CURRICULUM VITAE

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Position	:	Professor (Emeritus)
Office Address	:	Metallurgical & Materials Engineering Department, Middle East Technical University, 06531, Ankara, TURKEY
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PERSONAL DATA

Date of Birth/Place	:	January 17, 1934 / İstanbul, TURKEY
Nationality	:	Turkish
Sex	:	Male
Height	:	175 cm
Weight	:	74 kg

TECHNICAL OBJECTIVES

Theoretical and experimental work in the domain of materials science and solid state physics, including chemical and structural defects in solids and their role on the electronic and atomic mass transport phenomena, internal friction studies with special emphasis on the characterization and identification of point defects in metals and alloys. The applications of X-ray, SEM, NMR and Mossbauer spectroscopies to the detailed investigations of imperfections in solids.

Mathematical modeling and computer simulation studies in regards to non-linear behavior such as solitons and kinks in solids, irreversible thermokinetics of surfaces and interfaces with triple junction singularities, electromigration induced phenomena and mechanical behavior of micro/nano-size materials.

SPECIALIZATION

Materials Science, Theoretical Solid State Physics and Applied Mathematics

a. NMR, SEM and Mossbauer spectroscopies
b. X-ray diffraction
c. Internal friction and attenuation
d. Computer simulations related to mechanical spectroscopy, micro-structural evolution.

EDUCATION

1957	Turkish Naval Academy	B.S. Naval Line Officer
1962	Stanford University	M.Sc. Materials Science & Engineering
1964	Stanford University	Ph.D. Materials Science & Engineering

EXPERIENCE

Emeritus Professor, 2001-present
Metallurgical Engineering, Ankara, TURKEY.

Professor, 1975-2001
Metallurgical Engineering, Ankara, TURKEY.

Chairman, 1970-1975
Metallurgical Engineering, Ankara, TURKEY.

Associate Professor, 1969-1975
Metallurgical Engineering, Ankara, TURKEY.

Assistant Professor, 1965-1969
Metallurgical Engineering, Ankara, TURKEY.

Affiliated Professor, 1983-1988
Max-Planck-Institute für Physics, GERMANY.
(Summer Semesters)

Institute Professor (Freiwissenschaftler), 1980-1983
Max-Planck-Institute für Metallforschung, GERMANY.

Director of Foundry Factory, 1964-1965
Turkish Naval Shipyard, Gölcük, TURKEY.

Research Associate, 1962-1964
Center for Materials Research, Stanford, USA.

Research Assistant, 1961-1962
Department of Materials Science, Stanford, USA.

Naval Officer, 1957-1965
Turkish Navy, TURKEY.

ACADEMIC HONORS AND AWARDS

1953	Graduation Honor from **Turkish Naval College**
1955	Graduation Honor from **Turkish Naval Academy**
1962, 1964	High Distinction in Graduation, **Stanford University**
1973	Engineering Research Award from Turkish Scientific and Technical Research Council, **TUBITAK**
1988	Turkish Republic Science Prize of Year 1987 by **TUBITAK**
1988	The Letter of High Achievement from **Max-Planck-Society** President
1990	Research found (45.000 DM) from 'Deutsche Gesellschaft fur Technische Zusammenarbeit' **(GTZ)**
1992	**N. M. Parlar Foundation** Science Prize of Year 1992
1994	Peer Reviewer appointment for late Soviet States by **International Science Foundation**, Washington, D.C.
1994	Nominated for the Harvey Prize of Science and Technology of Year 1995 by the office of the President of METU
2000	**N. M. Parlar Foundation**, Best Thesis Award METU
2004, 2011	**Graduate School of Natural and Applied Sciences**, Best Thesis Award METU

RESEARCH FUNDING

- PI, Turkish Scientific and Technical Research Council (TUBITAK) (2007) Research Project No. 107M011($ 110,000):

  Computer simulations of electromigration driven intragranular macro-voids and grain boundary grooves under the hydrostatic and biaxial stress systems in metallic thin film interconnect.
- PI, TUBITAK (2005) Research Project No. 104M399 ($ 100,000):

  Computer simulation of electromigration-induced failure of metallic interconnects: special reference to the effects of diffusion anisotropy and thermal stresses on the evolution of surface morphology and cathode failure.
- PI, Deutsche Gesellschaft fur Technische Zusammenarbeit (1990) (DM 45.000):

  Mathematical modelling of decoration peak associated with dragging point defects situated selectively at the kink chain with special references to hydrogenated BCC and FCC metals.
- PI, TUBITAK (1974) Research Project No. MAG-348 ($ 100,000):

  Theoretical investigations on the kinetics of stacking faults and applications to copper – zinc system.
- PI, TUBITAK (1972) Research Project No. MAG-269 ($ 100,000):

  X-Ray Diffraction Studies of the Annealing Kinetics of Stacking Faults in Alpha Brasses.
- PI, TUBITAK (1969) Research Project No. MAG-166 ($ 100,000):

  Diffusion kinetics of aluminum in niobium.

PROFFESSIONAL ACTIVITIES

Member,	Sigma Xi
	American Physical Society
	American Association for the Advancement of Science
	American Society of Metals
	International Society of Crystallographers
	Materials Research Society
	Turkish Metallurgical Engineering Association
	Turkish Physical Society
Peer reviewer,	Journal of Applied Physics
	Applied Physics Letters
	International Journal of Computational Physics
	National Science Foundation, USA

PUBLICATIONS

A. Journal Papers: 1962-1997

1. Ogurtani T.O., 1962, *The General Formulation of Diffusion and Random Flight Theory in Crystalline Solids,* Stanford DMS Report.

2. Ogurtanı T.O., 1962, *General Treatment of Multi-Ionized Impurities in Semiconductors,* Stanford DMS Report.

3. Ogurtanı T.O., 1962 *Mechanism of Diffusion of Copper in Germanium,* Stanford DMS Report.

4. Stoebe T., Ogurtanı T.O., and Huggins R. A., 1964. *Motional Narrowing of NMR Lines in Mn Doped LiF,* Stanford DMS Report 2.

5. Stoebe T., Ogurtanı T.O., and Huggins R. A., 1964 *Motional Narrowing of NMR Lines in Mn Doped LiF,* Phys. Rev., 134, A963.

6. Stoebe T., Ogurtanı T.O., and Huggins R. A., 1964, *Influence of Paramagnetic Impurities on the Temperature Dependence of NMR Lines,* Stanford DMS Report 27.

7. Ogurtanı T.O., 1964, *The Theory of Nuclear Quadrupole Interactions Related to Imperfections in Metals,* Stanford DMS Report, 19.

8. Ogurtanı T.O., and Huggins R. A., 1965, *Contribution of Conduction Electron Redistribution to Quadrupole Interaction in Plastically Deformed Copper,* Phys. Rev., 137, A1736.

9. Stoebe T., Ogurtanı T.O., and Huggins R. A., 1965, *Nuclear Magnetic Resonance Studies of Diffusion of Al^{23} in Aluminum and Aluminum Alloys,* Acta Met., 13, 701.

10. Stoebe T., Ogurtanı T.O., and Huggins R. A., 1965, *Influence of Paramagnetic Impurities on the Temperature Dependence of NMR Lines,* Phys. Rev., 138, A239.

11. Stoebe T., Ogurtanı T.O., and Huggins R. A., 1965, *Correlation Correction of NMR Studies of Diffusion,* Phys. Status Solidi, 12, 649.

12. Ogurtanı T.O., Stoebe T., and Huggins R. A., 1966, *Alüminyum Zati Difüzyonunun Alüminyum Alaşımlarında MNR ile İncelenmesi,* TÜBİTAK Metalurji Simpozyumu I, İstanbul, p.130.

13. Ogurtanı T.O., and Huggins R. A., 1967, *Theory of Elastic Field Gradient due to Conduction Electron Charge Density Redistribution Around Screw Dislocation in Metals,* Phys. Status Solidi, 24, 301.

14. Ogurtanı T.O., and Huggins R. A., 1968, *An Analysis of MNR Lines Intensity in Severly Deformed Copper,* METU J. Pure and Applied Sciences, 1(2), 155.

15. Ogurtanı T.O., 1968, *Special Problems on the Dislocation Electron Interaction in Metals,* METU Faculty of Engineering Publications, No:10.

16. Ogurtanı T.O., 1969, *Alüminyumun Kolombiyumdaki Difüzyon Kinetigi,* TÜBİTAK MAG-166 Araştırma Projesi Raporu, Ankara.

17. Ogurtanı T.O., 1969, *Alüminyumun Kolombiyumdaki Difüzyon Kinetigi,* TÜBİTAK II. Bilim Kongresi, Metalurji Seksiyonu, p.69, Ankara.

18. Ogurtanı T.O., 1971, *The Kinetics of Hydrogen Diffusion ın Niobium,* Metall. Trans., AIME, 2, 3035.

19. Ogurtanı T.O., 1972, *X-Işınları Diffraksiyonu ile Bakır-Çinko Alaşımlarında Dizi Hatalarının Tavlama Kinetiğinin İncelenmesi,* TÜBİTAK MAG-269 Araştırma Projesi Raporu, Ankara.

20. Ogurtanı T.O., 1972, *Kinetics of Diffusion in the Niobium-Aluminum System,* Metall. Trans. AIME, 3, 421.

21. Ogurtanı T.O., 1972, *Alüminyumun Kolombiyumdaki Difüzyon Kinetiği,* METU J. Pure and Applied Sciences, 5(2), 287.

22. Ogurtanı T.O., and Uygur E. M., 1972, *Diffusion of Nitrogen in Niobium with Special Reference to Temperature Dependence of the Activation Energy,* Trans. Japan Inst. of Metals, 13(6), 396.

23. Ogurtanı T.O., 1973, *X-Işınları Difraksiyonu ile Bakır-Çinko Alaşımlarında Dizi Hatalarının Kinetiğinin İncelenmesi,* TÜBİTAK IV. Bilim Kongresi, Metalurji Seksiyonu, p.1, Ankara.

24. Ogurtanı T.O., 1974, *Dizi Hatalarının Dinamiği Üzerinde Teorik İncelemeler ve Bakır-Çinko Sistemine Uygulanmaları,* TÜBİTAK MAG-348 Araştırma Projesi Raporu, Ankara.

25. Ogurtanı T.O., 1975, *X-Ray Diffraction Studies of the Room Temperature Annealing Kinetics of Stacking Faults in Severly Deformed Alpha Brasses,* Microstructural Science, 3, 227.

26. Ogurtanı T.O., 1975, *The Room Temperature Anneling Kinetics of Stacking Faults in Cold Worked Alpha Brasses,* Metall. Trans. AIME, 6A, 493.

27. Bilir N., and Ogurtanı T.O., 1978, Proceeding of the First Turkish National Thermodynamics Symposium, Kirazlıyayla, Bursa.

28. Ogurtanı T.O., 1978, *Çok Bileşenli Katı Çözeltilerde Dizi Hatalarının Termodinamiği,* Ulusal Termodinamik Simpozyumu I, 191, Bursa.

29. Ogurtanı T.O., 1979, *The Kinetics of Atomic Diffusion to Stacking Faults and Related Special Problems in Cold Worked Alpha Brasses,* Metall. Trans. AIME, 10A, 1505.

30. Ogurtanı T.O., 1980, *Unified Theory of Dislocation Damping with Special Reference to Point Defect Dragging*, Phys. Rev., 8, 21, 4373.

31. Ogurtanı T.O., 1981, *Theory of Dislocation Damping Related to Point Defect Dragging,* J. de. Physique, Coll. C5, Suppl. 10, 42, 235.

32. Ogurtanı T.O., and Seeger A., 1983, *Kinetics of Hopping of Octahedral Interstitials in Arbitrary Time Dependent and Inhomogeneous Field: Body Cenetered Cubic Metals*, J. Appl. Phys., v.54, 3867.

33. Ogurtanı T.O., and Seeger A., 1983, *The Kinetics of Hopping Motion of Interstitials with Chemical Reaction in Arbitrary Time Dependent Inhomogeneous Fields,* J. Chem. Phys., v.79, 5041.

34. Ogurtanı T.O., 1983, *Solitons in Solids,* Ann. Rev. Materials Sci., v.13, 67. (Invited Paper)

35. Uygur E. M., and Ogurtanı T.O., 1983, *Internal Friction in AISI 1010 Steel,* J. de Physique, C9, v.44, 319.

36. Ogurtanı T.O., and Seeger A., 1983, *The Theory of Strain Amplitude Dependent Dislocation Damping in the Presence of Uniform Point Defect Dragging,* J. de Physique, C9, v.44, 619.

37. Ogurtanı T.O., and Seeger A., 1983, *Internal Friction Associated with Mobile Interstitials in the Presence of a Kink Harmonically or Uniformly Moving in Anisotropic BCC Metals, J. de Physique*, C9, v.44, 639.

38. Ogurtanı T.O., and Seeger A., 1984, *Internal Friction and Viscosity Associated with Mobile Interstitials in the Presence of a Kink Harmonically or Uniformly Moving in Anisotropic BCC Metals,* J. Appl. Phys., 55, 2857.

39. Ogurtanı T.O., and Seeger A., 1984, *Theory of Strain-Amplitude Dependent Dislocation Damping,* Phys. Rev., B29, 1728.

40. Ogurtanı T.O., and Seeger A., 1985, *Dislocation Enhanced Induced Snoek Peak Associated with Heavy Interstitials in the Presence of Kink Moving Harmonically in Anisotropic BCC* Metals, Phys. Rev., B31, 5044.

41. Ogurtanı T.O., and Seeger A., 1985, *Unified Theory of Kink Dragging with a Special Reference to the Flow Stress and the Snoek-Koster Peak Relaxation in Anisotropic BCC Metals,* J. Appl. Phys., 57(2), 193.

42. Ogurtanı T.O., and Seeger A., 1985, *Computer Modelling Experiments on Tetrahedral Interstitial-Kink Interactions with a Special Reference to Induced Snoek Peak,* J. Appl. Phys., 57(2), 5127.

43. Ogurtanı T.O., and Seeger A., 1985, *The Drag Force Acting on a Kink Moving Uniformly in the Atmosphere of Paraelastic Interstitials in a BCC Metal,* J. Appl. Phys., 57(2), 4102.

44. Ogurtanı T.O., and Seeger A., 1987, *Nonlinear Theory of Power Dissipation due to the Motion of Heavy Interstitials in a Fluctuating Inhomogeneous Field wıth a Strong Bias: Special Reference to the Snoek-Koster Relaxation,* J. Appl. Phys., 62, 852.

45. Ogurtanı T.O., and Seeger A., 1987, *Nonlinear Theory of the Dislocation Enhanced Snoek Effect and Its Connection with the Geometric and/or Thermal Kink Oscillations on Nonscrew Dislocations in Body-Centered Cubic Metals,* J. Appl. Phys., 62(9), 3704.

46. Ogurtanı T.O.,1987, *The Nonlinear Theory of the Snoek Relaxation Effect Under the Strong and Homogeneous Bias Stress System,* Phys. Stat. Sol. (b), 144, 129. (Invited Paper)

47. Ogurtani T.O., and Seeger A., 1987, *Nonlinear Theory of Power Dissipation Due to the Motion of Heavy Interstitials in Oscillating Inhomogeneous Fields with Strong Static Bias,* J. de Physıque, Coll. C8, Suppl. No:12, Tome 48, 167.

48. Ogurtanı T.O., and Seeger A., 1989, *The Computer Simulation of the Internal Friction Peaks Associated with the Oscillation of Geometric Kinks Along the Nonscrew Dislocation in the Atmosphere of Nonlinear Power Dissipation Interstitials,* J. Appl. Phys., 65(12), 4679-4687.

49. Ogurtanı T.O., 1989, *The Cherenkow Type Sharp Energy Dissipations Associated wıth Kinks (Solitons) Moving Harmonically in the Atmosphere of Paraelastic Interstitial Atoms,* J. Appl. Phys., 66(11), 5274-5277.

50. Ogurtanı T.O., 1989, *The Exact Solution of the Geometric Kink Chain Oscillating in the Atmosphere of Paraelastic Interstitials and Decorated by a Dragging Point Defect*, Phys. Rev., B 40, 2873-2878.

51. Ogurtanı T.O., and Seeger A., 1990, *The Nonlinear Theory of Dislocation Induced Snoek Relaxation,* Proceedings of 9th ICIFUA in Solids, Beijing, China, 99. (Invited Paper)

52. Ogurtani T.O., 1991, *Anomalous Amplitude Dependent Dislocation Damping Associated with the Anharmonic Oscillations of Coulombic Kink Chain in the Nonlinear Dissipative Atmosphere of Impurity Atoms*, Phys. Stat. Solidi (a), 128, 69-81.

53. Ogurtanı T.O., 1991, *Computer Modelling of the Interactions of Dislocations with Point Defects in Regards to Internal Friction,* Proceedings of 6th ECIFUA in Solids, Cracow, Poland. (Invited Paper)

54. Ogurtanı T.O., and Güngör M. R., 1994, T*he Power Spectrum Associted wih a Kink Chain Oscilating in a Nonstokesian Atmosphere of Paraelastic Interstitials,* J. Alloys and Compounds, 211/212, 141-143.

55. Ogurtanı T.O., *Mathematical Modelling of Decoration Peak Associated with Dragging Point Defects Situated Selectively at Kink Chain with Special References to Hydrogenated BCC and FCC Metals*. Appl. Math. Modelling, Volume 21 Issue 1, pp 26-41 Jan. 1997.

B. Journal Papers: 2001-2011

56. Ogurtani T.O., and Oren E. E., *Computer Simulation of Void Growth Dynamics under the Action of Electromigration and Capillary Forces in Narrow Thin Interconnects.* Journal of Applied Physics, Volume 90, Issue 3, pp 1564-1572 Aug. 1, 2001.

57. Ogurtani T.O., Güngör M. R., and Oren E. E., *Simulation of Dislocation Damping Spectra Associated with the Collective Motion of Point Defects and Kink Chain Subjected to Bulk Segregation.* Journal of Applied Physics, Volume 91, Issue 4, pp 1860-1870 Feb. 15, 2002.

58. Ogurtanı T.O., Güngör M. R., and Oren E. E., *Interactive Computer Simulation of Dislocation Damping Spectra Associated with the Coupled Motion of Geometric Kinks and Point Defects Subjected to Bulk Segregation,* Solid State Phenomena, Volume 89, pp 141-190, 2003.

59. Ogurtani T.O., and Oren E. E., *Electromigration-Induced Void Grain-Boundary Interactions: The Mean Time to Failure for Copper Interconnects with Bamboo and Near-Bamboo Structures*. Journal of Applied Physics, Volume 96, Issue 12, pp. 7246-7253,December 15, 2004.

60. Ogurtanı T.O., and Oren E. E., *Irreversible Thermodynamics of Triple Junctions during the Intergranular Void Motion under the Electromigration Forces,* International Journal of Solids and Structures, Volume 42, Issue 13, June 2005 Pages 3918-3952

61. Ogurtanı T.O., and Akyıldız Ö., *Grain Boundary Grooving and Cathode Voiding in Bamboo-Like Metallic Interconnects by Surface Diffusion Under Capillary and Electromigration Forces,* Journal of Applied Physics, Volume 97, 093520 May 1, 2005.

62. Ogurtanı T.O., *Mesoscopic nonequilibrium thermodynamics of solid surfaces and interfaces with triple junction singularities under the capillary and electromigration forces in anisotropic three-dimensional space.* Journal of Chemical Physics, Volume 124, 144706 April 14, 2006.
Selected paper for the Virtual Journal of Nanoscale Science & Technology.

63. Ogurtanı T.O., *Variational formulation of irreversible thermodynamics of surfaces and interfaces with triple junction singularities under the capillary and electromigration forces in anisotropic two-dimensional space.* Physical Review B, Volume 73, 235408 June 13, 2006.
Selected paper for the Virtual Journal of Nanoscale Science & Technology.

64. Ogurtanı T.O., Çelik A., *Surface morphological evolution on single crystal films by strong anisotropic drift diffusion under capillary and electromigration forces.* Journal of Applied Physics, Volume 100, 043504 Aug 17, 2006.

65. Ogurtanı T.O., Çelik A., and Oren E. E., *Morphological evolution of edge-hillocks on single crystal films having anisotropic drift-diffusion under the capillary and electromigration forces*. Thin Solid Films, Volume 515, Issue 5, 22 January 2007, Pages 2974-2983

66. Ogurtanı T.O., *Unified theory of linear instability of anisotropic surfaces and interfaces under capillary, electrostatic and elastostatic forces: The regrowth of epitaxial amorphous silicon.* Physical Review B, Volume 74, 155422 October 20, 2006.
Selected paper for the Virtual Journal of Nanoscale Science & Technology.

67. Ogurtanı T.O., *Weak solution of the Dirichlet extremum problem associated with the asymmetric grain-boundary groove topography under the Dirac delta type anisotropic surface stiffness in bicrystal thin solid films.* Journal of Applied Physics, 102, 063517 (2007).

68. Ogurtanı T.O., and Akyıldız Ö., *Cathode edge displacement by voiding coupled with grain boundary grooving in bamboo like metallic interconnects by surface drift-diffusion under the capillary and electromigration forces.* International Journal of Solids and Structures, Volume 45, Issues 3-4, February 2008, 921-942.

69. T. O. Ogurtanı, O. Akyildiz, and E. E. Oren, *Morphological evolution of tilted grain-boundary thermal grooving by surface diffusion in bicrystal thin solid films having strong anisotropic surface Gibbs free energies*. Journal of Applied Physics, 104, 013518 (2008).

70. T. O. Ogurtani and O. Akyildiz, *Morphological evolution of voids by surface drift-diffusion driven by the capillary, electromigration and thermal-stress gradient induced by the steady state heat flow in passivated metallic thin films and flip chip solder joints: Part-I (Theory)*, Journal of Applied Physics, 104, 023521 (2008).
Selected paper for the Virtual Journal of Nanoscale Science & Technology

71. T. O. Ogurtani and O. Akyildiz, *Morphological evolution of voids by surface drift-diffusion driven by the capillary, electromigration and thermal-stress gradient induced by the steady state heat flow in passivated metallic thin films and flip chip solder joints: Part-II (Applications)* Journal of Applied Physics, 104, 023522 (2008).

72. T. O. Ogurtani, *Thermal grain-boundary grooving in bicrystal thin solid films having strong anisotropic surface Gibbs free energy represented by the modified cycloid-curtate function*. Journal of Crystal Growth 311, 1584-1593 (2009)

73. T. O. Ogurtani, *The orientation dependent electromigration induced healing on the surface cracks and roughness caused by the uniaxial compressive stresses in single crystal metallic thin films.* Journal of Applied Physics 106, 053503 (2009)

74. T. O. Ogurtani, A. Celik, and E. E. Oren, *Morphological evolution in a strained-heteroepitaxial solid droplet on a rigid substrate: Dynamical simulations.* Journal of Applied Physics 108, 063527 (2010).
Selected paper for the Virtual Journal of Nanoscale Science & Technology

75. T. O. Ogurtani, A. Celik, and E. E. Oren, *Generic role of the anisotropic surface free energy on the morphological evolution in a strained-heteroepitaxial solid droplet on a rigid substrate*. Journal of Applied Physics 108, 103516 (2010).

76. O. Akyildiz, E. E. Oren and T. O. Ogurtani, *Mesoscopic nonequilibrium thermodynamics treatment of the grain boundary thermal grooving induced by the anisotropic surface drift diffusion*. Journal of Materials Science, online first (2011). doi: 10.1007/s10853-011-5567-8

C. International Meeting Papers:

1. Oren E. E., and Ogurtanı T.O., *Interactive Computer Simulation of Dislocation Damping Spectra Associated with the Coupled Motion of Geometric Kinks and Point Defects Subjected to the Bulk Segregation Phenomenon.* ICIFUAS 13: 13th International Conference on Internal Friction and Ultrasonic Attenuation in Solids and 1st Scientific Exhibition on Mechanical Spectroscopy Equipment Bilbao, Spain. Poster Presentation, July 8-12, 2002.

2. Oren E. E., and Ogurtanı T.O., *Void Intergranular Motion Under The Action of Electromigration Forces in Thin film Interconnects with Bamboo Structure* MRS 2001 Fall Meeting Symposium L: Thin Films-Stresses and Mechanical Properties IX" Boston,Massachusetts,USA.
   Oral Presentation, November 26-30, 2001.

3. Oren E. E., and Ogurtanı T.O., *The Effect of Initial Void Configuration on the Morphological Evolution Under the Action of Normalized Electron Wind Forces* MRS 2001 Spring Meeting "Symposium L: Materials, Technology, and Reliability for Advanced Interconnects and Low-k Dielectrics" San Francisco, California, USA. Poster Presentation, April 16-20, 2001.

4. Ogurtanı T.O., Güngör M. R., and Oren E. E., *Interactive Computer Simulation of Dislocation Damping Spectra Associated with the Coupled Motion of Geometric Kinks and Point Defects Subjected to the Bulk Segregation Phenomenon.* Second International School on Mechanical Spectroscopy MS - 2 Kraków-Krynica, Poland. Invited Presentation, December 3-8 , 2000.

5. Ogurtanı T.O., and Oren E. E., *Computer Simulation of Void Growth Dynamics Under The Action of Electromigration and Capillary Forces in Narrow Thin Interconnects* Advanced Metallization Conference (AMC) 2000 "P.IV: Reliability and Modeling " San Diego, California, USA. Poster Presentation, October 3-5, 2000

6. Ogurtanı T.O., and Akyıldız Ö., *Computer Simulations on Grain Boundary Grooving and Cathode Edge Displacement in Bamboo-Like Metallic Interconnects*, in Materials, Technology and Reliability of Low-k Dielectrics and Copper Interconnects Editors: T.Y. Tsui, Y-C. Joo, A.A. Volinsky, M. Lane, L. Michaelson, Mater. Res. Soc. Symp. Proc. 914 , Warrendale, PA, 2006, 0914-F09-22.

7. Ogurtanı T.O., and Akyıldız Ö., *Morphological Evolution of Intragranular Void under the Thermal-Stress Gradient Generated by the Steady State Heat Flow in Encapsulated Metallic Films: Special Reference to Flip Chip Solder Joints,* Solid State Phenomena, Volume 139, pp.151, 2008. Selected, peer reviewed papers from the Symposium: Theory, Modeling and Numerical Simulation of Multi-Physics Materials Behavior organized within the MRS Fall Meeting 2007 held in Boston MA, USA, November 26-30, 2007. Editors: Veena Tikare, Graeme E. Murch, Fredric Soissons and Jeung Ku Kang

D. National Meeting Papers:

1. Oren E. E., and Ogurtanı T.O., International Conference on Mathematical Modeling and Scientific Computing Middle East Technical University and Selçuk University Ankara and Konya, Turkey. Oral Presentation, April 2-6, 2001

E. Chapters in Books:

1. Ogurtani T.O., Güngör M. R., and Oren E. E., *Interactive Computer Simulation of Dislocation Damping Spectra Associated with the Coupled Motion of Geometric Kinks and Point Defects Subjected to the Bulk Segregation Phenomenon,* Mechanical Spectroscopy II, Solid State Phenomena, Volume 89-90, pp. 141-191 Editor: L. B. Magalas Trans Tech Publications, Switzerland, 2003. ISBN 3-908450-74-8.

2. Oren E. E., and Ogurtanı T.O., *Void Intergranular Motion Under the Action of Electromigration Forces in Thin Film Interconnects with Bamboo Structure* MRS 2001 Fall Meeting, V695, pp L5.5.1-L.5.5.7 Editors: C.S. Ozkan, R.C. Cammarata, L.B. Freund, H. Gao, The Materials Research Society, USA, 2002, ISBN 1-55899-631-1

3. Oren E. E., and Ogurtanı T.O., *The Effect of Initial Void Configuration on the Morphological Evolution Under the Action of Normalized Electron Wind Forces* MRS 2001 Spring Meeting, V714 E, pp L9.2.1-L9.2.6 Editor: S. Lahiri, The Materials Research Society, USA, 2001,

4. Ogurtanı T.O., and Oren E. E., *A Computer Simulation of Void Dynamics under the Action of Electromigration and Capillary Forces in Narrow Thin Interconnects* Advanced Metallization Conference 2000 (AMC 2000), V16, pp 483-487. Editors: D. Edelstein, G. Dixit, Y. Yasuda, T. Ohba, The Materials Research Society, USA, 2001, ISBN: 1-55899-574-9.

5. Ogurtanı T.O., and Akyıldız Ö., *Computer Simulations on Grain Boundary Grooving and Cathode Edge Displacement in Bamboo-Like Metallic Interconnects*, in Materials, Technology and Reliability of Low-k Dielectrics and Copper Interconnects Editors: T.Y. Tsui, Y-C. Joo, A.A. Volinsky, M. Lane, L. Michaelson, Mater. Res. Soc. Symp. Proc. 914 , Warrendale, PA, 2006, 0914-F09-22.

6. Ogurtanı T.O., and Akyıldız Ö., *Morphological Evolution of Intragranular Void under the Thermal-Stress Gradient Generated by the Steady State Heat Flow in Encapsulated Metallic Films: Special Reference to Flip Chip Solder Joints,* Solid State Phenomena, Volume 139, pp.151, 2008. Selected, peer reviewed papers from the Symposium: Theory, Modeling and Numerical Simulation of Multi-Physics Materials Behavior organized within the MRS Fall Meeting 2007 held in Boston MA, USA, November 26-30, 2007. Editors: Veena Tikare, Graeme E. Murch, Frédéric Soisson and Jeung Ku Kang