

# Prof. BAYRAM ÇEKİM

## Personal Information

Office Phone: [+90 312 202 1084](tel:+903122021084)

Email: bayramcekim@gazi.edu.tr

Other Email: baycekim@gmail.com

Web: <https://avesis.gazi.edu.tr/bayramcekim>

## International Researcher IDs

ScholarID: 8QrNmxA AAAAJ

ORCID: 0000-0002-5363-2453

Publons / Web Of Science ResearcherID: AFO-1096-2022

ScopusID: 41261228300

Yoksis Researcher ID: 42313

## Education Information

Doctorate, Ankara University, Fen Bilimleri Enstitüsü, Matematik (Dr), Turkey 2007 - 2011

Postgraduate, Ankara University, Fen Bilimleri Enstitüsü, Matematik (YI) (Tezli), Turkey 2005 - 2007

Undergraduate, Ankara University, Fen Fakültesi, Matematik Bölümü, Turkey 1999 - 2004

## Dissertations

Doctorate, Klasik ortogonal matris polinomları ve Bessel matris fonksiyonları, Ankara University, Fen Bilimleri Enstitüsü, Matematik (Dr), 2011

Postgraduate, Ortogonal polinomlarda özel konular, Ankara University, Fen Bilimleri Enstitüsü, Matematik (YI) (Tezli), 2007

## Research Areas

Combinatorics, Special Functions, Approximations and Expansions

## Academic Titles / Tasks

Professor, Gazi University, Fen Fakültesi, Matematik, 2022 - Continues

Associate Professor, Gazi University, Fen Fakültesi, Matematik, 2016 - 2022

Research Assistant PhD, Gazi University, Fen Fakültesi, Matematik, 2011 - 2018

Research Assistant, Gazi University, Fen Fakültesi, Matematik, 2005 - 2011

## Academic and Administrative Experience

Deputy Head of Department, Gazi University, Fen Fakültesi, Matematik, 2016 - 2017

## Courses

ARAŞTIRMA PROJESİ II, Undergraduate, 2018 - 2019  
MATHEMATICS (2 ŞUBE), Undergraduate, 2017 - 2018  
DİFERENSİYEL DENKLEMLER (2 ŞUBE)), Undergraduate, 2017 - 2018  
Araştırma Projesi II, Undergraduate, 2016 - 2017  
MATEMATİK II (2 ŞUBE), Undergraduate, 2016 - 2017  
Araştırma Projesi I, Undergraduate, 2016 - 2017  
Geometri, Undergraduate, 2016 - 2017  
MATHEMATICS I (4 Şube), Undergraduate, 2016 - 2017  
MATEMATİK I, Undergraduate, 2016 - 2017

## Advising Theses

Çekim B., On the generalizations of fubini type polynomials, Postgraduate, K.ÇETİN(Student), 2023  
ÇEKİM B., The Properties Of Generalized Hermite Polynomials, Postgraduate, N.BİRİCİK(Student), 2020  
ÇEKİM B., A Family Of Three Variable Polynomials And Their Generalizations, Postgraduate, Z.ÖZAT(Student), 2020  
ÇEKİM B., The Generalizations And Approximation Properties Of Szász Operators Including Bivariate Hermite Polynomials, Postgraduate, S.YAZICI(Student), 2019

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

- I. **Laguerre-type general-Appell polynomials**  
Ozat Z., ÇEKİM B., Ozarslan M. A.  
INTEGRAL TRANSFORMS AND SPECIAL FUNCTIONS, 2024 (SCI-Expanded)
- II. **Laguerre type twice-iterated Appell polynomials**  
Biricik N., Özarslan M. A., Çekim B.  
TURKISH JOURNAL OF MATHEMATICS, vol.48, no.2, pp.360-376, 2024 (SCI-Expanded)
- III. **A new representation and shape-preserving properties of perturbed Bernstein operators**  
Acu A., MUTLU G., ÇEKİM B., YAZICI S.  
Mathematical Methods in the Applied Sciences, vol.47, no.1, pp.5-14, 2024 (SCI-Expanded)
- IV. **Sequences of twice-iterated  $\Delta w$ -Gould-Hopper Appell polynomials**  
Biricik N., ÇEKİM B., Özarslan M. A.  
Journal of Taibah University for Science, vol.18, no.1, 2024 (SCI-Expanded)
- V. **Approximation results for the operators involving beta function and the Boas-Buck-Sheffer polynomials**  
GÜNGÖR Ş. Y., ÇEKİM B., Özarslan M. A.  
Filomat, vol.38, no.1, pp.171-187, 2024 (SCI-Expanded)
- VI. **Fourier transform of biorthogonal polynomials in one variable\***  
Güldoğan Lekesiz E., ÇEKİM B.  
Integral Transforms and Special Functions, 2024 (SCI-Expanded)
- VII.  **$\Delta\omega$ -Laguerre based Appell polynomials and their properties associated with some special polynomials**  
Özat Z., ÇEKİM B., Ali Özarslan M.  
Applied Mathematics and Computation, vol.459, 2023 (SCI-Expanded)
- VIII. **Some Approximation Properties of Operators Including Degenerate Appell Polynomials**  
Sergi B. Z., İÇÖZ G., ÇEKİM B.  
Mathematica Slovaca, vol.73, no.6, pp.1545-1558, 2023 (SCI-Expanded)
- IX. **Confluent Appell polynomials**  
Özarslan M. A., ÇEKİM B.  
Journal of Computational and Applied Mathematics, vol.424, 2023 (SCI-Expanded)

- X. **On Bell based Appell polynomials**  
 Ozat Z., Ozarslan M. A., ÇEKİM B.  
 TURKISH JOURNAL OF MATHEMATICS, vol.47, no.4, pp.1099-1128, 2023 (SCI-Expanded)
- XI. **Some properties of degenerate Hermite Appell polynomials in three variables**  
 Baran G., Özat Z., ÇEKİM B., Özarslan M. A.  
 Filomat, vol.37, no.19, pp.6537-6567, 2023 (SCI-Expanded)
- XII. **A Dunkl-Gamma type operator in terms of generalization of two-variable Hermite polynomials**  
 ÇEKİM B., AKTAŞ R., Tasdelen F.  
 INDIAN JOURNAL OF PURE & APPLIED MATHEMATICS, vol.53, no.3, pp.727-735, 2022 (SCI-Expanded)
- XIII. **On the shape-preserving properties of  $\lambda$ -Bernstein operators**  
 Su L., Mutlu G., Çekim B.  
 Journal of Inequalities and Applications, vol.2022, no.1, 2022 (SCI-Expanded)
- XIV. **On a generalization of Szasz-Mirakyan operators including Dunkl-Appell polynomials**  
 Yazıcı S., Yesildal F. T., Çekim B.  
 TURKISH JOURNAL OF MATHEMATICS, vol.46, no.6, pp.2353-2365, 2022 (SCI-Expanded)
- XV. **A second type of higher order generalized geometric polynomials and higher order generalized Euler polynomials**  
 Corcino C. B., Corcino R. B., ÇEKİM B., KARGIN L., Nkonkobe S.  
 QUAESTIONES MATHEMATICAE, vol.45, no.1, pp.71-89, 2022 (SCI-Expanded)
- XVI. **Some approximation results for the new modification of Bernstein-Beta operators**  
 Cai Q., Sofyalioglu M., Kanat K., ÇEKİM B.  
 AIMS MATHEMATICS, vol.7, no.2, pp.1831-1844, 2022 (SCI-Expanded)
- XVII. **Parametric Generalization of the Modified Bernstein Operators**  
 SOFYALIOĞLU M., KANAT K., ÇEKİM B.  
 FILOMAT, vol.36, no.5, pp.1699-1709, 2022 (SCI-Expanded)
- XVIII. **Parametric generalization of the Meyer-Konig-Zeller operators**  
 Sofyalioglu M., Kanat K., ÇEKİM B.  
 CHAOS SOLITONS & FRACTALS, vol.152, 2021 (SCI-Expanded)
- XIX. **Gamma Generalization Operators Involving Analytic Functions**  
 Cai Q., ÇEKİM B., İÇÖZ G.  
 MATHEMATICS, vol.9, no.13, 2021 (SCI-Expanded)
- XX. **QUANTITATIVE DUNKL ANALOGUE OF SZASZ-MIRAKYAN OPERATORS**  
 Cai Q., YAZICI S., ÇEKİM B., İÇÖZ G.  
 JOURNAL OF MATHEMATICAL INEQUALITIES, vol.15, no.2, pp.861-878, 2021 (SCI-Expanded)
- XXI. **Certain Integral Representations, Transformation Formulas and Summation Formulas Related to Humbert Matrix Functions**  
 ÇEKİM B., Dwivedi R., Sahai V., Shehata A.  
 BULLETIN OF THE BRAZILIAN MATHEMATICAL SOCIETY, vol.52, no.2, pp.213-239, 2021 (SCI-Expanded)
- XXII. **Approximation properties for the genuine modified Bernstein-Durrmeyer-Stancu operators**  
 Cai Qing-bo C. Q., Kantar Ü., ÇEKİM B.  
 APPLIED MATHEMATICS-A JOURNAL OF CHINESE UNIVERSITIES SERIES B, vol.35, no.4, pp.468-478, 2020 (SCI-Expanded)
- XXIII. **Bivariate alpha,q-Bernstein-Kantorovich Operators and GBS Operators of Bivariate alpha,q-Bernstein-Kantorovich Type**  
 Cai Q., Cheng W., ÇEKİM B.  
 MATHEMATICS, vol.7, no.12, 2019 (SCI-Expanded)
- XXIV. **A Dunkl Analogue of Operators Including Two-Variable Hermite polynomials**  
 AKTAŞ R., ÇEKİM B., Tasdelen F.  
 BULLETIN OF THE MALAYSIAN MATHEMATICAL SCIENCES SOCIETY, vol.42, no.5, pp.2795-2805, 2019 (SCI-Expanded)
- XXV. **New Families of Three-Variable Polynomials Coupled with Well-Known Polynomials and Numbers**

- KIZILATEŞ C., ÇEKİM B., TUĞLU N., Kim T.  
SYMMETRY-BASEL, vol.11, no.2, 2019 (SCI-Expanded)
- XXVI. **On the  $(p, q)$ -Chebyshev Polynomials and Related Polynomials**  
Kızılataş C., Tuğlu N., Çekim B.  
MATHEMATICS, vol.7, 2019 (SCI-Expanded)
- XXVII. **Kantorovich-Stancu type operators including Boas-Buck type polynomials**  
ÇEKİM B., AKTAŞ R., İÇÖZ G.  
HACETTEPE JOURNAL OF MATHEMATICS AND STATISTICS, vol.48, no.2, pp.460-471, 2019 (SCI-Expanded)
- XXVIII. **Approximation Properties of Durrmeyer Type of  $(p,q)$ -Bleimann, Butzer, and Hahn Operators**  
Cai Q., Yüksel İ., Dinlemez Kantar Ü., Çekim B.  
JOURNAL OF FUNCTION SPACES, vol.2019, 2019 (SCI-Expanded)
- XXIX. **Two-sided inequalities for the Struve and Lommel functions**  
ÇEKİM B., Shehata A., Srivastava H. M.  
QUAESTIONES MATHEMATICAE, vol.41, no.7, pp.985-1003, 2018 (SCI-Expanded)
- XXX. **NEW FAMILIES OF GENERATING FUNCTIONS FOR  $q$ -FIBONACCI AND THE RELATED POLYNOMIALS**  
KIZILATEŞ C., ÇEKİM B.  
ARS COMBINATORIA, vol.136, pp.397-404, 2018 (SCI-Expanded)
- XXXI. **Higher order generalized geometric polynomials**  
KARGIN L., ÇEKİM B.  
TURKISH JOURNAL OF MATHEMATICS, vol.42, no.3, pp.887-903, 2018 (SCI-Expanded)
- XXXII. **Dunkl generalization of Szasz beta-type operators**  
ÇEKİM B., DİNLEMEZ KANTAR Ü., YÜKSEL İ.  
MATHEMATICAL METHODS IN THE APPLIED SCIENCES, vol.40, no.18, pp.7697-7704, 2017 (SCI-Expanded)
- XXXIII.  **$q$ -ANALOGUE OF MITTAG-LEFFLER OPERATORS**  
İÇÖZ G., ÇEKİM B.  
MISKOLC MATHEMATICAL NOTES, vol.18, no.1, pp.211-221, 2017 (SCI-Expanded)
- XXXIV. **Stancu-type generalization of Dunkl analogue of Szasz-Kantorovich operators**  
Icoz G., ÇEKİM B.  
MATHEMATICAL METHODS IN THE APPLIED SCIENCES, vol.39, no.7, pp.1803-1810, 2016 (SCI-Expanded)
- XXXV. **Stancu-Type Generalizations of the Chan-Chyan-Srivastava Operators**  
İÇÖZ G., ÇEKİM B.  
FILOMAT, vol.30, no.14, pp.3733-3742, 2016 (SCI-Expanded)
- XXXVI. **SOME RELATIONS ON HERMITE-HERMITE MATRIX POLYNOMIALS**  
Shehata A., ÇEKİM B.  
UNIVERSITY POLITEHNICA OF BUCHAREST SCIENTIFIC BULLETIN-SERIES A-APPLIED MATHEMATICS AND PHYSICS, vol.78, no.1, pp.181-194, 2016 (SCI-Expanded)
- XXXVII. **Dunkl generalization of Szasz operators via  $q$ -calculus**  
Icoz G., ÇEKİM B.  
JOURNAL OF INEQUALITIES AND APPLICATIONS, 2015 (SCI-Expanded)
- XXXVIII. **MULTIVARIABLE MATRIX GENERALIZATION OF GOULD-HOPPER POLYNOMIALS**  
ÇEKİM B., Aktas R.  
MISKOLC MATHEMATICAL NOTES, vol.16, no.1, pp.79-89, 2015 (SCI-Expanded)
- XXXIX.  **$q$ -Matrix Polynomials in Several Variables**  
ÇEKİM B.  
FILOMAT, vol.29, no.9, pp.2059-2067, 2015 (SCI-Expanded)
- XL. **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)
- XLI. **ON THE MATRIX VERSIONS OF APPELL HYPERGEOMETRIC FUNCTIONS**  
ALTIN A., ÇEKİM B., ŞAHİN R.  
QUAESTIONES MATHEMATICAE, vol.37, no.1, pp.31-38, 2014 (SCI-Expanded)

- XLII. SOME MISCELLANEOUS PROPERTIES FOR GEGENBAUER MATRIX POLYNOMIALS**  
ALTIN A., ÇEKİM B.  
UTILITAS MATHEMATICA, vol.92, pp.377-387, 2013 (SCI-Expanded)
- XLIII. EXTENDED JACOBI MATRIX POLYNOMIALS**  
AKTAŞ R., ÇEKİM B., Cevik A.  
UTILITAS MATHEMATICA, vol.92, pp.47-64, 2013 (SCI-Expanded)
- XLIV. ON A MULTIVARIABLE EXTENSION OF THE HERMITE AND RELATED POLYNOMIALS**  
ALTIN A., AKTAŞ R., ÇEKİM B.  
ARS COMBINATORIA, vol.110, pp.487-503, 2013 (SCI-Expanded)
- XLV. Some New Results for Jacobi Matrix Polynomials**  
ÇEKİM B., ALTIN A., AKTAŞ R.  
FILOMAT, vol.27, no.4, pp.713-719, 2013 (SCI-Expanded)
- XLVI. Extended Jacobi Functions via Riemann-Liouville Fractional Derivative**  
ÇEKİM B., Erkus-Duman E.  
ABSTRACT AND APPLIED ANALYSIS, 2013 (SCI-Expanded)
- XLVII. NEW KINDS OF MATRIX POLYNOMIALS**  
Cekim B.  
MISKOLC MATHEMATICAL NOTES, vol.14, no.3, pp.817-826, 2013 (SCI-Expanded)
- XLVIII. A Kantorovich-Stancu Type Generalization of Szasz Operators including Brenke Type Polynomials**  
AKTAŞ R., ÇEKİM B., Tasdelen F.  
JOURNAL OF FUNCTION SPACES AND APPLICATIONS, 2013 (SCI-Expanded)
- XLIX. SOME PROPERTIES ASSOCIATED WITH HERMITE MATRIX POLYNOMIALS**  
Altin A., ÇEKİM B.  
UTILITAS MATHEMATICA, vol.88, pp.171-181, 2012 (SCI-Expanded)
- L. GENERATING MATRIX FUNCTIONS FOR CHEBYSHEV MATRIX POLYNOMIALS OF THE SECOND KIND**  
ALTIN A., ÇEKİM B.  
HACETTEPE JOURNAL OF MATHEMATICS AND STATISTICS, vol.41, no.1, pp.25-32, 2012 (SCI-Expanded)
- LI. THE MATRIX VERSION FOR THE MULTIVARIABLE HUBBERT POLYNOMIALS**  
AKTAŞ R., ÇEKİM B., Sahin R.  
MISKOLC MATHEMATICAL NOTES, vol.13, no.2, pp.197-208, 2012 (SCI-Expanded)
- LII. ON KONHAUSER MATRIX POLYNOMIALS**  
Varma S., ÇEKİM B., YEŞİLDAL F. T.  
ARS COMBINATORIA, vol.100, pp.193-204, 2011 (SCI-Expanded)
- LIII. On a multivariable extension of Jacobi matrix polynomials**  
Tasdelen F., ÇEKİM B., AKTAŞ R.  
COMPUTERS & MATHEMATICS WITH APPLICATIONS, vol.61, no.9, pp.2412-2423, 2011 (SCI-Expanded)
- LIV. SOME RELATIONS SATISFIED BY ORTHOGONAL MATRIX POLYNOMIALS**  
ÇEKİM B., ALTIN A., AKTAŞ R.  
HACETTEPE JOURNAL OF MATHEMATICS AND STATISTICS, vol.40, no.2, pp.241-253, 2011 (SCI-Expanded)

### Articles Published in Other Journals

- I. Approximation Properties of an Extended Family of the Szasz-Mirakjan Beta-Type Operators**  
Srivastava H. M., İÇÖZ G., ÇEKİM B.  
AXIOMS, vol.8, no.4, 2019 (ESCI)
- II. Approximation Properties of an Extended Family of the Szász-Mirakjan Beta-Type Operators**  
srivastava h. m., İÇÖZ G., ÇEKİM B.  
Axioms, 2019 (Scopus)
- III. BINOMIAL TRANSFORMS OF QUADRAPELL SEQUENCES AND QUADRAPELL MATRIX SEQUENCES**  
KIZILATEŞ C., TUĞLU N., ÇEKİM B.

- JOURNAL OF SCIENCE AND ARTS, no.1, pp.69-80, 2017 (ESCI)
- IV. **A Kantorovich Type Generalization of the Szasz Operators via Two Variable Hermite Polynomials**  
Yazıcı S., Çekim B.  
GAZI UNIVERSITY JOURNAL OF SCIENCE, vol.30, no.4, pp.432-440, 2017 (ESCI)
- V. **A new relation including 2F2 between Laguerre and Hermite matrix polynomials**  
ÇEKİM B.  
Journal of the Egyptian Mathematical Society, vol.23, pp.247-250, 2015 (Peer-Reviewed Journal)
- VI. **Matrix analogues of some properties for Bessel matrix functions**  
ÇEKİM B., ALTIN A.  
Journal of Mathematical Sciences, The University of Tokyo., vol.2, pp.519-530, 2015 (Peer-Reviewed Journal)
- VII. **A New Generalization of Hermite Matrix Polynomials**  
ÇEKİM B., ALTIN A.  
THAI JOURNAL OF MATHEMATICS, vol.13, no.1, pp.201-212, 2015 (ESCI)
- VIII. **Durrmeyer-Type Generalization of Mittag-Leffler Operators**  
İÇÖZ G., ÇEKİM B.  
GAZI UNIVERSITY JOURNAL OF SCIENCE, vol.28, no.2, pp.259-263, 2015 (ESCI)
- IX. **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)
- X. **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)
- XI. **New matrix formulas for Laguerre matrix polynomials**  
ÇEKİM B., Altın A.  
Journal of Classical Analysis, vol.3, no.1, pp.59-67, 2013 (Peer-Reviewed Journal)

## Books & Book Chapters

- I. **Çözümlü Diferensiyel Denklemler Problemleri**  
ÇEKİM B., İÇÖZ G., ÇİBIK A. B.  
ders zamanı, Ankara, 2019
- II. **On the g-Jacobi Matrix Functions**  
ÇEKİM B., ERKUŞ DUMAN E.  
in: Advances in Applied Mathematics and Approximation Theory, G. A. Anastassiou, O. Duman, Editor, Springer, New York, pp.73-84, 2013

## Refereed Congress / Symposium Publications in Proceedings

- I. **Genelleştirilmiş Hermite Polinomlarının Bazı Özellikleri**  
BİRİCİK N., ÇEKİM B.  
14. Ankara Matematik Günleri AMG-2019, Turkey, 28 - 29 June 2019
- II. **A new gamma type operators with the help of (p,q)-calculus**  
YÜKSEL İ., DİNLEMEZ KANTAR Ü., ÇEKİM B.  
icomath 2018, İstanbul, Turkey, 3 - 06 June 2018
- III. **ON A NEW FAMILY OF THREE VARIABLES POLYNOMIALS**  
KIZILATEŞ C., ÇEKİM B., TUĞLU N.  
THE THIRD INTERNATIONAL CONFERENCE ON COMPUTATIONAL MATHEMATICS AND ENGINEERING SCIENCES (CMES-2018), Girne, Cyprus (Kkctc), 4 - 06 May 2018

**IV. On Extended Jacobi matrix polynomials**

AKTAŞ R., ÇEKİM B., ÇEVİK A.

V Annual Conference of the Georgian Mathematical Union, 8 - 12 September 2014

**V. Rates of convergence for a Kantorovich Stancu generalization of Szasz type operators**

AKTAŞ R., ÇEKİM B., TAŞDELEN YEŞİLDAL F.

V. Jaen Conference on Approximation Theory, 23 - 26 June 2014

**VI. On the g Jacobi matrix functions**

Çekim B., Erkuş-Duman E.

Advances in Applied Mathematics and Approximation Theory, Ankara, Turkey, 17 - 20 May 2012

**VII. Laguerre ve Konfluent Hipergeometrik Fonksiyonların Bir Matris Genellemesi**

Çekim B., Erkuş-Duman E.

7. Ankara Matematik Günleri, Ankara, Turkey, 31 May - 01 June 2012

## Activities in Scientific Journals

GAZI UNIVERSITY JOURNAL OF SCIENCE, First Editor, 2022 - Continues

Gazi Üniversitesi Fen Fakültesi Dergisi, Assistant Editor/Section Editor, 2020 - Continues

INTERNATIONAL JOURNAL OF APPLIED MATHEMATICS AND STATISTICS, Committee Member, 2018 - Continues

APPLICATIONS AND APPLIED MATHEMATICS-AN INTERNATIONAL JOURNAL, Committee Member, 2018 - Continues

## Metrics

Publication: 78

Citation (WoS): 411

Citation (Scopus): 421

H-Index (WoS): 13

H-Index (Scopus): 13