

Curriculum Vitae for Antal Boldizar, Nov 2013

Born 1957-09-29

Academic exams

Master of Science in Mechanical Engineering 1984 at Chalmers University of Technology

Licentiate of Engineering 1985 and PhD 1986 at the Department of Polymeric Materials at Chalmers University of Technology, thesis title "Some Properties of Filled and Self-Reinforced Injection-Moulded Polymers".

Executive Master of Business Administration 1994 at the School of Business Administration, University of Gothenburg

Previous positions

1987-88 Research associate at the Swedish Plastics and Rubber Institute in Värnamo

1988-89 Section manager Materials and Processing at ABB Plast in Piteå

1989-91 Engineering consultant, development of plastics products

1991-99 Senior research fellow at the Swedish National Testing and Research Institute, Borås

Present position

Since August 1999 employed as lecturer at the Department of Material and Manufacturing Technology, the group of Polymeric Materials and Composites, Chalmers University of Technology.

Courses taken at Chalmers during present position:

- Leadership program at the School of Mechanical Engineering (Ledarutvecklingsprogram M) Chalmers 2001
- Pedagogic course for teachers at Chalmers, CKK, 10 credit points 2003
- Chalmers Handledarforum, Network program at Chalmers, Sep 2009 to Jan 2010

Appointed Associate Professor in Polymeric Materials 2001-11-06 at the School of Mechanical Engineering, Chalmers University of Technology.

Appointed Professor in Environmentally Adapted Polymeric Materials 2007-01-01 at Chalmers University of Technology

Appointed full Professor in Environmentally Adapted Polymeric Engineering Materials 2011-04-20 at Chalmers University of Technology

List of scientific publications

1. S Jacobsson, S Hård and A Boldizar. Birefringence of high pressure injection moulded high density polyethylene at 70.5 μm wavelength. *J. Polym. Sci., Polym. Physics Ed.* 22 (1984) p 471-474
2. A Boldizar and J Kubát. Measurement of cycle time in injection moulding of filled thermoplastics. *Polym. Eng. Sci.* 26 (1986) p 877-885
3. A Boldizar, C Klason, J Kubát, P Näslund and P Sáha. Prehydrolyzed cellulose as reinforcing filler for thermoplastics. *Intern. J. Polymeric Mater.* 11 (1987) p 229-262
4. A Boldizar, S Jacobsson and S Hård. Far-infrared birefringence and other orientational measures of high pressure injection moulded HDPE. *J. Appl. Polym. Sci.* 36 (1988) p 1567-1581
5. A Boldizar. The effect of injection rate and mould design on the mechanical properties of an injection moulded liquid crystalline copolyester. *Plastics and Rubber Processing and Applications* 10 (1988) p 73-78
6. A Boldizar, J Kubát and M Rigdahl. Influence of mould filling rate and gate geometry on the stiffness of high pressure injection moulded polyethylene. *J. Appl. Pol. Sci.* 39 (1990) p 63-71
7. A Boldizar, T Gevert and M Markinger. Quality Assessment of Polymeric Recyclates Part 1: Repeated Processing and Thermo-Oxidative Ageing of LDPE. *Polymer Recycling* 1 (1995) 249-255
8. A Boldizar, A Jansson, T Gevert and K Möller. Simulated Recycling of Post-Consumer High Density Polyethylene Material. *Polymer Degradation and Stability* 68 (2000) 317-319
9. K Möller, J Lausmaa and A Boldizar. Processing and Thermo-Oxidative Ageing of High-Impact Polystyrene Containing Flame Retardants. Chapter 22 in the book *Fire and Polymer*, ACS Symposium series 797 (2001), 281-290
10. X Liu, A Boldizar, M Rigdahl and H Bertilsson. Mono-Sandwich Injection Moulding with Recyclates as Core Material. *Polymer Recycling* 6 (2001) p 171-180
11. F Piscioti, A Boldizar and M Rigdahl. Evaluation of a Simple Model Simulating the Advancing Front in Injection Moulding. *International Polymer Processing*, 17 (2002), p 133-145
12. X Liu, H Bertilsson, A Boldizar and M Rigdahl. Recycling of Blends of Acrylonitrile-Butadiene-Styrene and Polyamide. *Journal of Applied Polymer Science* 86 (2002) p 2535-2543

13. X Liu, H Bertilsson, A Boldizar and M Rigdahl. Mechanical Properties and Fracture Behaviour of Blends of Acrylonitrile-Butadiene-Styrene Copolymer and Crystalline Engineering Plastics. *Journal of Applied Polymer Science* 86 (2002) p 2435-2448
14. M Hoseini, J Lausmaa and A Boldizar. Tribological Investigation of Oriented HDPE. *Journal of Biomedical Materials Research* 61 (2002) p 634-640
15. F Piscioti, J Lausmaa, A Boldizar and M Rigdahl. TOF-SIMS Study of Injection-Molded Polystyrene. *Polymer Engineering and Science* 43 (2003) p 1289-1297
16. A Boldizar and Kenneth Möller. Degradation of ABS during Repeated Processing and Accelerated Ageing. *Polymer Degradation and Stability* 81 (2003) p 359-366
17. T Sedlacek, M Zatloukal, P Filip, P Saha and A Boldizar. On the Effect of Pressure on the Shear and Elongational Viscosities of Polymers. *Polymer Engineering and Science* 44 (2004) p 1328-1337
18. T Sedlacek, R Cermak, B Hausnerova, A Boldizar and P Saha. On PVT and Rheological Measurements of Various Polymer Melts: Correction of the Hole Fraction-Viscosity Relationship. *International Polymer Processing* 20 (2005) p 286-295
19. F Piscioti, A Boldizar and M Rigdahl. The Gloss of Injection-Moulded Recovered Polypropylene. *International Polymer Processing* 20 (2005) p 250-256
20. F Piscioti, A Boldizar and M Righdahl. Injection Moulding and Mechanical Properties of Recovered Polypropylene. *International Polymer Processing* 20 (2005) p 257-264
21. F Piscioti, I Ariño, A Boldizar and M Rigdahl. Effects of Injection-Moulding Conditions on the Gloss and Colour of Pigmented Polypropylene. *Polymer Engineering and Science* 45 (2005) p 1557-1567
22. M Thunwall, A Boldizar and M Rigdahl. Compression Moulding and Tensile Properties of Thermoplastic Starch Materials. *Biomacromolecules* 7 (2006) p 981-986
23. M Thunwall, A Boldizar and M Rigdahl. Extrusion processing of high amylose potato starch materials. *Carbohydrate Polymers* 65 (2006) p 441-446
24. M Thunwall, V Kuthanová, A Boldizar and M Rigdahl. On the stress-strain behaviour of thermoplastics starch melts. *International Journal of Polymer Analysis and Characterization* 11 (2006) p 419-428
25. M Thunwall, A Boldizar and M Rigdahl, K Banke, T Lindström and H Tufvesson. Processing and properties of nanointerfaced cellulose fibre composites. *J Appl Polym Sci* 107 (2008), 918-929
26. M Thunwall, V Kuthanová, A Boldizar and M Rigdahl. Film blowing of thermoplastic starch. *Carbohydrate Polymers*, vol 71 (2008), issue 4, page 583-590

27. A Altskär, R Andersson, A Boldizar, K Koch, M Stading, M Rigdahl and M Thunwall. Some effects of processing on the molecular structure and morphology of thermoplastic starch. *Carbohydrate Polymers*, vol 71 (2008), issue 4, page 591-597
28. T Lindström, K Banke, T Larsson, G Glad-Nordmark and A Boldizar. Nanoclay Plating of Cellulosic Fibre Surfaces. *Journal of Applied Polymer Science*, vol 108 (2008), p 887-891
29. M Hoseini, A Jedenmalm and A Boldizar. Tribological investigation of coatings for artificial joints. *Wear* 264 (2008), p 958-966
30. M Sjöqvist, A Boldizar and M Rigdahl. Processing and Properties of Expanded Starch Materials. *Journal of Cellular Plastics*, vol 45 (2009), p 51-65
31. I Ariño, A Boldizar, S Ignell, H Karlsson, U Kleist, S Rebeggiani and M Rigdahl, The Influence of Measuring/Viewing Angle on the Colour of Injection-Moulded Plastics. *International Journal of Polymeric Materials*, vol 59 (2010), p 292-306
32. M Sjöqvist, A Boldizar and M Rigdahl. Processing and water absorption behaviour of foamed potato starch. *Journal of Cellular Plastics*, vol 46 (2010), p 497-517
33. M Strååt, S Toll, A Boldizar, M Rigdahl and B Hagström. Melt spinning of Conducting Polymer Composites Containing Carbonaceous Fillers. *Journal of Applied Polymer Science* 119 (2011), 3264-3272
34. M Strååt, A Boldizar and Igor Chmutin. Improvements of melt spinning properties and conductivity of immiscible polypropylene/polystyrene blends containing carbon black by addition of styrene-ethylene-butene-styrene block copolymer. *Polymer Engineering and Science* v 51 no 6 (2011) p 1165-1169
35. M Strååt, A Boldizar, M Rigdahl and B Hagström. Improvement of Melt Spinning and Conductivity of Immiscible Propylene/Polystyrene Blends Containing Carbon Black by Addition of Styrene-Ethylene-Butene-Styrene Block Copolymer. *The journal of Polymer Engineering and Science*, vol 51 (2011), p 1165-1169
36. M Sjöqvist and A Boldizar. Molecular modification and compatibilization of collected polyethylene. *Journal of Polymer and the Environment*, 19 (2011) p 335-340
37. R Ariño and A Boldizar. Processing and Mechanical Properties of Thermoplastic Composites Based on Cellulose Fibres and Ethylene-Acrylic Acid Copolymers. *Polymer Engineering and Science* 52 (2012) p 1951-1957
38. G. Ianuzzi, A Nafari, A Boldizar and M Rigdahl. Ageing of polymeric surfaces exhibiting flow marks – Effects on surface characteristics. *Journal of Applied Polymer Science* 126 (3) p 1136-1145 (2012)
39. E Stenvall, S Tostar, A Boldizar, M R Stj Foreman and K Möller. An analysis of the composition and metal contamination of plastics from waste electrical and electronic equipment (WEEE). *Waste Management* 33 (2013) 915-922

40. M Strååt and A Boldizar. Factors influencing the dielectric losses of some technical grades of polyethylenes at 1.8 GHz. In preparation
41. R Ariño, M Brodin, A Boldizar and G Westman. Thermal and viscoelastic properties of cellulosic gels with different ionic liquids and coagulation agents. *BioResources* 8 (2013) p 2209-2221
42. S Tostar, E Stenvall, A Boldizar and M R Stj Foreman. Antimony leaching in plastics from waste electrical and electronic equipment (WEEE) with various acid solutions and gamma irradiation. *Waste Management* 33 (6) 1478-1482 (2013).
43. S Tostar, E Stenvall, A Boldizar and M R Stj Foreman. The influence of gamma-irradiation on repeated recycling and accelerated ageing of ABS. Manuscript 2013.
44. E Stenvall, S Tostar, A Boldizar and M R Stj Foreman. The influence of extrusion conditions on mechanical and thermal properties of virgin and recycled PP, HIPS, ABS and ternary blends of them. Manuscript 2013.
45. R Ariño and A Boldizar. Barrier screw compounding and mechanical properties of an ethylene-acrylic acid copolymer and cellulose fibers composite. *International Polymer Processing* 28 (4) p 421-428 (2013)
46. R Ariño and A Boldizar. Melt processing of wood cellulose tissue and ethylene acrylic-acid copolymer composites. *International Polymer Processing* 28 (4) p 429-436 (2013)
47. R Ariño and A Boldizar. Injection molding of beverage container caps made of a composite consisting of wood cellulose fiber and ethylene-acrylic acid copolymer. Manuscript 2013.
48. G Iannuzzi, R Ariño and A Boldizar. Compounding of composites based on wet wood cellulose fibres and ethylene acrylic-acid copolymer. Manuscript 2013.
49. Maria Klingberg, Antal Boldizar and Karin Hofer. Processing and structure of paperboard with a needled middle layer. To be published.
50. Maria Klingberg, Antal Boldizar and Karin Hofer. Mechanical properties of paperboard with a needled middle layer. To be published.

Patents

- 1 A Boldizar, M Thunwall and V Kuthanová. Biodegradable composition for film blowing. Patent no WO/2008/105705, priority date 2007-02-28, publication date 2008-09-04
- 2 A Boldizar. Method of a making polymer/natural fibre composite pellet and/or a coupling agent/natural fibre pellet and the pellet made by the method. Swedish patent application No 0702851-7 filed January 2008.

- 3 R Ariño and A Boldizar. Composite and a process for making such composite. European patent application no 11162066.2-2102 filed April 12th 2011.
- 4 A Boldizar and R Ariño. New process for providing a composite based on wood cellulose fibre tissue and EAA. Swedish patent no 1350147-3 filed February 8th 2013.

Contributions to scientific conferences with referee procedure

- 1 M Hoseini, J Lausmaa and A Boldizar. Tribological Investigation of Oriented HDPE. The 2nd Asia/Australia Regional Meeting of the Polymer Processing Society, Bangkok, Thailand, December 1-3 1999.
- 2 F Pesciotti, A Boldizar and G Aronsson. Evaluation of a Novel Asymptotic Model for Predicting the Melt Flow Front Development of Pseudoplastic Polymers in Injection Moulding Process. The 2nd Asia/Australia Regional Meeting of the Polymer Processing Society, Bangkok, Thailand, December 1-3 1999.
- 3 F Pesciotti, A Boldizar and M Rigdahl. Estimation of Flow Front Propagation During the Filling Stage of Injection Mouldings. The EuropeAfrica Regional Meeting of the Polymer Processing Society, Zlin, Czech Republic, August 16-18 2000.
- 4 K Möller, J Lausmaa and A Boldizar, Processing and Thermo-Oxidative Ageing of High-Impact Polystyrene Containing Flame Retardants, The 220th ACS National Meeting in Washington, August 20-24 2000
- 5 F Pesciotti, J Lausmaa, A Boldizar and M Rigdahl. Separation of the polymer components in injection moulded polystyrene, Ann Trans. Nordic Soc. Rheology, v 10 (2002) p 41
- 6 M Thunwall, K Putkisto, J Grön, A Boldizar and M Rigdahl. Polymer research in the Department of Materials Science and Engineering - Energy Lean Materials and Processes, The Polish-Swedish Symposium, Materials-Energy-Society & Environment, 2003
- 7 M Thunwall, A Boldizar and M Rigdahl. Extrusion processing of high amylose potato starch materials. Nordic Polymer Days 2004
- 8 M. Knutson Wedel, A. Boldizar, and J. Malmqvist. Active Learning Through Group Dialogue in a Project-Based Course on Environmentally Adapted Product Development, 1st Annual CDIO Conference, Queen's University, Kingston, Ontario, Canada, June 7 to 8, 2005
- 9 M Thunwall, V Kuthanová, A Boldizar and M Rigdahl. Thermoplastic properties of oxidised starch. Nordic Polymer Days, Chalmers, Gothenburg, Sweden, August 17-19, 2005
- 10 M Hoseini, A Jedemaim and A Boldizar. Tribological investigation of coatings for artificial joints. Nordic Polymer Days, Chalmers, Gothenburg, Sweden, August 17-19, 2005

- 11 H Bergenudd, P Nilsson, R Velagic, L Jönsson, A Boldizar and C Hammer. Expancel Microspheres in wood filled plastics. Nordic Polymer Days, Chalmers, Gothenburg, Sweden, August 17-19, 2005
- 12 M Hoseini, A Jedenmalm and A Boldizar. Tribological Investigation of Coatings for Artificial joints. International Conference on Mechanics of Biomaterials & Tissues, Hawaii, USA December 11-15 2005
- 13 A Boldizar, F Piscioti, I Ariño and M Rigdahl. The Influence of the Processing Parameters on the Gloss and Colour of an Injection-Moulded Pigmented Polypropylene. Nordic Polymer Days, Copenhagen, Denmark, May 29-31, 2006
- 14 M Strååt, A Boldizar, M Rigdahl, Å Linder and H Eklind. Changes in the Dielectric Properties for Polyethylene Foam at High Frequencies. Nordic Polymer Days, Copenhagen, Denmark, May 29-31, 2006
- 15 M Thunwall, V Kouthanová, A Boldizar and M Rigdahl. The Effect of some Plasticizers on the Viscosity and Stress-Strain of Thermoplastic Starch melts. Nordic Polymer Days, Copenhagen, Denmark, May 29-31, 2006
- 16 M Sjöqvist, A Boldizar and M Rigdahl. Processing and Properties of Expanded Starch Materials. Polymer Days, Helsinki, Finland, May 29-31, 2007
- 17 M Strååt, and A Boldizar. Foam Extrusion and Measurement of Dielectric Properties at High Frequencies on Polyethylene Foams. Nordic Polymer Days, Helsinki, Finland, May 29-31, 2007
- 18 M Strååt, and A Boldizar. Foam extrusion and dielectric properties of foamed polyethylene at high frequencies. Proc. Polymer Processing Society, Europe/Africa Meeting 2007
- 19 M Sjöqvist, A Boldizar and M Rigdahl. Processing and Properties of Expanded Starch Materials. Biofoams 2007, 1st international Conference, Capri, Italy, September 26-28, 2007
- 20 M Sjöqvist, A Boldizar and M Rigdahl. Processing and Properties of Expanded Starch Materials. Polymer Processing Society Regional Meeting Europe/Africa 2007
- 21 M Sjöqvist, A Boldizar and M Rigdahl. Processing and Properties of Expanded Starch Materials. Nordic Polymer Days, Stockholm, Sweden, June 11-13, 2008
- 22 A Velvare-Velasco, M A Karlsson, A Boldizar, H Westberg, S Ignell, H Westberg and M Rigdahl. On the Relations between the Surface Topography and Tactile Perception of Injection-Moulded Textured Polymers. PPS-24 The Polymer Processing Society 24th Annual Meeting, Salerno, Italy, June 15-18 2008
- 23 M Strååt and A Boldizar. Dielectric Properties of Polyethylene Foams at Medium and High Frequencies. PPS-24 The Polymer Processing Society 24th Annual Meeting, Salerno, Italy, June 15-18 2008

- 24 A Boldizar, M Sjöqvist and M Thunwall. Extrusion of starch. Invited lecture at The 3rd Associated Symposium of Sweden-Korea, Tomorrows Renewable Biopolymers Applications in Bio and packaging Industries, Korea University in Seoul, Korea, October 24-25 2008
- 25 G Iannuzzi, A Boldizar and M Rigdahl, Characterization of flow-induced surface defects in injection moulded components – case studies. Annual Transactions The Nordic Rheology Society (2009). 17 s. 157-165.
- 26 Arino Ruth, Brodin Malin, Boldizar Antal and Westman Gunnar. Thermal and rheological properties of microcrystalline cellulose dissolved in ionic liquids. *Proc. Nordic Polymer Days, Copenhagen 2009*. s. 4.1.
- 27 Brodin Malin, Arino Ruth, Boldizar, Antal and Westman Gunnar. Properties of flexible gels prepared from cellulose derivative and ionic liquid. Proc. 4th Workshop on cellulose, regenerated cellulose and cellulose derivatives (Karlstad University 2009)
- 28 Brodin Malin, Arino Ruth, Boldizar Antal and Westman Gunnar. Properties of flexible gels prepared from cellulose derivative and ionic liquids. Polysaccharides as a Source of Advanced Materials, European Polysaccharide Network Of Excellence, September 21-24, 2009 Åbo, Finland, s. 138.
- 29 Strååt Martin, Chmutin Igor and Boldizar, Antal. Dielectric properties of polyethylene foams at medium and high frequencies. Transactions of the Nordic Rheology Society 2010. 18 s. 107-116
- 30 Erik Stenvall, Sandra Tostar, Antal Boldizar and Mark Foreman. WEEE plastics recycling and compatibilization. Nordic Polymer Days 2011, Stockholm
- 31 Ruth Ariño and Antal Boldizar. Some melt processing of cellulose – modified polyethylene composites, Nordic Polymer Days, Copenhagen, Denmark, May 29-31 2012
- 32 Erik Stenvall and Antal Boldizar. Compositional analysis of plastics from waste electrical and electronic equipment (WEEE). Nordic Polymer Days, Copenhagen, Denmark, May 29-31 2012
- 33 Erik Stenvall, Sandra Tostar, Antal Boldizar and Mark Foreman. WEEE Plastics Composition. International Electronics Recycling Congress 2012, Salzburg, Austria
- 34 Erik Stenvall, Sandra Tostar, Antal Boldizar and Mark Foreman. Waste electrical and electronic equipment (WEEE) Plastics Composition. Materials for tomorrow 2012, Gothenburg
- 35 Erik Stenvall, Sandra Tostar, Antal Boldizar and Mark Foreman. Influence of processing conditions on the mechanical properties of melt-blended plastics. Materials for tomorrow 2013, Gothenburg
- 36 Erik Stenvall, Sandra Tostar, Antal Boldizar and Mark Foreman. Processing conditions on WEEE plastics model materials. Nordic Polymer Days 2013, Helsingfors, Finland