

# ERHAN COŞKUN

## PROF.

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### International Researcher IDs

ScholarID: SiD0W3wAAAAJ

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Publons / Web Of Science ResearcherID: AAM-8472-2021

ScopusID: 7004269356

Yoksis Researcher ID: 13286

## Learning Knowledge

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Doctorate  
1990 - 1994

Northern Illinois University, Fen Fakültesi, Matematik, United States Of America

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Postgraduate  
1988 - 1990

Texas Tech University, Fen Fakültesi, Matematik, United States Of America

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Undergraduate  
1981 - 1985

Ataturk University, Fen Fakültesi, Matematik, Turkey

## Foreign Languages

English, C1 Advanced

## Certificates, Courses and Trainings

IT, EGİTEN: Eğitimcilerin Eğitimi Enformatik Sertifikası, ODTÜ Enformatik Enstitüsü, 2001

## Dissertations

Doctorate, Numerical Analysis of Ginzburg-Landau Models for Superconductivity, Northern Illinois University, Faculty Of Science And Arts, Mathematics, 1994

Postgraduate, Interface Problems in Neutron Transport by a new set of Quadratures, Texas Tech University, Faculty Of Science And Arts, Mathematics, 1990

## Academic Titles / Tasks

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Professor  
2005 - Continues

Karadeniz Technical University, Fen Fakültesi, Matematik

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Associate Professor

2000 - 2005

Karadeniz Technical University, Fen Fakültesi, Matematik

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Assistant Professor

1995 - 2000

Karadeniz Technical University, Fen Fakültesi, Matematik

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Research Assistant

1985 - 1995

Karadeniz Technical University, Fen Fakültesi, Matematik

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

- 1. On the numerical stability and transitional stages of time-dependent Ginzburg–Landau model of superconductivity**  
COŞKUN E.  
Physica A: Statistical Mechanics and its Applications, vol.626, 2023 (SCI-Expanded)
- 2. On the properties of a single vortex solution of Ginzburg–Landau model of superconductivity**  
COŞKUN E.  
Physica A: Statistical Mechanics and its Applications, vol.568, 2021 (SCI-Expanded)
- 3. A finite differences method for a two-dimensional nonlinear hyperbolic equation in a class of discontinuous functions**  
RASULOV M., Coskun E., SINSOYSAL B.  
APPLIED MATHEMATICS AND COMPUTATION, vol.140, pp.279-295, 2003 (SCI-Expanded)
- 4. Nucleation of vortices with a temperature and time-dependent Ginzburg-Landau model of superconductivity**  
Coskun E., CAKIR Z., TAKAC P.  
EUROPEAN JOURNAL OF APPLIED MATHEMATICS, vol.14, pp.111-127, 2003 (SCI-Expanded)
- 5. Computational simulation of flux trapping and vortex pinning in type-II superconductors**  
Coskun E.  
APPLIED MATHEMATICS AND COMPUTATION, vol.106, no.1, pp.31-49, 1999 (SCI-Expanded)
- 6. An efficient numerical method for solving the Korteweg-de Vries equation in a class of discontinuous functions**  
RASULOV M., Coskun E.  
APPLIED MATHEMATICS AND COMPUTATION, vol.102, pp.139-154, 1999 (SCI-Expanded)
- 7. Simulating vortex motion in superconducting films with the time-dependent Ginzburg-Landau equations**  
Coskun E., KWONG M.  
NONLINEARITY, vol.10, no.3, pp.579-593, 1997 (SCI-Expanded)
- 8. On the discrete-ordinates method via case's solution**  
GANGULY K., ALLEN E., Coskun E., NIELSEN S.  
Journal of Computational Physics, vol.107, no.1, pp.66-83, 1993 (SCI-Expanded)

### Articles Published in Other Journals

- 1. Gabor Filter Selection and Computational Processing for Emotion Recognition (studygroup report, joint work)**  
Coşkun E.

- The Mathematical Institute, University of Oxford, Eprints Archive, ESGI100, Oxford,UK., pp.1-26, 2014 (Non Peer-Reviewed Journal)
2. **A model for the reduction of specific area of powders with age(studygroup report, joint work)**  
Coşkun E. V. A.  
The Mathematical Institute, University of Oxford, Eprints Archive, ESGI85, Norwich, UK., pp.1-27, 2012 (Non Peer-Reviewed Journal)
  3. **Initialization Strategy for Nonlinear Systems(Studygroup Report, joint work)**  
Coşkun E. V. A.  
The Mathematical Institute, University of Oxford, Eprints Archive, 1st KAUST, Thuwal, Saudi Arabia, pp.1-15, 2011 (Non Peer-Reviewed Journal)
  4. **A medical waste sterilizer(Studygroup report, joint work)**  
Coşkun E. V. A.  
The Mathematical Institute, University of Oxford, Eprints Archive, EM2010, Trabzon, pp.1-14, 2010 (Non Peer-Reviewed Journal)
  5. **Underreamer Mechanics(Studygroup report, joint work)**  
Coşkun E. V. A.  
The Mathematical Institute, University of Oxford, Eprints Archive, ESGI68, Southampton, UK, pp.1-17, 2009 (Non Peer-Reviewed Journal)
  6. **Cuttings Transport with Drillstring Rotation( Studygroup Report, joint work)**  
Coşkun E. V. A.  
The Mathematical Institute, University of Oxford, Eprints Archive, ESGI59, Nottingham,UK., pp.1-15, 2007 (Non Peer-Reviewed Journal)
  7. **An effective Algorithm for Euler System in a Class of Discontinuous Functions**  
Rasulov M., Coşkun E.  
MATHEMATICAL AND COMPUTATIONAL APPLICATIONS, vol.4, pp.185-188, 1999 (Peer-Reviewed Journal)
  8. **On some bounds for the solutions of the semi-discretized time-dependent Ginzburg-Landau equations**  
Coşkun E.  
Turkish Journal of Mathematics, vol.21, no.SUPPL., pp.25-44, 1997 (Scopus)
  9. **Parallel solution of time-dependent Ginzburg-Landau equations and other experiences using Chameleon and BlockComm.**  
Coşkun E., Kwong M. K.  
Mathematics and Computer Science Division, Technical Report, Argonne National Laboratory, University of Chicago, US., vol.45, pp.1-47, 1995 (Non Peer-Reviewed Journal)

## Books & Book Chapters

1. **Sayısal Analize Giriş(MATLAB/Octave ile vektör cebirsel yaklaşım)**  
Coşkun E.  
KTÜ Yayınevi, Trabzon, 2023
2. **Maxima ile sembolik hesaplama ve kodlama**  
Coşkun E.  
KTÜ Yayınevi, Trabzon, 2022
3. **Octave ile sayısal hesaplama ve Kodlama**  
Coşkun E.  
KTÜ Yayınevi, Trabzon, 2022
4. **MATEMATİK CİLT II - Calculus Early Transcendentals**  
BAŞARIR M., ÇELİK S., ÇELİK S., COŞKUN E., EKİNCİOĞLU İ.  
Nobel Akademik Yayıncılık, Ankara, 2017

## Other Publications

1. **Endüstriyel ve Uygulamalı Matematiğe Giriş**  
Coşkun E.  
Lecture Note, pp.1-375, 2021
2. **Lineer Kısmi Diferensiyel Denklemlere Giriş**  
Coşkun E.  
Lecture Note, pp.1-380, 2019
3. **Diferensiyel Denklemler için Sonlu fark Yöntemleri**  
COŞKUN E.  
Lecture Note, pp.1-200, 2018
4. **MATLAB/Octave Uygulamalı Sayısal Analize Giriş**  
COŞKUN E.  
Lecture Note, pp.1-350, 2014
5. **Calculus(Early Transcendentals) Dennis G. Zill, Warren S. Wright, Nobel Yayıncılık, Çeviri 13 ve 16. Bölümler**  
COŞKUN E.  
Other, 2013
6. **Maxima ile Sembolik Hesaplama ve Kodlama**  
COŞKUN E.  
Other, pp.1-180, 2012
7. **First Euro-Asian Studygroup with Industry, full reports**  
COŞKUN E.  
Technical Report, pp.1-60, 2010
8. **MATLAB/OCTAVE ile Sayısal Hesaplama ve Kodlama**  
COŞKUN E.  
Lecture Note, pp.1-174, 2010

## Academic and Administrative Experience

2022 - Continues	<b>Head of Department</b>	Karadeniz Technical University, Fen Fakültesi, Matematik
1999 - Continues	<b>Head of Department</b>	Karadeniz Technical University
2005 - 2008	<b>Vice Dean</b>	Karadeniz Technical University, Fen-Edebiyat Fakültesi
1999 - 2004	<b>Head of Department</b>	Karadeniz Technical University, Rektörlük, Enformatik Bölümü

## Courses

Matematiksel Modelleme, Undergraduate, 2018 - 2019  
Sayısal Analiz II, Undergraduate, 2018 - 2019  
Mathematical Control Theory, Doctorate, 2018 - 2019  
Endüstriyel Matematik, Undergraduate, 2018 - 2019  
Sayısal Analiz I, Undergraduate, 2018 - 2019  
Diferensiyel Denklemler için Sayısal Yöntemler, Undergraduate, 2018 - 2019  
Matematiksel Hesaplama, Undergraduate, 2017 - 2018  
Methods of Applied Mathematics, Postgraduate, 2013 - 2014

## Advising Theses

- Coşkun E., Hücreyel difüzyon ve debridman etkisini dikkate alan geliştirilmiş model ile yara iyileşme kontrolü, Doctorate, R.YAPRAK(Student), 2023
- COŞKUN E., Kimax: Maxima ile Kimyasal Reaksiyon Kinetik Analiz Paketi, Postgraduate, R.Yaprak(Student), 2017
- COŞKUN E., Ağsız eleman bağımsız Galerkin yönteminin optimizasyonu ve adaptif uygulamaları, Doctorate, S.Şengül(Student), 2016
- COŞKUN E., Vektör Tabanlı Sıfıryeri ve Ekstremum Nokta Belirleme Algoritmaları, Postgraduate, M.Memoğlu(Student), 2012
- COŞKUN E., Silindirik halkasal bölge içerisinde parçacık taşınım modeli ve analizi, Doctorate, İ.Cumhur(Student), 2011
- Coşkun E., Verimlilik Esaslı Reaksiyon-Konveksiyon-Difüzyon Nüfus Modeli, Postgraduate, O.Cabri(Student), 2011
- COŞKUN E., Black-Scholdes Opsiyon Modeli için Lineer Regresyon Yaklaşımı, Postgraduate, D.Yazır(Student), 2011
- COŞKUN E., Ginzburg-Landau Modeli ve Varyasyonları, Doctorate, A.Gökdoğan(Student), 2010
- COŞKUN E., Futbol Topu Yörünge Modeli ve Analizi, Postgraduate, S.Şengül(Student), 2010
- Coşkun E., Geliştirilmiş Lazer-McKenna asma köprü salınım modelleri, Doctorate, M.Merdan(Student), 2009
- COŞKUN E., Sıcaklık ve Zaman Bağımlı Ginzburg-Landau Modeli, Doctorate, Z.Çakır(Student), 2006
- COŞKUN E., WebMatris:Web Tabanlı Matris Laboratuvarı, Postgraduate, İ.Cumhur(Student), 2004
- COŞKUN E., Diferensiyel Denklemlerin Sayısal Çözümleri için Web Tabanlı İnteraktif Uygulamalar, Postgraduate, A.Gökdoğan(Student), 2004
- COŞKUN E., İki boyutlu diferensiyel denklem sistemleri için dallanma analizi, Postgraduate, M.Merdan(Student), 2003
- COŞKUN E., Diferensiyel Denklemler için mathematica ile interaktif Uygulamalar, Postgraduate, İ.Özsoy(Student), 2002
- COŞKUN E., Maple ile lineer olmayan denklem sistemleri için kararlılık analiz, Postgraduate, Ü.Terzioğlu(Student), 2002

## Scientific Refereeing

TUBITAK Project, April 2019

## Metrics

- Publication: 56
- Citation (WoS): 62
- Citation (Scopus): 72
- H-Index (WoS): 4
- H-Index (Scopus): 4

## Congress and Symposium Activities

- CMES 2022, 6th International conference on computational mathematics and engineering science, Ordu University, Invited Speaker, Ordu, Turkey, 2022
- WOPAM 2019, Workshop on Pure and Applied Mathematics, Atatürk University, Invited Speaker, Erzurum, Turkey, 2019
- ICAAMM, 2015, International Conference on Applied Analysis and Mathematical Modelling, Yıldız Technical University, Invited Speaker, İstanbul, Turkey, 2015
14. Matematik Sempozyumu, Niğde Üniversitesi, Invited Speaker, Niğde, Turkey, 2015
13. Matematik Sempozyumu, Karabük Üniversitesi, Invited Speaker, Karabük, Turkey, 2014
- ESGI100: Avrupa 100. Endüstriyel Matematik Çalıştayı, Oxford University, Attendee, Oxford, England, 2014
11. Matematik Sempozyumu, Ondokuz Mayıs Üniversitesi, Invited Speaker, Samsun, Turkey, 2012
- ESGI85: 85. Avrupa Endüstriyel Matematik Çalıştayı, East Anglia University, Attendee, Norwich, England, 2012
10. Matematik Sempozyumu, Işık Üniversitesi, Panelists, İstanbul, Turkey, 2011

Oxford-Kaust Endüstriyel Matematik Çalıştay, King Abdullah University of Science and Technology, Attendee, Jiddah, Saudi Arabia, 2011

9. Matematik Sempozyumu, Karadeniz Teknik Üniversitesi, Invited Speaker, Trabzon, Turkey, 2010

EM2010 Uluslararası Katılımlı Endüstriyel Matematik Çalıştay(organizatör), Karadeniz Teknik Üniversitesi, Working Group, Trabzon, Turkey, 2010

ESGI73: 73. Avrupa Endüstriyel Matematik Çalıştay, University of Warwick , Working Group, Coventry, England, 2010

4. Ulusal Süperiletkenlik Sempozyumu, Karadeniz Teknik Üniversitesi, Invited Speaker, Trabzon, Turkey, 2009

ESGI68: 68. Avrupa Endüstriyel Matematik Çalıştay, University of Southampton, Attendee, Southampton, England, 2009

ESGI59: 59. Avrupa Endüstriyel Matematik Çalıştay, University of Nottingham, Attendee, Nottingham, England, 2007

## Invited Talks

Mathematical Methods in Industrial Mathematics: A review from recent case studies, Conference, CMES 2022:6th International Conference on Computational Mathematics and Engineering Sciences, Ordu, Türkiye, 20 - 22 Mayıs 2022, ss.22, Turkey, May 2022

## Research Areas

Differential Equations, Numerical Analysis

## Non Academic Experience

Oxford Üniversitesi, İngiltere

Oxford Üniversitesi, İngiltere

Oxford Üniversitesi, İngiltere

Rostock Üniversitesi, Almanya

Argonne National Laboratory, University of Chicago, USA