

## Prof. ESRA DUMAN

### Personal Information

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### International Researcher IDs

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Publons / Web Of Science ResearcherID: AIC-7107-2022

ScopusID: 25936060600

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### Education Information

Doctorate, Ankara University, Fen Bilimleri Enstitüsü, Matematik (Dr), Turkey 1999 - 2005

Postgraduate, Ankara University, Institute Of Science, Matematik (YI) (Tezli), Turkey 1996 - 1999

Undergraduate, Ankara University, Fen Fakültesi, Matematik Bölümü, Turkey 1991 - 1995

### Research Areas

Mathematics, Natural Sciences

### Academic Titles / Tasks

Professor, Gazi University, Fen Fakültesi, Matematik Bölümü, 2017 - Continues

Associate Professor, Gazi University, Fen Fakültesi, Matematik Bölümü, 2010 - 2017

Researcher, University of Central Florida, Department of Mathematics, 2015 - 2015

Assistant Professor, Gazi University, Fen Fakültesi, Matematik Bölümü, 2007 - 2010

Assistant Professor, Canakkale Onsekiz Mart University, Fen-Edebiyat Fakültesi, Matematik Bölümü, 2006 - 2007

Research Assistant, Ankara University, Fen Bilimleri Enstitüsü, Matematik (Dr), 1996 - 2005

### Advising Theses

Erkus-Duman E., Bazı özel fonksiyonların q- analogları, Postgraduate, Y.AVCI(Student), 2019

Erkus-Duman E., A New Class Of Generating Functions For Some Polynomials, Postgraduate, Ö.AKYEL(Student), 2019

Erkus-Duman E., Bernstein Type And Beta Type Polynomials And Their Properties, Postgraduate, D.UÇAK(Student), 2019

Erkus-Duman E., The Multivariable Hypergeometric Functions, Doctorate, D.KORKMAZ(Student), 2017

Erkus-Duman E., Generating Functions For Bernoulli, Euler And Genocchi Polynomials, Postgraduate,

E.GÜLDOĞAN(Student), 2015

Erkus-Duman E., Çok değişkenli polinomların bazı aileleri için doğurucu fonksiyonlar, Doctorate, N.ÖZMEN(Student), 2014

Erkus-Duman E., Fibonacci ve lucas polinomları için doğurucu fonksiyonlar, Postgraduate, M.ŞENOCAK(Student), 2014

Erkus-Duman E., Generalized humber polynomials, Postgraduate, O.ÇELİK(Student), 2013

Erkus-Duman E, d- orthogonal polynomials, Postgraduate, G.ORUCOVA(Student), 2013  
Erkus-Duman E, Classical orthogonal polynomials of a discrete variable, Postgraduate, B.AYATA(Student), 2012  
Erkus-Duman E, Extended linear generating functions, Postgraduate, E.ÇİMEN(Student), 2012  
Erkus-Duman E, Applications of fractional derivatives to hypergeometric functions, Postgraduate, B.ÜNAL(Student), 2011  
Erkus-Duman E, Özel Fonksiyonların Bazı Özellikleri, Postgraduate, T.MERCAN(Student), 2009

## Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Kantorovich Version of Vector-Valued Shepard Operators**  
Duman O., Della Vecchia B., Erkus-Duman E.  
Axioms, vol.13, no.3, pp.1-12, 2024 (SCI-Expanded)
- II. **A new family of two-variable polynomials based on hermite polynomials**  
Erkus-Duman E., ÇİFTÇİ H.  
MATHEMATICA SLOVACA, vol.72, no.4, pp.885-898, 2022 (SCI-Expanded)
- III. **Gottlieb Polynomials and Their q-Extensions**  
Erkus-Duman E., Choi J.  
MATHEMATICS, vol.9, no.13, 2021 (SCI-Expanded)
- IV. **On Some Families of New Constructed Polynomials**  
Çiftci H., Erkuş-Duman E.  
BULLETIN OF THE MALAYSIAN MATHEMATICAL SCIENCES SOCIETY, vol.43, pp.1111-1125, 2020 (SCI-Expanded)
- V. **SOME NEW PROPERTIES OF UNIVARIATE AND MULTIVARIATE GOTTLIEB POLYNOMIALS**  
Erkus-Duman E.  
MISKOLC MATHEMATICAL NOTES, vol.19, no.2, pp.835-845, 2018 (SCI-Expanded)
- VI. **Harmonic functions associated with some polynomials in several variables**  
Tasdelen F., AKTAŞ R., Erkus-Duman E.  
TURKISH JOURNAL OF MATHEMATICS, vol.42, no.4, pp.1803-1814, 2018 (SCI-Expanded)
- VII. **Generalized Vieta-Jacobsthal and Vieta-Jacobsthal-Lucas polynomials**  
Yalcin N. F., TAŞCI D., Erkus-Duman E.  
MATHEMATICAL COMMUNICATIONS, vol.20, no.2, pp.241-251, 2015 (SCI-Expanded)
- VIII. **GENERATING FUNCTIONS FOR THE GENERALIZED BIVARIATE FIBONACCI AND LUCAS POLYNOMIALS**  
Erkus-Duman E., TUĞLU N.  
JOURNAL OF COMPUTATIONAL ANALYSIS AND APPLICATIONS, vol.18, no.5, pp.815-821, 2015 (SCI-Expanded)
- IX. **FAMILIES OF GENERATING FUNCTIONS FOR THE JACOBI AND RELATED MATRIX POLYNOMIALS**  
ALTIN A., ÇEKİM B., Erkus-Duman E.  
ARS COMBINATORIA, vol.117, pp.257-273, 2014 (SCI-Expanded)
- X. **The Laguerre polynomials in several variables**  
AKTAŞ R., Erkus-Duman E.  
MATHEMATICA SLOVACA, vol.63, no.3, pp.531-544, 2013 (SCI-Expanded)
- XI. **Extended Jacobi Functions via Riemann-Liouville Fractional Derivative**  
ÇEKİM B., Erkus-Duman E.  
ABSTRACT AND APPLIED ANALYSIS, 2013 (SCI-Expanded)
- XII. **On a Family of Multivariate Modified Humbert Polynomials**  
AKTAŞ R., Erkus-Duman E.  
SCIENTIFIC WORLD JOURNAL, 2013 (SCI-Expanded)
- XIII. **STATISTICAL APPROXIMATION BY MEANS OF OPERATORS CONSTRUCTED BY q-LAGRANGE POLYNOMIALS**  
Erkus-Duman E.  
JOURNAL OF COMPUTATIONAL ANALYSIS AND APPLICATIONS, vol.14, no.1, pp.67-77, 2012 (SCI-Expanded)
- XIV. **STATISTICAL KOROVKIN-TYPE THEORY FOR MATRIX-VALUED FUNCTIONS**

- DUMAN O., Erkus-Duman E.  
STUDIA SCIENTIARUM MATHEMATICARUM HUNGARICA, vol.48, no.4, pp.489-508, 2011 (SCI-Expanded)
- XV. **Statistical approximation properties of high order operators constructed with the Chan-Chyan-Srivastava polynomials**  
Erkus-Duman E., DUMAN O.  
APPLIED MATHEMATICS AND COMPUTATION, vol.218, no.5, pp.1927-1933, 2011 (SCI-Expanded)
- XVI. **Miscellaneous properties of some multivariable polynomials**  
Erkus-Duman E., ALTIN A., AKTAŞ R.  
MATHEMATICAL AND COMPUTER MODELLING, vol.54, pp.1875-1885, 2011 (SCI-Expanded)
- XVII. **MATRIX EXTENSIONS OF POLYNOMIALS IN SEVERAL VARIABLES**  
Erkus-Duman E.  
UTILITAS MATHEMATICA, vol.85, pp.161-180, 2011 (SCI-Expanded)
- XVIII. **STATISTICAL RATES IN APPROXIMATION BY POSITIVE LINEAR OPERATORS**  
Erkus-Duman E.  
MISKOLC MATHEMATICAL NOTES, vol.12, no.2, pp.159-166, 2011 (SCI-Expanded)
- XIX. **Rates of Ideal Convergence for Approximation Operators**  
DUMAN O., Ozarslan M. A., Erkus-Duman E.  
MEDITERRANEAN JOURNAL OF MATHEMATICS, vol.7, no.1, pp.111-121, 2010 (SCI-Expanded)
- XX. **On a multivariable extension for the extended Jacobi polynomials**  
Altin A., AKTAŞ R., Erkus-Duman E.  
JOURNAL OF MATHEMATICAL ANALYSIS AND APPLICATIONS, vol.353, no.1, pp.121-133, 2009 (SCI-Expanded)
- XXI. **Statistical Approximation for Stochastic Processes**  
Anastassiou G. A., DUMAN O., Erkus-Duman E.  
STOCHASTIC ANALYSIS AND APPLICATIONS, vol.27, no.3, pp.460-474, 2009 (SCI-Expanded)
- XXII. **Korovkin Type Error Estimates for Positive Linear Operators Involving Some Special Functions**  
Dogru O., Erkus-Duman E.  
TURKISH JOURNAL OF MATHEMATICS, vol.33, no.1, pp.41-53, 2009 (SCI-Expanded)
- XXIII. **A  $q$ -extension of the Erkus-Srivastava polynomials in several variables**  
Erkus-Duman E.  
TAIWANESE JOURNAL OF MATHEMATICS, vol.12, no.2, pp.539-543, 2008 (SCI-Expanded)
- XXIV. **Integral-type generalizations of operators obtained from certain multivariate polynomials**  
Erkus-Duman E., DUMAN O.  
CALCOLO, vol.45, no.1, pp.53-67, 2008 (SCI-Expanded)
- XXV. **Statistical rates on the multivariate approximation theory**  
Duman O., Erkus E., Gupta V.  
MATHEMATICAL AND COMPUTER MODELLING, vol.44, pp.763-770, 2006 (SCI-Expanded)
- XXVI. **Statistical approximation of certain positive linear operators constructed by means of the Chan-Chyan-Srivastava polynomials**  
Erkus E., Duman O., Srivastava H. M.  
APPLIED MATHEMATICS AND COMPUTATION, vol.182, no.1, pp.213-222, 2006 (SCI-Expanded)
- XXVII. **The  $q$ -Lagrange polynomials in several variables**  
Altin A., Erkus E., Tasdelen F.  
TAIWANESE JOURNAL OF MATHEMATICS, vol.10, no.5, pp.1131-1137, 2006 (SCI-Expanded)
- XXVIII. **Approximation of continuous periodic functions via statistical convergence**  
Duman O., Erkus E.  
COMPUTERS & MATHEMATICS WITH APPLICATIONS, vol.52, pp.967-974, 2006 (SCI-Expanded)
- XXIX. **Families of linear generating functions for polynomials in two variables**  
Altin A., Erkus E., Ozarslan M. A.  
INTEGRAL TRANSFORMS AND SPECIAL FUNCTIONS, vol.17, no.5, pp.315-320, 2006 (SCI-Expanded)
- XXX. **A unified presentation of some families of multivariable polynomials**  
Erkus E., Srivastava H. M.

- INTEGRAL TRANSFORMS AND SPECIAL FUNCTIONS, vol.17, no.4, pp.267-273, 2006 (SCI-Expanded)
- XXXI. **On a multivariable extension of the Lagrange-Hermite polynomials**  
Altin A., Erkus E.  
INTEGRAL TRANSFORMS AND SPECIAL FUNCTIONS, vol.17, no.4, pp.239-244, 2006 (SCI-Expanded)
- XXXII. **A Korovkin type approximation theorem in statistical sense**  
Erkus E., Duman O.  
STUDIA SCIENTIARUM MATHEMATICARUM HUNGARICA, vol.43, no.3, pp.285-294, 2006 (SCI-Expanded)
- XXXIII. **A-statistical extension of the Korovkin type approximation theorem**  
Erkus E., Duman O.  
PROCEEDINGS OF THE INDIAN ACADEMY OF SCIENCES-MATHEMATICAL SCIENCES, vol.115, no.4, pp.499-508, 2005 (SCI-Expanded)
- XXXIV. **A note on the Lagrange polynomials in several variables**  
Erkus E., Altin A.  
JOURNAL OF MATHEMATICAL ANALYSIS AND APPLICATIONS, vol.310, no.1, pp.338-341, 2005 (SCI-Expanded)

### Articles Published in Other Journals

- I. **Advances in the Continuous Dual Hahn Polynomials**  
DURLUPINAR M., DUMAN E.  
JOURNAL OF MATHEMATICAL EXTENSION, vol.17, no.4, pp.1-18, 2023 (ESCI)
- II. **The Meixner Polynomials in Several Variables**  
Özmen N., Erkuş-Duman E.  
International Journal of Applied Physics and Mathematics, vol.9, no.3, pp.144-151, 2019 (Peer-Reviewed Journal)
- III. **Extended Multivariable Fourth Type Horn Functions**  
Düzgün D., Erkuş-Duman E.  
Gazi University Journal of Science, vol.32, no.1, pp.225-240, 2019 (ESCI)
- IV. **ON THE GOTTLIEB POLYNOMIALS IN SEVERAL VARIABLES**  
Erkuş-Duman E., Özmen N.  
FACTA UNIVERSITATIS-SERIES MATHEMATICS AND INFORMATICS, vol.34, pp.927-940, 2019 (ESCI)
- V. **Generating Functions for k-Hypergeometric Functions**  
Düzgün D., Erkuş-Duman E.  
International Journal of Applied Physics and Mathematics, vol.9, no.3, pp.119-126, 2019 (Peer-Reviewed Journal)
- VI. **An Extension of a Class of Generating Functions For The Cesaro Polynomials of Three Variables**  
Özmen N., Erkuş-Duman E.  
Journal of Science and Arts, vol.45, no.4, pp.939-950, 2018 (ESCI)
- VII. **Fibonacci and Lucas Differential Equations**  
Erkuş-Duman E., Çiftci H.  
Application and applied mathematics, vol.13, no.2, pp.756-763, 2018 (ESCI)
- VIII. **Some Generating Functions For a Class of Hypergeometric Polynomials**  
Özmen N., Erkuş-Duman E.  
Gazi University Journal of Science, vol.31, no.4, pp.1179-1190, 2018 (ESCI)
- IX. **Some Families of Generating Functions for the Generalized Cesaro Polynomials**  
Özmen N., Erkuş-Duman E.  
Journal Of Computational Analysis And Applications, vol.25, no.4, pp.670-683, 2018 (Scopus)
- X. **The Laguerre Type d-Orthogonal Polynomials**  
Düzgün D., Erkuş-Duman E.  
Journal of Science and Arts, vol.1, no.42, pp.95-106, 2018 (ESCI)
- XI. **ON THE POISSON CHARLIER POLYNOMIALS**  
Özmen N., Erkuş-Duman E.  
Serdica Mathematical Journal, vol.41, pp.457-470, 2015 (Peer-Reviewed Journal)

- XII. **A generalization of the extended Jacobi polynomials in two variables**  
Aktaş R., Erkuş-Duman E.  
Gazi University Journal of Science, vol.28, no.3, pp.503-521, 2015 (Scopus)
- XIII. **New generating functions for the Konhauser matrix polynomials**  
Erkuş-Duman E., Çekim B.  
Communications de la Faculté des Sciences de l'Université d'Ankara, vol.63, no.1, pp.35-41, 2014 (Peer-Reviewed Journal)
- XIV. **Integral Representations for Bessel Matrix Functions**  
Çekim B., Erkuş-Duman E.  
Gazi University Journal of Science, vol.27, no.1, pp.663-667, 2014 (Scopus)
- XV. **On a hybrid family of summation integral type operators**  
Gupta V., Erkuş E.  
Journal of Inequalities in Pure and Applied Mathematics, vol.7, no.1, pp.1-11, 2006 (Peer-Reviewed Journal)
- XVI. **The multivariate  $q$  Lagrange Hermite polynomials**  
Erkuş E.  
International Journal of Computational and Numerical Analysis and Applications, vol.6, no.2, pp.143-151, 2004 (Peer-Reviewed Journal)

## Books & Book Chapters

- I. **Extended Multivariable Hypergeometric Functions**  
Düzgün D., Erkuş-Duman E.  
in: Analysis, Probability, Applications, and Computation, Lindahl K., Lindström T., Rodino L., Toft J., Wahlberg P., Editor, Birkhäuser, Cham, Vaxjö, pp.17-25, 2019
- II. **On the Generalized Sylvester Polynomials**  
Özmen N., Erkuş-Duman E.  
in: Analysis, Probability, Applications, and Computation, Karl-Olof Lindahl, Torsten Lindström, Luigi G. Rodino, Joachim Toft, Patrik Wahlberg, Editor, Birkhäuser, Cham, Vaxjö, pp.47-55, 2019
- III. **On the  $g$ -Jacobi Matrix Functions**  
Çekim B., Erkuş-Duman E.  
in: Advances in Applied Mathematics and Approximation Theory, Anastassiou, Duman, Editor, Springer-Verlag, Zürich, pp.73-84, 2013

## Refereed Congress / Symposium Publications in Proceedings

- I. **A GENERALIZATION FOR THE HERMITE-BASED APPELL POLYNOMIALS**  
SOYARSLAN G., DUMAN E.  
6 th INTERNATIONAL CONFERENCE ON MULTIDISCIPLINARY SCIENTIFIC STUDIES, İstanbul, Turkey, 2 - 03 June 2023, pp.298-305
- II. **SOME NEW RESULTS FOR THE WILSON POLYNOMIALS**  
DUMLUPINAR M., DUMAN E.  
ANKARA INTERNATIONAL CONGRESS ON SCIENTIFIC RESEARCH-VIII, Ankara, Turkey, 9 - 11 June 2023, pp.131-142
- III. **A Generalization of Cesaro Polynomials in Several Variables and the Generalized Lauricella Functions**  
Erkus-Duman E., Özmen N.  
7th International Conference on Recent Advanced in Pure and Applied Mathematics, Muğla, Turkey, 25 September 2020, pp.90
- IV. **On Some Generalized Polynomials**

Korkmaz Düzgün D., Erkuş-Duman E.

7th International Conference on Recent Advanced in Pure and Applied Mathematics, Muğla, Turkey, 25 September 2020, pp.49

- V. **Generating Functions for The Extended Multivariable Fourth Type Horn Functions**  
Düzgün D., Erkuş-Duman E.  
The 8th International Conference On Pure and Applied Mathematics, Brussels, Belgium, 22 - 25 July 2019
- VI. **Generating Functions for k-Hypergeometric Functions**  
Düzgün D., Erkuş-Duman E.  
ICPAM, Budapest, Hungary, 10 - 14 July 2018
- VII. **Gottlieb Polynomials in several Variables**  
Özmen N., Erkuş-Duman E.  
V. Kadın Matematikçiler Derneği Çalıştayı, Diyarbakır, Turkey, 5 - 07 May 2018, pp.12
- VIII. **On the generalized Sylvester polynomials**  
Erkuş-Duman E., Özmen N.  
ISAAC 2017, Vaxjö, Sweden, 14 - 18 August 2017, pp.19
- IX. **EXTENDED MULTIVARIABLE HYPERGEOMETRIC FUNCTIONS**  
Erkuş-Duman E., Düzgün D.  
ISAAC 2017, Vaxjö, Sweden, 14 - 18 August 2017
- X. **Extended Multivariable Fourth Type Horn Functions**  
Erkuş-Duman E., Düzgün D.  
International Conference on Mathematics and Mathematics Education, Şanlıurfa, Turkey, 11 - 13 May 2017
- XI. **On the Cesaro polynomials of three variables**  
Özmen N., Erkuş-Duman E.  
International Conference on Mathematics and Engineering, İstanbul, Turkey, 10 - 12 May 2017, pp.378
- XII. **Some New Properties of the Extended Generalized Hypergeometric Functions**  
Düzgün D., Erkuş-Duman E.  
ETAMM 2016, Perpignan, France, 30 May - 03 June 2016
- XIII. **On the Generalized Cesaro Polynomials**  
Erkuş-Duman E., Özmen N.  
ETAMM 2016, Perpignan, France, 30 May - 03 June 2016
- XIV. **On the Poisson Charlier Polynomials**  
Özmen N., Erkuş-Duman E.  
International Conference: Mathematics Days in Sofia, Sofija, Bulgaria, 7 - 10 July 2014, vol.41, pp.457-470
- XV. **Some Families of Generating Functions for Laguerre and Charlier Types d Orthogonal Polynomials**  
Düzgün D., Erkuş-Duman E.  
International Conference on Recenet Developments in Pure and Applied Mathematics - ICRAPAM 2014, Antalya, Turkey, 6 - 09 November 2014
- XVI. **On the Generalized Bernoulli Euler and Genocchi Polynomials**  
Güldoğan E., Erkuş-Duman E.  
International Conference on Recenet Developments in Pure and Applied Mathematics - ICRAPAM 2014, Antalya, Turkey, 6 - 09 November 2014
- XVII. **Some Results For A Family of Multivariable Polynomials**  
Özmen N., Erkuş-Duman E.  
11th International Conference of Numerical Analysis and Applied Mathematics, Rodos, Greece, 21 - 27 September 2013, vol.1558, pp.1124-1127
- XVIII. **Çok değişkenli Gottlieb polinomları**  
Erkuş-Duman E.  
26.Ulusal Matematik Sempozyumu, Diyarbakır, Turkey, 4 - 07 September 2013
- XIX. **On the g Jacobi matrix functions**  
Çekim B., Erkuş-Duman E.  
Advances in Applied Mathematics and Approximation Theory, Ankara, Turkey, 17 - 20 May 2012

- XX. **Laguerre ve Konfluent Hipergeometrik Fonksiyonların Bir Matris Genellemesi**  
Çekim B., Erkuş-Duman E.  
7. Ankara Matematik Günleri, Ankara, Turkey, 31 May - 01 June 2012
- XXI. **Approximation by matrix valued linear positive operators**  
Duman O., Erkuş-Duman E.  
Conference on Matrix Analysis and its Applications – MAT TRIAD, Lisbon, Portugal, 12 - 16 July 2011
- XXII. **Integral representations for a class of polynomials in two variables**  
Erkuş-Duman E.  
Mathematical Analysis, Differential Equations and Their Applications, Gazimagusa, Cyprus (Kktc), 12 - 15 September 2008
- XXIII. **Some Mixed Generating Relations for Some Families of Multivariable Polynomials**  
Erkuş-Duman E.  
II. Ankara Matematik Günleri, Ankara, Turkey, 22 - 23 May 2008
- XXIV. **Pozitif lineer operatörler yardımıyla sürekli periyodik fonksiyonlara istatistiksel yaklaşım**  
Erkuş-Duman E., Duman O.  
2nd Turkish World Mathematics Symposium, Sakarya, Turkey, 4 - 07 July 2007
- XXV. **Çok Değişkenli Polinomların Çeşitli Ailelerinin Ortak Bir Gösterimi**  
Erkuş-Duman E.  
XIX. Ulusal Matematik Sempozyumu, Kütahya, Turkey, 22 - 25 August 2006

## Metrics

Publication: 78  
Citation (WoS): 469  
Citation (Scopus): 378  
H-Index (WoS): 12  
H-Index (Scopus): 11

## Awards

Erkuş-Duman E., Best Organizer Award, 10Th International Conference On Mechanical And Aerospace Engineering, Belçika, July 2019

## Non Academic Experience

Gazi Üniversitesi  
University of Central Florida  
Çanakkale Onsekiz Mart Üniversitesi  
Ankara Üniversitesi