Curriculum Vitae

Emmanuel M. GUTMAN

1. PERSONAL DETAILS:

Date & Place of Birth:	January 30, 1933, Dnepropetrovsk, Ukraine
Family Status:	Married, one daughter
Nationality:	Israeli
Date of repatriation:	June 27, 1990
Work Address:	Ben-Gurion University of the Negev, Dept. of Materials Engineering P.O.Box 653, Beer-Sheva 84105, Israel, Tel.: 972-8-6461478; Fax: 972-8-6461478; E-mail: gutman@bgu.ac.il; emmanuelgutman@gmail.com http://www.bgu.ac.il/eng/DEPTS.MAFAC.html#ma5
Home Address:	132 Hashalom Blvd. POB 1754, Metar, 85025 Israel.Tel.:972-8-6519247

2. ACADEMIC BACKGROUND

1973	Higher Attestation Committee of the Ministry of Higher Education, Moscow. Received confirmation to the academic rank of Full Professor of Physics. (Attestation MPR 014793 of April 24, 1973)
1967 - 1971	Moscow Academy of Petroleum and Chemical Engineering, Moscow. Received degree of D.Sc.habil. Major in Materials Science and Engineering. Specializing in mechanochemistry of materials and electrochemical corrosion. Dissertation: "Mechanochemical Phenomena and Stress Corrosion Prevention".
1970	Received confirmation to the academic rank of Associate Professor by Higher Attestation Committee of the Ministry of Higher Education, Moscow.
1965	Received confirmation to the rank of Research Associate Professor (Senior Scientist on chemical resistance of materials) by the Ukrainian Academy of Sciences, Kiev.
1959 - 1962	Technical University of Mining Engineering, Dnepropetrovsk, Ukraine. Received degree of Ph.D. Major in Materials Science and Engineering. Specializing in corrosion engineering and electrical field theory. Dissertation: "Electrochemical Corrosion Prevention for Buried Structures".
1950 - 1955	State University of Dnepropetrovsk, Ukraine. Faculty of Physics and Mathematics. Received degree of M.Sc. in Physics. Major in Physics of Dielectrics and Semiconductors. Specializing in galvanomagnetic and piezoelectric phenomena. Title of Master's Thesis: "Discovery and Examination of Photomagnetic Effects in Dielectric Materials". Graduated Cum Laude.

3. PREVIOUS EMPLOYMENT

2003 to present	Ben-Gurion University of the Negev, Beer-Sheva, Israel. Dept. of Materials Engineering. Professor Emeritus.
2001	Visiting Professor, University of Sassary, Italy.
2000 to present	Ben-Gurion University of the Negev, Beer-Sheva, Israel. Incumbent of the Samuel Ayrton Chair in Metallurgy.
1991 - 2003	Ben-Gurion University of the Negev, Beer-Sheva, Israel. Dept. of Materials Engineering. Full Professor (tenured). Research area: materials engineering, mechanochemistry, corrosion of metals, polymers and composites.
1980 - 1990	National Scientific Research Institute for Natural Gas Technology (VNIIGAZ), Moscow.

	Vice-Director for Science & Head of Materials Science Laboratories.
1969 - 1980	Petroleum Technical University, Ufa, Russia. Dept. of Physics (1969-1971) and Dept. of Materials Engineering (1972-1980). Full Professor (1971), Department Chairman (1972 -- 1980).
1964 - 1969	Institute for Physics and Mechanics of Ukrainian Academy of Sciences, Lviv, Ukraine. Dept. of Corrosion and Protection of Materials. Founder of Dept. & Head of Department .
1959 - 1964	Institute for Metallurgical Industrial Projects, Dnepropetrovsk, Ukraine. Department of Corrosion and Protection of Buried Structures. Founder of Dept. & Chief Specialist.
1955 - 1959	Technical University of Railway Transport, Dnepropetrovsk, Ukraine. Department of Soil Mechanics. Head of laboratory; Lecturer Assistant.

4. SUPERVISION:

1997 - 2005	Ph.D. supervision: 3 Students (completed).
1992 - 2005	Master thesis supervision: 6 students (completed) and 2 (currently).
1992 - 2005	Senior projects: 7 students, in 5 groups (1992); 6 students, in 4 groups (1993); 11 students in 9 groups (1994); 6 students in 4 groups (1995); 4 students in 3 groups (1996); 5 students in 3 groups (1997); 2 students in 2 groups (1998); 7 students in 5 groups (1999); 8 students in 4 groups (2000); 10 students in 6 groups (2001); 8 students in 5 groups (2002); 7 students in 5 groups (2003); 4 students in 2 groups (2004); 2 Students in 2 grups (2005).
1970 - 1990	Doctor thesis supervision: 22 Ph.D. students and 2 D.Sc.habil. recipients.
1980	Founder of a new specialty for M.Sc. students - nation-wide: "Engineer in chemical resistance of materials and corrosion prevention" confirmed by Ministry of Higher Education for the national list of specialists, form. USSR.

5. MEMBERSHIP'S IN INTERNATIONAL BOARDS (since 1992)**:**

1993 to present	Member of the International Advisory Editorial Board of *The International Journal of Mechanochemistry and Mechanical Alloying* (Cambridge Interscience Publ.).
1993 to present	Member of the Scientific Advisory Committee of the International Mechanochemical Association under the IUPAC. Responsibility: Mechanoelectrochemistry.
1992 to present	Member of the Board of the International Group for Scientific and Technological Chaos Studies (IGCS, BGU).

6. PROFESSIONAL AFFILIATIONS:

2004	Appointment as an Honorary Professor of Lanzhou University of Technology (China) for two years.
2003	Member of the International Advisory Board of 4rd International Conference on Mechanochemistry and Mechanical Alloying (Braunschweig, Germany).
2002	Chairman of sessions at 15th International Congress on Metal Corrosion (Granada, Spain).
2001-2002	Member of the International Advisory Committee of the International Symposium on Metastable, Mechanically Alloyed and Nanocrystalline Materials (ISMANAM-2002, Seoul, Korea)
2000-2001	Member of the International Liasion Programme Committee of the International Conference on Trends in Mechanical Alloying (TMA-2001) & 27th Annual Technical Meeting of PMAI (India).
2000 to present	Incumbent of the Samuel Ayrton Chair in Metallurgy.

1999-2000 Member of the International Advisory Board of 3rd International Conference on Mechanochemistry and Mechanical Alloying (Prague).

1997-1998 Head of Department's Promotion Committee

1995-1997 Member of Faculty's Promotion Committee

1995 Specially invited as an International Member of the American Association for the Advancement of Science (AAAS).

1995 Member of Board of NACE Forum of Israel.

1994 Member of the program committee of the International Conference on Problems of Corrosion and Protection of Constructional Materials, National Academy of Science, Ukraine.

1993 to present Member of The Israel Chemical Society.

1992 to present Founding Member of the National Group for Mechanochemistry in Israel.

1992 to present Founding Member of the National Group for Mechanochemistry in Israel.

1988 - 1990 Chairman of Section on Corrosion Prevention in Petroleum & Gas Industry of National Association of Corrosion Engineers (VNTO), form. USSR.

1983 - 1990 Member of the Scientific Council for Corrosion-Resistant Materials under Governmental Committee of Science and Technology, form. USSR.

1981 - 1990 Chairman of Section on Safety of Structures and Member of Board, Scientific Council of the USSR Ministry of Gas Industry (presently the GASPROM Concern).

1979 - 1990 Member, Scientific Methodologies Council and Scientific Council for the approval of postgraduates, Ministry of Higher Education, form. USSR.

7. FIELD OF SCIENTIFIC EXPERIENCE:

Theoretical and applied electrochemistry. Thermodynamics of irreversible processes. Electrochemistry and corrosion prevention. Corrosion fatigue and stress corrosion. Mechanochemistry of materials (theory and applications in materials engineering). Surface effects and phenomena. Mechanical and mechanochemical behavior of alloys, polymers and composites in active environments. Viscoelastic properties of materials (incl. creep, and stress relaxation in Mg-alloys). Material processing and computer simulation (including mechanical, thermal, chemical, electrical, mechanochemical, welding, etc.). Reliability evaluation and improvement of welded structures and fatigue resistance. Material performance and protection of engineering structure operating in corrosive environments. Influence of technological heredity (cutting, casting, termal treatment, etc.) on service properties of materials and constructions.

8. ABSTRACTS OF CURRENT RESEARCH

Theoretical background of the definition of chemical potential of a solid in non-hydrostatic stress state. Influence of principal technological parameters of die casting of Mg-Al-Zn (AZ), Mg-Mn-Al (AM) and Mg-Al-Si (AS) alloys on the the viscous-elastic behavior (stress relaxation, relaxation failure, creep), electrochemical behavior, stress corrosion and corrosion fatigue. Mechanochemistry and environmental synergetic effects on Mg materials.

Influence of supermolecular structure and morphology on mechanical properties of high-impact and flame retarded polymer systems. Micromechanics and viscoelestic behavior of polymer based composite materials for aerospace industry. Morphology and stress relaxation of oriented polyolefin films.

9. TEACHING (principal courses in BGU):

1. Strength of Materials in Active Environment (since 1995, a new graduate and postgraduate course).
2. Mechanochemistry of Materials (since 1994, a new graduate and postgraduate course).
3. Viscoelastic Properties of Materials (since 1993, undergraduate elective course).
4. Polymers (since 1991, undergraduate course).
5. Composite Materials (since 1991, undergraduate course).
6. Mechanochemical Phenomena in Corrosion Engineering (1980-1990, graduate course).
7. Theory of Corrosion and Corrosion Engineering (1972-1980, graduate course).
9. Physics of Solids (1973-1978, graduate course).
10. Physics (1969-1971, general courses for undergraduates).

10. CONFERENCES for the 1990-2004:

a/ Plenary lectures and invited papers:

1. E. M. Gutman: Problems of Carbonate Stress Corrosion Cracking of Pipelines (*plenary lecture*). The First Soviet-American Symposium on Stress Corrosion, Moscow (January 15-19, 1990).
2. E. M. Gutman, V. G. Antonov and S. E. Seregin: The Use of New Clad Pipes for Transporting of H_2S Gas *(invited paper)*, International Conference on Exploitation of Gas Fields, Krasnodar (April 20-22, 1990).
3. E. M. Gutman: Theory of Mechanochemical Surface Treatment of Materials *(invited paper)*. First Israel Conference on Mechanochemistry, Jerusalem, Israel (November 3, 1992).
4. E. Gutman and D. Itzhak: Mechanochemical Surface Treatment of Materials *(invited paper)*. 2nd Iberoamerican Congress in Metallurgy and Materials Engineering, Mexico-city, Mexico (November 8-14, 1992).
5. E. Gutman: Surface Mechanochemistry of Crystalline Solids *(plenary lecture)*. First International Conference on Mechanochemistry, Kosice, Slovakia (March 23-26, 1993).
6. E. M. Gutman and A. Bobovitch: Mechanopolymerization of Filled Plastics *(invited lecture)*, Second Israel Conference on Mechanochemistry, Jerusalem, Israel (February 28, 1995).
7. E. M. Gutman: Mechanochemistry of Solids and Mechanopolymerization *(invited lecture)*, 6-th Conference on Polymer Materials "Polymerwerkstoffe'96", Merseburg, Germany (September 18-20, 1996).
8. A. Eliezer, E. M. Gutman, E. Abramov and E. Eghion: Mechanochemistry and Plastisity of Magnesium Alloys *(invited lecture)*. French-Israeli Workshop on Magnesium Alloys: Advantages and Present Limitations, Hilton Hotel, Beer-Sheva, Israel (November 13, 1997).
9. E. M. Gutman and Ya. Unigovski: Creep and Stress Relaxation in die-cast Mg-alloys *(invited lecture)*. First Israel Conference of the Consortium for Mg Technology Development, Technion, Haifa, Israel (March 17-18, 1998).
10. E. M. Gutman, L. Utevski, M. Scheinker, A. Kozlovsky, G. H. Michler: Mechanical Properties of Flame-Retarded Polypropylene Compositions *(invited lecture)*. European Conference on Macromolecular Physics "Morphology and Micromechanics of Polymers", Merseburg, Germany (September 27-October 1, 1998).
11. E. M. Gutman: Surface Stress Problem in Heterogeneous Mechanochemical Reaction.*(invited lecture)*. International Symposium on Metastable, Mechanically Alloyed and Nanocrystalline Materials (ISMANAM'98), Wollongong (Sydney), Australia (December 7-12, 1998).
12. E. M. Gutman, A. Kozlovsky, M. Scheinker and L. Utevski: Flame Retarded Glass Fiber Reinforced Polypropylene (FR GFR PP). *(invited paper)*. Sixth Annual International Conference on Composites Engineering (ICCE/6), Orlando, Florida, June 27 - July 3, 1999).

13. E. M. Gutman: Fundamental Problem of Chemical Potential Definition in Stressed Solids (*invited lecture*). The 3rd International Conference on Mechanochemistry and Mechanical Alloying, Prague (September 4-8, 2000).
14. E. M. Gutman: Some Theoretical Problems of Mechanochemistry (*invited lectures*). Workshop on Mechanochemical Methods in Solid Phase High-Temperature Self-Propagating Reactions, Alghero, Sassary, Italy (April 26-28, 2001).
15. E. M. Gutman: Chemomechanical Effects Accompanying Mechanochemical Reactions, Diffusion and Creep (*invited lecture*). International Symposium on Metastable, Mechanically Alloyed and Nanocrystalline Materials (ISMANAM 2001), University of Michigan, Ann Arbor, USA (June 24-29, 2001).
16. E. M. Gutman: Mechanochemical Reactivity and Destruction of Metallic System in Well-defined Stress Conditions (*invited lecture*). International Symposium on Metastable, Mechanically Alloyed and Nanocrystalline Materials (ISMANAM 2002), Andong National University, Seoul, Korea (September 8-12, 2002).
17. E. M. Gutman: Some Unsolved Fundamental Problems in Mechanochemistry of Solids *(key invited lecture)*. Fourth International Conference on Mechanochemistry and Mechanical Alloying (INCOME 2003). Braunschweig, Germany (September 7 -11, 2003).
18. A. Bobovitch, I. Sarid, Y. Unigovski and E.M. Gutman (*invited lecture*), 6th Anuual IUPAC Conference on Polymer properties, Kruger National Park, Mpumalanga, South Africa, April 14-17, 2003.
19. A. Bobovitch, Y. Unigovski, E. M. Gutman, E. Kolmakov (*invited lecture*): Viscoelastic Properties of Crosslinked LLDPE Films Oriented at Temperatures below Melting Point. The 10th Symposium on "Deformation Mechanisms in Micro- and Nanostructured Polymers", May 19-20, 2005, Halle/Saale, Germany.
20. E. M. Gutman (*invited lecture*): Empirisim or Self-Consistent Theory in Chemical Kinetics? The 12th International Symposium on Metastable and Nano Materials (ISMANAM), 3-7 July 2005, Paris, France.

b/ Contributed papers and posters:

1. H. Ogawa, Y. Murakami, K. Katayama and E. Gutman: Prediction Method of Pitting Corrosion Nucleation on High Alloy Line Pipe in the Sour Environments and it's Verification by the Field Test. 11th International Corrosion Congress, Florence, Italy (April 2-6, 1990).
2. E. Gutman and D. Itzhak: Methods of Mechanochemical Surface Treatment of Materials. International Conference "The Euro-Asian Interfinish" (MPS-SAMPE), Herzlia (October 21-24, 1991).
3. E. Gutman: Surface Mechanochemistry of Crystalline Solids. VI-th Israel Materials Engineering Conference (IMEC VI), Dead Sea (February 24-25, 1993).
4. Y. Bainer, A. Grinberg and E. Gutman: Environmental Effects on the Behavior of Carbon-Epoxy Composite. 6-th Israel Materials Engineering Conference (IMEC VI), Dead Sea, (February 24-25, 1993).
5. R. Huberman, E. Gutman and D. Itzhak: The Synergistic Effect of Environmental Parameters on the Behavior of Plastic Material. ibid.
6. E. Gutman, D. Itzhak and P. Donval: The Synergistic Effect of UV Radiation and Oxidative Environment on the Behavior of Graphite-Epoxy Composite. 2nd International Conference on Deformation and Fracture of Composites, UMIST, Manchester, England (March 29-31, 1993).
7. E. Gutman and R. Soncino: Stress-Relaxation due to Environmental Effects on Fiber Reinforced Polyester (FRP). The 59th Annual Meeting of the Israel Chemical Society (January

31 - February 1, 1994).

8. A. Bobovich, E. Gutman, L. Utevskii, M. Scheinker and M. Muskatel: New Approach to Actimer Flame Retardants (FR's): Thermal Polymerization on Filler. ibid.
9. E. Gutman and R. Soncino: Stress-Relaxation due to Environmental Effects on Polypropylene and Fiber Reinforced Polyester. 9th International Conference "Deformation, Yield and Fracture of Polymers", Churchill College, Cambridge, England (April 11-14, 1994).
10. L. Utevskii, I. Finberg, E. Reznik, M. Muskatel, E. Gutman and S. Lach: Toughening Mechanism of Flame-Retarded Plastics. ibid.
11. A. Bobovich, E. Gutman, M. Scheinker, L. Utevskii and M. Muskatel: Impact Fracture of Toughened Flame-Retarded ABS Plastics Containing Mineral Filler. ibid.
12. R. Soncino and E. Gutman: Environmental Effects on Stress-Relaxation of Polymeric Matrix Composites. The Annual Meeting of the Israel Society of Materials Engineering and Processing (SAMPE, European Chapter), Tel-Aviv (May 9, 1994).
13. A. Bobovitch, A. Pinski, E. Gutman, L. Utevski, D. Sontak and M. Muskatel: Thermal Analysis of the Graft-Polymerization Process on the Surface of Inorganic Fillers. The Annual Conference of the Israel Group of Thermal Analysis, Jerusalem (June 8, 1994).
14. A. Bobovitch, A. Pinski, E. Gutman, L. Utevski and M. Muskatel: Reactive Extrusion of Pentabromobenzyl(mono)acrylate/Filler Mixture. Eighth Major International Conference within POLYMAT'94, London, England (September 19-22, 1994).
15. E. Gutman: Mechanochemical Features of Stress Corrosion Cracking . The 7-th Israel Materials Engineering Conference, Technion, Haifa (November 28-29, 1994).
16. E. Gutman, G. Solovioff and D. Eliezer: Mechanochemical Behavior of 316 Type Stainless Steel. The 7-th Israel Materials Engineering Conference, Technion, Haifa (November 28-29, 1994).
17. S. Teplinsky and E. Gutman: Computer Simulation of Process-Induced Stress and Strain Development during Cure of Thick-Section Thermosetting Composites. ibid.
18. A. Bobovitch, E. Gutman, L. Utevski and M. Muskatel: Thermal and Mechanical Activation of Polymerization on Fillers. ibid.
19. R. Miara, E. Gutman, Y. Bainer and Y. Morr: Low Cycle Fatigue of Carbon Epoxy Composite in Different Environment. ibid.
20. E. Gutman and A. Bobovitch: Mechanopolymerization of Pentabromobenzyl (Mono)-Acrylate on Filler. 23-rd Conference of Israel Polymers and Plastics Society, Tel-Aviv (December 14, 1994**)**.
21. L. Figovsky and E. M. Gutman: Carbon Fiber Reinforced Silicate-Polymer Composite Materials. The International Conference on Composite Materials and Energy “Enercomp’95”, Montreal, Canada (May 8-10, 1995).
22. E. M. Gutman and A. L. Bobovitch: Mechanopolymerization of Pentabromobenzyl (Mono) Acrylate . The International Seminar on Mechanochemistry and Mechanoactivation, St. Petersburg (May 22-26, 1995).
23. E. M. Gutman and A. L. Bobovitch: Thermal Analysis of Mechanopolymerizaton on the Surface of Inorganic Fillers. The 13 Conference of the Israel Group of Thermal Analysis, Beer- Sheva (June 20, 1995).
24. E. M. Gutman and A. L. Bobovitch: Mechanopolymerization on the Surface of Inorganic Fillers. The International Conference EURO-FILLER’S 95, Mulhouse, France (September 11-14, 1995).
25. E. Gutman, A. Bobovitch, I. Rubinchik, S. Shefter, S. Lach, L. Utevski and M. Muskatel: Thermal Degradation of Flame-Retardant Components in Filled and Unfilled ABC Plastics. The 24-rd Conference of Israel Polymers and Plastics Society, Tel-Aviv (December 19, 1995).
26. A. Bobovitch, E. Gutman and D. Eliezer: Thermal and Mechanochemical Polymerizaton on the Surface of Mineral Fillers. The Israel-Hungary Binational Conference on Thermal Analysis and Calorymetry of Materials. Ein-Bokek (the Dead Sea), Israel (March 17-19, 1996).
27. E. M. Gutman: On the Thermodynamic Definition of Surface Stress. The Sixth International Conference on Composite Interfaces ICCI-VI. Zichron Yaacov, Israel (May 5-8, 1996).

28. E. M. Gutman: How Can Mechanochemistry Explain Stress Corrosion Processes. The 2nd Conference of the Corrosion Forum - NACE Israel. Tel-Aviv, Israel (June 17-18, 1996).
29. E. M. Gutman, I. Petronius, E. Ribak and A. Grinberg: The environmental effect on the static strength and lifetime of a quartz fabric reinforced cyanate resin matrix composite. 4nth International Conference on Deformation and Fracture of Composites, UMIST, Manchester, England (March 24-26, 1997).
30. A. Eliezer, E. M. Gutman, E. Abramov and E. Aghion: Plasticity of Mg-alloys and Electrochemical Polarization under Stress. The Eighth Israel Materials Engineerintg Conference IMEC-VIII, Beer-Sheva, Israel (April 16-17, 1997).
31. Ya. B. Unigovsky, E. M. Gutman and Z. Koren: Creep of Magnesium Alloy AZ91D Depending on Die Casting Parameters. ibid.
32. M. Levkovich, E. M. Gutman, Ya. Aizik, I. Reich: Tensile, Impact and Stress Relaxation of Magnesium Aloy AZ91D versus Die Casting Parameters. ibid.
33. E. Ribak, I. Petronius, A. Grinberg and E. M. Gutman: The Environmental Effect on the Strength and Stress Relaxation of a Quartz Fabric Reinforced Cyanate Resin Matrix Composite. ibid.
34. I. Finberg, B. Belman, O. Orkin, L. Utevski and E. M. Gutman: The Influence of Accelerated Conditioning on Flame Retardancy of Styrenics. ibid.
35. E. M. Gutman, Ya. Unigovskii, M. Levkovich, Z. Koren, E. Aghion, M. Dangur: Influence of Technological Parameters of Permanent Mold Casting and Die Casting on Creep and Strength of Mg alloy AZ91D. Eleventh International Conference on the Strength of Materials ICSMA-11 and Seventh International Symposium on Plasticity of Metals and Alloys ISPMA-7, Prague, Czech Republic (August 25-29, 1997).
36. A. Eliezer, E. M. Gutman, E. Avramov, E. Aghion: Mechanoelectrochemical Behavior and Plasticity of Magnesium Alloys. 6 International Symposium on Electrochemical Methods in Corrosuion Research EMCR97, Trento, Italy (August 25-29, 1997).
37. E. M. Gutman, Ya. Unigovskii, M. Levkovich and Z. Koren: Optimizing Viscoelastic Properties of AZ91D Alloy by Controlling Die Casting Process. The First Israeli International Conference on Magnesium Science & Technology, Dead Sea, Israel (November 10-12, 1997).
38. A. Eliezer, E. Abramov and E. M. Gutman: Mechanoelectrochemical Behavior and Plasticity of Mg-Al Alloys. ibid.
39. I. Reich, E. Amami, A. Haviv, Z. Koren, E. M. Gutman and H. Rosenson: The Effect of Die Temperature on the Microstructure and Properties of Hot Chamber Diecasting AM50 Magnesium Alloy. ibid.
40. E. M. Gutman, Y. B. Unigovski, M. Levkovich and Z. Koren: The Effect of Process Conditions on the Viscoelastic Properties of Magnesium Die Castings. International Conference “Magnesium Alloys and Their Applications”, Wolfsburg, Germany, April 28-30, 1998).
41. A. Eliezer, E. Avramov, E. Aghion and E. M. Gutman: Mechanochemical Behavior and Corrosion Fatigue of Mg-Al Alloys. The 3rd Conference of Corrosion Forum - NACE Israel, Hertzelia, Israel (May 6-7, 1998).
42. A. Eliezer, E. M. Gutman, E. Abramov and E. Aghion: Mechanochemical Behaviour of Magnesium Alloys. Abstracts of the Conference on Protective Coatings COST 520, Trento, Italy (August, 24-29, 1998).
43. A. I. Bobovitch and E. M. Gutman: Morphological Features and Stress-Relaxation in Oriented Polyethylene Film. European Conference on Macromolecular Physics “Morphology and Micromechanics of Polymers”, Merseburg, Germany (September 27-October 1, 1998).
44. S. Henning, W. Lebek, G. H. Michler, E. M. Gutman and L. Utevski: Morphology and Micromechanics of Flame Retardant PP and ABS. ibid.
45. E. M. Gutman, Y. B. Unigovski, M. Levkovich and Z. Koren: Creep and Stress Relaxation Properties of Mg-alloy Depending on Die Casting Conditions. The Second Conference on Material Science and Technologies of Israel Materials Union - AGIL, Ramat Gan, Israel (November 25-26, 1998).

46. A. Eliezer, E. Abramov, E. Aghion and E. M. Gutman: Mechanochemical Behavior and Corrosion Fatigue of Mg-Al Alloys. ibid.
47. A. Eliezer, E. M. Gutman, E. Abramov and E. Aghion: A Comparative Study of Stress Corrosion of AM-series and AZ81D Mg-Alloys. Abstracts of the Int. Conf. On Light Metals, Barga, Italy (September, 22-23, 1999).
48. A. Grinberg, J. Bainer, A. Adler, A. Menashe and E. Gutman: Effect of Thermal Transients on the Static Strength of Glass/Epoxy Composites. The SAMPE Israel Conference, Herzlia Israel (December 1, 1999).
49. E. M. Gutman, A. Eliezer, E. Abramov and Ya. Unigovski: Mechanochemical Behavior and Creep Corrosion of Magnesium Alloys. The 9th Israel Materials Engineering Conference – IMEC-9, Haifa, Israel (December 6 – 7, 1999).
50. E. M. Gutman and Ya. B. Unigovski: Correlation of Viscoelastic Properties of Die-Cast Magnesium Alloy with Processing Conditions. ibid.
51. A. Eliezer, E. M. Gutman, E. Avramov, Ya. Unigovski, G. Agiv and E. Aghion: Dynamic and Static Corrosion Fatigue of Mg-Alloys in Electrolytic Environment. The Second Israeli International Conference on Magnesium Science & Technology (Magnesium 2000), Dead Sea (February 22-24, 2000).
52. P. L. Bonora, M. Andrei, A. Eliezer & E. Gutman: Corrosion Behavior of Stressed Magnesium Alloys. ibid.
53. A. Eliezer, Y. Unigovski & E. M. Gutman: Corrosion Creep ogf Magnesium Alloys. ibid.
54. Y. Unigovski, E. M. Gutman, L. Riber & A. Eliezer: Correlation of Tensile and Impact Properties of Die cast Magnesium Alloys with Processing Conditions. ibid.
55. E. Gutman, Ya. Unigovski, A. Eliezer, E. Abramov, N. Frumin, L. Riber and T. Shahar: Mechanical Behavior of Magnesium Alloys in Corrosion Creep Tests. The 28th Israel Conference on Mechanical Engineering, Beer-Sheva (14-15 June 2000).
56. E. M. Gutman, Ya. Unigovski, A. Eliezer, E. Abramov: Mechanoelectrochemical Behaviour of Magnesium Alloys Stressed in Aqueous Solutions. The 3rd International Conference on Mechanochemistry and Mechanical Alloying – INCOME-3, Prague (September 4-8, 2000).
57. E. M. Gutman, Ya. Unigovski, A. Eliezer and E. Abramov: Corrosion Creep of Magnesium and Die-Cast Magnesium Alloys. The International Congress "Magnesium Alloys and their Applications", Munich, Germany (September 25-28,2000).
58. A. Eliezer, E. M. Gutman, E. Abramov, Ya. Unigovski and E. Aghion: Corrosion Fatigue and Corrosion Creep of Magnesium Alloys. Ibid.
59. A. Eliezer, E.M. Gutman, E. Abramov, Ya. Unigovski, G. Ben-Hamu, P.L. Bonora, M. Andrei: Environmentally Assisted Fatigue Fracture of Magnesium Alloys. The European Corrosion Conference, Riva del Garda, Italy (October 1-4, 2001).
60. P.L. Bonora, M. Andrei, A. Eliezer, E. Gutman: Mechanochemical Effect on Mg-alloys by AC and DC Polarisation. Ibid.
61. A. Eliezer, E.M. Gutman, Ya. Unigovski, E. Abramov, L.Riber: Corrosion Creep of Magnegium Alloys. Ibid.
62. A. Eliezer, E. M. Gutman, E. Abramov and E. Aghion: Corrosion Fatigue Problem in Mg-Alloys Applications for Automotive Industry. Ibid.
63. A. Bobovitch and E.M. Gutman: Stress-Relaxation of Oriented Polyolefin Films. The Conference ANTEC 2001, Dallas, USA, (May 7-11, 2001).
64. A. Bobovitch, E.M. Gutman, S. Arieli, S. Henning and G.H. Michler: Morphology and Stress Relaxation of Biaxially Oriented Polyethylene Films Crosslinked with Electron Beam, in proceedings "Polymers for Advance Technologies". The Conference "Polymers for Advance Technologies", Eilat, Israel (September 2-6, 2001).
65. A. Bobovitch, E.M. Gutman, S. Henning and G.H. Michler: Morphology and Stress-Relaxation of Oriented Crosslinked Polyethyne Films. The Conference "Morphology and Properties of Crystalline Polymers", Eger, Hungary (September 2-5, 2001).

66. A. Bobovitch, E.M. Gutman, S. Henning and G.H. Michler: Morphology and Stress-Relaxation of Oriented Polyolefin Films. The "30 Annual Conference of Israel Polymer&Plastic society", Tel-Aviv, Israel (December 12, 2001).
67. A. Eliezer, E. M. Gutman, E. Abramov, Ya. Unigovski: Problem of Corrosion Fatigue for Magnesium Alloys Applications in Automotive Industry. The 10th Israel Materials Engineering Conference IMEC-10, Dead Sea, Israel (5-7 February 2002).
68. G. Ben-Hamu, A. Eliezer, E. Abramov, Ya. Unigovski, E. M. Gutman: Mechanoelectrochemical Behavior of Magnesium Alloys. Ibid.
69. O. Madlinski, A. Eliezer, E. M. Gutman, G. Alush, E. Abramov, Ya. Unigovsky: Corrosion Fatigue of Die-Cast Magnesium Alloys. Ibid.
70. A. Eliezer, M. Andrei, E. M. Gutman, P. L. Bonora: Corrosion Behavior of Stressed Magnesium Alloys by AC and DC Polarisaion. Ibid.
71. A. Eliezer, E. M. Gutman, Ya Unigovski, E. Abramov: Corrosion Creep of Magnesium Alloys. Ibid
72. A. Eliezer, E. Abramov, E. M. Gutman, A. Ben Artzy, A. Shtechman, Y. Snir, B. Edelstein: Corrosion Fatigue of Extruded Magnesium Alloys. Ibid.
73. L. Riber, A. El;iezer, O. Galili, E. M. Gutman, Ya. Unigovski, G. Ben-Hamu: Effect Environment and Temperature on Stress-Relaxation in Magnesium Alloys. Ibid.
74. Z. Koren, H. Rosenson, E. M. Gutman: Applications of Advanced Technologies by Cold Chamber Magnesium Die Casting. Ibid.
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251. A. Bobovitch, E. Gutman, S. Henning, G. H. Michler: Morphology and Stress-Relaxation of Crosslinked and Non-Crosslinked Polyethylene Films. Ibid. p. 90.
253. A. Bobovitch, E.M. Gutman, S. Henning and G.H. Michler: Morphology and Stress-Relaxaion of Biaxially Oriented Crosslinked Polyethylene Films, in Proceedings of the Conference ANTEC 2002, San-Francisco, USA (May 5-9, 2002) 1571.
254. A. Bobovitch, E.M. Gutman, S. Henning and G.H. Michler: Morphology and Stress-Relaxation of Crosslinked and Non-Crosslinked Polyethylene Films, in Proceedings of the Conference "Polymeric materials 2002", Halle, Germany, (September 25-27, 2002).
255. G. Ben-Hamu, A. Eliezer, Ya. Unigovski, E. Abramov, E. M. Gutman: Electrochemical behavior of magnesium alloys under mechanical stress. Abstracts of The Annual Meeting of the Israeli Branch of the Electrochemical Society, Tel-Aviv, Israel (16 June 2002), p. 12.
256. E. M. Gutman: Mechanochemical Reactivity and Destruction of Metallic System in Well-defined Stress Conditions (*invited lecture*). Abstracts of the International Symposium on Metastable, Mechanically Alloyed and Nanocrystalline Materials (ISMANAM 2002), Andong National University, Seoul, Korea (September 8-12, 2002), p. 70.
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261. E. M. Gutman: Mechanochemical Fundamentals of Stress Corrosion in Magnesium Alloys, Abstracts of The Second Osaka International Conference on Platform Science and Technology for Advanced Magnesium Alloys 2003, Osaka, Japan, 26-30 January, 2003, p.17.
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263. A. Bobovitch, I. Sarid, Y. Unigovski and E.M. Gutman, in Proceedings of "6th Anuual IUPAC Conference on Polymer properties", Kruger National Park, Mpumalanga, South Africa, (April 14-17, 2003).
264. G. Ben-Hamu, A. Eliezer, E. M. Gutman: Electrochemical Behavior of Magnesium Alloys Strained in Aqueous Solutions, Abstarcts of The First Israel Conference "Corrosion Processes&Advanced Materials", Beer-Sheva, May 29, 2003, p. 29.
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269. Y. Benyamin, A. Eliezer, Y. Unigovski, N. Moskovitch, E. M. Gutman: Environmental Behavior of magnesium Alloys Under Static Stress, ibid. p. 64.
270. E. M. Gutman: Some Unsolved Fundamental Problems in Mechanochemistry of Solids, Abstracts of the Fourth International Conference on Mechanochemistry and Mechanical Alloying (INCOME 2003). Braunschweig, Germany, September 7 -11, 2003, p. 17.
271. E. M. Gutman: Effect of Elastic Strain on Electrode Potential of Metals. The Proceedings (CD-ROM) of The European Corrosion Congress (Eurocorr 2003), Budapest, Hungrary, 28 September – 2 October, 2003.
272. A. Eliezer, G. Ben-Hamu, E. Abramov, E. M. Gutman, M. Andrei, P. L. Bonora: Mechanoelectrochemical Behavior of Die-Cast and Extrusion Magnesium Alloys, ibid.
273. A. Eliezer, Ya. Unigovski, E. M. Gutman, J. Haddad: Static and Dynamic Corrosion Fatigue of Mg alloys Used in Automotive Industry, ibid.
274. Y. Unigovski, A. Eliezer, L. Riber, O. Galili, E. M. Gutman: Corrosion Stress Relaxation of Magnesium Alloys, The 11th Israel Materials Engineering Conference (IMEC-11), Haifa, Israel, 24 – 25 December, 2003, p. 100.
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282. E. M. Gutman, J. Haddad and R. Bergman: Stability of Thin-Walled High-Pressure Cylindrical Pipes With Variable Wall Thickness Subjected to Corrosion, Proceedings of the Fourth International Conference on Thin-Walled Structures, 22-24 JUNE 2004, Loughborough, UK, IOP, pp. 799-806.
283. A. Bobovitch, R. Tkach, A. Ajji, S. Elkoun, Y. Nir, Y. Unigovski and E. M. Gutman: The Influence of Orientation Ratio on Morphology, Mechanical and Viscoelastic Properties of Biaxial Oriented Shrink Films. Abstracts of the 11th International Conference Polymeric Materials 2004, Sept. 29 – Oct. 01, 2004, Halle/Saale, Germany, p. C13.
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285. R. M. Bergman, S. P. Levitsky, J. Haddad, E. M. Gutman: Stability of Thin-Walled Cylindrical Pipes Subjected to Simultaneous Action of Lingitudinal Compressive Forces and Uniform Corrosion. Abstracts of The Second Israel Conference "Corrosion,

Advanced Materials & Processes in Industry " (CAMPI 2005), June 1 – 2, 2005, Beer-Sheva, Israel, p. 82.

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287. E. M. Gutman: Surface Mechanochemistry of Nano-Materials. Proceedings of the Twelfth Ahhual International Conference on Composite/Nano Engineering (ICCE-12), August 1 – 6, 2005, Tenerife, Santa-Cruz, Spain.

13. RESEARCH GRANTS (since 1992)

2001-2004	Bi-National China-Israel Project, E. Gutman, "Research and Development of Magnesium Alloy Audio-Video-Computer-Communication (AVCC) Parts by Using of Thixoforming Technology", annual amount $ 40,000.
2002	Ministry of Industry - "Magnet", E. Gutman, "Mechanical Stability and Stress Corrosion of Magnesium Alloys", annual amount $ 60,000.
2002-2003	Israel Atomic Energy Commission, E. Gutman, "Micromechanical and Mechanochemical Behavior of Materials", annual amount $ 20,000.
2001	Israel Atomic Energy Commission, E. Gutman, "Micromechanical and Mechanochemical Behavior of Materials", annual amount $ 20,000.
2001	Ministry of Industry - "Magnet", E. Gutman, "Mechanical Stability and Stress Corrosion of Magnesium Alloys", annual amount $ 60,000.
2000	Israel Atomic Energy Commission, E. Gutman, "Micromechanical and Mechanochemical Behavior of Materials", annual amount $ 17,000.
2000	Ministry of Industry - "Magnet", E. Gutman, "Mechanical Stability and Stress Corrosion of Magnesium Alloys", annual amount $ 48,000.
1999	Israel Atomic Energy Commission, E. Gutman, "Micromechanical and Mechanochemical Behavior of Materials", annual amount $ 20,000.
1999	Ministry of Industry - "Magnet", E. Gutman, "Mechanical Stability and Stress Corrosion of Magnesium Alloys", annual amount $ 60,000.
1998	Israel Atomic Energy Commission, E. Gutman, "Micromechanical and Mechanochemical Behavior of Materials", annual amount $ 25,000.
1998	Ministry of Industry, E. Gutman, "Creep and Stress Relaxation of Magnesium Alloys depending on Die Casting Technology", annual amount $ 31,000.
1997	Ministry of Industry, E. Gutman, "Creep and Stress Relaxation of Magnesium Alloys depending on Die Casting Technology", annual amount $ 67,000.
1997	Israel Atomic Energy Commission, E. Gutman, "Micromechanical and Mechanochemical Behavior of Materials", annual amount $ 25,000.
1996	Dead Sea Works Ltd., E. Gutman, "Influence of Principal Technological Parameters of Die Casting of Magnesium Alloys on the Microstructure and Mechanical Properties and on Casting Quality" (project no. 10285/96), annual amount $ 27,000.
1996	Israel Atomic Energy Commission, E. Gutman, "Environmental Behavior of Modified Magnesium Alloys", annual amount $ 15,000.
1992 - 1997	Barecha - Foundation, E. Gutman, "The Environmental Behavior of Modern Engineering Polymeric and Composite Materials under Mechanochemical Conditions," 5 years, annual amounts $ 55000 (92-93) + $ 57500 (93-94) + $ 60000 (94-95) +$ 62500 (95-96) + $ 65000 (96-97) and one-time grant $ 40000. A new laboratory of Polymeric Materials is created in 1993-1994.
1993	Ben-Gurion University, E. Gutman, "Computer Simulation for the Polymer Curing Process," amount: $ 5000.

1992 Eilat - Ashkelon Pipeline Co. Ltd., E. Gutman, "Reference Electrode Test (Method and Devices)," total amount: $ 1650.

14. INTERNATIONAL COOPERATION and RECEPTION OF FOREIGN SCIENTISTS

1999 Prof. Dr. G. Michler, Dept. of Materials Science, Martin-Luther University, Germany.
Development of High Filled and Reinforced Polymer Systems with Improved Supermolecular Structure and Properties.

1998-1999 Prof. P.L. Bonora, Dept. of Materials Engineering,University of Trento, Italy.
Electrochemical Impedance of Different Mg-based Alloys.

1997-1998 Dr. S. Viswanathan, Dept. of Ceramic Materials, Oak Ridge National Laboratory, USA.
Computer Simulation of Die Casting of Mg-Alloys.

1997 Prof. P. Lukac, Dept. of Metal Physics, Charles University, Czech Rep.
Mechanism of Strain Hardening of Mg-Alloys.

1997 Dr. A.R.C. Westwood, Vice-President on Science, Sandia National Laboratory, USA.
Chemomechnaical Effect in Crystalline Materials.

1997 Prof. Dr. G. Michler, Dept. of Materials Science, Martin-Luther University, Germany.
Development of High Filled and Reinforced Polymer Systems with Improved Supermolecular Structure and Properties.

1996 Dr. V. Sepelak, Institute of Geotechnicks, Dept. of Mineral Materials, Slovak Academy of Sciences, Slovak Rep.
Mechnochemistry of Inorganic Materials.

1995 Prof. Dr. G. Michler, Dept. of Materials Science, Martin-Luther University, Germany.
Micromechanical Behavior and Crazing of Flame Retarded Polymers.

1993 Prof. P. Yu. Butyagin, Institute of Chemical Physics, Moscow.
Relaxation Processes in Mechanochemistry.

15. WORK IN THE DEPARTMENT

1999 Member of the Department's Promotion Committee.
1997-1998 Head of the Department's Promotion Committee.
1996-1998 Member of the Department's Committee for Graduated Students.
1997 Responsibility for the organization of VIII Israeli Materials Engineering Conference (The Chairman).
1995-1997 Sectretary of the Department's Seminar.
1994-1995 Responsibility for the laboraratory practicum for students of third year.

16. PROFESSIONAL CONSULTING (since 1991)

1991-1992 Eilat - Ashkelon Pipeline Co. Ltd.
1992-to present RAMTA, Israel Aircraft Industries Ltd.
1992-2002 Bromine Compounds Ltd. (Dead Sea Bromine Group)
1993-1994 Technologies Incubator Center Nazareth Illit
1993-1994 Recycling of Industrial Water, Ltd.

17. HONORS & AWARDS

2004 Appointment as an Honorary Professor of Lanzhou University of Technology (China) for two years.

2003 Member of the International Advisory Board of 4rd International Conference on Mechanochemistry and Mechanical Alloying (Braunschweig, Germany).

2002 Chairmen of the Sessions at 15th International Congress on Metal Corrosion (15th ICC, September 22 – 27, 2002, Granada, Spain).

2001-2002 Member of the International Advisory Committee of the International Symposium on Metastable, Mechanically Alloyed and Nanocrystalline Materials (ISMANAM-02, September 8 – 14, 2002, Seoul, Korea)

2000-2001 Member of the International Liasion Programme Committee of the International Conference on Trends in Mechanical Alloying (TMA-2001) & 27th Annual Technical Meeting of PMAI

2000 The Samuel Ayrton Professor in Metallurgy (kathedra).

1999-2000 Member of the International Advisory Board and Chairman of the session at 3rd International Conference on Mechanochemistry and Mechanical Alloying

1999 Chairman of the session at Sixth Annual International Conference on Composites Engineering (ICCE/6), Orlando, Florida.

1998-1999 Member of the Technical Review Committee for International Conference on Composite Materials - ICCM12 (Paris, 1999).

1998 Selected and included in the 15th Edition of *Who's Who in the World* (Marquis, USA).

1998 Chairman of the session at The 3nd Conference of the Corrosion Forum - NACE Israel.

1997 Invited to join as an Active Member of the New York Academy of Sciences.

1997 Chairman of the VIII Israel Materials Engineering Conference.

1996 Chairman of a session at The 2nd Conference of the Corrosion Forum - NACE Israel.

1995 Specially invited as an International Member of the American Association for the Advancement of Science (AAAS).

1995 Member of Board of NACE Forum of Israel.

1995 Invited member of a Program Committee of the Second Israeli Conference on Mechanochemistry, Jerusalem, February 28, 1995.

1994 Invited member of a Program Committee of the International Conference "Problems of Corrosion and Protection of Constructional Materials," Lviv, October 3-7, 1994.

1993 Elected by the International Mechanochemical Association (IMA) under the IUPAC as a member of Scientific Advisory Committee.

1993 Invited by IMA under IUPAC to present plenary lecture on The First International Conference on Mechanochemistry.

1993 Elected by IMA as a member of the International Advisory Editorial Board of *The International Journal of Mechanochemistry and Mechanical Alloying.*

1992 Invited by IMG to co-chair 1st Israel Conference on Mechanochemistry, Jerusalem, November 3, 1992.

1991 Selected by Israel Academy of Sciences and Humanities as Barecha - Foundation Fellow (1992 - 1997) with tenured academic position and $80,000 credit to acquire a home.

1990 Invited to chair The First Soviet-American Symposium on Stress Corrosion, Moscow, January 15-19, 1990.

1984 - 1986 Medals in recognition of the role played in the development of metal corrosion inhibitors. Issued by National Exhibition Committee, form. USSR

1983 Received title "Honored Specialist in Gas Industry of USSR"

1980 Received Honorary Credentials of Ministry of Higher Education, form. USSR
1979 Received medal "Inventor of USSR," Governmental Committee on Discoveries and Inventions, form. USSR
1978 Received title "Excellence in Petroleum Industry of USSR"

18. List of Post-Graduated Students

a) before 1990:

Ph. D. Students:

1. V. I. Storonski (1970).
2. I. E. Zamostyanik (1970).
3. Yu. D. Knyazev (1972).
4. V. E. Shestopalov (1973).
5. V. A. Lyalin (1973).
6. A. G. Abdullin (1974)
7. L. N. Khlestkina (1975).
8. D. M. Mubinov (1976).
9. A. S. Mazkevich (1976).
10. V. V. Kravtzov (1977).
11. E. N. Grozov (1977).
12. S. N. Davidov (1978).
13. M. A. Khudyakov (1979).
14. L. N. Tatarinov (1979).
15. L. A. Zakharov (1982).
16. E. A. Bugai (1985).
17. M. Kh. Sultanov (1987).
18. V. A. Vydra (1986).
19. A. P. Mikheichik (1988).
20. A. S. Kurmaev (1989).
21. E. V. Budilova (1989).
22. N. A. Chernyavsky (1990).

D. Sc. habil. (after Ph. D.) Students:

1. R. S. Zainullin (1987).
2. I. G. Abdullin (1989).

b) after 1990:

M. Sc. Students:

1. R. Soncino (1992 - 1995). Environmental Effect on Stress-Rlaxation in Polymers and Polymer-Based Composites.
2. A. Bobovitch (1993 - 1995). An Influence of Inorganic Fillers on Thermal and Mechanochemical Polymerization and on Properties of Flame Retarded Plastics.
3. A. Grinberg (1995 - 1997). Environmental Effect on the Mechanical Behavior of Macro&Micro Cyanate Resin-MatrixComposite.
4. A. Eliezer (1997 - 1998). Mechanochemical Behavior, Corrosion Fatigue and Plasticity of Magnesium Alloys.
5. M. Levkovich (1997 - 1998). Influence of Principal Technological Parameters of Die Casting of Magnesium Alloys on Mechanical Properties and Casting Quality.
6. G. Ben-Hamu (2000 – 2003). Electrochemical Behavior of Magnesium Alloys Strained in Aqueous Solutions.
7. R. Kalifa. (2002-). Controlled Degradation of Polyethylene Films.
8. A. Arnon (2005 -). Magnesium Alloys for Medical Implants.

Ph. D. Students:

1. A. Bobovitch (1997 - 2005). Stress-Relaxation in Oriented Polyolefin Films.
2. Z. Koren (1997 - 2003). Optimization of Liquid and Semi-Solid Die Casting Process to Improve the Mechnaical Properties of the Mg-Alloys.
3. A. Eliezer (1998 - 2003). Corrosion Creep and Corrosion Fatigue Mechanism in Die Cast Mg-Alloys.