

## Prof. Muhammet KURULAY

### Personal Information

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### Biography

Prof. Dr. Muhammet Kurulay was born in Of district of Trabzon. He completed his primary and high school education in Istanbul (1997), his undergraduate education at AU (2001), and his master's and doctorate education at YTU (2009). Between 2010-2011, he was a visiting professor at the University of Connecticut in the USA. He gave lectures at various universities. He served as vice dean at his faculty between 2014-2016 and as a member of the board of directors at Yıldız Technopark at the university. He still continues his studies at Yıldız Technical University, Department of Mathematics Engineering.

He has about 50 published articles and more than 60 oral presentations at international conferences. He is the chief editor in 3 academic journals, editor and referee in many academic journals and a member of scientific juries in various fields. He mentored and graduated 3 doctoral and 3 master's students. His work has received over 400 citations. He has 6 internationally published books and 2 national book chapters. He acted as a coordinator in 4 technopark projects and 3 university BAP projects.

He has organized and conducted dozens of international conferences and seminars in academic and professional fields abroad and in Turkey.

He is married and has 2 children.

### Education Information

Post Doctorate, University Of Connecticut, Mathematics, Mathematics, United States Of America 2010 - 2011

Doctorate, Yıldız Teknik Üniversitesi, Fen Edebiyat F., Matematik, Turkey 2006 - 2009

### Foreign Languages

English, C1 Advanced

### Dissertations

Doctorate, Numerical solutions of time-fractional non-linear partial differential equations, Yildiz Technical University, Faculty of Arts & Science, Department of Mathemeatics, 2009

### Research Areas

Mathematics, Computer Science, Differential Equations, General Mathematics, Partial Differential Equations

## Academic Titles / Tasks

Professor, Yildiz Technical University, Faculty Of Chemical And Metallurgical Engineering, Department Of Mathematics Engineering, 2020 - Continues

Associate Professor, Yildiz Technical University, Faculty Of Chemical And Metallurgical Engineering, Department Of Mathematics Engineering, 2014 - 2019

Assistant Professor, Yildiz Technical University, Faculty of Arts & Science, Department of Mathematics, 2009 - 2014

Research Assistant, Yildiz Technical University, Faculty of Arts & Science, Department of Mathematics, 2005 - 2009

## Academic and Administrative Experience

Fakülte Kurulu Üyesi, Yildiz Technical University, FACULTY OF CHEMICAL AND METALLURGICAL ENGINEERING, Department of Mathematics Engineering, 2014 - 2016

Fakülte Yönetim Kurulu Üyesi, Yildiz Technical University, FACULTY OF CHEMICAL AND METALLURGICAL ENGINEERING, Department of Mathematics Engineering, 2014 - 2016

Vice Dean, Yildiz Technical University, FACULTY OF CHEMICAL AND METALLURGICAL ENGINEERING, 2014 - 2016

Araştırma Görevlisi Fakülte Temsilcisi, Yildiz Technical University, Faculty of Arts & Science, 2007 - 2008

## Courses

Kısmi diferansiyel Denklemler, Under Graduate, 2015 - 2016, 2016 - 2017, 2017 - 2018, 2018 - 2019

Bitirme Çalışması, Under Graduate, 2014 - 2015, 2015 - 2016, 2016 - 2017, 2017 - 2018, 2018 - 2019

Temel Bilgisayar Bilimleri, Under Graduate, 2018 - 2019

Matematik, Under Graduate, 2017 - 2018, 2018 - 2019

Matematik Mühendialığında Tasarım Uygulamaları, Under Graduate, 2014 - 2015, 2015 - 2016, 2016 - 2017, 2017 - 2018, 2018 - 2019

C Programlamaya Giriş, Under Graduate, 2017 - 2018

Matematik Tarihi, Under Graduate, 2018 - 2019

Analiz 1, Under Graduate, 2014 - 2015

Diferansiyel Denklemler, Under Graduate, 2015 - 2016

Bitirme Tezi, Under Graduate, 2013 - 2014

Diferansiyel Denklemler, Under Graduate, 2014 - 2015

Matematik, Under Graduate, 2013 - 2014

Sayısal Analiz 1, Under Graduate, 2014 - 2015

Uzmanlık Alan Dersi (Yüksek Lisans, Post Graduate, 2012 - 2013

ADVANCE NUMARICAL ANALYSIS, Doctorate, 2012 - 2013

DİFERANSİYEL DENKLEMLER, Under Graduate, 2013 - 2014

Matematik Mühendialığında Tasarım Uygulamaları, Under Graduate, 2013 - 2014

Matematik 1, Under Graduate, 2011 - 2012, 2012 - 2013

Uzmanlık Alan Dersi (Doktora), Doctorate, 2012 - 2013

Matematik 2, Under Graduate, 2009 - 2010, 2011 - 2012, 2012 - 2013

Kısmi Diferansiyel Denklemlerde Nümerik Metodlar, Doctorate, 2012 - 2013

Differential Equations, Under Graduate, 2009 - 2010, 2011 - 2012, 2012 - 2013

SOLVING OF DIFFERENTIAL EQUATIONS, Under Graduate, 2011 - 2012

Matematik, Under Graduate, 2011 - 2012

## Advising Theses

- Kurulay M., Indexing with DataMatrix System, Doctorate, M.YEŞİLTEPE(Student), Continues
- Kurulay M., Social Network Analysis in Telecom Industry with Data Mining Machine Learning Algorithms, Post Graduate, F.Ulku(Student), 2021
- Kurulay M., Guebbaib H., Analytical and numerical study of nonlinear Volterra integro-differential equations with new Caputo fractional derivative, Doctorate, M.BEKKOUCHE(Student), 2021
- Kurulay M., LARGE SCALE MATRIX DIFFERENTIAL EQUATIONS FOR KRYLOV METHODS, Doctorate, Y.DERİCİOĞLU(Student), 2019
- Kurulay M., Hybridizable non-continuous Galerkin method for some fractional differential equations, Doctorate, M.FATİH(Student), 2016
- Kurulay M., Klein-Gordon denkleminin sonlu farklar metodu ile çözümü, Post Graduate, H.BERAN(Student), 2015
- Kurulay M., Kesirli mertebeden Burger denkleminin sonlu fark yöntemi ile çözümü ve analizi, Post Graduate, İ.ŞENTÜRK(Student), 2014

## Jury Memberships

- PhD Thesis Monitoring Committee Member, PhD Thesis Monitoring Committee Member, Yıldız Teknik Üniversitesi, July, 2021
- Associate Professor Exam, Associate Professor Exam, Yıldız Technical University, July, 2021
- Associate Professor Exam, Associate Professor Exam, Yıldız Technical University, June, 2020
- Appointment Academic Staff, Appointment Academic Staff, İstanbul Teknik Üniversitesi, February, 2020

## Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **On the solvability fractional of a boundary value problem with new fractional integral**  
Bekkouche M. M. , Guebbai H., KURULAY M.  
JOURNAL OF APPLIED MATHEMATICS AND COMPUTING, vol.64, pp.551-564, 2020 (Journal Indexed in SCI)
- II. **On the weakly singular integro-differential nonlinear Volterra equation depending in acceleration term**  
Ghiat M., Guebbai H., Kurulay M., Segni S.  
Computational and Applied Mathematics, vol.39, no.3, 2020 (Journal Indexed in SCI)
- III. **An efficient indexing for Internet of Things massive data based on cloud-fog computing**  
Benrazek A., Kouahla Z., Farou B., Ferrag M. A. , Seridi H., KURULAY M.  
TRANSACTIONS ON EMERGING TELECOMMUNICATIONS TECHNOLOGIES, vol.31, no.3, 2020 (Journal Indexed in SCI)
- IV. **A computational method for large-scale differential symmetric Stein equation**  
Dericioglu Y., Kurulay M.  
MATHEMATICAL METHODS IN THE APPLIED SCIENCES, vol.42, no.16, pp.5438-5445, 2019 (Journal Indexed in SCI)
- V. **A hybridizable discontinuous Galerkin method for a class of fractional boundary value problems**  
Karaaslan M. F. , Celiker F., Kurulay M.  
JOURNAL OF COMPUTATIONAL AND APPLIED MATHEMATICS, vol.333, pp.20-27, 2018 (Journal Indexed in SCI)
- VI. **Fake and Real Massaging at the Same Time with QR Code in Web Services for Different Users**  
Yeşiltepe M., Kurulay M.  
SECURITY AND COMMUNICATION NETWORKS, 2018 (Journal Indexed in SCI)
- VII. **Approximate solution of the Bagley-Torvik equation by hybridizable discontinuous Galerkin methods**  
Karaaslan M. F. , Celiker F., Kurulay M.  
APPLIED MATHEMATICS AND COMPUTATION, vol.285, pp.51-58, 2016 (Journal Indexed in SCI)

- VIII. **Fractional Calculus and Its Applications in Applied Mathematics and Other Sciences**  
Ray S. S. , Atangana A., Noutchie S. C. O. , Kurulay M., Bildik N., Kilicman A.  
MATHEMATICAL PROBLEMS IN ENGINEERING, 2014 (Journal Indexed in SCI)
- IX. **A Novel Matching of MR Images Using Gabor Wavelets**  
Akinlar M. A. , Kurulay M., Seer A., Celenk M.  
IETE TECHNICAL REVIEW, vol.30, pp.129-133, 2013 (Journal Indexed in SCI)
- X. **A fast and efficient 3D medical image registration method Szybka i efektywna metoda rejestracji obrazu medycznego 3D**  
Akinlar M. A. , KURULAY M., SEER A.  
Przegląd Elektrotechniczny, vol.89, pp.199-202, 2013 (Journal Indexed in SCI Expanded)
- XI. **A New Approximate Analytical Solution of Kuramoto - Sivashinsky Equation Using Homotopy Analysis Method**  
Kurulay M., Secer A., Akinlar M. A.  
APPLIED MATHEMATICS & INFORMATION SCIENCES, vol.7, pp.267-271, 2013 (Journal Indexed in SCI)
- XII. **A Novel Method for Analytical Solutions of Fractional Partial Differential Equations**  
Akinlar M. A. , Kurulay M.  
MATHEMATICAL PROBLEMS IN ENGINEERING, 2013 (Journal Indexed in SCI)
- XIII. **Computational Solution of a Fractional Integro-Differential Equation**  
Kurulay M., Akinlar M. A. , Ibragimov R.  
ABSTRACT AND APPLIED ANALYSIS, 2013 (Journal Indexed in SCI)
- XIV. **A computational method using multiresolution for volumetric data integration**  
Akinlar M. A. , Kurulay M., Seer A., Celenk M.  
BOUNDARY VALUE PROBLEMS, 2012 (Journal Indexed in SCI)
- XV. **Efficient Variational Approaches for Deformable Registration of Images**  
Akinlar M. A. , Kurulay M., Seer A., Bayram M.  
ABSTRACT AND APPLIED ANALYSIS, 2012 (Journal Indexed in SCI)
- XVI. **Approximate analytic solutions of the modified Kawahara equation with homotopy analysis method**  
Kurulay M.  
ADVANCES IN DIFFERENCE EQUATIONS, 2012 (Journal Indexed in SCI)
- XVII. **The sinc-Galerkin method and its applications on singular Dirichlet-type boundary value problems**  
Seer A., Kurulay M.  
BOUNDARY VALUE PROBLEMS, pp.1-14, 2012 (Journal Indexed in SCI)
- XVIII. **Curvature-driven diffusion-based mathematical image registration models**  
Akinlar M. A. , Kurulay M., Seer A., Celenk M.  
ADVANCES IN DIFFERENCE EQUATIONS, 2012 (Journal Indexed in SCI)
- XIX. **Some properties of the Mittag-Leffler functions and their relation with the Wright functions**  
Kurulay M., Bayram M.  
ADVANCES IN DIFFERENCE EQUATIONS, 2012 (Journal Indexed in SCI)
- XX. **An efficient computer application of the sinc-Galerkin approximation for nonlinear boundary value problems**  
Seer A., Kurulay M., Bayram M., Akinlar M. A.  
BOUNDARY VALUE PROBLEMS, 2012 (Journal Indexed in SCI)
- XXI. **Solving the fractional nonlinear Klein-Gordon equation by means of the homotopy analysis method**  
KURULAY M.  
ADVANCES IN DIFFERENCE EQUATIONS, 2012 (Journal Indexed in SCI)
- XXII. **Approximate analytical solution for the fractional modified KdV by differential transform method**  
KURULAY M., Bayram M.  
COMMUNICATIONS IN NONLINEAR SCIENCE AND NUMERICAL SIMULATION, vol.15, no.7, pp.1777-1782, 2010  
(Journal Indexed in SCI)
- XXIII. **Solving a system of nonlinear fractional partial differential equations using three dimensional differential transform method**

## Articles Published in Other Journals

- I. **A numerical approach for Camassa-Holm equation using extended trial equation method**  
Karaaslan M. F. , Kurulay M.  
Tbilisi Mathematical Journal, no.7, pp.33-38, 2021 (Journal Indexed in ESCI)
- II. **A new fractional integral associated with the Caputo–Fabrizio fractional derivative**  
Moumen Bekkouche M., Guebbai H., KURULAY M., Benmahmoud S.  
Rendiconti del Circolo Matematico di Palermo, 2020 (Journal Indexed in ESCI)
- III. **Ascending hierarchical classification for camera clustering based on FoV overlaps for WMSN**  
Benrazek A., Farou B., Seridi H., Kouahla Z., KURULAY M.  
IET WIRELESS SENSOR SYSTEMS, vol.9, no.6, pp.382-388, 2019 (Journal Indexed in ESCI)
- IV. **NUMERICAL SOLUTION OF TIME AND SPACE FRACTIONAL BURGER'xxS EQUATION WITH FINITE DIFFERENCE METHOD**  
Şentürk İ., KURULAY M.  
Journal of Engineering Technology and Applied Sciences, vol.4, no.2, pp.71-83, 2019 (Refereed Journals of Other Institutions)
- V. **On the Study of Nonlinear Fractional Differential Equations on Unbounded Interval**  
Hallacı A., Boulares ., Kurulay M.  
General Letters in Mathematics, vol.5, no.3, pp.111-117, 2018 (Refereed Journals of Other Institutions)
- VI. **Efficient Camera Clustering Method Based onOverlapping FoVs for WMSNs**  
Eddine B. A. , Brahim F., Kurulay M.  
International Journal of Informatics and Applied Mathematics, vol.1, no.1, pp.10-23, 2018 (Refereed Journals of Other Institutions)
- VII. **Low-rank approximate solutions to large-scale differential matrix Riccati equations**  
Güldoğan Y., Hached M., Jbilou K., Kurulay M.  
Applicationes Mathematicae, vol.45, pp.233-254, 2018 (Refereed Journals of Other Institutions)
- VIII. **Compression internet access methods of Universities in Turkey**  
Yeşiltepe M., Yılmaz I., Kurulay M.  
Global Journal Of Computer Sciences, vol.5, no.2, pp.68-73, 2015 (Refereed Journals of Other Institutions)
- IX. **Sort of Turkey's top 20 banks by cipher suite value**  
Yeşiltepe M., Yılmaz B., Yeni Ö., Kurulay M.  
Global Journal Of Computer Sciences, vol.5, no.2, pp.74-79, 2015 (Refereed Journals of Other Institutions)
- X. **WCF'DE THROTTLING (AZALTMA) MEKANİZMASININ PROTOKOL BAZLI İNCELENMESİ**  
Yeşiltepe M., Kurulay M.  
Uluslararası Bilgi Güvenliği Mühendisliği Dergisi, vol.1, no.2, pp.27-32, 2015 (Refereed Journals of Other Institutions)
- XI. **An Application of the Differential Transform Method to the Biochemical Reaction Systems**  
Bayram M., Yıldırım K., Kurulay M.  
Applied Mechanics and Materials, vol.319, pp.151-156, 2013 (Refereed Journals of Other Institutions)
- XII. **Metabolic control analysis in enzymes kinetics**  
Bayram M., KURULAY M.  
Malaysian Journal of Mathematical Sciences, vol.6, pp.61-71, 2012 (Journal Indexed in ESCI)
- XIII. **Comparison of numerical solutions of time-fractional reaction-diffusion equations**  
KURULAY M., Bayram M.  
Malaysian Journal of Mathematical Sciences, vol.6, pp.49-59, 2012 (Journal Indexed in ESCI)
- XIV. **Variational Iteration Method For Solving Nonlinear Fractional Integro Differential Equations**  
Kurulay M., Seçer A.

- Int. J. of Computer Science and Emerging Technologies, vol.2, pp.18-20, 2011 (Refereed Journals of Other Institutions)
- XV. **Power Series Method for Linear Partial Differential Equations of Fractional Order**  
Kurulay M., Bayram M.  
Communications in Mathematics and Applications, vol.1, no.2, pp.71-76, 2010 (Refereed Journals of Other Institutions)
- XVI. **The approximate and exact solutions of the space and time fractional Burgers equations**  
Kurulay M.  
International Journal of Research and Reviews in Applied Sciences, vol.3, pp.257-263, 2010 (Refereed Journals of Other Institutions)
- XVII. **A novel power series method for solving second order partial differential equations**  
Kurulay M., Bayram M.  
EUROPEAN JOURNAL OF PURE AND APPLIED MATHEMATICS, vol.2, pp.268-277, 2009 (Refereed Journals of Other Institutions)
- XVIII. **SOLUTION OF THE DIFFERENTIAL ALGEBRAIC EQUATIONS WITH INDEX 3 USING DIFFERENTIAL TRANSFORM METHOD**  
Murat O., Kurulay M., Bayram M.  
Dumlupınar Üniversitesi Fen Bilimleri Enstitüsü Dergisi, vol.1, pp.25-30, 2008 (National Refereed University Journal)
- XIX. **Solution of Stiff Systems by using Differential Transform Method**  
GÜZEL N., KURULAY M.  
Dumlupınar Üniversitesi Fen Bilimleri Dergisi, no.16, pp.49-59, 2008 (National Refereed University Journal)
- XX. **Application of the Differential Transform Method to Differential-Algebraic Equations With Index 2**  
OSMANOĞLU M., KURULAY M., BAYRAM M.  
AKÜ-Fen Bilimleri Dergisi, vol.8, no.1, pp.259-268, 2008 (National Refereed University Journal)
- XXI. **POWER SERIES SOLUTION OF DIFFERENTIAL ALGEBRAIC EQUATION**  
Kurulay M., Bayram M.  
Dumlupınar Üniversitesi Fen Bilimleri Enstitüsü Dergisi, vol.13, no.1, pp.39-44, 2007 (National Refereed University Journal)
- XXII. **SABİT KATSAYILI LİNEER DİFERENSİYEL CEBİRSEL DENKLEMLERİN DİFERENSİYEL DONUSUM YONTEMİ İLE NUMERİK COZUMU**  
OSMANOĞLU M., KURULAY M., BAYRAM M.  
Dumlupınar Üniversitesi Fen Bilimleri Enstitüsü Dergisi, vol.13, no.1, pp.5-53, 2007 (National Refereed University Journal)

## **Books & Book Chapters**

- I. **Proceedings of the third Conference on Informatics and Applied Mathematics (IAM-2020)**  
Kurulay M. (Editor)  
CEUR-WS.org, Guelma, 2020
- II. **7th International Congress on Fundamental and Applied Sciences 2020**  
Kurulay M. (Editor)  
Muhammet Kurulay, Priştine, 2020
- III. **Conference on Innovative Trends in Computer Science**  
Kurulay M. (Editor)  
CEU Press see Central European University Press, Guelma, 2019
- IV. **International congress on fundamental and applied sciences 2019 book of abstract**  
Kurulay M. (Editor), Oztas E. S. (Editor)  
Muhammet Kurulay, İstanbul, 2019
- V. **- Türk Spor Yazarlarının Yazıları ve Twitter Hesapları Üzerinden Tanınabilirliği**

KURULAY M., YEŞİLTEPE M., ÇAKIR N. N.

in: Mühendislikte Yeni Yaklaşımlar, Kerimak ÖNER M. N., UZUN R. O., Editor, Berikan Yayınevi, Ankara, pp.1-254, 2019

- VI. **International congress on fundamental and applied sciences 2018 book of abstract**  
Kurulay M. (Editor), Oztas E. S. (Editor)  
Muhammet Kurulay, İstanbul, 2018
- VII. **Methods in Computational and Applied Mathematics**  
Kurulay M.  
Auris Reference Limited; 1st edition (April 1, 2017), London, 2017
- VIII. **International congress on fundamental and applied sciences 2017 book of abstract**  
Öztaş E. S. , Kurulay M. (Editor)  
Muhammet Kurulay, İstanbul, 2017
- IX. **International congress on fundamental and applied sciences 2016 book of abstract**  
Kurulay M. (Editor)  
Muhammet Kurulay, İstanbul, 2016
- X. **Yurtdışı Doktora Programlarının İncelenmesi ve Değerlendirilmesi**  
KURULAY M.  
Üniversite Öğretim Elemanları Dayanışma Derneği, İstanbul, 2016

## Refereed Congress / Symposium Publications in Proceedings

- I. **Customer Churn Behaviour Predicting Using Social Network Analysis Techniques: A Case Study**  
Kurulay M.  
d International Conference on Electrical, Communication and Computer Engineering, Kuala-Lumpur, Malaysia, 12 - 13 June 2021, pp.1-6
- II. **A stability and existence-uniqueness results for the system of fractional-order mathematical model of COVID-19-disease**  
Karaaslan M. F. , Kurulay M.  
4th International Conference on Mathematics "An Istanbul Meeting for World Mathematicians", İstanbul, Turkey, 27 - 28 October 2020, pp.1-2
- III. **A DYNAMIC MODEL DESCRİBİNG OF İNTERACTİON OF CORONOVİRUS İN CANCER PATİENTS**  
Aida S., KURULAY M., Veli S.  
A DYNAMIC MODEL DESCRİBİNG OF İNTERACTİON OF CORONOVİRUS İN CANCER PATİENTS, 6 - 08 October 2020
- IV. **Mühendislik**  
KURULAY M.  
Conference on Innovative Trends in Computer Science (CITCS'xx2019), 20 - 21 November 2019
- V. **Hexadecimal Hash Value Hiding in a Message in Web Service against Deep Learning**  
YEŞİLTEPE M., Jamil A., Rasheed J., KURULAY M.  
11th International Conference on Electrical and Electronics Engineering, ELECO 2019, Bursa, Turkey, 28 - 30 November 2019, pp.693-697
- VI. **Big IoT Data Indexing: Architecture, Techniques and Open Research Challenges**  
Seridi H., Kouahla Z., KURULAY M., Ferrag M. A.  
2019 International Conference on Networking and Advanced Systems (ICNAS), Annaba, Algeria, 26 - 27 June 2019
- VII. **Low Rank Approximate Solutions to Large-Scale Differential Matrix Riccati Equations**  
Kurulay M.  
First-edition-doctoral-days-informatics-and-applied-mathematics, Guelma, Algeria, 3 - 04 October 2018
- VIII. **Model Reductions in Large Scale Fractional Dynamical Systems with Applications**  
Kurulay M.  
first-edition-doctoral-days-informatics-and-applied-mathematics, Guelma, Algeria, 03 October 2018, pp.1
- IX. **Extended Trial Equation Method to Camassa-Holm Equation**

Karaaslan M. F. , Kurulay M.

International Congress on Fundamental and Applied Sciences, Skopje, Macedonia, 18 - 22 June 2018, pp.1

- X. **ENCRYPTION MECHANISM IN QUANTUM COMPUTERS**  
YEŞİLTEPE M., KURULAY M.  
İCFAS2017, 21 - 24 August 2017, no.1
- XI. **NUMERICAL SOLUTIONS TO LARGE-SCALE SINGULARLY PERTURBED SYSTEMS USING KRYLOV SUBSPACE METHOD**  
DERİCİOĞLU Y., KURULAY M., HACHED M., JBILOU K.  
International Congress on Fundamental and Applied Sciences 2017, Sarajevo, Bosnia And Herzegovina, 21 August 2017, pp.67
- XII. **Social networking for mobile devices**  
Yeşiltepe M., Kurulay M.  
International Congress on Fundamental and Applied Sciences 2016 (ICFAS2016), İstanbul, Turkey, 22 - 26 August 2016, vol.1, no.1, pp.32
- XIII. **Cloud interaction and safety features of mobiles devices**  
Yeşiltepe M., Kurulay M.  
International Congress on Fundamental and Applied Sciences 2016, İstanbul, Turkey, 22 - 26 August 2016, vol.1, pp.175
- XIV. **A hybridizable discontinuous Galerkin method for the steady state fractional advection dispersion equation**  
Karaaslan M. F. , Kurulay M.  
<http://www.icfas2016.yildiz.edu.tr/>, İstanbul, Turkey, 22 - 26 August 2016, vol.1, pp.121
- XV. **A new application for solving large scale differential matrix Riccati equations**  
DERİCİOĞLU Y., HACHED M., KURULAY M., JBILOU K.  
International Congress on Fundamental and Applied Sciences 2016, İstanbul, Turkey, 22 August 2016, pp.120
- XVI. **A Hybridizable discontinuous Galerkin method for a class of fractional boundary value problem**  
Karaaslan M. F. , Kurulay M.  
2 nd International Conference on Analysis and its Applications, Kırşehir, Turkey, 12 - 15 July 2016, pp.201
- XVII. **Krylov subspace methods for large differential Riccati equations**  
HACHED M., DERİCİOĞLU Y., JBILOU K., KURULAY M.  
2nd International Conference on Pure and Applied Sciences, İstanbul, Turkey, 01 June 2016, pp.21
- XVIII. **A NEW METHOD FOR SOLVING LARGE SCALE DIFFERENTIAL MATRIX RICCATI EQUATIONS**  
Kurulay M., Jbilou K., Dericioğlu Y.  
International Conference on Engineering and Natural Sciences (ICENS) 2016, Sarajevo, Bosnia And Herzegovina, 24 May 2016, pp.487
- XIX. **Study Triple Data Encryption Standart Encryption Algorithm In Windows Communication Foundation Environment**  
YEŞİLTEPE M., KACMAZ E., KURULAY M.  
Electric Electronics, Computer Science, Biomedical Engineerings' Meeting (EBBT), İstanbul, Turkey, 26 - 27 April 2016
- XX. **Analytical Solutions Of Time Fractional Navier Stokes Equations**  
Kurulay M., Yeşiltepe M.  
The 11th IMT-GT International Conference on Mathematics, Statistics and Its Applications 2015, Pattani, Thailand, 23 - 25 November 2015, vol.1, pp.106
- XXI. **Sosyal Medya Sitelerinin Kullandıkları Şifreleme Paketlerine Göre Sınıflandırılması**  
Yeşiltepe M., Kurulay M.  
8. Uluslararası Bilgi Güvenliği ve Kriptoloji Konferansı, Ankara, Turkey, 30 - 31 October 2015, vol.1, pp.1-4
- XXII. **Türkiye deki Bankaların 2015 Ekim Ayı Şifreleme Paketlerinin İncelenmesi**  
Yeşiltepe M., Yeni Ö., Yılmaz B., Kurulay M.  
TBD. 32. Ulusal Bilişim Kurultayı, Ankara, Turkey, 3 - 05 December 2015, vol.1, no.1, pp.29-33
- XXIII. **Using Protocol Level Parameter In WCF With Different Protocol**



Yeşiltepe M., Kurulay M.

The 11th IMT-GT International Conference on Mathematics, Statistics and Its Applications PROCEEDINGS (ICMSA 2015), Pattani, Thailand, 23 - 25 October 2015, vol.1, pp.34-42

- XXIV. **On Using of the Advection diffusion problem as Environmental Modelling**  
Kurulay M., Karaaslan M. F.  
1st International Conference on Environmental Science and Technology (ICOEST), Sarajevo, Bosnia And Herzegovina, 9 - 13 September 2015, vol.1, pp.107-108
- XXV. **Fractional difference approximations for the time-space fractional differential equation**  
KURULAY M., DERİCİOĞLU Y.  
International Congress on Modelling and Scientific Computing in Engineering Mathematics (MOCASIM 2014), Marrakech, Morocco, 19 November 2014, pp.69
- XXVI. **Solving of Fractional Burger's Equation with Finite Difference Method.**  
Kurulay M., Şentürk İ.  
SOUTH EASTERN EUROPEAN MATHEMATICAL OLYMPIAD FOR UNIVERSITY STUDENTS 2015, Ohrid, Macedonia, 24 - 27 September 2014, pp.1
- XXVII. **Hybridizable Discontinuous Galerkin Method for Convection-Diffusion-Reaction Problems**  
Karaaslan M. F., Çeliker F., Kurulay M.  
Karatekin Mathematics Days, İstanbul, Turkey, 11 - 13 June 2014, pp.197
- XXVIII. **A Comparative Analysis of Galerkin and Hybridizable Discontinuous Galerkin Method On Second Order Differential Equation**  
Karaaslan M. F., Çeliker F., Kurulay M.  
2nd International Eurasian Conference on Mathematical Sciences and Applications, Sarajevo, Bosnia And Herzegovina, 26 - 29 August 2013, pp.177
- XXIX. **An application of the differential transform method to the biochemical reaction systems**  
Bayram M., Yildirim K., KURULAY M.  
2013 2nd International Conference on Chemical, Mechanical and Materials Engineering, CMME 2013, Melbourne, Australia, 20 - 21 January 2013, vol.319, pp.151-156
- XXX. **Hybridizable Discontinuous Galerkin Method for One Dimensional Problems**  
Karaaslan M. F., Kurulay M.  
International Conference on Applied Analysis and Mathematical Modelling, İstanbul, Turkey, 2 - 05 June 2013, pp.1
- XXXI. **On Solving A Type of Fractional Volterra-Integro Differential Equations Using Homotopy Analysis Method**  
Karaaslan M. F., Kurulay M.  
1st International Eurasian Conference on Mathematical Sciences and Applications, Priştine, Kosova, 3 - 07 September 2012, pp.1
- XXXII. **Discontinuous Galerkin Methods with An Application for Elliptic Problems**  
Karaaslan M. F., Kurulay M.  
International Conference on Applied Analysis and Algebra, İstanbul, Turkey, 19 - 24 June 2012, pp.1
- XXXIII. **A note on fractional derivatives and Laplace's transform of fractional order**  
Kurulay M.  
2011 Spring Southeastern Section Meeting Statesboro, Massachusetts, United States Of America, 3 - 04 January 2011, pp.1
- XXXIV. **Analytic study on nonlinear fractional partial differential equations, American Mathematical Society**  
Kurulay M.  
2011 Spring Eastern Sectional Meeting College of the Holy Cross, Massachusetts, United States Of America, 2 - 03 December 2010, pp.1
- XXXV. **KESİRLİ MERTEBELİ DİFERANSİYEL DENKLEMLERİN ÇÖZÜMÜ ÜZERİNE**  
Kurulay M., Osmanoğlu M., Bayram M.  
XXI. ULUSAL MATEMATİK SEMPOZYUMU, İstanbul, Turkey, 1 - 04 September 2008, pp.99-100

## Other Publications

### I. Fractional Calculus and Its Applications

KURULAY M.

Presentation, pp.1, 2010

## Supported Projects

Kurulay M., Technopark, Electronic Document Management System-2, 2017 - 2019

KURULAY M., Project Supported by Higher Education Institutions, Yüksek Mertebeli Matris Diferansiyel Denklemleri için Krylov Yöntemleri, 2016 - 2019

Kurulay M., Technopark, Electronic Document Management System, 2016 - 2017

Kurulay M., Technopark, Augmented Reality Oriented Mobile Tourist Guide Platform, 2015 - 2016

KURULAY M., Project Supported by Higher Education Institutions, Diferensiyel denklemler için Hybridizable Discontinuous Galerkin metodu, 2013 - 2016

Kurulay M., Technopark, BROADCAST PLATFORM WITH HIGH PERFORMANCE AND SMART CONTENT, 2013 - 2014

KURULAY M., Project Supported by Higher Education Institutions, Kesirli Mertebeden Burger Denklemnin Sonlu Fark Yöntemi ile Çözümü ve Analizi, 2013 - 2014

## Activities in Scientific Journals

International Journal of Informatics and Applied Mathematics, First Editor, 2018 - Continues

International Journal of Life Sciences and Biotechnology, Editor, 2018 - Continues

Journal of Engineering Technology and Applied Sciences, First Editor, 2016 - Continues

Tbilisi Mathematical Journal, Special Issue Editor, 2020 - 2021

International Journal of Analysis and Applications, Special Issue Editor, 2020 - 2020

Communications in Mathematics and Applications, Special Issue Editor, 2018 - 2018

JOURNAL OF INFORMATICS AND MATHEMATICAL SCIENCES, Special Issue Editor, 2018 - 2018

Mathematical Problems In Engineering, Special Issue Editor, 2014 - 2014

## Memberships / Tasks in Scientific Organizations

American Mathematical Society, Member, 2020 - Continues, United States Of America

Uluslararası Öğretim Elemanları Derneği, Chairman, 2018 - Continues, Turkey

Türk Matematik Derneği, Member, 2013 - Continues, Turkey

ÜNDER, Chairman, 2010 - Continues, Turkey

## Scientific Refereeing

WAVES IN RANDOM AND COMPLEX MEDIA, SCI Journal, August 2021

AIMS MATHEMATICS, SCI Journal, August 2021

JOURNAL OF APPLIED MATHEMATICS AND COMPUTING, SCI Journal, July 2021

MATHEMATICAL METHODS IN THE APPLIED SCIENCES, SCI Journal, February 2021

MATHEMATICAL METHODS IN THE APPLIED SCIENCES, SCI Journal, May 2019

NONLINEAR DYNAMICS, SCI Journal, January 2019

WAVES IN RANDOM AND COMPLEX MEDIA, SCI Journal, June 2018

INTEGRAL TRANSFORMS AND SPECIAL FUNCTIONS, SCI Journal, April 2018

COMPUTERS & MATHEMATICS WITH APPLICATIONS, SCI Journal, October 2017

COMPUTERS & MATHEMATICS WITH APPLICATIONS, SCI Journal, May 2017  
JOURNAL OF PROPULSION AND POWER, SCI Journal, November 2016  
MATHEMATICAL METHODS IN THE APPLIED SCIENCES, SCI Journal, August 2016  
WAVES IN RANDOM AND COMPLEX MEDIA, SCI Journal, June 2016  
AIN SHAMS ENGINEERING JOURNAL, SCI Journal, June 2016  
NUMERICAL ALGORITHMS, SCI Journal, June 2016  
MATHEMATICAL PROBLEMS IN ENGINEERING, SCI Journal, March 2016  
AIN SHAMS ENGINEERING JOURNAL, SCI Journal, July 2014  
NEURAL COMPUTING & APPLICATIONS, SCI Journal, June 2014  
INTERNATIONAL JOURNAL OF BIOMATHEMATICS, SCI Journal, January 2014  
MATHEMATICAL METHODS IN THE APPLIED SCIENCES, SCI Journal, November 2013  
INTERNATIONAL JOURNAL OF BIOMATHEMATICS, SCI Journal, May 2013

### **Tasks In Event Organizations**

Kurulay M., 8th International Congress of Basic and Applied Sciences, Scientific Congress, Antalya, Turkey, Ekim 2021  
Kurulay M., 7th International Congress of Basic and Applied Sciences, Scientific Congress, Priştine, Kosovo, Ekim 2020  
Kurulay M., 6th International Congress on Fundamental and Applied Sciences 2019, Scientific Congress, Tirane, Albania, Haziran 2019  
Kurulay M., 5th International Congress on Fundamental and Applied Sciences 2019, Scientific Congress, Macedonia, Haziran 2018  
Kurulay M., 4th International Congress on Fundamental and Applied Sciences , Scientific Congress, Bosnia And Herzegovina, Ağustos 2017  
Kurulay M., 3th Congress on Fundamental and Applied Sciences, Scientific Congress, Turkey, Ağustos 2016

### **Citations**

Total Citations (WOS):169  
h-index (WOS):8

### **Invited Talks**

Artificial Intelligence in Medical Imaging Using Matrix Computation, Conference, Diğer Kurumlar, Algeria, November 2019  
The First Edition of Doctoral days on Informatics and Applied Mathematics 2018, Conference, Diğer Kurumlar, Algeria, September 2018  
Analysis of Fractional Differential Equation with Finite Difference Method, <https://galileo.dm.uniba.it/Members/dellino/seminari-2013/abstract-kurulay-dottoratoerasmus-10-9-13.pdf>, Seminar, Universita Degli di Verona, Italy, July 2012  
Comparison of Numerical Solutions of Time-Fractional Reaction-Diffusion Equations, <https://math.uconn.edu/pde-past-talks/#>, Seminar, University of Connecticut, United States Of America, December 2010

### **Scholarships**

2219 International Post-Doctoral Research Fellowship Program, TUBITAK, 2010 - 2011

## **Awards**

Kurulay M., 2012-2013 Yıldız Teknik Üniversite'sindeki Akademisyenler Arasında En Çok Yayın Yapan Akademisyen, Birincilik Ödülü, Yıldız Teknik Üniversitesi, June 2013

## **Non Academic Experience**

Technology Development Zone, Yildiz Technical University, Department Of Mathematics Engineering