

# CURRICULUM VITAE

## DAN ELIEZER

### **Personal:**

Marital status: Married + 3

Nationality: Israeli

### **Business Address\***

Department of Materials Engineering

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### **\* On sabbatical leave**

### **Education**

D.Sc. 1975 Department of Materials Engineering  
Technion, Israel Institute of Technology, Haifa, Israel.

M. Sc. 1971 Department of Materials Engineering  
Technion, Israel Institute of Technology, Haifa, Israel.

B.Sc. 1969 Department of Physics  
Technion, Israel Institute of Technology, Haifa, Israel.

### **Employment History**

#### **A) Academic Positions**

1988 – Present Full Professor, Department of Materials Engineering,  
Ben Gurion University of the Negev, Beer-Sheva, Israel.

1993 – Present Chairman, The Eric Samson Chair for Advanced Materials and  
Processing, Ben Gurion University of the Negev, Beer-Sheva,  
Israel.

2007- 2008 Honorary Professor, The Institute of Material Sciences and  
Engineering, Clausthal University of Technology, Clausthal-  
Zellerfeld, Germany.

2005- 2006 Senior Visiting Scientist, Federal Institute for Materials Research  
& Testing (BAM), Berlin, Germany.

- 2000 - 2004 Head, Department of Materials Engineering  
Ben-Gurion University of the Negev, Beer-Sheva, Israel.
- 1986 – 1990 Head, Department of Materials Engineering  
Ben-Gurion University of the Negev, Beer-Sheva, Israel.
- 1984 - 1986 Senior Associate, National Research Council, Air Force Wright  
Aeronautical Laboratories, Materials Laboratory, Wright-Patterson  
Air Force Base, Dayton Ohio, USA.
- 1984 – 1986 Associate Professor, Department of Materials Engineering  
Ben-Gurion University of the Negev, Beer-Sheva, Israel.
- 1981 - 1984 Senior Lecturer, Department of Materials Engineering  
Ben-Gurion University of the Negev, Beer-Sheva, Israel.
- 1981 - Present Tenured at Materials Engineering Department  
Ben-Gurion University of the Negev, Beer-Sheva, Israel.
- 1978 - 1981 Lecturer, Materials Engineering Department  
Ben-Gurion University of the Negev, Beer-Sheva, Israel.
- 1977 - 1978 Associate, National Research Council  
NASA-AMES Research Center, Moffett Field, CA, USA.
- 1975 - 1977 Research Associate, Department of Metallurgy and Mining  
Engineering, University of Illinois, Urbana. Illinois, USA.
- 1971 - 1975 Instructor, Department of Materials Engineering  
Technion, Haifa, Israel.
- 1969 - 1971 Assistant, Department of Materials Engineering  
Technion, Haifa, Israel.
- 1992 – Present “Visiting Scientist” and “Invited Speaker” at a number of  
Universities and Research Institutes across Europe, Asia and  
USA, including:**
- Technical Institute of Vienna, Vienna, Austria.
  - Institute of Metal Research, the Chinese Academy of  
Sciences, Shenyang, China.
  - Charles University, Prague, Czech Republic.
  - GKSS Max-Planck Institute, Geesthacht Germany.
  - Dortmund University, Dortmund, Germany.
  - Federal Institute for Materials Research & Testing (BAM),  
Berlin, Germany.
  - Berlin Technical University (TU), Berlin, Germany.

- Hahn-Meitner Institute, Berlin, Germany.
- Clausthal Technical University (TU), Clausthal, Germany.
- Cottbus Technical University (BTU), Cottbus, Germany.
- Volkswagen AG, Wolfsburg, Germany.
- Audi AG, Ingolstadt, Germany.
- KFA-Julich Institute, Julich, Germany
- Central Research Institute for Chemistry of the Hungarian Academy of Sciences, Budapest, Hungary.
- Ecole Nationale Supérieure de Chimie de Paris, Paris, France.
- Università di Trento, Trento, Italy.
- Università Degli Studi di Ancona, Ancona, Italy.
- Fiat Research Center, Torino, Italy.
- Nagaoka University of Technology, Nagaoka-shi Niigata, Japan.
- Seoul National University, Seoul, Korea.
- Pohang University of Science and Technology – Center for Advanced Aerospace Materials (POSTECH), Pohang, Korea.
- Korea Institute of Machinery & Materials (KIMM), Changwon City, Korea.
- Transilvania University of Brasov, Brasov, Romania – **Honorary Professor.**
- Politechnic University of Bucharest, Bucharest, Romania - **Honorary Professor.**
- National Taiwan University, Taipei, Taiwan.
- National Tsing Hua University, Hsinchu, Taiwan.
- Foundation Research and Development Centre (FRD), Pretoria, South Africa.
- University of Kwazulu Natal, Durban, South Africa.
- Swedish Institute for Metals Research, Stockholm, Sweden.
- Queen Mary University of London, London, U.K.
- Los Alamos National Laboratory, Los Alamos, New Mexico, USA.
- Air Force Wright Aeronautical Laboratories, Wright-Patterson, Dayton, Ohio, USA
- University of Dayton, Dayton, Ohio, USA.
- Ohio State University, Ohio, USA.
- Washington State University, Washington, USA.
- Pacific Northwest National Laboratory of Materials & Chemical Sciences, Washington, USA.
- Illinois Institute of Technology, Chicago, Illinois USA.
- Colorado School of Mines, Colorado, USA.
- General Electric Company, New-York, USA.
- University of California, Irvine, California, USA.
- Stanford Research Institute (SRI), Stanford, California, USA.

- Electric Power Research Institute (EPRI), California, USA.
- Massachusetts Institute of Technology, Cambridge, Massachusetts USA.
- Lehigh University, Bethlehem, Pennsylvania, USA.

## B) Teaching Experience

### *Courses for Undergraduate Students*

- Introduction to Materials Science (for Engineering Students)
- Materials Science 1, 2, 3 (for Materials Engineering Students)
- Metallurgical Processing
- Materials Selection
- Failure Analyses
- Corrosion
- Thermodynamics of Materials
- Structure and Properties of Materials
- Metals and Alloys
- Introduction to Light Alloys
- Chemical Properties of Materials

### *Courses for Graduate Students*

- Environmental Degradation of Materials
- Advanced Course on Materials Selection
- Magnesium Science and Technology
- Hydrogen Embrittlement and Stress Corrosion Cracking of Materials
- Light Alloys
- Materials for Energy Systems

### *Selected International Workshops*

- "Light Alloys" –University of Dayton, Ohio USA
- "Hydrogen Interaction with Materials" – ASM Workshop, California, USA
- "Introduction to Light Alloys" – Seoul University, South Korea
- "Environmental Degradation of Materials" – Istanbul Technical University, Turkey
- "Hydrogen Embrittlement" - Metal Industries Research & Development Center (MIRDC), Taiwan.
- "Metallurgy of Non-Ferrous Materials" – University of Trento, Italy.
- "Hydrogen Effects on Structural Materials" – Technical University of Clausthal, Germany

## C) Positions in Academic Administration

1993 - Present      Holder of the Eric Samson Chair of Steel Processing

2000 - 2004	Head, Materials Engineering Department, Ben-Gurion University of the Negev
1986 - 1990	Head, Materials Engineering Department, Ben-Gurion University of the Negev
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1992 - Present	Chairman, Graduate Studies Committee, Materials Engineering Department., Ben-Gurion University.
2001	Chairman, The 10th Israel Materials Engineering Conference
2000	Chairman, The 2nd Israeli International Conference on Magnesium Science and Technology
2000	Chairman, Magnesium Sessions, THERMEC 2000
1997	Chairman, The 1st Israeli International Conference on Magnesium Science and Technology
1997	Chairman, French/Israeli Workshop on Magnesium Science and Technology
1997	Chairman, The 8th Israel Materials Engineering Conference
1996	Chairman, The 2nd Israeli Corrosion Conference
1993	Chairman, The 6th Israel Materials Engineering Conference
1988	Chairman, The 4th Israel Materials Engineering Conference
1981 - 1984	Chairman, Undergraduate studies Committee Materials Engineering Department, Ben-Gurion University, Beer-Sheva
1981 – 1983	Chairman of the NACE Society
1981 – 1983	Chairman of the Israeli Corrosion Forum

**Active member in a variety of academic, research and institutional committees, including:**

- Faculty Promotion Committee, Ben-Gurion University
- Israeli National Council for the Development of Scientific and Technological Infrastructures
- Israel-Germany Research Fund, Ministry of Science
- India- Israel Bi-national Science Foundation Committee
- Japan-Israel Bi-national Science Foundation Committee

- Israeli National Council for the Development of Scientific and Technological Infrastructures
- Israeli Academia Industry Forum
- Advanced Graduate Studies (Ph.D.) Committee, Ben-Gurion University
- Students' Committee, Ben-Gurion University
- Lecturer Representative Committee, the Senate of the Ben-Gurion University.
- International Advisory Board, 10<sup>th</sup> International Conference on Materials and Technologies

### **Fellowships, Awards and Honors**

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| 2006 | <b>DFG Mercator Professorship</b>                                    |
| 2004 | Listed in Marquis' "Who's Who in Science and Engineering"            |
| 2002 | Honorary Professor of Transylvania University of Brasov, Romania     |
| 2001 | <b>ASM Fellow</b>  |
| 1998 | Honorary Professor of Politechnicum University of Bucharest, Romania |
| 1984 | American Academy of Science Fellowship in NASA-Ames Research Centre  |
| 1977 | American Academy of Science Fellowship in NASA-Ames Research Centre  |
| 1975 | Rothschild Post-Doctoral Fellowship                                  |

### **Major Memberships in Professional / Scientific Associations:**

- The Metallurgical Society of AIME
- American Society for Metals

### **International Advisory Boards for Scientific Journals"**

- Metals and Materials International
- Journal of Technology

### **Selected Peer Review for Scientific Journals:**

- Acta Materialia
- Metallurgical Transactions
- Materials Science and Engineering
- Journal of Materials Science
- Corrosion Science
- Electrochemical ACTA
- Journal of Alloys and Compounds
- International Journal of Hydrogen Energy

## Consulting

Consultation services provided to various companies in Israel, U.S.A. and Europe.

## Present Research Activities

1. Hydrogen Storage Materials and Technologies
2. Hydrogen Fuel Cells
3. Hydrogen Effects on Advanced Materials (Intermetallics, Metal Matrix Composites, Amorphous, Nanocrystalline and Quasicrystalline Materials).  
Mechanisms of hydrogen-related fracture.
4. Magnesium Science and Technology:
  - Environmental behavior of magnesium alloys (Corrosion, Stress Corrosion Cracking, Hydrogen Embrittlement)
  - Alloy development and physical metallurgy of magnesium alloys
5. Physical Metallurgy and Environmental Behavior of Light Metals (Magnesium, Aluminum, Titanium).
6. Materials Selection and Failure Analyses.
7. High temperature materials.

## Supervision of 61 Ph.D. and M.Sc Theses

## Scientific Publications

### A) Scientific Publications -Edited Books and Collective Volumes -Chapters in Books

1. D. Eliezer, "Hydrogen Assisted Cracking in Type 304L and 316L Stainless Steel," in *Hydrogen Effects in Metals*, I. M. Bernstein and A. W. Thompson, Eds. The Metallurgical Society of AIME, U.S.A., 565,(1981).
2. D. Eliezer, "High Temperature Hydrogen Attack Studies", in *Hydrogen Effects in Metals*, I. M. Bernstein and A. W. Thompson, Ed. The Metallurgical Society of AIME, U.S.A. 913, (1981).
3. Y. Rosenthal, M. Markowitch, A. Stern and D. Eliezer, "Flow and Strain-Hardening of Austenitic Stainless Steels After Thermal Precharging with Low Pressure Hydrogen Gas", in *Hydrogen Effects in Metals*, I. M. Bernstein and A. W. Thompson, Ed., The Metallurgical Society of AIME, U.S.A.,4, 725 (1982).

4. P. Rozenak, E. Manor and D. Eliezer, "Effect of Metallurgical Variables on Environmental Fracture of Stainless Steel", in *Hydrogen Effects in Metals*, I. M. Bernstein and A. W. Thompson, Ed., The Metallurgical Society of AIME, U.S.A. 4, 893, (1982).
5. E. Manor and D. Eliezer, "The Role of Second Phases on the Hydrogen Embrittlement of Austenitic Stainless Steels", *Hydrogen Effects in Metals*, I. M. Bernstein and A. W. Thompson, Ed., U.S.A., The Metallurgical Society of AIME, 4, 917, (1982).
6. S.J. Savage, F. H. Froes, and D. Eliezer, "Microstructural Characterization of As-Cast Rapidly Solidified Al-Sm, Al-Gd, and Al-Er Binary Alloys", in *Rapidly Solidified Materials*, P. W. Lee and R. Carbonara Ed., The American Society for Metals, U.S.A., 351-356, (1985).
7. J. Baram, D. Itzhak and D. Eliezer Eds., *Proceedings of the Fourth Israel Materials Engineering Conference (I & II)*, Ben Gurion University, Israel 1988.
8. D. Eliezer, E. Manor and F.H. Froes, "Hydrogen Embrittlement of Titanium Aluminides Alloy", in *Hydrogen Effects on Material Behaviour*, N. R. Moody and A. W. Thompson, Ed. The Metallurgical Society of AIME , U.S.A., 523 (1990).
9. E. Abramov and D. Eliezer, "Synergistic Effect of Helium and Hydrogen Isotopes in FCC Metals", in *Hydrogen Effects on Materials Behaviour*, N. R. Moody and A. W. Thompson, Eds. The Metallurgical Society of AIME , U.S.A., 169 (1990).
10. D. Eliezer, "Phase Transitions at the Crack Tip in Austenitic Stainless Steels Cathodically Charged", in *Hydrogen Effects on Materials Behaviour*, N. R. Moody and A. W. Thompson, Ed. The Metallurgical Society of AIME , U.S.A., 399, (1990).
11. D. Itzhak, D. Eliezer and J. Haddad Eds, "*Proceedings of the Sixth Israel Materials Engineering Conference (I & II)*", Ben Gurion University, Israel, (1993).
12. E. Aghion and D. Eliezer Eds., "*Magnesium 97: Proceedings of the First Israeli International Conference on Magnesium Science and Technology*", MRI Ltd., Israel, (1998).
13. F.H. Froes, C.M. Ward-Close, D. Eliezer and P. McCormick Eds., "*Synthesis of Lightweight Metals III: Proceedings of the 1999 TMS Annual Meeting*", TMS, U.S.A., (1999).
14. E. Aghion and D. Eliezer Eds., "*Magnesium 2000: Proceedings of the Second Israeli International Conference on Magnesium Science and Technology*", Magnesium Research Institute (MRI) Ltd., Israel, (2000).

15. F.H. Froes, E. Chen, R.R. Boyer, E.M. Taleff, L. Lu, D.L. Zhang, C.M. Ward-Close and D. Eliezer Eds. “*High-Performance Metallic Materials for Cost-Sensitive Applications: Proceedings of the TMS 2002 Annual Meeting*” The Minerals, Metals & Materials Society (TMS)U.S.A., (2002).
16. D. Eliezer and H. Alves, “Corrosion and Oxidation of Mg Alloys”, in *Handbook of Material Selection*, M. Kutz, Ed., J. Wiley & Sons, U.S.A., 267-89 (2002).
17. E. Aghion and D. Eliezer Eds., *Magnesium Alloys – Science, Technology and Applications*. The Israeli Consortium for the Development of Magnesium Technologies, Israel, (2004).
18. A.A. Kaya and D. Eliezer “High Temperature Deformation, Alloys and Processing of Magnesium Alloys”, in *The Deformation and Processing of Structural Materials*, Z. Xiao Guo Ed., Woodhead Publishing Limited, U.K., (2005).
19. F.H. Froes, D. Eliezer and E. Aghion “Magnesium Aerospace”, in *Magnesium Technology*, H.E. Friedrich and B.L. Mordike Eds., Springer-Verlag, Germany, 603-29, (2006).

(B) Scientific publications - Articles in Scientific Journals

1. D. G. Brandon and D. Eliezer, “The Mechanical Properties of Anodically Formed Aluminum Oxide Films”, *Mater. Res. Bull.*, 6, 3,153 (1971).
2. D. Eliezer and D. G. Brandon, “The Mechanical Properties of Anodic Tantalum Oxide Films”, *Thin Solids Films*, 12, 2, 319-23 (1972).
3. D. Eliezer, S. Nadiv and M. Ron, “Kinetics of Sintering in  $\beta$ -Fe-Ge”, *J. of Physique*, 6, 480 (1974).
4. D. Eliezer, S. Nadiv and M. Ron, “Mossbauer Study of Eta Phase in Fe-Ge Binary System”, *Appl. Phy. Lett.*, 26, 6, 340-1 (1975).
5. D. Eliezer, D. G. Chakrapani, C.J. Alstetter and E. N. Pugh, “The Influence of Austenitic Stability on the Hydrogen Embrittlement and Stress Corrosion Cracking of Stainless Steel”, *Metall. Trans*,10A, 7, 935, (1979).
6. D. Eliezer and H.G. Nelson, “Hydrogen Attack of 1020 Steel Influence of Hydrogen Sulfide”, *Corrosion*, 35,1, 17 (1979).
7. D. Eliezer, S. F. Dirnfield and S. Nadiv, “Phase Transition Kinetics of Formation of  $\beta$ -Fe<sub>5</sub>Ge<sub>3</sub> in Isothermal Sintering”, *Metall. Trans* 11A, 5, 679, (1980).
8. A. Arbel and D. Eliezer, “High Temperature Expansion of Pressure Vessels Containing Gas Producing Materials”, *High Temp. High Press.*, 13, 413 (1981).

9. A. Arbel and D. Eliezer, "High Temperature Creep of Thin-Walled Vessels which are Pressurized by Permeating Gases", *High Temp. High Press.*, 13, 419 (1981).
10. D. Eliezer, P. Pinkus and D. Itzhak, "Stress Corrosion of Type 304 Steel in H<sub>2</sub>SO<sub>4</sub> Alkali Halide Environments", *Envir. Degrad. of Eng. Materials*, 21, 193-9 (1981).
11. P. Pinkus, D. Eliezer and D. Itzhak, "The Influence of Alkali-Halide Additions on the Stress Corrosion Cracking of Austenitic Stainless Steel in MgCl<sub>2</sub> Solution", *Corr. Sci.*, 21, 6, 417-23 (1981).
12. A. Arbel and D. Eliezer, "Some Aspects of Biaxial Creep Testing of Thin Walled Cylindrical and Spherical Pressure Vessels", *ASTM J. Testing and Eval.*, 9, 2, 141-3, (1981).
13. D. Eliezer, "The Effect of the Methods of Preparation on the Mossbauer Spectrum of a FeGe Intermetallic Compound", *J. Mater. Sci.*, 16,4, 1008-12 (1981).
14. E. Manor, M. Talianker and D. Eliezer, "TEM Investigation of Hydrogen Induced  $\epsilon$ -HCP Martensite in 316L Type Stainless Steel", *J. Mater. Science*, 16, 3506 (1981).
15. Y. Rosenthal, M. Markowitch, A. Stern and D. Eliezer, "The Influence of Hydrogen on the Plastic Flow and Fracture Behavior of 316L Stainless Steel", *Scrip. Metall.*, 15, 8, 861-6 (1981).
16. E. Manor and D. Eliezer, "Hydrogen-Assisted Cracking of Sensitized 316L Stainless Steel", *J. Mater. Sci.*, 16 ,9, 2507-11(1981).
17. D. Eliezer, "High Temperature Hydrogen Attack of Carbon Steel", *J. Mater. Sci.*, 16, 11, 2962-6 (1981).
18. E. Manor and D. Eliezer, "Phase Transitions at the Crack Tip in Type 316L Stainless Steel Cathodically Hydrogen Charged", *Scrip. Metall.*, 16, 8, 981-4 (1982).
19. E. Manor and D. Eliezer, "TEM Study on the Formation of Microcracks in Connection with  $\alpha'$  Martensite", *J. Mater. Sci. Lett.*, 1, 5, 192-4 (1982).
20. E. Manor and D. Eliezer, "Grain Size and Heat Treatment Effects in Hydrogen Assisted Cracking of Austenitic Stainless Steels", *J. Mater. Science*, 17, 11, 3165-72, (1982).
21. D. Itzhak and D. Eliezer, "The Stress Corrosion Cracking of Welded Austenitic Stainless Steel in MgCl<sub>2</sub> Solutions in the Presence of NaI Additions", *Corr. Sci.*, 23, 12, 1285-91 (1983).

22. A. Arbel and D. Eliezer, "Optimizing Cylindrical and Spherical Pressure Vessels Containing Ideally Behaving Gas and Solid Inserts", *Trans. ASME J. Press. Vess. Tech.*, 105, 1, 9-10, (1983).
23. Y. Rosenthal, M. Markowitch, A. Stern and D. Eliezer, "Plastic Flow of and Fracture of Ti Modified 316 Austenitic Stainless Steel after High Temperature Aging", *Hydrogen Fusion Technology*, 2, 789 (1983).
24. P. Rozenak, L. Zevin and D. Eliezer, "Internal Stresses in Austenitic Stainless Steels Cathodically Charged with Hydrogen", *J. Mater. Sci. Lett.*, 2, 2, 63-6, (1983).
25. D. Eliezer, A. Arbel and P. Rozenak, "Hydrogen Induced Delay Failure of AISI 316L and 321 Types Stainless Steels", *J. Mater. Sci. Lett.*, 2, 10, 602-4 (1983).
26. P. Rozenak and D. Eliezer, "Effects of Metallurgical Variables on Hydrogen Embrittlement in AISI Type 316, 321 and 347 Stainless Steels," *Mater. Sci. Eng.*, 61,1, 31-41, (1983).
27. A. Raizman, J. Barak, D. Zamir and D. Eliezer, "NMR Study of Hydrogen in Cathodically Charged Inconel 718", *J. Nucl. Mater.*, 119,1, 73-77, (1983).
28. A. Raizman, J. Barak, D. Zamir and D. Eliezer, "Application of NMR to the Study of Hydrogen in Inconel", *Bulletin on Magnetic Resonance* (1983).
29. L.S. Zevin, P. Rozenak and D. Eliezer, "Quantitative X-Ray Phase Analysis of Surface Layers", *J. Appl. Crystal.*, 17,1,18-21 (1984).
30. P. Rozenak, L. Zevin and D. Eliezer, "Hydrogen Effects on Phase Formations in Austenitic Stainless Steels", *J. Mater. Sci.*, 19,2, 567-73 (1984).
31. D. Eliezer, "The Behavior of 316 Stainless Steel in Hydrogen", *J. Mater. Sci.*, 19, 5, 1540-7 (1984).
32. Y. Rosenthal, M. Markowitch, A. Stern and D. Eliezer, "Tensile Flow and Fracture Behavior of Austenitic Stainless Steels after Thermal Aging in Hydrogen Atmosphere", *Mater. Sci. Eng.*, 67, 1, 91-107 (1984).
33. P. Rozenak and D. Eliezer, "Quantitative X-Ray Phase Analysis of Sensitized Type 316 Stainless Steel after Cathodic Hydrogen Charging", *Mater. Sci. Eng.*, 67,1, 1-4, (1984).
34. P. Rozenak and D. Eliezer, "Effects of Aging after Cathodic Charging in Austenitic Stainless Steels", *J. Mater. Sci.*, 19,12, 3873-9, (1984).
35. P. Rozenak and D. Eliezer, "Environmental Hydrogen Embrittlement of Stainless Steels: Effect of Microstructure", *Microstructural Science*, 14, 437-459, (1985).

36. P. Rozenak and D. Eliezer, "Precipitation Behaviour of Sensitized AISI Type 316 Stainless Steel in Hydrogen", *J. Mater. Sci.*, 21, 9, 3065-70 (1986).
37. E. Manor, M. Talianker and D. Eliezer, "Streaking Effects Rising From Hydrogen Induced  $\epsilon$ -Martensite Phase in Stainless Steel", *Mater. Sci. Eng.*, 83, 1, 269-79 (1986).
38. D. Eliezer, G. John and F.H. Froes, "Mossbauer Study of Rapidly Solidified Al-Rare Earth Alloys", *J. of Materials Science Letters*, 5, 781-2 (1986).
39. S. J. Savage and D. Eliezer, "Microstructural Observations and Thermal Stability of a Rapidly Solidified Aluminium-Gadolinium Alloy", *Metall. Trans A*, 18A, 1533 (1987).
40. P. Rozenak and D. Eliezer, "Phase Changes Related to Hydrogen Induced Cracking in Austenitic Stainless Steel", *Acta Metall.*, 35,9, 2329-40 (1987).
41. M. Fass, D. Itzhak, F.H. Froes and D. Eliezer, "Corrosion Behaviour of Rapidly Solidified Al-Er Binary and Ternary Alloys in NaCl Solution at Room Temperature", *J. Mater. Sci. Lett.*, 6,10, 1227-8 (1987).
42. E. Abramov and D. Eliezer, "A Theoretical Calculation of Hydrogen Trapping in Helium Containing Metals," *Isr. J. Technology*, 24 A, 1-2 197-209 (1988).
43. Ruder and D. Eliezer, "Microstructure and the Thermal Stability of Rapidly Solidified Aluminum—Rare Earth Alloys", *Isr. J. Technology*, 24, 149 (1988).
44. E. Manor and D. Eliezer, "Hydrogen Induced Phase Transitions of Sensitized Titanium-Modified type 316 Stainless Steel", *Isr. J. Technology*, 24, 211 (1988).
45. E. Abramov and D. Eliezer, "Trapping of Hydrogen in Helium Implanted Metals", *J. Mater. Sci. Lett.*, 7, 2, 108-12, (1988).
46. P. Rozenak and D. Eliezer. "Nature of the  $\gamma$  and  $\gamma^*$  Phases in Austenitic Stainless Steel Cathodically Charged with Hydrogen", *Metall. Trans*, 19A, 3, 723-30 (1988).
47. E. Manor and D. Eliezer, "Hydrogen Induced Phase Transitions of Sensitized Titanium-Modified Type 316 Stainless Steel", *Scr. Metall.* 22, 9, 1415 (1988).
48. E. Manor and D. Eliezer, "Phase Transitions at the Crack Tip in Type 310 Stainless Steel Cathodically Hydrogen Charged", *Scripta Metall.*, 22,9, 1493-8 (1988).
49. M. Fass, D. Itzhak, F.H. Froes and D. Eliezer, "The Effects of Heat Treatment on the Corrosion Behaviour of Rapidly Solidified Al-Er Alloys in NaCl Solution", *J. Mater. Sci. Lett.*, 7, 1, 76-8 (1988).

50. D. Bobrow, A. Arbel and D. Eliezer, "The Effect of Constant Load Creep on the Fracture Toughness and Tensile Behavior of Precipitation-Free-Zones Aluminium Alloy Type 2618", *Scripta Metall.*, 22, 9, 1503-8 (1988).
51. J. Haddad, L. Zevin and D. Eliezer, "Phase Relation in Titanium-Aluminide Alloy - An X-Ray Study", *J. Mater. Sci.*, 27, 108 (1988).
52. A. Ruder and D. Eliezer, "Microstructure and the Thermal Stability of Rapidly Solidified Aluminium-Rare Earth Alloys", *Isr. J. Technology*, 24, 149-56 (1988).
53. E. Abramov and D. Eliezer, "A Theoretical Calculation of hydrogen Trapping in Helium Containing Metals", *Isr. J. Technology*, 24, 197-209, (1988).
54. E. Manor-Manor and D. Eliezer, "Hydrogen Induced Phase Transitions of Sensitized Titanium-Modified Type 316 Stainless Steel", *Isr. J. Technology*, 24, 211-6 (1988).
55. M. Fass and D. Eliezer, "Oxidation Behaviour of Rapidly Solidified Aluminum Rare Earth Alloys", *J. Mat. Sci. Lett.*, 8, 2, 178-82, (1989).
56. P. Rozenak and D. Eliezer, "Behavior of Sensitized AISI Types 321 and 347 Austenitic Stainless Steels in Hydrogen", *Metall. Trans*, 20A, 10, 2187-90 (1989).
57. A. Ruder and D. Eliezer, "Microstructural Transitions in an RS Al-4La Alloy", *J. Mater. Sci.*, 24,4, 1474-8 (1989).
58. A. Ruder and D. Eliezer, "TEM Study of a Rapidly Solidified Al-4La Alloy", *J. Mater. Sci. Lett.*, 8,6, 725-6 (1989).
59. E. Manor and D. Eliezer, "Phase Transitions at the Crack Tip in Ti-Modified Type 316 Stainless Steel Cathodically Hydrogen Charged", *J. Mater. Sci.*, 24, 6, 1931-5 (1989).
60. E. Manor and D. Eliezer, "Hydrogen Effects in Ti<sub>3</sub>Al-Nb Alloy", *Scripta Metall.*, 23,8, 1313-18, (1989).
61. E. Manor and D. Eliezer, "Hydrogen Effects in Titanium-Aluminide Alloy Stabilized by Nb, V and Mo", *Scripta Metall.*, 24, 1, 129-34, (1990).
62. E. Abramov and D. Eliezer, "A-3 Dimensional Calculation of Hydrogen Trapping in Helium Contained Metals", *Scripta Metall.*, 24, 1387-92, (1990).
63. A. Ruder and D. Eliezer, "Microstructure and Thermal Stability of Rapidly Solidified Al-4Er Alloy", *J. Mater. Sci.*, 25, 8, 3541-05, (1990).
64. E. Manor and D. Eliezer, "Phase Transitions in Rapidly Solidified Stainless Steel Cathodically Charged", *Metall. Trans.*, 21A,5,1251-60, (1990).

65. D. Eliezer, F.H. Froes and C. Suryanarayana, "The Effects of Hydrogen on Titanium Aluminides", *JOM*, 43, 3, 59-62, (1991).
66. D. Eliezer, F.H. Froes and E. Manor, "Effect of Hydrogen on Behavior of the Intermetallic Titanium-Aluminides", *S.A.M.P.E.*, 22, 4, 29-35, (1991).
67. F.H. Froes, C Suryanarayana and D. Eliezer, "Production, Characteristics and Commercialization of Titanium Aluminides", *ISIJ Intern.*, 31,10, 1235-48, (1991).
68. B. Bobrow, A. Arbel and D. Eliezer, "The Effect of Elevated-Temperature Reverse Cyclic Loading on Fracture Toughness of Aluminium Alloy Type 2618", *J. Mater. Sci.*, 26,8, 2045-9, (1991).
69. E. Abramov and D. Eliezer, "Hydrogen Trapping in Helium Damaged Metals: A Theoretical Approach", *J. Mater. Sci.*, 27,10, 2595-8, (1992).
70. E. Aghion, D. Eliezer and N. Comins, "Titanium Aluminides, A New Concept in Advanced Aerospace Materials", *J. Tech.*, S.A. (1992).
71. D. Eliezer, J. Haddad, M. Dangur and F.H. Froes, "Phase Formations in Alpha 2 Titanium-Aluminide During Hydrogen Cathodic Charging", *Scripta Metall. et Mater.*, 27,7, 845-50, (1992).
72. D. Moreno, E. Abramov and D. Eliezer, "Channeling Effect on Helium Implantation Behavior in Copper Single Crystal", *Scripta Metall. et Mater.*, 26, 2, 277-82, (1992).
73. G. Solovioff, E. Abramov, L. Zevin, and D. Eliezer, "X-Ray Analysis of Nickel Pre-Implanted with helium Using CuK $\beta$  Radiation", *Scripta Metall. et Mater.*, 26, 981, (1992).
74. D. Moreno, E. Abramov and D. Eliezer, "A Study of the Influence of Near-Surface He Concentration on the Blistering Formation in CuBe", *Scripta Metall. et Mater.*, 27,8, 1039-44, (1992).
75. G. Solovioff, D. Eliezer, and E.J. Lavernia, "Hydrogen Effects in (Al-Ti)-SiC Particle Metal Matrix Composites", *Material Science Engineering*, 159,2, 237-42, (1992).
76. F. H. Froes, C Suryanarayana, and D. Eliezer, "Synthesis, Properties, and Applications of the Titanium Aluminides", *J. Mater. Sci.* 27,19, 5113-40, (1992).
77. G. Solovioff, D. Eliezer, and E.J. Lavernia, E. Aghion, F. H. Froes, "Hydrogen Effects in (Al-Ti)-SiCp Materials, *Journal of Advanced Materials*, 25,1, 46-50, (1993).

78. G. Solovioff, E. Abramov and D. Eliezer, "The Formation of Hydrogen Induced Blisters and Their Growth in Nickel Pre-Implanted with Helium", *J. of Nuclear Materials*, 217,3, 287-93, (1994).
79. E. Abramov and D. Eliezer, "Gas Trapping and Release in Polycrystalline Nickel Pre-Implanted with Helium", *Met. Trans.*, 25A,5, 949-59, (1994).
80. J. Haddad, L. Zevin and D. Eliezer, "Phase Relation in Titanium-Aluminide Alloy - An X-Ray Study", *J. of Materials Science*, 29, 373 (1994).
81. D. Moreno and D. Eliezer, "Sputtering and roughness of the (001), (011) and (111) Copper Single-Crystal Planes", *J. of Mater. Science Lett.*, 13, 1591-3 (1994).
82. J. Ferreira, E. Aghion and D. Eliezer, "Characteristics and Applications of Newly Developed TIMETAL 21S Titanium Based Alloy", *Mechanical Tech.*, 7, 18 (1994).
83. E. Abramov, D. Moreno, G. Solovioff and D. Eliezer, "Surface Behaviour of First Wall Materials due to Synergistic Effect of Helium and Hydrogen Isotopes", *J. of Nucl. Mater.*, 212 & 215, 1390-5 (1994).
84. E. Abramov, G. Solovioff and D. Eliezer, "Hydrogen Trapping in Nickel Pre-Implanted with Helium", *J. of Nucl. Mater.*, 212-5, 1406, (1994).
85. Y. Nir-El, V. Katz, J. Haddad and D. Eliezer, "Determination of Structure and Composition in Ceramics and Aerospace Materials by Neutron Radiography", *Nondestr. Test. Eval.*, 11, 149, (1994).
86. D. Eliezer, "Environmental Effects in Aerospace Materials", *Metallurgy and New Materials Researches*, 2, 4, 1 (1994).
87. G. Solovioff, D. Eliezer, P.B. Desch and R.B. Schwartz, "Hydrogen Induced Cracking in an Al-Al<sub>3</sub>Ti-Al<sub>4</sub>C<sub>3</sub> Alloy", *Scripta Metall. et Mater.*, 33, 8, 1315, (1995).
88. D. Moreno and D. Eliezer, "Helium Bubble Sites in Implanted Copper Alloy", *Scripta Met.*, 34,12, 1851-6 (1996).
89. E. M. Gutman, G. Solovioff and D. Eliezer, "The Mechanochemical Behavior of Type 316L Stainless Steel", *Corrosion Science*, 38, 7, 1141-5, (1996).
90. O. Golan, A. Arbel, D. Eliezer and D. Moreno, "The Applicability of Norton's Creep Power Law and its Modified Version to a Single-Crystal Superalloy Type CMX-2", *Mater. Sci. Eng A*, 216, 125-30, (1996).
91. D. Moreno and D. Eliezer, "Structural Changes in a Copper Alloy Due to Helium Implantation", *Scripta Metall. et Mater*, 35,12, 1385-9, (1996).

92. E. Aghion, M. Walker, D. Eliezer and N. Comins, "The Controlling Effect of 0.05% Hydrogen Sulfide Gaseous Atmosphere on the Accelerated Fatigue Failure of Coated MM-002 Nickel-Base Superalloy at 650 C", *J. of Materials Science*, 31, 2735-40, (1996).
93. D. Moreno and D. Eliezer, "On the Blister Formation in Copper Alloys Due to the Helium and Ion Implantation", *Metall. and Mater. Trans A*, 28, 3, 755-62, (1997).
94. B.I. Wehner, J. Meinhardt, U. Koster, H. Alves, N. Eliaz and D. Eliezer, "Oxidation and Hydrogenation of Quasicrystals", *Mater. Sci. Eng A*, 226, 1008-11, (1997).
95. J. Haddad and D. Eliezer, "Hydrogen Effects in  $\gamma$  Titanium Aluminides", *J. Mater. Sci.*, 32, 8, 2229-32, (1997).
96. S. Eliezer, E. Moshe, A. Ludmirsky, E. Dekel, Z. Henis, I.B. Goldberg, N. Eliaz, D. Eliezer, "A Critical Phenomenon for the Spall Strength at Strain Rates Larger than  $10^7 \text{ s}^{-1}$ ", *Laser Interaction and Related Plasma Phenomena*, 13, 653-60 (1997).
97. Z. Henis, E. Moshe, M. Werdiger, S. Eliezer, E. Dekel, A. Ludmirsky, I. B. Goldberg, B. Arad, R. Shpitalnik, S. Maman, Y. Horovitz, N. Eliaz, D. Eliezer, "Laser Aided Diagnostic in Laser Induced Shock Waves", *Laser-Aided Plasma Diagnostic*, 349 – 53 (1997).
98. M. Fass, D. Eliezer, E. Aghion and F.H. Froes, "Hardening and Phase Stability in Rapidly Solidified Al-Fe-Ce Alloys", *J. of Materials Science*, 33,3, 833-7, (1998).
99. E. Moshe, S. Eliezer, E. Dekel, A. Ludmirsky, Z. Henis, M. Werdiger, I.B. Goldberg, N. Eliaz and D. Eliezer, "An Increase of the Spall Strength in Aluminum, Copper and Metglas at Strain Rates Larger than  $10^7 \text{ s}^{-1}$ ", *J. of Applied Physics*, 83,8, 4004-11, (1998).
100. F.H. Froes, D. Eliezer and E. Aghion, "The Science, Technology and Applications of Magnesium", *J. of Minerals, Metals and Materials Society*, 50,9, 30-4, (1998).
101. B. Arad, E. Moshe, S. Eliezer, E. Dekel, A. Ludmirsky, Z. Henis, I.B. Goldberg, N. Eliaz, D. Eliezer, "Spall Strength Measurements in Aluminium, Copper and Metallic Glass at Strain Rate of  $\approx 10^7 \text{ s}^{-1}$ ", *Shock Compression of Condensed Matter – 1997*, 459-462 (1998).
102. D. Eliezer, E. Aghion and F.H. Froes, "Magnesium Science, Technology and Applications", *Adv. Perf. Mater.*, 5, 3, 201-12, (1998).
103. N. Eliaz and D. Eliezer, "An Overview of Hydrogen Interaction with Amorphous Alloys", *Adv. Perf. Mater.*, 6,1, 5-31, (1999).

104. G. Solovioff and D. Eliezer, "Hydrogen Induced Microstructural Changes in Al-Ti Alloys", *Scripta Metall. et Mater.*, 40, 9, 1071-7, (1999).
105. N. Eliaz, D. Fuks and D. Eliezer, "Non-Arrhenius Behavior of the Diffusion Coefficient of Hydrogen in Amorphous Metals", *Mater. Lett.*, 395, 255-9, (1999).
106. D. Zander, H. Leptien, U. Köster, N. Eliaz and D. Eliezer, "Hydrogenation of Zr- based Metallic Glasses and Quasicrystals", *J. of Non-Cryst. Sol.*, 252, 2, 893-7, (1999).
107. N. Eliaz, D. Fuks and D. Eliezer, "A New Model for the Diffusion Behavior of Hydrogen in Metallic Glasses", *Acta Metall.*, 47,10, 2981-9 (1999).
108. E. Moshe, S. Eliezer, E. Dekel, Z. Henis, A. Ludmirsky, I.B. Goldberg, D. Eliezer, "Measurements of Laser Driven Spallation in Tin and Zinc Using an optically Recording Velocity Interferometer System," *J. of Applied Physics*, 86, 8, 4242-8, (1999).
109. A.A. Kaya, P. Uzan, D. Eliezer and E. Aghion, "An Electron Microscopical Investigation of As-Cast AZ91D Alloy", *Mater. Sci. Tech.*, 16, 1001, (2000).
110. D. Eliezer, N. Eliaz, O.N. Senkov and F.H. Froes, "Positive Effects of Hydrogen in Metals," *Materials Science and Engineering A*, 280, 1220-40, (2000).
111. N. Eliaz, E. Moshe, E. Dekel, Z. Henis, A. Ludmirsky, S. Eliezer and D. Eliezer, "Hydrogen Effects on the Spall Strength and Fracture Characteristics of Amorphous FeSiB at Very High Strain Rates," *Metallurgical and Materials Transactions A*. 31,4, 1085-93,(2000).
112. N. Eliaz, D. Eliezer, E. Abramov, D. Zander and U. Koster, "Hydrogen Evolution from Zr-based Amorphous and Quasicrystalline Alloys," *Journal of Alloys and Compounds* 305, 1-2, 272-81,(2000).
113. N. Eliaz, D. Eliezer and D.L. Olson, "Hydrogen –Assisted Processing of Materials," *Materials Science and Engineering A*, 289, 1-2, 41-53, (2000).
114. E. Moshe, S. Eliezer, Z. Henis, M. Werdiger, E. Dekel, Y. Horovitz, S. Maman, I.B. Goldberg, D. Eliezer, "Experimental Measurements of the Strength of Metals Approaching the Theoretical Limit Predicted by the Equation of State," *Applied Physics Letters.*, 76,12, 1555, (2000).
115. N. Eliaz and D. Eliezer, "Hydrogen Effects on Amorphous FE-Si-B Alloy," *Metallurgical and Materials Transactions A*, 31,10, 2517-26, (2000).
116. D. Zander, U. Koster, N. Eliaz and D. Eliezer, "Influence of Hydrogen on Formation and Stability of Zr-based Quasicrystals," *Materials Science and Engineering A*, 294-296, 112-5, (2000).

117. D. Eliezer and A. Antonyraj, "Unusual Behavior of Mg and ZM Anodes in Aqueous Electrolytes at High Concentrations," *J. of Science and Engineering Corrosion*, 57, 4, 334-5 (2001).
118. S. Ifergane, N. Eliaz, N. Stern, E. Kogan, G. Shemesh, H. Sheinkopf and D. Eliezer, "The Effect of Manufacturing Processes on the Fatigue Lifetime of Aeronautical Bolts," *Engineering Failure Analysis*, 8,3, 227-35 (2001).
119. H. Alves, U. Koster, E. Aghion and D. Eliezer, "Environmental Behavior of Mg and Mg Alloys," *Materials Technology*, 16,2, 110-26, (2001).
120. E. Aghion, B. Bronfin and D. Eliezer, "The Role of the Magnesium Industry in Protecting the Environment," *Journal of Materials Processing Technology*, 117, 3, 381-5, (2001).
121. N. Eliaz, A. Shachar, B. Tal and D. Eliezer, "Characteristics of Hydrogen Embrittlement, Stress Corrosion Cracking and Tempered Martensite Embrittlement in High-Strength Steels," *Engineering Failure Analysis*, 9,2, 167-84, (2002).
122. D. Weiss, A. A. Kaya, E. Aghion, and D. Eliezer, "Microstructure and Creep Properties of a Cast Mg-1.7%wt Rare Earth-0.3%wt Mn Alloy", *J. of Materials Science*, 37,24, 5371-4, (2002).
123. L. Jastrow, M. Meuris, U. Köster, N. Froumin, and D. Eliezer, "Oxidation of Glassy and Nanocrystalline Zr<sub>70</sub>Pd<sub>30</sub> Alloys," *Material Science Forum*, 386, 3, 627-32, (2002).
124. F. von Buch, S. Schumann, H. Friedrich, E. Aghion, E. Bronfin, B.L. Mordike, M. Bamberger, and D. Eliezer, "New die-casting alloy MRI153 for power-train applications," *Magnesium Industry*, 2,8, 34-42, (2002).
125. S. Eliezer, E. Moshe, and D. Eliezer, "Laser-induced tension to measure the ultimate strength of metals related to the equation of state," *Laser and Particle Beams*, 20,1, 87-92, (2002).
126. E. Tal-Gutelmacher and D. Eliezer, "Hydrogen in Quasicrystalline Materials – An Overview", *Tratamento Termico si Ingegneria Suprafetelor*, 2,3, 18,(2002).
127. D. Eliezer, P. Uzan, and E. Aghion, "Effect of Second Phases on the Corrosion Behavior of Magnesium Alloys," *Materials Science Forum*, 419-422, 857-66, (2003).
128. S. C. Park, J. D. Lim, D. Eliezer, and K. S. Shin, "Microstructure and Mechanical Properties of Mg-Zn-Ag Alloys," *Materials Science Forum*, 419-422, 159-64, (2003).
129. E. Aghion, B. Bronfin, D. Eliezer, F. von Buch, S. Schumann, and H. Friedrich, "The Art of Developing New Magnesium Alloys for High Temperature Applications," *Materials Science Forum*, 419-422, 407-18, (2003).

130. D. Zander, L. Jastrow, U. Köster, E. Tal-Gutelmacher, D. Eliezer, "Hydrogenation of Pd-Coated Zr-Cu-Ni-Al Metallic Glasses and Quasicrystals", *J. Alloys and Compounds*, 356-357, 654-7, (2003).
131. R. M. Wang and D. Eliezer, "Influence of Hydrogenation on the Microstructure and Crystallization of Zr-Cu-Ni-Al-Y Metallic Glass", *Philosophical Magazine*, 83, 22, 2545-56, (2003).
132. E. Tal-Gutelmacher, N. Eliaz, D. Eliezer, D. Zander, L. Jastrow, and U. Köster, "Absorption/Desorption Behavior of Hydrogen and Deuterium in a Pd-Coated Zr-Based Amorphous Alloy", *Materials Science and Engineering A*, 358, 219-25, (2003).
133. D. Zander, I. Maroef, D. Olson, and D. Eliezer, "Positive Effects of Hydrogen on the Plasticity of 2 1/4 Cr-1Mo Steel", *Journal of Alloys and Compounds* 356-357, 809-12, (2003).
134. D. Zander, D. L. Olson, and D. Eliezer, "Mutual Effects of Hydrogenation and Deformation in Ti-Nb" *Metal. Mat. Trans A*. 34,10, 2199-206, (2003)
135. E. Tal-Gutelmacher, D. Eliezer and D. Eylon, "The Effects of Low Fugacity Hydrogen in Duplex- and Beta-Annealed Ti-6Al-4V Alloy", *Materials Science and Engineering A*, 381, 230-6, (2004).
136. E. Tal-Gutelmacher and D. Eliezer, "Hydrogen-Assisted Degradation of Titanium Based Alloys", *Materials Transactions*, 45, 5, 1594-1600, (2004).
137. E. Tal-Gutelmacher, N. Eliaz and D. Eliezer, "Comparative Study of Deuterium Desorption from Pd-coated Zr-based Amorphous and Quasicrystalline Alloys", *Scripta Materialia*, 52,8, 777-83, (2005).
138. E. Tal-Gutelmacher and D. Eliezer, "Embrittlement of Secondary Hydrogen-Containing Phases in Titanium Based Alloys", *Glass Physics and Chemistry*, 31,1, 96-101, (2005).
139. A.A. Kaya, E.S. Kayali, D. Eliezer, G. Gertsberg and N. Moscovitch, "Addition of B<sub>4</sub>C to AZ91 Die-casting and its Effect on Wear Behavior", *Materials Science Forum*, 488-489, 741-4, (2005).
140. Y.G. Na, D. Eliezer and K.S. Shin, "Corrosion of New Wrought Magnesium Alloys", *Materials Science Forum*, 488-489, 839-44, (2005).
141. E. Tal-Gutelmacher and D. Eliezer, "Hydrogen Embrittlement of Titanium Based Alloys", *J. of Minerals, Metals and Materials Society*, 57, 9, 46-9 (2005).
142. S. Eliezer, N. Eliaz, E. Grossman, D. Fisher, I. Gouzman, Z. Henis, S. Pecker, Y. Horovitz, M. Fraenkel, S. Maman, V. Ezersky and D. Eliezer, "Nanoparticles and Nanotubes Induced by Femtosecond Lasers", *Laser and Particle Beams*, 23,1, 15-9, (2005).

143. E. Tal-Gutelmacher and D. Eliezer, "The Effects of Room-Temperature High-Fugacity Hydrogen in Titanium Based Alloys", *J. Alloys & Compounds*, 404-406, 613-6, (2005).
144. E. Tal-Gutelmacher and D. Eliezer, "High Fugacity Hydrogen Effects at Room Temperature in Titanium Based Alloys", *J. Alloys & Compounds*, 404-406, 613-6, (2005).
145. E. Tal-Gutelmacher and D. Eliezer, "Hydrogen Cracking in Titanium Based Alloys", *J. Alloys & Compounds*, 404-406, 621-5, (2005).
146. M. Radune, D. Ophir, A. Lugovskoy, M. Zinigrad, D. Eliezer, "A Sulfur Diffusion Investigation in Metal and Oxide Phases", *Diffusion and Defect Data. Pt. A Defect and Diffusion Forum*, 258-260, 433-40, (2006).
147. G. Ben-Hamu, D. Eliezer and K.S. Shin, "The Influence of Si, Ca and Ag addition on the Corrosion Behavior of New Wrought Mg-Zn Alloys", *Materials Science and Technology*, 22, 10, 1213-8, (2006).
148. D. Eliezer, E. Tal-Gutelmacher, C.E. Cross and Th. Boellinghaus, "Hydrogen Trapping in  $\beta$ -21S Titanium Alloy", *Materials Science and Engineering A*, 421, 200-7, (2006).
149. G. Ben-Hamu, D. Eliezer, A. Kaya, Y.G. Na and K.S. Shin, "Microstructure and Corrosion Behavior of Mg-Zn-Ag Alloys", *Materials Science and Engineering A* 435-436, 579-87, (2006).
150. D. Eliezer, E. Tal-Gutelmacher, C.E. Cross and Th. Boellinghaus, "Hydrogen Absorption and Desorption in a Duplex-Annealed Ti-6Al-4V Alloy during Exposure to Different Hydrogen-Containing Environments", *Materials Science and Engineering A*, 433, 298-304 (2006).
151. A. Kaya, G. Ben-Hamu, D. Eliezer, K. S. Shin and S. Kohen, "Corrosion and Oxidation of Alloys of the Mg-Y-Zr-REM System", *Metal Science and Heat Treatment*, 48, 11-12, 46-50 (2006).
152. A. Kaya, D. Eliezer, G. Ben-Hamu, O. Golan, Y. G. Na and K. S. Shin, "Microstructure and corrosion resistance of alloys of the Mg-Zn-Ag system", *Metal Science and Heat Treatment*, 48, 11-12, 50-4 (2006).
153. E. Tal-Gutelmacher, D. Eliezer and Th. Boellinghaus, "Investigation of Hydrogen-Deformation Interactions in Beta-21S Titanium Alloy using Thermal Desorption Spectroscopy", *J. Alloys & Compounds*, 440, 1-2, 204-9 (2007).
154. E. Tal-Gutelmacher, D. Eliezer and E. Abramov, "Thermal Desorption Spectroscopy (TDS) - Application in Quantitative Study of Hydrogen Evolution and Trapping in Crystalline and Non-Crystalline Materials", *Materials Science and Engineering A*, 445, 625-31 (2007).

155. D. Eliezer, E. Tal-Gutelmacher and L. Wagner, "High Fugacity Hydrogen Effects in Beta-21S Titanium Alloy", *Materials Science Forum*, 546-549, 1355-60, (2007).
156. E. Tal-Gutelmacher, D. Eliezer and Th. Boellinghaus, "Hydrogen's Absorption/Desorption Behavior in Gaseous-Phase Charged Duplex-Annealed Ti-6Al-4V Alloy", *Materials Science Forum*, 546-9, 1367-72, (2007).
157. E. Tal-Gutelmacher, D. Eliezer and Th. Boellinghaus, "Hydrogen Behavior in GTA Welded Ti-6Al-4V and Beta-21S Aerospace Applicative Titanium Alloys", *Materials Science Forum*, 546-9, 1413-20, (2007).
158. G. Ben-Hamu, D. Eliezer, K. S. Shin and S. Cohen, " The Relation between Microstructure and Corrosion Behavior of Mg-Y-RE-Zr Alloys ", *Journal of Alloys and Compounds A*, 431,269-76 (2007).
159. G. Ben-Hamu, D. Eliezer and K. S. Shin, " The Role of Si and Ca on New Wrought Mg-Zn-Mn Alloy", *Materials Science and Engineering A*, 447, 35-43 (2007).
160. G. Ben-Hamu, D. Eliezer, C.E. Cross and Th. Bollinghaus, "The Relation between Microstructure and Corrosion Behavior of GTA Welded AZ31B Magnesium Sheet", *Materials Science and Engineering A*, 452-453, 210-8 (2007).
161. M. Shazad, D. Eliezer, G. Weimen, Y Sangbong and L. Wagner, "Influence of Extrusion Temperature on Microstructure, Texture and Fatigue of AZ80 and ZK60 Magnesium Alloys", *Material Science Forum*, 561-565, 187-90 (2007).
162. A.A. Kaya, O. Duygulu, O. Yücel and Dan Eliezer "Effect of Grain Size on Necklace Formation of Magnesium Alloys" *Materials Science Forum* 546-549, 233-6, (2007).
163. G. Ben-Hamu, D. Eliezer and K. S. Shin, "The Role of Mg<sub>2</sub>Si on the Corrosion Behavior of Wrought Mg-Zn-Mn Alloy", *Intermetallics*, 16, 7, 860-7, (2008).
164. G. Ben-Hamu, D. Eliezer, W. Dietzel and K. S. Shin, " Stress Corrosion Cracking of New Wrought Mg-Zn-Mn Alloying with Si", *Corrosion Science*, 50, 5, 1505-17, (2008).
165. M. Ben-Haroush, G. Ben Hamu, D. Eliezer and L. Wagner, "The Relation between Microstructure and Corrosion Behavior of AZ80 Mg Alloy following Different Extrusion Temperatures", *Corrosion Science*, 50, 6, 1766-78, (2008).
166. M. Radune, A. Radune, F. Assous, M. Zinigrad and D. Eliezer, "Investigation of Sulfur Transition through Metal-Slag Phase Boundary in Natural Moving Conditions", *Diffusion and Defect Data. Pt A: Defect and Diffusion Forum*, 273-276, 752-6, (2008).

167. Y. Rosenthal, O. Sabag, A. Tourgeman, S. Zalkind, A. Stern, and D. Eliezer, "Severability Testing of Lead-Free Solder Joints using Miniature Specimens" . *Journal of Testing and Evaluation*, 36, 5, 417-24, (2008).
168. E. Barel, G. Ben Hamu, D. Eliezer and L. Wagner, " The Effect of Heat Treatment and HCF Performance on Hydrogen Trapping Mechanism in Timetal LCB Alloy", *Journal of Alloys and Compounds A*, 468, 77-86, (2009).
169. G. Ben Hamu, D. Eliezer and L. Wagner, "The Relation between Severe Plastic Deformation microstructure and Corrosion Behavior of AZ31 Magnesium Alloy", *Journal of Alloys and Compounds A* , 468, 222-9, (2009).
170. V. Lisitsyn, G. Ben-Hamu, D. Eliezer and K.S. Shin, "The Role of Ca Microalloying on the Microstructure and Corrosion Behavior of Mg-6Zn-Mn-(0.5-2)Si Alloys", in *Corrosion Science*, 51, 4, 776-84, (2009).
171. G. Getsberg, E. Aghion, A. Kaya and D. Eliezer "Advanced Production and Properties of Die-cast Magnesium Composites based on AZ91D and Sic", in *Journal of Materials Engineering and Performance* DOI- 10.1007/s11665-008-9306-5 (2009).
172. B. Glam, S. Eliezer, D. Moreno and D. Eliezer, "Helium Bubbles Formation in Aluminum: Bulk Diffusion and Near-Surface Diffusion using TEM observations", *Journal of Nuclear Materials*, DOI [10.1016/j.jnucmat.2009.03.057](https://doi.org/10.1016/j.jnucmat.2009.03.057), (2009).

C) Scientific Publications: Conference Proceedings  
Chapters in Collective Volumes

1. D. Eliezer, D. G. Chakrapani, C. J. Altstetter, and E.N. Pugh, "Hydrogen-Induced Slow Crack Growth in Austenitic Stainless Steel," **2<sup>nd</sup> International Congress on Hydrogen in Metals**, Paris, France , June 6<sup>th</sup>-11<sup>th</sup>, (1977).
2. E. Manor and D. Eliezer, "Hydrogen-Assisted Cracking of Sensitized 316L Stainless Steels", **Proceedings of the Materials Engineering Conference**, (held in) Haifa, Israel, December 20<sup>th</sup>-21<sup>st</sup>, 281, (1981).
3. D. Itzhak and D. Eliezer, "The Influence of NaI Additions on the Stress Corrosion Cracking of Austenitic Stainless Steel in MgCl<sub>2</sub> Solution", **Proceedings of the Materials Engineering Conference**, Haifa, Israel, December 20<sup>th</sup>-21<sup>st</sup>, (1981).
4. Tal-Gutelmacher, D. Eliezer, E. Golan and E. Abramov "Hydrogen Effects on  $\beta$ -21S Titanium Alloy", **Proc. Of the 10<sup>th</sup> World Conference on Titanium: Ti-2003 Science and Technology**, G. Luetjering Eds., (held in) Hamburg, Germany, July 13<sup>th</sup>-18<sup>th</sup>, 1737-44, (2004).

5. D. Eliezer, "Hydrogen Assisted Cracking of Austenitic Stainless Steels", **8<sup>th</sup> International Congress on Metallic Corrosion**, Mainz, Germany, September 6<sup>th</sup>-11<sup>th</sup>, (1981).
6. D. Eliezer, P. Pinkus, and D. Itzhak, "Stress Corrosion of Type 304 Steel in H<sub>2</sub>SO<sub>4</sub> Alkali Halide Environments," **Virginia Polytechnic Institute**, Virginia, U.S.A. 193, (1981).
7. E. Manor and D. Eliezer, "Influence of Metallurgical Variables on Hydrogen Assisted Cracking of Austenitic Stainless Steels", **Transactions of Israel Nuclear Societies**, 9, (1982).
8. E. Manor and D. Eliezer, "Hydrogen Assisted Cracking of 304L and 316 Type Stainless Steels - An Electron Microscopy Study", **Proceedings of the 10<sup>th</sup> Intern. Congress on Electron Microscopy**, R. Bakish, Eds, Electrochemical Society, (held in) Hamburg, Germany, August 17-24 415 (1982).
9. M. Markowitch, Y. Rosenthal, A. Stern, and D. Eliezer, "Plastic Flow and Fracture of Ti-Modified 316 Austenitic Stainless Steel After High Temperature Aging in Hydrogen," **Proceedings of the 12<sup>th</sup> Symposium on Fusion Technology**, Julich, Germany, September 13<sup>th</sup>-17<sup>th</sup> (1982).
10. L. Zevin, P. Rozenak and D. Eliezer, "Crystallographic Study of the Hydrogen Embrittlement of Austenitic Stainless Steel", (1983).
11. Y. Rosenthal, M. Markowitz, A. Stern and D. Eliezer, "Plastic Deformation and Fracture Mode of Austenitic Stainless Steels after Exposure to Hydrogen Gas", **8<sup>th</sup> European Crystallographic Meeting**, Liege, Belgium, August 8<sup>th</sup>-12<sup>th</sup>, (1983).
12. E. Manor and D. Eliezer, "Martensitic Transformation in 304L and 316L Types Stainless Steels Cathodically Hydrogen Charged", **2<sup>nd</sup> Israel Materials Engineering Conference**, Ben Gurion University of the Negev, Beer-Sheva, Israel, February 21<sup>st</sup> – 23<sup>rd</sup> (1984).
13. Y. Rosenthal, M. Mark-Markowitch, A. Stern, and D. Eliezer, "Tensile Flow of Austenitic Stainless Steel After Thermal Aging in Hydrogen Atmosphere," **2<sup>nd</sup> Israel Materials Engineering Conference**, Ben Gurion University of the Negev, Beer-Sheva, Israel, February 21<sup>st</sup>-23<sup>rd</sup>, (1984).
14. P. Rozenak and D. Eliezer, "Effects of Metallurgical Variables on Hydrogen Embrittlement in AISI Type 316, 321 and 2476 Stainless Steels, **2<sup>nd</sup> Israel Materials Engineering Conference**, Ben Gurion University of the Negev, Beer-Sheva, Israel, February 21<sup>st</sup>-23<sup>rd</sup>, (1984).
15. E. Manor and D. Eliezer, "Phase Transitions in 316L Stainless Steel Cathodically Hydrogen Charged", **Materials Research Society Symposia Proceedings**, Boston, U.S.A., November 26<sup>th</sup>-28<sup>th</sup>, 257 (1984).

16. P. Rozenak and D. Eliezer, "Effect of Aging after Cathodic Charging in Austenitic Stainless Steel", **Bulletin of the 30th Anniversary Meeting of the Israel Physical Society**, Jerusalem, Israel, April 24<sup>th</sup>, 30, 84, (1984).
17. P. Rozenak and D. Eliezer, "Phase Changes Related to hydrogen-Induced Cracking in Austenitic Stainless Steel", **9th European Crystallographic Meeting**, Torino, Italy, September 1<sup>st</sup> – 6<sup>th</sup>, (1985).
18. P. Rozenak and D. Eliezer, "Nature of the  $\gamma$  and  $\epsilon$  Phases in Austenitic Stainless Steel Cathodically Charged with Hydrogen", **3rd Israel Materials Engineering Conference**, Technion, Haifa, Israel, December 10<sup>th</sup>-11<sup>th</sup>, 54, (1985).
19. P. Rozenak and D. Eliezer, "Precipitation Behaviour of a Sensitized AISI Type 316 Austenitic Stainless Steel in hydrogen", **3rd Israel Materials Engineering Conference**, Technion, December, Haifa, Israel, December 10<sup>th</sup>-11<sup>th</sup>, 312,(1985).
20. E. Manor and D. Eliezer, "TEM Investigation of Hydrogen Induced Phase Transitions in Stainless Steel", **43rd Annual Meeting of the Electron Microscopy Society of America**, Louisville, U.S.A., August 5<sup>th</sup>-9<sup>th</sup>, 336, (1985).
21. E. Manor, M. Talianker and D. Eliezer, "TEM Investigation of  $\epsilon$ -Martensite in 316L Stainless Steel Cathodically Hydrogen Charged", **3rd Israel Materials Engineering Conference**, Technion, December, Haifa, Israel, December 10<sup>th</sup>-11<sup>th</sup> (1985).
22. D. Eliezer, S.J. Savage, Y.R. Mahajan and F. H. Froes, "Microstructures and Thermal Properties of Rapidly Solidified Aluminium/ Rare Earth Alloys", **Fall Meeting of the Materials Research Society**, Boston, U.S.A, December 2<sup>nd</sup>-7<sup>th</sup> (1985).
23. M. Fass, D. Eliezer, D. Itzhak and F.H. Froes, "Environmental Behaviour of Rapidly Solidified Aluminium Rare Earth Alloys", **International Conference of PM Aerospace Materials** Luzern, Switzerland, November 2<sup>nd</sup>-4<sup>th</sup>, (1987)
24. A. Ruder, D. Eliezer and F. H. Froes, "Microstructure Transitions in a Rapidly Solidified Al-La", **International Conference of PM Aerospace Materials** Luzern, Switzerland, November 2<sup>nd</sup>-4<sup>th</sup>, (1987)
25. P. Rozenak and D. Eliezer, "Environmental Hydrogen Embrittlement of Stainless Steels: Effect of Microstructure", **The American Society for Metals**, 437-459 (1987).
26. P. Rozenak and D. Eliezer, "Hydrogen Induced Cracking in Austenitic Stainless Steels", **Proceedings of the 3rd Environmental Degradation of Engineering Materials**, Traverse City, U.S.A., August 3<sup>rd</sup> – September 6<sup>th</sup>, 3, 149, (1987).
27. P. Rozenak and D. Eliezer, "Precipitation Behaviour of Sensitized Austenitic Stainless Steels in Hydrogen", **Proceedings of the 3rd Environmental Degradation of Engineering Materials**, Traverse City, U.S.A., August 3<sup>rd</sup> – September 6<sup>th</sup>, 3, 171 (1987).

28. E. Manor and D. Eliezer, "TEM Studies of Phase Transitions at Crack Tips of Cathodically Hydrogen Charged Stainless Steels", **Proceedings of the 3rd Environmental Degradation of Engineering Materials**, Traverse City, U.S.A., August 3<sup>rd</sup> – September 6<sup>th</sup>, 3, 199 (1987).
29. D. Eliezer, M. Fass, O. Itzhak, Y. Kim and F.H. Froes, "Corrosion Behaviour of Rapidly Solidified Aluminium Rare-Earth Alloys", **Proceedings of the Second International Conference on Rapid Solidification**, ASM, San-Diego, U.S.A., March 7<sup>th</sup>-9<sup>th</sup>, (1988).
30. D. Eliezer, E. Manor and F. H. Froes, "Hydrogen Induced Cracking in Titanium-Aluminides", **Proceedings of the 1990 International Conference in Titanium Products and Applications**, TDA, Florida, U.S.A., October 1<sup>st</sup>-5<sup>th</sup>, (1990).
31. E. Abramov, D. Eliezer, D. Moreno, G. Solovioff and I. Grinberg "Synergistic Effects of Helium and Hydrogen Isotopes in Metals: An Overview", **5th Israel Materials Engineering Conf.**, Haifa, Israel, December. 19<sup>th</sup>-20<sup>th</sup>, (1990).
32. Solovioff, D. Moreno, E. Abramov, and D. Eliezer, "Hydrogen Induced Cracking in Pure FCC Metals", **5th Israel Materials Engineering Conf.**, Haifa, Israel, December 19<sup>th</sup>-20<sup>th</sup>, (1990).
33. G. Solovioff, E. Abramov, D. Moreno and D. Eliezer, "Hydrogen Induced Phase Transition in Nickel Pre-Implanted with Helium", **5th Israel Material Engineering Conf.**, Haifa, Israel, December 19<sup>th</sup>-20<sup>th</sup>, (1990).
33. G. Solovioff, P. Peled, D. Itzhak, E. Abramov, D. Moreno and D. Eliezer, "Corrosion Behavior of Helium-Implanted Nickel in a H<sub>2</sub>SO<sub>4</sub> Environment", **5th Israel Materials Engineering Conf.**, Haifa, Israel, December 19<sup>th</sup>-20<sup>th</sup>, (1990).
34. D. Moreno, G. Solovioff, E. Abramov, S. Zalkind, and D. Eliezer, "Effect of Helium Pre-Implantation on Hydrogen-Induced Surface Deformation in FCC Metals," **Israel Atomic Energy Commission, Research Laboratories Annual Report**, (1991).
35. D. Eliezer, J. Haddad, F.H. Froes and J. Haddart, "Effect of the Hydrogen on Advanced Monolithic High Temperature Aerospace Materials", **1st International Symposium on Environmental Effects on Advanced Materials**, San Diego, U.S.A., June 19<sup>th</sup> – 21<sup>st</sup>, (1991).
36. D. Eliezer and F.H. Froes, "Environmental Effects in Titanium Aluminides Alloys", **Proceedings of the 2nd International ASM Conference**, ASM, San-Diego U.S.A., September 16-19, 321-8 (1991).
37. F. H. Froes, D. Eliezer and E.J. Lavernia, "Spray Atomization and Co-Deposition of Al Metal Matrix Composites", **International Conference PM Aerospace Materials**, Lausanne, Switzerland, November 4<sup>th</sup>-6<sup>th</sup>, (1991).

38. E. Abramov and D. Eliezer, "Trapping and Release of Hydrogen Isotopes in Polycrystalline Nickel Pre-Damaged Due to Helium Implantation," **Israel Atomic Energy Commission, Research Laboratories Annual Report**( 1992).
39. E. Aghion, J. Ferreira and D. Eliezer, "The Effect of an Oxygen Atmosphere on the Creep-Fatigue Failure of Iron-Chromium Alloys at 600°C", **INFANCON 6, Proceedings of the 1st International Chromium Steel and Alloys Congress**, SAIMM, Cape Town, South Africa, 2, 241-4, (1992).
40. D. Eliezer, F.H. Froes, J. Haddad, C. Suryanarayana and H. Nelson, "Environmental Effects on Titanium, Aluminides", **7th World Conference on Titanium**, San Diego, U.S.A., June 28<sup>th</sup> – July 2<sup>nd</sup>,(1992).
41. D. Eliezer, G. Solovioff, E. Aghion and D. Eliezer, "Hydrogen Effects of Al-Ti-SiCp materials, **Seventh World Conference on Titanium**, San Diego, U.S.A., June 28<sup>th</sup> – July 2<sup>nd</sup>, (1992).
42. E. Aghion, J. Ferreira, and D. Eliezer, "The Effect of Oxidizing Environment on High Temperature Fatigue Failure of 3Cr12 Alloy," **International Conference on Structural Failure Product Liability and Technical Insurance**, Vienna, Austria, July 6<sup>th</sup> -9<sup>th</sup>,(1992).
43. G. Solovioff, E.J. Lavernia, E. Abramov and D. Eliezer, "An Electron Microscopy Study of the Hydrogen Effects in Al-Ti/SiCp Metal Composites" **10th European Congress on Electron Microscopy**, Granada, Spain, September 7<sup>th</sup>- 11<sup>th</sup>, (1992).
44. G. Solovioff, E. Abramov and D. Eliezer, "Hydrogen Induced Blisters Formation and Growth in Nickel Pre-Implanted with Helium", **6th Israel Materials Engineering Conference**, IMEC VI, The Dead Sea, Israel, February 24<sup>th</sup> - 25<sup>th</sup>,(1993).
45. G. Solovioff, E.J. Lavernia, E. Abramov and D. Eliezer, "Hydrogen Effects in Al-Al<sub>3</sub>Ti-SiCp", **6th Israel Materials Engineering Conference**, IMEC VI, The Dead Sea , Israel. February 24<sup>th</sup> 25<sup>th</sup>, (1993).
46. A. Ben-Gigi, G. Solovioff and D. Eliezer, "The Corrosion Behavior of Titanium-Aluminide Alloys", **6th Israel Materials Engineering Conference**, IMEC VI, The Dead Sea , Israel. February 24<sup>th</sup>-25<sup>th</sup>, (1993).
47. N. Wertsman, G. Solovioff, E.J. Lavernia and D. Eliezer, "The Corrosion Behavior of Al/Al<sub>3</sub>Ti/SiC", **6th Israel Materials Engineering Conference**, IMEC VI, The Dead Sea , Israel. February 24<sup>th</sup>-25<sup>th</sup>, (1993).
48. N. Stern, G. Solovioff and D. Eliezer, "Hydrogen Effect on the Ordered Orthorhombic Ti<sub>2</sub>Nbl Based Alloys", **6th Israel Materials Engineering Conference**, IMEC VI, The Dead Sea , Israel. February 24<sup>th</sup>-25<sup>th</sup>, (1993).

49. G. Solovioff and D. Eliezer, "Interfacial Effects in the Presence of Hydrogen in Al/Al<sub>3</sub>Ti/SiC", **6th Israel Materials Engineering Conference**, IMEC VI, The Dead Sea , Israel. February 24<sup>th</sup> -25<sup>th</sup> , (1993).
50. E. Abramov, G. Solovioff, Y. Grinberg, G.D. Lampert and D. Eliezer, "Hydrogen Interaction with Nickel Pre-Implanted with He: The Effects of Dose and Post-Implantation Annealing", **6th Israel Materials Engineering Conference**, IMEC VI, The Dead Sea , Israel. February 24<sup>th</sup> -25<sup>th</sup> , (1993).
51. A. Stern, I. Dahan and D. Eliezer, "Factors Affecting the Quality of Electron Beam (EB) Welds on Al 1050 End Caps to Al 6061 Tubes", **6th Israel Materials Engineering Conference**, IMEC VI, The Dead Sea , Israel. February 24<sup>th</sup> -25<sup>th</sup> , (1993).
52. D. Moreno, E. Abramov and D. Eliezer, "A New Mathematical Approach Based on the Circular Diaphragm to Explain the Blister Effect on Implanted Materials", **6th Israel Materials Engineering Conference**, IMEC VI, The Dead Sea , Israel. February 24<sup>th</sup> -25<sup>th</sup> , (1993).
53. J. Haddad and D. Eliezer, "Hydrogen Effect in Intermetallic Titanium-Aluminides Alloys", **6th Israel Materials Engineering Conference**, IMEC VI, The Dead Sea , Israel. February 24<sup>th</sup> -25<sup>th</sup> , (1993).
54. E. Abramov, N. Yakobovitch (Eliaz), E. Berman and D. Eliezer, "Simulation of Hydrogen Isotopes Diffusion Through Metal Lattice Contains a Continuous Energy Traps", **6th Israel Materials Engineering Conference**, IMEC VI, The Dead Sea , Israel. February 24<sup>th</sup> -25<sup>th</sup> , (1993).
55. D. Moreno and D. Eliezer, "Hydrogen Attack on Copper Beryllium Alloy Surface", **6th Israel Materials Engineering Conference**, IMEC VI, The Dead Sea , Israel. February 24<sup>th</sup> -25<sup>th</sup> , (1993).
56. D. Moreno and D. Eliezer, "The Source of Fringe Contrast Observed in the Interface Between Helium Bubbles and CuBe Alloy Matrix", **6th Israel Materials Engineering Conference**, IMEC VI, The Dead Sea , Israel. February 24<sup>th</sup> -25<sup>th</sup> , (1993).
57. M. Dangur and D. Eliezer, "Oxidation Growth in Intermetallic Ti-25-10-3-1", **6th Israel Materials Engineering Conference**, IMEC VI, The Dead Sea , Israel. February 24<sup>th</sup> -25<sup>th</sup> , (1993).
58. G. Solovioff and D. Eliezer, "The Effect of Hydrogen on the Fracture Behavior of Aluminum-Titanium Metal-Matrix Composites", **5th International Conf. on the Effect of Hydrogen on the Behavior of Materials**, TMS, Moran, U.S.A, September 11<sup>th</sup> -15<sup>th</sup> , 323-30, (1994).
59. E. Abramov and D. Eliezer, "Thermal Desorption Analysis (TDA): Application in Quantitative Study of Hydrogen Trapping and Release Behavior", **5th International Conf. on the Effect of Hydrogen on the Behavior of Materials**, TMS, Moran, USA, September 11<sup>th</sup> -15<sup>th</sup> , 293-9, (1994).

60. D. Eliezer, F.H. Froes, C. Suryanarayana and H.G. Nelson, "Hydrogen Effects in Titanium Aluminide Alloys", **5th International Conf. on the Effect of Hydrogen on the Behavior of Materials**, TMS, Moran, USA, September 11<sup>th</sup>-15<sup>th</sup>, 755-62, (1994).
61. F.H. Froes, D. Eliezer and H.G. Nelson, "Hydrogen Effects in Titanium", **5th Inter. Conf. on the Effect of Hydrogen on the Behavior of Materials**, TMS, Moran, WY, USA, 719-32, 11<sup>th</sup>-15<sup>th</sup> September (1994).
62. D. Eliezer, N. Stern, A. Ben-Guigui, N. Eliaz, E. Abramov and R.G. Rowe, "Hydrogen Effects on Ti-22Al-27Nb", **5th Inter. Conf. on the Effect of Hydrogen on the Behavior of Materials**, TMS, Moran, WY, USA, 777-85 11<sup>th</sup> - 15<sup>th</sup> September (1994).
63. A. Ronen, N. Wertsman and D. Eliezer, "The Corrosion Behavior of Al-Cu Thin Films Deposited on Si Substrate in Various Chloride Acids", **1st Conf. of the Corrosion Forum NACE Israel**, Tel-Aviv, Israel, 16<sup>th</sup>-17<sup>th</sup> March (1994).
64. A. Ben-Guigui, M. Dangur and D. Eliezer, "The Oxidation Behavior of Titanium-Aluminide Alloys", **1st Conf. of the Corrosion Forum NACE Israel**, Tel-Aviv, Israel, 16<sup>th</sup>-17<sup>th</sup> March (1994).
65. G. Solovioff and D. Eliezer, "Reinforcement Effects on Corrosion Behavior of Aluminum-Titanium Alloys", **1st Conf. of the Corrosion Forum NACE Israel**, Tel-Aviv, Israel, 16<sup>th</sup>-17<sup>th</sup> March (1994).
66. D. Moreno, and D. Eliezer, "Sputtering and Roughness of the FCC Metals by Ion Implantation", **The 7<sup>th</sup> Israel Materials Engineering Conference (IMEC VI)**, Haifa, Israel, 27<sup>th</sup>-29<sup>th</sup> November (1994).
67. D. Moreno, and D. Eliezer, "Synergistic Effect of Helium and Hydrogen on Copper Single Crystal **The 7<sup>th</sup> Israel Materials Engineering Conference**, Haifa, Israel, 27<sup>th</sup>-29<sup>th</sup> November (1994).
68. D. Moreno, and D. Eliezer, "Helium Bubble Sites in Implanted Copper Alloy," **The 7<sup>th</sup> Israel Materials Engineering Conference**, Haifa, Israel, 27<sup>th</sup>-29<sup>th</sup> November (1994).
69. D. Eliezer, "Hydrogen Behavior of Titanium Aluminide Alloys for Aerospace Applications", **2<sup>nd</sup> IUMRS International Conference in Asia**, Hsinchu, Taiwan, December 14<sup>th</sup>-18<sup>th</sup>, (1994).
70. G. Solovioff and D. Eliezer, "Hydrogen Effects on Pure Nickel Implanted with Helium", **2nd Israeli Mechanochemical Conference**, Jerusalem, Israel, February 28<sup>th</sup>, (1995).
71. P. Uzan, D. Eliezer and E. Aghion, "Corrosion Behaviour of Recycled Magnesium AZ91", **Proceedings of the 3rd International Magnesium**

- Conference, Institute of Materials**, Manchester, UK, April 10<sup>th</sup>-12<sup>th</sup>, 43-51, (1996).
72. J. Haddad, D. Eliezer, and F. H. Froes, "Phase formation in gamma titanium aluminides in presence of hydrogen," **Proceedings of the 3rd International Magnesium Conference, Institute of Materials**, Manchester, UK, April 10<sup>th</sup>-12<sup>th</sup>, 152, (1996).
  73. D. Levin, A. Stern, A. Landau, E. Aghion, and D. Eliezer, "Characterization of tungsten arc welding (TIG) of magnesium AZ91 plates as cast," **Automotive Automation Limited**, 415-419, (1996).
  74. N. Eliaz and D. Eliezer, "Corrosion of Amorphous Materials", **The 2nd Conference of the Corrosion Forum - NACE Israel**, Tel-Aviv, Israel, June 17<sup>th</sup>-18<sup>th</sup>, (1996).
  75. P. Uzan, D. Eliezer and E. Aghion, "Corrosion Behavior of Recycled Magnesium Alloys", **The 2nd Conference of the Corrosion Forum - NACE Israel**, Tel-Aviv Israel, June 17<sup>th</sup>- 18<sup>th</sup>, (1996).
  76. S. Ron, D. Eliezer and E. Aghion, "Hydrogen Embrittlement in Magnesium Alloys", **The 2nd Conference of the Corrosion Forum - NACE Israel**, Tel-Aviv, Israel, June 17<sup>th</sup>-18<sup>th</sup>, (1996).
  77. G. Solovioff and D. Eliezer, "Corrosion of Advanced Materials", **The 2nd Conference of the Corrosion Forum - NACE Israel**, Tel-Aviv, Israel, June 17<sup>th</sup>-18<sup>th</sup>, (1996).
  78. B.I. Wehner, J. Meinhardt, U. Köster, N. Eliaz and D. Eliezer, "Oxidation and Hydrogenation of Quasicrystals", **Proceedings of the 9th International Conference on Rapidly Quenched and Metastable Materials**, Bratislava, Slovakia, August 25<sup>th</sup> -30<sup>th</sup>, (1996).
  79. D. Eliezer, E. Abramov, G. Solovioff, E.J. Lavernia and F.H. Froes, "Hydrogen Induced Cracking in (Al-Ti)SiCp Spray Atomized and Codeposited Alloys", **5th International Conference on Advanced Particulate Materials and Processes**, Florida, U.S.A., April 7<sup>th</sup>-9<sup>th</sup>, (1997).
  80. D. Moreno. and D. Eliezer. "Helium Effects in FCC Metals" **8th Israel Materials, Engineering Conference- IMEC VIII**, Beer Sheva, Israel,. April 16<sup>th</sup>-17<sup>th</sup>, (1997).
  81. N. Eliaz, E. Abramov, E.J. Lavernia and D. Eliezer, "Trapped Hydrogen Induced Cracking in Amorphous Fe-based Alloy", **8th Israel Mater. Eng. Conf. - IMEC VIII**, Beer-Sheva, Israel, April 16<sup>th</sup> -17<sup>th</sup>, (1997).
  82. N. Eliaz, D. Zander, J. Meinhardt, U. Köster and D. Eliezer, "Hydrogen Induced Microstructural Changes in Quasicrystalline Zr-based Alloy", **8th Israel Mater. Eng. Conf. - IMEC VIII**, Beer-Sheva, Israel, April 16<sup>th</sup>-17<sup>th</sup>, (1997).

83. A. Shachar, N. Eliaz, B. Tal and D. Eliezer, "Embrittlement Mechanisms in Ultra-High Strength Steel for Aircraft Applications", **8th Israel Mater. Eng. Conf. - IMEC VIII**, Beer-Sheva, Israel, April 16<sup>th</sup>-17<sup>th</sup>, (1997).
84. Y. Levi, N. Cohen, N. Eliaz and D. Eliezer, "Hydrogen Effects in Amorphous Fe<sub>78</sub>B<sub>13</sub>Si<sub>9</sub> Alloy", **8th Israel Mater. Eng. Conf. - IMEC VIII**, Beer-Sheva, Israel, April 16<sup>th</sup>-17<sup>th</sup>, (1997).
85. P. Uzan, D. Eliezer and E. Aghion, "Corrosion Behavior of Recycled Magnesium AZ91", **8th Israel Mater. Eng. Conf. - IMEC VIII**, Beer-Sheva, Israel, April 16<sup>th</sup>-17<sup>th</sup>, (1997).
86. P. Uzan, D. Eliezer and E. Aghion, "The Role of Microstructure on the Mechanism of the Corrosion Process of Recycled Magnesium AZ91", **8th Israel Mater. Eng. Conf. - IMEC VIII**, Beer-Sheva, Israel, April 16<sup>th</sup>-17<sup>th</sup>, (1997).
87. U. Köster, D. Zander, J. Meinhardt, N. Eliaz and D. Eliezer, "Hydrogen in Quasicrystalline Zr-Cu-Ni-Al", in **6th Inter. Conf. on Quasicrystals - ICQ6** Tokyo, Japan, May 26<sup>th</sup>-30<sup>th</sup>, (1997).
88. P. Uzan, D. Eliezer and E. Aghion, "Corrosion Behaviour of Magnesium AZ91", **International Symposium on New Alloys for Corrosion Control**, Tel-Aviv, Israel, June 18<sup>th</sup>, (1997).
89. D. Eliezer and G. Solovioff, "Transformation From Microcrystalline to Nanocrystalline in an AlTi Alloy Due to Hydrogen Charging", **3rd ASM Conference on Synthesis Processing and Modeling of Advanced Materials**, Paris, France, June 25<sup>th</sup>-27<sup>th</sup>, (1997).
90. E. Moshe, A. Ludmirsky, E. Dekel, Z. Henis, I.B. Goldberg, S. Eliezer, N. Eliaz and D. Eliezer, "A Critical Phenomenon for the Spall Strength in Aluminum, Copper and Metglas at Strain Rates of About 10<sup>7</sup> s<sup>-1</sup>", in **6th Inter. Symp. on Plasticity and its Current Application**, Alaska, USA, July 14<sup>th</sup>-18<sup>th</sup>, (1997).
91. B. Arad, E. Moshe, S. Eliezer, E. Dekel, A. Ludmirsky, Z. Henis, I.B. Goldberg, N. Eliaz and D. Eliezer, "Spall Strength Measurements in Aluminum, Copper and Metallic Glass at Strain Rates of ~10<sup>7</sup> s<sup>-1</sup>", in **Shock Compression of Condensed Matter – 1997: Proc. of the Conf. of the American Physical Society Topical Group**, S.C. Schmidt, D.P. Dandekar and J.W. Forbes Eds., AIP, (held in), Amherst, USA, July 27<sup>th</sup>-August 1<sup>st</sup>, 429,1, 459-62,(1997).
92. P. Uzan, D. Eliezer and E. Aghion, "The Effect of β Phase on the Mechanism of the Corrosion Process of Recycled Magnesium AZ91", **6th International Symposium on Electrochemical Methods in Corrosion Research**, Trento, Italy, August 25<sup>th</sup>-29<sup>th</sup>, (1997).
93. D. Eliezer, E. Aghion, F. H. Froes, "Magnesium Science, Technology and Application", **1st Israeli International Conference on Magnesium Science and Technology**, Dead Sea, Israel, November 10<sup>th</sup>-12<sup>th</sup>,(1997).

94. H. Alves, U. Köster and D. Eliezer, "Corrosion Behavior of Rapidly Solidified Mg Alloys", **1st Israeli International Conference on Magnesium Science and Technology**, Dead Sea, Israel, November 10<sup>th</sup>-12<sup>th</sup>, (1997).
95. S. Ron, N. Cohen, G. Solovioff, E. Aghion and D. Eliezer, "Hydrogen Embrittlement of Cast Magnesium Alloys", **1st Israeli International Conference on Magnesium Science and Technology**, Dead Sea, Israel, November 10<sup>th</sup>-12<sup>th</sup>, (1997).
96. P. Uzan, D. Eliezer and E. Aghion, "The Effect of Microstructure on the Corrosion of Recycled Magnesium Alloys", **1st Israeli International Conference on Magnesium Science and Technology**, Dead Sea, Israel, November 10<sup>th</sup>-12<sup>th</sup>, (1997).
97. D. Weiss, D. Eliezer and E. Aghion, "Corrosion Measurement of Magnesium and Magnesium Alloys Using a pH Method" Embrittlement of Cast Magnesium Alloys", **1st Israeli International Conference on Magnesium Science and Technology**, Dead Sea, Israel, November 10<sup>th</sup>-12<sup>th</sup>, (1997).
98. E. Aghion, D. Eliezer, and S. Froes, "Magnesium Science, Technology, and Applications," in **Proc. of the 3rd Pacific Rim Inter. Conf. on Advanced Materials and Processing – PRICM3**, M.A. Imam, R. DeNale, S. Hanada, Z. Zhong and D.N. Lee Ed., TMS, (held in)Hawaii, USA, July 12<sup>th</sup>-16<sup>th</sup>, 2, 683-8, (1998).
99. N. Eliaz, D. Eliezer, E. Abramov and E.J. Lavernia, "Hydrogen Induced Cracking in Amorphous Fe<sub>80</sub>B<sub>11</sub>Si<sub>9</sub> Alloy", in **Proc. of the 3rd Pacific Rim Inter. Conf. on Advanced Materials and Processing – PRICM3** M.A. Imam, R. DeNale, S. Hanada, Z. Zhong and D.N. Lee Ed., TMS, (held in)Hawaii, USA, July 12<sup>th</sup>-16<sup>th</sup>, 2, 2757-64, (1998).
100. N. Eliaz, D. Eliezer, D. Zander and U. Köster, "Hydrogen Interaction with Quasicrystalline ZrCuNiAl Alloy", in **Proc. of the 3rd Pacific Rim Inter. Conf. on Advanced Materials and Processing – PRICM3** M.A. Imam, R. DeNale, S. Hanada, Z. Zhong and D.N. Lee Ed., TMS, (held in)Hawaii, USA, July 12<sup>th</sup>-16<sup>th</sup>, 2, 3056, (1998).
101. D. Zander, H. Leptien, U. Köster, N. Eliaz and D. Eliezer, "Hydrogenation of Zr-based Metallic Glasses and Quasicrystals", **10th International Conf. on Liquid and Amorphous Metals – LAM10**, Dortmund, Germany, August 30<sup>th</sup> – September 4<sup>th</sup>, (1998).
102. N. Eliaz, D. Fuks, I. Grinberg and D. Eliezer, "Diffusion Behavior of Hydrogen in Metallic Glasses", **The 2nd Conf. of the Israel Materials Union – AGIL98**, Ramat-Gan, Israel, November 25<sup>th</sup>-26<sup>th</sup>, (1998).
103. N. Eliaz, D. Eliezer, D. Zander and U. Köster, "Hydrogen Effects on the Microstructure and Thermal Stability of Zr-based Metallic Glasses and Quasicrystals", **The 2nd Conf. of the Israel Materials Union – AGIL98**, Ramat-Gan, Israel, November 25<sup>th</sup>-26<sup>th</sup>, (1998).

104. Y. Cohen and D. Eliezer, "Microstructure and Environmental Behavior of Rapidly Solidified Mg-Re alloys", **The 2nd Conf. of the Israel Materials Union – AGIL98**, Ramat-Gan, Israel, November 25<sup>th</sup>–26<sup>th</sup>, (1998).
105. P. Uzan, D. Eliezer and E. Aghion, "The Effect of Second Phases and Heat Treatment on the Corrosion Behavior of Magnesium AZ91 Alloy", **The 2nd Conf. of the Israel Materials Union – AGIL98**, Ramat-Gan, Israel, November 25<sup>th</sup>– 26<sup>th</sup>, (1998).
106. N. Cohen and D. Eliezer, "Hydrogen Effect on Cast Magnesium Alloys", **The 2nd Conf. of the Israel Materials Union – AGIL98**, Ramat-Gan, Israel, November 25<sup>th</sup> -26<sup>th</sup>, (1998).
107. J. Haddad and D. Eliezer, "Phase Formation in Titanium Aluminides in an Hydrogen Environment", **The 2nd Conf. of the Israel Materials Union – AGIL98**, Ramat-Gan, Israel, November 25<sup>th</sup>-26<sup>th</sup>, (1998).
108. P. Uzan, D. Eliezer, and E. Aghion, "The Effect of Second Phases on the Corrosion Behavior of Magnesium Alloys", **The 2nd Conf. of the Israel Materials Union – AGIL98**, Ramat-Gan, Israel, November 25<sup>th</sup>-26<sup>th</sup>, (1998).
109. O. Golan, A. Arbel, and D. Eliezer, "The Effect of Prior High-Temperature Creep Deformation of a Nickel-Base, Polycrystalline Superalloy, on its Resultant Resistance to Fatigue Crack Growth", **The 2nd Conf. of the Israel Materials Union – AGIL98**, Ramat-Gan, Israel, November 25<sup>th</sup>-26<sup>th</sup>, (1998).
110. D. Weiss, E. Aghion, and D. Eliezer, "Creep Resistance of Magnesium – Rare Earth Alloys," **The 2nd Conf. of the Israel Materials Union – AGIL98**, Ramat-Gan, Israel, November 25<sup>th</sup>-26<sup>th</sup>, (1998).
111. A. Vanono, G. Solovioff, E. Abramov, I. Grinberg, and D. Eliezer, "Hydrogen Trapping Mechanisms in Duplex and Austenitic Stainless Steels", **The 2nd Conf. of the Israel Materials Union – AGIL98**, Ramat-Gan, Israel, November 25<sup>th</sup>- 26<sup>th</sup>, (1998).
112. U. Köster, D. Zander, N. Eliaz, D. Eliezer and H. Leptien, "Hydrogenation and Crystallization of Zr-Cu-Ni-Al Glasses", **Material Research Society (MRS) Fall 1998 Meeting**, Boston, USA, November 30<sup>th</sup> - December 4<sup>th</sup> (1998).
113. P. Uzan, D. Eliezer and E. Aghion, "The Effect of the  $\beta$  Phase and Heat Treatment on the Corrosion Behavior of Magnesium AZ91 Alloy", **1999 TMS Annual Meeting**, San Diego, U.S.A., February 28<sup>th</sup>–March 4<sup>th</sup>, (1999).
114. F.H. Froes, C.M. Ward-Close, P.G. McCormick and D. Eliezer, "Synthesis / Processing of Light-Weight Metallic Materials", **1999 TMS Annual Meeting**, San Diego, U.S.A., February 28<sup>th</sup>–March 4<sup>th</sup>, (1999).

115. D. Eliezer, E. Aghion and F.H. Froes, "Recent Magnesium Developments", **1999 TMS Annual Meeting, 1999 TMS Annual Meeting**, San Diego, U.S.A., February 28<sup>th</sup>–March 4<sup>th</sup>, (1999).
116. N. Eliaz, D. Zander, U. Köster and D. Eliezer, "Influence of Hydrogen on Formation and Thermal Stability of Zr-Based Quasicrystals", **DPG-Conference Münster 99**, Münster, Germany, March 22<sup>nd</sup> -26<sup>th</sup>, (1999).
117. N. Eliaz, D. Eliezer and F.H. Froes, "Positive Effects of Hydrogen in Metals", **The 5th IUMRS Inter. Conf. on Advanced Materials – IUMRS-ICAM '99**, Beijing, China, June 13<sup>th</sup>-18<sup>th</sup>, (1999).
118. E. Aghion, D. Eliezer, and G.B. Barkay, "R&D of Magnesium Science and Technology in Israel," **Proceedings of 56<sup>th</sup> Annual Meeting of the International Magnesium Association: Magnesium into the Next Millennium**, IMA,(held in Rome, Italy, June 6<sup>th</sup>-9<sup>th</sup>, 17-20, (1999).
119. D. Eliezer, "Positive Hydrogen Effects on the Processing, Stability, and Microstructure of Materials," **International Conference on Ageing Studies and Lifetime Extension of Materials**, Oxford, England, July 12<sup>th</sup>-14<sup>th</sup>, (1999).
120. D. Zander, U. Koster, N. Eliaz and D. Eliezer, "Hydrogen and Crystallization of Zr-Cu-Ni-Al Metallic Glasses," **10<sup>th</sup> Inter. Conf. On Rapidly Quenched and Metastable Materials** Bangalore, India, August 23<sup>rd</sup>-27<sup>th</sup>, (1999).
121. D. Zander, U. Koster, N. Eliaz, and D. Eliezer, "Influence on Formation and Stability of Zr-based Quasicrystals of Hydrogen," **7<sup>th</sup> Inter. Conf. On Quasicrystals- ICQ7**, Stuttgart, Germany, September 20<sup>th</sup>-24<sup>th</sup> (1999).
122. N. Eliaz, D. Eliezer and D. Fuks, "Diffusion of Hydrogen in Amorphous Metals," **TMS 1999 Fall Meeting**, Cincinnati, USA, October 31<sup>st</sup>-November 4<sup>th</sup>, (1999).
123. D. Eliezer and N. Eliaz, "Hydrogen Effects on Metallic Gases," **TMS 1999 Fall Meeting**, Cincinnati, USA, October 31<sup>st</sup>-November 4<sup>th</sup>, (1999).
124. F.H. Froes, D. Eliezer and E. Aghion, "How to Increase the use of Magnesium in Aerospace Applications," **2<sup>nd</sup> Israeli Inter. Confer. on Magnesium Science and Technology**, Dead Sea, Israel, February 22<sup>nd</sup>-24<sup>th</sup>, (2000).
125. D.L. Olson, D.W. Wenman, V.I. Kaydanov, C. Suryanarayana and D. Eliezer, "The Search for Room Temperature Cubic Magnesium Alloys," **2<sup>nd</sup> Israeli Inter. Confer. on Magnesium Science and Technology**, Dead Sea, Israel, February 22<sup>nd</sup>-24<sup>th</sup>, (2000).
126. D. Weiss, E. Aghion, and D. Eliezer, "High Temperature Properties of Mg-Re-Mn Alloy," **2<sup>nd</sup> Israeli International Conference on Magnesium Science and Technology**, Dead Sea, Israel, February 22<sup>nd</sup>-24<sup>th</sup>, (2000).

127. H. Alves, U. Koster and D. Eliezer, "Environmental Behavior of Mg-Alloys," **2<sup>nd</sup> Israeli International Conference on Magnesium Science and Technology**, Dead Sea, Israel, February 22<sup>nd</sup>-24<sup>th</sup>, (2000).
128. P. Uzan, N. Frumin, D. Eliezer and E. Aghion, "The Role of Composition and Second Phases on the Corrosion Behavior of Az Alloys," **2<sup>nd</sup> Israeli International Conference on Magnesium Science and Technology**, Dead Sea, Israel, February 22<sup>nd</sup>-24<sup>th</sup>, (2000).
129. A. Antonyraj, D. Eliezer and C.O. Augustin, "Electrochemical Studies of Zm Alloy in Aqueous Electrolytes under Static and Dynamic Conditions," **2<sup>nd</sup> Israeli International Conference on Magnesium Science and Technology**, Dead Sea, Israel, February 22<sup>nd</sup>-24<sup>th</sup>, (2000).
130. F.H. (Sam) Froes, D. Eliezer and E. Aghion, "Magnesium use in Aerospace," **57<sup>th</sup> Annual World Magnesium Conference**, Vancouver, Canada, May 21<sup>st</sup>-23<sup>rd</sup>, (2000).
131. D. Eliezer, "New Magnesium Alloys for Automobile Applications," **The Second International Conference on Light Materials for Transportation Systems LiMAT 2001**, N. J. Kim, C.S. Lee, and D. Eylon Eds. LiMat, (held in Pusan, Korea, May 6<sup>th</sup>-10<sup>th</sup>, 175-83, (2001).
132. L. Jastrow, M. Meuris, U. Koster, N. Fromin and D. Eliezer, "Oxidation of Glassy and nanocrystalline Zr<sub>70</sub>PD<sub>30</sub> Alloys," **International Symposium on Metastable, Mechanically Alloyed and Nanocrystalline Materials**, Michigan, USA, June 24<sup>th</sup> -29<sup>th</sup>, (2001).
133. R. Carmi, D. Moreno, E. Abramov, D. Eliezer, E. Gutmanas and I. Gotman, "Hydrogen Attack Effect on TiTa Alloy" **The 10<sup>th</sup> Israel Materials Engineering Conference**, Dead Sea, Israel, February 5<sup>th</sup>-7<sup>th</sup>, (2002).
134. R. Carmi, D. Moreno, E. Abramov, D. Eliezer, E. Gutmanas and I. Gotman "Alloying Process Characterization on High Melting Point Elements", **The 10<sup>th</sup> Israel Materials Engineering Conference**, Dead Sea, Israel, February 5<sup>th</sup>-7<sup>th</sup>, (2002).
135. N. Eliaz and D. Eliezer, "The Study of Hydrogen Interaction with Amorphous and Quasicrystalline Alloys", **The 10<sup>th</sup> Israel Materials Engineering Conference**, Dead Sea, Israel, February 5<sup>th</sup>-7<sup>th</sup>, (2002).
136. Y. Snir, D. Eliezer and E. Abramov, "Residual Stresses in Wrought Magnesium Alloys", **The 10<sup>th</sup> Israel Materials Engineering Conference**, Dead Sea, Israel, February 5<sup>th</sup>-7<sup>th</sup>, (2002).
137. P. Uzan, D. Eliezer and E. Aghion, "The Effect of Composition on Corrosion Behavior of Recycled Magnesium Alloys", **The 10<sup>th</sup> Israel Materials Engineering Conference**, Dead Sea, Israel, February 5<sup>th</sup>-7<sup>th</sup>, (2002).

138. E. Tal-Gutelmacher, D. Zander, N. Eliaz, D. Eliezer and U. Köster, “Improved Thermal Stability by Hydrogenation of Zr-Cu-Ni-Al Metallic Glasses and Quasicrystals”, **The 10<sup>th</sup> Israel Materials Engineering Conference**, Dead Sea, Israel, February 5<sup>th</sup>-7<sup>th</sup>, (2002).
139. E. Tal-Gutelmacher, D. Eliezer and U. Köster, “Hydrogen Absorption and Desorption of Pd- coated Zr-Cu-Ni-Al Metallic Glasses and Quasicrystals”, **The 10<sup>th</sup> Israel Materials Engineering Conference**, Dead Sea, Israel, February 5<sup>th</sup>-7<sup>th</sup>, (2002).
140. P. Uzan, D. Eliezer and E. Aghion, “The Role of Mg<sub>17</sub>Al<sub>12</sub> Phase on the Corrosion Behavior of Magnesium Alloys”, **The 10<sup>th</sup> Israel Materials Engineering Conference**, Dead Sea, Israel, February 5<sup>th</sup>-7<sup>th</sup>, (2002).
141. . Y. Chen, E. Taleff, R. Boyer, D. Zhang, Lu Li, M, Ward-Close, D. Eliezer, and F. H. Froes, “Metals for Cost-Sensitive Applications – An Overview”, **TMS 131<sup>st</sup> Annual Conference**, Seattle, U.S.A., February 18<sup>th</sup>-20<sup>th</sup>, (2002).
142. D. Eliezer, “New Magnesium Alloys for Automobile Applications”, **TMS 131<sup>st</sup> Annual Conference**, Seattle, U.S.A., February 18<sup>th</sup>-20<sup>th</sup>, (2002).
143. F. Von Buch, S. Schumann, H. Friedrich, B. Bronfin, E. Aghion, B. L. Mordike, M. Bamberger and D. Eliezer, “New Die-Casting Alloy MR1153 for Power-Train Applications”, **TMS 131<sup>st</sup> Annual Conference**, Seattle, U.S.A., February 18<sup>th</sup>-20<sup>th</sup>, (2002).
144. D. Zander, D. Olson and D. Eliezer, “Phase Transformations in Hydrogenated Ti- Nb”, **TMS 131<sup>st</sup> Annual Conference**, Seattle, U.S.A., February 18<sup>th</sup>-20<sup>th</sup>, (2002).
145. F. H. Froes, E. Chen, R. R. Boyer, E. Taleff, D. Eliezer, C. M. Ward-Close, L. Li, and D. Zhang, "Cost Effective Synthesis, Processing and Applications of Light-Weight Metallic Materials", **The Symposium on High Performance Metallic Materials For Cost Sensitive Applications**, TMS, Washington, U.S.A, February 18<sup>th</sup>-20<sup>th</sup>, (2002).
146. D. Zander, L. Jastrow, U. Köster, E. Tal-Gutelmacher, D. Eliezer, “Hydrogenation of Pd- Coated Zr-Cu-Ni-Al Metallic Glasses and Quasicrystals”, **International Symposium on Metal Hydrogen Systems**, Annecy, France, September 2<sup>nd</sup>-6<sup>th</sup>, (2002).
147. D. Zander, I. Maroef, D. Olson, D. Eliezer, “Positive Effects of Hydrogen on the Plasticity of 2 1/4 CR-1 Mo Steel”, **International Symposium on Metal Hydrogen Systems**, Annecy, France, September 2<sup>nd</sup>-6<sup>th</sup>, (2002).
148. N. Eliaz, D. Eliezer, “Modeling of Hydrogen Diffusion in Amorphous Alloys”, **Proc. of the International Conference on Hydrogen Effects on Material Behavior and Corrosion Deformation Interactions**, N.R. Moody, A. W. Thompson, R. E. Ricker, G. S. Was and R.H. Jones Eds., TMS,(held in) Wyoming, USA, September 22<sup>nd</sup>- 26<sup>th</sup>, 35-44,(2002).

149. F. H. Froes, D. Eliezer, O. N. Senkov, J. J. Qazi, "Beneficial Effects of Hydrogen as a Temporary Alloying Element in Titanium Alloys: An Overview," **Proc. of the International Conference on Hydrogen Effects on Material Behavior and Corrosion Deformation Interactions**, N.R. Moody, A. W. Thompson, R. E. Ricker, G. S. Was and R.H. Jones Eds., TMS,(held in Wyoming, USA, September 22<sup>nd</sup>- 26<sup>th</sup>, 301-14, (2002).
150. D. Eliezer, N. Eliaz, D. Zander, D.L. Olson, "Hydrogen – Assisted Materials Processing", **Proc. of the International Conference on Hydrogen Effects on Material Behavior and Corrosion Deformation Interactions**, N.R. Moody, A. W. Thompson, R. E. Ricker, G. S. Was and R.H. Jones Eds., TMS,(held in Wyoming, USA, September 22<sup>nd</sup>- 26<sup>th</sup>, 315-28, (2002).
151. D. Zander, B. Kofmann, D. Eliezer, E. Y. Gutmanas, E. Abramov, D. Olson, "Influence of Hydrogen on the  $\beta$ -phase Stability in Ti-Nb Alloys", **Proc. of the International Conference on Hydrogen Effects on Material Behavior and Corrosion Deformation Interactions**, N.R. Moody, A. W. Thompson, R. E. Ricker, G. S. Was and R.H. Jones Eds., TMS,(held in Wyoming, USA, September 22<sup>nd</sup>- 26<sup>th</sup>, 345-54,(2002)
152. D. Zander, E. Beduli, N. Eliaz, D. Eliezer, "Improved Thermal Stability by Hydrogenation of Zr-Cu-Ni-Al Metallic Glasses and Quasicrystals", **Proc. of the International Conference on Hydrogen Effects on Material Behavior and Corrosion Deformation Interactions**, N.R. Moody, A. W. Thompson, R. E. Ricker, G. S. Was and R.H. Jones Eds., TMS,(held in Wyoming, USA, September 22<sup>nd</sup>- 26<sup>th</sup>, 355-62, (2002).
153. D. Moreno, D. Eliezer, "Multi Layer Blister Formation in Structure Alloys Due to Hydrogen and Helium Implantation", **Proc. of the International Conference on Hydrogen Effects on Material Behavior and Corrosion Deformation Interactions**, N.R. Moody, A. W. Thompson, R. E. Ricker, G. S. Was and R.H. Jones Eds., TMS,(held in Wyoming, USA, September 22<sup>nd</sup>- 26<sup>th</sup>, 523-36, (2002).
154. D. Eliezer, P. Uzan, E. Aghion, "The Effect of Second Phases on the Corrosion Behavior of Magnesium Alloys", **2<sup>nd</sup> International Conference on Platform Science and Technology for Advanced Magnesium Alloys**, Osaka, Japan, January 26<sup>th</sup>-30<sup>th</sup>, (2003).
155. E. Aghion, B. Bronfin, M. Lautzker, D. Eliezer, H. Friedrich, S. Schumann, F. Von Buch, "The Art of Developing New Magnesium Alloys for High Temperature Applications", **2<sup>nd</sup> International Conference on Platform Science and Technology for Advanced Magnesium Alloys**, Osaka Japan, January 26<sup>th</sup>-30<sup>th</sup>, (2003).
156. S.C. Park, J.D. Lim, D. Eliezer, K.S. Shin, "Microstructure and Mechanical Properties of Mg-Zn-Ag Alloys", **2<sup>nd</sup> International Conference on Platform Science and Technology for Advanced Magnesium Alloys**, Osaka Japan, 26<sup>th</sup>-30<sup>th</sup> January, (2003).

157. O. Golan and D. Eliezer, "Mechanical Failure of Precipitation-Strengthened Superalloy for Turbine Applications", **The 1<sup>st</sup> Israel Conference on Corrosion Processes & Advanced Materials**, NACE, Beer Sheva, Israel, May 29<sup>th</sup>, (2003).
158. E. Tal-Gutelmacher, D. Eliezer and D. Eylon, "Hydrogen Degradation of Titanium Base Alloys", **The 1<sup>st</sup> Israel Conference on Corrosion Processes & Advanced Materials**, NACE, Beer Sheva, Israel, May 29<sup>th</sup>, (2003).
159. D. Eliezer, "Environmental Degradation of Magnesium Alloys", **Conference on Environmental Degradation of Engineering Materials (EDEM) 2003**, Bordeaux, France, June 29<sup>th</sup> – July 2<sup>nd</sup>, (2003).
160. D. Eliezer, D. Eylon, and E. Tal-Gutelmacher, "Hydrogen Degradation of Titanium Base Alloys," **EDEM 2003**, Bordeaux, France, June 29<sup>th</sup> – July 2<sup>nd</sup>, (2003).
161. E. Tal-Gutelmacher and D. Eliezer, "Interaction of Hydrogen with Aerospace Titanium Alloys", **Proc. of the 2<sup>nd</sup> Russian-Israeli Workshop: The Optimization of Composition, Structure and Properties of Metals, Oxides, Composites, Nano- and Amorphous Materials**, V. M. I. Zinigrad and E. A. Pastukhov Eds., Russian Academy of Science, (held in) Jerusalem, Israel, June 29<sup>th</sup>- July 7<sup>th</sup>, 7, 244-55, (2003).
162. D. Eliezer and E. Aghion, "New Magnesium Alloys for High Temperature Applications Prepared by Die-Casting Methods", **Proc. Of the 8<sup>th</sup> Asian Foundry Congress**, Bangkok, Thailand, October 17<sup>th</sup> -20<sup>th</sup> (2003).
163. A. A. Kaya, D. Eliezer, O. Yucel and E. Aghion, "An Electron Microscopy Investigation on as-Cast Az91D Alloy Modified with Nitrogen Addition", **6<sup>th</sup> International Conference on Magnesium Alloys and their Applications**, Wolfsburg, Germany, November 18<sup>th</sup> – 20<sup>th</sup>, (2003).
164. E. Tal-Gutelmacher, D. Eliezer and D. Eylon, "The Role of Microstructure on Hydrogen Absorption and Desorption Behavior of Ti-6Al-4V Alloy", **11<sup>th</sup> Israel Materials Engineering Conference**, Technion Haifa, Israel, December 24<sup>th</sup> -25<sup>th</sup> (2003).
165. S. Kish, G. Zamir and D. Eliezer, "Hydrogen Interactions with 2507 SAF Duplex Stainless Steel", **11<sup>th</sup> Israel Materials Engineering Conference**, Technion Haifa, Israel, December 24<sup>th</sup> -25<sup>th</sup> (2003).
166. N. Moscovitch, D. Eliezer and E. Aghion, "Die Casting Technology and Design Principles for Magnesium Alloys", **11<sup>th</sup> Israel Materials Engineering Conference**, Technion Haifa, Israel, December 24<sup>th</sup> -25<sup>th</sup> (2003).
167. G. Ben-Hamu, D. Eliezer and S. Cohen, "Corrosion of Mg-Zr-Re Alloys", **The 11<sup>th</sup> Israel Materials Engineering Conference**, Technion Haifa, Israel, December 24<sup>th</sup> -25<sup>th</sup> (2003).

168. O. Golan, D. Moreno and D. Eliezer, "Hydrogen-Induced Cracking in Precipitation-Strengthened Super-Alloys", **11<sup>th</sup> Israel Materials Engineering Conference**, Technion Haifa, Israel, December 24<sup>th</sup> -25<sup>th</sup> (2003).
169. O. Golan, D. Eliezer, P. Landau and A. Shlayer "The Influence of Silver Additions on Wrought Magnesium ZQ6X Alloys", **11<sup>th</sup> Israel Materials Engineering Conference**, Technion Haifa, Israel, December 24<sup>th</sup> -25<sup>th</sup> (2003).
170. S. Cohen, D. Eliezer and G. Ben-Hamu, "The Correlation Between Zirconium Morphology after Aging Treatment and the Corrosion Resistance of New MRI Alloys", **11<sup>th</sup> Israel Materials Engineering Conference**, Technion Haifa, Israel, December 24<sup>th</sup> -25<sup>th</sup> (2003).
171. B. Kofman, E. Tal-Gutelmacher, E. Abramov, D. Eliezer, I. Gotman and E. Y. Gutmanas, "Hydrogen-Assisted Metal Forming in Ti-Nb Alloys", **11<sup>th</sup> Israel Materials Engineering Conference**, Technion Haifa, Israel, December 24<sup>th</sup> -25<sup>th</sup> (2003).
172. E. Tal-Gutelmacher, D. Eliezer, E. Golan and E. Abramov, "Hydrogen Effects on  $\beta$ -21S Titanium Alloy", **11<sup>th</sup> Israel Materials Engineering Conference**, Technion Haifa, Israel, December 24<sup>th</sup> -25<sup>th</sup> (2003).
173. E. Tal-Gutelmacher, N. Froumin, A. Jarashneli, and D. Eliezer, "Oxidation and Hydrogenation of Ti-6Al-4V Alloy", **11<sup>th</sup> Israel Materials Engineering Conference**, Technion Haifa, Israel, December 24<sup>th</sup> -25<sup>th</sup> (2003).
174. O. Golan and D. Eliezer, "Creep and Creep-Fatigue Interaction of Newly Magnesium Alloys for High Temperature Applications", **11<sup>th</sup> Israel Materials Engineering Conference**, Technion Haifa, Israel, December 24<sup>th</sup> -25<sup>th</sup> (2003).
175. G. Atkins, M. Marya, D. Eliezer and D. Olson, "Magnesium-Lithium Alloy Weldability: A Microstructural Characterization", **TMS Annual Meeting Proc: Magnesium Technology 2004**, TMS, (held in) Warrendale, U.S.A., March 14<sup>th</sup>-18<sup>th</sup>, 37-41,(2004).
176. G. Ben-Hamu, D. Eliezer and S. Cohen, "The Methods of New Developed Magnesium Alloys for Stress Corrosion Applications", **6<sup>th</sup> Biannual Conference of the Corrosion Forum NACE Israel**, Carmiel, Israel, May 13<sup>th</sup> (2004).
177. E. Tal-Gutelmacher and D. Eliezer, "Hydrogen-Related Second Phases Embrittlement in Titanium Based Alloys", **Proc. of the 3<sup>rd</sup> Russian-Israeli Workshop: The Optimization of Composition, Structure and Properties of Metals, Oxides, Composites, Nano- and Amorphous Materials**, V. Ya. Shevchenko and M. I. Zinigrad Eds. Russian Academy of Science, (held in) Saint Petersburg, June 13<sup>th</sup>-23<sup>rd</sup>, 152, (2004).
178. E. Tal-Gutelmacher, D. Eylon and D. Eliezer, "Hydrogen-Induced Microstructure Changes in Ti-6Al-4V Alloy", , **Proc. Of the 10<sup>th</sup> World**

**Conference on Titanium: Ti-2003 Science and Technology**, G. Luetjering Eds., (held in)Hamburg, Germany, July 13<sup>th</sup>-18<sup>th</sup>, 1715-22,(2004).

179. E. Tal-Gutelmacher, D. Eliezer, E. Golan and E. Abramov "Hydrogen Effects on  $\beta$ -21S Titanium Alloy", **Proc. Of the 10<sup>th</sup> World Conference on Titanium: Ti-2003 Science and Technology**, G. Luetjering Eds., (held in)Hamburg, Germany, July 13<sup>th</sup>-18<sup>th</sup>, 1737-44, (2004).  
**AWARDED BEST POSTER PRESENTATION.**
180. D. Eliezer and E. Tal-Gutelmacher, "Hydrogen Assisted Metal Processing", **International Symposium on Metal-Hydrogen Systems - Fundamentals and Applications (MH2004)**, Krakow, Poland, September 5<sup>th</sup> – 10<sup>th</sup> (2004).
181. D. Eliezer and E. Tal-Gutelmacher, "Hydrogen Interaction with Titanium Based Alloys", **International Symposium on Metal-Hydrogen Systems - Fundamentals and Applications (MH2004)**, Krakow, Poland, September 5<sup>th</sup> – 10<sup>th</sup> (2004).
182. E. Tal-Gutelmacher and D. Eliezer, "Hydrogen Effects at Room Temperature and Elevated Temperatures in Titanium Based Alloys", **International Symposium on Metal-Hydrogen Systems - Fundamentals and Applications (MH2004)**, Krakow, Poland, September 5<sup>th</sup> –10<sup>th</sup>, (2004).
183. S. Eliezer, N. Eliaz, E. Grossman, D. Fisher, I. Gouzman, Z. Henis, S. Pecker, Y. Horovitz, M. Fraenkel, S. Maman, V. Ezersky and D. Eliezer, "Nanoparticles and Nanotubes Induced by Femtosecond Lasers", **17<sup>th</sup> European Conference on Laser Mater Interaction (ECLIM 2004)**, Rome, Italy, September 6<sup>th</sup>–10<sup>th</sup>, (2004).
184. G. Ben-Hamu and D. Eliezer, "Development of New Magnesium Alloys for Stress Corrosion Applications", **European Corrosion Conference fo the European Federation of Corrosion (EUROCORR) 2004**, Nice, France, September 12<sup>th</sup> – 16<sup>th</sup>, (2004).
185. G. Ben-Hamu, D. Eliezer, K. S. Shin and S. Cohen, "Corrosion and Oxidation of New Magnesium Alloys for Automotive Applications", **EUROCORR 2004**, Nice, France, September 12<sup>th</sup> – 16<sup>th</sup>, (2004).
186. S. Kish, G. Zamir and D. Eliezer, "Hydrogen Impact on a 2507 Duplex Stainless Steel", **2<sup>nd</sup> International Conference and Exhibition on New Developments in Metallurgical Process Technology**, Riva Del-Garda, Italy, September 19<sup>th</sup> – 21<sup>st</sup>, (2004).
187. Y. G. Na, D. Eliezer and K. S. Shin, "Corrosion of New Magnesium Alloys", **International Conference on Magnesium – Science, Technology and Applications**, Beijing, China, September 20<sup>th</sup> – 24<sup>th</sup>, (2004).
188. E. F. Ozdogru, A. A. Kaya, E. S. Kayal, D. Eliezer, G. Gertsberg and N. Moscovitch, "Sliding Wear Behavior of Magnesium Alloy AZ91 Reinforced with

- Boron Carbide", **International Conference on Magnesium – Science, Technology and Applications**, Beijing, China, September 20<sup>th</sup> – 24<sup>th</sup>, (2004).
189. N. Moscovitch, D. Eliezer and E. Aghion, "The Effect of High Pressure Die-Casting Characteristics on the Properties and Performance of Advanced Mg-Alloys", **International Symposium on Magnesium Technology 2005**, N. R. Nealameggham, H. R. Kaplan and B. R. Powell, Eds, TMS, San Francisco, U.S.A., February 13<sup>th</sup>-17<sup>th</sup>, 357-63, (2005).
  190. D. Eliezer, E. Tal-Gutelmacher and Th. Boellinghaus, "Hydrogen Embrittlement in Hydride- and Non-Hydride Forming Systems – Microstructural/Phase Changes and Cracking Mechanisms", **11<sup>th</sup> International Conference on Fracture (ICF11)**, Turin, Italy, March 20<sup>th</sup> – 25<sup>th</sup> (2005).
  191. D. Eliezer, "Hydrogen Interactions with Materials", **2<sup>nd</sup> Conference on Corrosion and Advanced Materials in Industry (CAMPI-2005)**, Beer-Sheva, Israel, June 1<sup>st</sup>-2<sup>nd</sup> (2005).
  192. G. Ban-Hamu, D. Eliezer and K. S. Shin, "The Influence of Si and Ag on the Corrosion Behavior of New Wrought Mg-Zn Alloys", **2<sup>nd</sup> Conference on Corrosion and Advanced Materials in Industry (CAMPI-2005)**, Beer-Sheva, Israel, June 1<sup>st</sup>-2<sup>nd</sup> (2005).
  193. S. Cohen, G. Ban-Hamu and D. Eliezer, "Corrosion Behavior of New Wrought and Oxidation of Mg-Y-RE-Zr Alloys", **2<sup>nd</sup> Conference on Corrosion and Advanced Materials in Industry (CAMPI-2005)**, Beer-Sheva, Israel, June 1<sup>st</sup>-2<sup>nd</sup> (2005).
  194. O. Gonen, G. Ban-Hamu and D. Eliezer, "The Influence of Second Phases on the Stress Corrosion Behavior of Mg-Al-X Die-Cast Alloys", **2<sup>nd</sup> Conference on Corrosion and Advanced Materials in Industry (CAMPI-2005)**, Beer-Sheva, Israel, June 1<sup>st</sup>-2<sup>nd</sup> (2005).
  195. L. Marom, E. Abir, G. Ban-Hamu and D. Eliezer, "The Influence of Chloride Ion Concentration and Geometry on the Corrosion Behavior of Mg-Al-X Die-Cast Alloys", **2<sup>nd</sup> Conference on Corrosion and Advanced Materials in Industry (CAMPI-2005)**, Beer-Sheva, Israel, June 1<sup>st</sup>-2<sup>nd</sup>, (2005).
  196. E. Tal-Gutelmacher and D. Eliezer, "Hydrogen Effects on Titanium Alloys", **2<sup>nd</sup> Conference on Corrosion and Advanced Materials in Industry (CAMPI-2005)**, Beer-Sheva, Israel, June 1<sup>st</sup>-2<sup>nd</sup>, (2005).
  197. Z. Bareket, A. Ben Artzy, A. Shtechman, G. Ben-Hamu and D. Eliezer, "The Effect of Severe Plastic Deformation on the Mechanical and Corrosion Behavior of light Metals", **2<sup>nd</sup> Conference on Corrosion and Advanced Materials in Industry (CAMPI 2005)**, Beer-Sheva, Israel, June 1<sup>st</sup> – 2<sup>nd</sup>, (2005).
  198. L. Marom, E. Abir, G. Ben - Hamu and D. Eliezer, "The Influence of Chloride ion Concentration and Geometry on the Corrosion behavior of Mg-Al-X Die-Cast

- Alloys", **2<sup>nd</sup> Conference on Corrosion and Advanced Materials in Industry (CAMPI 2005)**, Beer-Sheva, Israel, June 1<sup>st</sup>– 2<sup>nd</sup>, (2005).
199. Z. Ungarish, E. Toby, E. Tal-Gutelmacher and D. Eliezer, "The Influence of Hydrogen on Beta-21S Titanium Alloy", **2<sup>nd</sup> Conference on Corrosion and Advanced Materials in Industry (CAMPI-2005)**, Beer-Sheva, Israel, June 1<sup>st</sup>-2<sup>nd</sup>, (2005).
  200. O. Golan, D. Eliezer and D. Moreno, "The Influence of the Micro-Structure on the Hydrogen-Induced-Cracking in precipitation-Strengthened Superalloys", **2<sup>nd</sup> Conference on Corrosion and Advanced Materials in Industry (CAMPI-2005)**, Beer-Sheva, Israel, June 1<sup>st</sup>-2<sup>nd</sup>, (2005).
  201. E. Tal-Gutelmacher and D. Eliezer, "Hydrogen Trapping in  $\beta$ -21S Titanium Alloy", **Proc. of the 4<sup>th</sup> Russian-Israeli Workshop: The Optimization of Composition, Structure and Properties of Metals, Oxides, Composites, Nano- and Amorphous Materials**, . M. I. Zinigrad and E. A. Pastukhov Eds., Russian Academy of Science, (held in) Jerusalem, Israel, June 19<sup>th</sup>-25<sup>th</sup>, 258-70, (2005).
  202. J.H. Hwang, Y.G. Na, D. Eliezer and K.S. Shin, "Effects of Si on Microstructure and Mechanical Properties of Mg-Zn Alloys", **19<sup>th</sup> Conference on Mechanical Behavior of Materials**, Seoul, South Korea, September 1<sup>st</sup>-2<sup>nd</sup>, (2005).
  203. D. Eliezer, E. Tal-Gutelmacher, Th. Kannengiesser, C.E. Cross and Th. Boellinghaus, "The Effects of High Fugacity and Internal Hydrogen on  $\beta$ -21S Titanium Alloy", **EUROCORR 2005**, Lisbon, Portugal, September 4<sup>th</sup> – 8<sup>th</sup>, (2005).
  204. G. Ben-Hamu, D. Eliezer and K.S. Shin, "Corrosion Behavior of New Wrought Magnesium Alloys", **EUROCORR 2005**, Lisbon, Portugal, September 4<sup>th</sup> – 8<sup>th</sup>, (2005).
  205. E. Tal-Gutelmacher, D. Eliezer and D. Eylon, "Hydrogenation of Titanium Based Alloys – Microstructure Changes, Absorption/Desorption Characteristics and Mechanisms", **EUROMAT 2005**, Prague, Czech republic, September 5<sup>th</sup> – 8<sup>th</sup>, (2005).
  206. E. Tal-Gutelmacher and D. Eliezer, "Environmental Degradation of Titanium Based Alloys", **9<sup>th</sup> Asian Foundry Congress (AFC-9)**, Hanoi, Vietnam, October. 15<sup>th</sup>-18<sup>th</sup>, (2005).
  207. D. Eliezer, "Environmental Degradation of Magnesium Alloys", **9<sup>th</sup> Asian Foundry Congress (AFC-9)**, Hanoi, Vietnam, October 15<sup>th</sup>-18<sup>th</sup>, (2005).
  208. A.A. Kaya, D. Eliezer, G. Ben-Hamu, O. Golan, Y.G. Na and K.S. Shin, "Microstructure and Corrosion Behavior of Mg-Zn-Ag Alloys", **1<sup>st</sup> Russia International Conference and Exhibition "Magnesium - broad horizons"**, Moscow, Russia, November 29<sup>th</sup> – December 1<sup>st</sup>, (2005).

209. A.A. Kaya, G. Ben-Hamu, D. Eliezer, K. S. Shin and S. Cohen, "Corrosion and Oxidation of Mg-Y-RE-Zr Alloys", **1<sup>st</sup> Russia International Conference and Exhibition "Magnesium - broad horizons"**, Moscow, Russia, November 29<sup>th</sup> – December 1<sup>st</sup>, (2005).
210. D. Eliezer, "Mg-Alloys for High Temperature Applications", **UK-China Symposium on Advanced Materials**, Chongqing, China, December 5<sup>th</sup>-7<sup>th</sup>, (2005).
211. O. Golan, D. Moreno and D. Eliezer, "The Improvement of Hydrogen-Induced-Cracking Resistance in Superalloys by Microstructure Modification", **12<sup>th</sup> Israel Materials Engineering Conference**, Beer-Sheva, Israel, March 1<sup>st</sup>-2<sup>nd</sup>, (2006).
212. E. Tal-Gutelmacher and D. Eliezer, "High Fugacity Hydrogen Effects at Room Temperature in Titanium-Based Alloys", **12<sup>th</sup> Israel Materials Engineering Conference**, Beer-Sheva, Israel, March 1<sup>st</sup>-2<sup>nd</sup>, (2006).
213. G. Ben-Hamu, D. Eliezer and K.S. Shin, "Corrosion Mechanisms of New Wrought Mg-Zn-Si-Ca Alloys by Scanning Kelvin Probe Force Microscopy", **12<sup>th</sup> Israel Materials Engineering Conference**, Beer-Sheva, Israel, March 1<sup>st</sup>-2<sup>nd</sup>, (2006).
214. E. Tal-Gutelmacher, D. Eliezer and D. Eylon, "Hydrogen Behavior in Titanium Alloys – an Overview", **12<sup>th</sup> Israel Materials Engineering Conference**, Beer-Sheva, Israel, March 1<sup>st</sup>-2<sup>nd</sup>, (2006).
215. N. Moskovitch, D. Eliezer and E. Aghion, "Die Casting Process Technology of New Mg Alloys", **12<sup>th</sup> Israel Materials Engineering Conference**, Beer-Sheva, Israel, March 1<sup>st</sup>-2<sup>nd</sup>, (2006).
216. A. A. Kaya, G. Ben-Hamu and D. Eliezer, "The Relation between Microstructure and Corrosion Behavior of Magnesium Alloys for High Temperature Applications", **12<sup>th</sup> Israel Materials Engineering Conference**, Beer-Sheva, Israel, March 1<sup>st</sup>-2<sup>nd</sup>, (2006).
217. E. Tal-Gutelmacher, E. Abramov and D. Eliezer, "Thermal Desorption Spectroscopy - A Novel Method for Evaluation of Hydrogen's Diffusion and Trapping in Crystalline and Non-Crystalline Materials", **12<sup>th</sup> Israel Materials Engineering Conference**, Beer-Sheva, Israel, March 1<sup>st</sup>-2<sup>nd</sup>, (2006).
218. Y. Rosenthal, D. Eliezer and A. Stern, "Mechanical Properties and Microstructure Characterization of Lead-Free Soldered Joints Using Miniature Specimens", **12<sup>th</sup> Israel Materials Engineering Conference**, Beer-Sheva, Israel, March 1<sup>st</sup>-2<sup>nd</sup>, (2006).
219. Y. Nissim and D. Eliezer, "Hydrogen Embrittlement of Welded Stainless Steels with Different Austenite Stability", **12<sup>th</sup> Israel Materials Engineering Conference**, Beer-Sheva, Israel, March 1<sup>st</sup>-2<sup>nd</sup>, (2006).

220. A. Landau, Y. Snir, Y. Glebstein, E. Abramov, Z. Gavra and D. Eliezer, "Characterization of Metallurgical Processes in Al-alloys using Thermoelectric Power (TEP) Measurements", **12<sup>th</sup> Israel Materials Engineering Conference**, Beer-Sheva, Israel, March 1<sup>st</sup>-2<sup>nd</sup>, (2006).
221. D. Eliezer, E. Tal-Gutelmacher and Th. Boellinghaus, "Investigation of Hydrogen-Deformation Interactions Using Thermal Desorption Spectroscopy (TDS)", **2006 TMS Annual Meeting & Exhibition**, San-Antonio, USA, March 12<sup>th</sup> -16<sup>th</sup>, (2006).
222. D. Eliezer, G. Ben Hamu, C.E. Cross and Th. Boellinghaus, "Effect of Grain Refinement on the Strength and Corrosion of AZ31 Magnesium Alloy Following Severe Plastic Deformation", **2006 TMS Annual Meeting & Exhibition**, San-Antonio, USA, March 12<sup>th</sup> -16<sup>th</sup>, (2006).
223. K.S. Shin, J.H. Hwang, Y.G. Na and D. Eliezer, "Microstructure and Mechanical Properties of Wrought Magnesium Alloys", **2006 TMS Annual Meeting & Exhibition**, San-Antonio, USA, March 12<sup>th</sup> -16<sup>th</sup>, (2006).
224. E. Tal-Gutelmacher and D. Eliezer, "Hydrogen's Absorption/Desorption Behavior in Duplex-Annealed Ti-6Al-4V Alloy", **International Conference on Aerospace Materials (ICAM-2006)**, Beijing, China, June 25<sup>th</sup> – 30<sup>th</sup>, (2006).
225. E. Tal-Gutelmacher, D. Eliezer and L. Wagner, "High Fugacity Hydrogen Effects in Beta-21S Titanium Alloy", **International Conference on Aerospace Materials (ICAM-2006)**, Beijing, China, June 25<sup>th</sup> – 30<sup>th</sup>, (2006).
226. D. Eliezer, E. Tal-Gutelmacher and Th. Boellinghaus, "Hydrogen Behavior in GTA Welded Ti-6Al-4V and Beta-21S Aerospace Applicative Titanium Alloys", **International Conference on Aerospace Materials (ICAM-2006)**, Beijing, China, June 25<sup>th</sup> – 30<sup>th</sup>, (2006).
227. G. Ben-Hamu, D. Eliezer, K. S. Shin and A.A. Kaya, " The Role of Second particles on new wrought Mg-Zn-Mn based alloys ", **2nd International Conference on Magnesium (ICM-2006)**, Beijing, China, June 26<sup>th</sup> -28<sup>th</sup>, (2006).
228. G. Ben-Hamu, D. Eliezer, C.E. Cross and Th. Bollinghaus, " Microstructure and Corrosion resistance of TIG Welded AZ31 Magnesium Sheet ", **2nd International Conference on Magnesium (ICM-2006)**, Beijing, China, June 26<sup>th</sup> -28<sup>th</sup> (2006).
229. D. Eliezer, E. Tal-Gutelmacher, C.E. Cross and Th. Boellinghaus, "Irreversible Hydrogen Trapping in Welded  $\beta$ -21S Titanium Alloy", **16<sup>th</sup> European Conference of Fracture (ECF 16)**, Alexandroupoulos, Greece, July 3<sup>rd</sup> -7<sup>th</sup> (2006).
230. E. Tal-Gutelmacher, D. Eliezer and Th. Boellinghaus, "Thermal Desorption Spectroscopy (TDS) – Application in a Quantitative Study of Hydrogen Evolution and Trapping in Titanium-Based Alloys", **2<sup>nd</sup> International Conference on**

- Diffusion in Solids and Liquids (DSL-2206)**, Aveiro, Portugal, July 26<sup>th</sup>-28<sup>th</sup> (2006).
231. Y. Nissim, D. Eliezer, Th. Kannengiesser and Th. Boellinghaus, "A Comparative Study of Hydrogen Effects in Welded Austenitic and Supermartensitic Stainless Steels", **2<sup>nd</sup> International Conference on Diffusion in Solids and Liquids (DSL-2006)**, Aveiro, Portugal, July 26<sup>th</sup>-28<sup>th</sup> (2006).
232. D. Ophir, M. Radune, A. Lugovskoy, M. Zinigrad and D. Eliezer, "A Sulfur Diffusion Investigation in Metal and Oxide Phases", **2<sup>nd</sup> International Conference on Diffusion in Solids and Liquids (DSL-2006)**, Aveiro, Portugal, July 26<sup>th</sup>-28<sup>th</sup> (2006).
233. E. Tal-Gutelmacher and D. Eliezer, "Thermal Desorption Spectroscopy (TDS) – Application in Quantitative Study of Hydrogen Evolution and Trapping in Crystalline and Non-Crystalline Materials", **4<sup>th</sup> International Conference on Mathematical Modelling and Computer Simulations of Materials Technologies (MMT-2006)**, Ariel, Israel, September 11<sup>th</sup>-15<sup>th</sup>, (2006).
234. G. Ben-Hamu, D. Eliezer and K. S. Shin, "Characterization of New Wrought Mg-Zn-Si Based Alloys by Scanning Kelvin Probe Force Microscopy ", **EUROCORR 2006**, Maastricht, The Netherlands, September 24<sup>th</sup> – 28<sup>th</sup>, (2006).
235. G. Ben-Hamu and D. Eliezer "Effect of Severe Plastic Deformation on the Microstructure and Corrosion Behavior of AZ31 Magnesium Alloy ", **EUROCORR 2006**, Maastricht, The Netherlands, September 24<sup>th</sup> – 28<sup>th</sup>, (2006).
236. G. Ben-Hamu, D. Eliezer, C.E. Cross and Th. Bollinghaus "Volta potential of second phase particles in TIG Welded AZ31 Magnesium Sheet ", **EUROCORR 2006**, Maastricht, The Netherlands, September 24<sup>th</sup> – 28<sup>th</sup>, (2006).
237. C.E. Cross, D. Eliezer and Th. Boellinghaus, "The Role of Hydrogen in Titanium Weldments", **Titanium 2006**, San Diego, USA, October 1<sup>st</sup>-3<sup>rd</sup> (2006).
238. G. Ben-Hamu, D. Eliezer and K. S. Shin, "The Role of Si and Ca on New Wrought Mg-Zn-Mn Based Alloys", **7<sup>th</sup> International Conference on Magnesium Alloys and their Applications**, Dresden, Germany, November 6<sup>th</sup> – 9<sup>th</sup>, (2006).
239. C.E. Cross, G. Ben-Hamu, D. Eliezer, and P. Xu, " Corrosion-Fatigue of AZ31 Wrought Magnesium Weldments", **7<sup>th</sup> International Conference on Magnesium Alloys and their Applications**, Dresden, Germany, November 6<sup>th</sup> – 9<sup>th</sup>, (2006).
240. G. Ben Hamu, D. Eliezer and L. Wagner, " Effects of Severe Plastic Deformation on the Mechanical and Corrosion Behavior of Mg Alloys", **TMS 2007 Annual Meeting and Exhibition**, Orlando, USA, February 25<sup>th</sup> -March 1<sup>st</sup>, (2007).

241. G. Ben Hamu, D. Eliezer and K. S. Shin, "The Relation between Microstructure and Corrosion Properties of Extruded Mg-Zn Base Alloys", **TMS 2007 Annual Meeting and Exhibition**, Orlando, USA, February 25<sup>th</sup> -March 1<sup>st</sup>, (2007).
242. G. Ben Hamu and D. Eliezer, "The Role of Al in GTA Welded AZ31B Magnesium Sheet ", **TMS 2007 Annual Meeting and Exhibition**, Orlando, USA, February 25<sup>th</sup> -March 1<sup>st</sup>, (2007).
243. G. Ben Hamu and D. Eliezer, "Local Potential Measurements with the Scanning Kelvin Probe Force Microscopy", **NACE Corrosion 2007**, Nashville, USA, March 11<sup>th</sup> -15<sup>th</sup>, (2007).
244. G. Ben Hamu, D. Eliezer, K. S. Shin and L. Wagner, "Corrosion Mechanisms of New Wrought Mg-Zn Based Alloys Alloying with Si, Ca and Ag", **International Corrosion Engineering Conference (ICEC)**, Seoul, South Korea, May 20<sup>th</sup> - 24<sup>th</sup>, (2007).
245. D. Eliezer, "Development of New Structural Materials for the Hydrogen Economy", **International Corrosion Engineering Conference (ICEC)**, Seoul, South Korea, May 20<sup>th</sup> - 24<sup>th</sup>, (2007).
246. E. Barel, D. Eliezer and L. Wagner, " The Relation Between Thermomechanical Treatment and Hydrogen Interaction of Ti Base Alloys", **3<sup>rd</sup> Conference on Corrosion and Advanced Materials in Industry (CAMPI-2007)**, Beer-Sheva, Israel, May 29<sup>th</sup>-31<sup>st</sup>, (2007).
247. G. Ben-Hamu and D. Eliezer, " Processing and Characterization of New Magnesium Alloys ", **3<sup>rd</sup> Conference on Corrosion and Advanced Materials in Industry (CAMPI-2007)**, Beer-Sheva, Israel, May 29<sup>th</sup>-31<sup>st</sup>, (2007).
248. M. Ben-Haroush, D. Eliezer, G. Ben-Hamu and L. Wagner, "The Relation between Microstructure and Corrosion Behavior due Severe Plastic Deformation of Wrought Magnesium Alloys ", **3<sup>rd</sup> Conference on Corrosion and Advanced Materials in Industry (CAMPI-2007)**, Beer-Sheva, Israel, May 29<sup>th</sup>-31<sup>st</sup>, (2007).
249. O. Burg, G. Ben-Hamu, M. Ben-Haroush and D. Eliezer, " The Relation between Extrusion Process and the Corrosion Behavior of Wrought Magnesium Alloys in Alkaline Solution", **3<sup>rd</sup> Conference on Corrosion and Advanced Materials in Industry (CAMPI-2007)**, Beer-Sheva, Israel, May 29<sup>th</sup>-31<sup>st</sup>, (2007).
250. A. Machleva, A. Haim, G. Ben-Hamu and D. Eliezer, "Hydrogen Embrittlement and Stress Corrosion Cracking in Stainless Steel", **3<sup>rd</sup> Conference on Corrosion and Advanced Materials in Industry (CAMPI-2007)**, Beer-Sheva, Israel, May 29<sup>th</sup>-31<sup>st</sup>, (2007).
251. O. Nahum, G. Ben-Hamu, D. Eliezer and C.E. Cross, " The Relation between Microstructure and Corrosion Behavior of GTA Welded AZ31B Magnesium Sheet with Different Al Contents ", **3<sup>rd</sup> Conference on Corrosion and Advanced Materials in Industry (CAMPI-2007)**, Beer-Sheva, Israel, May 29<sup>th</sup>-31<sup>st</sup>, (2007).

252. Y. Segev, G. Ben-Hamu, D. Eliezer and K.S. Shin, " The Influence of Chloride ion Concentration and PH on the Corrosion behavior of Extruded ZSMX Mg Alloy", **3<sup>rd</sup> Conference on Corrosion and Advanced Materials in Industry (CAMPI-2007)**, Beer-Sheva, Israel, May 29<sup>th</sup>-31<sup>st</sup>, (2007).
253. Y. Vered, E. Rosenkrantz, E. Barel, D. Eliezer, G. Ben-Hamu, "Influence of Hydrogen Embrittlement on Pre-deformed Timetal LCB", **3<sup>rd</sup> Conference on Corrosion and Advanced Materials in Industry (CAMPI-2007)**, Beer-Sheva, Israel, May 29<sup>th</sup>-31<sup>st</sup>, (2007).
254. G. Ben Hamu, D. Eliezer and L. Wagner" The Relation between Processing, Microstructure and Corrosion Behavior of Wrought Mg Alloys", **EUROCORR 2007**, Freiburg, Germany, September 9<sup>th</sup> – 13<sup>th</sup>, (2007).
255. G. Ben Hamu, D. Eliezer and K.S. Shin, "The Relation Between Processing, Microstructure and Corrosion Behavior of New Mg Alloys for Transportation Application", **Corrosion Control 007**, Sydney, Australia, November 25<sup>th</sup>-28<sup>th</sup>, (2007).
256. B. Glam, D. Moreno, S. Eliezer and D. Eliezer, "Nano Bubbles Formation in Al due to Neutron Radiation", **Materials Science and Technology 2008 Conference and Exhibition**, Pittsburgh, U.S.A, October 5<sup>th</sup>-9<sup>th</sup>, (2008).
257. G. Ben Hamu, D. Eliezer and L. Wagner, "Effects of Grain Refinement on the Strength and Corrosion of Magnesium Alloys", **The 4<sup>th</sup> International Conference on Nanomaterials by Severe Plastic deformation (NanoSPD4)**, Goslar, Germany, August 18<sup>th</sup>-22<sup>nd</sup>, (2008).
258. Th. Boellinghaus and D.Eliezer, "Hydrogen Trapping Mechanisms in Structural Materials", Proceedings **of the 2008 International Hydrogen Conference: Effects of Hydrogen on Materials**. Wyoming, USA, September 7<sup>th</sup>-10<sup>th</sup>, (2008).
259. G. Ben-Hamu, D. Eliezer and L. Wagner "Hydrogen Tapping Mechanism in Timetal LCB Alloy following High Cycle Fatigue Performance", **EUROCORR 2008**, Edinburgh, UK, September 7<sup>th</sup>-11<sup>th</sup>, (2008).
260. B. Glam, D. Moreno, S. Eliezer and D. Eliezer "Nano Bubbles formation in Al due to Neutron Radiation", **Material Science and Technology 2008 – Conference and Exhibition**, Pittsburgh, Pennsylvania, USA, October 5<sup>th</sup>-9<sup>th</sup>, (2008).
261. D. Eliezer "Storage of Hydrogen in Multi-Capillary Arrays", **BRAMAT 2009: International Conference on Material Science and Engineering**, Brasov, Romania, February 26<sup>th</sup>-29<sup>th</sup>, (2009) **(Invited Plenary Speaker)**.
262. D. Eliezer and C.E. Serban "Hydrogen Embrittlement in Titanium Alloys", **BRAMAT 2009: International Conference on Material Science and Engineering**, Brasov, Romania, February 26<sup>th</sup>-29<sup>th</sup>, (2009) **(Invited Plenary Speaker)**.

263. B. Glam, D. Moreno, S. Eliezer and D. Eliezer, "Helium Bubbles in Aluminum", to be presented at **International Union of Theoretical and Applied Mechanics (ITUAM): Symposium on Dynamic fracture and fragmentation**, Austin, Texas, U.S.A, March 8<sup>th</sup>-13<sup>th</sup>, (2009).
264. D. Eliezer, "A New Technology for Hydrogen Storage in Capillary Arrays" **3<sup>rd</sup> World Materials Research Institute Forum and Energy Workshop (WMRIF)** NIST Washington, U.S.A., June 21<sup>st</sup>-25<sup>th</sup> (2009) (**Invited Speaker**)
265. D. Eliezer "Hydrogen Interaction with Advanced Materials", **10<sup>th</sup> International Balkan Workshop on Applied Physics (IBWAP)**, Constanta, Romania, July 6<sup>th</sup>-8<sup>th</sup> (2009) (**Invited Keynote Speaker**).
266. D. Eliezer "New Wrought Magnesium Alloys" **Clausthaler Leichtmetall Conference 2009**. Clausthall, Germany, September 7<sup>th</sup>-9<sup>th</sup> (2009) (**Invited Keynote Speaker**).
267. B. Glam, S. Eliezer, D. Moreno, L. Perelmutter, M. Sudai and D. Eliezer, "Experimental Investigation of the Dynamic Properties of Aluminum with Helium Bubbles", **9<sup>th</sup> International DYMAT Conference on the Mechanical and Physical Behavior of Materials under Dynamic Loading**. Brussels, Belgium, September 7<sup>th</sup>-11<sup>th</sup> (2009) (**Invited Keynote Speaker**).
268. K. Holtappels, M. Beckmann-Kluge, M Gebauer, M Gruneberg and D. Eliezer, „Hydrogen Storage in Glass Capillary Arrays for Portable and Mobile Systems“ **The 3rd International Conference on Hydrogen Safety (ICHS)**. Corsica, France September 16<sup>th</sup> – 18<sup>th</sup> (2009) (**Invited Keynote Speaker**).