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## **RESUME**

### **Menahem Bamberger**

I.D. No. - 06824668  
Date and place of Birth - 7.12.46. , Afula, Israel.  
Family Status - Married + 3  
Army Service - 1965-1967

#### **ACADEMIC DEGREES**

1971 B.Sc., Physics, Technion, Haifa  
1975 M.Sc., Materials Eng., Technion, Haifa  
1978 Dr. Ing. Fakultät für Bergbau, Hüttenwesen und Maschinenwesen der Technische Universität, Clausthal, West Germany

#### **ACADEMIC APPOINTMENTS**

2011 Visiting Professor, HoMe-Hochschule Merseburg, Germany  
2007 Visiting Professor, UTG, University of Munich, Germany  
2006 Professor, Materials Eng. Technion, Haifa  
2000-2001 Visiting Associate Professor, Department of Materials Science and Engineering, MIT, Cambridge, USA  
1991 Associate Professor, Materials Eng., Technion, Haifa  
1986 Senior lecturer, Materials Eng., Technion, Haifa  
1982 Lecturer, Materials Eng., Technion, Haifa

#### **PROFESSIONAL EXPERIENCE**

Summer 1997 Guest scientist in the "Center for Laser Applications", The University of Tennessee Space Institute. Subject: Laser Induced Metal/Ceramic Bonding  
Summer 1995 Guest scientist in the "Center for Laser Applications", The University of Tennessee Space Institute. Subject: Laser Induced Metal/Ceramic Bonding  
1988-89 Guest scientist in the Laser Application Laboratory of DLR Stuttgart, W. Germany. Subject: Laser Boronizing of Steel.  
Summer 1987 Guest scientist in the Institute für Werkstoffkunde, RWTH Aachen, W. Germany Subject: Laser Surface Treatment of Cast Irons  
Summer 1983 Guest scientist in the Metallgesellschaft AG, Frankfurt, W. Germany Subject: Stress Field in Continuous Casting.

#### **RESEARCH INTERESTS**

Solidification and Phase Transformation, Phase Stability, Metallurgical Processing, Casting, Laser Materials Processing, Casting Simulations, Mg Processing, Ni-Base Superalloys.

#### **TEACHING EXPERIENCE**

Metallurgical Processing, undergraduate, Technion  
Foundry Technology, undergraduate, Technion  
Introduction to Materials Eng., undergraduate, Technion  
Computer Applications in Materials Eng., undergraduate, Technion  
Solidification of Metals, graduate, Technion  
Thermodynamics and Phase Transformation, undergraduate, Technion  
Materials Processing Laboratory, MIT

Metals and their properties, undergraduate, Technion,

### **PUBLIC PROFESSIONAL ACTIVITIES**

- 1983 – 1999 Head of the "Casting and Solidification" Committee of the Israel Metallurgical Society.
- 1990-Present Member of the editorial board of the journal "Lasers in Engineering".
- 1995-1998 Member of the SFB 390 "Mg Technologie" Funded by Deutsche Forschung Gesellschaft (DFG) Germany.
- 1996-2000 Head of the scientific board of the "Mg production and finishing processes" Consortium, Ministry of Industry and Trade, The state of Israel
- 2000-Present Member of the "Scientific Advisory Board", Deutsche Industrie-Holding AG, Essen, Germany
- 2008- Journal of Metallurgy, Editor

### **REFEREE FOR THE FOLLOWING JOURNALS**

Acta Materialia  
 Scripta Metallurgica  
 Metallurgical Transactions B  
 Lasers in Engineering  
 Journal of Laser Applications  
 Journal of Engineering Materials and Technology  
 Materials Science & Engineering A  
 International Journal of Thermal Science

### **EDITORIAL BORD**

Lasers in Engineering  
 J. of Metallurgy

### **MEMBERSHIP IN PROFESSIONAL SOCIETIES**

- Since 1982 Verein Deutsche Giessereifachleute, Germany
- Since 1983 Israel Metallurgical Society.
- Since 1997 The Minerals, Metals and Materials Society (TMS), USA
- Since 1999 Member of the Laser Institute of America

### **HONORS**

- 1976-1978 Deutsche Academisch Austausch Dienst (DAAD) scholarship
- 1987 Deutsche Academisch Austausch Dienst (DAAD) scholarship
- 1988-1989 Alexander von Humboldt (AvH) fellowship

**Published papers**

- 1 M. Bamberger, S. Nadiv and G.B. Barkay - Mathematical model for the solidification of high-carbon steel in continuous casting. *Iron and Steel International*, pp. 43-48, Feb. 1977.
- 2 M. Bamberger, R. Jeschar, B. Prinz - Untersuchung des Wärmeübergangs beim Kühlen von Nichteisenmetallen durch Wasser. *Zeitschrift für Metallkunde*, Vol.70, pp. 553-560 1979 (9).
- 3 M. Bamberger - The shape and microstructure of copper yielded in a reconstructed ancient smelting process. *J. Historical Metallurgical Society*, Vol. 18, pp. 31-34, 1984.
- 4 M.M. Stupel, M. Bamberger and B.Z. Weiss - Determination of Fe solubility in Zr by Mössbauer spectroscopy. *Scripta Met.* Vol. 19, pp. 739-740, 1985.
- 5 A. Munitz, Z. Burstein and M. Bamberger - Semiconductor surface doping by electron beam melting of thin evaporated layers. *Mat. Res. Bull.* Vol. 20, pp. 803-813, 1985.
- 6 M. Bamberger - The working conditions of the ancient copper smelting of the ancient copper smelting process. In *furnaces and smelting technology in antiquity*. Edited by P.T. Craddock and M.J. Hughes. Publication of the British Museum Research Laboratory 1985. pp. 151-157.
- 7 M. Bamberger, S.F. Dirnfeld and Y. Zuta - Experimental and analytical evaluation of solidification characteristics of unidirectionally solidified Ni-W eutectic. *J. Crystal Growth*, Vol. 7, pp. 142-148, 1985.
- 8 M. Bamberger and B. Prinz - Determination of the Heat Transfer Coefficient during Water Cooling of Metals. *Materials Science and Technology*, Vol.2, pp.410-415, 1986.
- 9 M. Bamberger, I. Minkoff and M.M. Stupel - Some observations on dendrite arm spacing in Al-Si-Mg and Al-Cu alloy chill casting. *J. of Materials Science*, Vol 21, pp. 2781-2786 1986.
- 10 M. Bamberger and B. Prinz - Mathematical modelling of the temperature field in continuous casting. *Z. Metallkunde*, Vol. 77, pp. 234-238, 1986.
- 11 M.M. Stupel, M. Ron and M. Bamberger - The solubility of iron in  $\alpha$ Ti in the Temperature Range 360-580°C. *J. of the Less Common Metals*, Vol. 123, pp.1-7, 1986.
- 12 M. Bamberger and M.M. Stupel - Influence of different chill materials on heat flux and dendritic arm spacing of A356 alloy casting. *Giessereiforschung*, Vol. 38, pp. 77-80, 1986.
- 13 M. Bamberger, H.G. Bachmann, B. Rothenberg and P. Wincierz - Ancient smelting of oxide copper ore - archaeological evidence at Timna and experimental approach. *Metall*, Vol.40, pp. 1166-1174, 1986.
- 14 M. Bamberger, B.Z. Weiss and M.M. Stupel - The heat flow and dendritic arm spacing in chill-cast Al-Si alloys. *Materials Science and Technology*, Vol.3, pp.49-56, 1987.
- 15 B.Z. Weiss, M. Bamberger and M.M. Stupel - Identification of phases in the Zr(Fe) System. *Met. Trans.* Vol. 18A, pp. 27-33, 1987.
- 16 B. Prinz, W. Wunder and M. Bamberger - Kriterien für die Sekundärkühlung beim Stranggiessen. *Z. Metallkunde*, Vol. 78, pp. 362-368, 1987.
- 17 E. Gozlan and M. Bamberger - Heat flow and solidification in a metal mold. *Z. Metallkunde*, Vol.78, pp. 677-682, 1987.
- 18 M. Bamberger, H.G. Bachmann, B. Rothenberg and P. Wincierz - Mathematical Modelling of Late Bronze Age/Iron Age Smelting of Oxide Copper Ore. *Metall* Vol.42 pp. 452-460, 1988.
- 19 M.M. Stupel, B.Z. Weiss and M. Bamberger - Formation of intermetallic compounds during the sintering of zirconium iron powders compact. *J. of Materials Research* Vol.3, pp. 219-225, 1988.
- 20 E. Gozlan and M. Bamberger - On the microstructure of aluminum bronze solidified in metal mold. *J. of Material Science* Vol.23, pp. 3558-3562, 1988.

- 21 M. Bamberger and B. Prinz - Cooling of ingots by combined air water ("Air-Water Mist") Jet.. *Materials Science and Technology* Vol.5, pp. 389-393, 1989.
- 22 G. Kimmel, G. Shafirstien and M. Bamberger - Fast Thickness Measurement of Thin Crystalline Layers by Relative Intensities of XRD Method. "Advances in X-ray analysis", Vol.32, pp.293-301, 1989
- 23 M. Bamberger and B. Prinz - Methods for controlling heat flow during quenching. *Metall* Vol. 44(2), p.154-157, 1990
- 24 E. Aghion, M. Bamberger and A. Berkovitz - High Temperature Low-Cycle Fatigue of a Nickel Base MAR-M200+Hf Alloy in Ar and Ar+20% O<sub>2</sub> Environments. *Journal of Materials Science*, Vol.26, pp. 1873-1881, 1991.
- 25 S. Ariely, G. Kimmel, S.F. Dirnfeld, M. Bamberger and B. Prinz - A Powder Diffractometry Study of  $\gamma'$ -Phase Formation. *Powder Diffraction* Vol.6, pp. 66-69, 1991.
- 26 E. Gozlan, M. Bamberger, S.F. Dirnfeld, B. Prinz and J. Klodt - Topologically closed-packaged (TCP) precipitations and phase diagrams of Ni-Mo-Cr, Ni-Mo-Fe and Ni-Mo-Fe with constant additions of Cr. *Materials Science and Engineering* Vol.A141, pp.85-95, 1991.
- 27 E. Aghion, M. Bamberger and A. Berkovitz - The Effect of N<sub>2</sub> and CO<sub>2</sub> Environments on the Fatigue Failure of MAR-M200+Hf Superalloy at 975°C. *Materials Science and Engineering*. Vol. A.147, pp.181-189, 1991.
- 28 M. Bamberger and A. Rosenberg - Heat Transfer from Casting to Mold in Thin-walled brass gravity die casting. *Giessereiforschung* Vol.44, pp. 121-125, 1992.
- 29 E. Gozlan, M. Bamberger, S.F. Dirnfeld and B. Prinz - The role of Zr in the phase formation at the interdendritic zone in Ni base superalloys. *J. Materials Science* Vol.27, pp. 3869-3875, 1992.
- 30 E. Gozlan, S.F. Dirnfeld, M. Bamberger, J. Klodt and B. Prinz - Liquid/Solid Equilibrium and Segregation behaviour of Ni-Fe-Mo-Cr Alloys. *Z. Metallkunde*.Vol. 84, pp. 776-780, 1993.
- 31 G.I. Rosen, S.F. Dirnfeld, M. Bamberger and B. Prinz - Computer Aided X-Ray Analysis for Determining Growth Kinetics of  $\gamma'$ -Phase in Nickel-Based Superalloys. *High Temperature Materials and Processes* Vol.12, pp. 183-191, 1993.
- 32 G.I. Rosen, S.F. Dirnfeld, M. Bamberger, A. Rosen and B. Prinz - Creep Investigation of Commercial and Improved Nickel-based Wrought Superalloys. *Materials Science and Engineering A* Vol. A172, pp. 15-21, 1993.
- 33 G.I. Rosen, S.F. Dirnfeld, M. Bamberger and B. Prinz - In-situ Electrical Resistivity Measurements for Determining Formation Kinetics of the  $\gamma'$  Phase in Nickel-Based Wrought Superalloys. *Z. Metallkunde* Vol. 85, pp. 127-130, 1994.
- 34 N. Karni, G.B. Barkay and M. Bamberger - Structure and Properties of Metal-Matrix Composite. *J. of Materials Science Letters* Vol. 13, pp. 541-544, 1994.
- 35 N. Karni, G.B. Barkay and M. Bamberger - The Influence of particle size on the properties of die cast AZ27 based metal-matrix composites. *Giessereiforschung* Vol.46 pp. 103-104, 1994.
- 36 A.K. Mehlmann, S. Berger, A. Fayer, S.F. Dirnfeld, M. Bamberger, Y. Avigal, A. Hoffman and R. Porath - Investigation of cobalt behaviour during diamond deposition on cemented carbides. *Diamond and Related Materials* Vol.3, pp. 805-809, 1994.
- 37 G.I. Rosen, S.F. Dirnfeld, M. Bamberger and B. Prinz - Investigation of equilibrium and phase stability in the liquid/solid state in Nickel-based wrought superalloys. *J. of Materials Science*, Vol.30, pp. 1379-1385, 1995.
- 38 M. Yalin, M. Bamberger and A. Rosen - Microstructural changes during creep of a high chromium steel. *Metallurgical and Materials Transactions A*. Vol.26A, pp. 401-406, 1995.

- 39 I. Goldfarb, W.D. Kaplan, S. Ariely and M. Bamberger - Fault Induced Polytypism in (Cr,Fe)<sub>2</sub>B. *Philosophical Magazine*. Vol. 72, pp. 963-979, 1995.
- 40 I. Goldfarb, E. Zolotoyabko and M. Bamberger - Faultings in AuCu<sub>3</sub> II long-period superlattice. *Philosophical Magazine*. Vol. 72, pp. 981-996, 1995.
- 41 K. Owusu-Boahen, M. Bamberger, S.F. Dirnfeld, B. Prinz and J. Klodt - Precipitation hardening in Ni-base superalloys - the effect of alloying. *Materials Science and Technology*, Vol. 12, pp. 290-294, 1996.
- 42 P.M.N. Ocansey, M. Bamberger and I. Minkoff - Solidification, Thermal Analysis and Properties of  $\alpha$ -SiC Particle Reinforced Al-11.7Wt%Si Alloy Composites, *Giessereiforschung*, Vol. 48, pp. 82-88, 1996.
- 43 T. Tkach, S.F. Dirnfeld, M. Bamberger, J. Klodt and B. Prinz - The Role of Alloying Elements on  $\gamma'$  Phase Growth Kinetics in Ni-Base Alloys, *High Temperature Materials and Processes*, Vol. 15, pp. 195-200, 1996.
- 44 G. Levi, E.D. Kaplan and M. Bamberger - Structure Refinement of Titanium Carbonitride (TiCN). *Materials Letters*, Vol. 35, pp.344-350, (1998).
- 45 D. Gur and M. Bamberger - Reactive Isothermal Solidification in the Ni-Sn System. *Acta Materialia*, Vol. 46, pp. 4917-4923, (1998)
- 46 M. Regev, E. Aghion, M. Bamberger and A. Rosen - Creep Studies of Coarse Grained AZ91D Magnesium Castings. *J. Materials Science and Engineering*, Vol. A252, pp6-16, (1998).
- 47 M. Regev, E. Aghion, S. Berger, M. Bamberger and A. Rosen - Dislocation Analysis of Crept AZ91D Ingot Castings. *Materials Science and Engineering*, Vol. A257 pp 349-352 (1998)
- 48 M. Bamberger, U. Nemaizer, G. Levi, W.D. Kaplan – Microstructure Refinement of Cast Intermetallic Alloys-A New Application for Nano-Crystalline Powders, *Materials Forum*, Vol. 269-272, pp. 1061 (1998).
- 49 G. Dehm, B. Medres, L. Shepeleva, C. Scheu, M. Bamberger, B.L. Mordike, S. Mordike, G. Ryk, G. Halperin and I. Etsion - Microstructure and Tribological Properties of Ni-Based Cladding on Cu-Substrates. *Wear*, Vol. 225-229, pp. 18-26 (1999)
- 50 A. Avishai and M. Bamberger – Cooling rate and microstructure in gravity die cast AZ91D disks”, *Metallurgical and Materials Transactions B*, Vol. 30B, pp.723-729 (1999)
- 51 G. Levi, M. Bamberger and W.D. Kaplan – Wetting of porous Titanium Carbonitride by Al-Mg-Si alloys, *Acta materialia* Vol. 47, pp. 3927-3934 (1999)
- 52 D. Gur and M. Bamberger - Formation and Growth of Ni<sub>3</sub>Sn<sub>4</sub> Intermediate Phase in the Ni-Sn System. *J. of Materials Science* Vol. 35, pp. 4601-4606 (2000).
- 53 M. Regev, O. Botstein, M. Bamberger and A. Rosen – Continuous vs. interrupted creep in AZ91D magnesium alloy. *Materials Science and Engineering A* Vol. 302, pp. 51-55 (2001).
- 54 M. Regev, A. Rosen, and M. Bamberger – Qualitative Model for Creep of AZ91D Magnesium Alloy. *Metallurgical and Materials Transactions A* Vol. 32A, pp. 1335-1345 (2001).
- 55 E. Ben-Ari, E. Yaffe and M. Bamberger - Simulating Filling and Solidification of AZ91 Magnesium Alloy in Gravity Die Casting. *Materials Technology and Advanced Performance Materials* pp. 133-141 (2001).
- 56 I. Petronius and M. Bamberger - Microstructure, and Properties Following Welding Duplex Stainless Steel with Coated Electrodes. *Science and Technology of Welding and Joining* Vol. 6, pp. 79-83 (2001)
- 57 G. Levi, W.D. Kaplan and M. Bamberger – Interfacial Phenomena and Microstructure Evolution During Solidification of Binary and Ternary Al-Mg-Si Alloys Cast on Titanium Carbonitride. *Materials Science and Engineering* Vol. A326, pp. 288-296 (2002).

- 58 I. Petronius and M. Bamberger - The Influence of Basic vs. Rutile Electrode on the Composition of Duplex Stainless Steel Weldments. *Zeitschrift für Metallkunde* Vol. 93, pp. 155-159 (2002)
- 59 M. Bamberger, A. Munitz, L. Kaufman, and R. Abbaschian – Evaluation of Stable and Metastable Cu-Co-Fe Phase diagram. *Calphad.*, Vol. 26 pp. 375-384 (2002)
- 60 D. Gur and M. Bamberger – Lateral grain growth during reactive isothermal solidification in the Ni-Sn system. *J of Materials Science*, Vol 40 pp. 761-766 (2005)
- 61 S. Cohen, G. Goren-Muginstein, S. Avraham, B. Rashkova, G. Dehm, and M. Bamberger - Precipitation hardening in Mg-Zn-Sn alloys with minor additions of Ca and Si. *Zeitschrift für Metasllkunde* Vol. 96 pp. 1081-1087 (2005)
- 62 G. Levi, S. Avraham, A. Zilberov and M. Bamberger - Solidification, Solution Treatment and Age Hardening of a Mg-1.6wt.%Ca-3.2wt.%Zn Alloy. *Acta materialia* Vol. 54 pp.523-530 (2006)
- 63 A. Finkel, L. Shepeleva, M. Bamberger and E. Rabkin – The effect of exposure to elevated temperatures on the microstructure and hardness of Mg-Ca-Zn alloy. *Zeitschrift für Metasllkunde* Vol. 97 pp. 64-71 (2006).
- 64 M. Bamberger, G. Levi, J. Vander Sande - Precipitation Hardening in Mg-Ca-Zn Alloys. *Metallurgical and Materials Transactions A* Vol. 37, pp. 481-487 (2006)
- 65 M. Bamberger – Phase formation in Mg-Sn-Zn alloys – Thermodynamic calculations Vs experimental verification. *J. of Materials Science* Vol. 41, pp. 2821-2829 (2006)
- 66 L. Shepeleva and M. Bamberger - Microstructure of High Pressure Die Cast AZ91D Modified with Ca and Ce. *Materials Science and Engineering A* Vol 425, pp. 312-317 (2006)
- 67 S. Avraham, Y. Maoz and M. Bamberger – Application of the CALPHAD approach to Mg-alloys design. *CALPHAD Journal* Vol. 31, pp. 515-521 (2007)
- 68 A. Gorny, A. Katsman, D. Shepelev and M. Bamberger, Precipitation Sequence in Mg-Zn-Sn based Alloys, in *Thermodynamics and Kinetics of Phase Transformations in Inorganic Materials*, edited by C. Ambrosetti, P. Bellon, J-L. Bocquet, D.N. Seidman (Mater. Res. Soc. Symp. Proc. **979E**, Warrendale, PA) (2007), published online
- 69 A.Katsman, S.Cohen and M.Bambereger, Modeling of Precipitation Hardening in Mg-based Alloys, *Journal of Materials Science*, 42, (2007), pp. 6996-7003.
- 70 A. Gorny, M. Bamberger and A. Katsman, High temperature phase stabilized microstructure in Mg-Zn-Sn alloys with Y and Sb additions, *Journal of Materials Science*, Vol. 42, (2007), pp.10014-10022
- 71 S. Harosh, I. Miller, G. Levi, M. Bamberger, Microstructure and properties of Mg-5.6%Sn-4.4%Zn-2.1%Al alloy, *Journal of Materials Science* Vol. 42 (2007), pp.9983-9989
- 72 B. Rashkova, R. Görgl, W. Prantl, J. Keckes, S. Cohen, M. Bamberger, and G. Dehm - Precipitation Process in a Mg-Zn-Sn Alloy studied by TEM and SAXS. *Materials Science and Engineering A*, Vol. 494, pp. 158-165 (2008)
- 73 D. Shepelev, G. Oshri, P. Glushko, G. Goren-Muginstein, L. Moldavsky, K Shuster, M. Fichman and M. Bamberger - Ultrasonic induced structural modification in Mg alloys. *Materials Science and Technology*, Vol. 24, pp. 1293-1298 (2008)
- 74 D. Shepelev, A. Katsman, E. Edelstein, M. Bamberger – Effect of the Precipitation Depleted Zonson Precipitation Hardening in Mg-Based Alloys. *Mater. Res. Soc. Symp. Proc.* Vol. 1128-U04-47, pp. 305-310
- 75 A. Munitz, M. Bamberger, A. Venkert, P. Landau, r. Abbaschian – Phase selection in supercooled Cu-Nb alloys. *J. Mater. Sci.* Vol. 44 pp. 64-73 (2009).

- 76 P. Schaaf, S. Cusenza, M. Bamberger, Y. Amran, K. Weiss, L. Meier, U. Wasmuth and M. Hofmann – Phase transition kinetics in Austempered Ductile Iron (ADI). *International Foundry Research/Giessereiforschung* Vol. 61 pp. 14-21 (2009) No. 2
- 77 A. Katsman, A. Gorny, D. Shepelev, M. Bamberger – Evolution of Precipitate Depleted Zones in Mg-based Alloys Strengthened by Prececpittion Hardening, *Defects and Diffusion Forum* Vols 289-292 pp. 153-159 (2009)
- 78 D. Shepelev, M. Bamberger, A. Katsman – Precipitation hardening of Zr-modified Mg-Ca-Zn alloy. *J. Materials Science* Vol. 44 pp. 5627-5635 (2009)
- 79 G. Harel, M. Bamberger, Y.Rami, S.Spigarelli, M.I. El Mehtedi and G. Cupitò - DC Casting - Simulation and Microstructure of Mg-Zn Alloys, *Materials Science Forum* Vols. 638-642 pp 1518-1523 (2010)
- 80 S.Spigarelli, M.El Mehtedi, D.Ciccarelli, M.Bamberger, G. Cupitò and Y.Rami - High Temperature Deformation of Wrought Zn-Containing Magnesium Alloys, *Materials Science Forum* Vols. 638-642 pp 1482-1487 (2010)
- 81 L. Meier, P. Schaaf, S. Cusenza, D. Höche, M. Bamberger, Y. Amran, K. Weiss, M. Hofmann and H. Hoffmann - Monitoring Phase Transition Kinetics in Austempered Ductile Iron (ADI), *Materials Science Forum* Vols. 638-642 pp 3394-3399 (2010)
- 82 A. Katsman and M. Bamberger - Stabilization of Microstructures in Mg-based Alloys: Modeling and Processing, *Advanced Materials Research* Vol. 95 pp 51-54 (2010).
- 83 Y. Amran, A. Katsman, P. Schaaf and M. Bamberger – Influence of Copper Addition and Temperature on the Kinetics of Austempering in Ductile Iron. *Metallurgical and Materials Transaction B*, Vol. 41B, pp. 1052-1058 (2010)
- 84 D. Shepelev, J. Klempf, M. Bamberger and A. Katsman - Grain Refinement and Mechanical Properties Enhancement of AZ91E Alloy by Addition of Ceramic. *J. Materials Science* Vol 46. pp. 5798-5806 (2011)
- 85 G. Atiya, M. Bamberger, A. Katsman – Crystalline structure of metastable phases in Mg-Nd alloy containing Zn and Zr. *Materials Science Forum* Vol. 690 pp. 218-221 (2011)
- 86 S. Avraham, A. Katsman, M. Bamberger – Optimization of composition and heat treatment design of Mg-Sn-Zn alloys via the CALPHAD method. *J. Materials Science* Vol. 46 pp. 6941-6951 (2011)
- 87 S. Morgenbrodt, L. Spieß, G. Teichert, M. Bamberger, P. Schaaf – Vergleichende Untersuchungen zur Bestimmung des Austenidgehalts austenitisch-ferritischen Gusseisens mit Kugelgraphit (ADI), *Heat Treatment Materials* Vol. 67 pp. 393-401 (2012)
- 88 Galit Atiya, Menachem Bamberger, Alexander Katsman – Microstructure and phase composition in a die cast Mg-Nd alloy containing Zn and Zr. *International Journal of Materials research* Vol. 103, pp. 1277-1280 (2012)
- 89 J. Hazan and M. Bamberger – Development of non-chromate conversion coatings on AZ31 alloy: effect of Ni overcoat. *Materials Science Forum*. Vol. 765 pp. 602-606 (2013)
- 90 Menachem Bamberger and Esther Kiperwasser-Karbian – Plasma treatment casting of cast Aluminium 6XXX wrought alloys. *Materials Science Forum*. Vol. 765 pp. 200-204 (2013)
- 91 M. Bamberger, G. Atiya, S. Khawaled and A. Katsman – Comparison study of microstructure and phase evolution in Mg-Nd and Mg-Gd based alloys. *Metallurgical Transactions* Vol 45A PP. 3241-3253 (2014).
- 92 S. Abd El Majid, M. Bamberger and a. Katsman - Mechanisms of nucleation and growth of metastable phases in Mg-Gd and Mg-Gd-Nd alloys. *Nano Studies* Vol. 7 pp 41-48 (2013)
- 93 J. Wendt, B. Bronfin, L. Stutz, G. Kurz, S. Schmitt, M. Bamberger, D. Letzig – Twin roll casting of new Mg-wrought alloys for body protective safety equipment. *Materials Science Forum* Vols. 783-786, pp. 534-536 (2014)

- 94 S. Abd El Majid, M. Bamberger and a. Katsman – Overaged samples and growth of eutectics Mg-6Gd-3.7Nd based alloys. Applied Mechanics and Materials, Vols **764-765**, pp. 76-81 (2015)

#### **Accepted papers**

1. Menachem Bamberger - Austempered Ductile Iron: Composition, Treating, Simulation. Accepted for publication in the first edition of the Encyclopedia of Iron, Steel and Their Alloys in 2015.

#### **Review papers**

1. M. Bamberger - On the Structural Refinement of Cast Mg Alloys. J. of Materials Science and Technology Vol. 17, pp. 15-24 (2001).
2. A. Munitz, M. Bamberger, S. Wannaparhun and R. Abbaschian – Effects of supper cooling rate on the microstructure of Cu-Co-Fe alloys. J. of Materials Science Vol. 41, pp. 2749-2759 (2006)
3. M. Bamberger and G. Dehm – Trends in the development of new Mg alloys. Annual Review of Material Research Vol. 38, pp.505-538 (2008)

#### **Books**

1. M. Bamberger and M. Schorr, Editors - Fifth Israel Materials Eng. Conf. Dec. 19-20, 1990, Technion, Haifa, Israel, Published by Freund Publishing House, 1991.

#### **Chapters in Books**

1. M. Bamberger and P. Wincierz: Ancient Smelting of Oxide Copper Ore. In B. Rothenberg (Ed.), The Ancient Metallurgy of Copper. Inst. for Archaeo-Metallurgical Studies, Inst. Archaeology, London, 1990, pp. 123-157.
2. M. Bamberger – Simulation of Mold Filling and Solidification. In E. Aghion and D. Eliezer (Eds) Magnesium alloys – Science, Technology and Applications, Published by the Israeli Consortium for the Development of Mg Technology, 2004.