conf. Numerical Methods in Heat Transfer, Swansea;

1987: Best paper award for Nuclear engineering, ETAN Conference, Sarajevo.

He is currently a member of the editorial boards of the following journals and book series:

– ISRN Mechanical Engineering;

– Computer Methods in Engineering and Sciences;

– Computers Materials & Continua;

– Electronic Journal of Boundary Elements;

– International Journal of Numerical Methods for Heat & Fluid Flow;

– Engineering Analysis with Boundary Elements (2001 – 2008);

– Advances in Heat Transfer.

He served in scientific committees of more than 50 international conferences.

He has organized the following international conferences:

2009: ICCES Special Symposium on Meshless Methods, Bistra;

2007: Inspire, Nova Gorica;

2003: Eurotherm 69 – Heat and Mass Transfer in Solid-Liquid Phase Change Processes, Bled;

2001: Moving Boundaries VI, Lemnos;

1999: Moving Boundaries V, Bistra;

1995: Moving Boundaries III, Bled;

1995: Heat and Mass Transfer in Solidification (COST-512), Bled.

He has untill now supervised more than 30 bachelor thesis, 5 master thesis and 7 Ph.D's. His former Ph.D students hold academic positions in Slovenia, France and Belgium. His Ph.D students received two times European Committee for Computational Methods in Applied Sciences best Ph.D award, Jozef Stefan golden emblem award for best Ph.D in Slovenia, Slovenian sustainable development award.

Selected bibliography (13 recent journal papers, book chapters and books):

[1] B.Šarler, From Global to Local Radial Basis Function Collocation Method for Transport Phenomena, in: V.M.A. Leitao, C.J.S. Alves, C. Armando-Duarte, Advances in Meshfree Techniques, (Computational Methods in Applied Sciences, Vol.5), Springer Verlag, Dordrecht (2007) 257 – 282.

[2] R.Vertnik, B. Senčič and B.Šarler, Solution of continuous casting of steel by a meshless method, Cast Metals Research (2008) – in print.

[3] G.Kosec and B.Šarler, Local RBF collocation method for Darcy flow, Comput. Model. Eng. Sci., Vol. 25 (2008) 197 – 207.

[4] G.Kosec, B.Šarler, Solution of heat transfer and fluid flow problems by the simplified explicit local radial basis function collocation method, International Journal of Numerical Methods in Heat and Fluid Flow, Vol.18 (2008) 308 – 324.

[5] R.Vertnik, M:Založnik and B.Šarler, Solution of transient direct-chill aluminium billet casting problem with simultaneous material and interphase moving boundaries by a meshless method, Eng. Anal. Bound. Elem., Vol. 30 (2006) 847 – 855.

[6] I.Kovačević and B.Šarler, Solution of a phase field model for dissolution of primary particles in binary alluminium alloys by an r-adaptive mesh-free method, Materials Science and Engineering, Vol. 414 (2005) 423 – 428.

[7] B.Šarler, R.Vertnik, Meshfree local radial basis function collocation method for diffusion problems, Computers and Mathematics with Application, Vol. 51 (2006) 1269 – 1282.

[8] R.Vertnik and B.Šarler, Meshless local radial basis function collocation method for convective-diffusive solid-liquid phase change problems, International Journal of Numerical Methods in Heat and Fluid Flow, Vol. 16 (2006) 617 – 640.

[9] B.Šarler, A radial basis function collocation approach in computational fluid dynamics, Comput. Model. Eng. Sci., Vol. 7 (2005) 185 – 193.

[10] J.Perko, B.Šarler, Weigh function shape parameter optimization in meshless methods for non-uniform grids, Comput. Model. Eng. Sci., Vol. 19 (2007) 55 – 68.

[11] A. Lorbiecka, R. Vertnik, H. Gjerkeš, G. Manojlović, B. Senčič, J. Cesar, Numerical modeling of grain structure in continuous casting of steel, Computers, Materials, Continua, Vol.8 (2009) 195 – 208.

[12] B.Šarler, Solution of a two-dimensional bubble shape in potential flow by the method of fundamental solutions, Engineering Analysis with Boundary Elements, 30 (2006) 227 – 235.

[13] B. Šarler, S.N. Atluri (Eds.), Recent Studies in Meshless & Other Novel Computational Methods, Tech Science Press, Duluth, 2010.