

CURRICULUM VITAE

1. Name : K. Levend Parnas

2. Date of Birth : 16 August 1959

3. Academic Title : Prof. Dr.

4. Education Background :

Degree	Area	University	Year
B.S.	Mechanical Engineering	Middle East Technical University	1982
M.S.	Mechanical Engineering	Middle East Technical University	1985
M.S.	Aerospace Engineering	Georgia Institute of Technology	1986
Ph.D.	Aerospace Engineering	Georgia Institute of Technology	1991

5. Career History

Assistant Professor	Mechanical Engineering	METU	1992-1995
Associate Professor	Mechanical Engineering	METU	1995-2003
Professor	Mechanical Engineering	METU	2003-2015
Professor	Mechanical Engineering	TED UNIV.	2015-.....

Date of which the Assoc. Prof. degree attained: 1995

6. Theses Supervised

6.1 M.S. Theses Supervised

Kuş, V., “Analysis of filament wound cylinders against torsion”, METU, 1996

Ergüven, B., “Design of Composite Cylindrical Casings”, METU, 1996

Dürer, M., “Defect characterization of composite honeycomb panels by non-destructive inspection methods”, METU, 1997 (Co-supervisor)

Ersan, E., “Impact response of fiber reinforced composite pipes”, METU, 1997

Alahmar, A., "COMSEL: An expert system for composite materials selection", 1997

Ertekin, A., "Effects of process variables on the mold filling time in resin transfer molding", METU, 1997 (Co-supervisor)

Akgül, T., "Effect of process parameters on physical and mechanical properties of RTM (Resin Transfer Molded) parts", METU, 1998

Ünsoy, A., "Buckling analysis of laminated composite stiffeners using finite element method", METU, 1998

Ahçı, E., "Design of fiber reinforced composite rocket motor case", METU, 1998

Katırcı, N., "Analysis of fiber-reinforced composite pressure vessels", METU, 1998

Aleçakır, S., "Structural design and experimental analysis of a filament-wound composite tube under combined loading", METU, 1998

Bayar, M., "Athermalization of a forward looking infrared system", METU, 1998

Alagöz, Ç., "Finite element analysis of long fiber reinforced spur gears", METU, 1999 (Co-supervisor)

Ligata, H., "Investigation of effect of filler on mechanical properties of fiber reinforced polymer matrix composites", METU, 2000

Anıl, D., "Opto-mechanical design of lens mounts", METU, 2000

Başbilen, H., "Mechanical analysis of a weapon-mounted thermal imaging system", METU, 2000

İlhan, A., "Computational design of composite tubes and pressure vessels", METU, 2001

Ceyhan, Ü., "Optimum design of composite membranes with curved fiber courses", METU, 2001

Ayral, A. E., "Tensile, flexural, inplane shear and impact properties of polyether-ether-ketone (peek) matrix reinforced by carbon fiber composites", METU, 2001 (Co-supervisor)

Şenel, F., "Analysis of a high pressure composite vessel by computational methods", METU, 2001

Sayman, S., “Analysis of fiber reinforced composite vessel under hygrothermal loading”, METU, 2003

Erdiller, E., “Experimental investigation for mechanical properties of filament wound composite tubes”, METU, 2004

Bora, B., “Design and analysis of filament wound composite tubes”, METU, 2004

Kandaz, M., “Computer aided design and structural analysis of pressure vessels”, METU, 2006

Başaran, B., “Computational analysis of advanced composite armor systems”, METU, 2007

Gözlüklü, B., “Delamination analysis by using cohesiand interface elements in laminated composites”, METU, 2009

Miskbay, A. O., “Process characterization of composite structures manufactured using resin impregnation techniques”, METU, 2009

Gerçeker, B., “Drop test simulation of a munition with foams and parametric study on foam geometry and material”, METU, 2012 (Co-supervisor)

Uçak, İ., “Assessment of different finite element modeling techniques on delamination growth in advanced composite structures”, METU, 2012

Sünel, E., “Design of an advanced composite shell for helicopter pilot helmets”, METU, 2012

Doğan, O., “Failure analysis of advanced composites under impact by cohesiand zone method”, METU, 2013

Erdem, M. E., “Failure analysis of thick composites”, METU, 2013

Karahan, U., “Development of an advanced composite external fuel tank for air platforms”, METU, 2014

6.1 Ph.D. Theses Supervised

Evcil, A., “Three dimensional failure analysis of pin jointed composite laminates”, METU, 2000

Alahmar, A., “Object-oriented expert database system for composite materials selection and design”, METU, 2001 (Co-supervisor)

Balya, B., “Kompozit Zırhların Mekanik Davranışının Sayısal and Deneysel İncelenmesi (Numerical and Experimental Investigation of the Mechanical Behaviour of Composite Armors)”, Gazi Üniversitesi, 2012 (Co-supervisor)

7. Publications

7.1 Papers Published in International Refereed Journals

Yahşi, O. S., and Parnas, L., “Conical Crack Problem in Semi-Infinite Media with Stress Free Boundary Conditions,” *International Journal of Fracture*, 31, 291-301 (1986)

Armanios, E. A., and Parnas, L., “Delamination Analysis of Tapered Composite Laminated Composites under Tensile Loading,” *Composite Materials: Fatigue and Fracture*, ASTM STP 1011, K. O'Brian, Ed., American Society for Testing and Materials (1991)

Parnas, L., Armanios, E.A., Sriram, P., and Rehfield, L., “Postbuckling and Crippling of I- Section Composite Stiffeners,” *Journal of Aerospace Engineering*, 8, 1, 32-42 (1995)

Parnas, L., Bilir, Ö.G., and Tezcan, E., “Strain Gage Methods for Measurement of Opening Mode Stress Intensity Factor,” *Journal of Engineering Fracture Mechanics*, 55, 3, 485-492 (1996)

Akpınar, I., Demirel, F., Parnas, L. and Sahin, S., “A Comparison of Stress and Strain Distribution Characteristics of Two Different Rigid Body Implant Designs for Distal-Extension Fixed Prostheses,” *Quintessence International: Implant Dentistry*, 27, 1, 11-17 (1996)

Akpınar, I., Anil, N. and Parnas, L., “A Natural Tooth's Stress Distribution in Occlusion with a Dental Implant,” *J. of Oral Rehabilitation*, 27, 538-545 (2000)

Parnas, L., Oral, S. and Ceyhan, U., “Optimum Design of Composite Structures with Curved Fiber Courses,” *Composite Sci. and Techn.*, 63, 7, 1071-1082 (2003)

Parnas, L. and Katirci N., “Design of Fiber-Reinforced Composite Pressure Vessels under Various Loading Conditions,” *J. of Composite Structures*, 58, 83-95 (2002)

Alagoz, Ç., Arikan, S., Bilir, O.G. and Parnas, L., “3-D Finite Element Analysis of Long Fiber Reinforced Composite Spur Gears,” *Journal of Gear Manufacturing*, 19, 2, 12-19 (2002)

Kaynak, C., Erdiller, E., Parnas, L. and Senel, F., “Use of split-disk tests for the process parameters of filament wound epoxy composite tubes,” *Polymer Testing*, 24, 648– 655 (2005)

Sahin, V., Akaltan, F., and Parnas, L., “Effects of the type and rigidity of the retainer and the number of abutting teeth on stress distribution of telescopic-retained removable partial dentures,” *Journal of Dental Sciences*, 7, 1, 7-13 (2012)

Poorzeinolabedin, M., Parnas, L., and Dashatan, H. S., “Resin infusion under flexible tooling process and structural design optimization of the complex composite part,” *Materials and Design*, 64, 450-455 (2014)

7.2 Papers Presented and Published in Proceedings of International Scientific Conferences

Yahşi, S., and Parnas, L., “Conical Crack Problem in Semi-Infinite Media with Stress-Free Boundary Conditions,” *Proceedings of International Conference on Computational Mechanics*, May 25-29, 1986, Tokyo

Rehfield, L.W., and Parnas, L., “An Approach for Predicting the Crippling Strength of Thin Walled Composite Airframe Structures under Compression,” *Proceedings of the 3rd ASC Technical Conference on Composite Materials*, September 1988.

Armanios, E.A., and Parnas, L., “Delamination Analysis of Tapered Composite Laminated Composites under Tensile Loading,” *ASTM Third Symposium on Composite Materials: Fatigue and Fracture*, American Society for Testing and Materials, October 1989.

Parnas, L., Armanios, E. A. and Sriram, P., “Buckling, Postbuckling and Crippling of Thin Walled Composite Airframe Structures under Compression,” *Proceedings of the AHS International Specialists Meeting on Rotorcraft Basic Research*, pp. 46.1-46.8, Atlanta, Georgia, March 25-27, 1991

Parnas, L., Armanios, E. A. and Sriram, P., “Postbuckling Analysis of Composite Stiffeners under Uniaxial Compression,” *Proceedings of the 8th ASCE Engineering Mechanics Specialty Conference*, pp. 937- 942, Columbus, Ohio, May 20-22, 1991

Parnas, L., “Crippling Analysis of Composite Plates with a Free Edge under Uniaxial Compression,” *AIAA Aerospace Technology Symposium*, February 22-23, 1991

Nobuhide, U., Parnas, L., and Armanios, E.A. "Stress Field in Postbuckled Composite Stiffeners Loaded in Compression," Advanced Composites '93: International Conference on Advanced Composites. University of Wollongong, Australia. February 15-19, 1993

Sahin, S., Parnas, L., Akpinar, I. and Muhtarogullari, M., "Comparison of Rigid and Resilient Intermobil Elements of IMZ Implant System by using Finite Element Stress Analysis Method," Abstract Book of 2nd International Dental Congress, İstanbul, 20-26 June, 1994

Akpinar, I., Anil, N. and Parnas, L., "Stress Distribution in Rigid and Resilient IMZ Implant Systems in Occlusion with Natural Tooth," Abstract Book of International Symposium on Oral Biology, İstanbul, September 1-3, 1995

Parnas, L., Bilir, Ö.G., and Tezcan, E., "Strain Gage Methods for Measurement of Opening Mode Stress Intensity Factor," 7th ESIS International Conference on Mechanical Behavior of Materials, The Hague, May 28-30, 1995

Parnas, L., Altıntaş, A. and Gürbüz, R., "An Investigation on Impact Strength of Fiber Reinforced Composite Pipes," 7th ESIS International Conference on Mechanical Behavior of Materials, The Hague, May 28-30, 1995

Parnas, L. and Akkas, N., "Analysis of Filament Wound Tubes Against Torsion," Proceedings of the Conference on Advanced Multilayered and Fibre-Reinforced Composites, pp. 489-496, Kiev, Ukraine, 1998

Bayar, M., Parnas, L., Dikici, A., Colakoglu, A. and Farsakoglu, F., "Athermalization of a Forward Looking Infrared System," Proceedings of the Optomechanical Engineering and Vibration Control, SPIE-The International Society for Optical Engineering, pp. 312- 322, July 20-23, 1999, Denver, Colorado.

Alagoz, C., Arikan, S., Bilir, Ö.G. and Parnas, L., "3-D Finite Element Analysis of Long Fiber Reinforced Composite Spur Gears," Proceedings of ASME Design Engineering Technical Conference, Baltimore, Maryland, USA, September 10-13, 2000

Parnas, L. and Katirci N., "Design of Fiber-Reinforced Composite Pressure Vessels," Proceedings of 3rd International Conference on Composite Science and Technology, pp. 152-158, Durban, South Africa, January 11-13, 2000

Mutlu, L., Toroslu, R., Parnas, L. and Suca, S., "A Three-Dimensional Model of Mandible using Two-Dimensional CT Images," 23rd Annual International Conference of the IEEE Engineering in Medicine and Biology Society, İstanbul, October 25-28, 2001

Erdem, M. E., Koçkar, A., Tursun, G., and Parnas L., “Failure behavior of thick composite laminates,” ICCS-17 International Conference on Composite Structures, Porto, Portugal, 17-21 June 2013

Erdem, M. E., Koçkar, A., Tursun, G., and Parnas, L., “Prediction of Failure Behavior of Pin Loaded Glass Fiber Reinforced Polymer Straps,” ASC 29 American Society for Composites, 29th Technical Conference, La Jolla, USA, September 2014

7.3 Books or Chapters in Books Published

Parnas, L. and Ardic, S., “Chapter 5: Filament Winding,” Handbook of Composite Fabrication, 103-122, Ed. G. Akovali, RAPRA Technology Ltd., Shropshire, UK (2001)

7.4 Papers Published in National Refereed Journals

Parnas, L., Bilir, Ö.G. and Tezcan, E., “Strain-Gage Yöntemleri ile Gerilme Şiddeti Çarpanlarının Belirlenmesi,” Makina İmalat ve Tasarım Dergisi, 2, 5, 209-216 (1995)

7.5 Papers Presented and Published in Refereed Proceedings of National Conferences

Parnas, L., “Fiber Takviyeli Kompozitler and Ulusal Sanayiinin Durumu,” 2. Deniz Kuvvetleri Sempozyumu, İstanbul, Mayıs 25-27, 1995

Parnas, L., Çapcı, G., Gediz, A., and Billur, E., “Basınca Dayanıklı Optimum Kompozit Boru Tasarımı and Savunma Sanayiindeki Kullanımı,” 2. Deniz Kuvvetleri Sempozyumu, İstanbul, Mayıs 25-27, 1995

Parnas, L., Erhan, E. and Üstad, A., “Fiber Takviyeli Kompozit Borularda Darbe Dayanımlarının Deneysel Olarak Belirlenmesi,” 9. Ulusal Mekanik Kongresi, 4-8 Eylül, Ürgüp, 1995

Parnas, L., Ergüven, B. and Karabay, S., “Filaman Sargı Yöntemiyle Üretilen Basınç Kaplarının Tasarımı,” 9. Ulusal Mekanik Kongresi, 4-8 Eylül, Ürgüp, 1995

Mutlu, L., Toroslu, R., Parnas, L. and Suca, S., “Bar Tutuculu Hareketli İmplant Üstü Mandibuler Protezlerde Kemığın Üç-Boyutlu Sonlu Elemanlar Analizi,” Turkish Prosthodonty and Implantology Association, 11th Scientific Congress, 2000.

Parnas, L. and Senel F., “Yüksek Basınca Dayanıklı Kompozit Basınçlı Kap Tasarım and Prototip Üretimi,” SAVTEK 2002, Defense Technologies Congress, pp. 77-85, Ankara, Ekim 24- 25, 2002

Balya , B., Parnas , L. and Şenel , F., “Kombine Yükler Altındaki Filaman Sargı Tüplerin Tasarım and Analizi” 3. Savunma Teknolojileri Kongresi, Ankara, 29-30 Haziran 2006

Şenel , Ş. Parnas , L., Balya , B. and Javier, G., “Zırhlı Araçlarda Kompozit Parçacık Kalkanı (Spall Liner)” 3. Savunma Teknolojileri Kongresi, Ankara, 29-30 Haziran 2006

Balya , B., Parnas , L. and Şenel , Ş. “Küçük Kalibreli (0-12,7 mm) Zırh Delici Mermilere Karşı Seramik-Kompozit Zırh” 3. Savunma Teknolojileri Kongresi, Ankara, 29-30 Haziran 2006

8. Projects

Design of High Pressure Composite Pressure Vessels Manufactured by Filament Winding Method, TÜBİTAK Project, MİSAG-39, 1996

Finite Element Analysis of Stress Distribution on Mandibles Supported by Implant Prosthesis Considering Effect of Three Different Super Structures, TÜBİTAK Project, MİSAG-81, 1999

A New Design Methodology for Internal Combustion Engines, TÜBİTAK Project, MİSAG-82, 2000

METU, Development of Undergraduate Labs in Mechanical Engineering, METU BAP Project, 2001-2003

METU Development of Mechatronics Laboratory in Mechanical Engineering, METU BAP Project, 2002-2004

Smart Structures and Applications in Aerospace Engineering, State Planning Organization Project, 2001-2004

Design Methodology in Thick Section Advanced Composite Aerospace Parts, SANTEZ Project, 960.STZ.2011-2, 2014

9. Administrative Duties

Vice-chairperson

METU

1999-2003

Chairperson METU Northern Cyprus Campus 2007-2009
 Member, Faculty Board Representative for Assist. Prof. and Prof. members

10. Memberships in Professional Organizations

MATİM – Member, Association for Machines, Manufacturing and Design

MÜDEK – Member, Association for Evaluation and Accreditation of Engineering Programs

11. Awards

Koç Foundation, Scholarship for selected students 1978-80

Ministry of Education, Scholarship for Ph.D. in Aerospace Eng. in USA 1985-1990

METU Best Thesis Award 1998

12. Undergraduate and Graduate Courses Taught in last 2 years

Academic year	Semester	Dersin Adı	Credits		Number of students
			Theory	Application	
2013-14	Fall	ME 205 - Statics	3	0	42
		ME 451 - Intro. to Composite Structures	3	0	58
	Spring	ME 205 - Statics	3	0	33
		ME 451 - Intro. to Composite	3	0	35
2014-15	Fall	ME 451 - Intro. to Composite Structures	3	0	47
		ME 543 – Theory of Elasticity	3	0	22
	Spring	----- on Leave -----			
		----- on Leave -----			